2010 Census Architecture

This binder contains the 2010 Census Architecture work products. They are part of a broad set of Architecture products to assist in planning for the 2010 Census.

U S C E N S U S B U R E A U

Helping You Make Informed Decisions

2010 CENSUS ARCHITECTURE FRAMEWORK

VIEWS	WHAT	HOW	WHERE	WHO	WHEN	WHY
	DATA	FUNCTION	NETWORK	PEOPLE	TIME	MOTIVATION
BUSINESS ARCHITECTURE PLANNER	1. List of Entities Important to the Business 2. Information Dictionary	3. List of Business Functions, * 4. Business Reference Model (BRM/OMB) [Lines of Business/ Sub-Functions]	5. List of Business Locations, * 6. Standards Profile	7. List of Organizations Important to the Business 8. Organization Chart	9. List of Events/Cycles Important to the Business	10. List of Business Goals, Objectives, and Strategies 11. List of Principles 12. List of Critical Business Concerns 13. List of Risks 14. Operational Concept Diagram
BUSINESS ARCHITECTURE OWNER	15. Entity Relationship Diagram, * 16. Information Exchange Matrix (Conceptual), *	17. Functional Decomposition Diagram, * 18. Activity Model, * 19. Process Model (Only selected parts of the architecture) 20. Information Assurance Trust Model	21. Locations Mapped to Functions, * 22. Information Assurance Risk Assessment	23. Node Connectivity Description (Conceptual), *		
LOGICAL ARCHITECTURE DESIGNER	24. Logical Data Model, * 25. Information Exchange Matrix (Logical), *	26. Application Architecture, *	27. Interface Description (Conceptual), *	28. Node Connectivity Description (Logical), *		
PHYSICAL ARCHITECTURE BUILDER	29. Physical Data Model 30. System Information Exchange Matrix	31. System Design 32. System Functionality Description 39. Systems List 41. System Function List	33. System Interface Description 34. Technical Reference Model 35. Technical Architecture 36. System Performance Parameters Matrix 37. Systems Rules Model 40. Interface Control Document	38. Node Connectivity Description (Physical) 40. Interface Control Document		

* = Includes Release 1.1 updates, May 2005.

May 11, 2005

DOCUMENT HISTORY

Subject 2010 Census Architecture Work Products

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Release number 1.1

History of changes

Release No.	Release Date	Description
1.0	08/25/04	Phase II. 2010 Census Architecture Work Products.
1.1	05/11/05	Phase III. See Figure 1, 2010 Census Architecture Framework. Work Products marked with an asterisk (*) have been updated.

Release Notes for Version 1.1

Work Products Affected by Updates to the Activity Model

3. List of Business Functions
   The four business functions (Census Planning, Infrastructure, Data Collection, Data Products) were modified as a result of the Architecture Team's decision to create a more functional Activity Model. The more functional model improves the cross-functional analysis of common activities within Census. As a result, there are now six business functions, (Census Planning, System and Material Development, Operations Management, Collection Framework, Data Collection and Capture, Data Products). Additionally, the Census Planning and Data Products business functions basically remained; however, the Infrastructure and Data Collection business functions were revised significantly.

17. Functional Decomposition Diagram
    The diagram was changed to reflect changes to the Activity Model.

18. Activity Model
    The Activity Model and supporting Node List, Activity and ICOM definitions were modified to reflect the more functional approach.

26. Application Architecture
    The Application Architecture has been changed to incorporate changes made to the Activity Model and based on additional analysis of the CRUD Matrix.

Work Products Affected by Updates to the Node Connectivity Diagram

21. Locations Mapped to Functions
    The Location to Functions matrix maps roles from the Node Connectivity Diagram (work product #28) with activities (work product #18). Updates to node connectivity related work products were made necessary by the decision to move from a physical definition for nodes to a logical.

25. Information Exchange Matrix (Logical)
    The Information Exchange Matrix provides a description of the needlines identified in the Node Connectivity Diagram (work product #28). This work product now incorporates the changes to work product #28 and also maps ICOMs from work product #18 to the needlines.

27. Interface Description (Conceptual)
    The Interface Description is a matrix that maps Application Areas (work product #26) to Nodes (work product #28). This work product reflects the changes made to the Application Architecture and Node Connectivity Description.

28. Node Connectivity Description (Logical)
    The Version 1.0 release of the Architecture relied on more of a physical description of nodes. This release of the Architecture is based on a logical rendering of nodes as roles.

Minor Updates

i. Document History
   Introduction
5. List of Business Locations
6. Standards Profile
11. List of Principles
15. Entity Relationship Diagram
16. Information Exchange Matrix
23. Node Connectivity Description (Conceptual)
24. Logical Data Model

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2010 Census Architecture Framework Products Summary

Key Work Product Dependencies

2010 Census Architecture Work Products
1. List of Entities Important to the Business
2. Information Dictionary
3. List of Business Functions
4. Business Reference Model (BRM)
5. List of Business Locations
6. Standards Profile
7. List of Organizations Important to the Business
8. Organization Chart
9. List of Events/Cycles Important to the Business
10. List of Business Goals, Objectives, and Strategies
11. List of Principles
12. List of Critical Business Concerns
13. List of Risks
14. Operational Concept Diagram
15. Entity Relationship Diagram
16. Information Exchange Matrix (Conceptual)
17. Functional Decomposition Diagram
18. Activity Model
19. Process Model
20. Information Assurance Trust Model
21. Locations Mapped to Functions
22. Information Assurance Risk Assessment
23. Node Connectivity Description (Conceptual)
24. Logical Data Model
25. Information Exchange Matrix (Logical)
26. Application Architecture
27. Interface Description (Conceptual)
28. Node Connectivity Description (Logical)

Executive Summary

The Decennial Management Division has initiated an effort to develop an architecture program called the 2010 Census Architecture (CA). The 2010 Census Architecture is a blueprint of its business processes and data, applications, interfaces, and technology needed to efficiently perform those processes. The 2010 Census Architecture is intended to facilitate:

- Planning for the 2010 Census
- Improving of operations
- Improving systems efficiency and integration
- Change management
- Cost formulation

Key project dates and accomplishments include:

Phase I

10/01/2002 – 01/06/2003 – Development of various plans, a framework recommendation, and other program support materials and presentations.

01/06/2003 – Kick-off of the Architecture Team and Steering Committee.

08/31/2003 – Completion of division review and validation of the Activity Model work product.

Phase II

10/02/2003 – Completion of the Business Architecture by the Architecture Team and the Architecture Support Team.

10/23/2003 – Kick-off of the Architecture Team to develop Logical Architecture.

04/13/2004 – Logical Data Model work product completed.

07/12/2004 – Application Architecture work product completed and validated by the participating divisions.

08/31/2004 – Completion of all remaining work products in the 2010 Census Architecture.

Phase III

10/13/2004 – Kick-off of the Architecture Team to create a more functional Activity Model and update all related work products.

1/20/2005 – Completion of division review and validation of the Activity Model.

2/17/2005 – Completion of Logical Data Model changes from Interaction Analysis including NRFU Business Scenario, Entity Relationship Diagrams and the CRUD matrix updates.

3/31/2005 – Completion of Application Architecture update and division validation.

5/09/2005 – Completion of Node, Needline, and Information Exchange analysis and updates to models and definitions.

5/11/2005 – Completion of Phase III.

Project scope

The scope of the 2010 CA consists of those activities performed specifically to accomplish the 2010 Census within the Bureau of the Census and the data required by those activities. This document summarizes the accomplishments of Phase III of the 2010 Census Architecture development. It is important to recognize that the business activities for the 2010 Census are evolving as research and development and testing programs are conducted. Accordingly, the architecture follows the 2010 Census Baseline, and will need to be updated as final process decisions are made.

The 2010 CA Framework, illustrated in Figure 1, is a matrix in which the columns are types of information that describe the enterprise such as: data, function, network, people, etc. and the rows are views of this information from the perspective of different types of users such as: planners, owners, designers, builders, etc. Products frequently build upon the products in the preceding rows. For example, the Entity Relationship Diagram in the Owner row is expanded and further detailed in the Logical Data Model in the Designer row.

The first phase of the 2010 CA addressed the Business Architecture in the Planner and Owner rows. The second phase addressed the Logical Architecture in the Designer row, and also included further development of several Business Architecture products. The third phase focused on creating a more functional Activity Model, and as a result, the Logical Architecture and few related Business Architecture work product descriptions were updated.

As 2010 Census design decisions are made, the Logical Architecture will be maintained and may be further developed to support 2010 Census decisions. The Logical Architecture will also be advanced and require iterative updates as it is utilized to support

and guide the development of the Physical Architecture and systems to support the 2010 Census.

This framework contains those products that will be useful to the 2010 Census and those that meet OMB requirements. Figure 2 depicts a mapping of basic OMB requirements and the products in the Business and Logical Architecture portions of the 2010 CA Framework.

Key participants

The development of the 2010 Census Architecture requires significant contribution from the business. There are decisions regarding the scope of the architecture and the specific architecture products as well as the need to resolve issues and define the activities, data, and activity and data interactions that make up the 2010 Census process. Accordingly, individuals with detailed knowledge of these processes, from a management and hands-on perspective are essential. Three groups were established to achieve the 2010 CA:

- 2010 Census Architecture Steering Committee
- 2010 Census Architecture Team
- 2010 Census Architecture Support Team

Each group made major contributions to the development of the various work products. The Steering Committee set the direction for the effort and made scoping and approach decisions. The Architecture Team, consisting of representatives from each division, developed the work products. The Support Team developed strawman work products and assisted the Architecture Team by facilitating work sessions, maintaining the content in the modeling tool, providing methodology guidance, and identifying and tracking issues for resolution.

Census Enterprise Architecture

The Census Enterprise Architecture (Census EA) is maintained by the Enterprise Architecture Office (EAO). The Census EA is a Federated Model, which is:

- Defined using a framework under development by the Department of Commerce (DOC).
- Designed to be implemented at the department level, in order to integrate Census, NOAA, etc., into a true DOC Enterprise Architecture.
- Also designed to be implemented at the Bureau to integrate Census domain architectures into the true Census Enterprise view.

The Census EA maintains enterprise architecture objects that are Census-wide in scope. Each Directorate or significant subset of a Directorate is considered its own domain. As such, each is responsible for developing its own domain architecture. As a domain architecture, the 2010 Census Architecture may provide some objects to the Census EA, and may reference some objects in the Census EA rather than maintain them separately. The 2010 CA Support Team works with the EAO to identify linkages between the enterprise and domain architectures and to coordinate any necessary use and maintenance of these shared objects.

Accomplishments

This first phase completed the products specified in the Business Architecture, which included the Planner and Owner rows in the 2010 Census Architecture Framework. The second phase of the effort completed the products specified in the Logical Architecture, shown in the Designer row of the framework. The third phase updated the Logical Architecture, based on the Activity Model work that was completed.

Some of the products in the 2010 CA Framework already exist in the Census Bureau. For example, the Organization Chart, Critical Business Concerns, and Standards are all maintained in the Census Enterprise Architecture maintained by the Enterprise Architecture Office. For purposes of the 2010 Census Architecture, these products are used as-is, or a subset is used.

The majority of the products, such as the Functional Decomposition Diagram, Activity Model, and Logical Data Model are developed using facilitated modeling and stored in an integrated software tool repository. Many of these products were modeled at a high level for the Business Architecture, and then further refined during the Logical Architecture development process. The detailed models replaced the more general models, and are included in this document. For example, the Business Architecture data model contained 36 entity types, while the Logical Architecture data model contains over 150.

The primary emphasis of Phase III involved further development of the functional aspects of the Activity Model, completion of 2010 Census Node, Needline and Information Exchange products, and Application Architecture enhancements based on additional Interaction Analysis. Interaction analysis included techniques to further synchronize and improve the quality of both the data and activity models. The interactions of the data and the activities were analyzed to identify Application Areas for the Application Architecture.

The Application Areas group activities and data that have a strong affinity with each other (i.e., the same data items that are heavily used by a group of related activities). One or more of these application areas may be combined to define the scope and specify the requirements for an application system (or set of systems).

For the purpose of the 2010 Census Architecture, and in keeping with our functional approach, nodes in the Node Connectivity product set were defined as logical roles, not physical or organizational entities. Nodes are connected to each other by needlines, which represent the need to exchange information among nodes. Each needline signifies an Information Exchange, which is comprised of Activity ICOMs (Inputs, Outputs, Mechanisms and Controls).

During the development of the 2010 CA, the Steering Committee and the Architecture Team have developed an understanding of the architecture concepts, various techniques involved in developing it, and the purposes for which each work product may be used. The 2010 CA is currently being used as a reference tool for development of related models, requirements, contracts definition, and in the development of the physical architecture.

Summary of next steps

The next phase of the 2010 Census Architecture is the development of the Physical Architecture. In turn, the Logical Architecture will be updated as appropriate based on the development of the physical architecture work products. In addition, the Logical Architecture will be updated based on decisions made as a result of the ongoing test and contract activities.

2010 CENSUS ARCHITECTURE FRAMEWORK

VIEWS	WHAT DATA	HOW FUNCTION	WHERE NETWORK	WHO PEOPLE	WHEN TIME	WHY MOTIVATION
BUSINESS ARCHITECTURE PLANNER	**1. List of Entities Important to the Business** **2. Information Dictionary**	**3. List of Business Functions, *** **4. Business Reference Model (BRM/OMB) [Lines of Business/ Sub-Functions]**	**5. List of Business Locations, *** **6. Standards Profile**	**7. List of Organizations Important to the Business** **8. Organization Chart**	**9. List of Events/Cycles Important to the Business**	**10. List of Business Goals, Objectives, and Strategies** **11. List of Principles** **12. List of Critical Business Concerns** **13. List of Risks** **14. Operational Concept Diagram**
BUSINESS ARCHITECTURE OWNER	**15. Entity Relationship Diagram, *** **16. Information Exchange Matrix (Conceptual), ***	**17. Functional Decomposition Diagram, *** **18. Activity Model, *** **19. Process Model** (Only for selected parts of the architecture) **20. Information Assurance Trust Model**	**21. Locations Mapped to Functions, *** **22. Information Assurance Risk Assessment**	**23. Node Connectivity Description (Conceptual), ***		
LOGICAL ARCHITECTURE DESIGNER	**24. Logical Data Model, *** **25. Information Exchange Matrix (Logical), ***	**26. Application Architecture, *** **27. Interface Description (Conceptual), ***	**28. Node Connectivity Description (Logical), ***			
PHYSICAL ARCHITECTURE BUILDER	**29. Physical Data Model** **30. System Information Exchange Matrix**	**31. System Design** **32. System Functionality Description** **39. Systems List** **41. System Function List**	**33. System Interface Description** **34. Technical Reference Model (TRM/OMB)** **35. Technical Architecture** **36. System Performance Parameters Matrix** **37. Systems Rules Model** **40. Interface Control Document**	**38. Node Connectivity Description (Physical)**		

***** = Includes Release 1.1 updates, May 2005.

Figure 1

Work Products that Help Satisfy Office of Management and Budget (OMB) Circular A-130 Reporting Requirements

OMB Circular A-130 Reporting Requirements	*Corresponding 2010 Census Architecture Products*		
Business Process	✓ Activity Model ✓ Operational Concept Diagram	✓ Functional Decomposition Diagram & Outline	✓ List of Business Functions
Information Flows & Relationships	✓ Activity Model ✓ Node Connectivity Description	✓ Information Exchange Matrix ✓ Application Architecture	
Applications [1]	(Applications, i.e., systems, will be included in the 2010 Census Physical Architecture)		
Data Descriptions & Relationships	✓ Logical Data Model		
Technology Infrastructure	(Technology will be included in the 2010 Census Physical Architecture)		
Technical Reference Model	(Technology will be included in the 2010 Census Physical Architecture)		
Standards Profile (including security standards)	✓ Standards Profile		
Information Assurance	✓ Information Exchange Matrix	Information Assurance Trust Model[2]	Information Assurance Risk Assessment[2]

Notes:

✓ = Framework product is completed

[1] = OMB applications are systems such as software applications, not the application areas

[2] = In Progress

Figure 2: 2010 Census Architecture Products Map to OMB Requirements

2010 Census Architecture Framework Products Summary

#	Work Product Name	Definition	Description
1	List of Entities Important to the Business	A list of information/data objects (or things or assets) of interest to the 2010 Census. It is a fairly high-level of aggregation.	List of entities and definitions from the original work product #15, ERD.
2	Information Dictionary	A list that defines all architecture and work product terms.	All products modeled in the 2010 Census Architecture repository.
3	List of Business Functions	A function is a high-level category or aggregate of work that a business performs.	List of the 2nd level decomposition activities and definitions in the Activity Model.
4	Business Reference Model (BRM)	The Federal Government lines of business and respective services provided to citizens, as required by the Office of Management and Budget (OMB).	A list of the lines of business and definitions from the OMB BRM that apply to the 2010 Census, and are consistent with the Census Bureau's Enterprise Architecture.
5	List of Business Locations	A high-level aggregated list of locations in which the enterprise operates.	The List of business locations per the 2000 Census. See #28, Node Connectivity Description (Logical) for the most current list, utilizing a role-based node approach.
6	Standards Profile	A collection of profiles or sets of rules that govern system implementation and operation, such as mandatory and non-mandatory voluntary guidelines, best practices, etc.	List of the standards from the Census Bureau's Information Technology (IT) Standard Uniform Products.
7	List of Organizations Important to the Business	A list of the organizations important to the business.	List of the 2010 Census participating divisions.
8	Organization Chart	A diagram that shows the hierarchy of sub-organizations within the organization.	Official Organizational Chart from the HRD intranet site.
9	List of Events/Cycles Important to the Business	A list of the major business events and cycles.	The 2010 Census Milestones Schedule.

2010 Census Architecture Framework Products Summary			
#	**Work Product Name**	**Definition**	**Description**
10	List of Business Goals, Objectives, and Strategies	A goal is a desired or needed result to be achieved over a specified period of time to support a mission. An objective is a measurable result (not an activity) that management has agreed to accomplish within a specific timeframe. Strategies are plans for achieving goals.	-2010 CENSUS PLANNING MEMO. SERIES No. 14, (Baseline Design for 2010); -2010 CENSUS PLANNING MEMO. SERIES No. 13, (Plan for the Plan); and -2010 CENSUS DECISION MEMO. SERIES No. 7, (Decision on IVR).
11	List of Principles	A principle is a statement that supports strategic direction, guides decisions, and provides a basis for distributed, but integrated, decision making.	List of principles for the development of the 2010 Census Architecture.
12	List of Critical Business Concerns	A business problem or issue on which the business unit is solution-focused.	List of environmental drivers from the Census Bureau IT Enterprise Architecture.
13	List of Risks	A list of the major risks faced by the Enterprise.	2010 Census Risk Management Plan prepared by DMD.
14	Operational Concept Diagram	A high-level graphic illustrating the vision of the business unit - the concept of operations.	A notional sequence of 2010 Census operations as of March 2002.
15	Entity Relationship Diagram (ERD)	A model of the entities (information/data objects) significant to the enterprise. The relationships between entities are implemented later as business rules.	The ERD depiction of entities was superseded by the more detailed Logical Data Model, work product #24.
16	Information Exchange Matrix (Conceptual)	A matrix that identifies the information exchanged between business locations and the relevant attributes of that exchange such as media, quality, quantity, and the level of interoperability required.	The Conceptual Information Exchange Matrix was superseded by the more detailed Logical Information Exchange Matrix, work product #25.
17	Functional Decomposition Diagram	A hierarchy of business functions independent of organizational structure and current procedures; a model of the separation of a function into its constituent parts or elements.	The 2010 Census Architecture Functional Decomposition Diagram.

2010 Census Architecture Framework Products Summary			
#	**Work Product Name**	**Definition**	**Description**
18	Activity Model	A model depicting the relationship among sub-functions and includes inputs and outputs. It may also identify constraints and mechanisms.	The Node List (outline of all activities), Definitions, ICOM list and definitions, and the Activity Model diagrams.
19	Process Model	A model depicting sequential process steps, decision points, and flow.	Sample notional process model diagrams illustrating LUCA and a Coding alternative.
20	Information Assurance Trust Model	A matrix that identifies who trusts whom for what. The trusting and trusted entities can be groups of people, roles, information system elements, locations or collections of data. The things trusted for are confidentiality, integrity, availability, identification, and non-repudiation.	TBD by the Decennial Security Planning Group.
21	Locations Mapped to Functions	A matrix showing the list of business locations mapped to business functions.	A matrix linking roles from the Node Connectivity Diagram (Product #28) with activities (Product #18) that occur in each node.
22	Information Assurance Risk Assessment	A document that identifies threats and vulnerabilities of information systems or applications and evaluates alternatives for mitigating or accepting the resulting appropriate judgments about system controls and risks.	TBD by the Decennial Security Planning Group.
23	Node Connectivity Description (Conceptual)	A model that illustrates and describes the business locations (nodes), and the needlines between them.	The diagram and the descriptions of the nodes and the needlines have been superseded by the Node Connectivity Description (Logical), work product #28.
24	Logical Data Model (LDM)	A model of the entities (information/data objects) and attributes significant to the enterprise. The relationships between entities are implemented later as business rules.	The Logical Data Model illustrates information entity types significant to the 2010 Census, relationships among entities, representative attributes, and definitions of both entities and attributes.

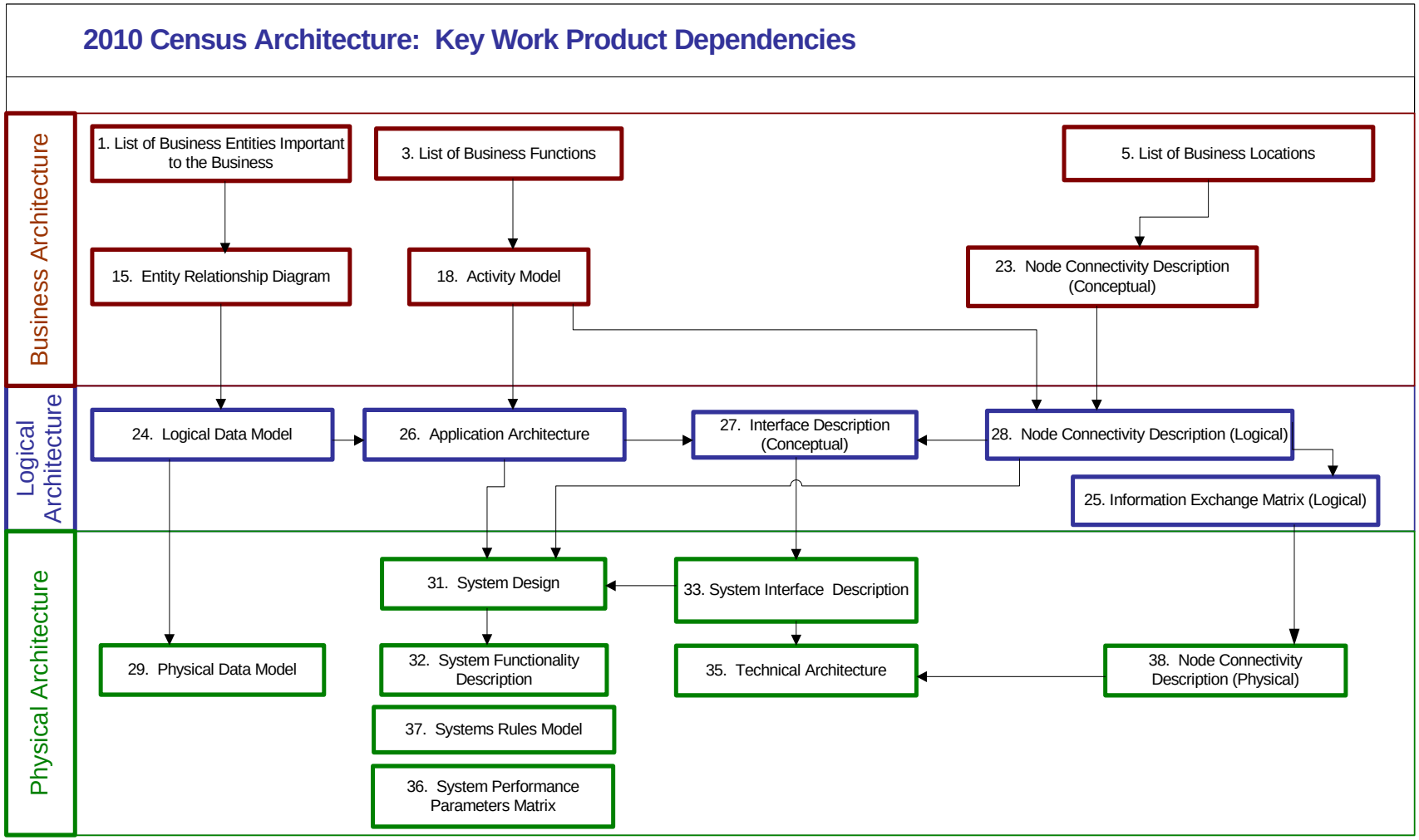
2010 Census Architecture Framework Products Summary			
#	**Work Product Name**	**Definition**	**Description**
25	Information Exchange Matrix (Logical)	A matrix that identifies the information exchanged between business nodes and the relevant characteristics of that exchange such as timing, media, quality, quantity, security level, and level of interoperability required.	The Information Exchange Matrix provides a description of the needlines identified in the Node Connectivity Diagram (work product #28), identifies the source and destination for needlines, and a list of Information Exchanges associated with each needline (mapped to Activity Model ICOMs - See work product # 18).
26	Application Architecture	A model that contains the types of logical applications required that manages data and performs the functions of the organization. The model includes definitions and interfaces.	The Application Architecture document includes defined application areas and describes interfaces among application areas.
27	Interface Description (Conceptual)	A model that illustrates the information flows between application areas within a business location (node).	The Interface Description is a matrix illustrating which Application Areas (work product #26) are related to each Node (work product #28).
28	Node Connectivity Description (Logical)	A model that illustrates and describes the business locations (nodes), and the needlines between them.	The Node Connectivity Diagram provides a high-level overview of external and internal roles performed by 2010 Census organizations and people, depicting information-sharing requirements among roles (nodes), through the use of needlines (Product #25). Needlines indicate the need to exchange information between nodes.

The following table describes the physical architecture work products proposed for development in Phase 1 of the Physical Architecture.

Phase 1 Physical Architecture Products	
Work Product	**Description**
30. System Information Exchange Matrix	A table containing interface details for each system-to-system interface. The focus is on how system data exchange is implemented, in system-specific details covering periodicity, timeliness, throughput, size, information assurance, and security characteristics of the exchange. In addition, the system data elements, their format and media type, accuracy, units of measurements, and system data standard are also discussed in the matrix.
31. System Design	A document including action diagram-style expressions that would constitute implementation of the logical systems or application architecture. In object-oriented notations, this would be the methods and their realization. Documents system functional hierarchies and system functions and relates them to the logical application areas (activities and data).
32. System Functionality Description	A document that identifies implementation details to application functionality, choosing a programming language, etc. Describes how data flow among system functions, and the relationships between systems or system functions and activities at nodes.
33. System Interface Description	Identifies physical nodes and systems that support logical nodes. It links together the logical and physical views by depicting the assignment of systems and physical nodes (and their associated interfaces) to logical nodes (and their associated needlines).
35. Technical Architecture	A model that represents the physical technology environment for the enterprise; it shows the actual hardware and software systems, including operating systems and middleware. The technical systems-implementation standards upon which engineering specifications are based and common building blocks are established.
39. Systems List	A table naming and characterizing systems that will implement Census applications. The table will contain items such as: systems name, acronym, node, ICOM*, status, owner, PM, Description, application area* * provides linkage with logical architecture view.
40. Interface Control Document	A document providing the description and technical specification of the functionality provided by the interfacing of two systems or functions residing at physical nodes. This work product is a primary feeder to Work Products 30 and 33 in the Physical Architecture.
41. System Function List	A taxonomic description of system functions based on the Federal Enterprise Architecture Service Component Reference Model (SRM), extended to include Census-specific functions.

The following table describes the physical architecture work products proposed for development in Phase 2 and maintained through Phase 3.

Phase 2 and 3 Physical Architecture Products	
Work Product	**Description**
29. Physical Data Model	A technology constrained, or physical representation, of the objects of the enterprise. The representation style of this model depends on the technology chosen for implementation. If relational technology is chosen, the model is of the table structure required to support the logical data model in a relational-style mode. In a object-oriented notation, the model would be a class-hierarchy/ association style model. Describes how the information represented in the Logical Data Model is actually implemented, how the information-exchange requirements are implemented, and how the data entities and their relationships are maintained.
34. Technical Reference Model	Based on the Census enterprise Technical Reference Model (TRM), it provides a foundation to describe the standards, specifications, and technologies supporting the secure delivery, exchange, and construction of business (service) components and e-Gov solutions.
36. Systems Performance Parameters Matrix (Replaces System Performance Parameters (as required))	A matrix that includes the current performance characteristics of each system and the expected or required future performance characteristics of each system. Specifies the expected or required quantitative characteristics of systems and system hardware/software items, their interfaces, and their functions.
37. Systems Rules Model (Replaces Rule Design (as required))	A matrix that includes the current performance characteristics of each system and the expected or required future performance characteristics of each system. Specifies the expected or required quantitative characteristics of systems and system hardware/software items, their interfaces, and their functions.
38. System Communication Description (Replaces Node Connectivity Diagram (Physical))	Documents specific communications links or networks and the details of their configurations through which systems interface.



Other Products

2. Information Dictionary
4. Business Reference Model (BRM/OMB)
6. Standards Profile
7. List of Organizations Important to the Business
8. Organization Chart
9. List of Events/Cycles Important to the Business
10. List of Business Goals, Objectives, and Strategies
11. List of Principles
12. List of Critical Business Concerns
13. List of Risks
14. Operational Concept Diagram
16. Information Exchange Matrix (Conceptual)
17. Functional Decomposition Diagram
19. Process Model
20. Information Assurance Trust Model
21. Locations Mapped to Functions
22. Information Assurance Risk Assessment
30. System Information Exchange Matrix
34. Technical Reference Model (TRM/OMB)
39. Systems List
40. Interface Control Document
41. System Function List

1. List of Entities Important to the Business

This is a list of information/data objects (or things or assets) in which a stakeholder of the 2010 Census may be interested. This work product depicts the 2010 Census at a high level, and was the basis for the more detailed Logical Data Model, (work product #24).

No.	Name	Business Description
1	Activity Schedule	This is a specific task necessary to complete the Census. A task is defined by one or more specific business rules, which must include all related objectives, high level requirements and detailed requirements. Activities may overlap.
2	Address	This is the house number and street or road name or other designation assigned to a housing unit, special place, business establishment, or other structure for purposes of mail delivery and/or to enable emergency services, delivery people, and visitors to find the structure. Examples include: basic street address, city-style address, E-911 address, fire number, house-number-and-street name address, location description, mailing address, and noncity-style address.
3	Applicant	This is an individual that has applied for a census position.
4	Assignment	This is a case, or set of cases, associated with a specific task.
5	Budget	This is the estimated amount of funding available for a task as defined by its requirement.
6	Case	This is the lowest unit of work for a particular activity. For processing or collecting census data, the unit may be an area, address, or group of addresses (may not be contiguous for matching or un-duplication purposes). For other activities, the unit of work may be; coding an application, development of a specification, producing a report, and running a particular computer application.
7	Customer	This is an individual or organization with a vested interest in Census Bureau operations and products. This includes stakeholders and other members of the public that request information or services from the Census Bureau.
8	Employee	This is a Census Bureau employee.
9	Employee Compensation	This is the total compensation to an individual employee based on hours worked or salary, travel expenses, and other miscellaneous expenses. This is analogous to a paycheck.
10	Estimate	This is an approximate value generated using statistical methods.

No.	Name	Business Description
11	Evaluation Sample Area	These are selected geographic areas where an evaluation is conducted. This includes Coverage Measurement.
12	Facility	This is a specific location in which business is performed. This includes headquarters, LCOs, DCCs, QACs, NPC, RCC, and vendor facilities.
13	Form	This is a structured mechanism for recording or communicating information (for example, scripts, promotional material, etc.). This excludes the advance letter and reminder card.
14	Governmental Unit	This is a geographic entity established by legal action to implement specified general- or special-purpose governmental functions. To meet Census criteria, a government must be an organized entity that, in addition to having governmental character, has sufficient discretion in the management of its own affairs to distinguish it as separate from the administrative structure of any other governmental unit. To have governmental character, an entity must exist as a legally organized entity and have legally defined responsibilities to its residents.
15	Group Quarters	Group quarters consist of living quarters in which people live or stay that are normally owned or managed by an entity or organization providing services for the residents. We recognize two general categories of people who reside in-group quarters: (1) the noninstitutionalized population and (2) the institutionalized population.
16	Hardware and Equipment	This is an item of equipment used in an office or field. Examples include HHCs, workstations, printers, scanners, shredders, routers, and telephones.
17	Help Request	This is a record of a request by an employee or a member of the public and the resolution of the request. This includes a request for: technical support, operational guidance, questionnaire assistance, questionnaire fulfillment, a specific product, and Census information.

No.	Name	Business Description
18	Housing Unit	Housing units are usually houses, apartments, mobile homes, groups of rooms or single rooms that are occupied as separated living quarters. They are residences for single individuals or for groups of individuals or families who live together as households. A housing unit is classified as occupied if it is the usual place of residence of the individual or group of individuals living in it at the time of enumeration, or if the occupants are only temporarily absent, such as away on vacation, in the hospital for a short stay, on a business trip, and will be returning. Housing units temporarily occupied at the time of enumeration entirely by individuals who have a usual residence elsewhere are classified as vacant.
19	Instructional Item	This is an item that describes how to perform a task and the tools to accomplish the task for both internal and external users (for example, data dictionary, manual, coding rule, training guide, technical documentation, etc.).
20	Kit	This is a collection of tools and materials to be used by an individual data collector, data capture operator, or facility.
21	Line	This is the connection between two, or more, points.
22	Map	This is an item used to collect or process data or to disseminate as a data product. This includes paper or electronic maps.
23	Overseas Address	This is the location of an overseas respondent that requests a census questionnaire.
24	Payee	This is an external individual or organization that receives payment for goods or services.
25	Payment	These are payments for services, products, or other objects.
26	Person	This is an individual who should be counted according to Census rules.
27	Person or LQ Count	This is the sum of all instances of various kinds of persons or LQs (i.e. HUs or GQs) defined by specific criteria. Note that the Census cannot 'count' until duplicates are resolved.
28	Point	This is the latitude and longitude values describing a spatial location.
29	Polygon	This is a geographic entity defined by one or more lines.
30	Position	This is any role that gathers or processes person, address, and/or unit data. This includes a telephone operator, data capture operator, enumerator, and address lister.

No.	Name	Business Description
31	Product Package	This is a data format used for review and analysis purposes and/or dissemination to the public. This includes all related documentation.
32	Questionnaire	This is a set of questions, instructions, and other information used to collect information about a person or a place where they can reside. This can be either by paper or automated means, and by either self-response or interviewer assistance. Examples include: questionnaires used for paper self-response, Be Counted, overseas enumeration, GQ Enumeration, and automated instruments for address canvassing, NFRU, Internet, and coverage measurement.
		This includes the questions, respondent, and interviewer instructions, layout, examples, categories, and edit requirements particular to the type of questionnaire and/or question. Also, this includes other forms mailed to specific addresses to notify the respondent of census activities (e.g. advance letter).
33	Requirement	This is a goal, objective, or business rule (high level or detailed requirement). Business rules may be functional or non-functional and describe what needs to be done, and to what entity (unit, person or object), in sufficient detail to design and prepare specifications/procedures/design documents, as necessary, for implementation. This requirement supports the development of all necessary systems and their interfaces and dependencies, as well as security and privacy considerations. This also includes all applicable laws, regulations, and policies. For products, this includes format, media, recipient, etc.
34	Respondent	This is the person supplying survey or census information about his or her living quarters and its occupants, or a knowledgeable person if not available.
35	Software	This is an instruction for computers to process data.
36	Specification	This is an instruction on how to create items such as software or procedures guides.

2. Information Dictionary

The information dictionary is the Popkin Software's System Architect® encyclopedia. The encyclopedia is the knowledge base that contains all the diagrams, definitions, and relationships. Many work products are created by exporting data from the information dictionary into other tools such as Word Perfect, MS Word, and MS Excel.

The Federal Enterprise Architecture – Program Management Office recommends an enterprise to document their architecture in an automated tool. The contents of this 2010 Census Architecture binder reflect the objects documented in Popkin's System Architect® tool.

3. LIST OF BUSINESS FUNCTIONS

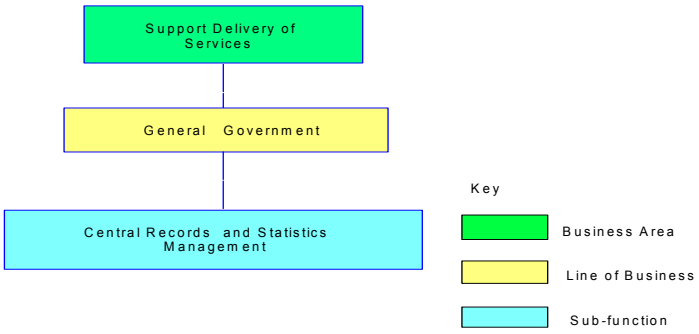
A function is any set of actions that a business performs. It is a fairly high level aggregation of activities. This is the second level of decomposition activities and definitions in the Activity Model.

Business Function	Description
1. Census Planning	The process by which the Census Bureau studies needed improvements, completes iterative small- and large-scale testing to refine and integrate new methodologies, and determines the design for the decennial census.
2. System and Material Development	This is the process by which the Census Bureau develops and deploys the foundation tools, materials, and systems to support the 2010 Census. The infrastructure supports many functions throughout the Census.
3. Operations Management	These are the functions by which the Census manages people, facilities, activities, public communication and other resources.
4. Collection Framework	This is the spatial and LQ data as well as associated support data necessary to define the universes of the census, control of the operations required to complete the census, and source of interface and integration of the corporate LQ and spatial databases. This provides for updating and correcting the living quarters inventory and related spatial data needed to ensure a complete enumeration, taking that data to support census activities and the changes that result from them.
5. Data Collection and Capture	The process consisting of: 1) Collecting information for updating and correcting the living quarters inventory and related spatial data needed to ensure a complete enumeration. 2) Conducting the enumeration by various means of persons residing in these living quarters. 3) Collecting information about the characteristics of these living quarters. 4) Capturing and cleaning-up the respondent and living quarters data for tabulation.
6. Data Products	This is the process by which the Census Bureau prepares, tabulates and/or summarizes, reviews and clears, and disseminates the data from the Census.

4. Business Reference Model (BRM)

The Business Reference Model contains the Federal Government lines of business and the services provided to citizens in each line of business required by the Office of Management and Budget. The reference models are maintained in the Census Enterprise Architecture.

2010 Census Business Reference Model



Line of Business: General Government - General Government involves the general overhead costs of the Federal Government, including legislative and executive activities; provision of central fiscal, personnel, and property activities; and the provision of services that cannot reasonably be classified in any other Line of Business.

As a normal rule, all activities reasonably or closely associated with other Lines of Business or Sub-Functions shall be included in those Lines of Business or Sub-Functions rather than listed as a part of general government. This Line of Business is reserved for central government management operations; agency-specific management activities would not be included here.

> **Sub-function: Central Records and Statistics Management** - Central Records and Statistics Management involves the operations surrounding the management of official documents, statistics, and records for the entire Federal Government. This Sub-Function is intended to include the management of records and statistics for the Federal government as a whole, such as the records management performed by the National Archives and Records Administration (NARA) or the statistics and data collection performed by the Bureau of the Census.
>
> Note: Many agencies perform records and statistics management for a particular business function and as such should be mapped to that line of business. The Central Records and Statistics Management is intended for functions performed on behalf of the entire Federal government.

5. List of Business Locations

The List of Business Locations work product is a high level aggregation of locations (nodes) in which the business operates. This work product has been superseded by #28, Node Connectivity Description (Logical).

6. STANDARDS PROFILE

The Census Bureau's Information Technology (IT) Standards provide a baseline for the Architecture Standards Profile. Those standards can be viewed by accessing the URL addresses referenced below. Any exceptions or additions to the standards referenced below would be presented in this section. Currently there are no exceptions or additions.

IT Standards and Uniform Products Program (ITSUPP)

http://cww2.census.gov/it/ssd/itsupp/

Products

http://cww2.census.gov/it/ssd/itsupp/itsupp_uniform_products.asp

7. List of Organizations Important to the Business

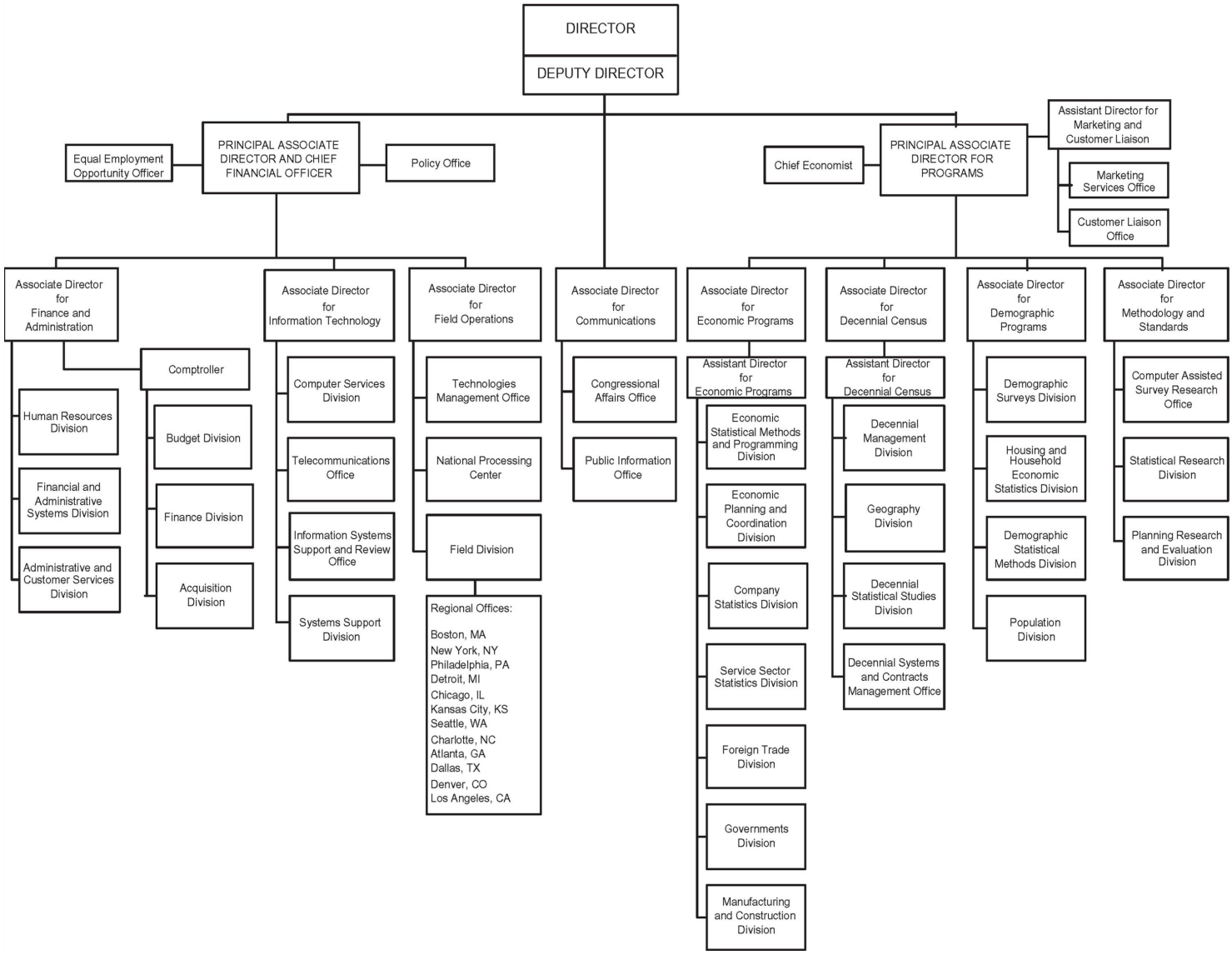
This is a high level list of Census Bureau organizations important to the 2010 census. It includes a list of participating decennial census divisions.

Name of Organization in 2010 CA Scope	Acronyms of Orgs in 2010 CA Scope
Administrative and Customer Services Division	ACSD
Administrative and Management Systems Division	AMSD
Computer Assisted Survey Research Office	CASRO
Computer Services Division	CSvD
Data Access and Dissemination Systems Office	DADSO
Decennial Management Division	DMD
Decennial Systems and Contracts Management Office	DSCMO
Demographic Statistical Methods Division	DSMD
Decennial Statistical Studies Division	DSSD
Field Division Headquarters	FLD
Geography Division	GEO
Housing and Household Economic Statistics Division	HHES
Information Systems Support and Review Office	ISSRO
National Processing Center	NPC
Public Information Office	PIO
Population Division	POP
Planning, Research and Evaluation Division	PRED
Regional Office	RO
Statistical Research Division	SRD
Technologies Management Office	TMO
Systems Support Division	SSD

Note:
CA = Census Architecture

8. Organization Chart

The Organization Chart is a diagram that shows the hierarchy of sub-organizations within the Census Bureau. The official chart is maintained by the Human Resources Division, is presented here and can be found on the website, http://www.census.gov/main/www/m-img/orgchart.jpg. The version below is Exhibit 1 to DOO 35-2B, Amendment 4.



9. List of Events/Cycles Important to the Business

This is the 2010 Census Milestone Schedule is maintained by the Decennial Management Division.

Activity ID	Activity Name	Planned Start	Planned Finish	Actual Start	Actual Finish
V005 2010 Planning Activities		11/01/01	12/31/13	11/01/01	
900	CCC recs. for 06 Test and 08 DR		01/31/05		
10010	Conduct Remote Alaska Operations	01/18/08	04/23/08		
430	Develop and Baseline 2006 Census Test Schedule	10/01/04	09/30/05		
V005.01 PROGRAM DESIGN		08/15/02	12/31/13	08/15/02	
V005.01.01 Design		08/15/02	06/29/07	08/15/02	
1007	Develop Baseline Design Document	12/01/02	04/30/03	12/01/02	04/30/03
1035	Develop Dress Rehearsal design/evaluation plans	04/01/06	12/31/06		
1030	Develop Dress Rehearsal/2010 operational plan	02/01/06	06/29/07		
1000	Develop Dress Rehearsal/2010 program req'ts.	12/01/02	06/29/07	12/01/02	
1005	Develop Plan for the Plan	10/01/02	04/30/03	10/01/02	04/30/03
1002	Develop Risk Plan	08/15/02	04/30/03	08/15/02	04/30/03
990	Obtain Congressional guidance - 2010 O'seas enum		05/01/07		
1020	Select Dress Rehearsal Sites	10/17/05	03/31/06		
V005.01.02 Architecture		01/06/03	12/31/12	01/06/03	
V005.01.02.01 Business Architecture		01/06/03	12/31/12	01/06/03	
1040	Develop the 2010 Census Baseline Business Arch.	01/06/03	09/30/03	01/06/03	10/02/03
1050	Maintain 2010 Census Business Architecture	10/01/03	12/31/12	10/03/03	
V005.01.02.02 Logical Architecture		10/20/03	12/31/12	10/20/03	
1060	Develop 2010 Census Baseline Logical Sys. Arch.	10/20/03	07/31/04	10/20/03	
1070	Maintain 2010 Census Logical Sys. Architecture	04/01/04	12/31/12		
V005.01.02.03 Physical Architecture		10/01/04	12/31/06		
1080	Develop the 2010 Census Baseline Physical Arch.	10/01/04	12/31/06		
V005.01.03 CMM Process Improvement		12/03/02	12/29/06	12/03/02	
V005.01.03.01 Requirements Process		12/03/02	12/29/06	12/03/02	
1090	Develop Version 1.0, Requirements Guide	12/03/02	03/31/03	12/03/02	03/31/03
1100	Develop Version 2.0, Requirements Guide	02/02/04	09/30/04	02/06/04	

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Activity ID	Activity Name	Planned Start	Planned Finish	Actual Start	Actual Finish
1110	Develop Version 3.0, Requirements Guide	07/01/06	12/29/06		
V005.01.04	Management Information Systems	11/04/02	12/31/13	11/04/02	
V005.01.04.01	Schedule	06/01/03	12/31/13	06/01/03	
1120	Develop/Baseline Detailed 2004 Test Schedule	06/01/03	09/26/03	06/01/03	09/26/03
1150	Develop/Baseline Detailed 2006 Test Schedule	06/01/04	09/30/05		
1190	Develop/Baseline Detailed 2010 Census Schedule	10/01/06	09/30/07		
1170	Develop/Baseline Detailed Dress Rehearsal Sched.	10/10/03	09/30/07	10/10/03	
1130	Maintain Detailed 2004 Census Test Schedule	10/01/03	12/30/05	10/01/03	
1160	Maintain Detailed 2006 Census Test Schedule	10/01/04	09/30/07		
1200	Maintain Detailed 2010 Census Schedule	10/01/07	12/31/13		
1180	Maintain Detailed Dress Rehearsal Schedule	10/01/05	09/30/09		
1140	Transition to New Schedule Application	11/17/03	06/30/04	11/17/03	
V005.01.04.02	Cost and Progress	04/11/03	03/31/11	04/11/03	
1250	Assess/Integrate New Functionality to C & P Sys.	01/02/05	04/01/05		
1230	Design & Develop Reports for Nat'l. Content Test	02/21/05	05/31/05		
1210	Develop Process Dev. Plans/Document./Metrics	04/11/03	09/30/10	04/11/03	
1220	Develop/Maintain Reports for 2004 Test	04/11/03	12/31/04	04/11/03	
1240	Develop/Maintain Reports for 2006 Test	04/11/05	03/31/07		
1270	Develop/Maintain Reports for 2010 Census	01/02/08	03/31/11		
1260	Develop/Maintain Reports for Dress Rehearsal	04/09/07	03/31/09		
V005.01.04.03	Portal	11/04/02	12/31/09	11/04/02	
1290	Assess new functionality for 2006 Census Test	04/05/05	07/05/05		
1310	Assess new functionality for Dress Reheasal	04/03/07	07/03/07		
1280	Develop & maintain portal for 2004 Census Test	11/04/02	12/31/04	11/04/02	
1300	Develop & maintain portal for 2006 Census Test	08/01/05	12/31/07		
1320	Develop & maintain portal for Dress Rehearsal	08/01/07	12/31/09		
V005.01.05	Budget and Cost Model	11/01/03	02/01/12	12/01/03	
V005.01.05.01	Cost Model Development	04/12/04	10/12/07	04/12/04	
1330	Award Cost Model Contract	10/12/04	10/12/04		
1340	Complete High Level Architecture Model and Reqts	10/12/04	10/12/05		

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Activity ID	Activity Name	Planned Start	Planned Finish	Actual Start	Actual Finish
1350	Develop and Test 2010 Cost Model	10/12/05	10/12/07		
1325	Develop/Issue RFP for New Cost Model Contract	04/12/04	07/12/04	04/12/04	
V005.01.05.02	2010 Census Budget Submissions	11/01/03	02/01/12	12/01/03	
V005.01.05.02.01	FY 2005 Budget	12/01/03	02/01/04	12/01/03	02/01/04
...	Prepare Submission FY 2005 Budget to Congress	12/01/03	02/01/04	12/01/03	02/01/04
V005.01.05.02.02	FY 2006 Budget	11/01/03	02/01/05	01/09/04	
...	Prepare Submission FY 2006 Budget to Congress	12/01/04	02/01/05		
...	Prepare Submission FY 2006 Budget to DOC	11/01/03	05/15/04	01/09/04	05/20/04
...	Prepare Submission FY 2006 Budget to OMB	08/01/04	09/01/04		
V005.01.05.02.03	FY 2007 Budget	11/01/04	02/01/06		
...	Prepare Submission FY 2007 Budget to Congress	12/01/05	02/01/06		
...	Prepare Submission FY 2007 Budget to DOC	11/01/04	05/15/05		
...	Prepare Submission FY 2007 Budget to OMB	08/01/05	09/01/05		
V005.01.05.02.04	FY 2008 Budget	11/01/05	02/01/07		
...	Prepare Submission FY 2008 Budget to Congress	12/01/06	02/01/07		
...	Prepare Submission FY 2008 Budget to DOC	11/01/05	05/15/06		
...	Prepare Submission FY 2008 Budget to OMB	08/01/06	09/01/06		
V005.01.05.02.05	FY 2009 Budget	11/01/06	02/01/08		
...	Prepare Submission FY 2009 Budget to Congress	12/01/07	02/01/08		
...	Prepare Submission FY 2009 Budget to DOC	11/01/06	05/15/07		
...	Prepare Submission FY 2009 Budget to OMB	08/01/07	09/01/07		
V005.01.05.02.06	FY 2010 Budget	11/01/07	02/01/09		
...	Prepare Submission FY 2010 Budget to Congress	12/01/08	02/01/09		
...	Prepare Submission FY 2010 Budget to DOC	11/01/07	05/15/08		
...	Prepare Submission FY 2010 Budget to OMB	08/01/08	09/01/08		
V005.01.05.02.07	FY 2011 Budget	11/01/08	02/01/10		
...	Prepare Submission FY 2011 Budget to Congress	12/01/09	02/01/10		
...	Prepare Submission FY 2011 Budget to DOC	11/01/08	05/15/09		
...	Prepare Submission FY 2011 Budget to OMB	08/01/09	09/01/09		
V005.01.05.02.08	FY 2012 Budget	11/01/09	02/01/11		

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Activity ID	Activity Name	Planned Start	Planned Finish	Actual Start	Actual Finish
...	Prepare Submission FY 2012 Budget to Congress	12/01/10	02/01/11		
...	Prepare Submission FY 2012 Budget to DOC	11/01/09	05/15/10		
...	Prepare Submission FY 2012 Budget to OMB	08/01/10	09/01/10		
V005.01.05.02.09	FY 2013 Budget	11/01/10	02/01/12		
...	Prepare Submission FY 2013 Budget to Congress	12/01/11	02/01/12		
...	Prepare Submission FY 2013 Budget to DOC	11/01/10	05/15/11		
...	Prepare Submission FY 2013 Budget to OMB	08/01/11	09/01/11		
V005.02	**RESEARCH AND DEVELOPMENT**	11/01/01	12/31/10	11/01/01	
V005.02.01	American Indian and Alaska Native	01/30/02	12/31/10	01/30/02	
5065	Assess Census 2000 AIAN enumeration methods	01/30/03	06/30/03	01/30/03	06/30/03
5040	Assess Census 2000 GEO program offered to tribes	04/30/02	12/31/02	04/30/02	12/31/02
5324	Conduct AIAN Assessment	08/01/10	12/31/10		
5070	Conduct first round of focus groups/issue report	09/16/03	10/30/03	09/16/03	11/30/03
5314	Conduct Regional Conferences	10/01/06	09/30/10		
5300	Conduct second round of focus groups/issue rpt.	10/31/04	12/15/04		
5311	Conduct Tribal Conferences	10/01/05	05/31/07		
5080	Consult with Alaska Native leaders	06/30/04	08/30/04		
5310	Continue tribal consultation	10/31/04	01/31/07		
5000	Develop AIAN policy report/recommendations	04/01/02	12/21/03	04/01/02	02/10/04
5075	Develop AIAN policy statement	05/30/04	06/30/04	05/28/04	
5313	Develop recommendations for Dress Rehearsal	10/01/06	01/31/07		
5068	Final AIAN policy report	08/31/03	06/30/04	08/31/03	
4995	Prepare AIAN R&D action plans	01/30/02	04/03/02	01/30/02	04/30/02
5090	Prepare AIAN recommendations for 06 Test	01/01/04	06/30/04	03/09/04	
5060	Solicit recommendations from tribal leaders	09/30/02	09/30/04	09/30/02	
V005.02.02	Communications	10/01/02	01/31/07	10/01/02	
425	CCC Recs. for 08 DR	01/02/05	01/31/05		
420	Conduct CCC focus groups (7)	10/01/04	10/31/04		
445	Conduct disabled population focus groups	05/01/05	06/01/05		
330	Conduct faith based focus groups	03/01/03	11/30/03	03/01/03	11/07/03

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Activity ID	Activity Name	Planned Start	Planned Finish	Actual Start	Actual Finish
345	Conduct lit. review/industry best practices	04/14/03	07/01/04	04/14/03	
390	Conduct paper in-kind support literature review	02/01/04	06/01/04	02/01/04	
340	Conduct rural focus groups	03/01/03	11/30/03	03/01/03	02/23/04
438	Conduct undocumented immigrant focus groups	02/01/05	03/31/05		
395	Develop Comm. recs./plan for 06 Test	07/04/04	12/30/04		
315	Develop strategy/recs. for in-language promo.	01/03/03	03/31/03	01/03/03	03/31/03
440	Disabled population recs. for 08 DR	01/02/07	01/31/07		
310	Logo policy decision	10/01/02	01/31/03	10/01/02	04/30/03
439	Rec. audience segment. model for 2010	01/04/05	12/30/05	10/15/03	
335	Rec. core messaging to be utilized in 04 Test		11/30/03		
300	Research and craft logo policy recommendation	10/01/02	11/30/02	10/01/02	11/30/02
436	Undocumented immigrant recs. for 08 DR	01/02/07	01/31/07		
V005.02.03	Content	10/03/02	10/03/05	04/30/02	
6045	Cognitive test for National Content Survey	02/03/03	12/31/04	02/03/03	
6050	Cognitive test on content & wording for 06 Test	08/01/04	09/30/05		
6000	Cognitive test on question wording/instructions	10/03/02	03/31/03	10/03/02	03/31/03
6060	Define mailing/delivery strategy requirements	10/03/05	10/03/05		
6055	Incorporate questionnaire content/wording req'ts	08/05/04	09/30/05		
6047	Receive results on question wording/instructions	04/30/03	08/05/03	04/30/02	08/05/03
6040	Usability test on Internet design for 05 NCS	12/10/02	12/31/04	12/10/02	
V005.02.04	Coverage	05/01/02	03/31/07	05/01/02	
0558	Complete coverage probes cognitive testing	10/01/02	12/31/02	10/01/02	12/31/02
0555	Complete residence rules cognitive test	10/01/02	12/31/02	10/01/02	12/31/02
0559	Determine GPS accuracy reqmts of MAF/TIGER AIP	12/01/02	03/01/03	12/01/02	03/01/03
0580	Determine TEA delineation criteria for 06 Test	03/01/04	09/30/04	02/12/04	
0640	Dev. meth. for conducting imputation - 06 Test	03/01/05	09/30/05		
0566	Develop covg. req'ts. for quality & accuracy	01/06/03	02/28/03	01/06/03	02/28/03
0550	Develop recs. for real-time unduplication oper.	09/03/02	12/31/02	09/03/02	12/31/02
0540	Develop req'ts for monitoring missing data	05/01/02	12/31/02	05/01/02	12/31/02
0630	Eval. presentation of residence rules - 04 Test	03/01/05	08/31/05		

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Activity ID	Activity Name	Planned Start	Planned Finish	Actual Start	Actual Finish
0670	Evaluate real-time unduplication (06)	12/15/06	03/31/07		
0590	Final coverage improvement reqmts for 06 Test	09/01/04	12/31/04		
0562	Final residence rules/wording/format for 04 Test	12/10/02	12/31/02	12/10/02	12/31/02
0564	Propose coverage wording for 04 Test	12/10/02	12/31/02	12/10/02	12/31/02
0628	Recomm. unduplication questionnaire instructions	03/01/05	08/30/05		
0568	Recommend Be Counted Approach (not in 06 Test)	06/01/03	07/31/04	06/01/03	
0650	Refine real-time unduplication operation	08/31/05	12/31/05		
0620	Refine req'ts for monitoring missing data	01/02/05	04/30/05		
0625	Research house number corrections	01/04/05	12/31/06		
0575	Research mailability of addresses	01/30/04	12/30/04	02/15/04	
0585	Research simplification of residence rules	08/01/04	12/31/04	04/20/04	
0600	Revise residence rules for 06 Test	12/31/04	02/28/05		
0572	Rsch. improve. in criteria for incl. MAF adds.	01/05/04	09/30/04	03/09/04	
0595	Special Test for P.O. Boxes	10/01/04	09/30/05		
V005.02.06	Field Activities	02/04/02	12/31/06	02/04/02	
0700	Control/tracking of MCD reqmts for 04 Test	04/30/02	12/31/02	04/30/02	12/31/02
0920	Final field infrastructure footprint for 2010	09/01/06	12/31/06		
0910	Final number and type of LCOs for 2010	09/01/06	12/31/06		
0900	Final office and field staffing req'ts for 2010	09/01/06	12/31/06		
0870	ID pros/cons & methods of phone data coll.	03/01/04	06/30/04		
0695	MCD NRFU Functional Req'ts. for 2004 Test	02/04/02	07/02/02	02/04/02	07/02/02
0800	Prelim office and field staffing req'ts for 2010	08/01/04	03/30/05		
0820	Prelim. field infrastructure footprint for 2010	08/01/04	03/30/05		
0810	Preliminary number and type of LCOs for 2010	08/01/04	03/30/05		
0720	Rec. on implementation of database on addresses	09/01/02	12/13/02	09/01/02	12/13/02
0860	Rec. optimal tool kit methods for 06 Test	03/01/04	05/30/04		
0790	Rec. proc. for handling missed addresses	01/02/04	04/30/04		
0840	Rec. special enum. methods for restricted access	03/01/04	05/30/04		
0850	Rec. special enum. methods for special areas	03/01/04	06/15/04		
0890	Rec. telephone methodologies for data collection	03/01/04	06/30/04		

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Activity ID	Activity Name	Planned Start	Planned Finish	Actual Start	Actual Finish
0710	Staffing req'ts to support use of MCD - 04 Test	04/30/02	12/31/02	04/30/02	12/31/02
V005.02.07	Language Program	09/30/02	03/31/08	09/30/02	
2410	Complete Spanish translation cognitive test	07/30/03	07/30/03	07/30/03	07/30/03
2400	Complete Spanish translation focus groups	09/30/02	09/30/02	09/30/02	09/30/02
2440	Conduct focus groups/cog. testing (other lang.)	10/01/04	05/31/05		
2450	Conduct language reference dictionary focus grps	10/01/04	05/31/05		
2490	Conduct quest./forms design alternatives tests	09/01/05	11/30/05		
2570	Develop final language list-printed 2010 quest.	03/01/07	03/31/08		
2540	Develop list of in-language training tools	06/30/06	06/15/07		
2530	Evaluate actual performance - 06 Test	04/01/06	09/01/06		
2430	Evaluate MCD performance in Language	04/01/04	11/30/04	04/01/04	
2500	Print/distribute final language ref. dictionary	09/01/05	12/31/05		
2420	Recommend Q'aire translation wording for 04 Test	07/30/03	07/30/03	07/30/03	07/30/03
2470	Research printing options (quest. fulfillment)	07/01/04	06/30/05		
2480	Rsch data processing options(quest. fulfillment)	09/01/04	06/30/05		
V005.02.08	Mobile Computing Device Research	11/01/01	03/31/07	11/01/01	
2910	Award FDCA R & D Contract		02/15/04		03/06/03
2830	Conduct Interview Feasibility Test/Issue Results	04/01/02	09/30/02	04/01/02	10/31/02
2850	Conduct Map Disp. Enhancement Test/Issue Results	08/01/02	10/30/02	08/01/02	12/31/02
2810	Conduct Map Display Usability Test/Issue Results	02/01/02	05/31/02	02/01/02	05/31/02
2800	Conduct MCD initial hardware benchmark test	01/02/02	03/31/02	01/02/02	03/31/02
2860	Conduct Route Plng. and Nav. Tests/Issue Results	08/01/02	11/30/02	08/01/02	12/31/02
2795	Conduct Vendor Briefings	11/01/01	03/31/07	11/01/01	
2870	Develop & recommend 04 Test functionality	11/15/02	12/31/02	12/01/02	12/31/02
2900	Develop FDCA R & D Task Request	10/01/03	11/16/03	10/01/03	12/04/03
2920	Develop FDCA R&D Master Plan	03/05/04	05/06/04	03/08/04	05/07/04
2796	Develop/Issue RFI	12/01/01	12/31/01	12/01/02	12/31/02
2865	Rec. MCD operating system for 04 Test	09/15/02	09/30/02	09/15/02	09/30/02
V005.02.09	Self Response	12/01/01	01/31/07	12/01/01	
1925	Dev. response options and strategies for 05 Test	07/01/03	04/30/04	07/01/03	05/25/04

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1980	Develop consolidated response options/strategies	07/01/06	01/31/07		
1975	Evaluate 05 Test results and develop recs.	11/01/05	06/30/06		
1920	Evaluate results from the 2003 Census Test	02/28/03	07/16/03	02/28/03	07/16/03
1900	Rec. response technologies for 03 Test	12/01/01	04/30/02	12/01/01	04/30/02
1970	Rec. tgtd. repl. options for 2005 Census Test	02/28/04	02/28/04	02/28/04	05/25/04
1930	Research and develop response strategies	08/01/03	04/30/05	08/01/03	
1960	Research viable options-delivering repl. quest.	09/01/03	02/25/05	08/01/03	
V005.02.10	Special Place/Group Quarters	03/07/02	12/31/05	03/07/02	
2258	Conduct SP/GQ focus groups & unstruct. intervs.	05/01/03	09/30/04	05/01/03	
2345	Initial rec enumeration/processing requirements	02/01/04	12/31/04		
2355	Initial rec enumeration/processing requirements	06/01/04	12/31/05		
2215	Initial rec. enumeration/processing requirements	04/30/02	11/30/03	04/30/02	
2255	Plan for updating/maintaining the inventory file	03/17/03	10/31/04	03/17/03	
2200	Rec. chgs. to SP/GQ definitions/classifications	03/07/02	12/31/02	03/07/02	12/31/02
2270	Rec. chgs. to SP/GQ definitions/classifications	09/01/03	09/30/04	09/01/03	
2250	Rec. potential uses of technology for GQ enum.	07/09/02	12/31/03	07/09/02	01/07/04
2210	Rec. SP/GQ frame development methods for 04 Test	03/20/02	12/31/02	03/20/02	12/31/02
2300	Recommend enumeration strategy for RV parks	01/02/04	12/31/04	01/07/04	
2230	Research SP/GQ privacy and confidentiality laws	05/01/02	06/10/03	05/01/02	06/10/03
2350	Test components of SP/GQ new frame dev. strategy	02/17/04	03/25/04	02/17/04	
2340	Unduplicate Census 2000 SP/GQ Master File	01/02/04	12/31/04	01/14/04	
2330	Update the MAF with geocoding corrections	01/02/04	12/31/04	01/02/04	
V005.02.11	Overseas Enumeration	01/24/02	02/14/05	01/24/02	
1740	Develop req'ts. for Internet data collection-04	01/31/03	04/30/03	01/31/03	04/30/03
1720	Id. o'seas admin. record files to be used-04	06/30/02	03/31/03	06/30/02	03/31/03
1760	Identify o'seas admin record files to be used-06	02/04/04	09/30/04	02/04/04	
1770	Identify use of overseas admin record files-06	02/04/04	09/30/04	02/04/04	
1700	Rec. enum. process for 04 Overseas Enum. Test	01/24/02	12/30/02	01/24/02	12/30/02
1710	Rec. plan for promotion/respondent motivation-04	01/24/02	12/30/02	01/24/02	12/30/02
1730	Recommend questionnaire content & design-04	08/01/02	02/14/03	08/01/02	02/14/03

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1780	Recommend questionnaire content & design-06	06/01/04	02/14/05		
1750	Research privately-held admin. records-06	02/04/04	09/30/04	02/04/04	
V005.02.12	Race and Ethnicity	03/06/02	01/10/07	03/06/02	
2040	Analyze results from 2003 National Census Test	06/02/03	10/01/03	06/02/03	10/01/03
2055	Analyze results of 04 Census Test	09/01/04	12/31/04		
2065	Analyze results of 2005 NCS	11/08/05	02/28/06		
2038	Begin work on 2005 Cognitive Research	05/05/03	12/30/04	05/05/03	
2060	Conduct Behavioral Coding of Race and Ethnicity	06/10/04	07/10/04		
2030	Conduct cognitive testing	06/18/02	07/01/02	06/18/02	07/01/02
2045	Conduct R&H cognitive test for 2005 NCS	07/01/03	10/31/03	07/01/03	10/31/03
2000	Conduct R&H quest. wording/instruct. cog. test	06/10/02	07/18/02	06/10/02	07/18/02
2070	Develop final report on 2005 NCS findings	12/12/05	03/31/06		
1995	Develop questions for cognitive work	03/06/02	06/30/02	03/06/02	06/30/02
2080	Issue R & H recomm. for 2008 ACS and 2010	01/10/07	01/10/07		
2075	Meeting with race/ethnic experts & stakeholders	04/01/06	06/30/06		
2050	Work on question formats & data coll. modes	09/04/03	11/30/04	09/04/03	
V005.03	**TESTING**	03/21/02	06/29/07	01/03/02	
V005.03.01	2003 National Census Test	03/21/02	01/30/04	03/21/02	11/18/03
3305	Analyze and issue Census 2000 comparisons report	06/30/03	11/24/03	06/30/03	10/16/03
3280	Analyze and issue Customer Satisfaction report	04/07/03	07/16/03	04/07/03	07/16/03
3260	Analyze and issue Item Nonresponse report	04/07/03	07/16/03	04/07/03	07/16/03
3250	Analyze and issue Response Rate/Panel Comparison	02/28/03	04/30/03	02/28/03	04/30/03
3300	Analyze and issue RH Panels report	06/02/03	08/01/03	06/02/03	08/01/03
3310	Analyze and issue RH report	08/26/03	01/30/04	08/26/03	11/18/03
3115	Award IVR/Internet contract	06/03/02	09/25/02	06/03/02	09/25/02
3165	Award print contracts	09/06/02	09/30/02	09/06/02	09/30/02
3203	Census Day		02/06/03		02/07/03
3190	Conduct Internet data collection	01/31/03	04/02/03	01/31/03	04/02/03
3200	Conduct IVR data collection	01/31/03	04/02/03	01/31/03	04/02/03
3220	Data capture - RH	02/24/03	04/15/03	02/24/03	04/15/03

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Activity ID	Activity Name	Planned Start	Planned Finish	Actual Start	Actual Finish
3210	Data capture- Mode	02/12/03	04/08/03	02/12/03	04/08/03
3080	Develop and release IVR/Internet SOW/RFP	03/25/02	05/03/02	03/25/02	05/03/02
3125	Develop data capture requirements	06/03/02	08/05/02	06/03/02	08/05/02
3110	Develop evaluation requirements	04/22/02	08/28/02	04/22/02	08/28/02
3100	Develop Internet operational and evaluations req	04/22/02	11/15/02	04/22/02	11/15/02
3090	Develop IVR operational and evaluation requireme	04/05/02	10/30/02	04/05/02	10/30/02
3130	Develop Project Plan	06/06/02	07/18/02	06/06/02	07/18/02
3105	Develop/finalize analysis plan	04/22/02	10/31/02	04/22/02	10/31/02
3040	Develop/finalize Mode content	03/21/02	07/09/02	03/21/02	07/09/02
3050	Develop/finalize RH content	03/21/02	08/23/02	03/21/02	08/23/02
3145	Develop/test Internet data collection	08/20/02	01/29/03	08/20/02	01/29/03
3148	Develop/test IVR data collection	08/20/02	01/10/03	08/20/02	01/10/03
3175	Mail advance letter	01/21/03	01/22/03	01/21/03	01/22/03
3180	Mail initial questionnaire	01/30/03	01/31/03	01/30/03	01/31/03
3205	Mail reminder postcard	02/07/03	02/08/03	02/07/03	02/08/03
3215	Mail replacement questionnaire	02/18/03	02/19/03	02/18/03	02/19/03
3135	Obtain OMB clearance	06/07/02	10/11/02	06/07/02	10/11/02
3168	Obtain OMB clearance for CCS	11/04/02	12/23/02	11/04/02	12/23/02
3138	Prepare print contracts	06/17/02	08/05/02	06/17/02	08/05/02
3095	Sample design & validate sample	04/22/02	11/01/02	04/22/02	11/01/02
V005.03.02	2004 Census Test	05/01/02	03/31/05	01/03/02	
3460	Analyze evaluation data	01/30/04	03/31/05	01/30/04	
3445	Award questionnaire print contract	08/22/03	08/25/03	08/22/03	08/25/03
3530	Census Day	04/01/04		04/01/04	
3440	Conduct Address Canvassing	08/09/03	09/22/03	08/09/03	09/22/03
3558	Conduct Covg. Rsch./Undupl. Field FU - W1	07/26/04	08/13/04		
3564	Conduct Covg. Rsch./Undupl. Field FU - W2	09/30/04	12/02/04		
3556	Conduct Covg. Rsch./Undupl. Phone FU - W1	06/21/04	07/09/04		
3562	Conduct Covg. Rsch./Undupl. Phone FU - W2	09/02/04	09/27/04		
3563	Conduct GPS Field FU	09/08/04	12/03/04		

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Activity ID	Activity Name	Planned Start	Planned Finish	Actual Start	Actual Finish
3470	Conduct Group Quarters Validation	02/17/04	03/25/04	02/17/04	03/12/04
3554	Conduct Group Quarters Validation Field Followup	06/07/04	07/08/04		
3566	Conduct HCUF/Edits and Recodes	11/22/04	12/03/04		
3550	Conduct Nonresponse Followup & Reinterview	04/24/04	07/03/04	04/24/04	
3425	Conduct Outreach Program	06/02/03	07/01/04	06/02/03	
3560	Conduct Record Linkage Field Followup	08/16/04	09/17/04		
3502	Conduct Response Coding	03/15/04	07/30/04		
3465	Conduct Telephone Questionnaire Assistance	02/04/04	06/04/04	02/04/04	
3552	Conduct Unduplication/Computer Matching	05/17/04	08/13/04	05/18/04	
3490	Conduct Update/Leave	03/01/04	03/31/04	03/01/04	03/26/04
3570	Create edited analytic file	12/06/04	12/20/04		
3421	Deploy & Close Admin. & Payroll Systems	05/12/03	12/30/04	05/12/03	
3412	Develop & Test Design/Evaluation Plans	06/01/02	09/03/02	06/01/02	09/03/02
3418	Develop evaluation study plans	12/30/02	06/30/03	12/30/02	10/31/03
3415	Develop Operational Plan	11/01/02	09/29/03	11/01/02	09/29/03
3435	GPO sends questionnaire contract for bids	07/28/03	08/08/03	07/28/03	08/08/03
3400	Identify objectives for the 2004 Test		01/02/02		01/03/02
3495	Implement Mailback Questionnaire checkin/data capture	03/03/04	07/23/04	03/03/04	
3450	OMB review/clearance	10/08/03	12/08/03	10/08/03	12/02/03
3420	Open/close Local Census Offices	05/01/03	12/31/04	05/01/03	
3559	Prepare Data Response File/Conduct PSA	07/27/04	09/22/04		
3455	Print/address/assemble questionnaire packages	12/23/03	03/01/04	12/23/03	01/27/04
3419	Quest. Content & Design (OMB Presub./Review)	04/23/03	10/08/03	04/23/03	10/08/03
3410	Select test sites	05/01/02	09/30/02	05/01/02	09/30/02
3500	USPS deliver advance letter (M0/MB)	03/08/04	03/10/04	03/08/04	03/10/04
3480	USPS delivers advance letter (U/L)	02/24/04	02/26/04	02/24/04	02/26/04
3510	USPS delivers initial mail packages	03/15/04	03/17/04	03/15/04	03/17/04
3520	USPS delivers reminder card	03/22/04	03/24/04	03/22/04	03/24/04
3540	USPS delivers replacement packages	04/08/04	04/10/04	04/06/04	04/08/04
V005.03.03	2004 Overseas Enumeration Test	05/16/02	12/30/04	05/16/02	

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Activity ID	Activity Name	Planned Start	Planned Finish	Actual Start	Actual Finish
1880	Analyze evaluation data	08/24/04	12/30/04		
1830	Award Marketing Contract	05/07/03	05/08/03	05/07/03	05/08/03
1851	Award questionnaire print contract	09/23/03	09/26/03	09/23/03	09/26/03
1870	Capture and Process Data	02/16/04	08/24/04	02/17/04	
1860	Conduct enumeration	02/02/04	07/02/04	02/04/04	
1800	Define Universe	05/16/02	05/30/02	05/16/02	05/30/02
1815	Develop Project Plan	10/23/02	10/15/03	10/23/02	10/15/03
1850	Evaluation Study Plans	06/02/03	10/24/03	06/02/03	02/03/04
1840	OMB Review/Approve Clearance Package	08/13/03	10/10/03	08/13/03	10/10/03
1852	Print questionnaires	11/03/03	12/15/03	11/03/03	12/08/04
1810	Select Sites	05/23/02	11/15/02	05/23/02	11/15/02
V005.03.04	2005 National Content Test	02/14/03	03/01/06	02/14/03	
6440	Analyze and issue 05 NCS results	12/01/05	03/01/06		
6340	Award IVR/Internet contract	09/01/04	09/01/04		
6350	Award questionnaire print contract	02/02/05	02/08/05		
6410	Census Day	09/15/05			
6300	Complete pretests & cognitive testing of content	02/14/03	12/15/04	02/14/03	
6425	Conduct checkin & data capture	09/22/05	11/15/05		
6405	Conduct IVR/Internet data collection	09/08/05	11/08/05		
6330	Develop IVR/Internet operational & eval reqmts	10/01/04	04/30/05		
6325	Develop Project Plan	09/07/04	10/15/04		
6320	Develop/finalize analysis plan	09/01/04	03/31/05		
6315	Develop/release IVR/Internet SOW/RFP	09/01/04	10/31/04		
6355	Develop/test IVR/Internet data collection	03/01/05	08/31/05		
6335	Federal Register	10/04/04	10/04/04		
6345	GPO sends questionnaire contract for bids	01/07/05	01/18/05		
6390	Mail advance letter	09/01/05	09/02/05		
6400	Mail initial questionnaire package	09/08/05	09/09/05		
6420	Mail reminder postcard	09/16/05	09/17/05		
6430	Mail replacement questionnaire package	10/28/05	10/29/05		

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Activity ID	Activity Name	Planned Start	Planned Finish	Actual Start	Actual Finish
6360	Obtain OMB clearance	04/07/05	06/30/05		
6382	Print/address/assemble questionnaire packages	06/13/05	08/23/05		
6310	Sample design & validate sample	07/15/04	02/01/05	03/12/04	
V005.03.06	2006 Census Test	06/02/03	06/29/07	06/02/03	
4241	Analyze evaluation data	07/01/05	06/29/07		
4244	Award questionnaire print contract	08/19/05	08/22/05		
4411	Census Day	04/01/06			
4239	Conduct Address Canvassing	06/27/05	08/05/05		
4415	Conduct Coverage Followup	04/05/06	09/19/06		
4460	Conduct Coverage Improvement Followup	07/06/06	08/22/06		
4245	Conduct Coverage measurement	09/01/05	03/30/07		
4470	Conduct Field Verification	08/01/06	08/31/06		
4412	Conduct Group Quarters enumeration	04/01/06	05/15/06		
4243	Conduct Group Quarters Validation	08/15/05	09/30/05		
4300	Conduct Internet Questionnaire Assistance	02/04/06	08/22/06		
4310	Conduct Internet Response	02/04/06	06/24/06		
4440	Conduct Nonresponse Followup & Reinterview	04/22/06	07/01/06		
4235	Conduct Outreach Program	02/01/05	07/01/06		
4410	Conduct Service Based enumeration	03/27/06	03/31/06		
4280	Conduct Telephone Questionnaire Assistance	02/04/06	08/22/06		
4290	Conduct Telephone/IVR response	02/04/06	06/24/06		
4237	Conduct test evaluation operations	04/01/05	12/03/06		
4450	Conduct Unduplication/Computer Matching	05/17/06	08/30/06		
4360	Conduct Update/Leave	03/01/06	03/31/06		
4480	Create edited analytic file	10/16/06	12/06/06		
4225	Develop evaluation study plans	09/01/04	01/31/05		
4216	Develop operational plan	02/01/04	07/30/04	02/18/04	
4217	Develop program requirements	02/01/04	12/31/05	02/02/04	
4215	Develop/test design and evaluation plans	12/01/03	05/31/04	12/08/03	
4465	DRF/PSA	07/27/06	09/30/06		

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4242	GPO sends questionnaire contract for bids	07/22/05	08/04/05		
4200	Identify objectives for the 2006 Test	06/02/03	01/31/04	06/02/03	12/18/03
4370	Implement Mailback Q'aire checkin/data capture	03/03/06	07/23/06		
4260	OMB review/clearance	10/20/05	12/19/05		
4230	Open/Close LCOs	01/15/05	12/31/06		
4390	Open/close QACs	03/20/06	05/15/06		
4262	Print/address/assemble questionnaire packages	12/21/05	02/25/06		
4385	Response Coding	03/15/06	07/30/06		
4380	USPS deliver advance letter (M0/MB)	03/08/06	03/10/06		
4350	USPS delivers advance letter (U/L)	02/24/06	02/26/06		
4381	USPS delivers initial mail packages	03/15/06	03/17/06		
4400	USPS delivers reminder card	03/22/06	03/24/06		
4420	USPS delivers replacement packages	04/06/06	04/08/06		
V005.03.07	2006 Overseas Enumeration Test	10/30/03	01/31/07	10/30/03	
4800	Analyze evaluation data	07/24/06	01/31/07		
4727	Award Internet Contract	11/01/04	12/31/04		
4730	Award Marketing Contract	03/15/05	05/08/05		
4760	Award questionnaire print contract	07/15/05	08/30/05		
4790	Capture and Process Data	02/01/06	07/23/06		
4780	Conduct enumeration	02/01/06	06/15/06		
4720	Develop Project Plan	02/01/04	09/30/04	02/01/04	
4722	Develop/Issue RFP for Internet Contract	07/01/04	10/31/04		
4725	Develop/Issue RFP for Marketing Contract	10/01/04	03/14/05		
4724	Evaluation Study Plans	10/01/04	01/31/05		
4700	Identify Objectives	10/30/03	01/31/04	10/30/03	01/31/04
4740	OMB Review/Approve Clearance Package	07/01/05	09/01/05		
4770	Print questionnaires	09/05/05	11/15/05		
4710	Select Sites	11/15/03	03/31/04	01/08/04	
V005.05	**DRESS REHEARSAL CONTENT AND PUBLIC USE FORMS**	06/30/03	12/26/08	06/30/03	
V005.05.01	Content Determination	06/30/03	01/10/07	06/30/03	

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Activity ID	Activity Name	Planned Start	Planned Finish	Actual Start	Actual Finish
590	Content determination for 08 DR/2010 Census	06/30/03	01/10/07	06/30/03	
V005.05.03	Residence Rules Instructions	03/31/06	01/10/07		
580	Determine Final Residence Rules Instructions	03/31/06	01/10/07		
V005.05.04	Data Coding	05/15/08	09/11/08		
3840	Conduct Residual Response Coding	05/15/08	09/11/08		
V005.05.05	Data Review and Certification	09/29/08	12/26/08		
3890	Create site counts	12/25/08	12/26/08		
3870	Implement Count Review [CEF]	11/27/08	12/05/08		
3850	Implement Count Review [CUF]	09/29/08	10/23/08		
3860	Implement Edit review [CEF]	10/23/08	12/05/08		
V005.05.06	Forms Design, Production, and Distribution	07/28/07	04/07/08		
3898	Add/assem/ship initial MO questionnaire to USPS	10/15/07	03/10/08		
3920	Add/assem/ship MO adv letter to USPS	01/22/08	03/03/08		
3925	Add/assem/ship MO reminder card to USPS	02/20/08	03/07/08		
4015	Add/assem/ship Replacement questionnaire to USPS	03/26/08	03/31/08		
3910	Add/assem/ship U/L adv letter to USPS	01/22/08	02/25/08		
3900	Add/assem/ship U/L pkg to FLD	11/16/07	01/08/08		
3930	Add/assem/ship U/L reminder card	02/20/08	03/20/08		
3894	Award questionnaire print contract	08/22/07	08/25/07		
4025	Census Day	04/01/08			
3892	GPO sends questionnaire contract for bids	07/28/07	08/08/07		
3905	Print/address/assemble questionnaire packages	12/22/07	02/28/08		
4000	USPS delivers initial MO questionnaire packages	03/13/08	03/13/08		
3990	USPS delivers MO Advance letter	03/06/08	03/06/08		
4010	USPS delivers MO reminder cards	03/20/08	03/20/08		
4030	USPS delivers MO--2nd mailing	04/03/08	04/07/08		
3980	USPS delivers U/L Advance letter	02/28/08	03/03/08		
4020	USPS delivers U/L reminder card	03/27/08	03/28/08		
V005.06	**DRESS REHEARSAL MKTG, PART'SHIPS, STAKEHLD. COMM**	03/31/06	09/30/08		
V005.06.01	Media Relations	03/31/06	09/30/08		

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Activity ID	Activity Name	Planned Start	Planned Finish	Actual Start	Actual Finish
600	Conduct Media Activities	03/31/06	09/30/08		
V005.06.02	American Indian/Alaskan Native (AIAN) Program	04/15/06	09/30/08		
610	Conduct Tribal Liaison Program	04/15/06	09/30/08		
V005.06.03	Partnerships	04/15/06	09/30/08		
620	Conduct Partnership Activities	04/15/06	09/30/08		
V005.06.04	Paid Advertising	01/03/07	07/31/08		
628	Award Advertising Contract		10/01/07		
630	Conduct Advertising Campaign	11/29/07	07/31/08		
626	Develop RFP for Advertising Contract	01/03/07	05/01/07		
V005.06.05	Promotions and Special Events	01/02/08	09/30/08		
640	Conduct Promotions and Special Events	01/02/08	09/30/08		
V005.07	**DRESS REHEARSAL ADDRESS LIST DEVELOPMENT**	12/01/05	04/30/08		
V005.07.01	DSF Refreshes	12/01/05	04/30/08		
7000	Conduct DSF Refresh	12/01/05	04/30/08		
V005.07.02	Housing Unit Frame Development	04/09/07	03/31/08		
V005.07.02.01	Address Canvassing	04/09/07	05/22/07		
7010	Conduct Address Canvassing	04/09/07	05/22/07		
V005.07.02.02	Update/Leave	03/03/08	03/31/08		
7020	Conduct Update/Leave	03/03/08	03/31/08		
V005.07.02.03	Urban Update/Leave	03/03/08	03/31/08		
7030	Conduct Urban Update/Leave	03/03/08	03/31/08		
V005.07.03	Group Quarters Frame Development	08/17/07	09/23/07		
V005.07.03.01	Group Quarters Validation	08/17/07	09/23/07		
7040	Conduct Group Quarters Validation	08/17/07	09/23/07		
V005.07.04	Address List Review Programs	04/15/06	04/01/08		
V005.07.04.01	Local Update of Census Addresses (LUCA)	04/15/06	01/05/07		
7050	Conduct LUCA	04/15/06	01/05/07		
V005.07.04.02	New Construction	01/02/08	04/01/08		
7060	Conduct New Construction	01/02/08	04/01/08		
V005.08	**GEOGRAPHIC PROGRAMS**	06/01/06	11/06/08		

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Activity ID	Activity Name	Planned Start	Planned Finish	Actual Start	Actual Finish
V005.08.02	Update Legal Boundaries (Including BAS)	12/01/06	01/31/08		
750	Update Legal Boundaries	12/01/06	01/31/08		
V005.08.06	Delineate Collection Geography	06/01/06	12/29/06		
790	Delineate Collection Geography	06/01/06	12/29/06		
V005.08.07	Delineate TEAs	03/01/07	05/31/07		
800	Delineate TEAs	03/01/07	05/31/07		
V005.08.10	Delineate Tabulation Geography	09/24/08	11/06/08		
830	Delineate Tabulation Geography	09/24/08	11/06/08		
V005.09	**DRESS REHEARSAL FIELD INFRASTRUCTURE**	06/01/04	12/31/08		
V005.09.01	Field Automated Infrastructure	06/01/04	07/31/07		
V005.09.01.01	Acquisitions	06/01/04	12/30/05		
5100	Award Field Data Collection Automation Contract		12/30/05		
5095	Develop/Issue FDCA Contract RFP	06/01/04	06/30/05		
V005.09.01.02	Systems Architecture	01/02/06	09/29/06		
5110	Develop FDCA Technical Design	01/02/06	09/29/06		
V005.09.01.03	Deploy Hardware/Telecommunications	12/01/06	07/31/07		
5120	Develop/Deploy FDCA for Dress Rehearsal	12/01/06	07/31/07		
V005.09.02	Operations Control System	12/15/06	12/31/08		
2620	Deploy/Retire Field Office Control System - HQ	12/15/06	12/31/08		
2630	Deploy/Retire Field Office Control System - LCO	01/15/07	12/31/08		
V005.09.03	Census Applicant/Personnel/Payroll System	12/15/06	12/31/08		
2640	Deploy/Retire Personnel and Payroll System - HQ	12/15/06	12/31/08		
2650	Deploy/Retire Personnel and Payroll System - LCO	01/15/07	12/31/08		
V005.09.04	Census Hiring and Employment Check	12/15/06	12/31/08		
2660	Deploy/Retire Employee Check System - HQ	12/15/06	12/31/08		
2670	Deploy/Retire Employee Check System - LCO	01/15/07	12/31/08		
V005.09.05	Integrated Logistics Management System	06/15/06	12/31/08		
2680	Deploy/Retire Logistics Management System - HQ	06/15/06	12/31/08		
2690	Deploy/Retire Logistics Management System - LCO	01/15/07	12/31/08		
V005.09.06	Integrated Recruiting and Testing System	07/15/06	12/31/08		

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Activity ID	Activity Name	Planned Start	Planned Finish	Actual Start	Actual Finish
2700	Deploy/Retire Recuiting and Testing System - HQ	07/15/06	12/31/08		
2710	Deploy/Retire Recuiting and Testing System - LCO	01/15/07	12/31/08		
V005.09.07	Field Intranet Web Site	07/15/06	12/31/08		
2720	Deploy/Retire Field Intranet Web Site - HQ	07/15/06	12/31/08		
2730	Deploy/Retire Field Intranet Web Site - LCO	01/15/07	12/31/08		
V005.09.08	Space Acquisition	01/15/07	12/31/08		
2615	Open/Close LCOs	01/15/07	12/31/08		
V005.10	**DRESS REHEARSAL DATA COLLECTION**	01/18/08	09/20/08		
V005.10.01	Be Counted/Questionnaire Assistance Centers	02/28/08	04/15/08		
10030	Conduct Be Counted Program	03/15/08	04/15/08		
10025	Conduct Walk-In Questionnaire Asst. Center Ops.	02/28/08	04/15/08		
V005.10.02	Nonresponse Followup	04/26/08	07/05/08		
10040	Conduct Nonresponse Followup Operations	04/26/08	07/05/08		
10050	Conduct Reinterview Operations	05/03/08	07/05/08		
V005.10.03	Coverage Followup (Undup./Coverage Edit/Lg. HH)	04/05/08	09/20/08		
10000	Conduct Coverage Followup	04/05/08	09/20/08		
V005.10.04	Group Quarters Enumeration	01/18/08	05/15/08		
10080	Conduct Advance Visits	01/18/08	03/03/08		
10090	Conduct GQ Enumeration	04/01/08	05/15/08		
V005.10.05	Service-Based Enumeration	03/22/08	03/27/08		
10100	Conduct Service-Based Enumeration	03/22/08	03/27/08		
V005.10.07	Update/Enumerate	03/17/08	06/02/08		
10020	Conduct Update/Enumerate Operations	03/17/08	06/02/08		
V005.10.09	Coverage Improvement Followup	07/07/08	08/23/08		
10060	Conduct Coverage Improvement Followup Operations	07/07/08	08/23/08		
V005.10.10	Field Verification	07/30/08	08/19/08		
10065	Conduct Field Verification	07/30/08	08/19/08		
V005.11	**DRESS REHEARSAL RESP. INTEG. SYSTEMS (DRIS)**	06/23/03	08/20/08	06/23/03	
V005.11.01	DRIS Acquisitions	06/23/03	10/03/05	06/23/03	
10075	Award Contract		10/03/05		

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Activity ID	Activity Name	Planned Start	Planned Finish	Actual Start	Actual Finish
10070	Develop/Issue RFP	06/23/03	02/15/05	06/23/03	
V005.11.03	Phase 2 (Buildout and Production)	03/03/08	08/20/08		
V005.11.03.01	Paper Data Capture	03/03/08	08/20/08		
11050	Conduct Paper Data Capture	03/03/08	08/20/08		
V005.11.03.02	Telephone Questionnaire Assistance	03/03/08	08/20/08		
11060	Conduct Telephone Questionnaire Assistance	03/03/08	08/20/08		
V005.11.03.03	Internet Quest. Assistance and Data Collection	03/03/08	08/20/08		
11075	Conduct Internet Data Collection	03/03/08	06/30/08		
11070	Conduct Internet Questionnaire Assistance	03/03/08	08/20/08		
V005.11.03.04	Telephone and IVR Data Collection	03/03/08	06/30/08		
11080	Conduct Telephone and IVR Data Collection	03/03/08	06/30/08		
V005.12	**DRESS REHEARSAL HEADQUARTERS DATA PROCESSING**	04/30/08	01/23/09		
V005.12.02	Postresponse Processing	04/30/08	01/23/09		
12070	Add DR Site Tabulation Geography	11/17/08	12/08/08		
12010	Conduct Unduplication/Computer Matching	05/15/08	08/30/08		
12060	Create Census Edited File (CEF)	10/24/08	11/28/08		
12030	Create Census Unedited File (CUF)	09/11/08	10/03/08		
12090	Create Detail File/Deliver HDF to Tab. Process.	12/11/08	01/23/09		
12100	Create Site Counts	12/26/08	12/27/08		
12040	Implement Count Imputation	09/16/08	10/17/08		
12080	Implement Disclosure Avoidance	11/17/08	12/15/08		
12050	Implement Edit & Imputation Programs	09/29/08	11/14/08		
12000	Implement Outlier Detection/Review	04/30/08	06/13/08		
12020	Implement PSA Processing	08/25/08	09/30/08		
V005.13	**DRESS REHEARSAL DATA PRODUCTS**	08/28/03	01/05/11	08/23/03	
V005.13.02	American FactFinder (AFF)	08/28/03	06/30/05	08/23/03	
13040	Award contract		06/30/05		
13030	Develop requirements & issue RFP	08/28/03	11/29/04	08/23/03	
V005.13.03	Product Creation	12/12/08	01/05/11		
13010	Clear DR Test Site Data	12/19/08	01/05/11		

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Activity ID	Activity Name	Planned Start	Planned Finish	Actual Start	Actual Finish
13020	Produce CD/DVD	01/04/09	01/29/09		
13000	Produce DR Test Site Data	12/12/08	01/03/11		
V005.15	**DRESS REHEARSAL EVALUATIONS**	01/03/07	09/07/09		
15000	Design/Conduct Evaluations	01/03/07	01/03/09		
V005.15.01	Coverage Measurement	08/23/07	09/07/09		
15020	Conduct HU Followup	02/15/08	04/05/08		
15010	Conduct Listing	08/23/07	12/07/07		
15040	Conduct Person Followup Interview	10/17/08	11/22/08		
15030	Conduct Personal Interview	06/18/08	08/18/08		
15050	Implement Dual System & Small Area Est. (Person)	01/12/09	02/16/09		
15060	Implement Dual System Estimation (HU)	08/14/09	09/07/09		
V005.17	**2010 CENSUS MILESTONES**	09/30/04	09/30/13		
17168	Census Day	04/01/10			
17300	Complete 2010 research/evaluations/experiments		09/30/13		
17020	Complete award of major contracts for 2010		03/31/06		
17280	Complete delivery of 2010 Redistricting data		03/31/11		
17290	Complete release of 2010 Census data products		06/30/12		
17160	Conduct 2010 Census data capture and processing	03/03/10	11/28/10		
17165	Conduct 2010 Census field enumeration activities	03/17/10	09/20/10		
17095	Conduct precensus address list compil. activ.	04/09/09	09/30/09		
17170	Deliver 2010 Census apportionment counts	12/31/10	12/31/10		
17140	Deliver 2010 Census questionnaires	02/28/10	04/07/10		
17025	Determine final 2010 Census questions-100% w/ACS		01/10/07		
17024	Determine LCO Configuration/Delineate Boundaries	06/01/06	06/30/07		
17090	Obtain OMB Clearance for 2010 questionnaire	01/02/09	03/31/09		
17130	Open/Close 2010 data capture centers	07/01/09	12/31/11		
17080	Open/Close LCOs	10/01/08	12/31/10		
17050	Open/Close RCCs	01/01/08	12/31/10		
17100	Print 2010 Census questionnaires	06/30/09	12/31/09		
17000	Propose legislation support for 2010 needs	09/30/04	09/30/04		

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Activity ID	Activity Name	Planned Start	Planned Finish	Actual Start	Actual Finish
17030	Submit Census questions/subjects to Congress	03/31/07	03/31/07		

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10. List of Business Goals, Objectives, and Strategies

A goal is a desired or needed result to be achieved over a specified period of time to support a mission. An objective is a measurable result (not an activity) that management has agreed to accomplish within a specific timeframe. Strategies are plans for achieving goals. The business goals, objectives, and strategies used to guide the 2010 census are contained in three memorandums:

2010 CENSUS PLANNING MEMORANDA SERIES No. 13, From Teresa Angueira, Chief, Decennial Management Division, Planning for the 2010 Decennial Census: Plan for the Plan,"

2010 CENSUS PLANNING MEMORANDA SERIES No. 14, From Teresa Angueira, Chief, Decennial Management Division, "Re-engineering the 2010 Decennial Census: The Baseline Design for 2010," and

2010 CENSUS DECISION MEMORANDUM SERIES No. 7, From Preston Jay Waite, Associate Director for Decennial Census, "Decision on Use of Telephone Interactive Voice Response for the 2010 Census."

USCENSUSBUREAU

Helping You Make Informed Decisions

2010 Census

Management Plan

Version 2

Prepared By

Decennial Management Division

August 31, 2004

This draft document is preliminary in nature and in the early stages of development. As such, it is subject to revision. Our intent in making this working document available at this time is to inform ongoing discussions related to our efforts to plan, develop and test a reengineered design for the 2010 Census.

Management Plan for the 2010 Census

This document describes how the Census Bureau will plan the 2010 Census of Population and Housing (2010 Census):

1. Section I lists the goals, objectives, strategies and principles for planning the design and conduct of the 2010 Census; and

2. Section II discusses the methods we will use for planning.

We view this document as a "***plan for the plan***;" that is, it explains the guidance and methods we will use to define detailed features of the census and to implement them successfully. The processes described here will result in the actual 2010 Census Plan, which will be documented later in the decade.

Reengineering the 2010 Census

Over the past several decades, it has become increasingly difficult to take the decennial census. But the Nation's demand for data is also increasing. The Department of Commerce (DOC) calls on us to enhance the supply of key economic and demographic data to support effective decision-making of policy makers, businesses, and the American public. The Census Bureau addresses these difficulties and needs in the DOC Goal 1.3 of its Strategic Plan:

> **The Department of Commerce Goal 1.3: Meet constitutional and legislative mandates by implementing a reengineered 2010 Census that will control costs, provide more timely data, improve accuracy of coverage, and reduce operational risk.**

To meet this goal, the reengineered 2010 Census will develop, prototype, test, and integrate new and streamlined methods, taking advantage of its three interdependent components and the lessons learned from Census 2000. The three interdependent components are as follows:

- The **American Community Survey (ACS)** to collect census long-form data every year throughout the decade using a large household survey;

- The **MAF/TIGER Enhancements Program (MTEP)** to enhance and improve the Census Bureau's **Master Address File (MAF)** and the **Topologically Integrated Geographic Encoding and Referencing (TIGER)** geographic database; and

- **2010 Census (short form only)** to systematically develop, test, and implement a short form only 2010 Census design that takes advantage of the opportunities offered by the ACS and MAF/TIGER Enhancements Program.

The idea of *interdependence* among these three components is essential. They are conceptually, operationally, and systematically dependent upon each other's existence and products, in much the same way that the receiver, tape player, and CD player in a rack system share common electronics, speakers, and many controls. However, each component--of the census and of the rack system--also has its own unique features and requirements. This document details planning for the 2010 Census while acknowledging and respecting the capabilities and requirements of the ACS and MAF/TIGER Enhancements Program components of the **Reengineering Program.**

As a final reference to the interdependence and uniqueness of the components, consider the four aspects of the strategic goal; specifically, the Reengineering Program is to produce a 2010 Census that **"contains costs, provides more timely data, improves accuracy of coverage, and reduces operational risk."** This statement provides goals for the entire ***Reengineering Program*** and suggests their application to the ***2010 Census*** components as follows:

Contain Cost: The great value of the reengineered census must be procured at reasonable cost, comparing favorably to that of repeating the Census 2000 design in 2010. In order for this to happen, each of the three components must be as cost-effective as possible. Because the ACS and MAF/TIGER Enhancements Program will cost more than their equivalent in the "repeated" design, the 2010 Census must appreciably compensate for those increases. Only early planning can enable significant savings in infrastructure, productivity, systems design, and other major cost centers. Therefore, the ***2010 Census*** has the following goal:

> ***Assuming the existence and products of the ACS and the MAF/TIGER Enhancements Program, as well as a planning effort beginning early in the decade, the 2010 Census will include major efficiencies designed to contain its cost.***

Improve the relevance and timeliness of census long-form data*:* The ACS will supply detailed data--those previously collected using a "long-form" in the decennial census--more frequently and more timely than would be possible by repeating the Census 2000 design. In addition, ongoing enhancement of the MAF/TIGER system will provide information with greater currency than before. Overall, the reengineered census provides more up-to-date data. However, the ***2010 Census*** will continue to release initial basic data--in particular, apportionment and redistricting counts--on the demanding schedule dictated by legal requirements. Therefore, it is inappropriate to state a goal promising increased timeliness for data from the 2010 Census; it enables cost savings, improved coverage, and risk mitigation while meeting legal requirements.

Improve accuracy of census coverage: Because the ACS and MAF/TIGER Enhancements Program will provide most of the detailed information, the 2010 Census will be able to focus on

coverage improvement efforts; that is, the ***2010 Census*** can employ expanded and concentrated efforts and resources to meet the following goal:

> ***The 2010 Census will improve the accuracy of census data, especially the coverage of the population and housing inventory, for all geographic levels and demographic groups.***

Reduce operational risk*:* Both the ACS and the MAF/TIGER Enhancements Program shift requirements from the 2010 l Census, so that its design can simplify census data collection and processing. Therefore, the ***2010 Census*** can achieve the following goal:

> ***The design of the 2010 Census will reduce operational risks by simplification, consistency, testing, and streamlining within and across all its features.***

The planning process described in this document is intended to ensure that the 2010 Census meets its goals, thereby contributing to the overall goals of the Reengineering Program.

Part I of this document provides the objectives, strategies and operating principles that underlie these goals; Part II describes the planning methods they guide.

I. GOALS, OBJECTIVES, STRATEGIES AND OPERATING PRINCIPLES

The goals, objectives, strategies and operating principles that guide planning are described here, using the following general definitions:

Goals: Overarching, fundamental statements describing the critical achievements required from the 2010 Census. They will fulfill customer and stakeholder needs.

Objectives: Measurable outcomes related to achieving one or more goals. They are measurable end results that strategies are expected to accomplish, which in turn will ensure achievement of the goals.

Strategies: Detailed approaches for achieving objectives. They can be quantified or described, and dictate a portfolio of activities.

Operating Principles: Statements about the values, ethics, and ideas that underlie decisions and actions undertaken to accomplish goals, objectives, and strategies.

I.A. Goals

First, we reiterate the goals of the 2010 Census. The vision of a baseline census that would meet these goals is described in the document, "2010 Census Baseline Design."

GOALS OF THE 2010 CENSUS
The 2010 Census will improve the accuracy of census data, especially the coverage of the population and housing inventory, for all geographic levels and demographic groups. (THE **ACCURACY** GOAL) **The design of the 2010 Census will reduce operational risks by simplification, consistency, testing, and streamlining within and across all its features.** (THE **RISK REDUCTION** GOAL) **Assuming the full implementation and products of the ACS and the MAF/TIGER Enhancements Program, as well as a planning effort beginning early in the decade, the 2010 Census will include major efficiencies designed to contain its cost.** (THE **COST CONTAINMENT** GOAL)

I.B. Objectives

Objectives state measurable outcomes related to achieving one or more goals using one or more strategies. The 2010 Census objectives, and the goals they most directly support, are presented and discussed below.

OBJECTIVES FOR THE 2010 CENSUS (Goals Supported)
1. **Reduction in the differential undercount while maintaining high coverage overall. (Accuracy)** 2. **No decrease in response rate compared to the Census 2000 short form response rate. (Cost Reduction and Risk Reduction)** 3. **Improved cost-effectiveness of census operations defined through early planning and testing. (Cost Reduction, Accuracy, and Risk Reduction)**

Objective 1: Reduction in the differential undercount while maintaining high coverage overall.

This objective will be measured by quantifying the differential undercount (the difference in the rates at which population groups are missed by the census) and the overall coverage (the proportion of the population properly counted). Coverage measures resulting from scientific evaluation will be compared with the results from evaluating Census 2000. This objective most directly relates to the "accuracy" goal of the census.

Objective 2: No decrease in response rate compared to the Census 2000 short form response rate.

This objective will result from direct measurement of the rate of self-response to the 2010 Census compared to the equivalent rate for short-forms in Census 2000. The response rate is largely a function of the total number of households with self-response, so that expensive follow-up interviewing procedures are avoided. This objective most directly supports the Cost and Risk Reduction goals for the census, by minimizing the expense, and avoiding the time and complexity, of follow-up. To the extent respondents provide better data through self-response than by interview, it also may support the Accuracy goal.

Objective 3: Improved cost-effectiveness of census operations through early planning and testing.

This objective will be measured by:

A. The total cost of designing and implementing the systems and procedures needed to collect and produce 2010 Census results, measured over the complete budget cycle (Fiscal Years 2002-2012). Only by early and innovative planning, testing and methods development can the 2010 Census be redesigned to provide the major cost savings needed to fund the other two components of the reengineered census, while improving the coverage accuracy at reduced risk.

B. The effectiveness of collection and processing systems and procedures in achieving the Accuracy and Risk Reduction goals of the census. Accuracy will be measured as described in the objective, " Reduction in the differential undercount while maintaining high overall coverage." Risk reduction will be measured as specified in our Risk Management and Mitigation Plan, currently under development.

This objective supports all three goals of the 2010 Census.

I.C. Strategies

Strategies are detailed approaches for achieving one or more objectives. They can be quantified or portrayed objectively, and dictate a portfolio of activities developed using the planning methods described in the second part of this paper.
A great many strategies are needed to achieve the ambitious goals defined for an undertaking as complex as the decennial census. The following table summarizes the major strategies, and links them with the **primary** objectives they are designed to achieve.

Strategies Supporting 2010 Census Objectives (Objectives Supported)
1. Start the planning and testing program in 2002 in order to integrate 2010 Census development and design with the implementation of the ACS and the MAF/TIGER Enhancements Program, and to provide for a true Dress Rehearsal in 2008. (3) 2. Identify and adhere to sound practices for research, development, planning and testing within all program areas, so that the methodology, procedures, systems, forms, procedures and the like for all census components are defined in time for implementation in the 2008 Dress Rehearsal. (1,2,3) 3. Establish an internal planning structure that utilizes wide expertise, brings issues to closure efficiently, respects the roles and responsibilities of all participants, and facilitates communication in order to obtain buy-in from all participants to the goals, objectives, and strategies of the 2010 Census. (3) 4. Develop, test and analyze potential improvements to the design of Census 2000 using information based on assessing Census 2000, especially the results of the Testing, Experimental, and Evaluation Program, to inform planning and develop opportunities for improving and streamlining data collection, capture, processing, and dissemination systems. (1,2,3) 5. Beginning with the development of a logical architecture, develop a sound physical and technical architecture that integrates with the Census Bureau's enterprise architecture, and which eliminates redundancies, ensures consistency, allows for incorporation of new methodologies and technologies, and promotes service to the user community. (3) 6. Expand the use of technology to streamline data collection, staffing, and infrastructure requirements, and improve self-response. (2,3) 7. Use special tests and research to develop plans for testing new methodologies in the 2004 Census Test, and new automated technologies to support successful methodologies as a chief objective of the 2006 Census Test. (1,2,3) 8. For every procedure and operation, define quality requirements that can be met by the design of each component and the quality assurance methods associated with it. (1,2,3) 9. Assure that stakeholders are informed and actively engaged throughout the planning and development stage so that they are afforded ample opportunity early enough to provide input into the design of methods, materials, procedures, and systems. (2,3)

Undertaking the approaches--often multidimensional--suggested by each of these strategies will generally entail a number of activities as described here:

Strategy 1: Start the planning and testing program in 2002 in order to integrate 2010 Decennial Census development and design with the implementation of the ACS and the MAF/TIGER Enhancements Program, and to provide for a true Dress Rehearsal in 2008.

To make the substantial changes in census design that are required to meet the goals and objectives, we began planning and development in 2002. This timely start, if sustained by adequate funding, will allow us to intensively study needed improvements, and to complete iterative small- and large-scale testing to refine and integrate them. It also will allow us to use the ACS as a test vehicle; leverage testing, evaluation, and results from the ACS and the MAF/TIGER; and incorporate efficiencies and products from the ACS and MAF/TIGER Enhancements Program.

Further, this strategy specifies our commitment to conducting a true Dress Rehearsal in 2008, so that any refinements can be made before the actual 2010 Census operations begin. A true Dress Rehearsal requires that we specify all design features, beginning with the earliest operations and continuing through data dissemination, by 2007. A true Dress Rehearsal, which is critical for meeting our goals and objectives, is an ambitious undertaking that can be accomplished only with an early start and sustained effort.

Strategy 2: Identify and adhere to sound practices for research, development, planning and testing within all program areas, so that the methodology, procedures, systems, forms, and procedures for all census components are defined in time for implementation in the 2008 Dress Rehearsal.

Every component of the 2010 Census needing change and improvement must go through a systematic cycle of research, development, planning and testing. Each phase of the cycle requires objective evaluation; re-testing and refinement often will be necessary. Because of the large number and intricate interrelationships of the components of the census, this can be best accomplished using well-defined practices that all participants and partners understand. Although the degree and duration of effort will vary by component, this strategy will allow us to completely develop the full range of program areas--for example, geographic programs, communications, response rate improvement, etc.--from initial evaluation and identification of potential solutions, through testing and retesting, and final integration of improved and efficient procedures into the whole design.

Strategy 3: **Establish an internal planning structure that utilizes wide expertise, brings issues to closure efficiently, respects the roles and responsibilities of all participants, and facilitates communication in order to obtain buy-in from all participants to the goals, objectives, and strategies of the census.**

This strategy addresses the need to define an efficient, participative planning structure, with underlying supporting processes, early in the census cycle. Such a structure facilitates collaborative efforts to meet the challenges of redesigning critical features of the census; allows effective management of the complex processes of planning and taking the census; and provides for good communication and coordination. Part II of this document discusses many of the methods and activities supporting this strategy.

Strategy 4: Develop, test and analyze potential improvements to the design of Census 2000 using information based on assessing Census 2000, especially the results of the Testing,

Experimental, and Evaluation Program, to inform planning and develop opportunities for improving and streamlining data collection, capture, processing, and dissemination systems.

The Census 2000 experience is a primary resource for identifying areas of the design in need of improvement. For example, in order to design a simple questionnaire that elicits accurate responses for the "short-form only" 2010 Census, we will start by analyzing respondent reporting to the Census 2000 short form, including a comparison of responses between the Census 2000 Supplemental Survey/ACS and Census 2000. Using these results and conducting cognitive testing, focus groups, mail surveys, and field data collection, we will learn about needed improvements to the questionnaire. On this basis, we will redesign the questionnaire in all the media in which it will be available during the 2010 Census.

Based on what we learn, we will look for opportunities to streamline all aspects of the census so that they are more efficient and integrated. For example, we will incorporate Group Quarters in same files that contain regular housing units, to ensure correct classification of all living quarters and a comprehensive MAF, allowing the streamlining of field and processing controls. Another major activity is to create a participative environment for respondents by improving questionnaire availability, the number and type of response options, and outreach to provide information about these alternatives. Aspects of this are to expand the mailing strategy to include sending a second form to addresses for which no first form has been received; enhance the language program with increased support for respondents who speak languages other than English, and by mailing bi-lingual questionnaire packages (at minimum, English/Spanish) questionnaire in identified areas; increase the number and availability of response options, such as expanding our data collection capability for the Internet, hand held computers (HHCs), and telephone in languages other than English; and design an effective Telephone Questionnaire Assistance (TQA) program.

Strategy 5: Beginning with the development of a logical architecture, develop a sound physical and technical architecture that integrates with the Census Bureau's enterprise architecture, and which eliminates redundancies, ensures consistency, allows for incorporation of new methodologies and technologies, and promotes service to the user community.

This strategy articulates a major tenet for meeting our goals because it provides a proven, systematic approach for deriving new census methodologies and appropriately implementing their automation. This approach is based on the Federal Enterprise Architecture Framework (FEAF), which will ensure compliance with the Clinger-Cohen Act. This framework will facilitate the analysis of requirements, costs, data interchanges, and areas for improving efficiencies in the multitude of 2010 Census processes. We are developing a 2010 Census architecture that includes logical, physical, and technical architectures to support the smooth interchange of data across all computer systems at headquarters and in our decentralized regional, local, and data processing facilities. The architecture will serve as a focal point providing common data definitions for all information that makes 2010 Census data understandable. The architecture also will lead to systems that will improve communications with all 2010 Census data users by providing fast, single-source, access to the most up-to-date

and accurate information. It also will promote reusability of software and a common understanding for all 2010 Census data, and reduce redundant efforts found in previous censuses.

These practices will provide a flexible census-taking system while minimizing risks associated with incorporating new methods and technologies. Among its benefits will be to allow us to integrate the Management Information System and Cost Model with each other and with sources of data; conduct integrated system-level testing; implementcomprehensive requirements definition and change control processes; design for risk mitigation and contingency planning; and utilize contractors to provide expertise and address business objectives.

Strategy 6: Expand the use of technology to streamline data collection, staffing, and infrastructure requirements, and improve self-response.

We are committed to using automated technology and information effectively to improve operations and reduce resource requirements. Among the areas in which automation is expected to produce new efficiencies are automating address list update and verification activities; reducing paper map production, equipment, and staff; streamlining Nonresponse Followup case management processes; developing methods for using hand held computing devices, including Global Positioning System technology, for address list/map updating and field data collection; facilitating electronic response options, such as the Internet and telephone; identifying and eliminating duplication of addresses and individuals; further automating communication at headquarters and with decentralized offices; more fully automating payroll and quality assurance procedures; and updating the American FactFinder.

Strategy 7: Use special tests and research to develop plans for testing new methodologies in the 2004 Census Test, and new automated technologies to support successful methodologies as a chief objective of the 2006 Census Test.

Developing a special testing program to evaluate proposed new methods is an efficient way of looking at promising individual changes to the census. Once the merits of individual improvements have been established, they can be incorporated into site tests in an integrated fashion. By emphasizing methodological improvements in the 2004 Census Test, we will have the information needed to design automated systems to support them in the 2006 Census Test.

Strategy 8: For every procedure and operation, define quality requirements that can be met by the design of each component and the quality assurance methods associated with it.

To uphold the quality standards by which Census Bureau products are known, and particularly to ensure the integrity and accuracy of 2010 Census data, we need to understand the impact of each procedure and method, and associated materials, on the final product. This strategy commits us to analyzing factors that affect the accuracy of all procedures and methods, and to design them and appropriate quality assurance procedures so that they produce high quality results.

Strategy 9: Assure that stakeholders are informed and actively engaged throughout the planning and development stage so that they are afforded ample opportunity early enough to provide input into the design of methods, materials, and the like.

Our partnerships with stakeholders commit us to assure not only their involvement; it further requires us to solicit their participation on a schedule that allows full consideration and, as appropriate, development of their ideas. This strategy enforces the discipline of early involvement and clear communication.

I.D. Operating Principles

The 2010 Census operating principles reflect the ethics, values, and ideals that guide our work. The following principles underlie the planning and conduct of the census and guide choices made to accomplish all goals, objectives, strategies, and activities:

OPERATING PRINCIPLES FOR THE 2010 CENSUS
Be vigilant in integrating 2010 Census Planning with the activities of the ACS and the MAF/TIGER Enhancements Program
Reflect our commitment to quality in all design aspects
Strive for integration, efficiency, and consistency
Be responsive to stakeholder and customer advice and needs
Honor privacy and confidentiality

Be vigilant in integrating 2010 Census Planning with the activities of the ACS and the MAF/TIGER Enhancements Program--We will explore all opportunities for developmental, operational, definitional, and conceptual consistency and collaboration with ACS and MAF/TIGER Enhancements Program in order to best serve the needs of our customers and stakeholders.

Reflect our commitment to quality in all design aspects--To ensure the value of our data, we will consider all aspects of quality--accuracy, timeliness, relevance, and accessibility--in defining methods and procedures for collecting, processing, and disseminating the products of the 2010 Census.

Strive for integration, efficiency, and consistency--We will use sound management and design practices to integrate hardware, software, materials, and procedures into an efficient and consistent design. Participating staff will collaborate through working groups, teams, and the like to assure sound communication and an integrated process, adhering to practices such as ensuring definitional consistency between the ACS and decennial census data; adopting a standard, structured approach to planning; migrating toward an open systems environment; and making decisions based on scientifically collected and analyzed information.

Be responsive to stakeholder and customer advice and needs--Because we are dependent on and serve a full range of stakeholders and data users, we will continue to foster close relationships and regular communication with them. By involving them throughout the planning process, we will enrich our knowledge base and support base; make better decisions; and assure that information products and services are aligned with their needs.

Honor privacy and confidentiality--The Census Bureau is required by law to protect respondent confidentiality, and is ethically obligated to respect respondents' privacy concerns to the maximum extent possible. In designing the 2010 Census, we will only collect personal, sensitive information that is necessary for meeting the Census Bureau's mission and legal requirements; inform participants about the purpose and planned statistical uses of the information collected; respect respondents' rights as participants; and ensure that confidentiality protections are included in its systems and procedures to collect, process, and release data.

II. 2010 CENSUS PLANNING METHODS

This section describes the planning methods being used to design a 2010 Census guided by the preceding goals, objectives, strategies, and operating principles. It also describes the working structures under which participants function, using common processes to meet well understood, collective goals. Together, these methods and structures provide ways to effectively organize and conduct the myriad activities that will result in a comprehensive plan for the 2010 Census.

II.A. Review of the Census 2000 Experience--Understanding the successes and deficiencies of the previous census is an important basis for improving the subsequent one. Reviewing and analyzing the effectiveness, costs, and results of census design components--along with information about demographic trends, methodological advances, and technological opportunities--is critical to informed planning. This information also suggests ways to improve the planning process itself. There are several major ways we are bringing the Census 2000 experience to bear on early planning for the 2010 Census:

1. **The Census 2000 Testing, Experimental, and Evaluation (TXE) Program--**Each modern census has incorporated a formal research program to provide information about its conduct and quality. One important purpose of this program is to inform data users and stakeholders about data quality and limitations, costs, and other results of interest. The second purpose is to provide a body of objective information, collected under census conditions, to inform planning for the next census. Census 2000 incorporated an extensive Testing, Experimental, and Evaluation Program that is providing critical direction to early planning, and that is benefiting the design and conduct of the ACS and the MAF/TIGER Enhancements Program as well.

   The Census 2000 Evaluation Program is providing measures of the effectiveness, cost, and impact on data quality of the Census 2000 design, operations, systems, and processes. Well over 100 studies, covering a vast array of program activities, comprise the program. Their results will help identify opportunities for streamlining operations,

strengthening enumeration methods, and allocating resources. Such opportunities become the basis for developmental and testing plans throughout the decade.

The Testing and Experimental Program is providing information gained by using Census 2000 as a "test bed" for small tests and experiments with new and different methods. Since this program was conducted during the census, it provides insights about how alternative methods might work in a census environment. Its results help to determine the potential efficacy of changes in the census design, which can be developed further throughout the decade.

2. **The Assessment Process--**To supplement and expand upon the formal TXE program, we compiled a body of quantitative, qualitative, and experiential information in a number of areas comprising the entire program. Bringing together all of this information, the Assessment Process casts a wide net to gather a comprehensive body of information on a wide variety of topics. It used a far-reaching, participative process to identify both successes and lessons learned (areas for improvement). The Assessment Process afforded us the opportunity to gather expertise across all organizational units involved in Census 2000, so that there would be many perspectives brought to bear on supplying and interpreting data. It also helped develop relationships that form the basis for teams involved in early planning of the 2010 Census.

3. **Advisor, Stakeholder, and Customer Input--**We gain much important information for planning from advisory groups, stakeholders, and customers. For example, we solicited qualitative and experiential information about Census 2000, as well as suggestions for early planning topics, from all formally established census advisory committees. Feedback from data users becomes the basis for improving current dissemination systems and designing future ones. Initial information from external groups and partners has been channeled into the Assessment Process, and the analyses of their suggestions will be integral to the entire planning process.

Information from all these sources becomes available at different rates for different program areas. Because of this, and respecting priorities for the use of staff, budget, and other resources, the planning cycle of assessment, research, development, testing and re-testing is somewhat different across program areas.

II.B. STRUCTURE FOR PLANNING--Many divisions and offices within the Census Bureau participate in planning a decennial census. In addition to the Decennial Census Directorate, whose staff works largely on the census, expertise throughout the organization is needed for the success of the census. Information for each aspect of planning, including research, development, and testing, must be gathered and shared among many groups and participants. In order to efficiently manage these collaborative efforts, we have established a structure and processes to assure progress towards meeting all the global goals and objectives, using appropriate strategies applied to each program area.

At the highest levels of the Census Bureau, the Executive Staff, relying heavily on the Associate Director for Decennial Census, directs all activities needed to plan and take the decennial census. A key element of this direction is to assure coordination among the three components of the

Reengineered Census. Directions are carried out by staff of many organizational units working within the structure of committees, teams, and working groups described here.

The exact number and configuration of planning groups change over time, depending on the stage of planning of each program area, census test or dress rehearsal, and the census itself. As the structure evolves, groups are formed or disbanded as appropriate, with the expertise of their members shifted to current activities. For early census planning, we have established the following key groups:

The 2010 Census Division Chiefs Forum builds a collaborative environment for planning through open exchange and vetting of ideas. Using information about 2010 Census planning policies, priorities, and activities, they work to determine high-level requirements and methods, and advise on matters guiding the planning process.

The 2010 Census Managers, composed of Assistant Division Chiefs and other key staff of many participating divisions and offices, collaborate to assure a common understanding of the 2010 Census planning context, policies, and priorities. They provide cross-divisional perspectives in determining or recommending research, investigative, consultative, developmental, and testing activities, and they are responsible for communicating information to, from, and within their divisions. Given the breadth of its expertise and the criticality of its responsibilities, the Census Managers group at times takes on additional functions, such as serving as the Change Control Board for user requirements for the 2004 Census Test.

2010 Census Research and Development Planning Groups address new and improved census taking methods, technology applications, and the like for broad program areas. They are a principal vehicle for surfacing alternatives and determining ways to develop them, considering factors such as feasibility, respondent acceptability, and data quality. These groups provide information, specify preliminary testing, determine requirements, and recommend appropriate activities to evaluate the use of the method(s) in the site tests, including obtaining appropriate information for cost estimation. Much of the work of the eleven Research and Development Planning Groups is performed by **2010 Census Research and Development Planning Subgroups**, where expertise from many organizational units is brought to bear on specific subtopics within the program area.

2004 Census Test Implementation Teams are charged with crafting plans for all major activities in the site test. Based on guidance and results from the Research and Development Planning Teams and other appropriate sources, they develop project plans, user requirements, specifications, and software systems and procedures for implementing the aspects of the test within their areas of expertise.

The DMD Integration Team, consisting of senior division staff involved in all planning and implementation teams, examines products from all teams to assure they are coordinated, complementary, and appropriately designed to meet goals and objectives.

A number of other teams are established to address other long-term, crosscutting or one-time issues. For instance, the **Logical Architecture Team** and its **Steering Committee** and **Support Team** have been established to baseline and, subsequently, develop the logical architecture to be used in the census. Special activities will often need ad hoc teams and groups. The key is to

assure they function with the same strategies, towards common goals and objectives, as the standing and long-term groups.

II.C. METHODS AND TOOLS FOR PLANNING--One of the lessons learned from Census 2000, particularly applicable in the environment of developing an entirely reengineered 2010 Census, is the need to have better, earlier, and more systematic approaches to staff development and group processes. Other lessons suggested improvements to the tools used for planning--and later, implementing and monitoring--the full range of census operations. We have energetically instituted specific practices and plans to address these issues.

One important initiative to address staff development is to provide staff involved in managing one or more aspects of the decennial census with formal project management training. This training expands their skills and introduces new, commonly understood approaches to management, documentation and communication, project planning processes, cost estimation, and the like. Another major development is the commitment to a structured process for developing a census architecture involving all customers, users, and technical experts. Because this process establishes a common language and structure for communication and documentation, it is expected to result in automated systems that are sound technically and meet the needs of all participants.

Updating and redesigning many management tools that worked adequately in Census 2000, so that they better serve both the planning and conduct of a newly designed 2010 Census, provide opportunity for many improvements. We will redesign our Management Information System to produce more timely and useful data; expand the capabilities and sophistication of the Cost Model used to support budget submissions and analysis of operational alternatives; and extend the scope of the automated document storage and retrieval systems instituted late last decade. Many of these efforts will be supported by increased usage of the Intranet and Internet.

II.D. MILESTONES--One of the first steps in the 2010 Census planning process was to develop high-level milestones for major accomplishments, so that all planning activities, including budget formulation, could be structured to meet them. The current set of milestones is provided as an appendix. Note that the milestones are subject to change depending on resource availability and the timing of planning cycle targets within each program area. Also, these milestones form the basis for developing more detailed supporting schedules; this activity iterates with these high-level milestones and may cause some of them to change.

Individual milestones generally have one or more of the following attributes:

1. They describe major legal deadlines.

2. To the extent possible, decision dates allow us to assure that choices are based on sufficient objective information.

3. To the extent possible, they allow form to follow function–that is, they require us to define methodology before final systems design.

4. Completion dates refer to final actions for a large program area or activity. Many specific decisions or actions must occur even earlier.

We used the following set of assumptions and principles to define these high-level milestones:

1. There will be site tests in 2004 and 2006 and a true Dress Rehearsal in 2008.

2. To supplement, inform, and complement the site census tests, we will undertake activities to investigate new or improved census features that do not need to be tested in a site test, and/or that need to be evaluated prior to use in a site test. Beginning in 2002, these activities include special tests or research activities, contracts to aid us in exploring various automation and related options, and support for key staff to perform planning, research, management, and integration.

3. The 2004 Census Test was used *chiefly* to determine major methodological and procedural design elements for the Dress Rehearsal/2010 Census.

4. The 2006 Census Test will be used *chiefly* to test and prove in the infrastructure (field and automated systems) needed to support the major design components and their requirements.

5. The Dress Rehearsal in 2008 will be built on the results of these two major tests and all related research, testing, planning and other activities available in time for incorporation.

In addition to providing key dates for planning and conducting the 2010 Census, these milestones coordinate with key dates in the ACS and MAF/TIGER Enhancements Program components. In particular, the redesigned 2010 Census milestones are dependent upon:

1. The 5-year accumulation cycle of ACS estimates that begins in 2008 to produce "long-form" type data; and

2. The MAF/TIGER Enhancements Program meeting requirements for addresses and geographic data, with an early identification of activities needed to meet address list updating and geographic requirements that will be implemented specifically for the 2010 Census.

Although these milestones document when each particular activity will be completely defined or when the activity must occur, their relationship to the budget cycle is important. Budget estimates for any particular fiscal year are initially formulated at least 18 months prior to the beginning of that fiscal year. Therefore, an activity that occurs in the fourth quarter of a fiscal year is accounted for in the budget formulated 30 months prior to that.

II.E. PUERTO RICO, THE ISLAND AREAS, AND AMERICANS OVERSEAS--This section will describe unique aspects of planning in these program areas. While the overall methods and structures for 2010 Census planning apply to them, they have some unique attributes that should be described and acknowledged.

III. SUMMARY

This document has described important aspects of how the Census Bureau is preparing to produce a final plan for the 2010 Census. After describing the role of early planning for the 2010 Census in the context of the entire Reengineering Program, it provides the global goals and measurable objectives applicable to the 2010 Census component. It then suggests the current strategies and operating principles we use to meet the goals and objectives. Finally, it discusses the major methods and management structures used for planning.

Over the decade, as we progress through stages of planning and preparing for the 2010 Census, we will modify our strategies and methods so they are tailored to conditions at any point in time. Some of these modifications will be documented internally; when there are major or many changes, this documented will be updated accordingly.

UNITED STATES DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. Census Bureau
Washington, DC 20233-0001

This memorandum is intended for internal Census Bureau use only. If you have any questions regarding the use or dissemination of this information, please contact James L. Dinwiddie, Assistant Division Chief for Communications, Decennial Management Division, at (301) 763-1346.

June 3, 2003

2010 CENSUS PLANNING MEMORANDA SERIES

No. 14

MEMORANDUM FOR The Distribution List

From: Teresa Angueira *[signed]*
Chief, Decennial Management Division

Subject: Re-engineering the 2010 Decennial Census: The Baseline Design for 2010

Attached is the Baseline Design for the 2010 Census. This document outlines the key components and functional capabilities that we envision to be used to conduct the 2010 Census. The design represents a fundamental shift in our business processes and is contingent upon three critical components: (1) adequate resources for early planning, development and testing of new procedures, methodologies, and testing; (2) conducting tests and improving the design based on what we learn; and (3) the full implementation of the American Community Survey and the MAF/TIGER Enhancements Program.

The design outlined in this document will mature and evolve as we learn from our planning, testing, and development activities. Once finalized, we will implement the design in the 2010 Census to increase the relevance and timeliness of census long-form data, to reduce operational risks, to improve census coverage, and to contain costs. This document will be updated and redistributed when major or many changes occur.

Attachment

This draft document is preliminary in nature and in the early stages of development. As such, it is subject to revision. Our intent in making this working document available at this time is to inform ongoing discussions related to our efforts to plan, develop and test a reengineered design for the 2010 Census.

Reengineering the Decennial Census

The Baseline Design for 2010

Decennial Management Division

Version 1.5 – May 2003

Introduction

This document describes a baseline design for the 2010 Decennial Census outlining the key components and functional capabilities that we envision will be in place, and used to conduct, that census. In some places, our discussion is very specific. In others it is more general. This reflects our current knowledge of what we can achieve as a result of our efforts to reengineer the decennial census.

This baseline design incorporates fundamental successes and lessons learned from Census 2000, and assumptions about 2010 are consistent with Census 2000 except where specifically noted. It is important to stress that our work is ongoing, and that this design will evolve as we learn more about the innovations we are exploring. That is, over the next four years, the *baseline* design will be modified as we blend what we learned from Census 2000 with the results of our efforts to research, test, and develop operations, technologies, and systems for 2010. A *mature* design must be in place by 2007 in order to plan and conduct a true Dress Rehearsal in 2008, which in turn will yield a *final, proven* design for the 2010 Census.

The need for and justification of a re-engineered decennial census program have been documented in some detail elsewhere, so details are not repeated here. For the same reason, this document does not repeat detailed descriptions available elsewhere of the overall goals we are using to guide the re-engineering effort:

1. Increase the relevance and timeliness of census long-form data.
2. Reduce operational risk.
3. Improve the coverage accuracy of the census.
4. Contain costs.

To meet these goals, we have embarked upon three highly integrated initiatives:

The American Community Survey – An on-going household survey designed to collect and tabulate census long-form data every year throughout the decade. Besides more timely data, the existence of the ACS eliminates the need to collect long-form data in 2010, so that the 2010 Census can focus on short-form data collection and coverage.

The MAF/TIGER Enhancements Program – A multi-year effort to enhance and improve our existing Master Address File (MAF) and geographic information system (known as TIGER) by bringing them into alignment with true global positioning system (GPS) coordinates, and converting the TIGER data base to a commercial off-the-shelf database environment. Besides improvements to our nation's geographic information infrastructure, the completion of the program will enable the 2010 census to use GPS-equipped, hand-held computing devices for data collection.

2010 Planning, Testing, and Development – An integrated, multi-year program that will allow us to completely restructure the management and conduct of a short-form only census in 2010. It will use new methods and technologies that build on the ACS and MAF/TIGER enhancements, and implement a series of large mail out and field tests, as well as special purpose tests, all timed to enable us to conduct a true dress rehearsal in 2008.

Baseline Design for 2010 Decennial Census

- We will use GPS-equipped mobile computing devices (MCD) that will enable enumerators to locate and update address information for housing units, conduct interviews, transmit the data directly to headquarters for processing, and receive regularly updated field assignments.

- Through the use of automation and MCDs, we will significantly reduce the amount of paper used in the field (including questionnaires, address registers, maps, assignment sheets, and payroll forms) and the large number of staff and amount of office space required to handle that paper.

- People responding to the census will have more options available to them. Many households will be mailed bi-lingual questionnaire packages (at minimum, English/Spanish), and there will be more support for census respondents that speak languages other than English.

- Expanded use of Internet and telephone systems (using Interactive Voice Response) will provide new opportunities for using technology to make it easier for people to complete their questionnaire.

- With a short form only census, we will increase response rates by taking advantage of the historically higher response rates for short forms, through the development of communications strategies that employ the optimal mix of contacts with the public to enhance our outreach efforts, and by mailing a second form to people who have not returned their census.

- When address list updating gets underway in 2009, census geographers and field staff will be working with an address list unprecedented in its accuracy and completeness. As part of the MAF/TIGER Enhancements Project, the Local Update of Census Address program (LUCA) will have been streamlined and improved based on lessons learned from the Census 2000 LUCA experience, and the address list for the entire universe will have been maintained and updated on a continuing basis. We will be able to reduce pre-census address list updating operations because the address list has been maintained for all areas throughout the decade. There will be an address updating operation in 2009 in areas that we believe have experienced significant changes.

- The streamlined, ongoing LUCA program will culminate with a final opportunity for local governments to review their address lists, which will occur prior to address canvassing. We will then validate any LUCA adds during address canvassing. We will have a New Construction operation, and will attempt to include these addresses in questionnaire delivery. The New Construction adds will be validated during a later operation. We will not conduct a post-census local review operation but will continue examining the options for providing communities with one last chance to improve completeness of the census address list.

- Field staff conducting this address canvassing will use MCDs to obtain their assignments, update maps, navigate to assignment areas, and record the data they collect. These same devices will later be used for nonresponse follow-up, improving the accuracy and efficiencies of this critical and expensive operation. Data capture will be streamlined through the electronic transfer of address information directly into headquarters processing systems. Field staff will be using GPS equipped devices that assist with navigation and reduce the time needed to complete their assignments.

- Other processing operations will ensure the integrity of the address list and our geographic database. We will work with USPS, local, and tribal partners to obtain current address information and to ensure enumeration of those addresses. Whenever we identify new housing units or those that no longer exist, we will update our files. Processing these changes is a continuing operation to update our address list and our geographic database.

- We will not need to conduct an additional operation to deliver questionnaires to housing with addresses deemed "undeliverable" by the USPS due to our much improved address list.

- Dramatic reductions in paper based data processing will result in the establishment of at most three data capture centers, instead of the four sites in place during Census 2000, and they are likely to be reduced in size. In addition, we expect to be able to reduce the clerical and administrative LCO staff costs by as much as fifty percent. The LCO's will be significantly smaller, and there will be a significant reduction or possible elimination in the equipment needed for map production and address registers.

- Improved response rates and the elimination of the long form from the decennial census will reduce the NRFU workload and hold down the total number of LCOs that we will have to establish.

- Questions on race and ethnicity on the 2010 Census questionnaire will be structured to produce accurate and complete data concerning race and Hispanic origin, and we will determine the optimal use of wording and the appropriate inclusion of examples and instructions such that respondents will clearly understand the intent of the question, and the way they are supposed to answer it. In addition, all questions will have been adapted to ensure that they elicit comparable data across all response modes, including paper, the Internet, telephone and direct interviews in the field. The Census Bureau also will improve

the census questionnaire to ensure that persons with multiple residences provide accurate data concerning where they and their dependents should be enumerated. And ongoing work on forms design, messages, layout and instructions will result in a form that is simple and easy to understand.

- Fundamental to the vision of the 2010 census is expanding the ways people can be counted. Following a widespread awareness campaign, households will receive an advance letter in the mail before April 1, 2010. The letter will tell them about the census and the ways they can participate, using English or other language methods. Shortly thereafter, they will receive a census questionnaire in the mail. A reminder postcard will follow the questionnaire mailing, and, finally, those households that have not yet responded will be sent a second questionnaire.

  In the 2010 Census we also will use technology to build on this strategy by combining these mailings with Internet and telephone contacts. These technologies will provide respondents with additional options for receiving and submitting their census questionnaires. Our expectation is that we can increase the response rate even further by developing and implementing the optimal mix of contacts and response options. By taking advantage of the Internet and the telephone we can significantly increase the number of forms that move directly into data capture without needing to be scanned in a data capture center.

  In selected areas, the questionnaire package will be bilingual in English and Spanish (at least—other combinations will be used if possible). In addition, there will be in-language questionnaires (for multiple languages) available upon request.

  As part of a "Be Counted" or "Were You Counted?" effort, we will provide opportunities to be counted to those people who, for whatever reason, believe they had not been counted.

- While the U.S. Postal Service (USPS) will deliver census information and questionnaires in most of the country, census workers will distribute questionnaires and update address lists as part of an update/leave procedure in some areas. Again, census workers will collect data electronically using GPS-equipped mobile computing devices (MCDs) with electronic maps, location descriptions, and other information about their assignments.

- Frame development activities for Special Places and Group Quarters will begin with updating the Census 2000 inventory. An integrated approach to update housing units along with GQs will be implemented to reduce duplication and ensure complete coverage of all addresses. Specially trained enumerators will utilize MCDs where appropriate and implement a variety of refined procedures to obtain accurate counts and appropriate characteristics. These procedures will also ensure the correct classification, geographic location, and unique identification of these places.

- Various special procedures will be used in areas where extra effort to complete the enumeration is needed, or for individuals with special living situations. For instance,

procedures will be tailored to conduct the best possible enumeration of Remote Alaska, American Indian and Alaska Native areas, and Hawaiian homelands, Colonias, migrant workers, and persons without conventional housing.

- A strong marketing campaign, including paid advertising, and a network of partnerships with community organizations; state, local, and tribal governments; and others will inform, remind, encourage and facilitate participation in the census.

- Despite all efforts to encourage everyone to provide information, we project that we will not obtain mail, Internet or telephone IVR responses from as many as 31% of the addresses to which we deliver a questionnaire. Many of these addresses will be vacant or nonexistent, but many will be occupied. Therefore, we must still conduct a nonresponse follow-up operation.

- We will attempt some nonresponse follow-up by telephone, but most often field staff will make personal visits using MCDs. MCDs will provide enumerators with their cases and assignment areas, along with geographic information from the MAF/TIGER system that will allow them to travel to and within their assignment areas efficiently, reducing time and mileage. Enumerators also will have GPS data and electronic maps on their MCDs. They will conduct interviews and record the information electronically and transmit data and administrative information on a daily basis, so that the information is quickly available both to the headquarters processing systems and to the daily payroll and progress reporting systems. They also will receive updated assignments and instructions on the same daily basis.

- Updated assignments also will reflect late mail returns on a daily basis, thereby significantly reducing the number of interviews conducted at housing units who had responded to the census after we had prepared the NRFU assignments.

- Even after nonresponse follow-up, there will be people missing from the census enumeration, and others counted more than once, so we will carry out additional operations to further improve coverage accuracy. During the Coverage Improvement Follow-up Operation (CIFU) Census workers will visit housing units previously designated as vacant or nonexistent, but not confirmed by a second source. We will call or visit addresses for which we have no or insufficient data for any of a number of reasons, or which we believe were constructed too late to receive census questionnaires and information. We will implement new procedures for identifying households and persons that have been counted more than once. A national unduplication system will be implemented through the application of record linkage theory to extremely large data sets, and a real-time unduplication operation will be in place to flag potential duplicate records as the data are collected.

- As the data supplied by respondents are captured, they will be immediately processed to assure their accuracy and completeness. For example, automated systems will check each questionnaire to determine if there is any indication that one or more persons may be

missing. Whenever there is such an indication, we will follow up to add people as appropriate. Other checks will determine how complete the data are for each person. Responses that require automated coding will be coded on a flow basis as they are received. When we receive multiple responses from any particular address, we will compare (match) these responses to each other and to other addresses to make sure that missing people are included and that they are not counted more than once.

- Subsequent to the completion of data capture and processing we will fully evaluate the accuracy of the coverage we achieve. We will use these results to estimate the number and characteristics of people and units we missed, counted more than once, or counted in the wrong location. However, we do not plan on developing a procedure for adjusting the 2010 Census data for reapportionment or redistricting purposes.

- We will conduct a short-form census of Puerto Rico incorporating appropriate methodologies developed for stateside operations. The ACS will also be conducted in Puerto Rico.

- We will conduct a census of Island Areas that includes a long form and incorporates appropriate developed for stateside operations.

- We will conduct a census of Americans living overseas depending on the results of development and testing activities now underway.

- We will conduct a Count Review program in conjunction with representatives from the Federal-State Cooperative Program for Population Estimates (FSCPE) to identify local problems in the data, making corrections where possible.

- Once the final population counts have been processed, we are ready to provide the data. The first data produced from the census are the state totals to be provided to the President by December 31, 2010. These counts are used to reapportion the seats in the U.S. House of Representatives. Between that date and April 1, 2011, we will provide tabulations to each state so that they can redraw congressional, state, and local legislative districts. The boundaries of areas for which redistricting data are supplied will have been identified through partnerships with state officials, an effort that begins several years before Census Day.

- Most of the data from the census will be tabulated and then disseminated electronically using the latest version of the American FactFinder. We will provide a full range of maps and other geographic products in hard copy and digital form as we have for Census 2000.

- We will plan and implement evaluation projects to assess, evaluate, and analyze results from the 2010 Census that will be similar to the evaluation program implemented in Census 2000 in scope, size and design.

- We will meet archiving requirements using microfilm images.

- We will conduct a Count Question Resolution program for local governments.

Conclusion

This is our vision for an improved decennial census in 2010 that represents a fundamental shift in our business processes. The realization of this vision is contingent upon three crucial developments:

1) Adequate resources for early planning, development and testing of new procedures, methodologies and systems;

2) Conducting our testing activities and improving our design based on what we learn; and,

3) The full implementation of the American Community Survey and the MAF/Tiger Enhancements Program.

The design outlined in this document will mature as we learn from our planning, testing and development activities. Once finalized, the design will move beyond the procedures, systems and methodologies we used in Census 2000 to implement a reengineered decennial census in 2010 that increases the relevance and timeliness of census long-form data, reduces operational risk, increases the coverage accuracy of the census, and contains cost.

UNITED STATES DEPARTMENT OF COMMERCE
Economics and Statistics Administration
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Washington, DC 20233-0001

This memorandum is intended for internal Census Bureau use only. If you have any questions regarding the use or dissemination of this information, please contact James L. Dinwiddie, Assistant Division Chief for Communications, Decennial Management Division, at (301) 763-1346.

August 9, 2004

2010 CENSUS DECISION MEMORANDUM SERIES

No. 7 (Reissued)

MEMORANDUM FOR Distribution

From: Preston Jay Waite *[signed]*
Associate Director for Decennial Census

Subject: Decision on Use of Telephone Interactive Voice Response for the 2010 Census

This memorandum documents the Census Bureau's decision to discontinue development and testing of telephone interactive voice response (IVR) systems for collecting census short form data in the 2010 Census. This decision is based on analysis of IVR test results to date as well as the need to prioritize, given limited resources, future test and development efforts for the 2010 Census.

As part of the 2003 National Census Test, the Census Bureau offered telephone IVR as a response mode in several experimental panels. The results suggest that only a small percentage (about 4 percent) of the respondents in mail-out/mail-back areas reported census data within the IVR (without rolling over to an agent), when offered a choice between IVR and a paper questionnaire. Further, in no experimental panel in which IVR was a choice, did we observe an increase in overall response when compared to a control panel in which a paper questionnaire was the only response mode.[1]

The Census Bureau currently is planning a 2005 National Census Test to obtain data needed for making decisions on key program design features for the 2010 Census. Although the 2005 National Census Test would provide the last opportunity to test, on a national scale, the use of IVR as a response mode, our priorities for that test relative to our resources, preclude its inclusion. The priorities for that test focus on the need to resolve issues regarding coverage probes and residence rules, language, race/ethnicity and other short form content, and methods for increasing census response.

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[1] U.S. Bureau of the Census, 2004, *2003 National Census Test: Response Mode Analysis,* Decennial Statistical Studies Division 2003 Memorandum Series #B-02, February 26, 2004.

11. LIST OF PRINCIPLES

A principle is a statement that supports strategic direction, guides decisions, serves as a tie-breaker in settling disputes, and provides a basis for dispersed, but integrated, decision making. The list of principles for the development of the 2010 Census Architecture provided here is also in the Roadmap document:

Principle 1. Value Creative and Innovative Thinking
Principle 2. Establish process responsibility, accountability, and authority
Principle 3. Standardize and combine similar processes
Principle 4. Capture Information at the Source
Principle 5. Conform to the Federal Enterprise Architecture Framework (FEAF)
Principle 6. Support Quality Assurance and Quality Control
Principle 7. Support Security and Privacy in the EA

The 2010 Census Architecture principles align with the following 2010 Census Architecture Program Goals:

- Align with 2010 Business Requirements
- Enable Re-Engineering
- Support Planning for the 2010 Census.

12. List of Critical Business Concerns

A Critical Business Concern is a business problem or issue which the business unit focuses on solving. The business concerns are maintained as Environmental Drivers in the Census Enterprise Architecture. The original source is the Census Bureau's 2002-07 Strategic Plan.

Environmental Driver Names	Description
Cultural Diversity	Racial and ethnic minorities are becoming a proportionately larger component of the population. In 2000, slightly more than one of ten people in the United States was foreign born. This growing cultural diversity will continue to bring new challenges to how the Census Bureau conducts its work. It will affect the methods the Census Bureau uses to collect information, the questions asked, and the presentation of the data. Traditional surveys may require more materials in languages other than English and different approaches to reaching out to different communities. Increased immigration and emigration will raise issues about whom to include in the census (or exclude from it) and how to do it.
Data Stewardship	Data stewardship involves establishing policies that preserve privacy and confidentiality, reduce reporting burden, and maximize data use. As technology provides us with greater abilities to collect, process, and disseminate data, it also presents greater challenges to protect data from improper access and use. Data, publicly available through the Internet, and record linkage technologies have the potential to permit some to defeat our data protection safeguards. What was considered a very low risk just a few years ago may soon become an unacceptable risk.
Diverse Customer Needs	The Census Bureau has improved access by making data available through the Internet and through data dissemination networks, such as the State Data Centers, Census Information Centers, and Research Data Centers. The Census Bureau has a varied and diverse customer base that ranges from the most sophisticated analyst to the inexperienced one-time user. Recent technological advances allow the Census Bureau to make more data available more quickly to more users. There are challenges associated with creating a data dissemination tool that meets everyone's needs. A system that frustrates some customers will be seen as a failure even if it effectively serves the needs of most.

Environmental Driver Names	Description
	With technological advances, the tension between providing access to data and protecting confidentiality is growing. The Census Bureau must continue to explore options that achieve both. For example, the Research Data Centers may become more important as a way to give access without compromising confidentiality.
Impact of Terrorism	The events of September 11 and afterwards could have long-term consequences for the Census Bureau ranging from changes in attitudes toward the government and in concerns about privacy and confidentiality issues, to restrictions on immigration that could affect the increasing diversity of our nation. Certainly, there will be budgetary challenges as the government must support a war and other activities to deal with the terrorist threat. Additional requirements for data and for enhanced information technology and physical security also could affect programs. Before September 11, the Census Bureau was focused on meeting the information needs of a population that was skeptical of the federal government, had strong concerns about privacy and confidentiality, and was more diverse than this nation had ever been. Post-September 11, there may be changes in these attitudes, especially as they relate to national security issues. Further, the experience of anthrax delivered through a vehicle trusted by all, the mail, could put mail-dependent data collection methods at risk.
Legal Challenges	Decisions in court cases could affect decennial programs and the public's attitudes about the Census Bureau.
Other Government Agencies	The relationships of the Census Bureau with other government agencies also may present challenges. Agencies that sponsor data collection or other activities may need to accommodate declining resources. Agencies with which the Census Bureau cooperates may need to change policies or priorities. It may be difficult to anticipate such secondary effects in time to deal with them effectively.
Perceptions of the Role of Government in Society	The United States has gone through several peak and valley periods in how its residents have viewed the role of government. Prior to September 11, some political scientists and students of public administration anticipated a period in which people expected a somewhat reduced role for the federal government - just as the United States went through such a period in the late 1800's up until the depression. Since September 11, there seems to be greater confidence in government and the expectation that

Environmental Driver Names	Description
	government will play a stronger role, particularly in areas even remotely related to homeland security. The Census Bureau will need to monitor these trends closely and analyze their potential impact.
Privacy	Privacy is a complex issue and involves components of intrusiveness and confidentiality. In the Internet era, the public has grown wary of private sector use (and misuse) of personal information collected for one reason and used for a different reason without their knowledge or consent. Identity theft using Social Security numbers has made many wary about providing personal information. Concerns over the intrusiveness of the census long form in 2000 threatened the success of the census and resulted in support from high-ranking officials to those who did not wish to respond to questions they considered sensitive.
Technological Influences	The rapidly changing information technology environment, including changes in hardware, software, applications, Internet use, and uses within the user community, influences how the Census Bureau collects, processes, and disseminates data and information. The Census Bureau depends on congressional funding for initiatives to support technology innovations. While the Congress controls funding, they also impose mandates, such as accessibility requirements, that add to the cost of implementing new technology. The Census Bureau also needs to obtain/retain qualified staff and continue to train them to remain competitive within this environment. Expanding technological capabilities will drive increased customer/user expectations for ease of access, quick turnaround times, simple interface mechanisms, and comparability between different sources of data. Customers also want enhanced quality of products and services, including more functionality in data collection instruments, as the Census Bureau migrates to e-commerce and computer-assisted technologies. As the value of e-commerce expands, the need for business, respondent, and customer confidence in the reliability, security, and integrity of e-commerce collection and transactions will increase.
The Economy and the Federal Budget	The economy and policies to address economic issues are likely to challenge the ability to initiate new programs, and even to conduct current activities. The Census Bureau may face declining resources - of staff, money, and facilities. It

Environmental Driver Names	Description
	may be increasingly difficult to justify needed spending, and the Census Bureau may finds itself burdened by unfunded mandates in order to satisfy the data needs of legislative and executive customers.
Workforce Management	According to the President's Management Agenda, about 70 percent of the government's permanent employees will be eligible to retire by 2010, and 40 percent of those are expected to retire. With a significant percentage of its workforce becoming eligible for retirement in the very near future, the Census Bureau must recruit, develop, and retain the next generation of employees. This will require planning to ensure that specialized technical, managerial, and subject-matter knowledge, as well as the Census Bureau's corporate culture, values, and institutional knowledge, are transferred.
Workplace Conditions	Workplace conditions will be critical issues in the next few years. Deteriorating headquarters buildings make it hard to recruit and retain staff. Fortunately, new buildings are on the way, but the construction and the time required to complete the new buildings may hamper our work. Telecommuting will become a more common practice - whether from home or from remote offices. The Census Bureau needs to address two issues to take full advantage of telecommuting: a full range of electronic communications and confidentiality reinforcements. Electronic communications need to permit the sharing of information and the capacity to transfer work projects back and forth. The Census Bureau must be able to continue to maintain confidentiality, both in fact and in perception, when it permits employees to work at home. Increased costs as well as concerns about information technology security may complicate this task.

13. List of Risks

This is a list of major risks faced by the business. The document, "2010 Census Risk Management Plan," prepared by Decennial Management Division, completes this product.

USCENSUSBUREAU

Helping You Make Informed Decisions

2010 Census

Risk Management Plan

Release 2.5

Prepared By

Decennial Management Division

September 26, 2003

2010 Census Risk Management Plan

Document Location

Decennial Management Division (DMD) retains the source of this document on the DMD shared server, in the Risk Management Database. The baseline of this document is stored in the 2010 Census Planning documentation repository.

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ADDRESS DATE ISSUE

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1 INTRODUCTION

This Risk Management Plan addresses the risks in developing the 2010 Census design, including key systems design and integration, with special emphasis on IT (information technology) systems and the planning, development, test and evaluation projects. Risk management plans are key to the integration and successful implementation of the Reengineered Census of Population and Housing.

The 2010 Census Planning Program is a 10-year strategic initiative to rethink, reevaluate, and reengineer the various processes and information systems that support and provide services to the decennial census. The goals of the 2010 Census and the underlying critical success factors to achieve those goals are covered in Section 1.1 and 1.2 of this plan.

This project contains an integrated set of tasks oriented towards the development of an overarching plan and IT architecture that will enable the Census Bureau to conduct a decennial census in 2010 that mitigates risk, produces more accurate and complete data, and contains costs. In 2010, conducting the decennial census will be more complex due to a larger, more mobile and culturally diverse population that speaks more languages. With this increasing complexity, the operational design of Census 2000 cannot be repeated without placing the quality and completeness of the census count at serious risk. Without a systematic, timely, and integrated planning, design, development and testing strategy, the data collection and data dissemination mission of the decennial census will be jeopardized.

Over the past several decades, it has become increasingly difficult to take the census. But the Nation's demand for data is also increasing. The Census Bureau addresses these difficulties and these needs in Strategic Goal 3 of its Strategic Plan:

> **Strategic Goal 3: Meet constitutional and legislative mandates by implementing a reengineered 2010 Census that is cost-effective, provides more timely data, improves coverage, and reduces operational risk.**

The strategy for meeting this goal has three interdependent components:

- Implementing the **American Community Survey (ACS)** to collect census long-form data on an ongoing yearly basis;
- Modernizing and enhancing the Census Bureau's **Master Address File/Topologically Integrated Geographic Encoding and Referencing (MAF/TIGER)** address file and geographic database; and
- Systematically developing, testing, and implementing a 2010 Short-Form-Only Census design that takes advantage of the opportunities offered by the ACS and MAF/TIGER modernization (**2010 Census**).

The concept of the *interdependence* among these three components is essential. They are conceptually, operationally, and systematically dependent upon each other's existence and products. However, each component of the census also has its own unique features and requirements. While acknowledging and respecting the capabilities and requirements of the ACS and MAF/TIGER modernization, this document details the risks associated with the 2010 Census component.

In FY 2002, the Census Bureau had already begun to identify requirements for new and improved methods for implementing the 2010 Census. Limited testing of these new methods also had begun, and will continue throughout FY 2003 and beyond. The goal of this early development and testing is to be in a position to launch a site census test of new methods for data collection and coverage in FY 2004. The 2004 Census Test will enable us to specify the major methodologies and procedures that will serve as the foundation for the 2010 Census. Systems design and development is expected to begin in FY 2003, and to proceed concurrently with the implementation and evaluation of the 2004 Census Test. These efforts will culminate with the 2006 Census Test, which will focus on the systems integration required to test and improve new IT infrastructure needed to support key components of the census design, including the definition of detailed functional requirements for each operation. To supplement, inform, and complement the site census tests, the Census Bureau will undertake activities to investigate new or improved census features that do not need to be tested in a site census test, and/or that must be evaluated before use in a site test. These activities, which have been underway since 2002, include special tests or research activities, to aid in exploring various automation and related options, and support for key staff to perform planning, development and testing management and integration. Taken together, all of these efforts reach fruition in the 2008 Census Dress Rehearsal, which will demonstrate, for final proof of concept, the entire complement of methodological, procedural and systemic innovations designed to contain cost, mitigate risk, and improve data accuracy and coverage in the 2010 Census.

The overarching IT framework for the decennial census currently includes the following principal components:

Automated Field Data Collection -- This component includes global positioning system (GPS) equipped mobile computing devices for use by field staff, software applications to deliver and control field assignments (including coverage measurement field assignments), capture and transmit data, and integrate all systems on the instrument; and personnel, payroll and field office control systems.

Data Capture and Processing – This component includes "pre-collection" processing, the core system that will accept and integrate data inputs from multiple sources (paper, telephone, Internet, and data collection devices used by field staff); systems for capturing and processing data from all operations, including coverage measurement, census evaluations, and post response data processing systems; and geographic processing.

Headquarters Systems - This component includes the Beta Site used to test and manage change control for all hardware and software configurations, 2010 Census Architecture, the Headquarters decennial LAN, the decennial management information system, and the decennial cost model.

Each of these initiatives will evolve as development and testing continues throughout the decade. Taken together, and conducted within an integrated design for planning, development and implementation, they allow the Census Bureau to use the valuable information learned from Census 2000 to take advantage of technological efficiencies and conduct a 2010 Census that contains costs, improves data accuracy and coverage, and mitigates risk.

1.1 Goals of this project

The goal of the reengineering program of the 2010 Census is to produce a census that **"Is cost-effective, provides more timely data, improves coverage, and reduces operational risk."** This statement provides goals for each component (ACS, MAF/TIGER, 2010 Census) as well as the whole program. Here is how it translates into four tangible goals for the 2010 Census component.

1. Assuming the existence and products of ACS and the MAF/TIGER modernization, as well as a planning effort beginning early in the decade, the design and conduct of the 2010 Census will include major design efficiencies designed to contain costs.
2. The 2010 Census will collect and release data in the same time frame as in previous censuses.
3. The 2010 Census will improve the accuracy of census data, especially the coverage of the population and housing inventory, for all geographic levels and demographic groups.
4. The design of the 2010 Census will reduce operational risks by simplification, consistency, testing, and streamlining within and across all of its features.

1.2 Critical Success Factors to achieve those goals

- There will be site census tests in 2004 and 2006 and a true Dress Rehearsal in 2008.

- To supplement, inform, and complement the site census tests, we will undertake activities to investigate new or improved census features that do not need to be tested in a site test, and/or that need to be evaluated prior to use in a site test. Beginning in 2002, these activities include special tests or research activities, contracts to aid us in exploring various automation and related options, and support for key staff to perform planning, research, management, and integration.

- The 2004 Census Test will be used *chiefly* to determine major methodological and procedural design elements for the Dress Rehearsal/2010 Census.

- The 2006 Census Test will be used *chiefly* to test and prove in both methodological and technological (field and automated systems) systems.

- The Census Dress Rehearsal in 2008 will be built on the results of these two major tests and all related research, testing, planning and other activities available in time for incorporation.

1.3 Assumptions that support the Critical Success Factors

The following assumptions are critical for successful planning of the 2010 Census:

- IT systems are central to our ability to improve coverage and data quality, given that we will not be able to rely on the use of statistical methods to make such improvements.

- We must optimize the use of electronic collection systems such as Internet, telephone, and mobile computing devices (MCDs) to address increasing census costs. Implementing the American Community Survey as a vehicle for long form collection both facilitates and dictates the move toward increased use of more efficient and effective electronic data collection systems.

- To address the expected decline of 5-7 percentage points in response rates relative to Census 2000, we must identify and implement cost-cutting innovations in census operations and the development of user-friendly electronic response technologies that make it easier for people to respond to the census.

- Innovations such as GPS-equipped MCDs for data collection are essential if we are to reduce the costly data collection operations that account for the bulk of the overall costs associated with the census.

- To address the increasing emphasis on improving mechanisms for enumerating populations that speak languages other than English and populations with disabilities, our IT systems need to provide the availability of translated questionnaires and language guides, and facilitate the provision of questionnaires to populations with unique requirements.

- We must place greater emphasis on well developed and mature implementation methodologies such as the Capability Maturity Model to better manage the increasing complexity of IT systems.

- IT security and cost cutting innovations will be critical to addressing the need for alternatives to conducting interviews in the field, as a means to address the growing concerns about privacy and confidentiality.

- Significant improvements in the Master Address File and TIGER geographic system will present opportunities for developing IT innovations that can cut cost, improve coverage and data accuracy, and improve efficiencies in field operations.

- Census operations in general will become more complex, placing greater emphasis on the development of IT systems to monitor progress, timing, and implementation.

- Develop an enterprise architecture that will ensure efficient operations of the 2010 Census.

- Development of common data dictionaries, that facilitate the consistent and accurate development, processing, and presentation of census data, will be absolutely essential if we have to meet the growing demands for data that are widely understood.

1.4 Benefits of a Risk Management Strategy

A Risk Management Strategy has several benefits:

- Ensures that the program and its components are realistic, with corresponding improvements in the overall business case and definition of project net benefits.
- Enhances the Census Bureau's understanding of the program and the implications of planning actions during the early stages of the planning process, which can reduce unwelcome surprises and ensure that significant resources are not wasted.
- Provides the opportunity to identify and consider a broader range of options than may be possible when the risk has become an issue, which can conserve resources.
- Allows more time to be made available to address the risks in a careful and well-planned manner.
- Identifies risks and potential risk management actions for input into the Risk Management Plan. Project management will use the Risk Management Plan to track the risk management actions as those actions relate to the overall project schedule.

2 SCOPE

The scope of this document is to present the Census Bureau's assessment of risks to the 2010 Census. A risk is defined as a future situation in the implementation of the 2010 Census planning, development, and implementation, which may adversely impact the conduct of the 2010 Census.

Risk assessment is a three-step process:

Step 1: Identify the potential relevant risks and their potential negative impact on the project in terms of outcome, schedule delays and cost increases.

Step 2: Evaluate the risks in terms of their probability of occurrence, and their potential for negative impact if the risk were to occur. Both dimensions are measured on a scale of one to three, with one being the lowest probability of occurrence (or the lowest negative impact) and three being the highest probability of occurrence (or the highest negative impact.) The severity of the risk on the 2010 Census effort is a product of the probability score and the impact score (Severity = Probability x Impact.)

Step 3: Identify the appropriate manner in which to address the risk. The severity factor of each risk is an important element in making this evaluation. Those risks with a severity factor of 1 or 2 are seen as having a "low" degree of severity. Risks receiving a severity factor of 3 and 4 have a "medium" degree of risk severity. If a risk was assigned a severity of "6," it is seen as having a "high" degree of risk severity. Finally, a severity factor of "9" is seen as having a "very high" degree of risk severity. These risk severity factors are then used to determine an appropriate risk management action. A risk management action depends on the severity of the risk and on whether the risk is an actionable risk or a risk that is out of control of the implementation team (non actionable risk.) Risk management actions include tracking lists, containment plans, and contingency plans.

Additional details on the risk assessment methodology are presented in Appendix A.

Technical risks encompass those risks that present the potential for unmet requirements in terms of project design, delivery schedules, information availability, and the like. Some examples of technical risks include:

- ◊ Inadequate definition of future requirements
- ◊ Designs that do not address the full scope of objectives
- ◊ Hardware or data server incompatibility
- ◊ Design incompatibility between interdependent project components
- ◊ Missed delivery schedules
- ◊ Scheduling problems between interdependent project components

3 Organizational and Change Management Risks Assessment

Organizational risks are overarching organizational issues that Census will face during the planning for the 2010 Census. Three major organizational risks are identified, and assessed in the following sections.

3.1 Design and Operational Risk

Criterion Definition: Census 2000 was jeopardized by design changes late in the decade [for example, the Supreme Court ruling in 1999 disallowing the use of sampling and estimation resulted in major untested design changes and additional costs of $1.7B.] Similar late changes in the 2010 Census design will increase costs and undermine our ability to benefit from the early planning, testing, development, and design central to moving forward with systems acquisition and integration.

Scoring Justification: The likelihood and impact of this key organizational risk is high (resulting in a severity score of 6) due to past precedents such as the Supreme Court ruling in 1999.

Risk Mitigation Analyses: The mitigation strategy is to minimize design changes from within the Census Bureau, and to communicate with a wider audience on the benefits of early planning and development. Externally, the Census Bureau is planning on broadening the communication with stakeholders such as: the Race and Ethnic Advisory Committees, the Professional Advisory Committees, the Decennial Census Advisory Committee, the National Academy of Science, Committee on National Statistics, the U.S. Conference of Mayors, State legislators, and Association of State Governors, and many others who are major users of Census data.

3.2 Risk of not performing a true dress rehearsal

Criterion Definition: Delays in R&D, and iterative testing forces the Census Bureau to not have all systems, methods, and procedures in place for demonstration and proof of concept in the 2010 Dress Rehearsal. Requirements have to be defined and requirements can only be defined if the testing and R&D is completed satisfactorily. The dress rehearsal is dependent on sequential testing and R&D, so that by the year 2008, the Census Bureau is in a position to perform it.

Scoring Justification: The likelihood and impact of not performing a true dress rehearsal is medium (resulting in a severity score of 4.)

Risk Mitigation Analyses: The mitigation strategy is to meet the planning schedules and wrap up R&D, analysis, testing and outsourcing for key systems on time.

3.3 Risk of Alienating Key Stakeholders

Criterion Definition: Stakeholder pressures for changes late in the decade add significant schedule and cost risk to the design effort. Key stakeholders in the 2010 Census planning effort include State, local and Tribal governments, other government agencies, nongovernmental organizations, Advisory Committees, data users and the Congress.

Scoring Justification: The likelihood and impact of this key organizational risk is high (resulting in a severity score of 6) due to past precedents, including Census 2000.

Risk Mitigation Analyses: The mitigation strategy is to involve the key stakeholders early and often during the test and development strategy for the 2010 Census planning. The Census Bureau plans to actively communicate with these stakeholders through regular Advisory Committee meetings, via websites, at conferences, and other regular contacts.

The results of this effort are as follows:

Table 1: Organizational and Change Management Risk Summary Matrix

Risk Description	Likelihood	Impact	Severity Score	Risk Management Action
Design and Operational Risk	**3**	**2**	**6**	**Tracking List**
Risk of not performing a *true* dress rehearsal	**2**	**2**	**4**	**Tracking List**
Risk of alienating key stakeholders	**2**	**3**	**6**	**Containment Plan**

4 Business Risks Assessment

Currently, one business risk is identified.

Criterion Definition: Any changes or delays in approved program funding, or inability to acquire funding due to changes in funding requirements throughout the program's life cycle will reduce the ability to meet program objectives.

Scoring Justification: The likelihood and impact of the project being adversely impacted by a potential lack of funding is high (resulting in a severity score of 6.)

Risk Mitigation Analyses: The mitigation strategy is to continually review program costs, perform periodic evaluation of program alternatives in the event of changes in funding and communicate with stakeholders about the impacts of program changes on later decade funding requirements.

Table 2: Business Risk Summary Matrix

Risk Description	Likelihood	Impact	Severity Score	Risk Management Action
Funding Risk	**2**	**3**	**6**	**Contingency Plan**

5 Data/Information Risks Assessment

Currently, two data/information risks are identified.

5.1 Risk of Low Response to 2010 Census

Criterion Definition: Census 2000 reversed a decades long trend in declining census response rates, but there are indications that this will be difficult to repeat given increasing concerns about privacy and declining public participation in civic events. Low response rates will have a negative impact on overall census costs.

Scoring Justification: The likelihood and impact of the project being adversely impacted by a low response to 2010 Census is medium (resulting in a severity score of 3.)

Risk Mitigation Analyses: The mitigation strategy is to continue to develop and refine, throughout the decade, the Census Bureau's marketing and promotion strategies, as well as the methods for responding to the census. The Census Bureau is taking a "lessons learned" approach from the successful Census 2000 and plans to continue with paid advertising in 2010 to reverse the pattern of declining response rates. In addition, the Census Bureau is exploring the use of new technologies like delivering a replacement questionnaire targeted to nonresponding households, Interactive Voice Response (IVR), and the Internet for reaching out to respondents. The Census Bureau also will provide questionnaires in languages other than English to increase response among recent immigrants and others with special language needs.

5.2 Outsourcing Risk

Criterion Definition: The Census Bureau relies heavily on industry for many critical needs, such as telephone questionnaire assistance (TQA) call centers, questionnaire printing and delivery, data capture, mobile computing devices, etc. The Bureau bears a risk that the private sector may not be able to meet the capacity requirements and/or not be able to meet the expectations/requirements of the Decennial Census. Related risks are associated with our ability to complete acquisition and requirements definition in time to permit contractors to use effective software engineering life-cycle principles and practices in their development efforts.

Scoring Justification: The likelihood and impact of the project being adversely impacted by such outsourcing risks is medium (resulting in a severity score of 3.)

Risk Mitigation Analyses: The mitigation strategy is to work with industry early in the planning cycle to develop and finalize requirements. As an example, the Bureau plans to develop and test prototypes throughout the testing cycle, and finalize the prototype in time for the Dress Rehearsal in 2008.

Table 3: Data/Information Risk Summary Matrix

Risk Description	Likelihood	Impact	Severity Score	Risk Management Action
Low Response to 2010 Census Risk	**1**	**3**	**3**	**Contingency Plan**
Risk due to Out-Sourcing	**1**	**3**	**3**	**Tracking List**

6 Technology Risk Assessment

Currently, two technological risks are identified.

6.1 Technological Obsolescence

Criterion Definition: Systems will not perform as expected or will be obsolete and thus ineffective for the task at hand.

Scoring Justification: The likelihood and impact of the project being adversely impacted by technological obsolescence is low (resulting in a severity score of 1.)

Risk Mitigation Analyses: Early planning, development and testing and design of systems, according to CMM guidelines, will mitigate overall system performance as well as mitigate potential performance problems related to technical obsolescence. For example, the mobile computing devices (MCDs) to be used for enumeration in the 2010 Census are currently being incrementally tested for usability, and for their ability to collection & store information for GPS, etc. The MCDs will be tested during the Methods tests in 2004 and 2006.

6.2 Field Infrastructure Readiness

Criterion Definition: The Census Bureau believes that we can improve the efficiency of our field data collection activities and improve data quality by using inexpensive, mobile, hand-held computing devices – equipped with global positioning system (GPS) capabilities – to find, interview, and collect data from people who do not return their questionnaires. We also believe we can use this innovative technology to improve efficiency and quality of address list and map update field activities. The expected benefits of improved quality in our field processes and products, reduction in space requirements, staffing levels, and increases in general productivity are contingent on how successfully the field offices can re-engineer their business processes to realize the benefits from the new technology infrastructure.

Scoring Justification: The likelihood and impact of the project being adversely impacted by incomplete field infrastructure readiness is low (resulting in a severity score of 1.)

Risk Mitigation Analyses: The Census Bureau is performing comprehensive research and development in its planning for the 2010 Census. Most of this R&D is geared towards field tests in the 2004 and 2006

Census Tests. This will allow for the incremental and iterative development of the business processes needed to ensure the viability of the new technology in time for the dress rehearsal and the 2010 Census.

Table 4: Technology Risk Summary Matrix

Risk Description	Likelihood	Impact	Severity Score	Risk Management Action
Technological Obsolescence Risk	**1**	**1**	**1**	**Tracking List**
Risk due to incomplete field infrastructure readiness	**1**	**1**	**1**	**Tracking List**

7 Strategic Risks Assessment

Currently one strategic risk is identified.

Criterion Definition: The three integral components of the Reengineered Census are 1) ACS, 2) MAF/TIGER enhancements, and 3) Early Planning. Inability to integrate effectively all these three components of the Reengineered Census design into the Census Bureau's business processes will result in failing to realize all projected benefits.

Scoring Justification: The likelihood and impact of the project being adversely impacted by ineffective integration of the three components of Reengineered Census is low (resulting in a severity score of 2).

Risk Mitigation Analyses: The Census Bureau will delineate the roles and responsibilities for each component of the plan to ensure effective integration among the three components of the re-engineered design.

Table 5: Strategic Risk Summary Matrix

Risk Description	Likelihood	Impact	Severity Score	Risk Management Action
Strategic Risk of ineffective integration of the three components of the Reengineered Census	**2**	**1**	**2**	**Tracking List**

8 Develop Adequate System Security Risk Assessment

Currently one security risk is identified.

Criterion Definition: Inability to maintain system security or inability to maintain the public perception of system security is a big concern for the Census Bureau. System security and data privacy are vitally important as decennial census data are collected via self-service mechanisms (i.e. IVR, Web browser).

Scoring Justification: The likelihood and impact of the project being adversely impacted by insufficient system security is high (resulting in a severity score of 6.)

Risk Mitigation Analyses: The mitigation strategy is to continue monitoring technology advances and new security standards, and conduct operational and technical security control testing for maximum effectiveness.

From a design aspect, the Census Bureau will work within an overall security design, and from an operational perspective, the Census Bureau security staff and operations staff will be trained to administer the Bureau's security procedures to maximize the protection of an individual's data from unauthorized access and use (especially for self-service options). Additionally, the Census Bureau security staff will provide on-going monitoring of system security to protect against invasion and to protect against unforeseen circumstances that might lead to loss of vital decennial planning information. The Census Bureau plans to form a Backup and Recovery Analysis team to both identify the unforeseen circumstances that the system should be designed to accommodate, and specify necessary backup and recovery actions. The Backup and Disaster Recovery team will assess the system security architecture and present their findings in a Continuing Operations and Disaster Recovery Plan, to be delivered at least six months prior to the 2004 Census Test.

The Census Bureau plans to address the public's perception of inadequate system security by developing effective strategies for communicating with the public about systems security. The Census Bureau has established an Executive Board that meets monthly to review security issues, and also encourages a number of working groups to meet regularly and publish white papers on policy and guidance.

Table 6: Develop Adequate System Security Risk Summary Matrix

Risk Description	Likelihood	Impact	Severity Score	Risk Management Action
Develop Adequate System Security Risk	**2**	**3**	**6**	**Containment Plan**

9 Privacy Risks Assessment

Currently one privacy risk is identified.

Criterion Definition: Public concerns about privacy and confidentiality issues build to the point where the use of data collection methods, especially highly technological methods, is jeopardized.

Scoring Justification: The likelihood and impact of the project being adversely impacted by a potential lack of privacy is low (resulting in a severity score of 2.)

Risk Mitigation Analyses: The Census Bureau will continue to monitor issues concerning privacy and confidentiality and build effective communication strategies to address these concerns. The Census Bureau has established a comprehensive Data Stewardship Executive Policy board that provides principles and guidance to address all security areas including privacy protections.

Table 7: Privacy Risk Summary Matrix

Risk Description	Likelihood	Impact	Severity Score	Risk Management Action
Privacy Risk	**1**	**2**	**2**	**Tracking List**

10 Project Resources and Management Risks Assessment

Currently two project resources and management risks are identified.

10.1 Lack of project resources.

Criterion Definition: Lack of adequate resources (human, financial, schedule, and material) will result in diminished achievement of objectives and schedule slippage. The Census Bureau will need a substantial staff throughout decade to become familiar with census methodologies such that by the time we get to 2008 and 2010, the staff is familiar with the Decennial Census design and know how to plan and conduct a census.

Scoring Justification: The likelihood and impact of the project being adversely impacted by a potential lack of resources is high (resulting in a severity score of 6.)

Risk Mitigation Analyses: The Bureau plans to conduct periodic reviews throughout the decade.

10.2 Experienced staff attrition

Criterion Definition: The agency will loose, due to retirement and other forms of attrition, a significant number of experienced staff in key operational and technical areas throughout the decade. This trend will be compounded by the lack of resources/ability to replace staff early in the decade so that new staff have the opportunity to participate in tests and early planning leading up to the 2010 Census. These staffing delays, with the resulting impact on experience gained, significantly increases the impact of staff attrition.

Scoring Justification: The likelihood and impact of the project being adversely impact by experienced staff attrition is medium (resulting in a severity score of 3)

Risk Mitigation Analysis: The Census Bureau is developing ascension planning to off-set the effects of experienced staff attrition. Moreover, plans to incorporate incremental development, testing and evaluation early in the decade will provide some opportunity for less experienced staff to obtain operational experience prior to the actual 2010 Census.

Table 8: Project Resources and Management Risk Summary Matrix

Risk Description	Likelihood	Impact	Severity Score	Risk Management Action
Lack of Project Resources Risk	2	3	6	Contingency Plan
Loss of Experienced Staff	3	1	3	Tracking List

11 Project Dependencies and Interoperability Risks Assessment

Currently one project dependency and interoperability risk has been identified.

Criterion Definition: Stovepipe systems are those systems that are not interoperable with each other. For example, data capture systems, data collection systems, control and tracking systems, and management information systems all have to work seamlessly to minimize systems risk to the Decennial Census.

Scoring Justification: The likelihood and impact of the project being adversely impacted by stovepipe systems is low (resulting in a severity score of 2.)

Risk Mitigation Analyses: The Census Bureau is conducting integrated planning for the 2010 Census. For example, beginning with the development of a logical architecture, the Census Bureau will develop a sound physical and technical architecture that will integrate with the Census Bureau's enterprise architecture, and which will eliminate redundancies, ensure consistency, and allow for incorporation of new methodologies and technologies for the most efficient and cost effective manner.

Table 9: Project Dependencies and Interoperability Risk Summary Matrix

Risk Description	Likelihood	Impact	Severity Score	Risk Management Action
Lack of interoperable systems Risk	1	2	2	Tracking List

12 Conclusion and Next Steps

Most risks presented in this plan are mid to late-decade risks. This Risk Management Plan represents an important step in managing and mitigating the risks in the multi-year planning for the 2010 Census. Throughout the decade, the Census Bureau will conduct periodic tests to institutionalize the processes necessary to achieve the goals of the 2010 Census. These tests are an important risk mitigation mechanism as the Census Bureau moves towards successful implementation of the 2010 Census.

As the decade progresses, the risks presented in this document will change – some risks could increase, or decrease in severity, or disappear all together. It is also highly likely that there will be additional risks throughout the entirety of the implementation effort as the 2010 Census business case and project schedules continue to change. As such, this Risk Management Plan will be updated twice annually to keep the content of this document up to date. In addition, this Plan will be shared with key stakeholders including the various Advisory Committees, and the National Science Foundation for their inputs and comments. The stakeholders' feedback will be incorporated into the next version of the Risk Management Plan.

APPENDIX A RISK ASSESSMENT METHODOLOGY

Risk assessment is an iterative process and should be directly tied into the process for managing and tracking issues throughout the life of the project. The approach used for analyzing Census technical risks involves several steps:

1. Identify the risks that are relevant to Census technical components (primarily for the decennial census component of the 2010 Census program.)

2. Evaluate the risks for probability (1=low; 2=medium; 3=high) and for impact (1=low impact; 2=medium impact; 3=high impact) to determine which risks deserve the most attention. The risks will be evaluated by their severity factor, which is the product of the probability and impact scores.

3. Recommend how risks should be managed/addressed based on their severity factor. For example, a risk with a high severity factor might warrant a contingency plan, whereas a low risk would only warrant being placed on a tracking list (see Figure 1 below).

Risk Assessment Steps

Step 1: Identify the Relevant Risks

The first step in a risk management strategy is to identify relevant potential risks and their potential negative impacts to the project in terms of schedule delays and cost increases. The risk identification is best done in facilitated work session environments, by getting the team together to brainstorm for identifying the risks, developing risk statements, which outline the potential impacts on project and its components. For example, a technical risk statement might claim, "There is a risk that the mobile computing devices to be used by enumerators in the field will not perform as expected, and may be too complicated to use."

Step 2: Evaluate the Risks

The second step involves evaluating the risks in preparation for taking appropriate actions. The work session attendees may evaluate the technology risks according to the following criteria:

- By the probability of occurrence
- By the potential for negative impact, in terms of:
  - ◊ Delivery Schedules
  - ◊ Cost Overruns
  - ◊ Hardware/Software Functionality
  - ◊ Hardware/Software Architecture Incompatibility

The second step in evaluating project risks involves determining which risks warrant the most attention. This step involves analyzing each risk on two dimensions. The first dimension is the probability of that risk occurring. This is done on a scale of one to three, with one being the lowest probability of occurrence, and three being the highest. The second dimension is the potential for negative impact if the risk were to become an issue. Again, the risks are evaluated on a scale of 1 to 3, with one being the lowest negative impact, and three being the highest. These two dimensions can be plotted onto a matrix to determine the overall severity of each risk, as shown in Figure 1:

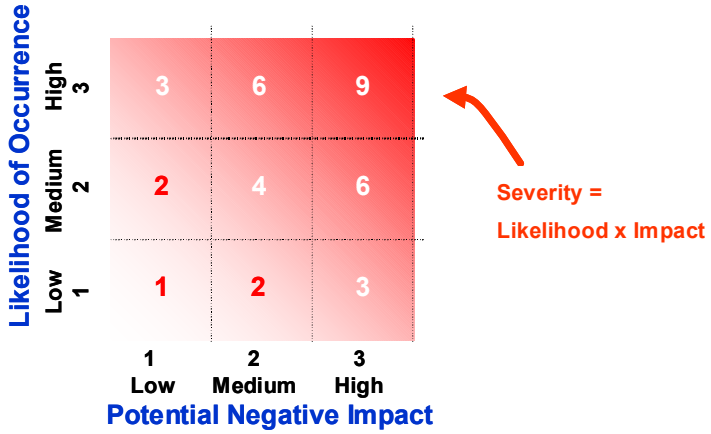


Figure 1: Severity Factor Matrix

Step 3: Identify Manner to Address the Risk

The third evaluation step involves identifying the appropriate manner in which to address the risks. The severity of each risk is an important element in making this evaluation. The second element involves the degree to which action can be taken on that risk. Although the Decennial Census implementation team may not have direct control over the risk, it is often possible for tasks to be undertaken that will reduce the probability of occurrence and/or decrease the negative impact if the risk becomes an issue (an actionable risk). For some risks, however, there are no actions that are appropriate prior to the occurrence of the issue (non actionable risk). An example of a non-actionable risk may be the risk of losing funding due to a reduction in federal appropriations for technology projects in federal civilian agencies. In this case, the potential for a loss of funding may be out of the control of the implementation team, and it is likely that no direct actions are appropriate unless the loss in funding does occur.

In identifying the appropriate manner in which to address the risks, another matrix may be valuable. This matrix (as shown in Figure 2) evaluates risk severity against the degree to which action may be taken. Those risks with a severity factor of 1 or 2 are seen as having a "low" degree of severity. Risks receiving a severity factor of 3 and 4 have a "medium" degree of risk severity. If a risk was assigned a severity of "6," it is seen as having a "high" degree of risk severity. Finally, a severity factor of "9" is seen as having a "very high" degree of risk severity.

The Decennial Census team can then use the severity factor scale and the degree to which an action can be taken on that risk to arrive at a recommendation for the appropriate risk management action to address the risk.

Risk Management Actions

Degree of Risk Severity	Actionable	Not Actionable
Very High	Containment Plan	Contingency Plan
High	Containment Plan	Contingency Plan
Medium	Tracking List or Containment Plan	Tracking List or Contingency Plan
Low	Tracking List	Tracking List

Figure 2: Risk Management Actions Matrix

The Risk Management Actions are defined as follows:

Containment Plans: These plans involve specific actions that **will** be taken to:

- Reduce the probability of the risk turning into an issue
- Reduce the negative impact to the project if the risk becomes an issue

Containment Plans might include the following types of actions:

- Negotiating firm commitments for individuals with critical knowledge or expertise
- Involving additional (or different) people in important roles, activities, or pivotal decisions
- Lengthening schedules for certain activities
- Adding education and follow-up support mechanisms to existing plans for training (e.g., mentoring, "chalk talks," single subject short courses)

Contingency Plans - These plans involve preparation for actions to be taken in the event that a nonactionable risk becomes an issue. Contingency Plans might include the following types of actions:

- Identifying and preparing backup resources for critical activities or areas
- Distinguishing between vital technology components that need to be continued and components that could be delayed with least overall impact to the project

Tracking List: This list is a mechanism to ensure that the identified risks are retained and tracked as the project moves forward. Although no immediate action may be warranted, periodic review of the risks on the tracking list or Tracking Database will assist the implementation team in "keeping their eyes on the horizon." The frequency of reviewing the list is up to the discretion of Decennial Census planning project management, but it is valuable to specify the dates for these reviews in the project plan to ensure that they are not overlooked.

Decennial Census planning project management will use the analysis resulting from Steps 1-3 to assign risk owners that are accountable for preparing the containment or contingency plans or monitoring the changes in probability/impact. The information from this assessment will also be used in other relevant Decennial Census Planning documents that will be updated on a periodic basis to reflect risks in the Decennial Census planning program's evolving environment.

APPENDIX B

REFERENCES

1. 2010 Baseline Design, draft dated March 04, 2003.
2. 2010 Reengineered Census Milestone Schedule Draft #15, dated March 04, 2003.
3. Planning for the 2010 Census ("Plan for the Plan,") dated March 04, 2003.

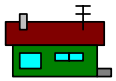
14. Operational Concept Diagram

The Operational Concept Diagram is a high-level graphic that provides a concise illustration of the business. It is intended to portray the operational activities of the organization, and may include roles, activities, sequence, information flows, and objectives.

Operational Concept Diagram

Census Planning Management, Census Infrastructure Support

Establish *Where* to Count



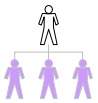
Develop Collection Geography

Budget $$

Local / Tribal / State Governments

Determine Schedule

Forms Production & Distribution



Develop / Manage Contracts

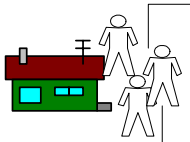
Determine LQs/ Locations

Address File(s) and Map Data

Validate LQs/ Locations

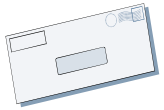
Print & Distribute Forms to HU and Field Offices

Collect Respondent Information



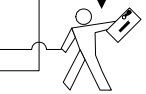
Assistance

Blank forms, nonresponse



Enumeration

Respondent Data
Management Data



HU Delivered/Returned Forms

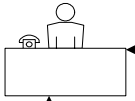
Additional Enumeration Information

Convert and Preprocess Response Data

Coverage Measurement

Provide Results

Processed Respondent Data



White House

Apportionment

Evaluate Census

Edited Respondent Data

Refine Respondent Data

Disseminate Census Results

Redistricting Data

Produce Reports

15. ENTITY RELATIONSHIP DIAGRAM

The Entity Relationship Diagram (ERD) is a model of the entity types (information/data objects) that are significant to the 2010 Census. The ERD was developed for the Business Architecture and released in October 2003, and is superceded in this document by the more detailed Logical Data Model (work product #24).

16. INFORMATION EXCHANGE MATRIX (CONCEPTUAL)

The Information Exchange Matrix, developed for the Business Architecture in October 2003, has been superceded by the more detailed Information Exchange Matrix (logical) – (work product #25).

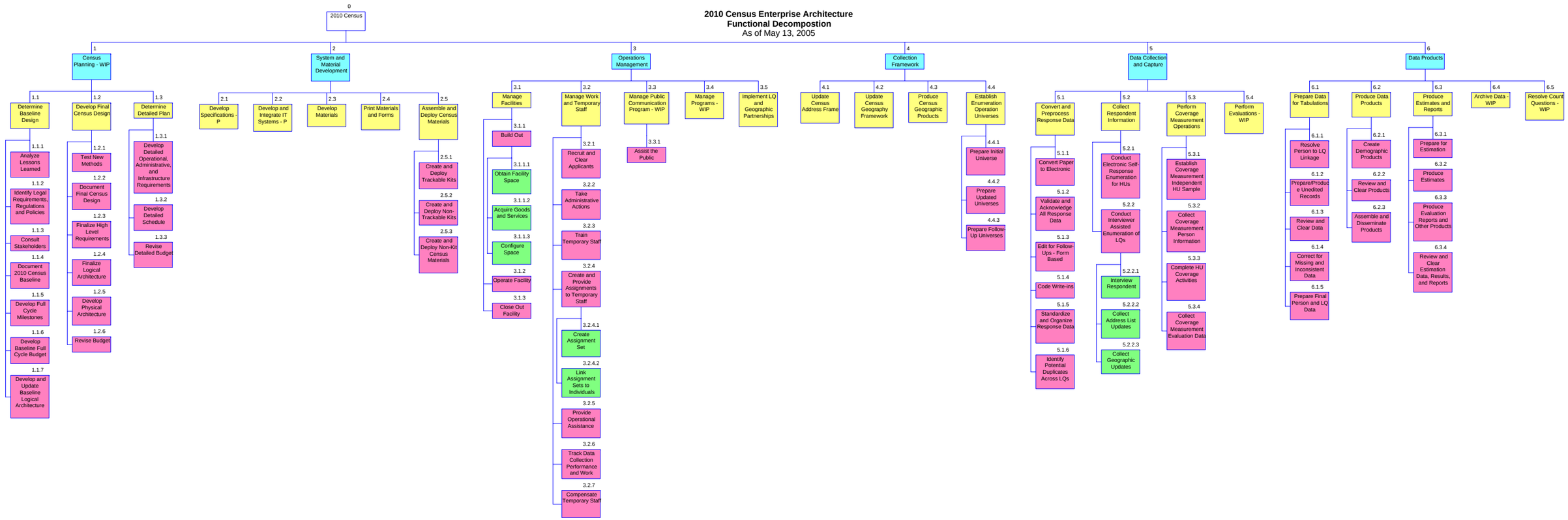
17. FUNCTIONAL DECOMPOSITION DIAGRAM

The Functional Decomposition Diagram shows the hierarchy of business functions independent of organizational structure and current procedures. The business functions are grouped into six primary categories:

- Census Planning
- System and Material Development
- Operations Management
- Collection Framework
- Data Collection and Capture
- Data Products

Each of these categories is decomposed to depict the separation of a function into its constituent parts or elements. Ideally, decomposition is continued until the lowest possible level of detail is obtained.

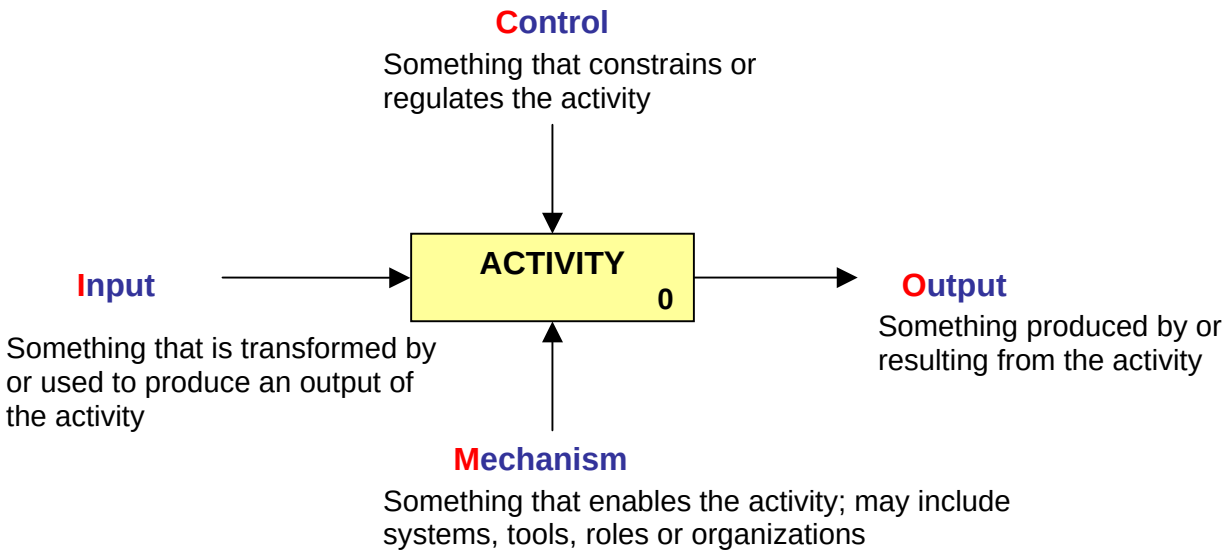
2010 Census Enterprise Architecture
Functional Decompostion
As of May 13, 2005



18. ACTIVITY MODEL

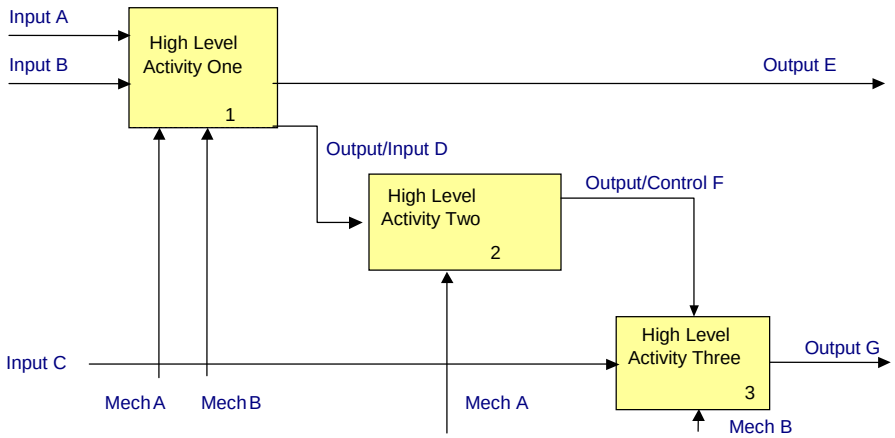
The Activity Model is a model that depicts system functions (actions, processes, operations), functional relationships, and the data and objects that support systems analysis and design, enterprise analysis, and business process reengineering, as described in the Integration Definition for Function Modeling (IDEF0) standard. As illustrated below, it includes *Inputs*, *Outputs*, *Constraints*, and *Mechanisms* (ICOMs). The work product contains the Node List Report, the list of activities and their definitions, the list of ICOMs and their definitions, and the Activity Model Diagram. An *Example of an Activity Model Diagram* is depicted below.

Some of the modeling objects contain the suffix WIP (work in progress) or P (placeholder). WIP indicates that the Architecture Team will further decompose or provide more detail; P indicates that the activity is out of scope of the 2010 CA, but needed to be understood for the purposes of the model.



Example of a Basic Activity Model Diagram

The name of the diagram is the same as the name of the activity that is decomposed in the diagram.



A0 Activity being analyzed

Node List Report

2010 Census (Context)

A0 - 2010 Census

- **A1 - Census Planning - WIP**
  - A11 - Determine Baseline Design
    - A111 - Analyze Lessons Learned
    - A112 - Identify Legal Requirements, Regulations and Policies
    - A113 - Consult Stakeholders
    - A114 - Document 2010 Census Baseline
    - A115 - Develop Full Cycle Milestones
    - A116 - Develop Baseline Full Cycle Budget
    - A117 - Develop and Update Baseline Logical Architecture
  - A12 - Develop Final Census Design
    - A121 - Test New Methods
    - A122 - Document Final Census Design
    - A123 - Finalize High Level Requirements
    - A124 - Finalize Logical Architecture
    - A125 - Develop Physical Architecture
    - A126 - Revise Budget
  - A13 - Determine Detailed Plan
    - A131 - Develop Detailed Operational, Administrative, and Infrastructure Requirements
    - A132 - Develop Detailed Schedule
    - A133 - Revise Detailed Budget

- **A2 - System and Material Development**
  - A21 - Develop Specifications - P
  - A22 - Develop and Integrate IT Systems - P
  - A23 - Develop Materials
  - A24 - Print Materials and Forms
  - A25 - Assemble and Deploy Census Materials
    - A251 - Create and Deploy Trackable Kits
    - A252 - Create and Deploy Non-Trackable Kits
    - A253 - Create and Deploy Non-Kit Census Materials

- **A3 - Operations Management**
  - A31 - Manage Facilities
    - A311 - Build Out
      - A3111 - Obtain Facility Space
      - A3112 - Acquire Goods and Services
      - A3113 - Configure Space
    - A312 - Operate Facility
    - A313 - Close Out Facility
  - A32 - Manage Work and Temporary Staff

A321 - Recruit and Clear Applicants
A322 - Take Administrative Actions
A323 - Train Temporary Staff
A324 - Create and Provide Assignments to Temporary Staff
A3241 - Create Assignment Set
A3242 - Link Assignment Sets to Individuals
A325 - Provide Operational Assistance
A326 - Track Data Collection Performance and Work
A327 - Compensate Temporary Staff
A33 - Manage Public Communication Program - WIP
A331 - Assist the Public
A34 - Manage Programs - WIP
A35 - Implement LQ and Geographic Partnerships

A4 - Collection Framework
A41 - Update Census Address Frame
A42 - Update Census Geography Framework
A43 - Produce Census Geographic Products
A44 - Establish Enumeration Operation Universes
A441 - Prepare Initial Universe
A442 - Prepare Updated Universes
A443 - Prepare Follow-Up Universes

A5 - Data Collection and Capture
A51 - Convert and Preprocess Response Data
A511 - Convert Paper to Electronic
A512 - Validate and Acknowledge All Response Data
A513 - Edit for Follow-Ups - Form Based
A514 - Code Write-ins
A515 - Standardize and Organize Response Data
A516 - Identify Potential Duplicates Across LQs
A52 - Collect Respondent Information
A521 - Conduct Electronic Self-Response Enumeration for HUs
A522 - Conduct Interviewer Assisted Enumeration of LQs
A5221 - Interview Respondent
A5222 - Collect Address List Updates
A5223 - Collect Geographic Updates
A53 - Perform Coverage Measurement Operations
A531 - Establish Coverage Measurement Independent HU Sample
A532 - Collect Coverage Measurement Person Information
A533 - Complete HU Coverage Activities
A534 - Collect Coverage Measurement Evaluation Data
A54 - Perform Evaluations – WIP

A6 - Data Products

- A61 - Prepare Data for Tabulations
  - A611 - Resolve Person to LQ Linkage
  - A612 - Prepare/Produce Unedited Records
  - A613 - Review and Clear Data
  - A614 - Correct for Missing and Inconsistent Data
  - A615 - Prepare Final Person and LQ Data
- A62 - Produce Data Products
  - A621 - Create Demographic Products
  - A622 - Review and Clear Products
  - A623 - Assemble and Disseminate Products
- A63 - Produce Estimates and Reports
  - A631 - Prepare for Estimation
  - A632 - Produce Estimates
  - A633 - Produce Evaluation Reports and Other Products
  - A634 - Review and Clear Estimation Data, Results, and Reports
- A64 - Archive Data - WIP
- A65 - Resolve Count Questions - WIP

List of Activities and their Definitions

Activity	Description
2010 Census	The purpose of the 2010 Census is to provide official population counts for the constitutional purpose of the reapportionment of the U.S. House of Representatives and for legislative requirements regarding redistricting; and to provide population and housing data for federal programs and other uses.
Acquire Goods and Services	This is the process by which the 2010 Census obtains goods and services from vendors by utilizing an existing contract, or approved source and a Census credit card. The process includes the purchase of goods at a retail outlet using a credit card, the creation of a purchase order against a specific contract, or the utilization of vendor labor hours for specific tasks as outlined in a contract. This includes the process of receiving goods from a vendor, confirming that the goods correspond to a purchase order if appropriate, and that the goods are in new condition and as promised by the vendor. It also includes establishing the goods in the Census inventory, which may include creating a definition of the good and characteristics for reordering if the type of good is new to the Census. This also includes receiving goods distributed from inventory and confirming the type, quantity and condition, and selecting goods from inventory, identifying the proper recipient, and carrying out the distribution process.
Analyze Lessons Learned	Review and summarize critical findings of what worked and what did not work. This provides an opportunity for improvement based on assessments and formal and informal evaluation studies from previous decennial censuses.
Archive Data – WIP	This activity provides the source for official archival data, research center data, and age search data from the 2010 Census. Also included, are the complete set of census unedited and edited data records, as well as the final microdata information from which 2010 census data products and coverage estimates are produced. It is important to note that National Archives & Records Administration (NARA) will decide whether or not images are required for the official 2010 Census data archive, it is possible that by 2010 NARA may decide that ASCII data meets the archive requirement. In addition, NARA has responsibility for defining which media must be used to archive the images (microfilm was the required media for the 2000 Census). None of the other data, listed above, will include images.
Assemble and Deploy Census Materials	These are the activities for the assembly, staging, shipping, and replenishing of kits, both paper and electronic. For electronic kits, it includes the loading of software and assembling peripherals.

Activity	Description
Assemble and Disseminate Products	The process by which the Census Bureau makes data available. These are the methods and systems used to assemble and disseminate the data using various media. This includes technical documentation and metadata. Distribution can be via the Internet, CD-ROM/DVD, and/or paper. This includes data released to the public and data used internally.
Assist the Public	These are the activities that help the public respond to the census and that provide services to the public. This includes questionnaire assistance, questionnaire fulfillment, standard and special tabulation products (general questions and ordering), correspondence, workshops, record of complaint, and Census information. This does not include actual enumeration or data product dissemination. This activity involves providing answers to respondent's inquiries so they can complete their questionnaires and responding to other questions and requests from customers. This includes the provision of language guides and replacement of new questionnaire forms. Examples of this activity are Telephone Questionnaire Assistance, Internet Questionnaire Assistance, and Questionnaire Assistance Centers.
Build Out	This is the process of preparing a site for use by the 2010 Census. This includes: the determination of the type, number, size, and location of various facilities based on the functional and technical requirements and specifications necessary to support the census. This includes the activities to design, acquire, and build out those facilities. This includes physical security infrastructure such as metal detectors, cipher locks, IDs, cameras, and guards. Build out also includes implementing LAN and WAN, electrical, and telecommunications capabilities.
Census Planning - WIP	The process by which the Census Bureau studies needed improvements, completes iterative small- and large-scale testing to refine and integrate new methodologies, and determines the design for the decennial census.
Close Out Facility	This is the process of closing the facility once it is no longer in use by the Census. Activities include: ensuring proper disposal of all goods owned or leased by the Census, negotiating close-out dates with the provider of the space for the facility, and ensuring the space is returned to the owner in the agreed upon state and condition. After items are no longer usable or required by the Census Bureau, they are disposed of according to property management guidelines. Disposal includes purging data from work stations and HHCs, returning leased equipment, destroying paper products, releasing products to surplus, and other means of removing the product from the ownership of the Census.
Code Write-ins	This is the process that assigns classification codes to write-in responses. For example, Hispanic origin and/or race written responses. This includes all the automated and residual coding.

Activity	**Description**
Collect Address List Updates	This is collecting information to improve the address list. This includes collecting address information for living quarters not on the list; revising existing address information; and identifying and recording addresses that do not qualify as a living quarters, do not exist, or are duplicates. Also, this includes identifying the type of living quarters. This includes the initial contact, and dependent and independent quality control checks. This also includes recording the location of living quarters. Note: Capture of Time and Expense should be a new sibling of this activity.
Collect Coverage Measurement Evaluation Data	This activity is the various independent data collections, re-processing, and other processing conducted for the purposes of understanding, assessing, and validating the person and housing unit coverage measurement estimates. This activity includes the identification of evaluation sub-samples as needed. Note: These ICOMs are not an exhaustive list but they serve to illustrate how this activity fits into the census process.
Collect Coverage Measurement Person Information	This is the independent enumeration of persons in P-Sample HUs for subsequent comparison to the corresponding census enumerations in the coverage measurement areas. This includes identification of the E-Sample and the matching and reconciliation of the P and E person samples, and the determination of final interview status. Note: Nine Possible Children: 1. Conduct Person Interview -- Telephone -- Field 2. Prepare Data for Person Matching 3. Identify E Sample -- HUs and Persons 4. Automated Matching 5. Computer-Assisted Matching 6. Prepare for Person Follow-up 7. Conduct Person Follow-up 8. Conduct Final Person Matching 9. Perform interview outcome coding
Collect Geographic Updates	This is collecting information to improve the map. This includes identifying new roads and streets, and recording their location and names; recording the repositioning of existing roads and streets; and marking other map features for deletion. This includes the initial contact, and dependent and independent quality control checks. This may include updates to other types of features, such as boundaries and landmarks.

Activity	Description
	This can be an office or field activity. Notes: LQ Data - Address Updates and Status is a control because of adds encountered during the Collect Address List Updates activity. Capture of Time and Expense should be a new sibling of this activity.
Collect Respondent Information	This is the enumeration of persons and the characteristics of living quarters by either electronic self-response or interviewer-assisted means. This includes data collection for all evaluations, experiments, and coverage measurement operations.
Collection Framework	This is the spatial and LQ data as well as associated support data necessary to define the universes of the census, control of the operations required to complete the census, and source of interface and integration of the corporate LQ and spatial databases. This provides for updating and correcting the living quarters inventory and related spatial data needed to ensure a complete enumeration, taking that data to support census activities and the changes that result from them.
Compensate Temporary Staff	This is the process of submitting and approving payroll to effect the compensation of each member of the temporary workforce as promised. This includes reviewing and approving reported hours worked and expenses incurred, and ensuring the appropriate rate of compensation is applied based on the actual position held by the employee. This also includes handling any questions or challenges made by the individual temporary employee regarding compensation.
Complete HU Coverage Activities	This is the matching and reconciliation of the E-Sample and P-Sample HUs needed to produce information for final HU coverage estimates. Note: Four possible children: 1. Match E-Sample HU to P-Sample HUs 2. Final HU Follow-up (includes TES 2) 3. Final HU Match 4. Send to Estimate
Conduct Electronic Self-Response Enumeration for HUs	This is the process by which the Census Bureau makes it possible for the population in housing units to self-respond by Internet. This mode will only accept responses with valid electronic access credentials. This will include the online interactive resolution by the respondent of certain edit and person coverage inconsistencies (audit resolution conditions).

Activity	Description
Conduct Interviewer Assisted Enumeration of LQs	The process by which the Census Bureau interviewers assist respondents to provide data for all types of living quarters and the persons living in them. This includes adding living quarters, adding coordinates, and collecting updates for maps. This includes the following examples: Nonresponse Follow-up, Coverage Edit Follow-up, evaluations, Coverage Improvement Follow-up, Group Quarters Enumeration, unduplication follow-up (could include group quarters), coverage measurement, special enumeration (Alaska, colonias), Urban Update Enumerate, and Update Enumerate. This also includes referrals from Telephone Questionnaire Assistance that result in an operator-assisted interview. Quality checks are included in this activity. This will include the interactive resolution, with the respondent, of certain edit and person coverage inconsistencies (audit resolution conditions).
Configure Space	This is the process that installs equipment and installs and configures software for the facility. For example, setting up the telecommunications.
Consult Stakeholders	This is the process that identifies the parties with significant interest in the 2010 Census. We communicate tentative census plans, consult with, and solicit advice from stakeholders.
Convert and Preprocess Response Data	The process by which the Census Bureau converts paper-based responses to electronic format. For all modes, this includes the processes that receive and validate response data, perform follow-up edits, and assign classification codes to write-in responses. This process also standardizes the responses by transforming them into a single data format for subsequent processing.
Convert Paper to Electronic	This process receives census records, records the receipt of paper address listings and/or questionnaires, and transforms the entries/responses contained on them via a blend of image, automated recognition, and KFI processing to a pre-specified electronic format. This includes assignment of interim processing identification to questionnaires received without or with an unreadable census identification in order to accomplish checkin, normal data conversion, and special processing related to non-ID'd forms. This process also receives and records the receipt of USPS undeliverable questionnaires. Achievable response data is created during these conversion processes. Completed, machine-readable data from paper conversion is provided to and for the validation process. For GQ units and forms, this includes checking the receipt of units and forms compared to shipping information. Cases are created at various stages of the process. This is a touch point with the American Community Survey. Note: Four possible children: 1) Mail Receipt, Check-In, Reverse Check-In, Doc Prep 2) Scanning, Automated Response

Activity	Description
	3) Key from Image, Audit Resolution 4) Creation of Image, Destruction Prep, Data Transfer and Acknowledgement Receipt, Check-Out
Correct for Missing and Inconsistent Data	This is the process by which the Census Bureau identifies and corrects for data inconsistencies, fills in missing characteristics, and substitutes neighboring entire person/unit characteristics. This is an American Community Survey (ACS) consistency touch point. This was formerly known as Hundred Percent Edited File (HCEF) formation. Also, this includes summarized and individual review products.
Create and Deploy Non-Kit Census Materials	This is the process that disseminates (1) materials to the general public and (2) materials to Census data collection and data preparation and processing facilities, and staff located therein. These materials include questionnaires, language guides, brochures, memoranda, spreadsheets, correction pages to manuals and reference material, software release notes, etc. These materials may be disseminated electronically or in hardcopy, oftentimes first from headquarters to the facilities and then within the field facilities that may make their own reproductions.
Create and Deploy Non-Trackable Kits	This is the process where the collection of generic, non-trackable tools, and materials are packaged and distributed to decentralized facilities. These tools are not in electronic form and include such items as enumerator guides, flash cards, pencils, pens, tablets, staplers, clipboards, and Title 13 security description.
Create and Deploy Trackable Kits	This is the process where equipment is configured and software is loaded to produce trackable kits for distribution to decentralized facilities. This also includes assembling peripherals and associated equipment. For example, loading software onto the Hand Held Computers (HHCs); and configuring IT systems to be used in decentralized facilities. The kits are created, uniquely identified, and distributed. This process may be repeated as needed.
Create and Provide Assignments to Temporary Staff	This is the process that creates and assembles all relevant information for a case and assigns specific cases and/or tasks to individual staff working in decentralized facilities. It includes designating the task and expected task start and end dates; ensuring the individual possesses all necessary tools and case information and has successfully completed all necessary training; and tracking the completion of assignments, making assignment adjustments as needed to keep the work on schedule. For example, assignment adjustments include subtracting late mail returns or reassigning work from one staff member to another.
Create Assignment Set	This is the process that takes the universe of eligible cases by task and forms individual work sets. All relevant information for a work set is gathered and assembled for each individual assignment. Also, this process makes necessary adjustments following initial assignment (for example, assignment adjustments include universe changes such as subtracting late mail returns, or reassessing cases to determine whether further work is required).

Activity	Description
Create Demographic Products	This is the process by which the Census Bureau tabulates and/or cross-tabulates data and summarizes the results, or produces products containing individual records of characteristics of population and/or housing units. This includes the following demographic products: population counts for apportionment including overseas counts in the calculation, redistricting data, summary files, printed reports, Public Use Microdata Sample (PUMS), interactive cross-tabulation systems, and residual special tabulations. This also includes summaries of operational information (e.g. response rates by mode and geography). This is an American Community Survey (ACS) touchpoint and control. Note: Potential children are: apportionment counts, redistricting data, summary files, automated matches, printed reports, operational data (e.g. response rates), interactive cross-tabulation systems (Advanced Query), web services, PUMS, special tabulations
Data Collection and Capture	The process consisting of: 1) Collecting information for updating and correcting the living quarters inventory and related spatial data needed to ensure a complete enumeration. 2) Conducting the enumeration by various means of persons residing in these living quarters. 3) Collecting information about the characteristics of these living quarters. 4) Capturing and cleaning-up the respondent and living quarters data for tabulation.
Data Products	This is the process by which the Census Bureau prepares, tabulates and/or summarizes, reviews and clears, and disseminates the data from the Census.
Determine Baseline Design	The process that establishes major components and parameters for the 2010 Census. This is an iterative process, beginning with an initial baseline design and concluding with a final design.
Determine Detailed Plan	The process that develops the detailed "road map" for accomplishing the functionality for each of the necessary operations, systems, and infrastructure components necessary to conduct the census. This plan will address detailed requirements, schedule, and budget.

Activity	Description
Develop and Integrate IT Systems - P	Design (physical), build, integrate, test, deploy, and retire the systems necessary to manage and support all phases of the Census. This includes both internal and contracted systems. Systems will be developed following bureau standards for applying CMM processes to the development and management of all phases of the life-cycle. This is the process that develops the software for all electronic modes of collection. This does not include support or running production processes. This includes all evaluations, experiments, coverage measurement collections; all field collection instruments for Pre-Census, Census Collection Functions and Post-Collection Functions; address updates and validation, map updates, group quarters activities, independent listing, respondent assistance, and overseas. This is a touchpoint with the American Community Survey (ACS). May include the following children: --Deploy Systems - The process by which the Census Bureau installs hardware and releases production-ready software to the users and facilities. --Design System Interfaces - The process by which the Census Bureau details and then programs the interactions between computer systems, and the data exchanges between them. --Design Systems - The process by which the Census Bureau details the requirements and specifications for the software needed to carry out the Census operations. This includes the requirements and specifications to secure the data throughout the entire life cycle. --Develop and Acquire Systems - The process by which the Census Bureau purchases or leases equipment and programs the software to run on those systems, according to specifications. --Retire Systems - The process by which the Census Bureau archives software and hardware systems used for Census operations but are no longer needed to process data. This includes

Activity	Description
	cleaning systems of Title 13 data at the completion of all census activities. --Test Systems - The process by which the Census Bureau runs through each step of a software program and the associated interfaces to ensure the detailed requirements are met. This includes developing test data. This includes Beta testing.
Develop and Update Baseline Logical Architecture	The process that defines a logical structure for classifying and organizing Census processes. The Logical Architecture is independent of technologies and implementations. This architecture reflects the initial baseline and revised assumptions and parameters. This is an iterative process. This is a touchpoint with the American Community Survey (ACS) and MAF/TIGER.
Develop Baseline Full Cycle Budget	Consistent with the baseline design, this process identifies the major operational components, assumptions, parameters, and their associated costs that contribute to the ten-year costs for the 2010 Census. This is a touchpoint with the American Community Survey (ACS) and MAF/TIGER.
Develop Detailed Operational, Administrative, and Infrastructure Requirements	The process that develops and gathers the comprehensive documentation detailing what the user requires to implement all of the operations, systems, and infrastructure functions for the 2010 Census. These govern the development of the specifications for each activity and function. This process follows industry best practices and CMM guidelines. Note: Six Possible Children: Develop Detailed Content Requirements Definition: Includes the Office of Management and Budget and Congressional approval, and includes development content. This is a touchpoint to ACS. Develop Detailed Evaluations and Experiments Develop Detailed Data Products Requirements Definition: The process of determining the various standard data products that will be produced and systems that will be used for the 2010 Census (e.g., summary files, printed reports, cross-tabulation systems, etc.). This includes determining the detailed subject-matter and geographic content and requirements, as well as the type of media and dissemination (e.g., internet, CD-ROM/DVD, FTP). This also includes gathering input from stakeholders. Develop Detailed Operational Requirements Develop Administrative Requirements Develop Infrastructure Requirements
Develop Detailed Schedule	The process that develops the comprehensive documentation of the sequence, relationships, durations, and timing of all activities necessary to conduct the

Activity	Description
	2010 Census.
Develop Final Census Design	Based on results of the census test program and other research, the process that determines the final census design components and parameters to meet the objectives and goals for the 2010 Census.
Develop Full Cycle Milestones	The process that identifies key events and associated time necessary to accomplish planning and conduct of the 2010 Census. This is a touchpoint with the American Community Survey (ACS) and MAF/TIGER.
Develop Materials	This is the design and development of public use forms, operational forms (such as reference materials, procedures, training guides), metadata, outreach and promotional materials and initial coding dictionaries. This process will include design and formatting of templates that we would use to reproduce materials. This does not include purely electronic materials that require development of applications. It is included in the activity Develop and Integrate IT Systems.
Develop Physical Architecture	This is the process of classifying and organizing the actual network of software and hardware systems assembled to carry out the work of the 2010 Census.
Develop Specifications - P	This is the process by which the Census Bureau translates detailed requirements and schedules into instructions for the design and development of tools, materials, products, systems, processes, and interfaces.
Document 2010 Census Baseline	This is the process of preparing documentation describing the key parameters, assumptions, and design features of the 2010 Census. This is an iterative process.
Document Final Census Design	This is the process of preparing final documentation describing the key parameters, assumptions, and design features of the 2010 Census. This includes final consultation with stakeholders.
Edit for Follow-Ups - Form Based	This is the process that identifies follow-up cases based on specific respondent information. An example includes inconsistent or missing information requiring follow-up. This includes the status and information of all forms whose data are being reviewed. In addition to identifying cases for follow-up, this activity also identifies the respondent information needed to conduct follow-up. This includes large household follow-up determination and person coverage follow up. For Census 2000, only self-responses were eligible for inclusion in the follow-up. This also includes identifying potential external non-ID adds which may be fabricated responses for field follow-up. This activity, in combination with Prepare Follow-Up Universes, comprises the complete work load of follow-up activities. Note: The activity Prepare Follow-Up Universes identifies whole household

Activity	Description
	interviews (including NRFU, Vacant/delete Follow-up, New Construction interviews) and Field Verification of housing unit existence.
Establish Coverage Measurement Independent HU Sample	This is the independent collection and identification of housing units for subsequent independent person enumeration. This includes the matching and reconciliation of the independent HUs list to the pre-census LQs in the corresponding areas. Initial Universe Selection is for housing unit counts for independent listing QC. Note: Nine Possible children : 1. Independent Listing of Sample Areas 2. Subsample Areas 3. Match LQs to Census 4. Relist Suspicious CM Areas 5. LQ Follow-Up 6. LQ Follow-Up Matching 7. Identify P Sample (Subsample) 8. Identify TES Areas 9. Conduct TES (Census LQ)
Establish Enumeration Operation Universes	These are activities associated with defining and determining universes that are used as controls for later census enumeration and processing operations. The Census identification number within and among operations stores all these transactions. Note: This includes the following: define universe (action) list universe (output) universes for the print files (output) check-in status (control) universe for check-in (output) acknowledged check-ins (control) acknowledgement of questionnaire check-in (control) type of enumeration and distribution method (output) follow-up universes (includes the field control systems) (output) evaluation universes (output) surname needed/exists, subsurname (output) experiments universes (output) data format (form type) (control) status information from each operation cummulatively (control) reinterview information and replacements (control) source (for psa purposes) (control)
Finalize High Level Requirements	Based on the final 2010 census design, this activity determines the functionality of the necessary operations, systems, and infrastructure to conduct the census.

Activity	Description
Finalize Logical Architecture	This activity finalizes the logical structure for classifying and organizing Census processes. The Logical Architecture is independent of technologies and implementations. This architecture builds on the intermediate architecture and reflects assumptions and parameters from the final census design. This is a touchpoint with the American Community Survey (ACS) and MAF/TIGER.
Identify Legal Requirements, Regulations and Policies	This is the process of reviewing and documenting legislation, administrative policies, and regulations affecting the design, planning, and conduct of the 2010 Census. As necessary, the Census Bureau requests changes to or waivers from laws, policies, or administrative regulations.
Identify Potential Duplicates Across LQs	This is the process by which the Census Bureau identifies persons potentially enumerated more than once in the Census, but in a different Census LQ. Although LQ attributes are used as match keys and multiple or all persons within an individual LQ may be identified as potentially enumerated again in another LQ, this activity does not identify either duplicated LQs or within LQ person duplication. Thus, this activity identifies two or more persons in different LQs who are assumed in all likelihood to be the same person.
Implement LQ and Geographic Partnerships	This is the activity of working and communicating with external partners to acquire LQ and geographic updates. This includes activities such as inviting governments to participate in the Local Update of Census Addresses (LUCA), redistricting data program, Boundary and Annexation Survey, and statistical area programs, and working with other Federal agencies such as the USPS and the Bureau of Indian Affairs. This also includes the tracking and managing the receipt of the updated materials (electronic or paper) from participants. This process also includes recording data about participants and participation as well as getting summary information and counts of HUs at the block level. This is the process of working with participants to validate the correctness of insertion of the source information into the Census Bureaus repository. This resolves any discrepancies. This includes contacting local governments to resolve discrepancies between the government and its neighbor when there is a disputed or inconsistent boundary change. The process by which the Census Bureau gathers legal, statistical and administrative boundaries from external entities and stakeholders.
Interview Respondent	This is collecting person, living quarters, and case characteristics by interviewer-assisted means. Also, this includes drop off and retrieval of questionnaires. This includes the initial contact, and dependent and independent quality control checks. Note: This includes characteristics such as occupied, vacant, non-existent, or non-residential.

Activity	Description
	LQ Data - Address Updates and Status is a control because of adds encountered during the Collect Address List Updates activity. Capture of Time and Expense should be a new sibling of this activity.
Link Assignment Sets to Individuals	This reviews characteristics of the assignment set, looks at attributes of available staff, and makes appropriate assignments of work to individual staff working in decentralized facilities. It includes designating the expected task start and end dates. It also ensures the individual possesses all necessary tools and case information and has successfully completed all necessary training.
Manage Facilities	This is the determination of the type, number, size, and location of various facilities based on the functional and technical requirements and specifications necessary to support the census. This includes the activities to design, acquire, build out, manage, and close those facilities. This includes physical security infrastructure such as metal detectors, cipher locks, IDs, cameras, and guards. Build out includes LAN and WAN, electrical, and telecommunications.
Manage Programs - WIP	This is the process by which progress, cost, and performance are measured using various tools such as earned value analysis and performance measures. This includes maintaining and managing the work breakdown structure, budget, requirements and master activity schedule; Determining and evaluating any variances against the plan and budget; developing corrective plans; maintaining and managing risk, including developing contingency and mitigation plans; and maintaining and managing changes against the baseline architecture (includes updating to reflect changes) and requirements.
Manage Public Communication Program - WIP	This is the collection of programs and processes that foster and promote knowledge, acceptance, participation, and response to the census by the public and various organizations and institutions that represent segments of the public. The program has several major elements: 1) an assistance program that helps the public respond to the census and that provides services to the public such as questionnaire assistance, product and questionnaire fulfillment, recording complaints, and providing general Census information; 2) a contact strategy intended to maximize self-response to the census through an effective combination of response options, messages, and mailings; 3) a partnership/outreach program that works through a variety of national and local partners, including individuals, organizations, institutions, and governments, to promote awareness and participation among the constituencies of these partners; 4) a media and advertising program that works through print and electronic news media to publicize, support, and promote the census and its processes and products, through the use of paid and unpaid advertising, news releases, media events, and direct contacts. Possible decomposition of this activity would include:

Activity	Description
	1) Develop Partnership Outreach Program 2) Develop Paid Advertising Program 3) Develop Media Relations 4) Develop Contact Strategy
Manage Work and Temporary Staff	This is the activity that identifies, acquires, pays, and manages the temporary work force required to support the unique requirements for the Census. This excludes all permanent census staff. This includes the management of recruiting, hiring, payroll, EEO, pay rates, and other administrative exceptions such as waivers.
Obtain Facility Space	The acquisition and modification of space for Census facilities. This includes arranging for the use of the space, whether by lease, purchase, or loan. It also includes readying the space for use by developing the space according to the floor plan.
Operate Facility	This is the process of operating the facility for the use of the 2010 Census. This includes identifying the need for changes in the facility ranging from additional furniture to additional forms or equipment. It also includes maintaining an inventory of all items tracked by the Census that are located at the facility including equipment provided to enumerators, equipment such as printers and copiers, local stocks of forms and supplies, etc. This process includes maintaining goods in proper operational condition, conducting periodic performance testing on key items of equipment, identifying the need for repair and sending repairable items to the vendor as indicated in the contract and warranty, certifying that repair has been accomplished and maintaining a performance history as appropriate. This also includes transfer of goods from one location to another.
Operations Management	These are the functions by which the Census manages people, facilities, activities, public communication and other resources.
Perform Coverage Measurement Operations	This is the process by which the Census Bureau independently collects and processes the relevant information to produce the measure of the net coverage of persons and housing units in the Census. This includes various quality checks needed to understand and validate coverage measurement estimates.
Perform Evaluations - WIP	This is the review and analysis of the results from data collection, processing, and other operations to produce the quality and the cost-effectiveness measures of the 2010 Census and for future census planning. This includes any additional sampling needed in addition to universe selection samples. Examples of activities include content re-interview, trace sample, demographic analysis, operational performance and cost analysis, and independent evaluation data collection. Note: These ICOMs are not an exhaustive list but they serve to illustrate how this activity fits into the census process. The activity includes analysis of

Activity	Description
	data that may be collected from independent field work, staff debriefings, focus groups, lessons learned and so forth.
Prepare Data for Tabulations	The process by which the Census Bureau prepares unedited responses for data products.
Prepare Final Person and LQ Data	This is the process by which the Census Bureau organizes individual, processed records for further review and product processing. This includes disclosure avoidance and preparation of tabulation recodes. This was formerly known as Hundred Percent Detail File (HDF) formation.
Prepare Follow-Up Universes	This activity identifies cases for inclusion in the follow-up universes based on requirements and schedules acting upon the initiation of the initial data collection effort and processing of its results (mail, electronic, personal visit) for all Census Initial and Updated living quarters (LQs). Field/Telephone follow-up activities, and thus the cases included therein, are eclectic and time/event sequenced, ranging from collection of data from nonrespondents and near nonresponders, follow-up of potential external non-ID adds which may be fabricated responses, status confirmation for vacant and deleted units, reverse interviewing to rectify coverage discrepancies and/or initial reporting constraints, verification of LQs added/changed during collection, and so forth. The status and results of all mandated follow-up attempts and results will be maintained, along with pre-census operational status, in order for post capture processing to occur. This activity is dynamic and iterative, both methodologically and geographically, in its implementation. All LQs needing resolution during and as the result of the data collection effort are incorporated into this activity, including unduplication activities. This includes updates to evaluation/experimental samples as appropriate. This activity also includes provision of counts for both management information and operational planning purposes.
Prepare for Estimation	This is the process that gets the evaluations and experiments sample response data ready to produce estimates. This activity includes assigning data to estimation domains (post-strata), applying sampling weights, conducting weight trimming, adjusting for unit non-response, item and status imputation, and doing any data recoding and data preparation necessary to form estimates. For evaluation data, this includes using alternative methods such as alternative missing data models. The Geographic Framework is used to post-stratify samples for tabulation.
Prepare Initial Universe	This activity defines and preserves the initial census collection entities and universe throughout all census operational processes. This is the base universe from which living quarter cases are identified for inclusion in or exclusion from census operations/activities [pre, post, and during the census]. Changes to this initial universe will be made only through later and specific census operations/ activities. Those living quarters (LQs) in this initial universe identified as 'Other Living

Activity	Description
	Quarters' are made available for Group Quarters Validation. Processing of this Census LQ universe includes the formation of census identification numbers, which may include references to collection geography and unit attributes [e.g., method of enumeration/collection distribution, special enumeration, evaluation/experimental samples, return processing necessities, priorities, site, and so forth]. Such information is made part of the census 'label file' and is retained and appended to during the census. This activity cannot begin until the Address Canvassing is complete and incorporated into the LQ framework. This activity also includes provision of counts for both management information and operational planning purposes. This reflects the identification of address canvassing LQs that have been confirmed as deleted and will not be included in this extract (or future extracts) for the census.
Prepare Updated Universes	This activity includes updates to the initial Census LQ Universe based on activities such as Group Quarters Validation, Delivery Sequence File (DSF) Refresh(es), New Construction, Local Update of Census Addresses (LUCA) Appeals, and so forth. Commensurate changes are reflected in the collection and processing universe(s) as a means to control the results of the initial census collection effort consistent with the Census living quarters attributes. A subset of these Census living quarters is identified as cases for Group Quarters Advance Visitation and Enumeration. The number and timing of updates will be determined by the appropriate operational requirements and schedules. Mailing of replacement questionnaires for select nonrespondents are defined from among this universe and identified as relevant cases. This activity includes updates to evaluation/experimental samples as appropriate. This is an iterative process. This is accumulated status and related information from all previous pre-census operations and activities that affect LQ universe status, including unit identifier corrections and/or deletes. This activity also includes provision of counts for both management information and operational planning purposes. Note: Potential children are: 1. define group quarters (gq) enumeration 2. GQ advanced visit 3. evaluations
Prepare/Produce Unedited Records	This is the process by which the Census Bureau determines the appropriate unit and person records within geographic levels to include in the census universe. This includes processing that applies rules for kills, keeps, and unclassifieds (i.e. count imputations). Also, this includes summarized and individual review products. This activity organizes retained persons into the census LQs.

Activity	Description
	This was formerly known as Hundred Percent-Unedited File (HCUF) formation.
Print Materials and Forms	As appropriate, this is the process by which public use forms and other materials are printed, labeled and packaged. This includes the first mailout/mailback operation as well as subsequent printing and mailout operations. Some of these activities may be performed in-house and/or outsourced. Note: We are assuming that further decomposition would break out bulk forms.
Produce Census Geographic Products	This process produces internal and external geographic products to support all census activities, including data collection, capture, tabulation, evaluations, and address update activities. Examples are internal and publication maps, geographic reference files and sample areas. This includes the creation of geographic products (paper and electronic maps, comparability files, and spatial data). The process includes the quality review of the product before it is released. A data collection case is produced by defining collection blocks and the collection areas to which they belong.
Produce Data Products	This is the process by which data are tabulated, reviewed/cleared, and distributed to the public. This also includes relevant metadata.
Produce Estimates	This is the application of the estimation models. This includes applying estimation methods (e.g., dual system, synthetic, ratio estimation methods) and producing estimates of sampling variance. For evaluation data, this includes using alternative estimation models and assumptions.
Produce Estimates and Reports	This process produces reports and other data products for the coverage measurement, evaluation of coverage measurement, census evaluations, and census experiments emanating from the 2010 Census. This includes production of the statistical estimates, analysis of data, preparation of the report, and approval of the report. Producing the statistical estimates requires the following types of activities: application of sampling weights, imputation, non-interview adjustment, forming estimation domains, and estimating variances.
Produce Evaluation Reports and Other Products	This is the process of analyzing the results of the census evaluations, census experiments, coverage measurement, and coverage measurement evaluations. This culminates in products such as written reports, presentations, and other data products used for research and future planning. This includes the possibility of graphic products.

Activity	Description
Provide Operational Assistance	This is the process of conducting formal and informal "help desks" to assist staff with their work. It includes recording and resolving requests for assistance ranging from problems with equipment or application systems, to interpretation of procedures.
Recruit and Clear Applicants	This is the process of identifying and publicizing work opportunities, interviewing and clearing applicants, scheduling test sessions, selecting and making offers to qualified applicants, and providing employment information to applicants including assigned position, training requirements, benefits, terms of employment, etc.
Resolve Count Questions - WIP	This is the administrative review process that handles external challenges to particular official census counts of housing units and the population living in them, and group quarters population received from state, local, and tribal officials of governmental entities. This also handles internal count resolution issues. This activity corrects boundary errors in the geographic framework, geocoding errors in the living quarters list, and LQ coverage errors. For example if a living quarters was on an address list and then deleted somewhere in the process by mistake, counts would get corrected. But if we totally missed the living quarters and it never existed on any address list, it would not get added/corrected. This includes producing revised housing unit and/or population counts at the block level. Note: The documentation necessary to initiate and support the Census 2000 CQR process is listed in "Census 2000 Information Memorandum No. 100," from Carol M. Van Horn, dated April 26, 2001.
Resolve Person to LQ Linkage	This is the automated process by which the Census Bureau analyzes and assigns final person status for multiple responses both within and across living quarters to determine the correct composition of that LQ. This is the process of determining which persons belong to which LQ. This activity also includes the process known as PSA (Primary Selection Algorithm) which includes both identification and unduplication of persons, as well as the resolution of the external non-ID adds which were found to be fabricated responses.
Review and Clear Data	The process by which data are examined, including independent validation and verification and possibly replication of numbers. Errors are noted for correction, and data are cleared for subsequent processing. Data are reviewed for reasonableness and confidentiality protection, as well as for consistency with historical and demographic data, and other data products. This includes the Full Count Review operation.

Activity	Description
Review and Clear Estimation Data, Results, and Reports	The process by which the coverage measurement, evaluation, and experimental data; estimation results; analysis reports; and other products are reviewed and cleared for subsequent processing or release. This includes reviewing the data for correctness and reasonableness, as well as for consistency with historical and demographic data, and other data products; assessing the appropriateness of the estimation methodologies; ensuring the appropriateness of analysis and conclusions; and noting errors to be corrected and modifications to methodologies. This also includes review of the data presentation on the Internet, CD-ROM/DVD, or other media.
Review and Clear Products	The process by which data files and geographic products are examined, errors are noted for correction, and cleared for public release. Data are reviewed for reasonableness, as well as for consistency with historical and demographic data, and other data products. This also includes review of the data presentation on the Internet, CD-ROM/DVD, or other media.
Revise Budget	This is the process for revising costs based on current high-level requirements, assumptions, and parameters. These costs initially are used for the budget submission and later are revised in greater detail based on feedback from the department, the Office of Management and Budget (OMB), and Congress, and the results of further planning and testing. This is a touchpoint with the American Community Survey (ACS) and MAF/TIGER.
Revise Detailed Budget	The process for identifying and revising costs associated with every explicit operational component, assumption, parameter that contributes to the ten-year cost of the 2010 Census.
Standardize and Organize Response Data	This transforms responses from all modes, on a form basis, into a single, consistent data format, as well as language translation, organization of the response data by census identification, date, and source of response, etc, in preparation for resolving multiple enumerations. This process includes merging of write-in codes with the appropriate form and person response data.
System and Material Development	This is the process by which the Census Bureau develops and deploys the foundation tools, materials, and systems to support the 2010 Census. The infrastructure supports many functions throughout the Census.
Take Administrative Actions	This is the process of ensuring that each temporary employee is hired and maintained as an employee of the Census and leaves at the appropriate time. Termination actions include involuntary termination due to poor performance, and the orderly release of employees when the term of employment has expired. It also includes ensuring that any non-consumable items provided to the employee for the conduct of the work are returned as required. Hiring actions include selection, making initial assignments to work areas, re-assignment, and promotion of the employee. Other examples of administrative actions are taking action for cause, documenting counseling when terminating, and other EEO procedures that apply.

Activity	Description
Test New Methods	This is the process of evaluating and testing processes, procedures, and technologies for meeting the goals and objectives of the 2010 Census.
Track Data Collection Performance and Work	This is the process of tracking cases and tracking the performance of individuals as they complete their assigned tasks. It includes reviewing the quality of individual cases, timeliness, and cost of the work; identifying when an individual is having difficulty in completing the assignments; working with the individual through coaching to resolve difficulties; identifying when a member of the staff does not meet performance requirements successfully; and identifying individual cases for additional enumeration (e.g. rework, reinterview, or reassignment) and transmission to processing. The QC process may include comparing the results of the original contact with a subsequent (reinterview) one. This includes aggregating individual case, cost, outcome and performance data, and applying outlier criteria.
Train Temporary Staff	This activity includes scheduling of training sessions and assignment of staff members to a specific session. This is the skill-building activity that provides decentralized temporary employees with the information and materials they need to perform their jobs. Training includes formal and informal training, the provision of work stations, lap tops or other mobile devices, kits, user guides, check lists, and other instructional or reference materials. This activity includes conducting tests and certifying test results, retraining and counseling, and a formal observation program.
Update Census Address Frame	These are the 2010 Census activities (including preprocessing) designed specifically to update the living quarters address information. These include geographic attributes such as geocodes and coordinate locations of the living quarters. This also includes an activity to geocode all addresses involved in the census process. This activity attempts to match an incoming response for units without a Census ID to an existing LQ Unit. This activity includes those units with (field generated) and without (external) a spatial reference. This activity also determines spatial reference and address information for external responses from living quarters possibly not identified in the Census LQ Universe. This also includes spatially referenced Non-IDs from field operations. For those without a spatial reference that did not match to an existing LQ unit, this activity attempts to locate the unit in sufficient detail for a field worker to verify its existence (this is accomplished through preparation for follow-up.). This includes all post-census activities such as Be Counted (all modes), Urban Update/Enumerate, converting paper to electronic, and activities from field operations. This may include the geocoding of applicants against the geography framework. This includes the unduplication of LQs. A data collection case is created by applying business rules to identify addresses that require more information.

Activity	Description
Update Census Geography Framework	This process updates the geographic framework and defines geographic collection and tabulation areas. This includes Type of Enumeration Area (TEA) definition. This process identifies and delineates the geographic areas needed to support a specific collection activity, such as collection blocks, pseudo tracts, Local Census Offices (LCOs), administrative areas, etc. It also defines specific tabulation areas such as tabulation blocks, census tracts, places, and urbanized areas and clusters. This activity includes the formation of sample areas using LQ data counts, groups of contiguous census collection blocks, and the stratification and selection of the sample areas. This activity includes the identification of the ring of blocks surrounding the selected sample areas.
Validate and Acknowledge All Response Data	This is a process to verify the data integrity of all potential responses. This includes validation of the data associated with each census identification number by source and universe. This also includes the process of informing the source that valid data were, or were not, received. This process also updates the status to report the receipt, acceptance, and storage location of validated data.

List of ICOMs and their Definitions

ICOM	Description
2000 Master Activity Schedule	The final, detailed time frame to allow conducting of the 2000 Census activities and operations. This includes relationships and dependencies between activities.
2010 Census Baseline	Benchmark of the 2010 baseline design for the major components and parameters for the 2010 Census, including specific operational assumptions. This is a touch point with the American Community Survey (ACS) and the MAF/TIGER.
2010 Census Design	This is the final 2010 Census design for the major components and parameters for the 2010 Census, including specific operational assumptions. This is a touch point with ACS and MAF/TIGER.
Acknowledgement	This is the response to the data source that the data were either valid or invalid.
Acknowledgement - Paper Forms	This is the confirmation of receipt of paper forms, on a form basis, from field offices to data center locations. In the case of GQs, this acknowledgement should include which GQ the form originated from.
ACS Commuter Flows	Commuter data provided by the American Community Survey (ACS) indicating workers that live in one county and commute to another for work.
Administrative Action Taken	This is the description of the administrative action taken such as a selection request for new hires, hire decision, promotion decision, termination decision, counseling provided, terms of employment, etc.
Administrative and Utility Applications	This is the software that provides for the payroll and personnel, reports, and utility, security, assignment management. This includes transmission utilities. For the HHC, this includes Global Positioning System (GPS) software.
Administrative Records	These are various sets of data acquired from federal, state, and local governments, and nongovernmental institutions and organizations. These data are used to implement various census and intercensal programs, operations, and activities. They are used to support demographic analysis estimates, coverage and content evaluations, and to augment the living quarters framework. These data also may be used for coverage improvement. Federal sources include the National Center Health Statistics (NCHS), the Internal Revenue Service (IRS), the Social Security Administration (SSA), and the Center for Medicare and Medicare Services (CMS). Other sources include advocacy and/or interest groups, National Associations, and local partnerships.
Advisory Committees Recommendations and Advise	These are the advisory committees that provide recommendations affecting the design, conduct, and products of the Census.

ICOM	Description
Applicant Information	This is the information provided to the Census Bureau and / or contractor by applicants for temporary positions. This may include resumes, references, or other personal data.
Applicant Information Refreshed	This is the information provided to the Census Bureau and/or contractor by applicants for temporary positions, refreshed with the results of testing and clearance and other hiring activities to include the disposition of the applicant such as qualified, under review, ineligible, offer refused, selected, experienced, etc. This includes all necessary geographic identifiers related to the specific applicant.
Architecture - Baseline Logical Model	The baseline 2010 Census Logical Architecture. This is an iterative process. This is a touch point with ACS and MAF/TIGER.
Architecture - Final Logical Model	The final 2010 Census Logical Architecture. This is a touch point with ACS and MAF/TIGER.
Architecture - Framework	This is the logical structure for classifying and organizing the complex information and processes of the 2010 Census.
Architecture - Physical Model	A representation of objects currently deployed, or contained in design specifications for future deployment, in the domain using a specific technology. The modeling at this level is dependent on the operational technology acquired and implemented. For example, if relational database technology were chosen, this would be a model of the table structure required to support the logical data model in a relational-style model. In an object oriented notation, this would be a class-hierarchy /association style model. This is an iterative process.
Architecture - Roadmap	The Architecture Roadmap serves as a guiding framework in the development and evolution of the Architecture at the Bureau of the Census. Like the interstate maps used for travel, the Roadmap draws the major routes between origins and destinations, marking major landmarks along the way. As with the interstate map, the Roadmap contains a legend, identifying the key features and scale. As the interstate map is used as a tool to plan a journey, the Roadmap focuses on establishing a starting point, laying out the course of travel, and defining the destinations. The Roadmap is not a project plan, but rather a long-term planning tool. It identifies the long-range destinations while establishing checkpoints along the way. Using this structure allows the Census to concentrate on the near-term successes, without losing sight of the long-term goals. To facilitate the iterative development of the Architecture, the Roadmap: --Outlines the strategy, intended use, and scope of the Architecture

ICOM	Description
	--Identifies the key products used in the Architecture --Defines mechanisms for establishing and maintaining the Architecture --Lays out the high-level schedule and milestones to achieving success with the Architecture
Architecture Tool	This is the mechanism(s) used to produce an Architecture work product. A tool could be as generic as a word processing application or as specific as an Architecture modeling and repository package.
Assessments	This is documentation that analyzes previous Census operations with judgments about their effectiveness and recommendations for improvements in the next Census.
Assigned Work	This is the collection of all information, materials, and tools needed to perform the assigned case. This is also an association of the case to a specific temporary staff member.
Assistance Request	This is the description of the specific request for assistance made by a staff member. Assistance may range from aid in the interpretation of user guide, aid in the use of specific instruments to repair of software or equipment needed to perform an assignment. It includes the time, date and category of the assistance requested.
Assistance Request Refreshed with Resolution	This is the description of the specific request for assistance made by a staff member. Assistance may range from aid in the interpretation of user guide, aid in the use of specific instruments to repair of software or equipment needed to perform an assignment. It is refreshed by a description of the resolution to the request.
Assistance System	This is an Internet and telephone services system that supports answering respondent inquiries and fulfilling requests.
Auxiliary Stratification Information	This information is used to form sampling strata from which a sample is drawn such as a sample of block clusters for the coverage measurement survey. Examples of auxiliary data include Census 2000 demographic counts by block, Census 2000 tract level mail return rates or ACS county estimates of poverty.
Background Check Result	These are the results of background checks conducted by the FBI.
Budget - Refreshed	This is the revised detailed budget that reflects current information and changes against the baseline.
Budget - Revised	This is the revised cost based on current requirements, assumptions, and parameters. These costs initially are used for the budget submission and later are revised based on feedback from the department, OMB, and Congress. This is a touch point with ACS and MAF/TIGER.
Budget - Revised Detailed	These are the costs that are updated periodically based on new and improved information. They are associated with every explicit operational component, assumption, and parameter that contributes to the ten-year cost of the 2010 Census.
Budget Process	The process of creating, monitoring, and updating the budget for the 2010 Census.

ICOM	Description
Bulk Forms and other PUFs	These are primarily non-labeled forms that are not delivered by the United States Postal Service. All these forms are received by the NPC for further packaging and distribution. This includes military and shipboard forms, Be Counted forms, and GQs. It also includes all forms sent to QAC and fulfillment centers.
CAMS	The Commerce Administrative Management System is used to submit and manage the budget.
Census Administrative Systems	The temporary automated systems to provide various kinds of logistical and administrative support. This includes payroll, personnel, logistics, recruiting, applicant name check, selection, and testing. This provides for a bi-directional transfer of data between various locations. This also includes non-field systems to support decentralized sites such as data capture centers, telephone centers, etc.
Census Bureau EA	This is the Census Bureau's overall Enterprise Architecture. The 2010 Census EA will be compatible and provide additional detail to the Census Bureau EA.
Census Bureau Policies	The U.S. Census Bureau develops and implements specific policies to ensure as complete and accurate a census as possible, and to ensure the confidentiality of the data it collects as required by Title 13.
Census Geographic Products	These are specific products used in collection and tabulation activities such as maps, Geographic Reference Files (GRFs) and Coverage Measurement Sample Areas.
Census Units in CM Sample Areas	This is the set of all census housing units and group quarters in coverage measurement sample areas and surrounding rings. This includes the identification of the E-Sample housing units.
CM Sample Design Information Refreshed through Final HU Activities	This information tracks the history of various coverage measurement sampling activities for sample areas. This includes all sampling related parameters, stratification variables, measures of size, selection probabilities, and others. This reflects the new data resulting from the second Targeted Extended Search Sample.
CM Sample Design Information Refreshed through HU	This information tracks the history of various coverage measurement sampling activities for sample areas. This includes all sampling related parameters, stratification variables, measures of size, selection probabilities, and others. This reflects the new data resulting from the sub sampling of geographic areas, and the P-Sample and TES area identification.
CM Sample Design Information Refreshed through Person Matching	This information tracks the history of various coverage measurement sampling activities for sample areas. This includes all sampling related parameters, stratification variables, measures of size, selection probabilities, and others. This reflects the new data resulting from the identification of the E-Sample.

ICOM	Description
CM Spatial Information - through Initial HU Operations	This is the independent spatial information for coverage measurement with corrections, additions, and deletions to geographic features identified by initial HU operations. This includes meta data. This includes CM sample areas and rings, global positioning system coordinates for added features and coordinates and control IDs for coverage measurement HUs. This is independently maintained for coverage measurement.
CM Spatial Information - through Person Operations	This is the independent spatial information for coverage measurement with corrections, additions, and deletions to geographic features identified through person operations. This includes meta data. This includes CM sample areas and rings, global positioning system coordinates for added features and coordinates and control IDs for coverage measurement HUs. This is independently maintained for coverage measurement.
Congressional Legislation and Direction	The Congress of the United States of America will provide direction and legislation affecting the design and conduct of the Census.
Contract Information	This is information about existing contracts, contract terms, vendors, vendor offerings, spending limits, etc.
Correspondence System	This is the process by which responses to external correspondence is managed and controlled.
Cost Model	This is the cost model for Census 2010. This is the primary tool for documenting and analyzing budgetary resources needed to support program requirements. It contains assumptions and parameters used to describe and analyze the budget components. The Decennial Management Division (DMD) updates the Cost Model on a periodic basis. This also provides authorized staffing levels and durations for decentralized facilities.
COTS Products	Commercial Off-the-shelf software that may be customized for Census use.
Count Resolution Feedback	This is return correspondence to the Highest Elected Official (HEO) and census initiators describing the results of the Count Resolution.
Count Resolution Microdata	This is the Census micro data updated with the results of the count resolution process. This includes the status data from count resolution processing.
Count Resolution System	This is the system that controls, revises counts and boundaries, and produces final certification.
Coverage Measurement Evaluation Data	This is an assortment of data that are the result of using various evaluation methods to re-enumerate, reprocess, or collect additional data required to assess the person and housing unit coverage measurement program.
Coverage Measurement Evaluation Results	This is an assortment of products that aid in providing information about the quality of the person and housing unit coverage measurement results.

ICOM	Description
Coverage Measurement Initial Housing Unit Results	These data are the results of matching the independent housing units to the census housing units in the final Coverage Measurement sample areas. This includes all applicable match and follow-up status information, as well as within-cluster sub sampling information (i.e., large block sub sampling) to identify the P-Sample housing unit for which coverage measurement data is collected, and to support the E-Sample housing unit identification and final housing unit activities. This includes all independent housing units confirmed to exist as of follow-up interviewing, as well as all census housing units in the sample areas regardless of match and follow-up status (i.e., includes census units classified as correct or erroneous including geocoding errors).
Coverage Measurement Person Estimation Results	This is an assortment of products that measure the person coverage in the census and the accuracy of those estimates. Major products include the dual system estimates, synthetic estimates, control-rounded and post-stratified census person information, post-stratified sample data, and estimates of sampling variance.
Data Capture System	This is the hardware and software to process all paper questionnaires from receipt to output, including coding, as electronic formats.
Data Collection and Assistance Instruments	This includes all application software for the specific purpose of collecting respondent information and collecting address information including geographic coordinates. This specifically includes the software used on the hand held computer (HHC), Internet, Computer Assisted Telephone Interviewing (CATI), outbound calling, Telephone Questionnaire Assistance (TQA) with the option of operator or speech recognition, and Internet Questionnaire Assistance (IQA). This includes the format for the output. This does not include assignment management, payroll, and administrative applications.
Data Preparation System	This is the system of software routines and products that performs functions necessary to receive, organize, and process response data into an accurate, complete, and reliable set of tabulatable final census records. This system processes respondent data from the various collection modes and sources. In conjunction with universe selection results, the DPS controls the receipt and processing of data through validation, follow-up editing, general coding, unduplication, and data standardization. Respondent data is organized with links to, and eventual merger with, the Universe and Control System's [UCS] control, operational status, and Census LQ information. The merged Respondent and Universe Selection Data are post conversion processed through several activities, including consistency editing, tabulation recoding, missing data, disclosure avoidance, and conversion to tabulation geography.
Data Tabulation and Dissemination System	The system of software routines that performs functions necessary to tabulate demographic product, and provides the demographic and geographic data to the public. This includes all modes of distribution.

ICOM	Description
Data User Group Recommendation and Advise	These are interest groups who provide recommendations affecting the design, conduct, and products of the Census.
Demographic and Geographic Products - Disseminated	These are the products and systems that are being disseminated via various media and to various audiences. This may include supporting documentation. This includes archives to NARA and provision of products to redistricting customers.
Demographic Products - Final	These are the demographic products and systems that have been cleared for dissemination processing.
Electronic Self-Response System	The automated system is to control, manage, and support the collection of electronic self-response data. This system provides for interaction with the respondent.
Employee Compensation	This is the total compensation to an individual employee based on hours worked or salary, travel expenses, and other miscellaneous expenses. This is analogous to a pay check.
Estimation System	The system of software routines that perform functions necessary to generate estimates and associated estimation products from a sample of data. This includes generating estimation weights, applying missing data techniques, forming estimation domains, applying estimation methods including controlled rounding algorithms, computing variances, and generating appropriate review materials.
Evaluation and Experimental Estimation Results	This is an assortment of products that inform the quality of the census as well as the results of conducting the census experiments.
Evaluation and Experimental Information	These are the measurements, both quantitative and qualitative, used to assess various census programs, activities, and data. Measurements include cost, quality indicators, schedule, performance characteristics, and qualitative data, such as attitudes and subjective judgments. This does not include coverage measurement. This includes evaluation and experimental response information such as content re-interview and master trace sample.
Evaluation and Experimental Reports and Products	This is the information that will inform the quality of the current census and planning of future censuses.
Evaluations	These are the results of the evaluations conducted during the prior census. Categories of these evaluations may include, but are not limited to, Response Rates and Behavior Analysis, Content/Data Quality, Data Products, Promotion and Partnership, Special Populations, Field Operations, Address List Development, etc.
External Voice Telecommunication Infrastructure	This supports the external voice communications, including both in-bound and out-bound telephone operations (e.g., 800 services, touchtone data entry - TDE).
Extract of Universe and Respondent Data and Status	This is a subset of the complete set of response data and universe determination and status information from the census, based on the specified requirements for using the information.

ICOM	Description
Facilities	These are the physical buildings and infrastructure, ready to do the business of the census.
Federal Legislation	The U.S. Constitution provides authority for the conduct of the decennial census every ten years to reapportion seats in the U.S. House of Representatives among the states. Specific statutory authorities for the conduct of the decennial census and related data collection activities are found in Title 13 of the United States Code, which stipulates that the tabulations of population reported to states and localities for purposes of redistricting be produced and transmitted to the states by April 1 of the year following the decennial census. Title 13 also requires that census records be used solely for statistical purposes and makes these records confidential, providing for harsh penalties for those who wrongfully disclose this information. Other legislation mandates specific ways in which the census must be conducted or in which census data must be tabulated and disseminated. For example, legislation mandates sharing of the census address list with local and tribal governments.
Federal Register	This is the Federal vehicle for soliciting comments and notifying the public and interested stakeholders about policies, plans, and methods.
Federal Regulations and Policies	General laws relating to Federal agencies also affect the conduct of the census. For example, under the terms of the Paperwork Reduction Act, the Office of Management and Budget (OMB) issues regulations requiring their review of the decennial census questionnaires to ensure that respondent burden is kept to a minimum. OMB also makes determinations regarding the race and ethnicity categories for which the Census Bureau must gather data used for the purposes of redistricting. In addition, specific rules relating to the conduct of the decennial census are occasionally issued by the Department of Commerce. This includes rules to codify the procedural framework for the determination regarding the methodology to be used to produce the tabulations of population reported to states and localities.
Field Operation Systems	The automated systems to control, manage, and support the various field operations and manage the field staff. This includes staffing authorization and data collection management. This provides for a bi-directional transfer of data between various locations which may include Hand Held Computers (HHCs). This includes the capability to adjust predefined assignment areas as needed.
Final Census Design	This is the final design components and parameters for the 2010 Census.
Final Census Microdata	The complete set of census records and characteristics, which reflect the results of necessary disclosure avoidance, tabulation recodes, and tabulation geography. This includes the provision of data to NARA. This excludes overseas counts.
Final Edited LQ and Person Characteristics - Post Stratified	Final edited LQ and person characteristics data, post stratification, having resolved inconsistencies, completed missing characteristics, and substitutions of neighboring entire person/unit characteristics.

ICOM	Description
Final Edited LQs and Person Characteristics	These are the final edited LQ and person characteristics data having resolved inconsistencies, completed missing characteristics, and substitutions of neighboring entire person/unit characteristics. This includes the complete set of spatially reference census records and characteristics, which reflect the results of necessary imputation, allocation, and substitution.
Final Unedited Census LQ and Person Records and Counts	These are the final universe of LQ and person characteristics data, organized spatially. These data have not been edited to correct for inconsistencies or fill in missing characteristics. Kills, keeps, and unclassified have been processed (i.e. count imputations).
Follow-up Enumeration Status and Respondent Data	These are the cases or units that need to be followed up for various field and telephone operations. This is the response data needed to perform the operations. This is done per individual census identification number.
Form Type and/or Label Information	This is the address and control information necessary to prepare, label, package, and distribute the appropriate PUFs. This includes all variable information, including that information needed for experiments and some evaluations that are unique to the address.
Forms Design Tool	This is the tool that produces and controls the electronic image required to print public use and other forms using computer-assisted methods to design and format.
FSCPE Members	The Federal-State Cooperative Program for Population Estimates (FSCPE) is an organization composed of state demographers that, since its inception in 1973, have worked with the Census Bureau to ensure accurate state and local population estimates. The members who participate in the Full Count Review program aid the Census Bureau analysts by identifying, investigating, and documenting suspected data discrepancies or "issues" in order to clear census data files and products for subsequent processing or public release. They are sworn Census Bureau employees.
Fulfillment Request	This is the information about a request for a questionnaire, guide or other Census information.
Full Cycle Budget	These are the ten-year costs, along with associated assumptions and parameters, for the activities required to plan and conduct the 2010 Census.
Geographic Feature Information from External Sources	This is the information from external sources about the addition, deletion and relocation of geographic features and their attributes such as streets, boundaries (legal, statistical and administrative), landmarks and other physical features.
Geographic Feature Updates and Status	This is the information about the addition, deletion and relocation of geographic features and their attributes such as streets, boundaries (legal, statistical and administrative), landmarks and other physical features. Also includes map spots. The data includes case outcome.

ICOM	Description
Geographic Feature Updates and Status - Refreshed	This is the information about the addition, deletion and relocation of geographic features and their attributes such as streets, boundaries (legal, statistical and administrative), landmarks and other physical features. Also includes map spots. The status contains information that directs cases to rework, reassignment, reinterview, or submission for further processing.
Geographic Framework	This is the latest available spatial and geographic data.
Geographic Framework - Corporate	This is the current corporate geography used to establish the initial census geographic framework.
Geographic Framework Refreshed by Count Question Resolution	This is the geographic framework updated with the boundary corrections identified by the Resolve Count Question activity.
Geographic/Address Reference Materials	This is the information retrieved from Local and Tribal governments or other sources showing the locations of LQs and non-LQs along with their addresses and related roads and street features.
GIS Tool	This is a system for managing, analyzing, and applying geographically referenced data.
Hardware and Peripherals	These are the devices and peripherals necessary to collect, capture and process data. Examples include HHCs (with power cords, batteries, etc.), printers, scanners, routers, key stations, server farms, sorters, shredders, and other add-ons. This includes all internal voice and internal and external data communications.
Hardware Systems for Facilities	These are the devices and associated peripherals that have been tested and accepted. This includes the computer with operating systems and other necessary equipment to collect and process data. Examples include printers, scanners, routers, key stations, server farms, sorters, shredders, and other add-ons. This includes all internal voice and internal and external data communications.
Help Desk System	This is a system that tracks requests by a Census Bureau employee or contractor for technical support and operational guidance.
Highest Elected Official Correspondence	This is a request for the Census Bureau to review block level data where there may be a census count discrepancy submitted by the Highest Elected Official (HEO) for that functioning governmental unit. This can include electronic correspondence. This also includes supporting documentation.
HU E-Sample Outcome Data	This is the sample census HUs with final match status after the final HU matching. This is used for HU estimation.
HU P-Sample Outcome Data	This is the independent HU data with final match codes after final HU matching. This is used for HU estimation.

ICOM	Description
Image and Data Retrieval System	This is the system that manages storage and retrieval of all questionnaire images and/or ASCII representations, form status, and LQ status for various purposes. This provides the ability to perform ad-hoc queries and extracts either by data and/or geographic attributes.
Internal Correspondence	This is a request to review block level data where there may be a census count discrepancy submitted by Census Bureau personnel. For example, discrepancies can be submitted by the State Data Centers, the Federal-State Cooperative Program for Population Estimates (FSCPE), and others. This also includes supporting documentation.
IV&V of Methodologies	Independent verification and validation of methodologies.
Local & Tribal Governments Recommendations	These are the entities that provide recommendations affecting the design, conduct, and products of the census.
Logical Architecture	The Logical Architecture extends understanding of the organization by modeling its constituent parts, and allowing analysis of the ways in which various processes function and interact. This directly supports the investigation and construction of extended, revised, or redesigned processes, which further the needs of the business.
LQ Data	Initially, this is a list of census units as well as one or more refreshments by the Delivery Sequence File (DSF). Subsequently, it includes census address updating activities. This is the latest available LQ data that is spatially referenced. This is used to create and update the census universe. This contains the sum of all status information to date.
LQ Data - Address Updates and Status	These are the changes to the Living Quarter inventory. They can come from address canvassing, LUCA, or other data collection activities. This can include electronic and paper address listings. The living quarters data has been reviewed to provide corrections, additions, and deletions to the list of LQs and their attributes. For example, coordinates, address (to the LQ universe), group quarters, and housing unit classification. This includes all status or operational information.
LQ Data - Address Updates and Status - Refreshed	These are the changes to the Living Quarter inventory. They can come from address canvassing or other data collection activities. This can include electronic and paper address listings. The living quarters data has been reviewed to provide corrections, additions, and deletions to the list of LQs and their attributes. For example, coordinates, address (to the LQ universe), group quarters, and housing unit classification. This includes all status or operational information. The status contains information that directs cases to rework, reassignment, reinterview, or submission for further processing.
LQ Data - Converted Address Listing	This is LQ address updates performed on paper products and converted to electronic format through the paper conversion activity.

ICOM	Description
LQ Data - Corporate	This is the current corporate address data and spatial attributes used to establish the initial census LQ framework.
LQ Data - Non-ID	These are the responses from living quarters with no known Census ID. This also includes everything with temporary processing census identification numbers and includes returns from all collection modes without a census identification number.
LQ Data - Without Geocodes	This is the LQ data that does not have a block geocode.
LQ Data Refreshed by Count Question Resolution	This is the LQ frame updated with the spatially referenced adds, deletes, corrections, and LQ classifications from Count Question Resolution. This also includes status from CQR processing.
LQ Information from External Sources	This is the LQ information provided by external sources such as federal government agencies, national organizations and state, tribal and local partnership organizations, and governmental units. This includes information from locations where GQ enumeration might be undertaken. For instance this includes national or local lists of college dorms, prisons, and SBEs. This includes LUCA and New Construction feedback from participants and also includes Delivery Sequence Files (DSFs).
Management Information	These are the operation specific cost, performance, and progress summary reports. This includes earned value analysis results.
MAS - Refreshed	This is the revised detailed schedule that reflects current information and changes against the baseline.
Master Activity Schedule	This is the detailed time frame allowed to conduct decennial census activities and operations. This includes relationships, durations, and dependencies between activities.
Matching System	This is the automated system to match multiple sets of information for any activity, e.g. the census and independent information. This includes a computer assisted matching capability as well as the ability to display images with spatial information that shows housing unit locations. This provides for the coding of the match status for both person, address, and/or living quarters.
Material Templates	These are the templates for producing public use forms, operational forms (such as reference materials, procedures, training guides), documentation for metadata, outreach and promotional materials and initial coding dictionaries.
Media Outlets	This is the population of all the electronic and print media that are candidates for census promotion and advertising.
Media Programs	These are all advertising and special programs to promote and encourage participation and response to census operations. This includes media relations and press releases supporting data product dissemination.

ICOM	Description
Metadata	These are the descriptions, documentation, definitions, and history of ALL census related data. These data will drive the development of all forms and instruments. This includes, but is not limited to, question wording, descriptions, interviewer response instructions, response categories, variable names, valid values, algorithms, legal requirements, and controls. This also supports demographic and geographic products.
Metadata Refreshed by Product Creation	This is the Metadata with additions that describe the demographic and geographic products.
Milestones	Milestones represent points in time where key events or accomplishments need to occur. These have significant impact on planning, developing, and implementing the 2010 Census. This is a touch point with ACS and MAF/TIGER.
NAS Recommendations	The National Academy of Sciences (NAS) provides recommendations affecting the design and conduct of the census.
Non -Trackable Kits	This is a collection of tools and materials to be used by an individual data collector, data capture operator or facility.
Non-Kit Materials	This is information necessary to conduct Census operations which is not included in kits, and which must be disseminated to Census facilities and staff therein. Examples include: questionnaires, language guides, brochures, memoranda, spreadsheet, software release notes, and correction pages or notes to materials contained in kits.
OMB	The Office of Management and Budget (OMB) is the executive agency that advises the President on the federal budget.
Operational and Administrative Data	These are operational and administrative data from all operations and activities such as facility management, electronic response, convert paper to electronic, validate and acknowledge, partnership program participation profiles and includes other census support operations. This includes employee unit transactions (e.g. hours, miles and other reimbursable transactions) linked to the operation. The data are dependent on the specific operation and system requirements.
Operational and Administrative Data - Refreshed	These are the reviewed, updated and accepted operational and administrative data from each case and/or individual staff member. This includes employee unit transactions linked to the operation. The data are dependent on the specific operation.
Operations Specific Cost and Progress Data	This is cost and progress data for operations, evaluations, and management reports. This includes various cost information such as payroll, mileage, systems support, and the like.
Other Goods and Services	This includes all other items and services required by a facility to conduct the Census. These items are not individually tracked. Examples include furniture, security guards, janitorial services, and copy paper.
Other Printed Materials	These are posters, brochures and fact sheets, etc.

ICOM	Description
Overseas Administrative Counts	These are administrative records provided by Federal agencies for all military and civilian federal employees deployed and living overseas including their dependents living with them (regardless of their citizenship). These are for total population only, by state of residence, and are used for apportionment counts only.
Paper Questionnaires and Forms - Destruction	These are the materials that contain Title 13, privacy, and other information to be destroyed. This operation will conform to all security laws and regulations and environmental considerations. These materials will potentially come from data collection and processing activities performed in the Local Census Offices (LCOs), call centers, and data processing centers.
Parameters and Assumptions	These are the workloads, productivity, and time that drives cost estimates. This includes staffing and organizational structures, pay rates, equipment cost, and space cost. These data are acquired from a variety of sources such as the past Census, testing, and external sources of cost.
Participant Feedback	This is the address and/or geographic updates provided by participants based on their review of the Census Bureau's LQ lists and geographic reference materials. This also includes other information provided by potential participants.
Partner Information	This is the information about partners, e.g. name of the organization, contact, type, constituency, etc.
Partnership Processing	These are the systems that process and maintain information about partnership participation in various Census programs.
Partnership Program	This is the partnership/outreach program that works through a variety of national and local partners, including individuals, organizations, institutions, and governments, to promote awareness and participation among the constituencies of these partners.
Performance Results	This is the information describing the performance of the individual on specific tasks. It indicates the quantity, quality and timeliness of the work performed and may also include recommendations regarding future assignments.
Person E-Sample Outcome Data	This is the sample census enumeration with final residency status after the final person matching. This is used for person estimation.
Person P-Sample Outcome Data	This is the independent person data with final resident status and match codes after final person matching. This is used for person estimation.

ICOM	Description
Planning Data	This is a nationwide database that assembles a range of housing, demographic, and socioeconomic variables. The database contains "hard-to-count" scores which summarize the attributes of each Census 2000 tract in terms of enumeration difficulty. The database includes performance attributes from the previous census to current demographics from ACS. The database may be used to identify potential areas for language form distribution, special enumeration procedures, establish local pay rates, and to predict mail responses that may be used to assist in determining field staff needs. This includes the relationship of all planning data with the geographic framework. This is an ACS Touch point.
Planning Procedures and Systems	This is the process including procedures and tools whereby the organizational structure, operating means, and guidelines are established and implemented for determining Census design and developing and managing operational requirements and parameters. This includes scheduling tools, reports generation tools, document management tools, and earned value tools.
Potential Participant Universe	This is the potential universe of federal government agencies, national organizations and state, tribal and local partnership organizations and governmental units.
Print Systems	This is a means to print, label, and package documents. Sources may include contractor, Census, and GPO. This includes printing other types of census forms, for field-use or for processing materials.
Printed / Packaged MO/MB Forms	These are the printed and packaged Mail out/Mail back forms and related materials. These go to USPS sites. This includes replacement mailing packages, advance letters and reminder cards.
Printed/Packaged U/L Forms	These are the printed and packaged Update/Leave forms and related materials. These are delivered directly to field sites.
Program Participants	These are those federal government agencies, national organizations and state, tribal and local partnership organizations and governmental units who participate in various programs.
Property for Disposal	These are items that are no longer usable or required for the census.
Property Management System	This is the system that provides for inventory, control, and tracking of all reportable physical property.
Public Inquiry and Request	These are contacts by respondents and customers for various types of assistance, products, and services.
Questionnaire Images	These are images of the completed questionnaires suitable for retention by National Archives and Records Administration (NARA) and images required by various programs such as evaluations and analysis.

ICOM	Description
Recommended Methodologies	These are methodologies or processes that have been tested and evaluated and suggested to be used in the conduct of the 2010 Census.
Requirement Changes Approved	This is the approval of proposed changes to the baseline requirements.
Requirements - Consolidated Federal, Legal, Regulatory, and Policy	These are the non-functional requirements developed by that describe what needs to be done in sufficient detail to design and prepare specifications for implementation and performance measures. These requirements include all necessary systems interfaces, criteria and dependencies, as well as security and privacy considerations. These also include all applicable laws, regulations, and policies. These are the laws, policies, regulations that control and govern the use of census data and employee data. This includes security and privacy standards.
Requirements - Detailed	These are the functional and non-functional requirements that describe what needs to be done in sufficient detail to design and prepare specifications for implementation and performance measures. These requirements include all necessary systems interfaces, criteria and dependencies, as well as security and privacy considerations. These also include all applicable laws, regulations, and policies. Detailed requirements have traceability back to high-level requirements.
Requirements - High Level	Based on the Final Census Design, these are the global statements of "what" needs to be accomplished to perform each Census activity.
Requirements - Security and Privacy	These are the laws, policies, regulations that control and govern the use of census data and employee data. This includes security and privacy standards.
Requirements and Specifications Management Tool	This is the system that assists planning and management staff with documenting and managing all functional and non-functional requirements and specifications. This includes traceability of requirements and specifications through the lifecycle.
Research Materials	These are files or records documenting census activities, for example, field data collection activities that occurred for a specific LQ, a GQ's list of residents provided, or a GU boundary. These files or records are reviewed to determine whether an error occurred.
Respondent Provided Information	These are the person and LQ characteristics the respondent provides.
Respondent Questionnaire and Status Data	These are the questionnaire responses provided for and by persons in the living quarters universe. For interviewer assisted enumeration, this includes specific universe and enumeration outcome. For self-response, this includes mode. Data are either collected in electronic form or on paper. For living quarters without a census identification number, a temporary processing identification number will be assigned awaiting the results of Non-ID processing. The data may include case outcome and data attributes.

ICOM	Description
Respondent Questionnaire and Status Data - Converted	These are the questionnaire responses provided for and by persons in the living quarters universe that have been placed into electronic format for further processing.
Respondent Questionnaire and Status Data - Refreshed	These are the questionnaire responses provided for and by persons in the living quarters universe. For interviewer assisted enumeration, this includes specific universe and updated enumeration information. For self-response, this includes mode. Data are either collected in electronic form or on paper. For living quarters without a census identification number, a temporary processing identification number will be assigned awaiting the results of Non-ID processing. The data may include case outcome and data attributes. The status contains information that directs cases to rework, reassignment, reinterview, or submission for further processing.
Respondent Questionnaire and Status Data - Resolved	This information is the result of the application of the linkage rules for all person responses organized on an LQ basis. All person records are retained and marked as to whether they are eligible for inclusion/exclusion in the formation of LQs during further processing.
Respondent Questionnaire and Status Data - Standardized and Organized	This information is the result of the transformation of responses from all modes, on a form basis, into a single, consistent data format, as well as organization of response data by census identification, date, and source of response, etc, in preparation for Resolving Person/LQ Linkages. This contains the results of the write-in coding.
Respondent Questionnaire and Status Data - Validated	This is the result of having performed the validity check on the electronic output from all possible response modes. For living quarters without a valid census identification number, a temporary processing identification number will be assigned awaiting the results of Non-ID processing. This contains validity and status update information and links to the universe control data. For example, comparing output information to expected control universe information and identification and control of unexpected information.
Respondent Questionnaire Data	These are the paper questionnaires mailed back by self-respondents in the housing unit universe. This includes Be-Counted forms.
Review Comments/Clearance	This is a gate that allows data to flow to subsequent processes if it meets certain criteria. This is a review and clearance process that allows data processing and tabulation to move on to the next step only after subject matter analyst clearance. This includes whether the coverage measurement, evaluation, and experimental estimation information can move on to the next step, or whether modifications to the data, methodology, analysis, or other changes are needed or further review is required.

ICOM	Description
Review Products	These are the demographic and geographic data organized and presented in a format designed specifically to facilitate subject matter analysts review and clearance. This includes all review products associated with coverage measurement, evaluations, experiments, and estimates.
Review System	This is the hardware and software necessary to manipulate and review products.
Revised Certified Counts	These are new census population and housing unit counts for the governmental units. This includes errata, and may also include revised block level data.
SAUS	The Spatial and Address Update System (SAUS) are systems that process spatial and address updates and maintain the spatial and address frame for the 2010 census. Processing includes updates to the features and boundaries, and matching addresses from various sources (USPS, LUCA, Census field operations, etc) with existing addresses, assigning permanent identifiers, keeping track of updated status information, and updating the spatial location information (including coordinates and geocoding). SAUS also has the ability to set universe eligibility for pre-census activities. This also includes the ability to produce maps and other geographic products used for both operations and data products dissemination.
Scheduling Tool	These are the commercially available off-the-shelf-software scheduling tools used to schedule and conduct the 2010 Census.
Software Applications	These are the commercially available off the shelf software and/or custom software applications developed to support all phases of the 2010 Census.
Software Development Tools	This is commercially available off-the-shelf software and/or custom software that enables the development of the automated software.
Special Data Request	Special data requests are custom products requested by other government agencies, private sector organizations, and other data users (internal and external). They are produced outside the Census Bureau's regular publication activities and include "special tabulations" and "extracts." "Special tabulations" are defined as aggregated statistics based on the customer's specifications. These tabulations are produced from internal, non-public Census Bureau data files. "Extracts" are defined as data already in the public domain that are reformatted to meet specific customer needs (e.g., rankings, calculation of percentages, and putting portions of data files into a smaller, single-file format such as Excel). All special tabulations that are released to the public comply with the Disclosure Review Board rules to protect confidentiality. Extracts are from published products that were approved previously by the Disclosure Review Board.
Specifications	These are the instructions for the design and development of tools, materials, products, systems, applications software, processes, and interfaces. Specifications are traceable through detailed requirements to high-level requirements.

ICOM	Description
Staff Information	This is all the necessary personnel and payroll information for employees assigned to an activity. This includes all temporary census employees and contract employees. This does not include permanent census employees.
Staff Information - Refreshed	This is all the necessary personnel information for administration and to support payroll operations for employees assigned to an activity. The data includes SSN, bank routing information, withholding, grievances, accident reports, unemployment compensation claims, EEO complaints, etc. This includes all temporary census employees and contract employees. This does not include permanent census employees.
Stakeholder Suggestions	This is the guidance, advice, and recommendations provided by a variety of external parties with an interest in the conduct or products of the 2010 Census. This includes reviewed and approved recommendations from stakeholders for new and improved methods.
Stakeholders	This is an individual or organization with a vested interest in Census Bureau operations and products.
Strategic Plan	The Census Bureau's Strategic Plan describes a common mission, identifies strategies to achieve the mission, and sets critical measures to monitor the Bureau's progress. It is a living document.
Suggested Improvements	These are specific new and improved methods, procedures, and tools requiring testing in either special purpose or Census-like test environments to determine whether to incorporate them in the Census design. These suggestions are incorporated in the initial census design, evaluated thru the testing program, and modified based upon testing results.
Targeted Extended Search Results	This is the result of TES fieldwork and is used for person and housing unit matching. This provides the status of whether the census unit in the TES workload was located in the CM surrounding ring of blocks, CM sample area, or outside the CM surrounding ring of blocks.
Telephone Assistance Referral	This is a TQA request from respondents to go to an operator-assisted interview.
Telephone Interview System	This is a telephone interview system that collects, manages, routes, and transfers respondent data.
Testing Systems	These are all the various procedures, tools, IT systems, protocols, and standards necessary to conduct and evaluate various special purpose and census tests.
Testing Tools	These are the automated tools and processes used to validate and verify the performance of computer hardware and software systems and the validity of data output. This includes tools used for unit, system, independent, and user acceptance testing.
Trackable Kits - Production Ready	This is the package that contains the computer with all applicable software, including the instruments. This package includes the HHC and equipment needed to operate the HHC; assembled IT systems such as workstations, servers, and their associated peripherals; and instructions to operate the production-ready package.

ICOM	Description
Training Results	This is the result of training for each specific applicant or staff member. The results (dis)qualify the individual for specific types of assignments. This could also identify additional supplemental training needed, e.g. observation.
Undeliverable Mailing Packages	These are mailing packages that the U. S. Postal Service returned as undeliverable as addressed.
United States Postal Service	The United States Postal Service (USPS) delivers paper questionnaires mailed to living quarters, delivers paper questionnaires mailed back to the Census Bureau, and also returns undeliverable mailing packages to the Census Bureau.
Universe and Control System (UCS)	This is the census living quarters universe selection and control system including the ability to form assignment areas for collection and follow-up.
Universe Selection - Follow-ups	These are the data that reflect the results of the universe selection processes for all census enumeration follow-up activities. The data include all necessary person data needed to perform the follow-up, such as Nonresponse Follow-up, New Construction, Verification of New Non-IDs, Vacant/Delete Check, Late Mail Return, Coverage Edit Follow-up, Unduplication, and Large Household Follow-up. This includes sampling information for experiments and evaluations. This is accumulated status and related information from all previous pre-census and post-census day operations and activities that affect LQ universe status, including unit identifier corrections and/or deletes. This is a MAF/TIGER Touch point.
Universe Selection - Initial	This is the result of the universe selection process that identifies the following initial universe outputs. It includes the following: list universe, universes for the print files, universe for check for validity, type of enumeration and distribution method evaluation universes, surname needed/exists, sub surname, experiments universes, and GQ validation list. This is a MAF/TIGER Touch point
Universe Selection - Updated	This is the updated initial Census LQ Universe based on activities such as Group Quarters Validation, Delivery Sequence File (DSF) Refresh(es), New Construction, Local Update of Census Address (LUCA) Appeals, and so forth. The output is created multiple times. This includes sampling information for experiments and evaluations. This is a MAF/TIGER Touch point.
Universe Selection (Bundled)	This is an aggregate ICOM, containing the ICOMs Universe Selection - Follow-ups, Universe Selection - Updated, and Universe Selection - Initial.
Universe Updates - Follow-up Edits	These are the results of the follow-up edit checks on units for whom respondent data is being returned.

ICOM	Description
Universe Updates - Form Base Data Capture Status	This provides final disposition information regarding data capture of all individual forms checked-in.
Universe Updates - Paper Conversion (incl. surnames/check-in)	These are the results of the data conversion and data receipt for respondent's data received on paper form. Includes updated status information, surnames and pop count; this updates incrementally throughout the conversion process starting with check-in of receipt.
Universe Updates - Potential Duplicates	These are the indicators that identify the potential duplicate enumerations for follow-up. This provides the linkage among two or more census identification numbers.
Universe Updates - Validated (phone numbers)	These are the results of the validity checks on units for whom respondent data is being returned and converted. This information provides telephone numbers prior to face-to-face coverage measurement interviewing.
Universe Updates - Validated Electronic (incl. surnames/check-in)	The results of the validity checks on units for whom respondent data is being returned and converted if necessary. For electronic self-response, this includes surnames.
Weighted Coverage Measurement Evaluation Data	This is an assortment of sample data ready to form estimates needed to evaluate the person and housing unit coverage measurement estimates. The data include estimation weights, all statuses and estimation characteristics have been imputed as needed (including alternative methodologies), and appropriate recodes and data preparation have been done.
Weighted Evaluation and Experimental Data	This is an assortment of sample evaluation and experimental data ready to form estimates. The data include estimation weights, all statuses and estimation characteristics have been imputed as needed (including alternative methodologies), and appropriate recodes and data preparation have been done.
Weighted HU E-Sample Data	This is the sample of census housing units ready for estimation. The data include estimation weights, all statuses and estimation characteristics have been imputed as needed, and appropriate recodes and data preparation have been done.
Weighted HU P-Sample Data	This is the independent housing unit data ready for estimation. The data include estimation weights, all statuses and estimation characteristics have been imputed as needed, and appropriate recodes and data preparation have been done.
Weighted Person E-Sample Data	This is the sample of census enumerations ready for estimation. The data include estimation weights, all statuses and estimation characteristics have been imputed as needed, and appropriate recodes and data preparation have been done.
Work to be Assigned	This is a package of work to be completed.

Activity Model Diagram Report

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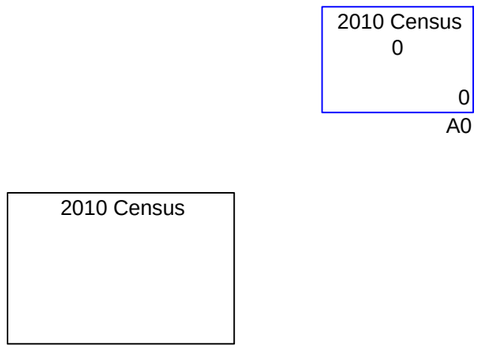
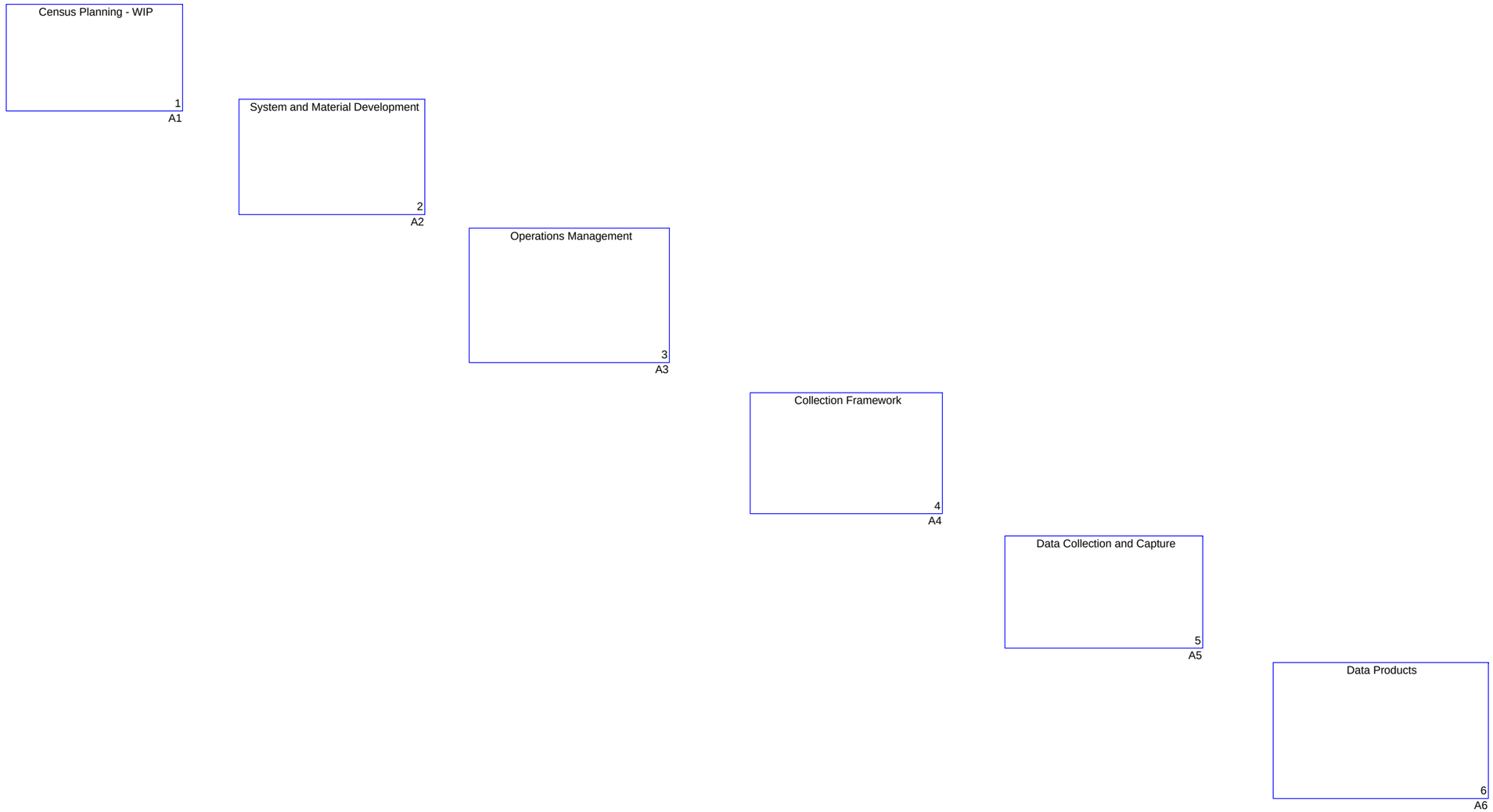
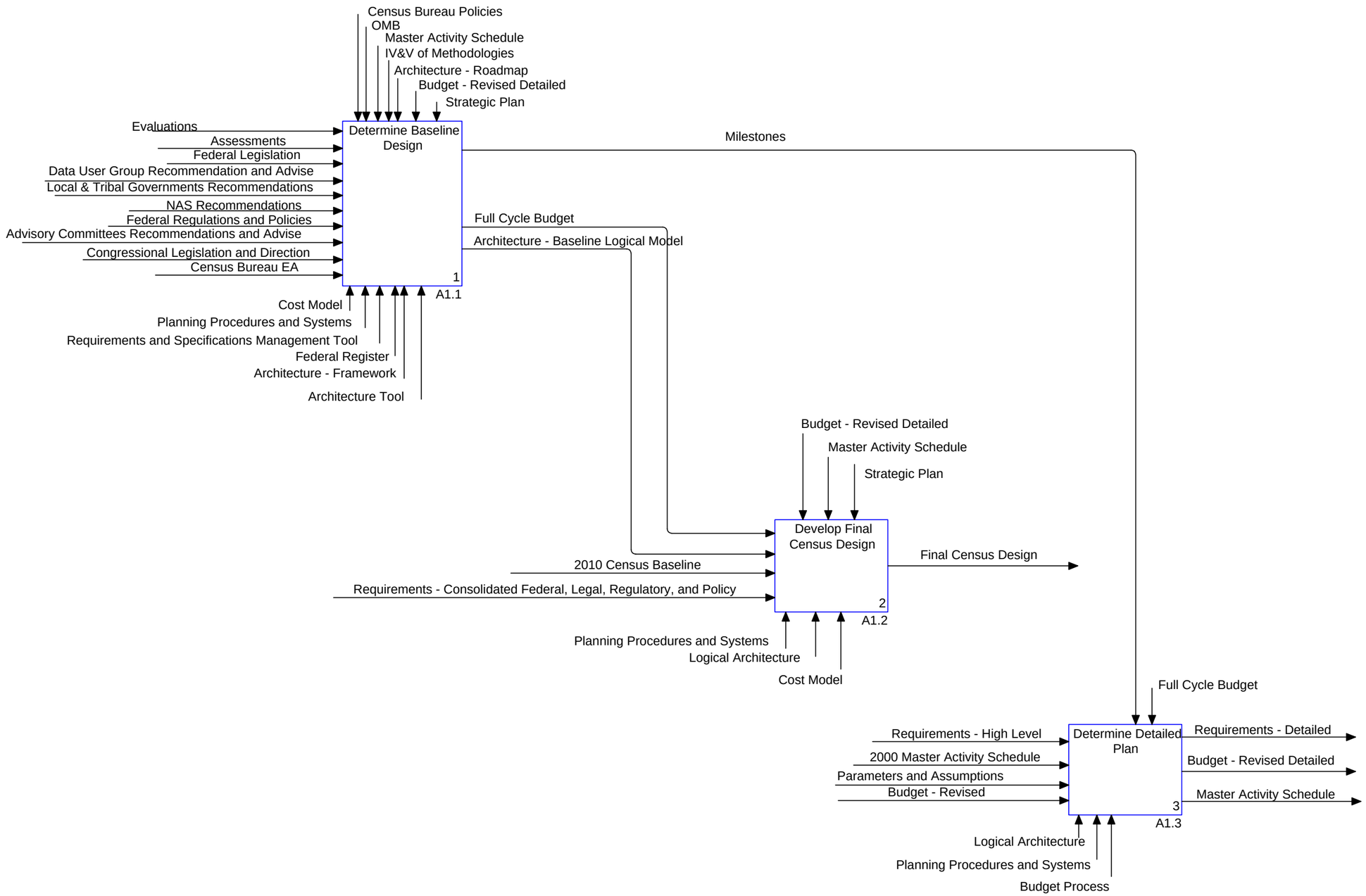
2010 Census (Context)



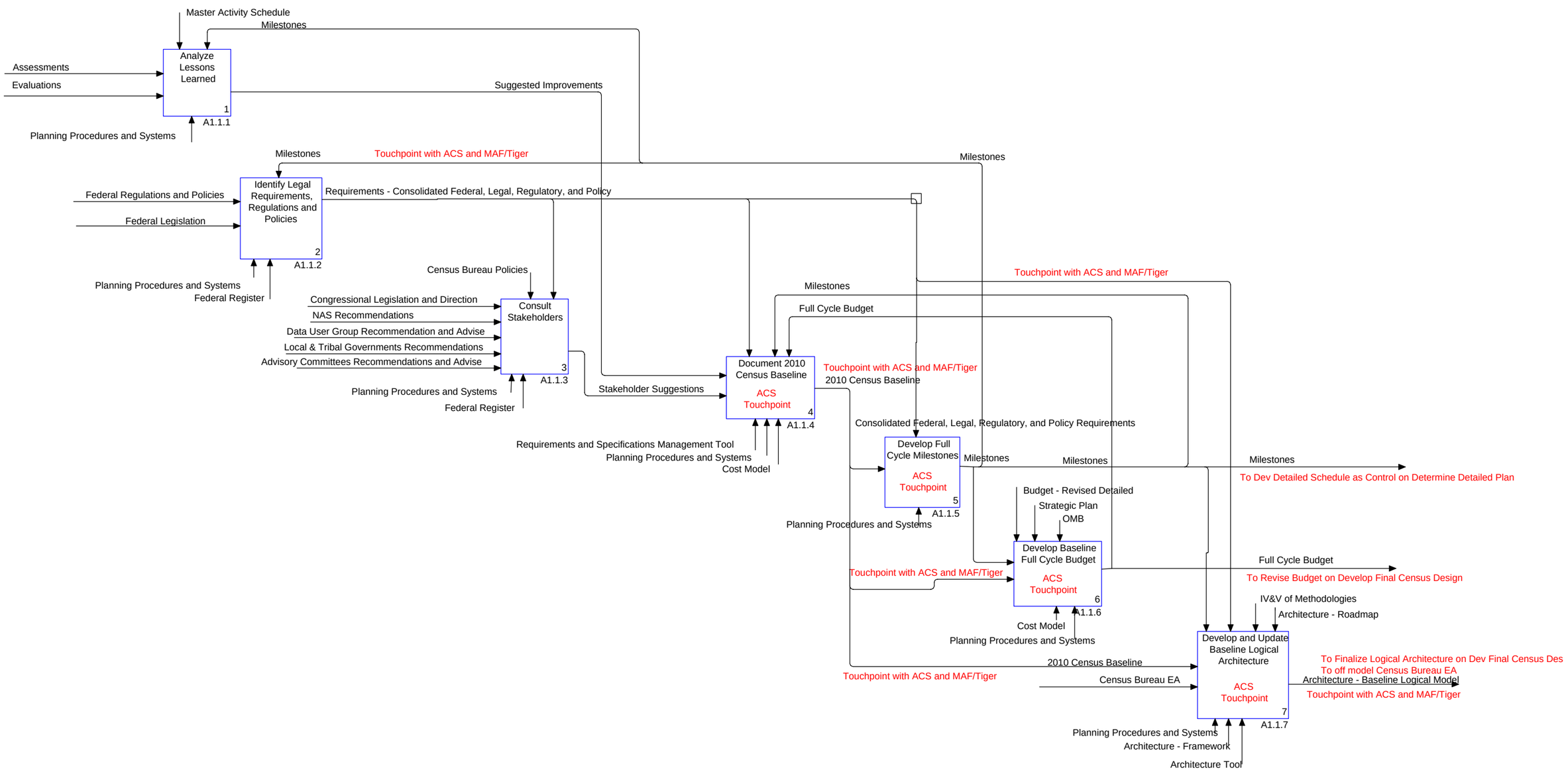
A0 2010 Census



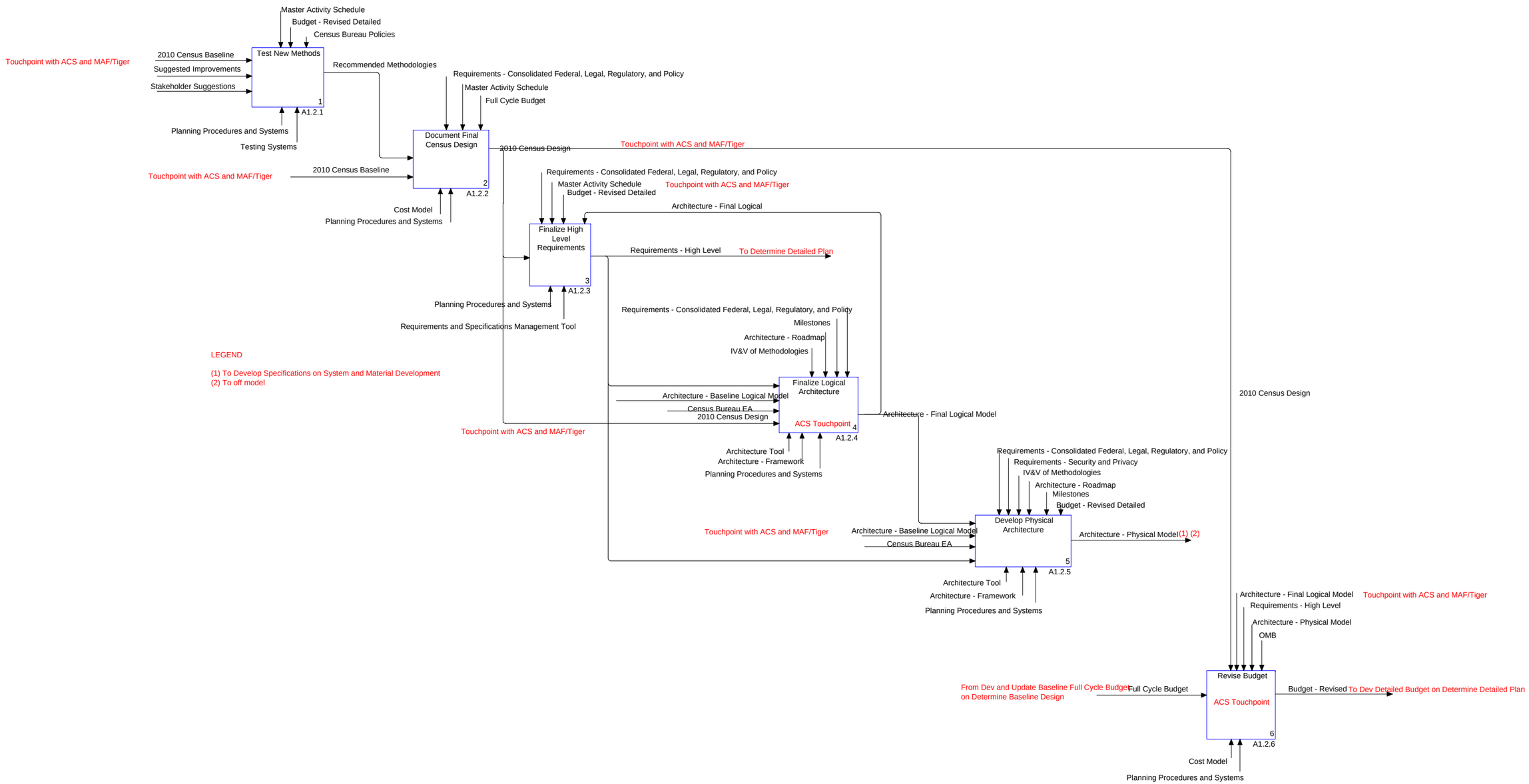
A1 Census Planning - WIP



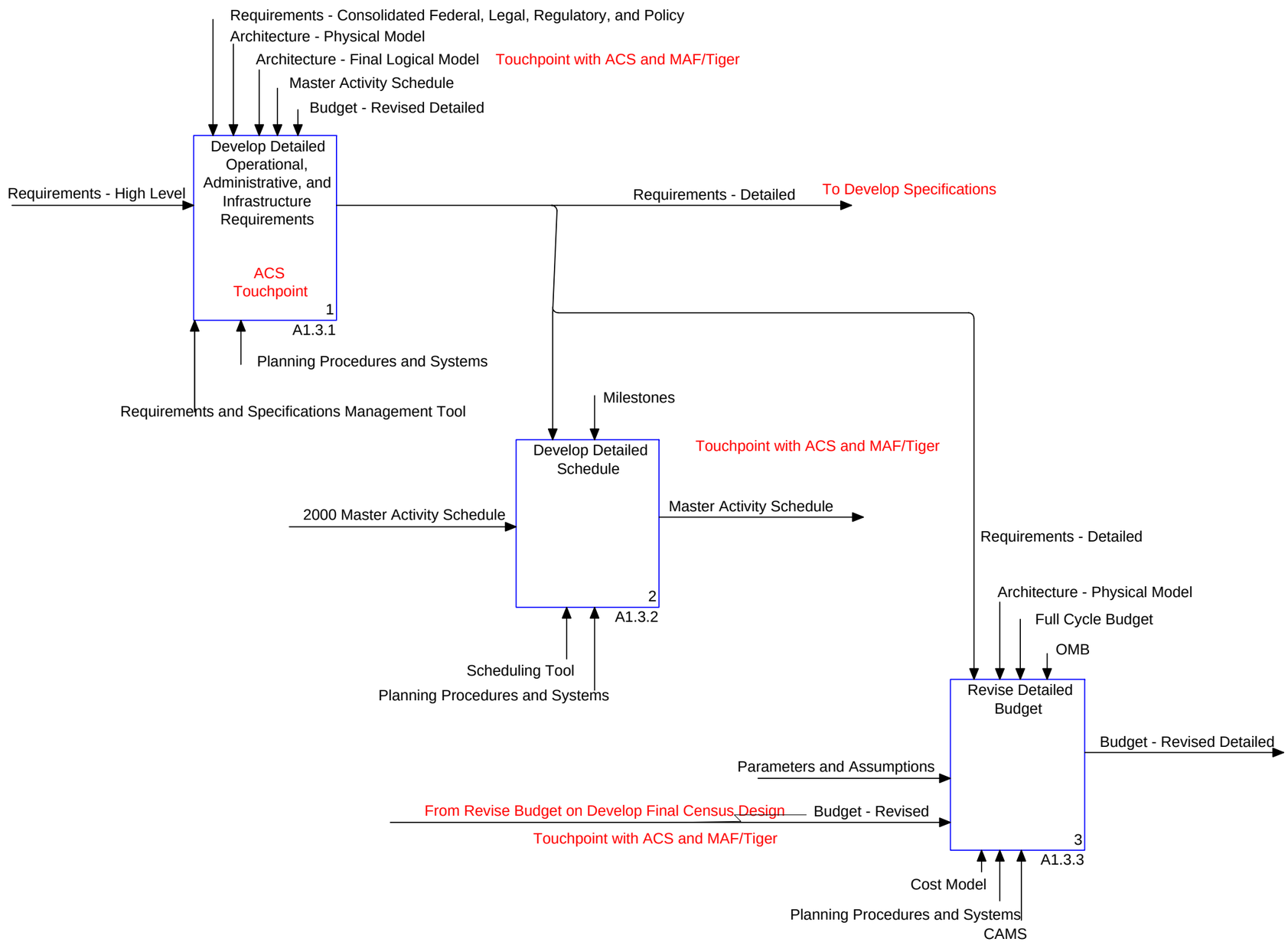
A11 Determine Baseline Design



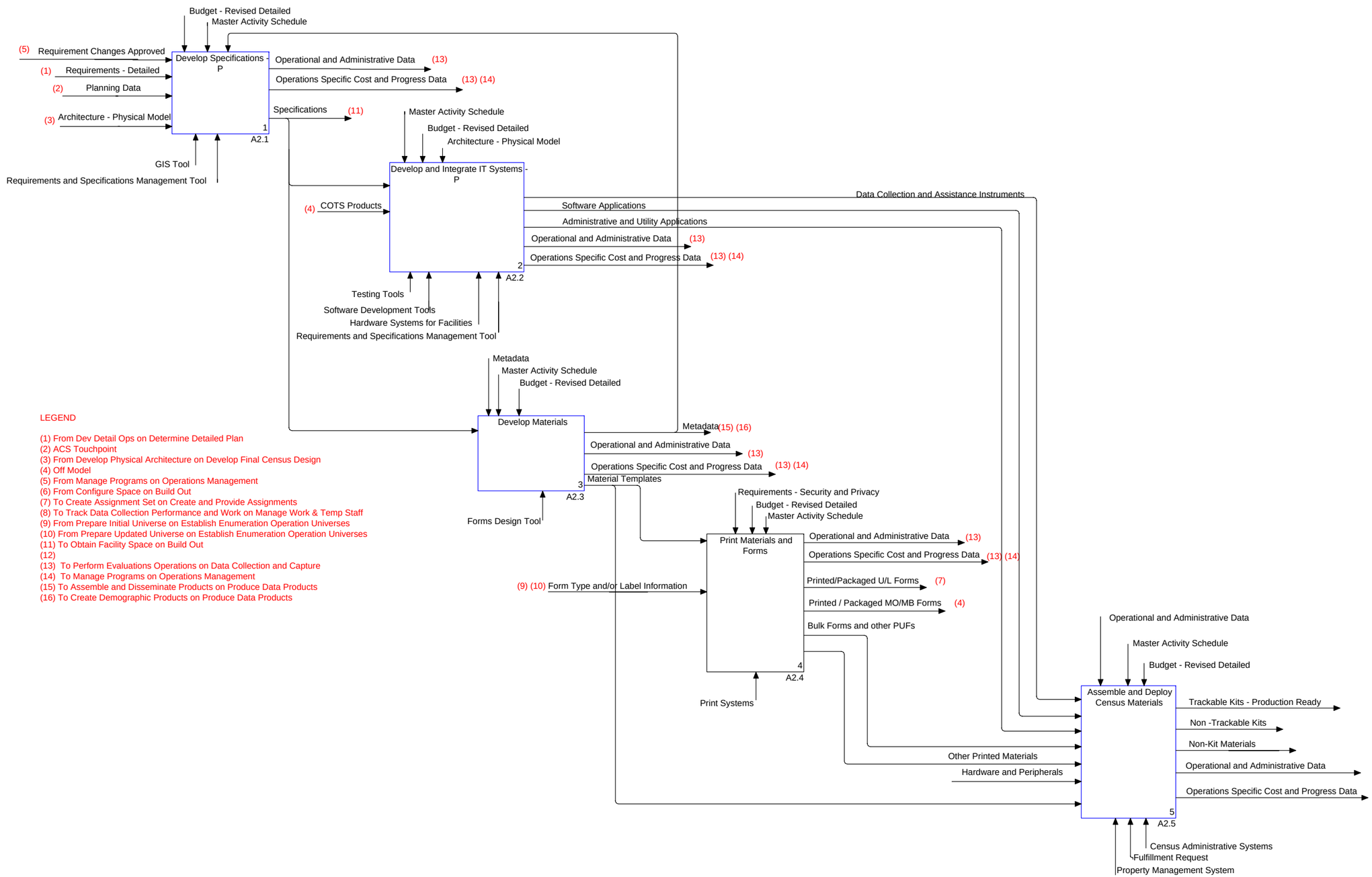
A12 Develop Final Census Design



A13 Determine Detailed Plan



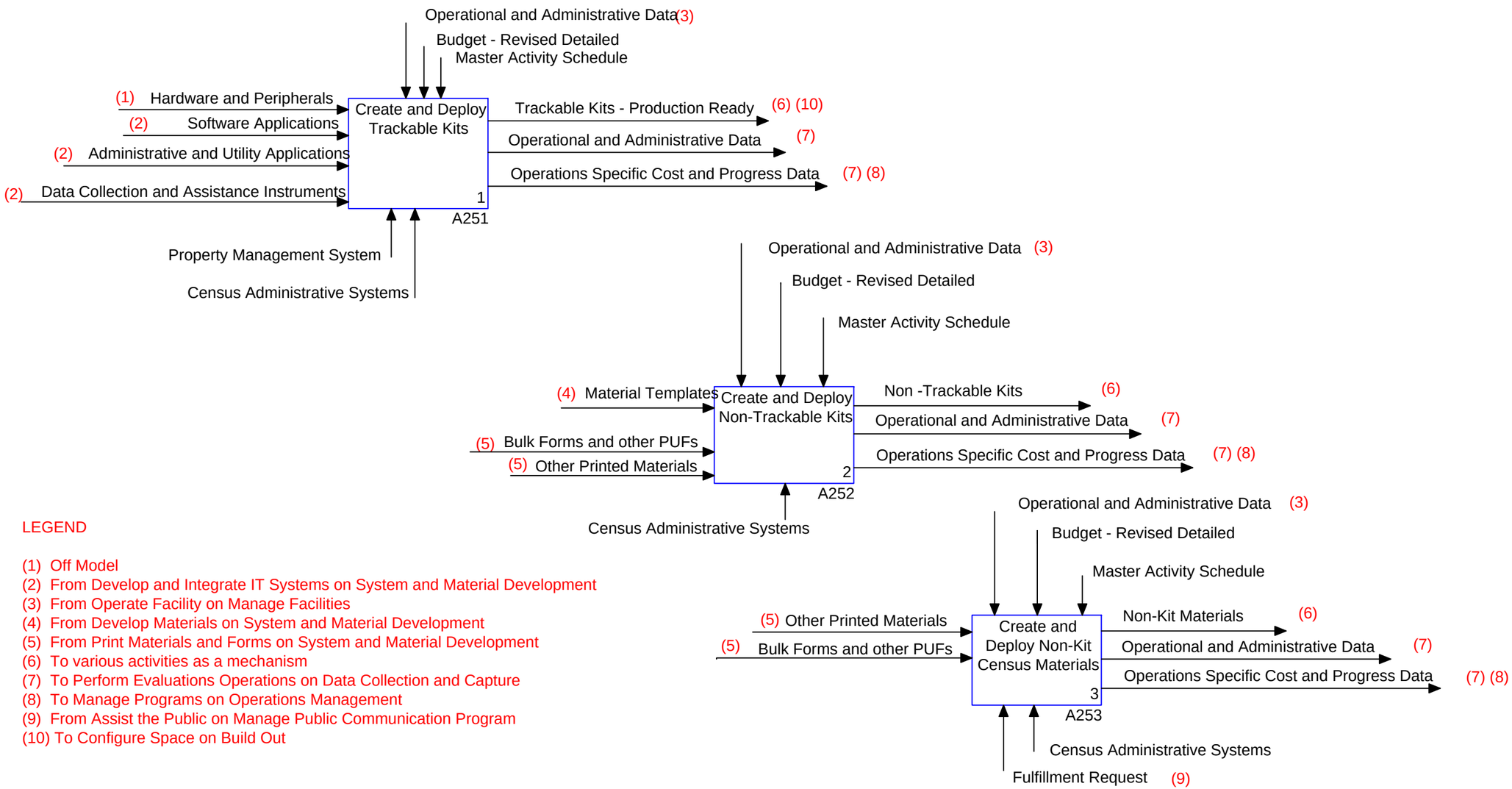
A2 System and Material Development



LEGEND

(1) From Dev Detail Ops on Determine Detailed Plan
(2) ACS Touchpoint
(3) From Develop Physical Architecture on Develop Final Census Design
(4) Off Model
(5) From Manage Programs on Operations Management
(6) From Configure Space on Build Out
(7) To Create Assignment Set on Create and Provide Assignments
(8) To Track Data Collection Performance and Work on Manage Work & Temp Staff
(9) From Prepare Initial Universe on Establish Enumeration Operation Universes
(10) From Prepare Updated Universe on Establish Enumeration Operation Universes
(11) To Obtain Facility Space on Build Out
(12)
(13) To Perform Evaluations Operations on Data Collection and Capture
(14) To Manage Programs on Operations Management
(15) To Assemble and Disseminate Products on Produce Data Products
(16) To Create Demographic Products on Produce Data Products

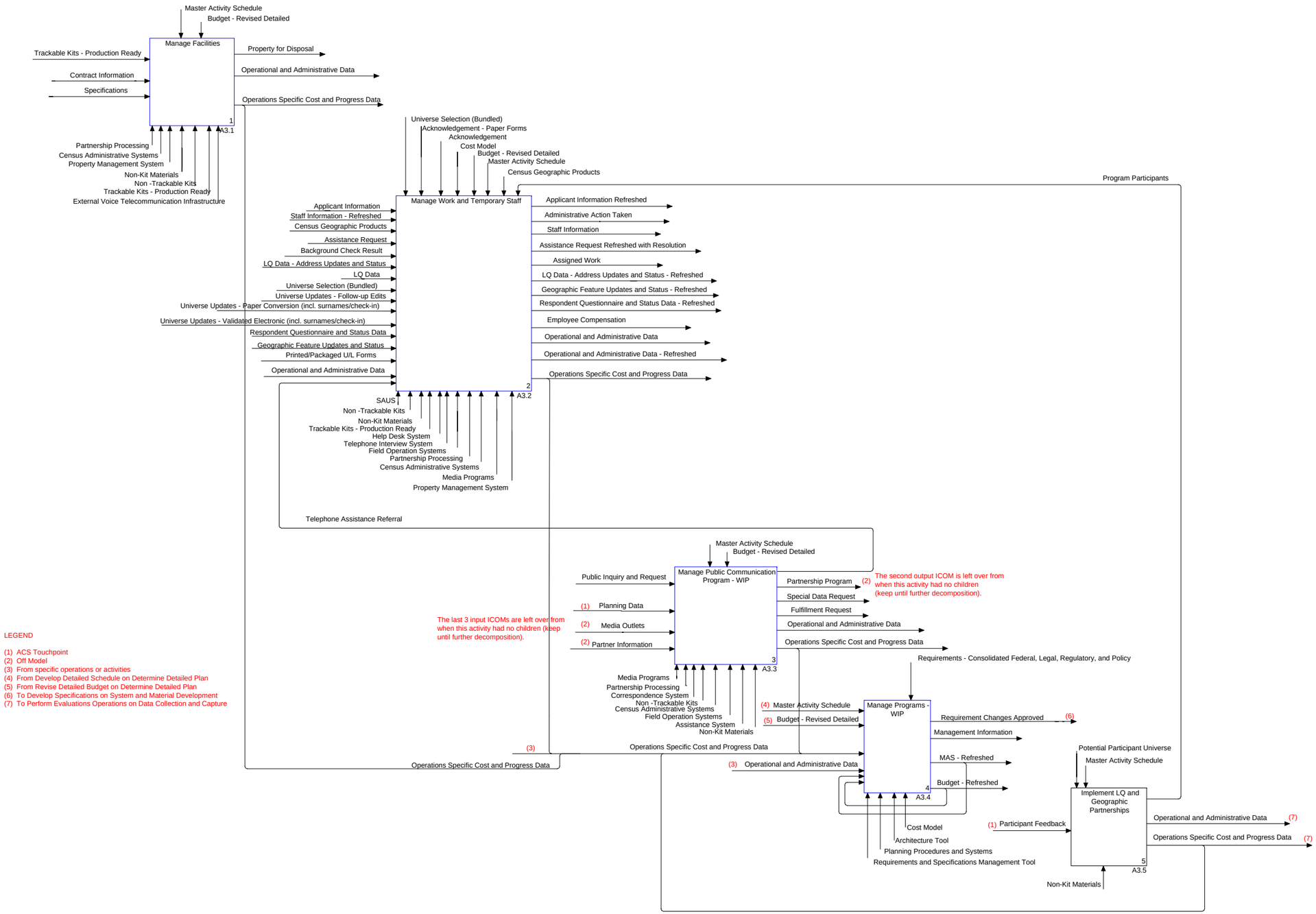
A25 Assemble and Deploy Census Materials



LEGEND

(1) Off Model
(2) From Develop and Integrate IT Systems on System and Material Development
(3) From Operate Facility on Manage Facilities
(4) From Develop Materials on System and Material Development
(5) From Print Materials and Forms on System and Material Development
(6) To various activities as a mechanism
(7) To Perform Evaluations Operations on Data Collection and Capture
(8) To Manage Programs on Operations Management
(9) From Assist the Public on Manage Public Communication Program
(10) To Configure Space on Build Out

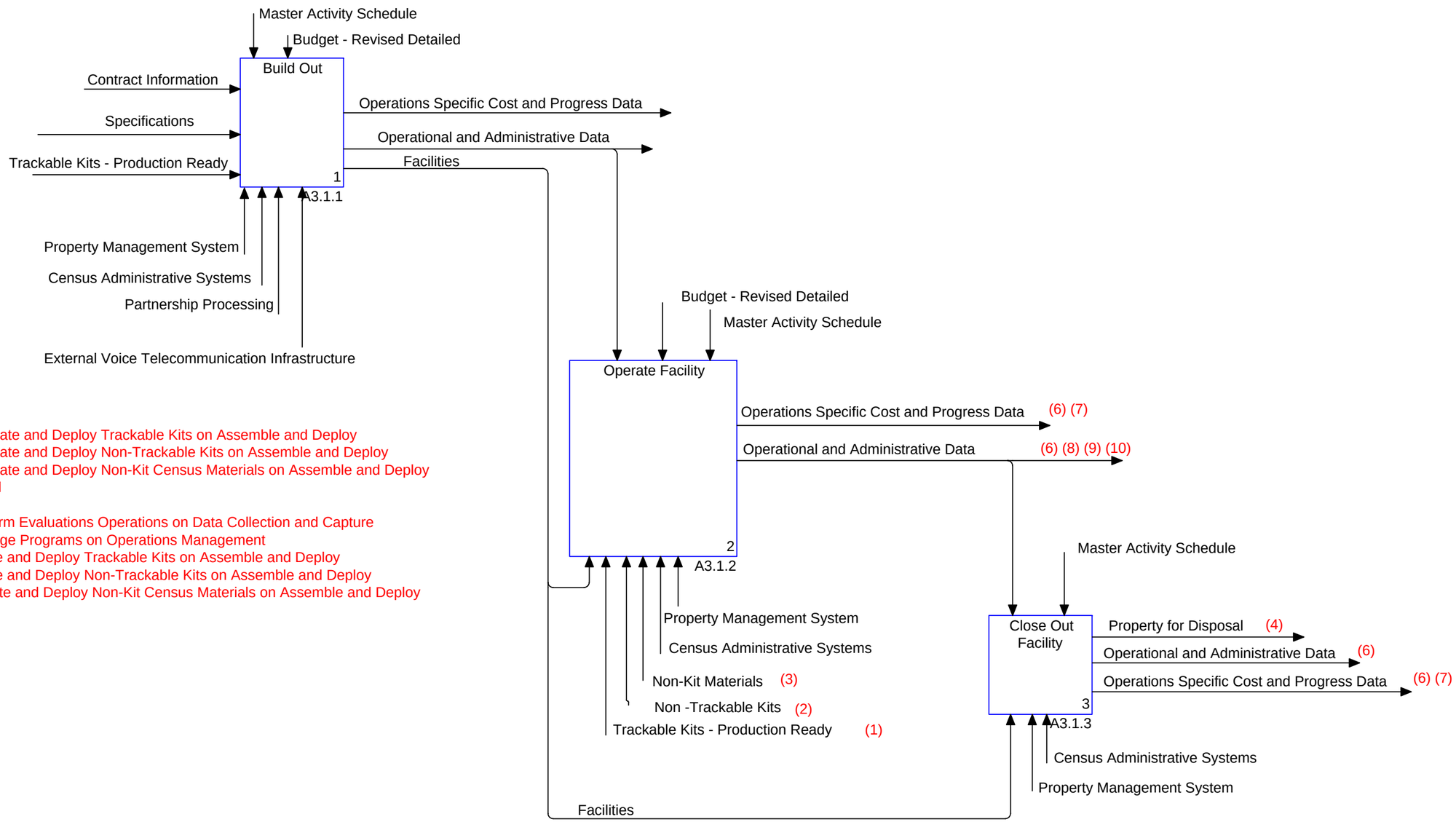
A3 Operations Management



LEGEND

(1) ACS Touchpoint
(2) Off Model
(3) From specific operations or activities
(4) From Develop Detailed Schedule on Determine Detailed Plan
(5) From Revise Detailed Budget on Determine Detailed Plan
(6) To Develop Specifications on System and Material Development
(7) To Perform Evaluations Operations on Data Collection and Capture

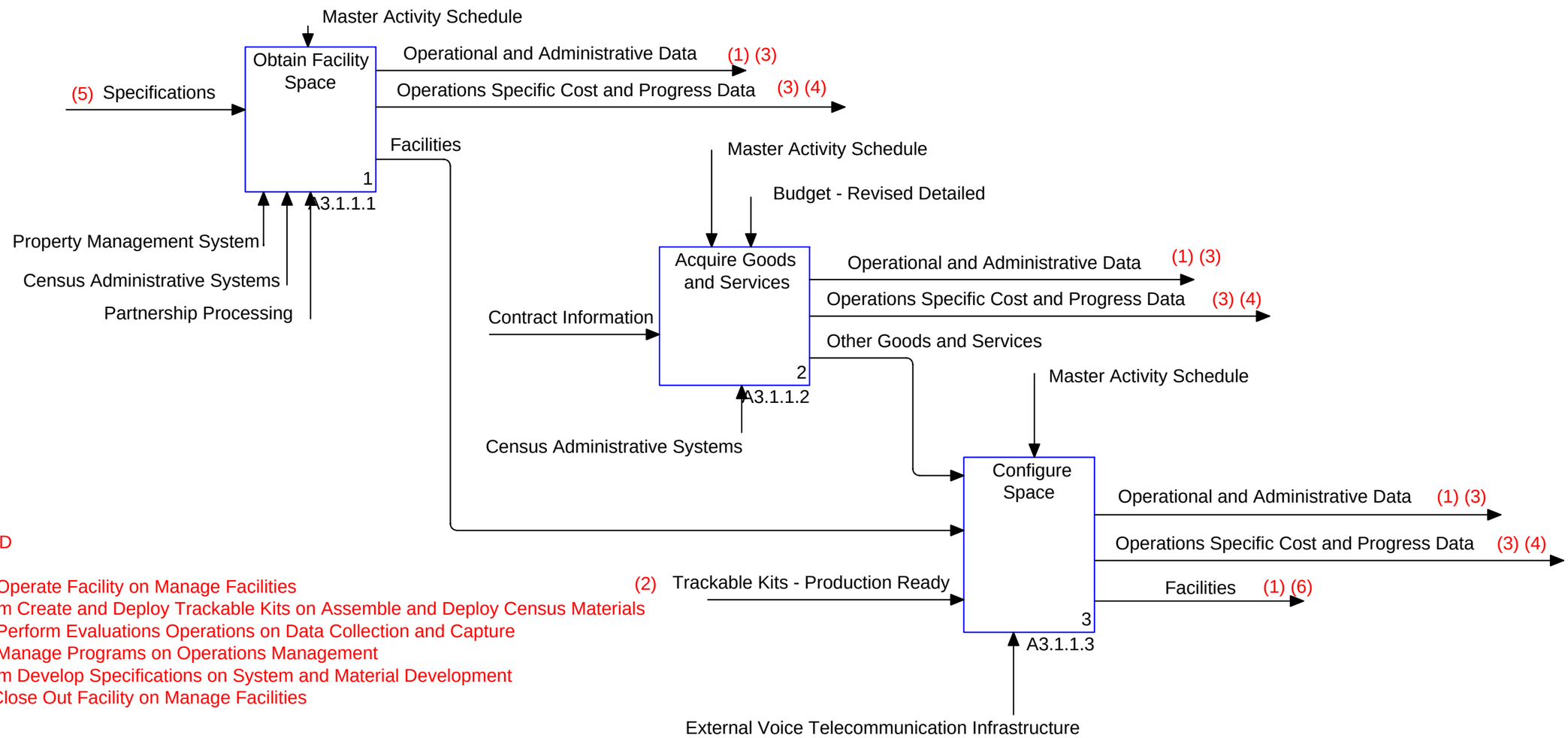
A31 Manage Facilities



LEGEND

(1) From Create and Deploy Trackable Kits on Assemble and Deploy
(2) From Create and Deploy Non-Trackable Kits on Assemble and Deploy
(3) From Create and Deploy Non-Kit Census Materials on Assemble and Deploy
(4) Off Model
(5)
(6) To Perform Evaluations Operations on Data Collection and Capture
(7) To Manage Programs on Operations Management
(8) To Create and Deploy Trackable Kits on Assemble and Deploy
(9) To Create and Deploy Non-Trackable Kits on Assemble and Deploy
(10) To Create and Deploy Non-Kit Census Materials on Assemble and Deploy

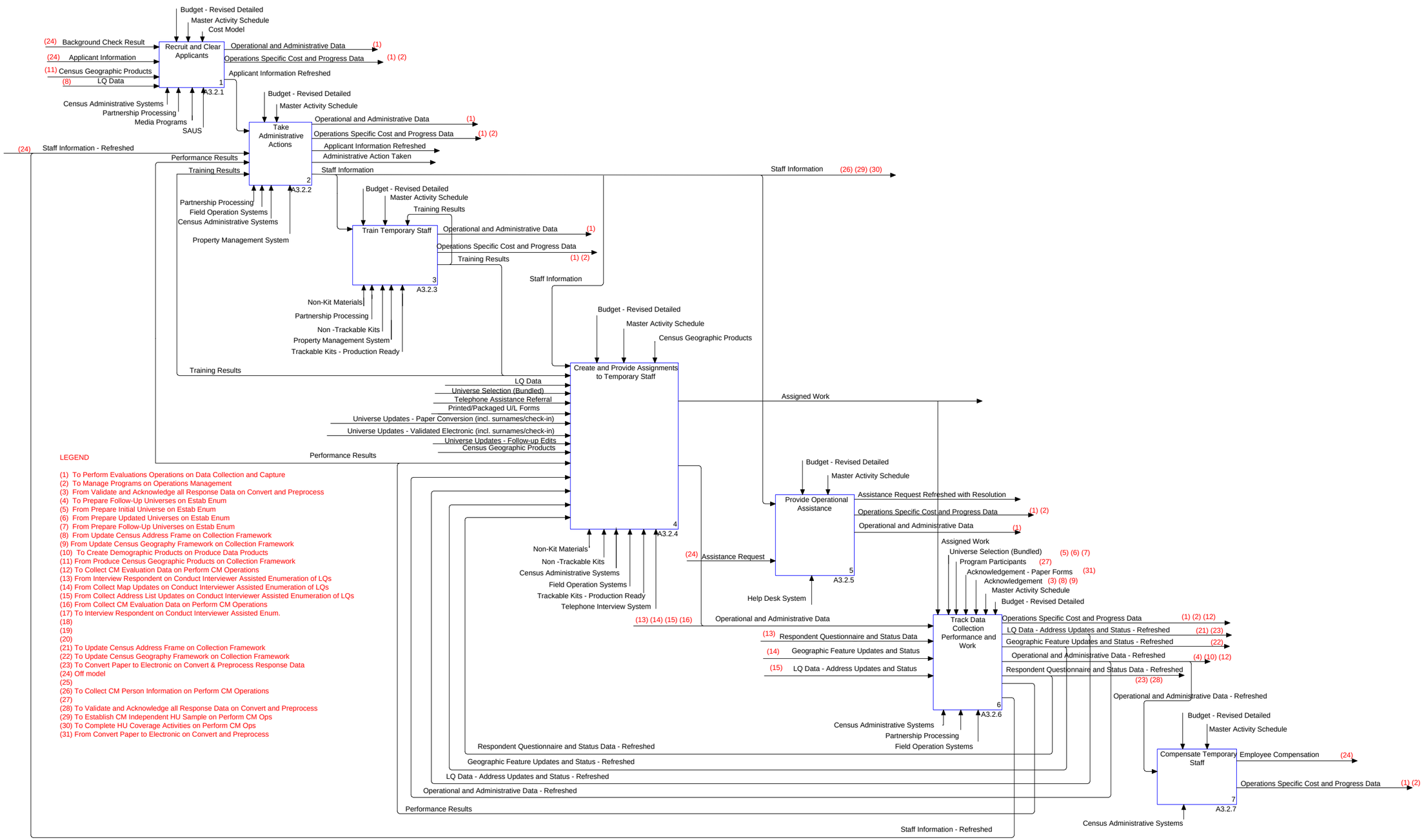
A311 Build Out



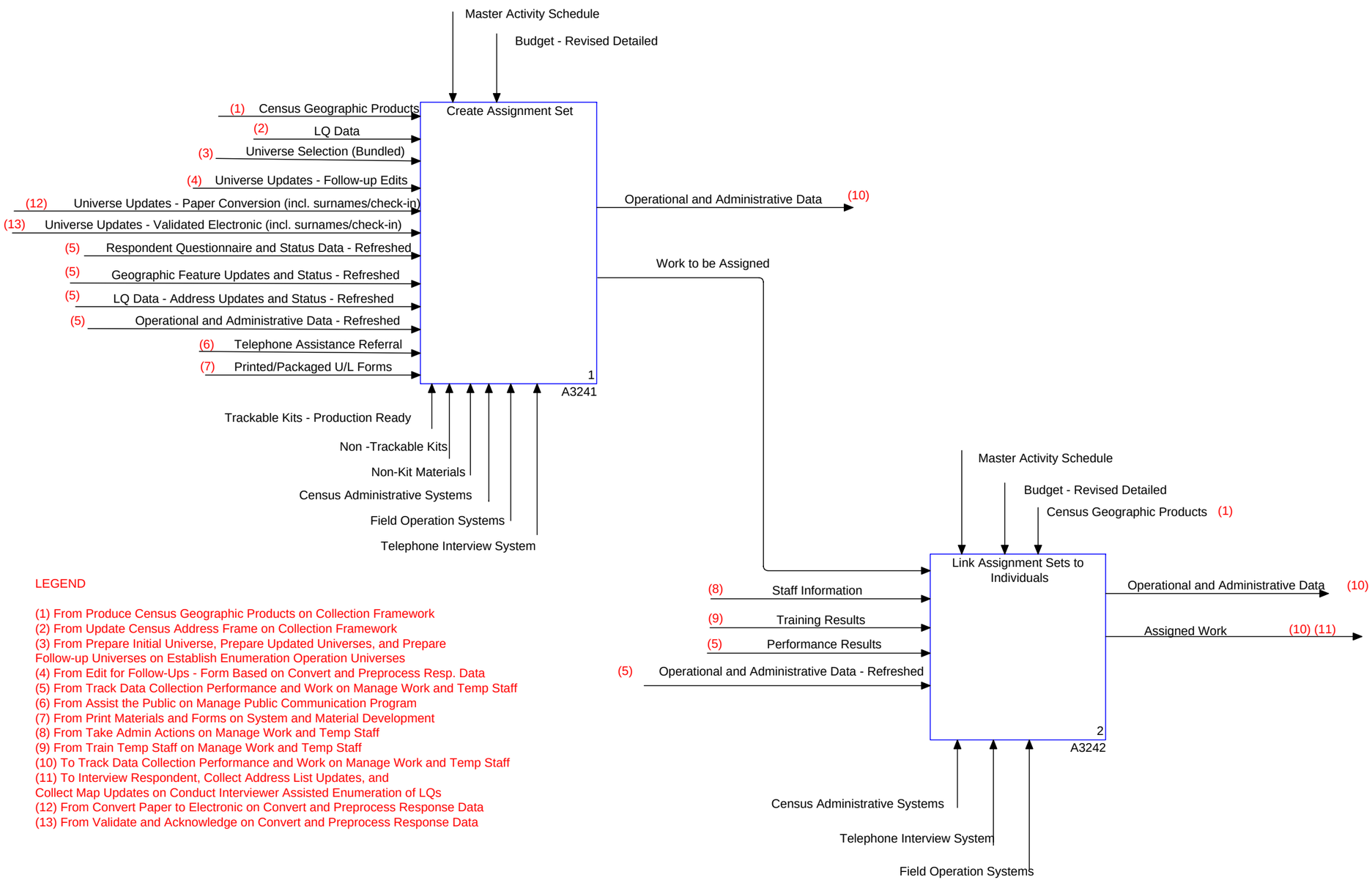
LEGEND

(1) To Operate Facility on Manage Facilities
(2) From Create and Deploy Trackable Kits on Assemble and Deploy Census Materials
(3) To Perform Evaluations Operations on Data Collection and Capture
(4) To Manage Programs on Operations Management
(5) From Develop Specifications on System and Material Development
(6) To Close Out Facility on Manage Facilities

A32 Manage Work and Temporary Staff



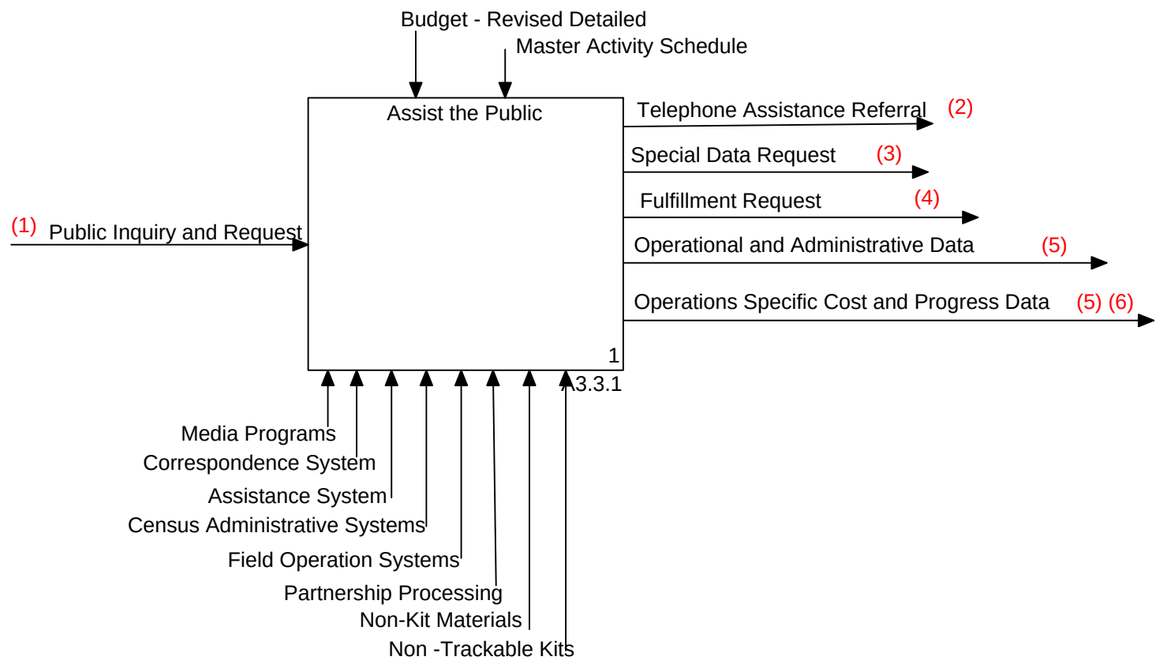
A324 Create and Provide Assignments to Temporary Staff



LEGEND

(1) From Produce Census Geographic Products on Collection Framework
(2) From Update Census Address Frame on Collection Framework
(3) From Prepare Initial Universe, Prepare Updated Universes, and Prepare Follow-up Universes on Establish Enumeration Operation Universes
(4) From Edit for Follow-Ups - Form Based on Convert and Preprocess Resp. Data
(5) From Track Data Collection Performance and Work on Manage Work and Temp Staff
(6) From Assist the Public on Manage Public Communication Program
(7) From Print Materials and Forms on System and Material Development
(8) From Take Admin Actions on Manage Work and Temp Staff
(9) From Train Temp Staff on Manage Work and Temp Staff
(10) To Track Data Collection Performance and Work on Manage Work and Temp Staff
(11) To Interview Respondent, Collect Address List Updates, and Collect Map Updates on Conduct Interviewer Assisted Enumeration of LQs
(12) From Convert Paper to Electronic on Convert and Preprocess Response Data
(13) From Validate and Acknowledge on Convert and Preprocess Response Data

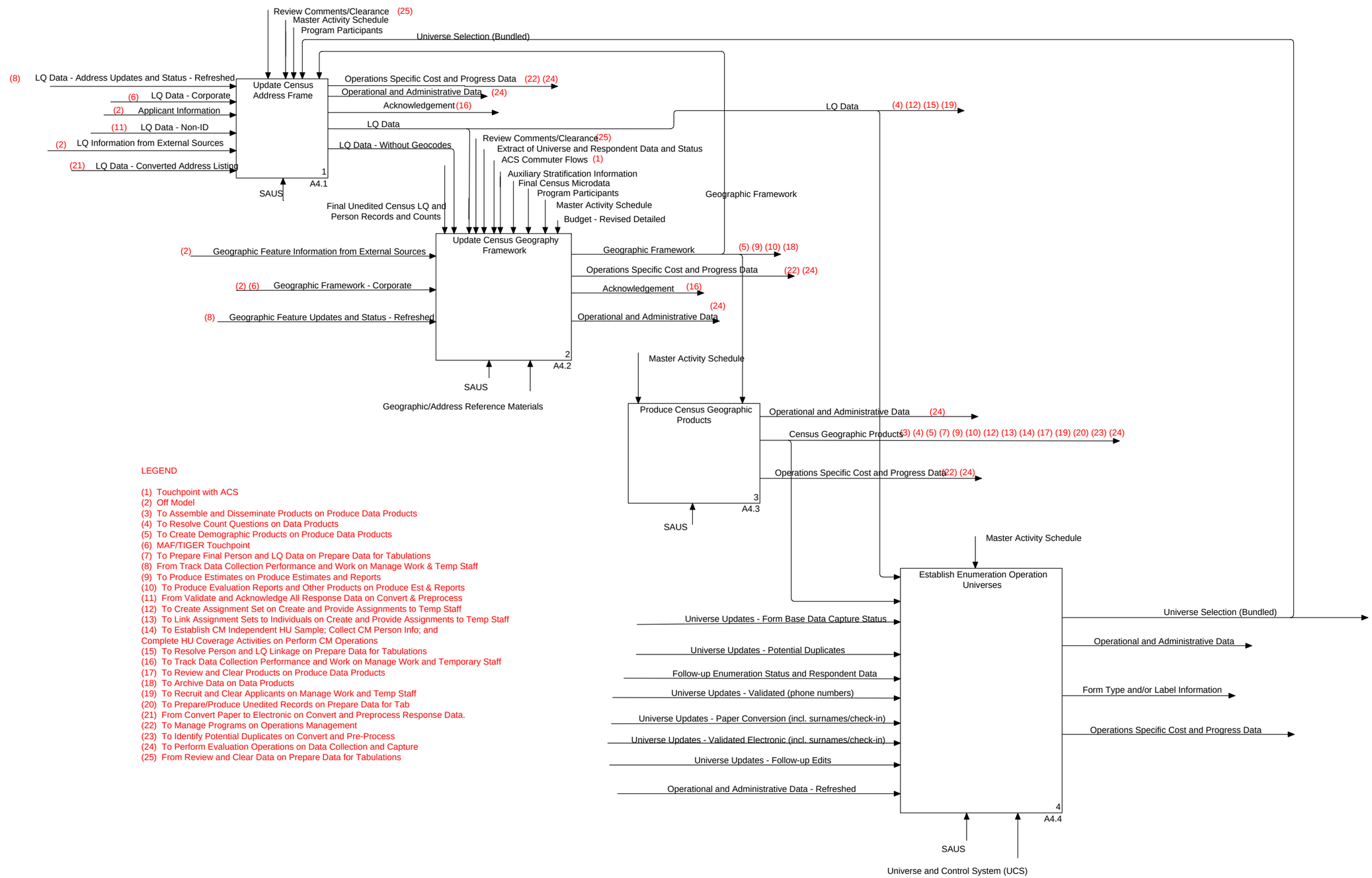
A33 Manage Public Communication Program - WIP



LEGEND

(1) Off model
(2) To Create Assignment Set on Create and Provide Assignments to Temp Staff
(3) To Create Demographic Products on Produce Data Products (as control)
(4) To Create and Deploy Non-Kit Census Materials on Assemble and Deploy (as a mechanism)
(5) To Perform Evaluations Operations on Data Collection and Capture
(6) To Manage Programs on Operations Management

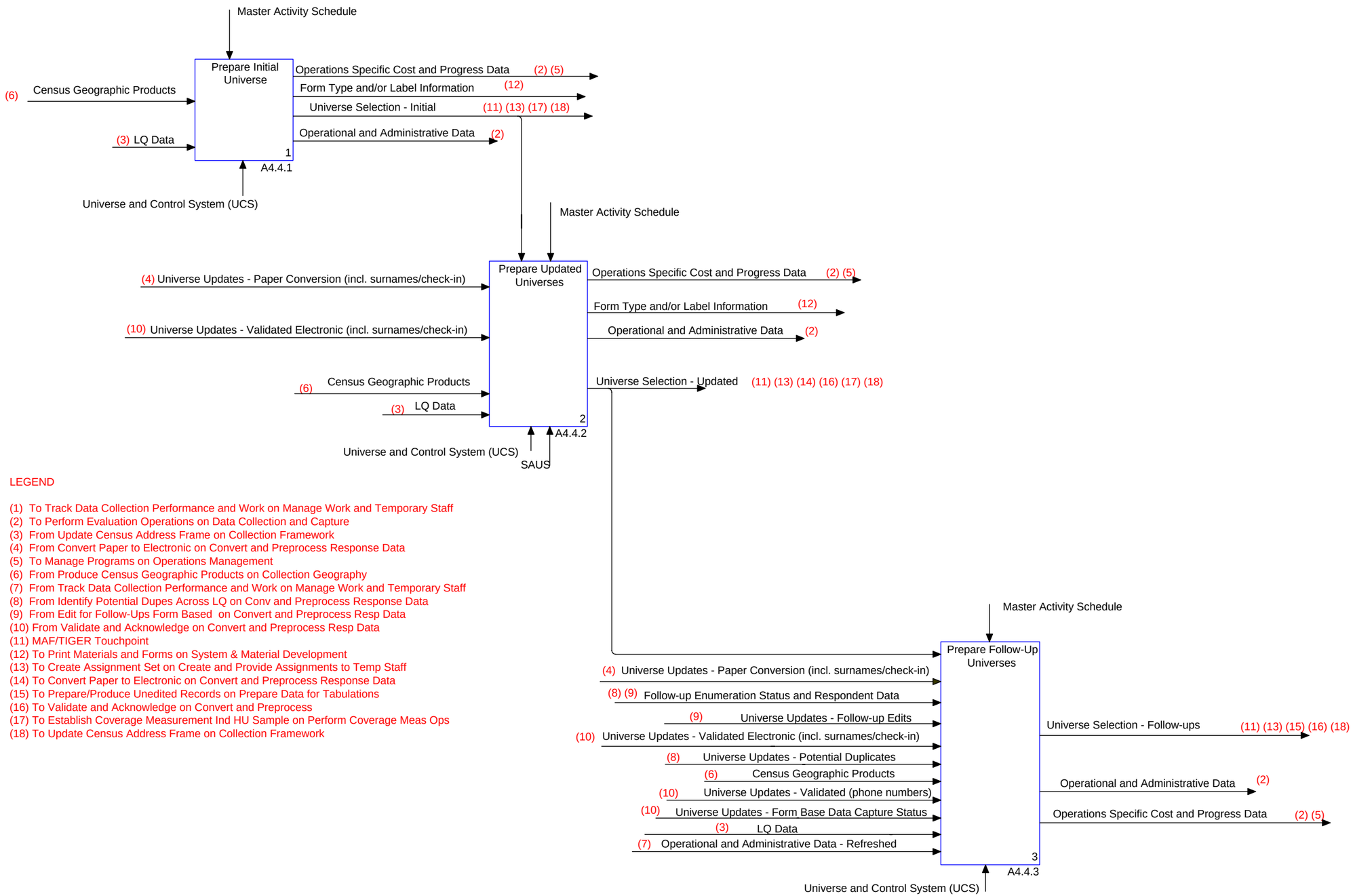
A4 Collection Framework



LEGEND

(1) Touchpoint with ACS
(2) Off Model
(3) To Assemble and Disseminate Products on Produce Data Products
(4) To Resolve Count Questions on Data Products
(5) To Create Demographic Products on Produce Data Products
(6) MAF/TIGER Touchpoint
(7) To Prepare Final Person and LQ Data on Prepare Data for Tabulations
(8) From Track Data Collection Performance and Work on Manage Work & Temp Staff
(9) To Produce Estimates on Produce Estimates and Reports
(10) To Produce Evaluation Reports and Other Products on Produce Est & Reports
(11) From Validate and Acknowledge All Response Data on Convert & Preprocess
(12) To Create Assignment Set on Create and Provide Assignments to Temp Staff
(13) To Link Assignment Sets to Individuals on Create and Provide Assignments to Temp Staff
(14) To Establish CM Independent HU Sample; Collect CM Person Info; and Complete HU Coverage Activities on Perform CM Operations
(15) To Resolve Person and LQ Linkage on Prepare Data for Tabulations
(16) To Track Data Collection Performance and Work on Manage Work and Temporary Staff
(17) To Review and Clear Products on Produce Data Products
(18) To Archive Data on Data Products
(19) To Recruit and Clear Applicants on Manage Work and Temp Staff
(20) To Prepare/Produce Unedited Records on Prepare Data for Tab
(21) From Convert Paper to Electronic on Convert and Preprocess Response Data.
(22) To Manage Programs on Operations Management
(23) To Identify Potential Duplicates on Convert and Pre-Process
(24) To Perform Evaluation Operations on Data Collection and Capture
(25) From Review and Clear Data on Prepare Data for Tabulations

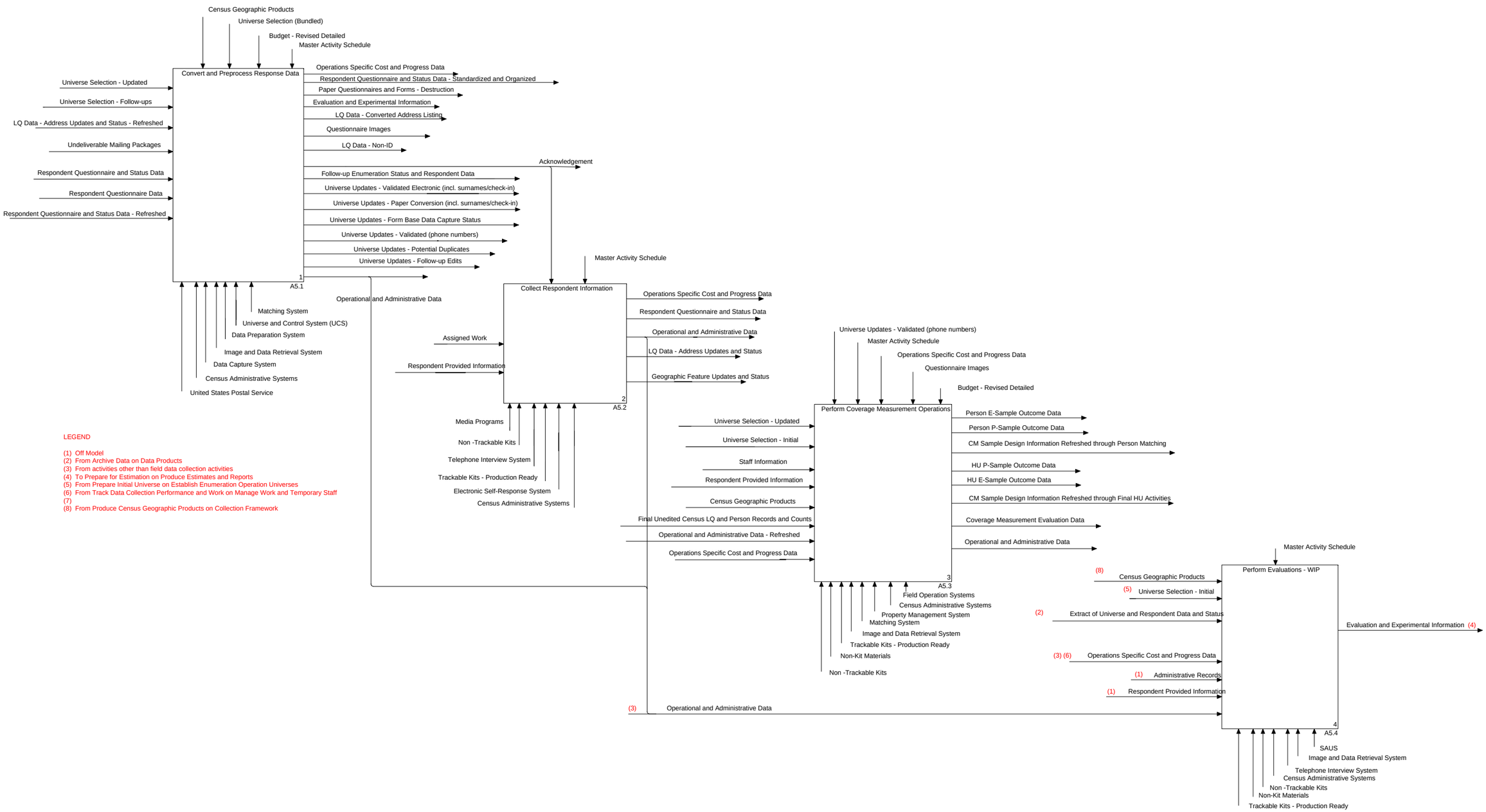
A44 Establish Enumeration Operation Universes



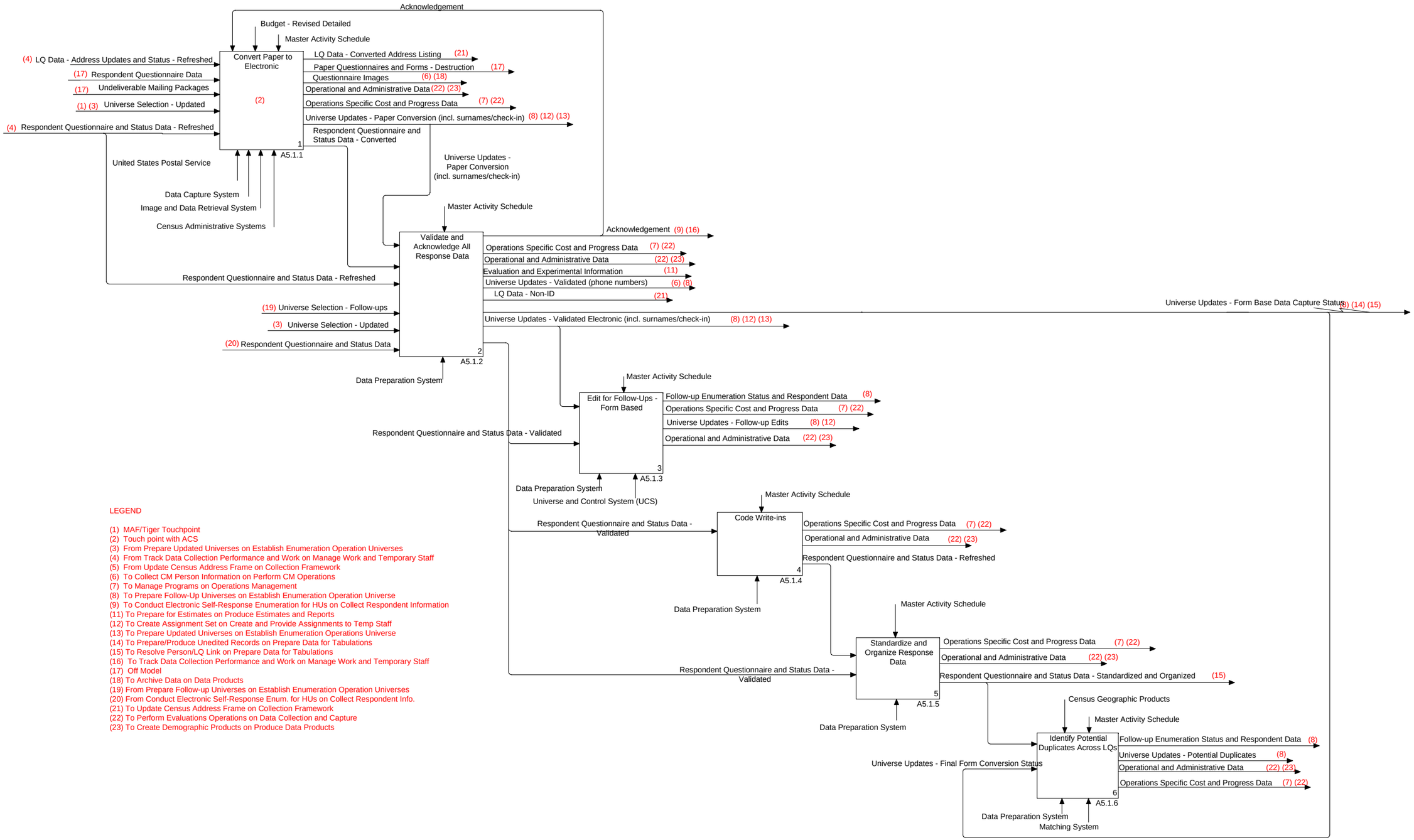
LEGEND

(1) To Track Data Collection Performance and Work on Manage Work and Temporary Staff
(2) To Perform Evaluation Operations on Data Collection and Capture
(3) From Update Census Address Frame on Collection Framework
(4) From Convert Paper to Electronic on Convert and Preprocess Response Data
(5) To Manage Programs on Operations Management
(6) From Produce Census Geographic Products on Collection Geography
(7) From Track Data Collection Performance and Work on Manage Work and Temporary Staff
(8) From Identify Potential Dupes Across LQ on Conv and Preprocess Response Data
(9) From Edit for Follow-Ups Form Based on Convert and Preprocess Resp Data
(10) From Validate and Acknowledge on Convert and Preprocess Resp Data
(11) MAF/TIGER Touchpoint
(12) To Print Materials and Forms on System & Material Development
(13) To Create Assignment Set on Create and Provide Assignments to Temp Staff
(14) To Convert Paper to Electronic on Convert and Preprocess Response Data
(15) To Prepare/Produce Unedited Records on Prepare Data for Tabulations
(16) To Validate and Acknowledge on Convert and Preprocess
(17) To Establish Coverage Measurement Ind HU Sample on Perform Coverage Meas Ops
(18) To Update Census Address Frame on Collection Framework

A5 Data Collection and Capture



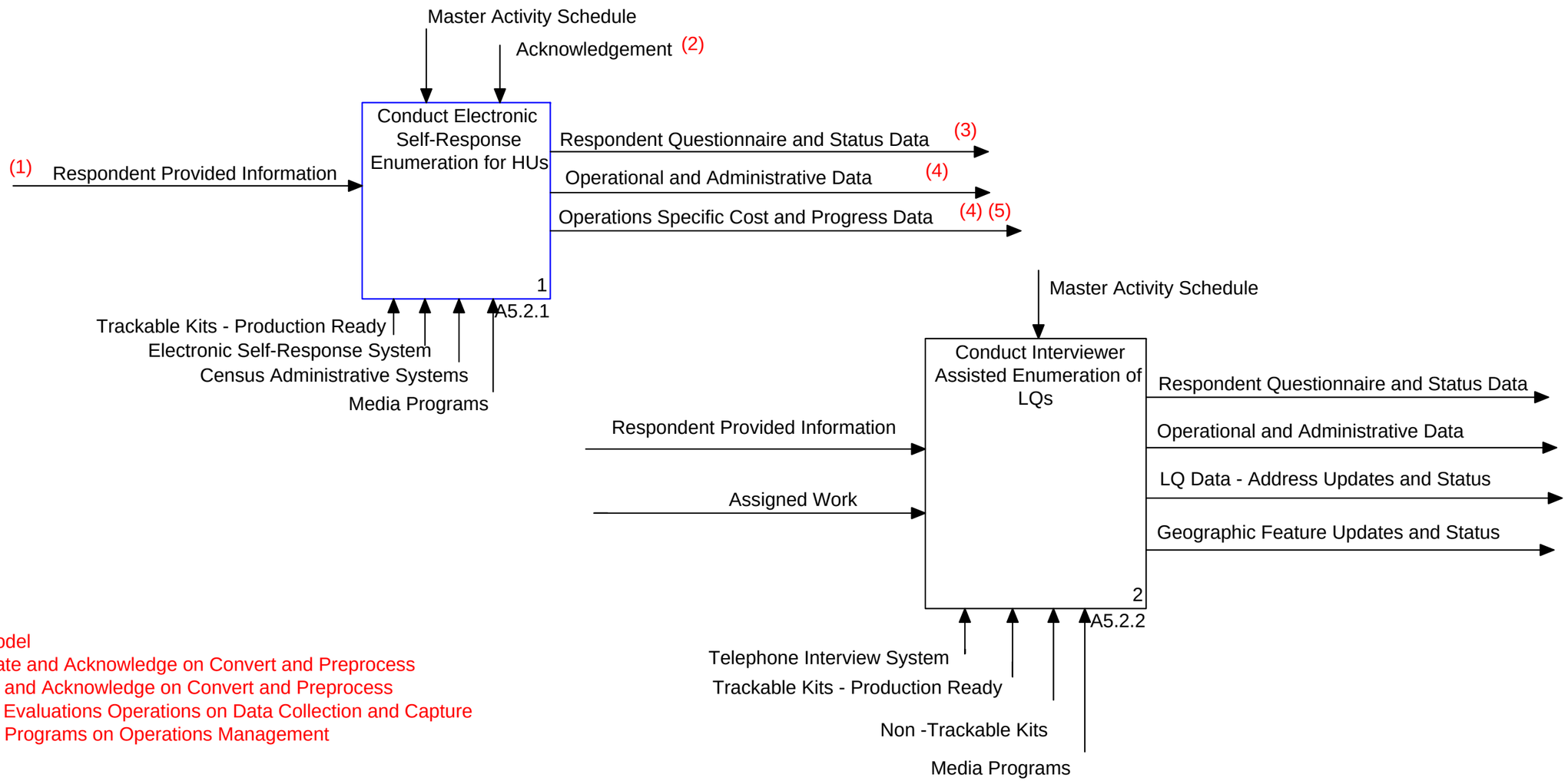
A51 Convert and Preprocess Response Data



LEGEND

(1) MAF/Tiger Touchpoint
(2) Touch point with ACS
(3) From Prepare Updated Universes on Establish Enumeration Operation Universes
(4) From Track Data Collection Performance and Work on Manage Work and Temporary Staff
(5) From Update Census Address Frame on Collection Framework
(6) To Collect CM Person Information on Perform CM Operations
(7) To Manage Programs on Operations Management
(8) To Prepare Follow-Up Universes on Establish Enumeration Operation Universe
(9) To Conduct Electronic Self-Response Enumeration for HUs on Collect Respondent Information
(11) To Prepare for Estimates on Produce Estimates and Reports
(12) To Create Assignment Set on Create and Provide Assignments to Temp Staff
(13) To Prepare Updated Universes on Establish Enumeration Operations Universe
(14) To Prepare/Produce Unedited Records on Prepare Data for Tabulations
(15) To Resolve Person/LQ Link on Prepare Data for Tabulations
(16) To Track Data Collection Performance and Work on Manage Work and Temporary Staff
(17) Off Model
(18) To Archive Data on Data Products
(19) From Prepare Follow-up Universes on Establish Enumeration Operation Universes
(20) From Conduct Electronic Self-Response Enum. for HUs on Collect Respondent Info.
(21) To Update Census Address Frame on Collection Framework
(22) To Perform Evaluations Operations on Data Collection and Capture
(23) To Create Demographic Products on Produce Data Products

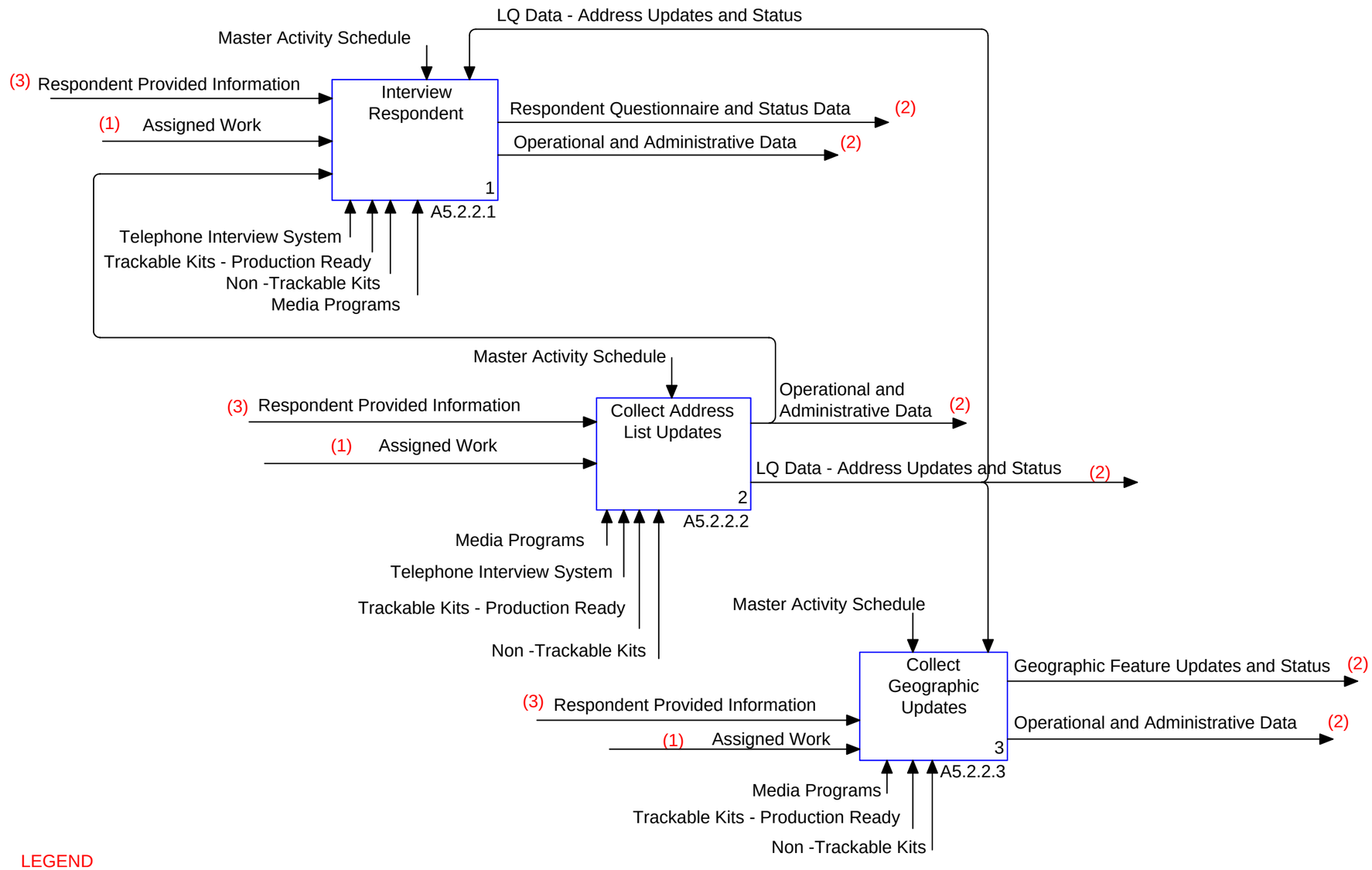
A52 Collect Respondent Information



LEGEND

(1) From off model
(2) From Validate and Acknowledge on Convert and Preprocess
(3) To Validate and Acknowledge on Convert and Preprocess
(4) To Perform Evaluations Operations on Data Collection and Capture
(5) To Manage Programs on Operations Management

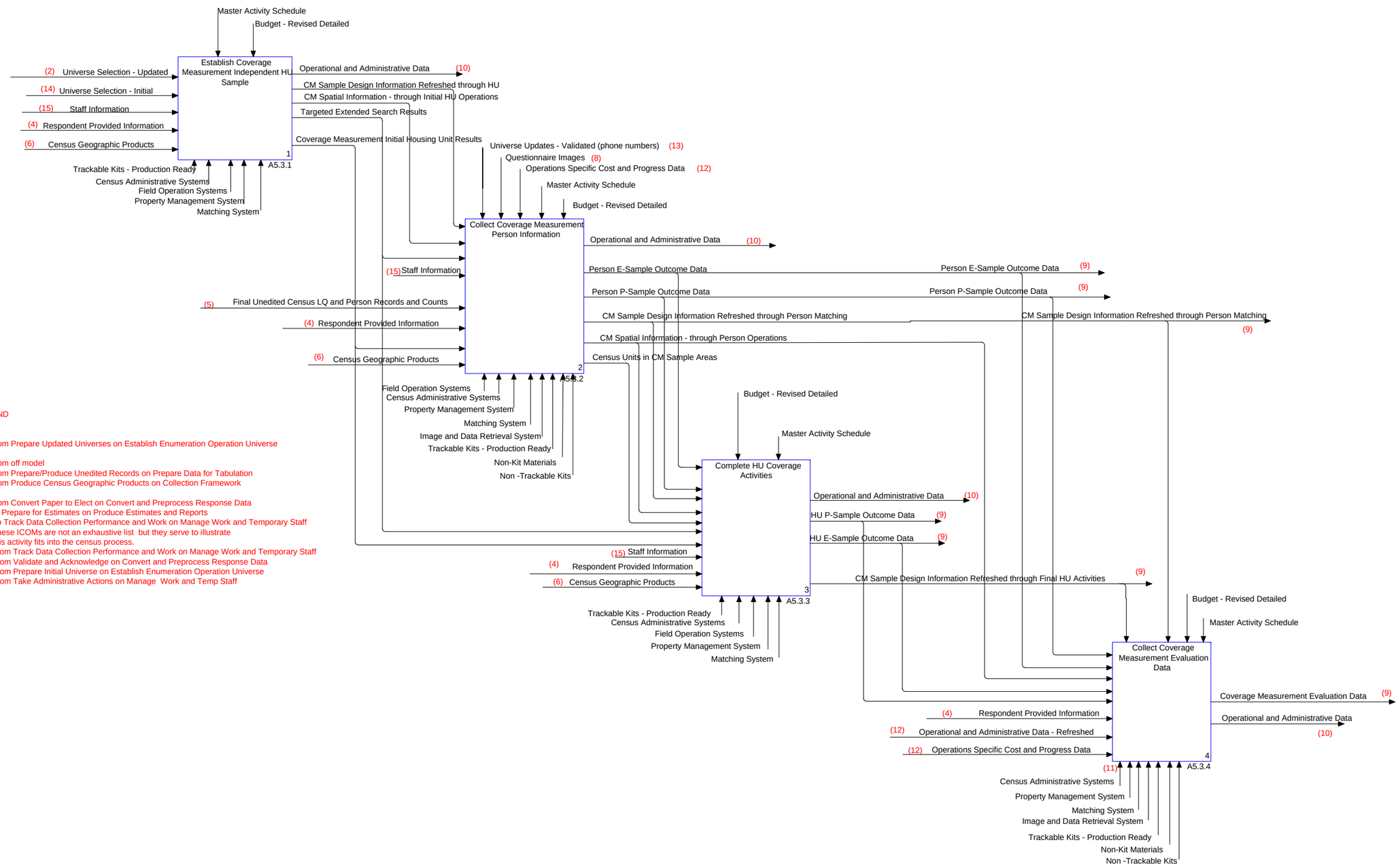
A522 Conduct Interviewer Assisted Enumeration of LQs



LEGEND

(1) From Link Assignment Sets to Individuals on Create and Provide Assignments to Temp Staff
(2) To Track Data Collection Performance and Work on Manage Work and Temporary Staff
(3) From off model

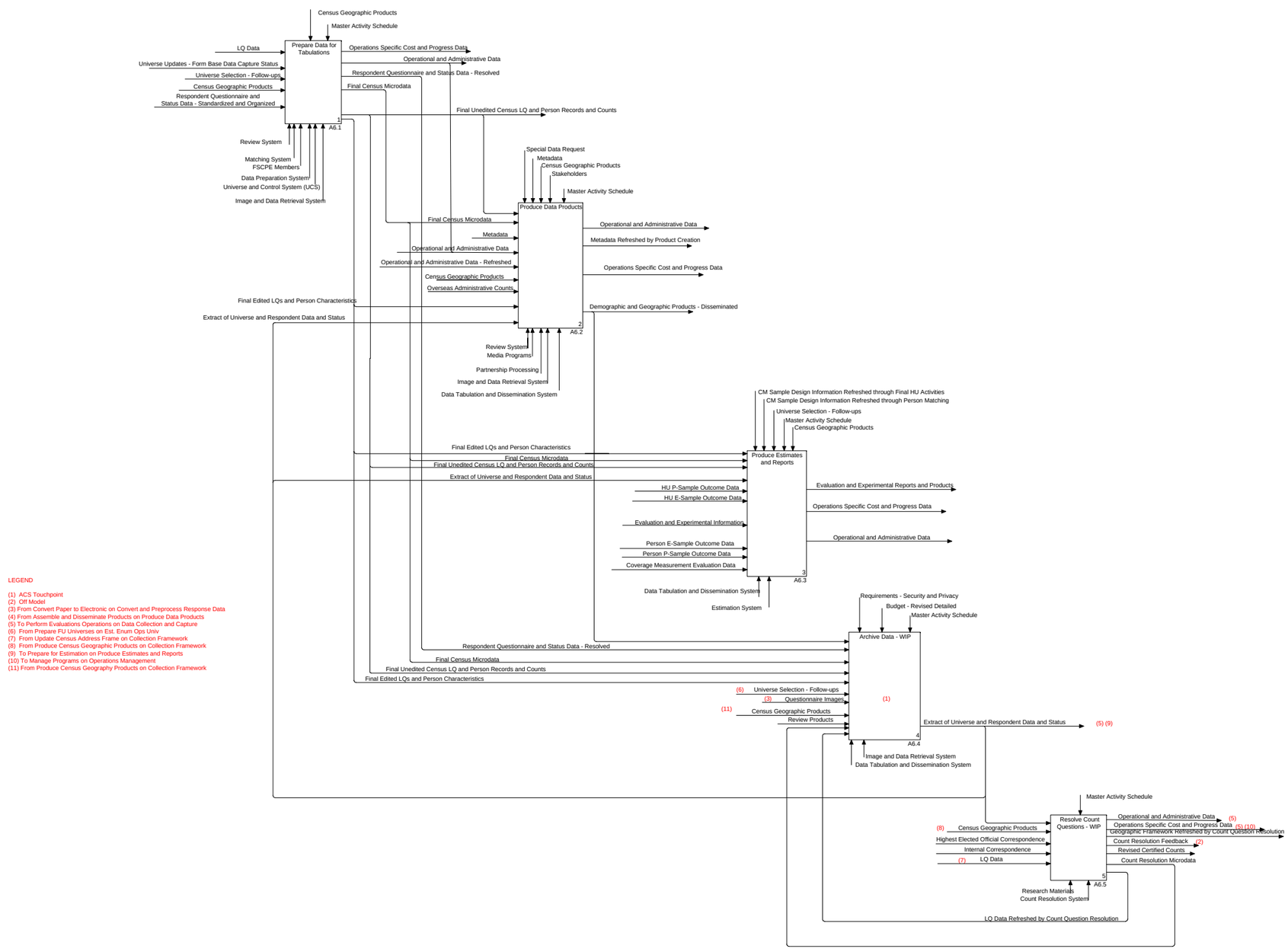
A53 Perform Coverage Measurement Operations



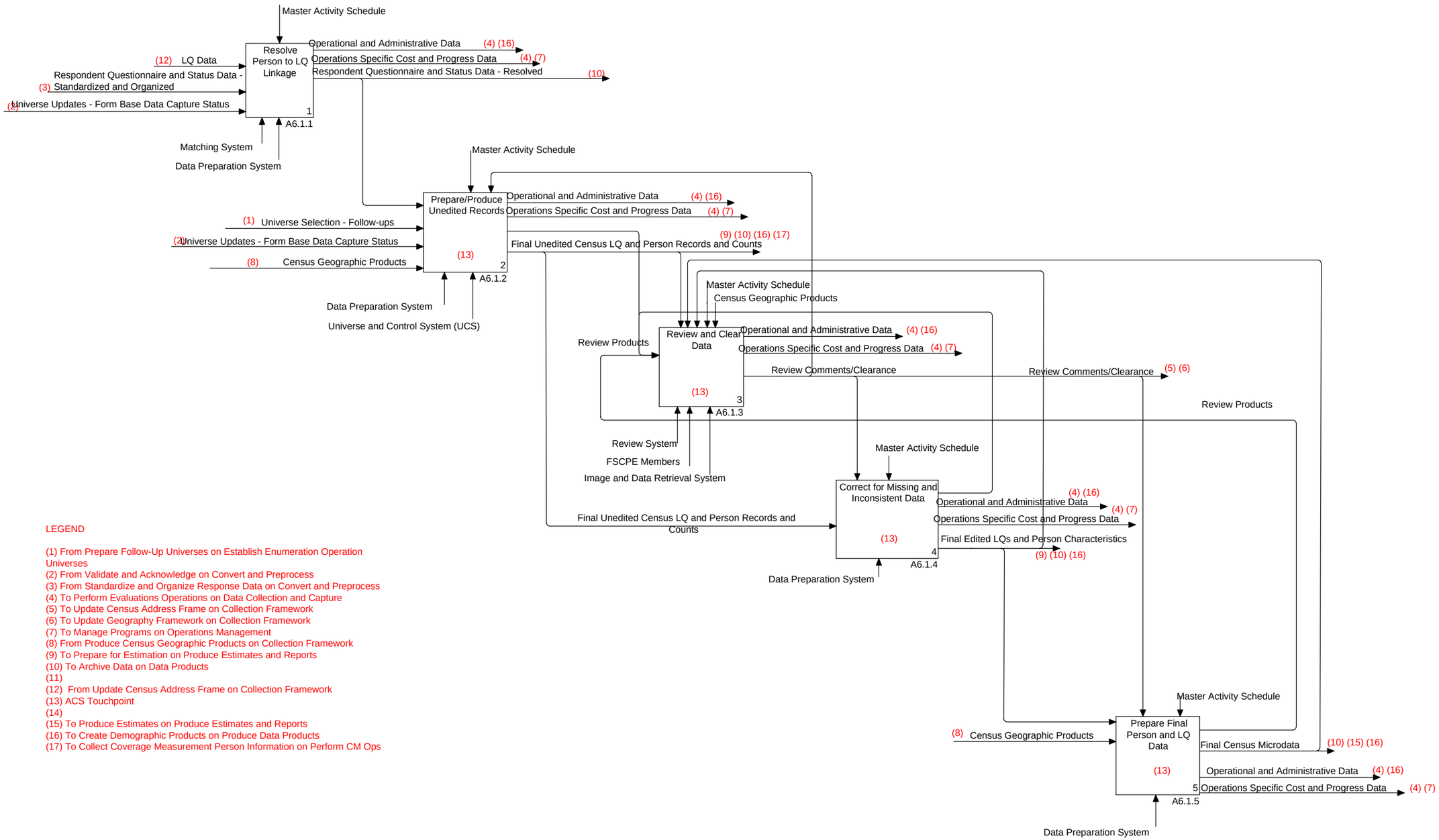
LEGEND

(1)
(2) From Prepare Updated Universes on Establish Enumeration Operation Universe
(3)
(4) From off model
(5) From Prepare/Produce Unedited Records on Prepare Data for Tabulation
(6) From Produce Census Geographic Products on Collection Framework
(7)
(8) From Convert Paper to Elect on Convert and Preprocess Response Data
(9) To Prepare for Estimates on Produce Estimates and Reports
(10) To Track Data Collection Performance and Work on Manage Work and Temporary Staff
(11) These ICOMs are not an exhaustive list but they serve to illustrate how this activity fits into the census process.
(12) From Track Data Collection Performance and Work on Manage Work and Temporary Staff
(13) From Validate and Acknowledge on Convert and Preprocess Response Data
(14) From Prepare Initial Universe on Establish Enumeration Operation Universe
(15) From Take Administrative Actions on Manage Work and Temp Staff

A6 Data Products



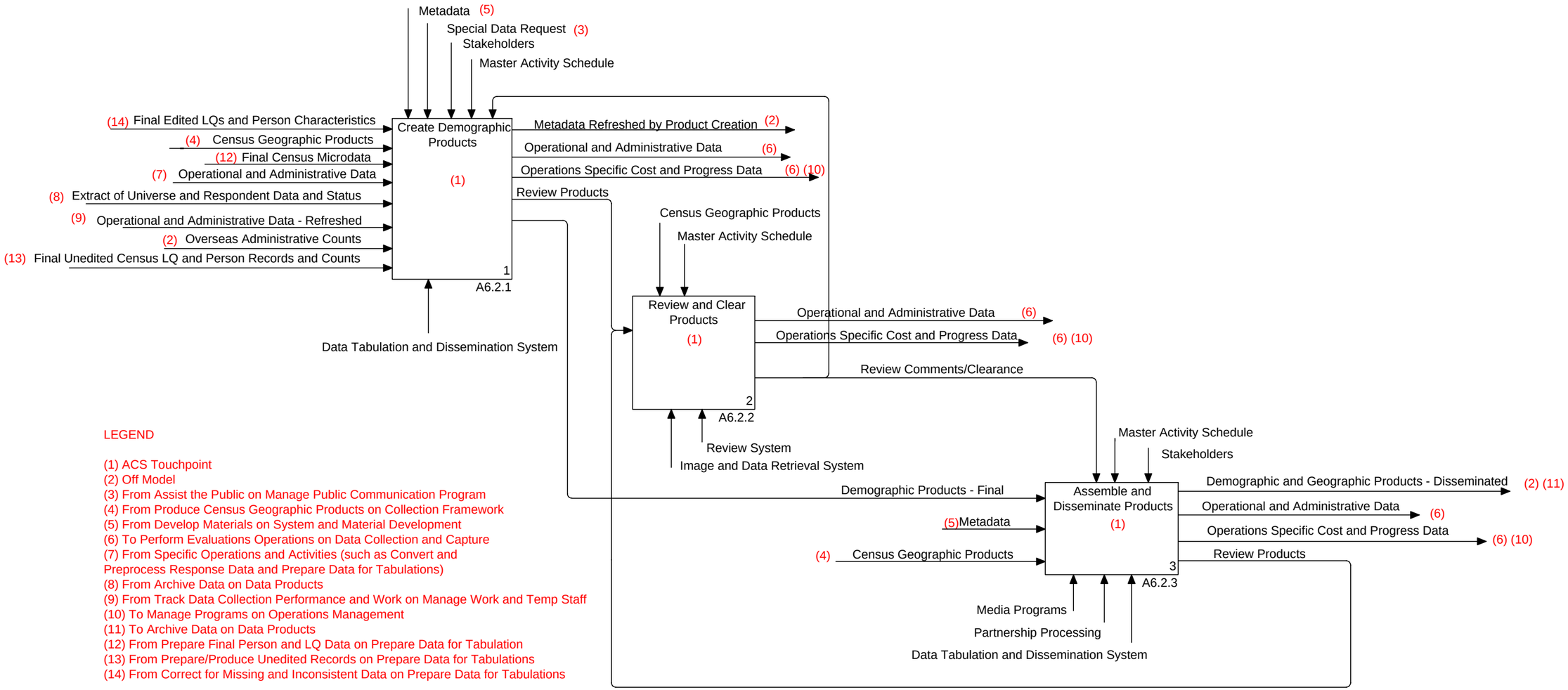
A61 Prepare Data for Tabulations



LEGEND

(1) From Prepare Follow-Up Universes on Establish Enumeration Operation Universes
(2) From Validate and Acknowledge on Convert and Preprocess
(3) From Standardize and Organize Response Data on Convert and Preprocess
(4) To Perform Evaluations Operations on Data Collection and Capture
(5) To Update Census Address Frame on Collection Framework
(6) To Update Geography Framework on Collection Framework
(7) To Manage Programs on Operations Management
(8) From Produce Census Geographic Products on Collection Framework
(9) To Prepare for Estimation on Produce Estimates and Reports
(10) To Archive Data on Data Products
(11)
(12) From Update Census Address Frame on Collection Framework
(13) ACS Touchpoint
(14)
(15) To Produce Estimates on Produce Estimates and Reports
(16) To Create Demographic Products on Produce Data Products
(17) To Collect Coverage Measurement Person Information on Perform CM Ops

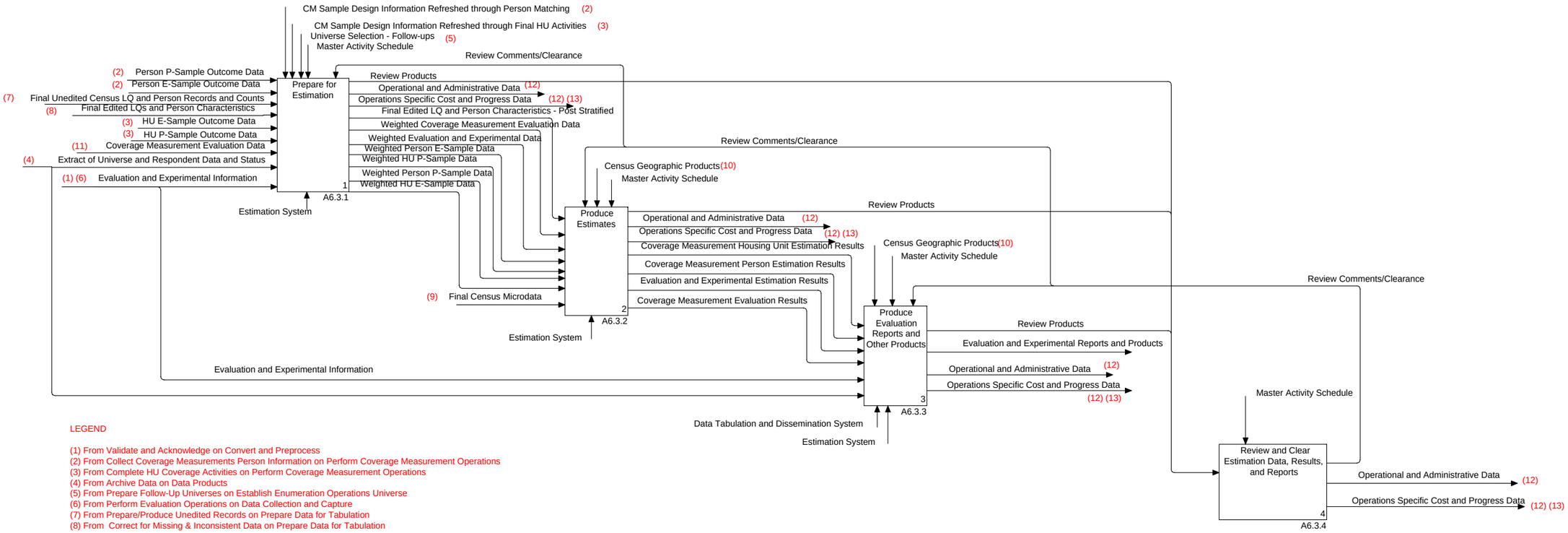
A62 Produce Data Products



LEGEND

(1) ACS Touchpoint
(2) Off Model
(3) From Assist the Public on Manage Public Communication Program
(4) From Produce Census Geographic Products on Collection Framework
(5) From Develop Materials on System and Material Development
(6) To Perform Evaluations Operations on Data Collection and Capture
(7) From Specific Operations and Activities (such as Convert and Preprocess Response Data and Prepare Data for Tabulations)
(8) From Archive Data on Data Products
(9) From Track Data Collection Performance and Work on Manage Work and Temp Staff
(10) To Manage Programs on Operations Management
(11) To Archive Data on Data Products
(12) From Prepare Final Person and LQ Data on Prepare Data for Tabulation
(13) From Prepare/Produce Unedited Records on Prepare Data for Tabulations
(14) From Correct for Missing and Inconsistent Data on Prepare Data for Tabulations

A63 Produce Estimates and Reports



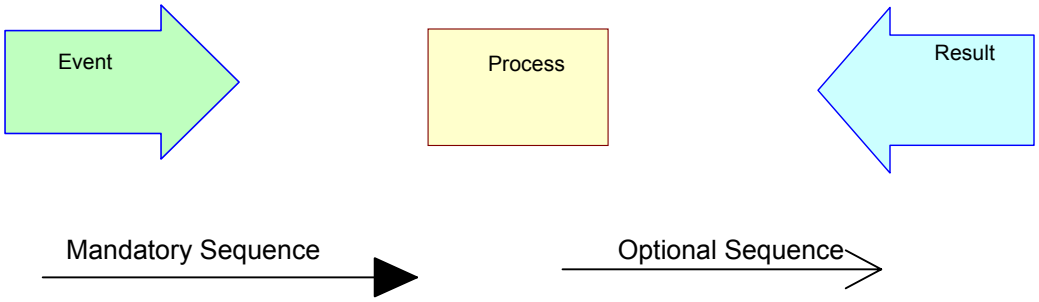
LEGEND

(1) From Validate and Acknowledge on Convert and Preprocess
(2) From Collect Coverage Measurements Person Information on Perform Coverage Measurement Operations
(3) From Complete HU Coverage Activities on Perform Coverage Measurement Operations
(4) From Archive Data on Data Products
(5) From Prepare Follow-Up Universes on Establish Enumeration Operations Universe
(6) From Perform Evaluation Operations on Data Collection and Capture
(7) From Prepare/Produce Unedited Records on Prepare Data for Tabulation
(8) From Correct for Missing & Inconsistent Data on Prepare Data for Tabulation
(9) From Prepare Final Person and LQ Data on Prepare Data for Tabulation
(10) From Produce Census Collection Products on Collection Framework
(11) From Collect Coverage Measurement Evaluation Data on Perform Coverage Measurement Operations
(12) To Perform Evaluations Operations on Data Collection and Capture
(13) To Manage Programs on Operations Management

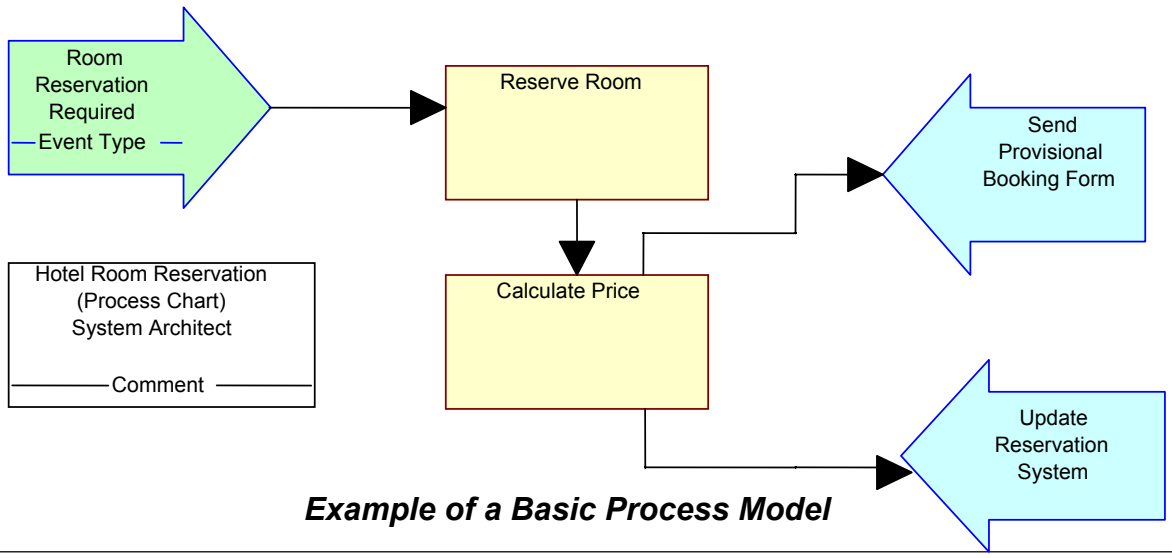
19. Process Model

Process models depict sequential process steps, decision points, inputs, outputs, etc. On a Process Model diagram, there are *Events, Processes, and Results* (defined and depicted below). The sequencing of logic between these symbols is modeled with *Mandatory Sequence* or *Optional Sequence* lines (also defined and depicted below). There are also *Swim lanes* to model the parts of the organization that these events, processes, and results occur in/are performed. Swim lanes as shown in the provided work products, use rows to separate processes and depict the roles or organizations that perform them.

An *Example of a Basic Process Model* is illustrated below. The process models for Local Update of Census Addresses (LUCA) activities were developed as work products to understand the model's potential as an analytical tool and to assess alternatives for the Coding process.

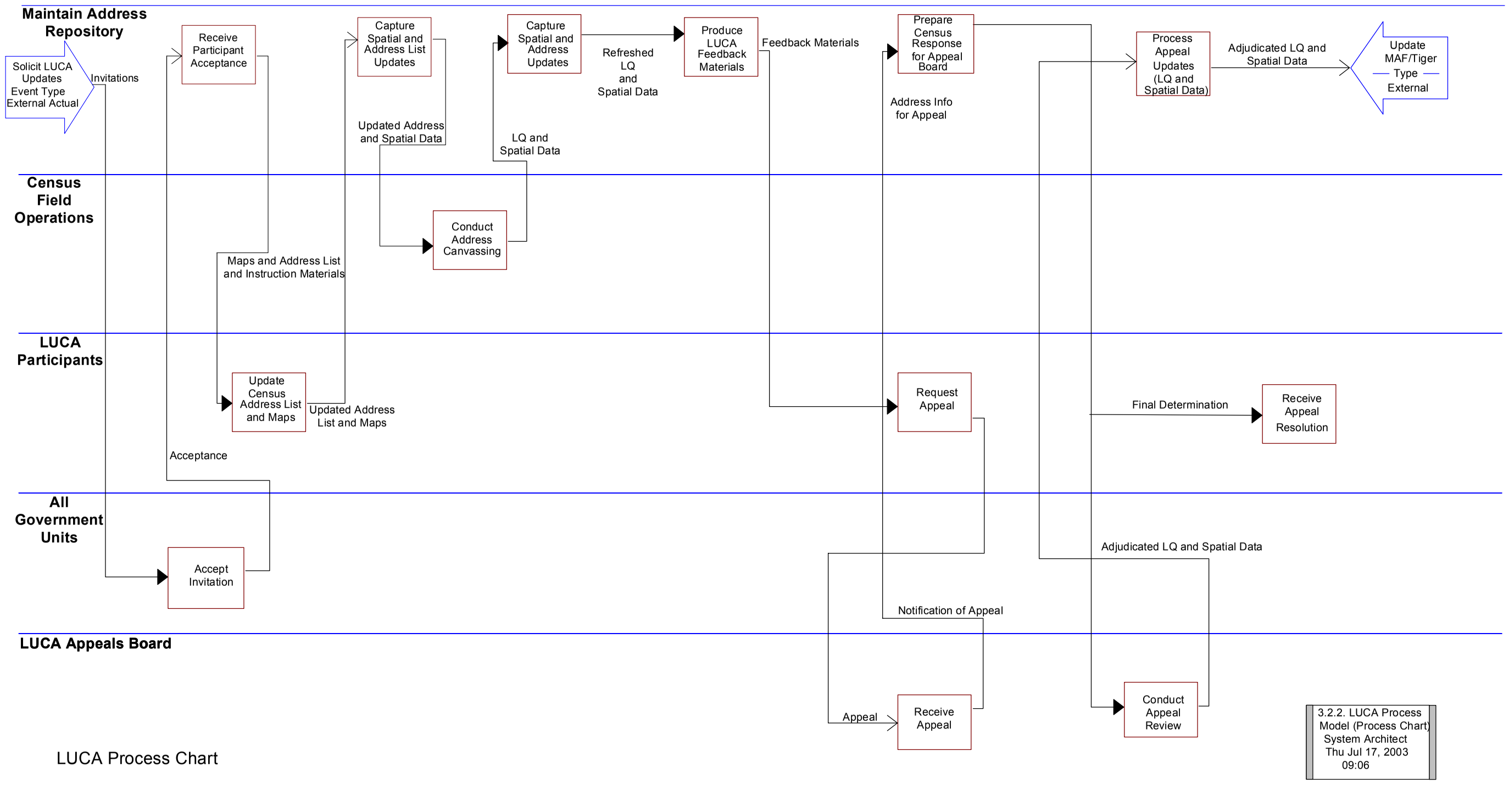


Event: something that occurs in the business; a starting point or trigger for an activity.
Process: activity performed (work).
Result: an outcome of the process; the end point(s).
Mandatory Sequence: a path that must be followed during this process.
Optional Sequence: a path that may or may not be followed during this process.



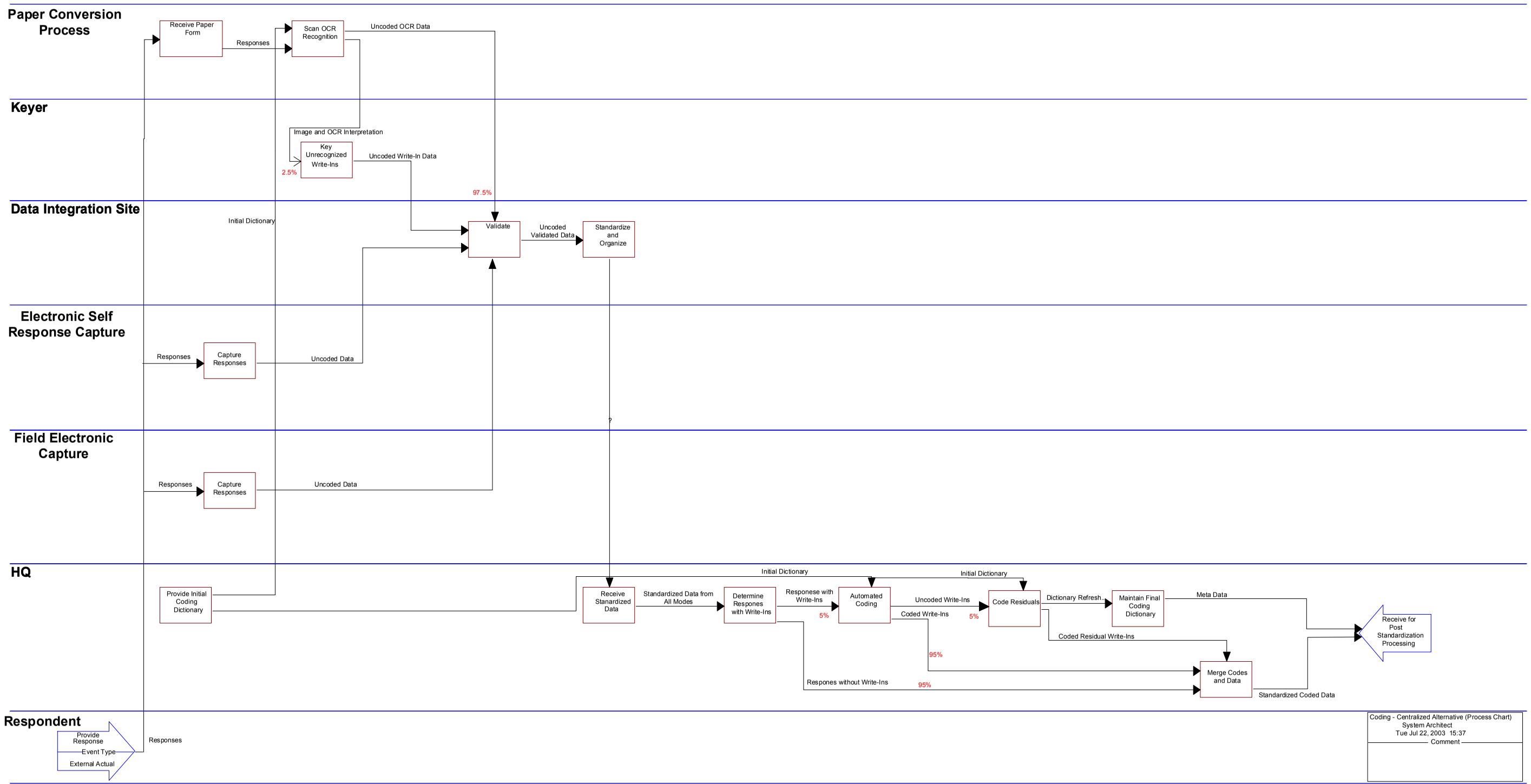
Example of a Basic Process Model

LUCA Process Model

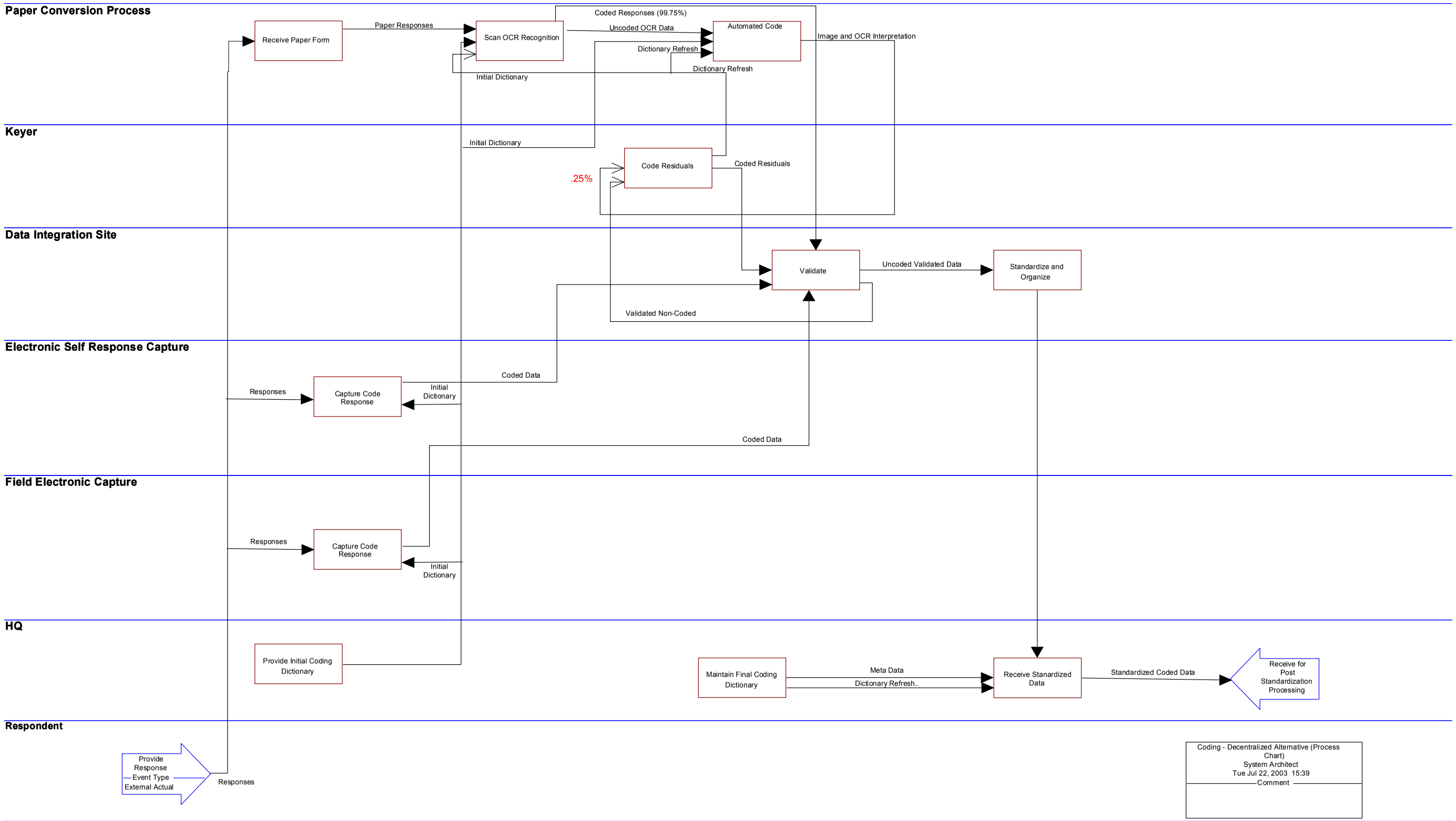


LUCA Process Chart

Coding - Centralized Alternative



Coding - Decentralized Alternative



20. Information Assurance TRUST MODEL

A matrix that identifies who trusts whom for what. The trusting and trusted entities can be groups of people, roles, information system elements, locations or collections of data. The things trusted for are confidentiality, integrity, availability, identification, and nonrepudiation. The decennial security planning group will provide guidance on the content of this product. This will be a link to the Bureau's Information Technology (IT) Security Standards and Plans.

21. LOCATIONS MAPPED TO FUNCTIONS

The Location to Functions matrix maps roles from the Node Connectivity Diagram (Product #28) with activities (Product #18). The activities in the matrix are those at the lowest level of decomposition in the Activity Model. An "X" in the intersection of a row and a column in the matrix indicate that that node performs the activity. The Locations Mapped to Functions matrix includes only nodes where modeled activities occur. The matrix is not comprehensive in that it does not include activities that need further decomposition (i.e. labeled as work in progress (WIP) in Product # 18) or activities that are out of scope for the 2010 Census Architecture (i.e. labeled as placeholders (P) in Product #18).

Locations Mapped to Functions

May 11, 2005

Lt. Blue = Parent's Activity

Function/Activity	Operational Nodes	Internet Response Collection	Telephone Response Collection	Internet Assistance	Telephone Assistance	Walk-in Assistance	Census Data Compilation and Validation	Paper to Electronic Conversion	Case Assembly and Tracking	Person and LQ Resolution and Update	Geographic and LQ Information Management and Creation	Field Data Collection	IT Provisioning and Maintenance	Kit Preparation and Assignment	Product and Material Clearance and Creation	Electronic Assembly and Distribution	Printing Assembly and Distribution	Staff Performance Management	Training	Select and Clear
A3 - Operations Management																				
A3111 - Obtain Facility Space																				
A3112 - Acquire Goods and Services																				
A3113 - Configure Space													X							
A312 - Operate Facility																				
A313 - Close Out Facility													X							
A321 - Recruit and Clear Applicants																				X
A322 - Take Administrative Actions																		X		
A323 - Train Temporary Staff																			X	
A3241 - Create Assignment Set									X											
A3242 - Link Assignment Sets to Individuals												X								
A325 - Provide Operational Assistance													X							
A326 - Track Data Collection Performance and Work										X		X						X		
A327 - Compensate Temporary Staff																		X		
A331 - Assist the Public				X	X	X														
A35 - Implement LQ and Geographic Partnerships											X									
A4 - Collection Framework																				
A41 - Update Census Address Frame											X									
A42 - Update Census Geography Framework											X									
A43 - Produce Census Geographic Products											X									
A441 - Prepare Initial Universe									X											
A442 - Prepare Updated Universes									X											
A443 - Prepare Follow-Up Universes									X											
A5 - Data Collection and Capture																				
A511 - Convert Paper to Electronic								X												
A512 - Validate and Acknowledge All Response Data							X													
A513 - Edit for Follow-Ups - Form Based										X										
A514 - Code Write-ins										X										
A515 - Standardize and Organize Response Data							X													
A516 - Identify Potential Duplicates Across LQs										X										
A521- Conduct Electronic Self-Response Enumeration for HUs		X																		
A5221 - Interview Respondent			X									X								
A5222 - Collect Address List Updates												X								
A5223 - Collect Geographic Updates												X								
A6 - Data Products																				
A611 - Resolve Person and LQ Linkage										X										
A612 - Prepare/Produce Unedited Records										X										
A613 - Review and Clear Data										X					X					
A614 - Correct for Missing and Inconsistent Data										X										
A615 - Prepare Final Person and LQ Data										X										
A621 - Create Demographic Products															X					
A622 - Review and Clear Products															X					
A623 - Assemble and Disseminate Products																X	X			
A631 - Prepare for Estimation										X										
A632 - Produce Estimates										X										
A633 - Produce Evaluation Reports and Other Products															X					
A634 -Review and Clear Estimation Data, Results, and Reports															X					

22. Information Assurance Risk Assessment

The Information Assurance Risk Assessment is a document that identifies threats to and vulnerabilities of information systems and applications and evaluates alternatives for mitigating or otherwise addressing the risks. The decennial security planning group will provide guidance on the content of this work product.

23. Node Connectivity Description (Conceptual)

The conceptual Node Connectivity Description from the Business Architecture has been superceded in this document by the "Node Connectivity Description (Logical)" – (work product #28).

24. LOGICAL DATA MODEL

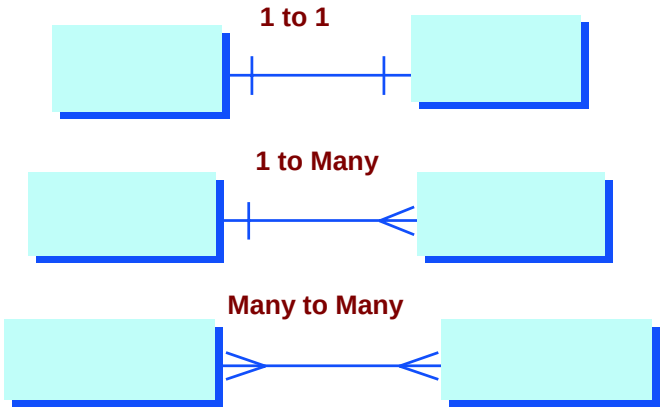
The Logical Data Model is built from the Business Architecture's work product #15, Entity Relationship Diagram. It contains the entity types (information/data objects) that are significant to the 2010 Census as well as the attributes (discrete data elements) associated with the entity. The relationships between entity types are implemented later as business rules. Illustrated below is a description of the *Nature of a Relationship*. Also depicted below is an *Entity Relationship Sample Diagram*.

The key concepts of a Logical Data Model are Entity Types (with associated attributes) and the Relationships that connect them. An Entity Type represents a person, place, thing, concept or event about which business wants to store information, such as a staff member for example. Attributes are components of each entity, representing facts or characteristics of that entity. For the staff member entity type example attributes may include: employee type, address, telephone number, and grade/step information. Relationships represent unique associations between occurrences of one or more entities, which provide some relevant and valuable information. Relationship labels are read in a clockwise fashion around the line upon which they are positioned. For example, in the customer and order sample diagram below, the relationships are properly interpreted, "Order is placed by Customer", and "Customer places Order" (not "Customer is placed by Order" or "Order places Customer").

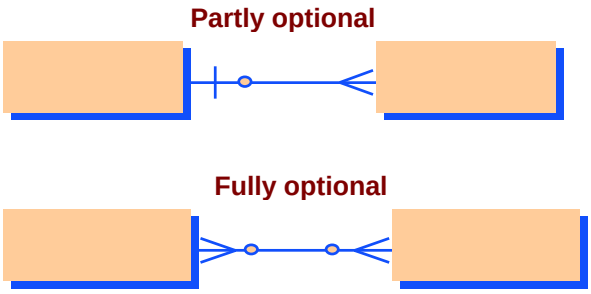
The Logical Data Model is divided into five different diagrams for presentation purposes. As a single model, it contains over a hundred defined entity types, nearly as many relationships, and hundreds of named attributes. For readability, each of the five diagrams contains related entity types grouped together. In some cases, entities are repeated on more than one diagram, where the same entity applies to multiple areas that appear on different diagrams.

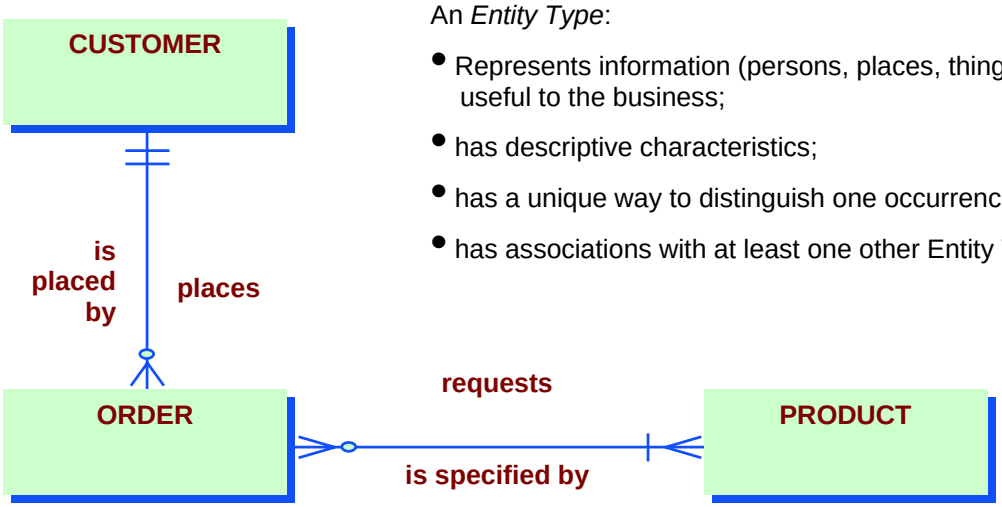
Nature of a Relationship

Cardinality



Optionality





An *Entity Type*:

- Represents information (persons, places, things, events, or concepts) useful to the business;
- has descriptive characteristics;
- has a unique way to distinguish one occurrence from another; and
- has associations with at least one other Entity Type.

Entity Relationship Sample Diagram

Entity and Attribute Definitions

2010 Census Staff Member - This is an individual assigned to tasks specifically in support of the 2010 Decennial Census for either all or part of their time. This individual may be a permanent employee, non-benefit temporary employee or a contractor. For purposes of the 2010 Logical Data Model, we have only modeled those entity types that are unique to decennial census.	
actual salary	This is the annualized amount of the employee's salary.
address	This is the employee's mailing address.
availability	This indicates whether the individual is assigned full-time or part-time to 2010 Census activities.
birth date	This is the employee's date of birth.
deduction	This identifies the type and amount of money deducted from an employee's gross pay. For example: federal, state, local, Medicare, social security taxes, etc.
deposit information	This is the information required to electronically deposit the pay check to the employee's bank account. Includes routing number, account number, and account type.
disability group	This indicates whether an employee has disability considerations. This is used for EEO reporting.
employee type	This is an indicator of the employment relationship of the individual to the Bureau of the Census, i.e., permanent, non-benefit temporary, term or contractor.
ethnicity	This represents the self-classification by people according to the ancestry group(s) or American Indian or Alaska Native tribes with which they most closely identify. Identification is usually thought of in terms of common ancestors, language, and religion. Hence, ethnicity usually refers to cultural groups and identity. The OMB in both its 1977 and 1997 standards identified two broad ethnicities - - Hispanic or Latino and Not Hispanic or Latino.
grade/step	This is the OPM identifier that shows an employee's pay rate, such as WS-5/ 3, or GS-12 / 2.
hispanicity	This is an indicator as to which Hispanic group the individual is a member of. Examples are Mexican, Puerto Rican, and Cuban.
language proficiency	This identifies the level at which the 2010 staff member can communicate using a specific language. For example: read, write, or speak at novice, intermediate, or expert level. This is an aggregate attribute, which should become an entity type to capture language and proficiency for multiple languages.
name	This is the last name, first name and middle initial of an employee. May also include suffix such as Jr.
race	This identifies the racial group to which an employee belongs. Current OMB-mandated examples are American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, and White.
security	This is the level of security access held by an employee.
ssn	This is the social security account number of the employee.

telephone number	This is the telephone number at which an employee may be contacted. Can include home, work or cell phone.
withholding	This is the federal, state and local withholding data from the W-4 forms.

Ad - This is a message created for the Census Bureau to relate information or to solicit a response from the general public. An ad can be either tied to a specific national marketing campaign or generated from organizations within the Census.

Regional offices run recruiting ads in local newspapers and penny saver magazines, which are not part of a marketing campaign.

ad outlet	This describes the specific type of ad. For example: TV, radio, and newspaper. For radio or TV ads this can include the length of the ad. For example: 30 second TV ad.
approver	This is the person who must approve the ad before it can run.
duration	This describes the time frame that the ad will run. For example: the ad will run from May 15 - July 3
language	This identifies which of the 49 possible languages the ad will use.
region	This is the Census-defined region in which the ad will run.

Ad Campaign - This is a specific scheduled advertisement that supports a specific Census marketing campaign.

ad date-time actual	This is the verified date and time that the ad ran. This is done for audit purposes.
ad date-time planned	This is the specific date and time that the ad is scheduled to run.

Address - This is the house number and street or road name or other designation assigned to a housing unit, special place, business establishment, or other structure for purposes of mail delivery and/or to enable emergency services, delivery people, and visitors to find the structure. Examples include: basic street address, city-style address, E-911 (emergency 911) address, fire number, house-number-and-street name address, location description, mailing address, and noncity-style address. Another example is a non-city style address with an E-911 address assigned.

address type	This categorizes the address. Examples are: commercial, residential, mixed use, and other living quarters.
city	This is the name of the U.S. Postal Service city in all states.
complex contact name	This is the name of the person or contact for access to the complex.
complex name	This is the name of the apartment complex, condominium, mobile home park, etc.
county	This is the FIPS numeric code for the county in which the address is physically located.
final outcome	This indicates inclusion or exclusion from the final census universe.
house number	This is the numeric identifier or other designation assigned to a housing unit,

	special place, business establishment, or other such structure for purposes of mail delivery and/or to enable emergency services, delivery people, and visitors to find the structure.
location description	This describes the physical location and characteristics of a living quarter that does not have a house number and street address.
maf congressional residence flag	This identifies if the address is a congressional residence, or not. Also, it identifies if the congressional residence is the congressperson's home address, or DC Metro address.
maf id	Assigned by the Geography Division, this identification number is used to uniquely identify each individual living quarters in the Census Bureau's Master Address File.
maf number of units	This is the MAF number of units at the basic street address, according to the Census Bureau's Master Address File.
non-city-style address	This is the rural style address (e.g., containing rural route number, etc.)
other sample indicator	This indicates in which Census Evaluation, Census Experiment, or ongoing survey sample this address is included. This excludes Coverage Measurement and E-sample.Note: There can be multiple occurrences.
p.o. box	This is the number of a letter box at the post office where mail is collected.
probability of selection	This is the final probability with which the address was selected to be in a particular sample. This is the culmination of one or more sampling stages. The inverse of the probability of selection will be the basis for forming estimates.
program type	This indicates whether the address is included in the Census, coverage measurement or other evaluation, or other Census operation.
pseudo id	This is the temporary identification number assigned to an address when the address does not yet have a MAF (the Census Bureau's Master Address File) ID.
researched telephone number	This is the telephone number of the address resulting from researching sources such as the reverse directory.
return mailing address	A predefined collection facility to which the form is to be returned. This directs what is printed on the return envelope.
rr number	The number designated by the USPS for the area serviced by rural route delivery.
state	This is the FIPS numeric code for the state in which the address is physically located.
street name	This is the name of the road or street on which the address is physically located, which includes the street directional prefix, the street type prefix, the street or road name, the street type suffix, the street directional suffix, and the street extension.
unit designation	This identifies a specific address within an address. For example: the apartment number within an apartment building or a room number within a dormitory.

urbanization name	This is a descriptor, commonly used in Puerto Rican urban areas, that describes the location of a given street. In the case of repeated street names and address number ranges within the same ZIP Code, the urbanization name is the only address element that correctly identifies the location of a particular address.
within structure category	This is a category of sub-divisions within the structure and the identification number of the sub-division. Example are : room, apartment, stall, bay, hanger, slip, and bajo.
zip code	This is the administrative unit established by the USPS for the distribution of mail, and associated with the address.
zip4	This four-digit add-on of the zip code identifies the geographic segment within the five-digit delivery area, such as a city block, or office building.

Address Linkage - This identifies a pairing between two specific living quarter addresses. Examples are: one living quarters address possibly duplicates another living quarters address, or one Census living quarters address matches a Coverage Measurement or other evaluation living quarters address.

match type	This is the reason why the living quarters are related. Example includes: duplicate, or a match between the address of Census and CM or other evaluations living quarters.

Address Location - This is a specific address associated with a specific polygon.

relationship date-time	This is the date and time that the relationship was made between the address and the polygon.

Applicant Chronology - This is the disposition of the different steps within the application process for a temporary 2010 Census position. For example, FBI background check results, test results, application disposition, reference check, confirm availability, job offer and acceptance, geo coding, etc.

outcome	This is the actual value or result of an applicant event. For example: pass, fail, accepted, rejected, etc.
status date-time	This identifies the date and time that a specific activity or event occurred.
status reason	The specific reason for the current status of the application. For example, awaiting FBI check, incomplete application. The reason may be either positive or negative.

Applicant for Temporary Position - This is an individual that has applied for a temporary census position.

address	This is the mailing address of the individual applying for a position.
availability	These are the factors pertaining to the availability of the prospective employee. These include availability start date, hours per week, and week-end availability.
birth date	This is the birth date of the individual.
citizenship	This identifies the country where the applicant holds citizenship.
highest education level	This is the highest level of education achieved by the applicant. For example, Bachelor's degree.

I-9 code	This indicates the type of proof of eligibility to work in the US presented by the applicant.
language proficiency	This identifies the level at which the applicant can communicate using a specific language. For example: read, write, or speak at novice, intermediate, or expert level. This is an aggregate attribute which should become an entity type to capture language and proficiency for multiple languages.
name	This is the last name, first name and middle initial of an applicant. May also include suffix such as Jr.
qualifications	These are the various factors relating to employment qualifications. Examples include: computer skills, previous census employment experience, and possessing a valid driver license.
sex	This is the sex of the applicant (male or female).
source	This is information about how the job applicant learned about prospective employment. For example, through partnership program, census marketing, radio, etc.
ssn	This is the applicant's social security number.
telephone number	This is the telephone number at which the applicant can be contacted. Can include: home, work or cell phone.
veteran	This indicates if the applicant has a 5 or 10 point veterans preference or has no preference.

Applicant Location - This is the specific polygon where an applicant's residence is located.	
proximity	This is the distance between the applicant's home and the location of the work to be performed.

Applicant Test - This is a record of each test taken by an applicant for a 2010 Census temporary position along with the results.	
score	This is the raw test score achieved by the applicant.
test date-time	This is the date and time that the test was administered.
test name	This is the name of the specific test taken on a specific date. For example, crew leader test and enumerator test. There are four test versions of each test and the name includes the version.

Automated Help Resolution - This is the self resolution of a help request using the Internet, automated telephone, or other automated means. This includes downloading a form or product.	
entry path end date-time	This is the date and time that the automated resolution is terminated based on Internet or phone menu selections and responses.
entry path start date-time	This is the date and time that the automated resolution is initiated based on Internet or phone menu selections and responses.
keyword entry	This is the series of keywords, both valid and invalid, provided by the customer via the internet or the telephone.

resolution path	This is each choice made by the customer when following the dialog menus. This includes indication of hang up, and indication if the caller holds after reaching the entry path, or hangs up after reaching the entry path. Also, this indicates the priority the caller has in the queue.
resolution type	This is the category of action the requestor takes. This could be a request for a paper questionnaire, document download, or answer to a frequently asked question.

Budget - P - This is the estimated amount of funding available for a task as defined by its requirement.

amount	This is the dollar amount of funds budgeted.
fiscal year	
framework	The decennial budget categories that subdivide the decennial appropriation.
fte	
participant	The division or entity responsible for carrying out the budgeted task or component of a task.
project	This is a unique number assigned to a specific set of related tasks.
resource category	This is the budget object class such as travel, contracts, training, and equipment.

Campaign Media - This is a specific media outlet that supports a specific Census marketing campaign.

campaign end date-time	This is the date and time when a specific campaign with a specific media outlet ends.
campaign start date-time	This is the date and time when a specific campaign with a specific media outlet begins.

Contract - P - This is a mutually binding legal relationship obligating the seller to furnish supplies or services (including construction) and the buyer to pay for them. Examples include contract, lease, memo of understanding (MOU), etc.

compensation arrangement	This is how and whether the goods, services, or space will be paid for. Example include MOU, loan (free), lease, contract, and buy.
contract modification number	This is a number used to identify a specific modification to a contract.
contract number	This is an internal number used to track the specific contract.
contract title	This is the name given to the contract.
contract type	This is the nature of the contracting relationship such as: firm fixed price, time & materials, indefinite delivery indefinite quantity (IDIQ), etc.
deliverable	This identifies the product to be provided. This is an aggregate attribute which, could break into several entity types to accommodate such information as: deliverable type, description, interdependences, changes to the deliverable or due date, etc. Deliverables may be products or services.

dollars obligated	This is the total amount of funds allocated to the contract.
period of performance	This is the specified start and end dates for the entire contract.
service category	This is a categorization of the service to be provided such as: studies, analyses, documentation, etc.
task	These are the specific tasks defined in the contract. This is an aggregate attribute that could be made into another entity. This would include task number, task start date, task end date and deliverables.

Contract Management Unit - This is a specific organization with a management responsibility for a specific contract.

employee name	This is the first and last name of the individual currently in the specific role.
end date	This is the date that this role was no longer filled by the organizational unit.
role	This identifies the specific role filled by an organization unit for a specific contract.
start date	This is the beginning date that this role was filled by the organizational unit.

Correspondence - This is incoming and outgoing communication (e.g., letters, emails, and telephone calls) directed to or signed by an individual or organization within the Census Bureau. Both incoming correspondence and outgoing replies to correspondence are tracked. This tracking involves maintaining a paper trail of all supporting documents that support replies.

Example correspondence includes LUCA invitations, responses to government oversight requirements, Freedom of Information Act (FOIA) requests, CQR inquiries, etc.

address	This is the return address of the person, or group, that sent the correspondence.
category	This is an organization of correspondence into groupings that meet the Census business needs. For example: Letter, Memorandum, Form Letter, Congressional, etc.
contact	This is the contact information such as name and/or telephone number of the person, or group, that sent the correspondence.
correspondence type	This identifies how the correspondence will be handled internally within Census. For example: controlled or uncontrolled.
electronic image	This is a scanned image of the source document. Both incoming and outgoing correspondence is scanned.
handling requirement	This identifies special processing considerations, such as: sensitive information, waiver required, extension required, and rewrite required.
instructions	This is an overview of the actions required to respond to the correspondence.
issue	These are categories that identify the major issue associated with the correspondence. For example: Census forms, termination, payroll problem, etc.
keywords	This is the capture of specific and meaningful words, or phrases, within a correspondence that can later be used to search upon to find all correspondence

	that share that keyword.
receipt date-time	This is the date and time that the Census Bureau received the incoming piece of correspondence.Note: For outgoing correspondence sent by the Census Bureau, the sent date-time is captured in Work Chronology. It is assumed all outgoing correspondence is generated as a result of a piece of assigned work. Incoming correspondence may or may not generate a piece of assigned work.
region	This is the Census-defined region from which the correspondence originated (i.e., the source region).
remarks	These are general text comments related to the incoming correspondence and/or its response.
response document location	This identifies where the Census-generated response document is located. It includes the location(s) of the outgoing correspondence and all enclosures.
signature	This identifies the person or persons who need to sign-off on the out going correspondence.
source category	This is a categorization of possible sources that can submit correspondence to the Census. This includes: Federal Government Organization, Non-Federal Government Organization, Non-Government Organization, and General Public.
source name	This is the name of the person who sent the letter, sent the email, or made the phone call.
source type	This further identifies the source of the correspondence. For example: Source category = Federal Government Organization and source type = OMB, IG, Congress, etc. Source category = Non-Federal Government Organization and source type = State of Virginia. Source category = Non-Government Organization and source type = American Civil Liberties Union. Source category = General Public and source type = John Q. Public.
subject	This is a summary of the content of the correspondence.

Counted Microdata GQ - This is the specific group quarters included in a specific group quarters count.	
block	This will identify whether this is a tabulation or collection block.
block code	This is the block code of the polygon in which this group quarters resides. A block code is a number assigned to each census block.

Counted Microdata HU - This is the specific housing unit included in a specific housing unit count.	
block	This will identify whether this is a tabulation or collection block.
block code	This is the block code of the polygon in which this housing unit resides. A block code is a number assigned to each census block.

Counted Microdata Person - This is the specific person included in a specific person count.	
hu serial number	This is the number that uniquely identifies the housing unit to which this person belongs.

Customer Satisfaction Survey Results - P - The survey captures information from customers that can be used to learn where improvements are needed in the future. The survey is voluntary. Various media are used to capture information, for example, Internet, voice recognition, and possible telephone Interviews.	
content	This is a description of the specific questions on the survey. Questions can address any issue the Census wants to track. Examples include overall rating of experience using tool, layout of the form/template, navigation, submission, privacy, preferred method for giving feedback to Census, and location of respondent when the survey results were submitted.
rating	This is a measurable rating. Examples are dissatisfied, or very satisfied.
survey results date-time	This is the date-time the response was submitted.

Data Collection Case - This is the lowest tracked unit of work for a data collection activity. A case will be a component of a case group. For collecting Census data (including address updating, enumeration, coverage measurement, evaluations, experiments, etc.), the unit may be an area, address, a person, or group of addresses (may not be contiguous for matching or un-duplication purposes).	
accessibility	This indicates a requirement for special access capability, such as a gated community.
language requirement	This indicates the language requirement of the case. For example, Spanish may be required for the assignment.
operation type	This identifies the specific activity performed, such as NRFU.
task description	This describes a specific task performed for the operation.

Data Collection Case Address Linkage - This is a specific address assigned to a specific data collection case.	
maf id	Assigned by the Geography Division, this identification number is used to uniquely identify each individual living quarters in the Census Bureau's Master Address File.

Data Collection Case Group - This is an assignable segment of work, defined based on manageable workload for a data collection operation or activity. The data collection case group consists of one or more data collection cases where a case is the lowest tracked unit of work.	
anticipated duration	This is the length of time in which the case group work is expected to be completed.
case group identifier	This is a value that uniquely identifies the case group. Examples include batch number, assignment area number, crew leader district, manual or document number, matching cluster, etc.
case group type	The name of the operation, process, activity, or the objective for this case group.
end date-time	This is the date and time that work on a specific activity ended. Note: This may not be tracked for some activities.

start date-time	This is the date and time that work on a specific activity began. Note: This may not be tracked for some activities.

Data Collection Template - This is a set of questions, instructions, and other information used to collect, or support the collection of, census information. This can be by paper or automated means, and by self-response or interviewer assistance. Examples include: questionnaires used for paper self-response, Be Counted, and automated instruments for address canvassing, Non-response Follow-up, Internet, customer satisfaction survey, and coverage measurement. This includes the questions, respondent and interviewer instructions, layout, examples, categories, and built-in edit requirements particular to the type of questionnaire and/or question from respondents. This includes other Public Use Forms such as reminder cards and advance letters.

administrative status	This is the status of a version of the data collection template, such as In Production, Pre-clearance, and Revised Production.
collection mode	This is the physical means to gather data. Examples are paper, HHC instruments (for address, maps, LQ, and Person information), Internet instruments, and listing instruments.
form number	This is the data collection template's numeric identifier.
language	This is the language of the data collection template.
layout	This is the layout of the template. For example, the font size and dimensions of a screen.
name	This is the name of the data collection template. Examples are the short form, and self-enumerated form.
omb clearance date	This indicates the date that the Office of Management and Budget has cleared the data collection template for use.
omb clearance expiration date	This is the date that the Office of Management and Budget's clearance expires for the data collection template.
omb number	This is the number assigned by the Office of Management and Budget (OMB) to show that the data collection template passed OMB guidelines.
originator	This is the division or department that originally produced the version of the data collection template.
production source	This is the department, division, or printer responsible for producing the specific version of the data collection template.
use	This is the reason for which the template was created including the year to which it applies. For example, 2010 Census MO/MB, and 2010 Census Be Counted.
version	This is the version identifier of a specific data collection template.
version date-time	This is the date and time when the version of the data collection template is created.

Data Collection Template Enclosure - This is the specific data collection template that is included with the specific product. An example is a blank questionnaire that may be included in a product.

assembly date-time	This is the date and time that the specific data collection template is packaged with the specific product.

Data Collection Work Chronology - This is a single activity in the lifecycle of completing a data collection case. This tracks the disposition of the different tasks or steps that are performed to accomplish the data collection case.	
end date-time	This is the date and time that the activity ended. Note: This may not be tracked for some activities.
outcome description	This is a text remark to further describe an outcome. For example, 'they refused to answer the door'.
process step	This is a specific task within the activity performed or this may be a code from a predefined set of tasks. This could include supervisory review of a case, National Academy of Sciences review of a product, check-in, quality review, transmission, acknowledgement, etc.
process step status	This is the current state of a specific process step on a specific case at a specific date/time. Examples: complete, incomplete, pending error correction, draft, final, etc.
start date-time	This is the date and time that the activity began. Note: This may not be tracked for some activities.

Delivery - P - This is a single delivery of purchased goods at a specific date and time.	
comments	This is text that describes any discrepancies in the delivery.
delivery date-time	This is the date and time that a specific delivery was received.
receiving individual	This is the name of the person that took delivery of and signed for the goods.

Employee Task Performance - This tracks the defined performance event of 2010 Census staff member for a specific task. For example, number of forms scanned per hour, number of addresses enumerated.	
end date-time of performance	This is the end of the evaluation period.
performance measure	This is a description of the specifics of the evaluation of the temporary employee.
start date-time of performance	This is the beginning of the evaluation period.

Employee Training - This is the specific training session attended by a specific employee. This tracks every training session for tasks associated with the 2010 Census with which an employee is involved. This is not intended to track all training for permanent employees.	
role	This describes whether an employee is instructing a class, observing a training session, or attending a class.

training results	This is the outcome of the training for a specific employee. Examples are 'pass- eligible to take assignment,' 'retrain before taking assignment,' 'take assignment but observe immediately,' 'did not complete training,' 'did not show up,' and 'not qualified to take assignment.'

Equipment - This is a trackable item of equipment and all its associated non-trackable peripherals (for example, cords, and manuals) used in an office or field. Examples include HHCs, workstations, printers, scanners, shredders, and routers.

barcode	This is a unique Census defined number used to track a specific item of accountable hardware and equipment. Only accountable equipment has a barcode.
capital property indicator	A Census Bureau defined number that determines if equipment will be depreciated and/or tracked.
depreciation amount	Every month ACSD (Administrative and Customer Services Division) does a property and financial reconciliation. Part of that reconciliation is calculating depreciation. The actual calculation is completed in AMSD (Administrative and Management Systems Division) and is based on budget object class code. Anything above $25,000 is capital property.
description	This is the physical description of the item.
equipment type	The categorization of the hardware and equipment. Examples include servers, phones, copiers, shredders, and HHCs.
manufacturer	The name of the company that built the equipment,
model	This is the manufacturers designation of the item. For example, HP Ink Jet 5500 C.
object class	This is the spending category that describes the type of goods or services being purchased. It is used for major object class reporting and for deriving general ledger posting. For example, the Dept. of Commerce's code for equipment is 31.0. The object class is further decomposed down by the agencies and bureaus.
owner	This is the party that owns the equipment. This can be the Census Bureau, a vendor, or another agency.
serial number	This is the manufacturers code to uniquely identify an item.
unit cost	This is the actual cost for a specific item.

Equipment Chronology - This is a single event in the lifecycle of the item of equipment. For example: date of receipt, date of disposal, warranty dates, etc. Also, this lists the person associated with the specific event, the condition of the equipment for the event, and the discrete activity for which this equipment is associated or assigned.

administrative custodian	This is the person that is responsible for the equipment associated with the date referring to the event on the equipment chronology. This also includes the designated alternate.
condition	This is a description of the current operational category of a piece of equipment. For example: Operational, Broken, Salvageable, etc.

event type	This describes a specific event associated with a piece of equipment. The events in the equipment chronology begins with the date of acceptance and ends with final disposition. For example: warranty start, warranty end, property pass start, date sent for repair, lost date, stolen date, sanitization of hard drives, etc.
event type date-time	This is the date and time that the event type occurred. For example: warranty start, warranty end, property pass start, date sent for repair, lost date, stolen date, sanitization of hard drives, etc.
project task	This is the discrete activity for which this equipment is associated or assigned. The project task is meant to describe, in a moment in time, what function/task the equipment is actually being used for. For example, there is a project number for all data capture, while the project task is down to the level of check in, document preparation, key from image, etc.

Equipment Operator - This is the specific 2010 Census staff member that operates a specific item of equipment.

shift end date-time	This is the day and time that the operation of the equipment is terminated.
shift start date-time	This is the day and time that the operation of the equipment is initiated.

Equipment Performance - This is the measurement of a single task or test related to a piece of equipment and not the actions of a person using the equipment. This includes the testing of equipment software where the software is an integral part of the equipment. For example, the operating system, scanner software packaged with the equipment, and software that runs the Global Positioning System (GPS) receiver.

end date-time of performance	This is the date and time the observation of the performance concluded.
performance measure	These are the specific kinds of measurements for a specific performance event of specific piece of equipment over a given period of time. For example error rate, response time, and down time.
start date-time of performance	This is the date and time the observation of the performance began.

Equipment Specification - This identifies the specification and the specific item of equipment to which it pertains.

actual value	This is the true characteristic of the equipment that meets or exceeds the minimum value. For example, the specification may require that a CPU have 2 MB of RAM, but the unit actually contains 4 MB.

Equipment Transfer - This tracks the transfer (physical or custodial) of a single piece of equipment between organizations/persons. This includes shipping where applicable.

requestor	The name of the individual that initiates the paperwork (or electronic form) for the transfer.
shipper account number	The account number used to pay shipping costs.
shipper tracking code	This is the unique tracking code assigned to the box by the shipper.
shipping instructions	This is a text field with instructions. For example 'attention: open first'.
shipping method	This is the requested means of physically transferring equipment from one location to another. For example, best way (i.e., shipper's discretion), overnight delivery, registered, etc.

Estimate - This is an approximate value generated using statistical methods.

domain	This is the characteristic of interest; for example, renters, occupied housing units, 18 to 29 year old men, etc.
error measurement type	This is the uncertainty associated with the estimate; for example, a variance, standard error, covariance or confidence interval.
program type	This is the program for which the estimate is created. Examples are coverage measurement, evaluations and experiments.
statistical type	This is the form of the numerical information such as a total, ratio, percentage or median.
value of error measurement	This is the number of the error measurement.
value of estimate	This is the number resulting from the statistical methodology.

Estimate Product - This is the specific estimate contained in a specific product.

product name	This is the name of the specific product that contains the specific estimate.

Estimate Spec - This is the specification for an estimate product.

spec name	This is the name of the specification that defines the specific estimate.

Estimated Microdata HU - This is the specific housing unit included in a specific housing unit estimate.

block	This will identify whether this is a tabulation or collection block.
block code	This is the block code of the polygon in which this housing unit resides. A block code is a number assigned to each census block.

Estimated Microdata Person - This is the specific person included in a specific person estimate.

hu serial number	This is the number that uniquely identifies the housing unit to which this person belongs.

Event - This is a pre-scheduled activity, or event, associated with a partnership or media outlet that informs the public about the Census and/or solicits support for the Census. For example, speaking at a conference held on behalf of the partnership or participation in a news conference.	
address	This is the address at which the event is occurring. This can include street, city, state, and zip code.
event name	This is the short description of the event. For example: Campaign Kick-Off, Teach Census Week, etc.
event sponsor	This is the name of the organization sponsoring the event.
event type	This describes the function of the event. For example: public service announcement, news conference, talk show, etc.
language	This identifies any unique language requirements related to the event.
status	This identifies the current state of the event. Examples include planned, cancelled, in progress, and completed.
target audience	This describes the specific group of people on which the event will focus.

Facility - This is a specific location in which business is performed. This includes headquarters, LCOs, DCCs, QACs, NPC, RCC, training sites and vendor facilities.	
building manager info	This is the name and telephone number of the person to contact.
capacity	This is the number of people that the facility can legally accommodate.
cost per square foot	This is the actual cost per square foot of a given facility.
facility mailing address	This is the mailing address of the facility.
facility name	This is the text name of the physical facility. For example, Federal Office Building 2 (FOB-2).
facility physical address	This is the physical location of the facility. This is either a structure number, street name and zip code, or a description of the location.
facility type	These are the classifications of census offices. This includes CFO, LCO, RCC, DCC, QACs, training facility, and NPC. These can sometimes be co-located.
fax number	This is the telephone number for the fax machine.
hours of operation	These are the hours the facility is open to staff.
hours of service	These are the hours that the facility is open to serve the public.
owner	This is the party that owns the facility.
security category	This is the standard category of security based on the type of facility. For example, a QAC building will have different security needs than a RCC. Floor plan security requirements are covered by specifications.
site management	This is the organization or party responsible for day to day operation of the facility.

size	This is the square footage of the facility.
telephone number	This the main telephone number of the facility.
temporary or permanent	This indicates whether or not this is a permanent census facility.

Facility Specification - This is a specific facility described by a specification.	
actual value	This is the true characteristic of the facility that meets or exceeds the minimum value. For example, a facility may have a minimum square footage of 1100 sq ft, but the facility actually has 1350 sq ft.
actual value date	The date the actual value was confirmed or approved. For example, security accreditation date.

Federal Government Organization - This is a federal entity established by legal action to implement specified general-purpose or special-purpose governmental functions. This includes all U.S. recognized federal agencies and organizations, such as: Congress, OMB, GAO, IG, Dept of Commerce, etc.	
address	This is the mailing address for the federal organization. This can include street, city, state, zip code, county, and congressional district.
agency location code	The agency location code (ALC) is the identification code assigned to U.S. government agencies by the Treasury department.
contact method	This indicates the preferred method of communication with a contact person.
contact name	This is the name of an individual who is a point of contact for the federal government organization. It includes the salutation, first, middle, and last name of the individual. There may be multiple points of contact for a federal government organization.
data user type	This defines the level of previous skill, knowledge, or experience the organization has working with Census data.
email address	This is the e-mail address of the organization making a request when the request is made via the Internet. The address can be used as the preferred method of contact or response.
fax number	This is the telephone number of the fax machine for the organization making a request.
organization name	This is the official name of the federal government organization. For example, General Services Administration, Department of Agriculture, Congress, Office of Management and Budget, etc.
ship to address	This is the location address, such as the street number, name, city, and state, that facilitates the delivery of a package or letter to the location.
telephone number	This is the telephone number of the organization seeking assistance or information.
web site	This is the URL for the organization's web site.

General Public - This is an individual with a vested interest in Census Bureau operations and products. This includes members of the public that request information or services from the Census Bureau as well as Census respondents.	
address	This is the mailing address for the member of the general public. This can include street, city, state, zip code, county, and congressional district.
census ID	This is a number defined by the Census Bureau and printed on a questionnaire.
contact method	This is the preferred means of contact with the individual. For example, email, phone, or print.
email address	This is the e-mail address of the person making a request when the request is made via the Internet. The address can be used as the preferred method of contact or response.
fax number	This is the telephone number of the fax machine for the person making a request.
first time caller indicator	This identifies whether or not a person has made prior contact with the Census help request system.
name	This is the salutation, first, middle, and last name of the individual requesting assistance or information.
ship to address	This is the location address, such as the street number, name, city, and state, that facilitates the delivery of a package or letter to the location.
telephone number	This is the telephone number of the individual seeking assistance or information.
web site	This is the URL for the individual.

Goal - WIP - This is a measurable target set by the Census Bureau. Using data from previous Census activities, areas for improvement are identified and goals are established to address each specific concern. Examples include increasing participation in the Census, achieving an 80% mail-back response rate, developing a region wide partnership network of community and religious leaders including local media that serve hard-to-enumerate areas.	
description	This is a textual description of a goal identified by the BOC and its partners.
name	This is the name for a specific goal identified by the BOC and its partners.

Group Quarters - This entity represents a Group Quarters or a Special Place.

A group quarters is a place where people live or stay that is normally owned or managed by an entity or organization providing housing and/or services for the residents. These services may include custodial or medical care, as well as other types of assistance, and residency is commonly restricted to those receiving these services. Group quarters are usually not family oriented, and people living in them are not considered members of a household.

Group quarters include such places as college dormitories, residential treatment centers, hospices, hospitals/ units for the chronically ill, military barracks, nursing facilities, prison wards, juvenile institutions, workers' dormitories, and facilities for people experiencing homelessness. We recognize two general categories of people who reside in group quarters: 1) the institutionalized population, and 2) the noninstitutionalized population.

A special place is a facility containing one or more group quarters where people live or stay, such as a college or university, skilled nursing facility, hospital, prison, hotel, migrant and seasonal farm worker camp,
or military installation or ship. While a special place usually consists of one or more group quarters, and may contain housing units, it may consist entirely of housing units, such as a campground that has only trailer, RV, and/or tent sites. See group quarters and housing unit definitions.

contact job title	This is the job title of the individual who provides access or information for the group quarters. This is an aggregate attribute that should become an entity type to represent job titles captured during different operations.
contact name	This is the individual who provides access or information for the group quarters. This is an aggregate attribute that should become an entity type to represent contact names captured during different operations.
E-sample indicator	This identifies whether this Census GQ is included in the enumeration sample (proposed).
final count	This is the final count of persons included in the Census in this particular group quarters.
final outcome	This indicates inclusion or exclusion from the final census universe.
group quarters type	This is the category of group quarters. Examples of types are federal prisons, skilled nursing facilities, college dormitories, and military barracks.
name of group quarters	This is the name that identifies the group quarters.
name of special place	This is the name that identifies the special place.
number of occupants	This is the number of people enumerated at the group quarters address.

other sample indicator	This indicates in which Census Evaluation, Census Experiment, or ongoing survey sample this group quarters is included. This excludes Coverage Measurement and E-sample. Note: There can be multiple occurrences. This is a case of an aggregate attribute where a separate entity type would be created to handle multiple occurrences, but we are not creating it in the model at this level of detail.
phone number of gq contact	This is the telephone number of the contact at the group quarters. This is an aggregate attribute that should become an entity type to represent phone numbers of contacts captured during different operations.
probability of selection	This is the final probability with which the group quarters was selected to be in a particular sample. This is the culmination of one or more sampling stages. The inverse of the probability of selection will be the basis for forming estimates.
sensitivity indicator	This indicates if the group quarters requires special handling due to its sensitivity. An example of a group quarters requiring a sensitivity indicator is 703 Women's Shelter.

Group Quarters Occupant - This is a specific person who is enumerated at a specific group quarters.	
military residence indicator	This indicates if the person lives on a military barracks or vessel.
residence indicator	This indicates if the person has a usual home elsewhere (UHE), that is, where they live or stay most of the time, other than the group quarters.

Help Request - External Customer - This is a record of a request by a member of the public or partner. This includes questionnaire assistance, questionnaire fulfillment, products (general questions and ordering), questions from LUCA participants, record of complaint, temporary job applicant questions, assistance pertaining to applicant job training and testing, and Census information.	
assistance language	This is the requested language for assistance. Based on 2000, the major languages were Spanish and English. This choice was based upon the Census phone number that was called.
census id validity	This indicates if the Census ID provided by the customer is valid.
customer census id	This is the census identification located on the form that the customer has when making the request.
customer form type	This indicates which Census form the customer already has, if any, when they make the request.
customer from puerto rico	This indicates if the customer resides in Puerto Rico.

customer satisfaction selection indicator	This indicates whether the requester or caller was selected for the customer satisfaction survey.
entry path	This is the automated entry route of the call or Internet navigation based on menu selections and responses.
help status	This identifies the current status of the help request, such as open or closed.
operation	This is the specific operation that pertains to the specific request.
priority	This indicates the urgency of the need to fulfill the request.
questionnaire help category	This is the coded problem type. Examples include 01; did not receive form or 04; lost form.
referral source	This is information about how the customer learned about the type of assistance, for example from a public service announcement or poster at the mall.
remarks	This is a comment recorded by an individual taking the assistance request.
request description	This is a text description for a problem or question that cannot be coded.
request received date-time	This is the date-time that the help request was received. For example, the date-time the customer logged into the Internet, or the date-time the correspondence was logged in.
request type	This is the issue that the customer is addressing. For example, issues could be questionnaire assistance, clarification of terminology, Internet access, survey questions, etc. This provides further breakdown of coded issues. There may be multiple issues in a given help request.
source of request	This indicates the means used for the assistance request such as walk-in (QAC), Internet, interactive voice recognition (IVR), touch tone, and telephone operator.
telephone number dialed	This is the telephone number that the customer dialed to request help.
time zone of customer	This is the time zone where the phone call or internet access is coming from.

Help Request - Operations - This is a record of a request by a Census Bureau employee or contractor for assistance or action. This includes requests for technical support and operational guidance. For example: workstation problems, interpretation of procedures, etc.

help category	This is a category that describes the help request. For example, software applications, hardware/equipment, accounts, technical, general, etc.
request date - time	This is the date and time the help request was received.
request description	This is additional comments about the help request.
urgency	This indicates if the request is urgent, high, medium, or standard as indicated by the requestor.

Help Resolution Operations - This is the current outcome of the request for assistance. At a point in time it may indicate that resolution is pending some needed action. It will eventually report the final outcome.

end date - time	This is the time and date at which the help request was completed.
help resolution type	This is the category of actions required to resolve the request. For example, mail-out or call-back.
help status	This indicates the condition of the resolution, such as complete, on-hold, or in progress.
pending reason	The specific reason for the current status of the help request. For example, awaiting parts, need information, etc.
priority	This indicates the urgency of the need to fulfill the request.
resolution details	This is a text description of the steps taken to complete the help request.
start date - time	This is the time and date at which the help request was given to a support person to resolve.

Housing Unit - This is a residence for individuals or groups of individuals or families who live together as households. Housing units (HUs) are usually houses, apartments, mobile homes, groups of rooms or single rooms that are occupied as separated living quarters. An HU is classified as occupied if it is the usual place of residence of the individual or group of individuals living in it at the time of enumeration, or if the occupants are only temporarily absent, such as away on vacation, in the hospital for a short stay, on a business trip, and will be returning. HUs temporarily occupied at the time of enumeration entirely by individuals who have a usual residence elsewhere are classified as vacant. Also, unoccupied HUs are classified as vacant.

E-sample indicator	This identifies whether this Census HU is included in the enumeration sample.
final count	This is the final count of persons included in the Census in this particular unit.
final coverage measurement outcome	For a census entity (an E-sample entity), this would indicate correct enumeration status. For an independent entity, this would indicate valid sample unit/match status.
final outcome	This indicates whether the housing unit is included in the Census, evaluation, or other Census operation. This indicates inclusion or exclusion from the final census universe.
hu type	This is the category to which the hu belongs. Examples are Single-Family Housing Unit, Multifamily (two to four units), Multifamily (five or more units), or Mobile Home.
number at address on April 1	This is the respondent answer to how many people were living at the address on April 1.
number at address part-time	This is the number of part-time non-permanent residents at the address according to the respondent.

probability of selection	This is the final probability with which the housing unit was selected to be in a particular sample. This is the culmination of one or more sampling stages. The inverse of the probability of selection will be the basis for forming estimates.
proxy type	This is the type of relationship the respondent has with the housing unit about which he or she is reporting. Examples are landlord, neighbor, postal worker, and other.
tenure	This is the respondent or imputed answer to the ownership question. For example, 1=owned by you or someone in this household with a mortgage or loan, 2=owned by you or someone in the hh free and clear w/o a mortgage or loan, 3=rented for cash rent, 4=occupied without cash rent.

Initiative - WIP - This describes the Census Bureau's plan, mechanism or tool to address a problem area identified by statistical reports. For example: Local Update of Census Addresses (LUCA), Complete Count Committees (CCCs), Be Counted sites, Telephone Questionnaire Assistance (TQA), Questionnaire Assistance Centers (QACs), Service-Based Enumeration (SBE), Census in Schools, Advertising, The Road Tour, etc.

census contact	This is the Census Bureau employee identified as the point of contact for a specific Census Bureau initiative.
Name	This is the name of the initiative.

Initiative Goal - This is a specific initiative identified to support a specific Census goal.

actual results	This is the specific measurable result for a given goal. For example: the senior citizen enumerator rate was increased by 20%.
desired results	This is the specific measurable goal set for a specific initiative. For example: The goal for a recruiting initiative could be to increase the percentage of Vietnamese speaking employees by 15%.

Installed Software Log - P - This is specific software installed on a specific item of equipment.

installation date-time	This is the date and time that the software was installed on a specific piece of equipment.

Inventory Item - This is a count of items held at a specific location including quantities on hand, ordered, reserved, etc. Examples include: the number of printed enumerator guides at the NPC, the number of flash cards provided to a specific LCO, the number of W-2 withholding forms at headquarters the number of summary files on CD, etc.

inventory item type	This is the category of material in the inventory. Examples include data collection forms, operations templates, maps, products, or reference items.
on hand quantity	This is the stock balance of materials at a point in time.
reserve quantity	This is the inventory of materials that is not included in the on hand quantity because these materials have been set aside for a specific purpose, or they are in the process of being shipped.

Inventory Transaction - P - This is an inventory event that affects the balances of specific inventory

items. For example: a decrease in the number of enumerator guides at the NPC and a corresponding increase in the number at a specific facility, a stock pile of products is decreased by the number requested by a customer or the copies of a product immediately distributed to a Census organization unit.	
transaction date-time	This is the date and time that the inventory transaction occurred.
transaction quantity	This is the amount of materials sent or received.

Invoice - P - This is a contractor's bill or written request for payment under the contract for supplies delivered or services performed.	
amount due	This is the total amount due from this invoice.
invoice date	This is the date the invoice was issued by the vendor.
invoice item	This is the specific item to which the invoice pertains. This is an aggregate attribute which could break into several entity types to accommodate such information as: line item, name, quantity, unit price, total price, award fee, labor hours, etc.
invoice number	This is a number assigned by the vendor to track the invoice.
received date	This is the date the invoice was received by the government.
terms	This describes the payment terms such as: 2-10 net 30, payment in full upon receipt, etc.

Key Data Chronology - This is the outcome of activities performed only on specific key data items. They are address, a housing unit, a group quarters, or a person. For example, determining date in or out of universe, date provided for follow-up, date results returned, date received for processing, processing facility, receiving facility, processing results, edits (DCAR), status of address based on the operation (i.e., occupied or vacant, deleted, flagged for further action, subsequent universe determination). This also includes coverage measurement and evaluation activities.	
next step	This is the next task that should be performed based on the outcome of the current task.
operation step	This is a specific task within the activity performed.
operation type	This identifies the specific activity performed, such as NRFU.
outcome date-time	This is the date and time when the outcome occurred.
outcome description	This is a text remark to further describe the outcome.
outcome type	This is the result of a specific operation or operation step. For example, Checked-in, Checked-out, or in universe.
source	This identifies which Census operation or program has provided a modification to one of the key data items. For example, NRFU, Address Canvassing, and Coverage Followup.
task end date-time	This is the date and time when a specific task within the activity was completed.

task start date-time	This is the date and time when a specific task within the activity started.

Line - A shape having length and direction but no area, connecting at least two x,y coordinates. Lines represent geographic features too narrow to be displayed as an area at a given scale, such as street centerlines, or streams, or linear features with no area, such as state and county boundary lines.	
address range	The lowest and highest address numbers used to identify structures along each side of a street segment that has city-style addresses. The Census Bureau usually expands the range to include all possible numbers, not just the existing ones (for example, the Census Bureau may expand the actual addresses of 105, 111, 123, and 131 on the odd-numbered side of a street to 101-199). Usually, an address range on one side of a street contains only even or only odd numbers, but sometimes it contains both.
feature name	This is a natural or manmade part of the landscape, such as a road, stream, ridge, railroad, or power line. This includes a legal or imaginary boundary (point-to-point line, imaginary street extension, etc.).
line type	This is an indicator of the type of line, such as a street, highway, railroad, river, etc.
source	Origin of this line. Examples: Census Bureau Field Operations, Coverage Measurement, LUCA, local officials, etc.

Line Point - This is a specific point that defines one end of a specific line.	
direction	This indicates whether this is the from node or the to node for the line.

Map - This is a diagrammatic representation of the earth's surface (or part of it) that the Census uses to collect or process data or to disseminate as a data product. This includes paper, Internet, or electronic maps. TIGER is the single source.	
content	This is all features represented in a specific map for a specific purpose. For example: features, names, boundaries, shading, legend, highlighting, etc.
map identifier	This is a unique number assigned to a specific map that reflects the geography and its purpose. An example of an identifier is a bar code.
medium	This is the medium of the map, for example, paper or Internet.
name	This is the name of the map, such as Locator Map or Cluster Map.
number of sheets	This is the number of separate pages that comprise the complete map.
originator	This is the organizational unit that originally produced the version of the map.
source of data	This describes from which version of TIGER the map information came.
spanish language indicator	This is an indicator whether the language of the map is Spanish.
use	This is the reason for which the map was created including the year to which it applies. For example, 2010 Census Address Listing, 2010 Census Update/Leave, and 2010 NRFU.

Map Area - This is a specific map of a specific geographic location.	
scale	This is an indication of the relationship between the distances on a map and the corresponding actual distances on the ground.

Map Line - This is a specific line that appears on a specific map.	
cartographic symbol	This is a graphic symbol that is used to depict physical or non-visible features, entities or boundaries on a map.

Map Point - This is a specific point located on a specific map.	
cartographic symbol	This is a graphic representation used to depict physical or non-visible point features on a map.

Marketing Campaign - This is the planned program identified to address a specific goal or initiative. For example: National TV Ad campaign to encourage participation in the Census.	
campaign developer	This indicates whether the marketing campaign is being run by Census or by a vendor on behalf of Census.
language	This describes the unique language requirements related to the campaign.
media	This identifies the specific format used in the campaign. For example: radio, tv, print, etc.
success criteria	This is the measure that defines if the ad is successful.
target audience	This describes the specific group of people on which the marketing campaign will focus.
theme	This describes the primary intent of the messages issued by Census to support the marketing campaign. For example: hiring, be counted, partnership, etc.

Media Ad - This identifies a specific advertisement scheduled to run at a specific media outlet that is used to produce the advertisement.	
ad date-time	This is the actual date and time that the ad ran at a specific media outlet. This is done for audit purposes.

Media Event - This is the specific media outlet used to support a specific Census event. For example, a radio station sponsors a Census day news conference event.	
event end date-time	This is the date and time when a specific pre-scheduled activity ends at a specific media outlet.
event start date-time	This is the date and time when a specific pre-scheduled activity begins at a specific media outlet.

Media Outlet - This describes the vehicles that the Census Bureau uses to distribute information to the public about the Census and to solicit support for the Census. Outlets can be local, regional, and national newspapers, TV and radio stations.

address	This is the mailing address of the media outlet.
contact information	This is a summary of contact information for the media outlet. It includes the name of an individual who is a point of contact for the media outlet, address, phone number, etc.
name	This is the name of the media outlet. For example 'The Washington Post'.
niche	This describes the style or focus of a specific media outlet. For example: country, urban, Hispanic, news, etc.
region	This is the Census Bureau region (12) in which the specific media outlet resides. Some media outlets are national, not regional.
station number	This is the unique identifier for the media outlet. For instance WTOP 1500 AM, or DC's NBC News 4. This attribute is optional.

Microdata GQ Area - This is a specific polygon which contains a specific microdata group quarter.

serial number	This is the unique number for each group quarter and all persons within the group quarter in a specific polygon.

Microdata Group Quarters - The complete set of group quarters records and characteristics, which reflect the results of necessary disclosure avoidance, tabulation recodes, and tabulation geography.

group quarter serial number	This is the number that uniquely identifies the group quarters.
group quarter type	This is the category of group quarters. We recognize two general categories of people who reside in group quarters: (1) the none institutionalized population, such as college dorms, and (2) the institutionalized population, such as prisons. Potential subcategories are correctional institutions, nursing homes, college dormitories, and military quarters.
program type	This is the program for which the group quarters microdata is created. Examples are Census, and evaluations.
weight	Estimated measure of the population that the group quarters microdata represents in context of a sample design. The weight is used to form estimates based on a sample of the population, for example the PUMS Sample, or an evaluation sample.

Microdata Housing Unit - The complete set of housing unit records and characteristics, which reflect the results of necessary disclosure avoidance, tabulation recodes, and tabulation geography.

hu serial number	This is the number that uniquely identifies the housing unit.
hu type	This is a category of housing units such as: a house, an apartment, a mobile home or trailer, a group of rooms, or a single room that is occupied as separate living quarters, or if vacant, is intended for occupancy as a separate living quarters.
number at hu	This is the respondent answer to how many people were living in the housing unit on April 1st.

number at hu part-time	This is the number of part-time non-permanent residents at the housing unit according to the respondent.
own children under 18	This is the number of children of the respondent in the household that are under 18. Note that additional attributes may be created to represent the various age ranges.
program type	This is the program for which the housing unit microdata is created. Examples are Census, PUMS, Master Trace Sample, Coverage Measurement, evaluations, and experiments.
tenure	This is the respondent or imputed answer to the ownership question. For example, 1=owned by you or someone in this household with a mortgage or loan, 2=owned by you or someone in the household free and clear w/o a mortgage or loan, 3=rented for cash rent, 4=occupied without cash rent.
weight	Estimated measure of the population that the housing unit microdata represents in context of a sample design. The weight is used to form estimates based on a sample of the population, for example the PUMS Sample, Coverage Measurement samples, or an evaluation sample.

Microdata HU Area - This is a specific polygon which contains a specific microdata housing unit.	
serial number	This is the unique number for each housing unit and all persons within the housing unit in a specific polygon.

Microdata Person - This is the complete set of person records and characteristics, which reflect the results of necessary disclosure avoidance, tabulation recodes, and tabulation geography.	
age	This is the age of an individual at a specific living quarters. This includes reported, manually coded or imputed age.
birth date	This is the reported date of birth (month, day, year) of the person.
hispanic	This is the Hispanic origin of the person. This includes, reported, manually coded, or imputed Hispanic origin designation.
military residence indicator	This indicates if the person associated with a group quarters lives on a military installation or base.
off-duty residence indicator	This indicates if the military person associated with a group quarters has an non-military, off duty residence.
overnight stay indicator	This indicates where the person associated with a group quarters stays overnight most of the time. Examples include: an apartment or house; a shelter; on the street; other place.
parttime resident indicator	This indicates whether the person is a full-time or part-time resident of the living quarter.
person sequence number	This is the number that uniquely identifies the person within the living quarter.

program type	This is the program for which the person microdata is created. Examples are Census, PUMS, Master Trace Sample, Coverage Measurement, evaluations, and experiments.
race	This is the reported race of an individual reported to reside at a specific living quarters. The value may be either manually coded or imputed, but will not be both. Also, this includes a multi-race / single race indicator. Note: This should be an entity type to accommodate multiple responses and the hierarchy of race types. This is a case of an aggregate attribute where a separate entity type would be created to handle multiple occurrences, but we are not creating it in the model at this level of detail.
related child indicator	This indicates if the person is a child related to the respondent.
relationship	This identifies what relationship the person has to person one. Examples are husband/wife, grandparent, parent in-law, roomer/boarder, etc.
sex	This is the reported or imputed gender of an individual residing at a specific living quarters.
shelter nights past week	This is the number of nights the person associated with a group quarters spent at a shelter during the past seven days.
soup kitchen meals past week	This is the number of days the person associated with a group quarters received meals from a soup kitchen or mobile food van during the past seven days.
weight	Estimated measure of the population that the person microdata represents in context of a sample design. The weight is used to form estimates based on a sample of the population, for example the PUMS Sample, Coverage Measurement samples, or an evaluation sample.

Non-Federal Government Organization - This is a state, local, tribal, or foreign geographic entity established by legal action to implement specified general-purpose or special-purpose governmental functions. To meet Census criteria, a government must be an organized entity that, in addition to having governmental character, has sufficient discretion in the management of its own affairs to distinguish it as separate from the administrative structure of any other governmental unit. To have governmental character, an entity must exist as a legally organized entity and have legally defined responsibilities to its residents.

address	This is the mailing address for the non-federal government organization. This can include street, city, state, zip code, county, and congressional district.
contact method	This is the preferred means of contact with the individual. For example, email, phone, or print.
contact name	This is the name of an individual who is a point of contact for the non-federal government organization. It includes the salutation, first, middle, and last name of the individual. It also includes whether or not the individual is a recipient of the Census Redistricting Summary File and letter, or just the letter. There may be multiple points of contact for a non-federal government organization.

data user type	This defines the level of previous skill, knowledge, or experience the organization has working with Census data.
email address	This is the e-mail address of the organization making a request when the request is made via the Internet. The address can be used as the preferred method of contact or response.
fax number	This is the telephone number of the fax machine for the organization making a request.
functioning/non-functioning	Describes whether the governmental unit is considered a functioning unit. For example: counties in Connecticut are considered non-functioning.
highest elected official name	This is the name of the individual who is the highest elected official of the non-federal government organization.
highest elected official position	This is the official title of the highest elected official in the non-federal government organization. For example: Governor, mayor, etc.
non fed gov org type	This is the category of the non-federal government organization. For example, Indian reservation, incorporated place, regional government, state government, local government, etc.
organization name	This is the official name of the non-federal government organization. For example, Fairfax County, City of Falls Church, State of Delaware.
ship to address	This is the location address, such as the street number, name, city, and state, that facilitates the delivery of a package or letter to the location.
telephone number	This is the telephone number of the organization seeking assistance or information.
web site	This is the URL for the organization's web site.

Non-Governing Entity - This is a non-governing entity external to the Census Bureau that has interest in the Census.

Examples include: Committee on National Statistics, National Academy of Sciences, Census Advisory Committee on the African American Population, colleges, universities, libraries, individual researchers, private sector industries, media, and nonprofit organizations. This excludes the general public.

address	This is the mailing address for the non-governmental unit. This can include street, city, state, zip code, county, and congressional district.
contact method	This is the preferred means of contact with the individual. For example, email, phone, or print.
contact name	This is the name of an individual who is a point of contact for the non-government entity. It includes the salutation, first, middle, and last name of the individual. There may be multiple points of contact for a non-government entity.
data user type	This defines the level of previous skill, knowledge, or experience the organization has working with Census data.
email address	This is the e-mail address of the organization making a request when the request is made via the Internet. The address can be used as the preferred

	method of contact or response.
fax number	This is the telephone number of the fax machine for the organization making a request.
non gov entity type	This is the category of the non-government entity. For example, Trade Group, College/University, Media, Foundation, Library, Community Based Organization, Business or Corporation, etc.
organization name	This is the name of the non-government entity. For example, National Academy of Sciences, American Association of Retired Persons, etc.
population served	This identifies the specific constituency that the organization serves. For example, ethnic/race/special interest groups.
ship to address	This is the location address, such as the street number, name, city, and state, that facilitates the delivery of a package or letter to the location.
telephone number	This is the telephone number of the organization seeking assistance or information.
web site	This is the URL for the organization's web site.

Non-Trackable Kit - This is a collection of generic tools and materials to be used by a specific position or for a specific operation. These tools are not in electronic form and include such items as enumerator guides, flash cards, pencils, pens, tablets, staplers, clipboards, and Privacy Act Notice.

name	This is the non-trackable kit name.
non-trackable kit type	This is the category to which the kit belongs such as the operation for which it is intended to be used.

Non-Trackable Kit DC Template - This is a specific data collection template type included in a specific non-trackable kit type.

assemble date	This is the date when the data collection template was included in the kit.

Non-Trackable Kit Map - This is a specific map included in a specific non-trackable kit type.

assembly date	This is the date when the map was included in the kit.

Non-Trackable Kit Ops Template - This is a specific operations template type included in a specific non-trackable kit type.

assembly date	This is the date when the operations template was included in the kit.

Non-Trackable Kit Promo Item - This is a specific promotional item contained in a specific type of non-trackable kit.

assembly date	This is the date when the promotion item was included in the kit.

Non-Trackable Kit Reference Item - This is a specific reference item contained in a specific type of non-trackable kit.

assembly date	This is the date when the reference item was included in the kit.

Occupant - This is a specific person who occupies a specific housing unit.	
alternate address indicator	This indicates if the reported resident sometimes lives or stays somewhere else (i.e. yes, no.)
alternate residence reasons	This describes the reasons why a reported individual sometimes lives or stays somewhere else. For example, to attend college, to be closer to work, etc. Multiple reasons may apply.
at address part-time indicator	This is the respondent answer to the question are there part-time non-permanent residents, (i.e. yes, no.)
residence status indicator for cm	This is the category of residency of the occupant for coverage measurement purposes. Examples are n=nonmover, I=inmover, o=outmover, u=unresolved, and r=remove.

Operation Assignment - This is the specific operation to which a specific employee is assigned.	
end date	This is the last date that a 2010 Census employee occupies a specific position.
operation	This is the specific operation to which the employee in the position is assigned.
start date	This is the first date that a 2010 Census employee occupies a specific position.

Operations Template - This is a form used internally in the conduct of specific operations within the 2010 Census. Examples include batch header sheets for each operation, manual check-ins, and employee time sheet, application for employment and tax deduction forms.	
layout	This is the layout of the operations template. Examples include font size and dimensions of a screen.
medium	This is the medium of the operations template. Examples include paper or Internet.
name	This is the name of the operations template.
number	This is the form number of the operations template.
originator	This is the division or department that originally produced the version of the operations template.
use	This is the reason for which the operations template was created. Examples include Employment Operations and Check-Ins.
version	This identifies the version of a specific operations template.
version date-time	This is the date and time that the version of the operations template is created.

Organization Unit - This is a group within the Census bureau. Examples are regional office (RO), regional census center (RCC), and Accuracy and Coverage Evaluation Regional Office (ACERO).	
branch	This is the branch within the Census Bureau that the organization belongs to.
building	This is the building that houses the organization unit.
division	This is the division within the Census Bureau that the organization belongs to.
mail stop	This is the location of inter-office mail pick-up/drop-off for a specific organization.
organization	This is the official name of the organization. For example: Decennial

name	Management Division.
room	This is the room within a building where the organization unit operates.

Partnership - This is an agreement with a state, local, or tribal government or a non-government organization that gives that group an opportunity to participate in various ways in the Decennial Census.

Partnerships facilitate Census operations such as recruiting, NRFU, Be Counted, QACs, testing, etc.

An example partnership is LUCA, where local and tribal governments (not state governments) participate in updates to census addresses.

description	This is a brief description about the partnership.
locality	This is a community-based non-boundary area where the partnership program is conducted. For example, neighborhoods, communities, an area within a city, etc.
name	This is the name of the partnership.
partnership type	This describes the type of Partnership. For example, faith based, FSCPE, non-profit, etc.
program	This describes the specific operation in the Census life cycle. For example, LUCA, NRFU, CQR, etc.

Partnership Chronology - This is a tracked activity associated with a prospective or current partnership participant. For example, sent partnership agreement, accepted partnership agreement, sent LUCA invitation, shipped LUCA materials, submitted job application, scheduled media event, etc.

description	This describes the specific activity or event being tracked. It can include identification of an item that was submitted to or received from a prospective or current partnership program participant. For example: partnership agreement, LUCA invitation, LUCA materials, job application, media event, etc.
location	This identifies the location where the specific Census partnership activity or event is conducted. Typical locations include public places like post offices, train stations, and libraries; media outlets like radio stations and TV stations; and census facilities like Regional Offices, QACs, and be counted sites.
status	This identifies the current state of the tracked activity or event. For example: sent, received, approved, scheduled, complete, etc.
status date-time	This identifies the date and time that a specific activity or event occurred.
value added	This identifies anything of value given to the Census by a partner. It includes activities or events or pro-bono donations that the partnership organization performs that directly benefit the Census Bureau at no cost to the agency. Items may be temporary or permanent. An example of a temporary item is the use of free space for testing or training. A permanent item includes expendable materials such as paper. Other value added examples include newsletter

	editorials, volunteer labor, equipment donations, and hosting meetings.

Partnership Initiative - This describes specific partnerships related to an operational initiative. For example, the Census University initiative could include the following partnerships 1) National Association for Equal Opportunity in Higher Education 2) the American Association of Community Colleges, 3) the Hispanic Association of Colleges and Universities, etc.	
census bureau specialist	This is the person identified by the Census Bureau as the point of contact for a specific partnership program. This is a permanent Census Bureau employee, with knowledge in all aspects of the Census, sometimes also known as an Information Services Specialist.
government specialist	This is a temporary Census Bureau employee hired to conduct business with government entities on behalf of the Bureau.
media specialist	This is a temporary employee hired to develop and maintain media relations on behalf of the Census Bureau.
partnership specialist	This is the person identified by the Census Bureau as the point of contact for a specific partnership program. This temporary employee is a person from within the community.
scope	This identifies a National or Regional effort. On the national level, the program implements promotional activities by governmental and non-governmental organizations. The regional level reflects the Census Bureau's belief that the foundation for broad-based participation in the census must be built at the community level.

Partnership Promotion Item - Promotional Items are tracked, on a bulk basis, per promotional event. Inquiries are often made concerning the number and type of promotional items consumed per partnership event. Promotional Items are sometimes included in mailing packages sent to a selected universe of addresses.	
number of items	This identifies the actual number of the specific promotional item.
partner promo item type	This identifies the specific promotional item. For instance, key chains imprinted with the Census logo .

Payment - P - This is an approval to pay one or more invoices for services, products, or other objects.	
amount	This is the total amount approved for payment.
payment approval	This identifies the individual approving payment. This is an aggregate attribute which could be broken into an entity type to accommodate all approvals.
payment date	This is the payment approval date.
payment type	This is the category of the payment to be made to the vendor such as: provisional, complete, partial, final, advance, etc.

Person - This includes all person occurrences collected through the Census process itself as well as coverage measurement and the evaluation.	
age	This is the age of an individual at a specific living quarters. This includes reported, manually coded or imputed age.

birth date	This is the reported date of birth (month, day, year) of the person.
E-sample indicator	This identifies whether this Census Person is included in the enumeration sample.
final coverage measurement outcome	This is the final outcome of the coverage measurement analysis of the data for the individual. For a census entity, this would indicate correct enumeration. For an independent entity, this would indicate resident/match status.
final outcome	This indicates whether the person is included in the Census, coverage measurement or other evaluation, or other Census operation. This indicates inclusion or exclusion from the final census universe.
hispanic	This is the Hispanic origin of the person. This includes, reported, manually coded, or imputed Hispanic origin designation.
mover status	This identifies, relative to interview day, whether the person is a current and Census Day resident, an in-mover since Census Day, or a person who was a Census Day resident and moved out after Census Day.
name	This is the first name, middle initial, and last name of an individual reported to reside at a specific living quarters.
other sample indicator	This indicates in which Census Evaluation, Census Experiment, or ongoing survey sample this person is included. This excludes Coverage Measurement and E-sample. Note: There can be multiple occurrences.
person sequence number	This is the person number or sequence number on the Census Short Form for this reported individual. For cm, this is the number assigned by coverage measurement.
probability of selection	This is the final probability with which the person was selected to be in a particular sample. This may be the culmination of one or more sampling stages. The inverse of the probability of selection will be the basis for forming estimates.
race	This is the reported race of an individual reported to reside at a specific living quarters. The value may be either manually coded or imputed, but will not be both. Also, this includes a multi-race / single race indicator. Note: This should be an entity type to accommodate multiple responses and the hierarchy of race types. This is a case of an aggregate attribute where a separate entity type would be created to handle multiple occurrences, but we are not creating it in the model at this level of detail.
relationship to person one	This identifies what relationship the person has to person one. Examples are husband/wife, grandparent, parent in-law, roomer/boarder, etc.
sex	This is the reported gender of an individual residing at a specific living quarters. The value may be either manually coded or imputed, but will not be both.
telephone of surname	This is the telephone associated with the surname reported in a Census response.

Person Linkage - This identifies a pairing between two specific persons. Examples are: one person possibly duplicates another person, or a Census person possibly matches a CM or other evaluation person.	
match type	This is the reason why the persons are related. Example includes: duplicate, or a match between the Census and CM or other evaluations persons.

Person or LQ Count - This is the sum of all instances of various kinds of persons or LQs (i.e. HUs or GQs) defined by specific criteria, including specific associated person characteristics. Note that the Census cannot 'count' until duplicates have been resolved.	
count type	This identifies whether the count is for person, housing unit or group quarters.
count value	This is the actual count.
domain	This is the characteristic of interest; for example, renters, occupied housing units, non-institutional group quarters.
operation type	This identifies the operation for which this count was produced. Examples are edit operation, review and clear operations, product development, and coverage measurement.
program type	This is the program for which the count is created. Examples are 2010 Census, Coverage Measurement, evaluations, and experiments.

Person or LQ Count Product - This is the specific count contained in a specific product.	
product name	This is the name of the specific product that contains a specific count.

Person or LQ Count Spec - This is the specification for a specific count.	
spec name	This is the name of the specification that defines a specific count.

Point - This is a spatial location identified by latitude and longitude values.	
coordinates	This is the latitude and longitude of this specific location.
point type	This is an indicator of the type of point, such as manmade, natural, non-visible, etc.
source	This is the origin of this point. Examples: Census Bureau Field Operations, Coverage Measurement, LUCA, local officials, etc.
status	This indicates the status of the point such as: 'provisional' when an enumerator provides different coordinates for an address and it is awaiting verification.

Polygon - This is a two dimensional closed figure with at least three sides that represents a geographic area or part of a geographic area that is used for either collection or tabulation.	
area measurement	This is the area, in square units (metric and nonmetric) of the polygon for which the U.S. Census Bureau tabulates and disseminates data.
block	This is the atomic unit for collection or tabulation purposes by which all other larger geographic areas are defined.
census tract	A small, relatively permanent statistical subdivision of a county or statistically

	equivalent entity, delineated for data presentation purposes by a local group of census data users or the geographic staff of a regional census center in accordance with Census Bureau guidelines. Designed to be relatively homogeneous units with respect to population characteristics, economic status, and living conditions at the time they are established, census tracts generally contain between 1,000 and 8,000 people, with an optimum size of 4,000 people.
code	This is a number assigned to each geographic area for collection or tabulation purposes.
county	This is a type of governmental unit that is the primary legal subdivision of every State. In Alaska and Louisiana these are known as boroughs and parishes, respectively.
estimated population count	This is the population calculated based on the prior census data multiplied by the growth rate.
housing unit count	This is the number of housing units within this specific geographic area.
name	This is a brief text identifier of the polygon. Examples include, but are not limited to, Lake Michigan, Cook County, Queens, Hialeah, etc.
polygon type	This is the geographic entity assigned to the polygon. Examples of geographic entities are American Indian Reservation, native territories, or LCO area.
probability of selection	This is the final probability with which the polygon (such as coverage measurement block cluster) was selected to be in a particular sample. This may be the culmination of one or more sampling stages. The inverse of the probability of selection will be the basis for forming estimates.
sampling stratum	This is a grouping or classification of polygons (such as coverage measurement block clusters) that have a similar set of characteristics. Polygons are placed in sampling strata in order to affect the sample distribution of particular polygon characteristics. For example, small (0-2 HUs), medium (3-79 HUs), and large (80+ HUs).
state	This is the primary governmental division of the United States. The Census Bureau treats the District of Columbia as the equivalent of a state for data presentation purposes. The Census Bureau also treats a number of entities that are not legal divisions of the United States as statistically equivalent to a state: American Samoa, the Commonwealth of the Northern Mariana Islands, Guam, Puerto Rico, and the Virgin Islands of the United States.
subsample indicator	This indicates that the polygon remains in the sample following a subsampling operation to reduce the number of polygons in sample.
type of enumeration area	This is the method by which housing units within this polygon are enumerated by the census. For example, mailout/mailback, update/leave.
vintage	This indicates whether the polygon is used for collection, current, tabulation, or CQR.

zcta	This is the Zip Code Tabulation Area (ZCTA) which is a statistical geographic entity that approximates the delivery area for a U. S. Postal Service five-digit or three-digit ZIP Code. ZCTAs are aggregations of census blocks that have the same predominant ZIP Code associated with the residential mailing addresses in the Census Bureau's Master address File.

Polygon Line - This is a specific line that bounds or is contained in a specific polygon.	
cartographic symbol	This is a graphic symbol that is used to depict physical or non-visible features, entities or boundaries on a map.

Polygon Linkage - This identifies a pairing between two specific polygons. Examples include, but not limited to, one block contained within another, such as a lake, with it's own unique block number, surrounded by other land blocks; a block, etc.	
coextensive	This indicates that two or more polygons perfectly occupy the same space.
collection of blocks	This indicates that the polygons are related in order to define areas that are independent of any geographic entity except census block. Examples include urban and rural delineation, metro area, congressional district, etc.
coverage measurement ring	This indicates whether the related block is contained within the same block group or within the surrounding ring of blocks.
hierarchy	This indicates whether one polygon is wholly contained within another.
linkage reason	This is an explanation of the purpose for the specific linkage, for example, to create a block cluster, to create a crew leader district by grouping together a number of enumerator assignment areas, etc.

Polygon Point - This is a specific point within a specific polygon.	
description	This is a text statement that provides specific information about the characteristics of the point as it pertains to the specific polygon.

Position - This is any role that gathers or processes person, address, and/or unit data, and performs other management, administrative, technical, and partnership support roles. This includes a telephone operator, data capture operator, enumerator, address lister, statistician, statistical assistant, geographer, and demographer.	
appointment	This describes the hiring guidelines as defined by OPM regarding duration, status (temp or perm) of Census employees. An appointment may be defined as the legal action that makes an applicant or a former employee an official government (Census Bureau) employee. It is effected using an appointment affidavit that contains the oath of office that the person affirms or swears to, and the affidavit is signed by the person. For example, an employed enumerator may be converted to a crew leader position without having to be reappointed or a previous employee (enumerator

	or crew leader) or an applicant can be directly hired to a crew leader position (new appointment).
compensation rate	This is the hourly wage or annual salary for a position. This can also include the possibility of bonus payments.
position type	This is a text description of the position. Examples include: data collector, clerk, enumerator, programmer, statistician, crew leader, telephone operator, data capture operator, address lister, statistician, statistical assistant, geographer, and demographer, etc.
qualification	This describes the experience, training or other capability of an applicant. Examples include: access to car, access to land line phone, keying rate, language skill, and education.
required availability	This is the date of availability and number of hours required by this position.

Position - Facility - This is a specific position authorized at a specific facility.	
allocation	This is the number of employees authorized for this specific position at this specific facility.
end date	This is the last date that the position is authorized.
locality pay adjustment	This is a differential in hourly wages based on the geographic location and cost of living in the area.
start date	This is the first date that the position is authorized.

Position Reference Item - This is the specific reference item required for a specific position. For example, the manual required by an equipment operator.	
activity type	This describes the activity that requires the use of a specific reference item by a specific position. For example: enumeration, coding, listing, crew leadership, and Person Matching for: Before Follow Up, After Follow Up, Final Follow Up, etc.

Position Template - This is the specific data collection template required by a specific position. For example, a script used by a telephone operator providing Telephone Questionnaire Assistance.	
activity type	This describes the activity that requires the use of a specific data collection template by a specific position. For example: selection record request/FOS, telephone operator script/telephone operator, Person Matching for: Before Follow Up, After Follow Up, Final Follow Up, etc.

Potential Response - This is a questionnaire received from a specific address, using any response mode.	
mode	This is the medium from which the response was received, such as telephone, or paper questionnaire.

system entry date-time	This is the specific month, day, year and time of day at which the response entered the system. For paper response, this is when it is checked-in. For internet or telephone, it is when the session is initiated. For HHC responses, this is when the response is acknowledged as a valid response.
tracking number	This is a number used to identify a specific completed response on a paper questionnaire, Internet session, and automated telephone session.

Product - This is a presentation of results of the Census that is disseminated in various media (e.g., Internet, CD-ROM, paper). It includes a description of each change to the product recommended as a result of, for example, a review and clear activity. This may include: explanatory material, metadata, or technical documentation that addresses how the results are obtained and interpreted, or review products. Products may be produced from a variety of data sources such as summarized 2010 Census data, and estimated data. Also, this includes non-2010 Census data such as Surveys or data compiled by other agencies. A new version of a product is considered to be a separate product.

announcement type	This is the type of release(s) or announcement(s) agreed upon by the Public Information Office (PIO), the Internet Coordinator, and the Author/Branch. Release types can be one or all of the following: Press Release, Product Announcement, and Tip Sheet.
change description	This is text describing a specific recommended change to a product resulting, for example, from a review and clear activity. This is an aggregate attribute which would become an entity type to accommodate each recommended change, the date, the source of the recommendation, etc.
clearance date	This is the date on which a product is officially cleared for public dissemination.
clearance organization	This is the organization that officially clears the product for public dissemination.
content	This is the actual formatted values provided in the product based on the parameters and format defined in the specification. This also includes comments and a narrative description.
development status	This indicates the stage of the product. Examples are draft, final, or in review.
language	This is the language used in product text.
medium	This is the medium of the product. Examples are: paper, Internet, CD, DVD or video.
name	This is the name or title given to the product.
number	This is the numeric identifier for the product.
product type	This indicates whether the product is a published report (such as PHC-1 or PHC-3), a table package (such as (PHC-T), Summary File, or other. Also, this includes the series of a published report or brief. It may indicate that the product is a kit or package consisting of multiple products.
programming language	This is the program(s) used, or the special programming language used to complete the product.

reference year	This is the year most frequently associated with the product. In the case of multiple years, this is the latest year.
release date	This is the date on which a product is officially disseminated to the general public or customer. This date refers to the first medium of release.
sensitivity type	This identifies the nature of the product for sensitivity alert purposes. Examples are: descriptive, evaluative, methodological, etc.
subscription price	This is the fee that Census assigns to a Census Report. A fee for a report may differ depending on the delivery option.
subscription serial number	This is the product serial number that the Government Printing Office (GPO) uses to identify a report.
use	This identifies how this product will be used. For example, Internet posting (includes working papers and table packages), journal articles, conference papers, or internal reports, etc.

Product Map - This is a specific map contained in a specific product.	
assembly date-time	This is the date and time that the map was published or packaged with the product.

Product Spec - This is a unique specification describing a specific product.	
name	This is the name of the specification that defines a specific product.

Promotion Item - This a message issued on behalf of the Census Bureau to promote the 2010 Census. This includes items like advance letters, reminder cards, LUCA promotion brochures, balloons, key chains, and t-shirts with Census logo.	
approver	This is the 2010 Census Bureau Staff Member who must approve the purchase, production, and use of the item.
benefits of item	This is the most important benefit to the audience that the item communicates. For example: funding for more schools, funding for road improvements, etc.
content limit	This identifies specific content to avoid on the text or graphics of the promotion item. For example, do not use blue, do not use acronyms, do not use state logo, etc.
distribution method	This is how the promotion item is disseminated to the public, for example, by poster, flyer, video, TV public service announcement, or radio PSA.
intended use of item	This is what the sponsor intended for the audience to do after they receive the item.
main message	This is the most important message that the item should communicate. For example: the importance of the Census to school age children, the importance of the Census to college students and where they should be counted, etc.
more information contact	This is the name, phone, and address published on the item.
planned release date	This is the date that the sponsor plans to release the item to the public.

stand alone indicator	This indicates whether or not the item is part of a promotional package.
success criteria	This is the measure that defines if the item is successful.
target audience	This is the group for whom the promotional item is intended. For example, target audiences may include, but are not limited to, Cambodians, Indian Tribes, Afro Americans, Mexican immigrants, Chinese Americans, and the general population.

Public Law Distribution - This is the distribution of the Census Redistricting (Public Law 94-171) Summary File that provides population counts for all persons and all persons 18 years and over. It also has counts of Hispanic/Latino persons by race, and not Hispanic/Latino persons by race for both the total population and the population 18 years and over.

The distribution of this product is based on Public Law 94-171, enacted in 1975, directing the Census Bureau to provide redistricting data needed by the 50 states for their use in redrawing districts of the United States Congress and state legislatures. Data are provided for Puerto Rico because they chose to participate in the Census Redistricting Data Program.

scheduled release date	This is the scheduled release date for the Census Redistricting Summary File.
state	This identifies the state whose data is contained in the Census Redistricting Summary File.

Purchase - P - This is a request or order that authorizes a vendor to supply a specific good or service. This includes purchase orders against a contract as well as credit card purchases.

approval date	This is the date that the purchase was approved.
approver name	This is the name of the individual that has approved the purchase order.
completed date	This is the date that the purchase was completed and closed out.
funds certification official	This is the name of the individual that has verified that there is sufficient money available to pay for the purchase.
priority	This identifies the importance of the requested purchase.
purchase order number	This is a unique internal number assigned by the Bureau to track the purchase order.
requestor	This is the name of the individual requesting that the purchase be made.
requisition number	This is a unique number assigned by the requesting organization.
submitted date	This is the date that the purchase was requested.

Purchase Line Item - P - This identifies the specific item to be purchased.

description	This is a brief text description of the goods or services being purchased.
price	This is the price per unit of the goods or services being purchased.
quantity	This is the number of units being purchased. For example: 12 dozen pencils; 6 each folding chairs, etc.

unit	This is the quantity of items that are grouped for sale or distribution. Examples include: each, dozen, box, etc. for physical items and hours, days, etc. for services such as consulting or programming.

Recruitment Test Session - This describes a specific testing session used for screening applicants. This includes both actual and practice tests.	
method	This is the method in which the test was administered such as paper or automated.
name	This is the name of the test given at a specific facility.
version	This is the version of the test administered.

Reference Item - This is an item that describes how to perform a task and the tools to accomplish the task for both internal and external users (for example, data dictionary, manual, coding rule, training guide, job aid, questionnaire reference book, flash card, technical documentation, etc.). This includes material used in workshop or training, including computer based training, videos, etc.	
content	This is the text and graphics comprising the body of the reference item.
identifier	This is a unique assigned number for a specific reference item.
language	This is the language of the reference item.
medium	This is the medium of the reference item. Examples include paper or Internet.
name	This is the name of the reference item.
originator	This is the division or department that originally produced the version of the reference item.
use	This describes how the reference item should be used, for example, data dictionary, manual, coding rule, training guide, or technical documentation, etc.
version	This identifies the version of the reference item.

Reimbursement - WIP - This is the amount received in payment for products provided or services rendered by the Census.	
amount	This is the number of dollars received for reimbursement.
payment type	This is the method of payment for the product such as, credit card, check, Census Deposit Account.
reimbursement date	This is the date that reimbursement was received.
reimbursement type	This is the method of payment for the product such as, credit card, check, Census Deposit Account.

Requirement - P - This is a goal, objective, or business rule (high level or detailed requirement). Business rules may be functional or non-functional and describe what needs to be done, and to what entity (unit, person or object), in sufficient detail to design and prepare specifications/procedures/design documents, as necessary, for implementation. This requirement supports the development of all necessary systems and their interfaces and dependencies, as well as security and privacy considerations. This also includes all applicable laws, regulations, and policies. For products, this includes format, media, recipient, etc.

assumption	A parameter used to prepare cost estimates and operational plans.
description	This identifies the function, condition, or capability that a 2010 Census object (hardware, software, materials, products, etc.) must perform, meet, or possess to satisfy a user's identified need to solve a problem or to achieve an objective.
high level requirement	(Definition is work in progress)
level	This indicates whether it is a goal, objective, high level requirement, or detailed requirement.
name	This is the title of the specific requirement.
rule interdependency	A business rule that affects another business rule.
source	This is the origin of the requirement and/or the interpreting authority. Examples of interpreting authorities are legislation, policy, and internal organizations. This could be a federal government organization, non-federal government organization, a non-government unit, or a census organizational unit.
timing	This indicates the relationship of the requirement to prerequisites and subsequent requirements.
unit or object	This is the unit, object or person that is the subject of the requirement. The requirement may act on or use the object. Examples include: address, person, respondent, HHC, questionnaire, etc.

Resolution Employee - This is the specific temporary employee who has completed a specific help resolution.	
role	This is the function performed by the individual for a specific help resolution.

Resolution Item - This is the standard item requested by a specific customer request. For example, questionnaire, promotion item, and other standard products such as: Microdata Files, Public Use Microdata Sample, Summary Files, Map, Census Briefs, etc.	
desired delivery date	This is the date that the customer wishes to receive the item.
quantity	This is the number of copies requested.

Respondent - This is the person supplying census information about his or her living quarters and its occupants, or a knowledgeable person if a household member is not available.	
best contact time	This is the respondent's best time to contact. Examples are day, evening, either.
name	This is the name of the person who provides Census information.
phone number of caller id	This is the telephone number of the respondent according to the automatic Caller ID.
phone number of respondent	This is the telephone number provided by the responding individual, whether the respondent is stateside or non-stateside.
ship to address	This is the location address, such as the street number, name, city, and state, that facilitates the delivery of a package or letter to the location.

Respondent Group Quarters - This is a specific respondent that describes a specific group quarters.	
report date	This is the date and time of the specific report about the group quarters made by the respondent.

Respondent Housing Unit - This is the specific housing unit described by a specific respondent.	
description date	This is the date and time that the respondent provided information about the specific housing unit.
proxy type	This indicates whether the respondent is providing Census information for his/her household or as a proxy for a different living quarters (such as landlord, neighbor, postal worker, other).

Respondent Person - This is a specific person described by a specific respondent.	
description date	This is the date that the respondent describes the specific person.
relationship to respondent	This identifies what relationship the person has to the respondent. Examples are husband/wife, grandparent, parent in-law, roomer/boarder, etc.

Scheduled Activity - P - This is a specific task necessary to complete the Census. A task is defined by one or more specific business rules, which must include all related objectives, high level requirements and detailed requirements. Activities may overlap.	
activity name	This identifies the activity being performed.
activity status	(Definition is work in progress)
actual cost	A unit level cost where appropriate.
actual duration	This is the period of time that was used to complete the activity.
actual end date-time	This is the specific date and time at which the activity was completed.
actual start date-time	This is the specific date and time at which the activity was begun.
description	This is text that defines the specific purpose of the scheduled activity.
plan duration	This is the planned length of time that it is expected that an activity will take to complete.
plan end date-time	This is the date and time at which an activity is planned to end.
plan start date-time	This is the date and time at which an activity is planned to begin.
project number	This is the number assigned in budget documents to a unique operation. For example, the 2010 Architecture project number is 5300590.
requirement level	The level of requirement detail necessary for the responsible party to complete the task.
responsible party	This is the name of the Census employee that is responsible for the successful completion of the activity. Normally, this would be a program manager, or Census task lead over contractors.

Script Request - This is the specific reference item used as a script for a specific help request from an external customer.	
script name	This is the name for the specific script.

Software - P - This is an instruction for computers to process data.	
actual cost	(Definition is work in progress)
computer language	The language the computer instructions are written in. Examples are C, Fortran, PowerBuilder.
content	(Definition is work in progress)
development status	This is the current state of the software instruction. For example, in progress, production ready, or fixed.
medium	This is the medium of the software instruction. For example, HHC, desktop, or VAX.
software name	This is the name of the software instruction. Examples are D308 payroll, or Assignment Management.
software version	This is the version identifier of the specific software instructions.
use	This is the reason the software was written, including the year for which it applies.

Software Specification - This is the associative entity that matches specific specifications to specific software packages.	
name	This is the name of specification that defines software functionality.
version	This is the version identifier of the specification document.

Spatial Feature Chronology - This is the outcome of an activity performed only on lines, points, and polygons. Examples include adding, changing or deleting from activities such as Address Canvassing, LUCA and BAS. The chronology includes the source of the action and an assessment of the quality of the source. This updates the geographic framework.	
next step	This is the next task that should be performed based on the outcome of the current task.
operation step	This is a specific task within the activity performed.
operation type	This identifies the specific activity performed, such as Address Canvassing.
outcome date-time	This is the date and time when the outcome occurred.
outcome description	This is a text remark to further describe the outcome.
outcome type	This is the coded result of a specific operation or operation step. For example, retaining the feature action as valid.
source	This identifies which Census operation or program has provided a modification to the geography framework. For example, LUCA participant, or field operation.

task end date-time	This is the date and time when a specific task within the activity was completed.
task start date-time	This is the date and time when a specific task within the activity started.

Special Tab Agreement - This describes the social, economic, and/or demographic characteristics and geographic detail requested by the customer for tabulation. This includes the agreed-upon price, delivery dates and other conditions. The Special Tabulation may be requested by internal Census staff or external sources.

Content	This describes what the customer has indicated for the demographic, characteristic, and geographic detail to be addressed by the special tabulation. Examples are total population for a given area, total population and components of change for a given area, age-sex-race-hispanic measure for a given population, or total population for ages 5 to 17. Also, this includes purpose, and the format in which the requester wants to receive the product.
contract number	This is the internal number assigned to a formal contract.
date agreement signed	This is the date that the agreement for the special tabulation is signed.
date planned delivery	This is the date that the special product tabulation is planned for delivery to the orderer.
estimated cost	The estimated cost of the Special Tabulation. This attribute could be expanded to an entity type to accommodate the line items on the cost estimate worksheet.
fiscal year	This is the fiscal year that the funding takes place.
priority level	This indicates the importance of the special tabulation. For example, this indicates whether the special tabulation should be expedited.
product price	This is the actual amount that the customer is charged for the item.
short name	This is the abbreviated name of the special tabulation.
special tab number	This is the identification number assigned to the special tabulation product.
status of contract	This is the status of the agreement. Examples are: 1-Negotiating, 2-Cost Estimate Provided, 3-Cost Estimate Accepted, and 4-In Programming.

Specification - P - This is an instruction on how to create or configure items such as software, procedures guides, equipment, facilities, and products. An example is the minimum required value such as the following: a CPU shall have 2 MB of RAM; a facility shall have a minimum square footage requirement of 1100 sq ft.; or the sample must have a minimum threshold of 100 persons.

content	This is the text and graphics comprising the body of the specification.
medium	This is the medium of the specification, for example, paper or Internet.
name	This is the name of the specification.
originator	This is the division or department that originally produced the version of the specification.

sensitivity indicator	This indicates the need for disclosure avoidance measures to be applied to the product. Also, this indicates if the Disclosure Review Board (DRB) applied an additional disclosure avoidance to the special tabulation. This may indicate the need for a non-standard confidentiality measures to be applied to the product.
source of data	This identifies sources to be used for the data, such as raw Census data, microdata, person and living quarters counts, estimates, non-2010 Census surveys, and other external sources. Examples of external sources are the Immigration and Naturalization Service (INS) and Social Security Administration.
version	This is the version identifier of a specification.

Stock Profile - P - This is a set of inventory management characteristics pertaining to one or more inventory items. For example, a characteristic is the amount of lead time required for printing and shipping specific inventory items.

minimum order quantity	The least number of the packaging units of measure that must be ordered from the printer, or provider of the stock.
order lead time	This is the time from a receipt of an order for a material through picking and delivery to the Census or LCO.

Template Element - This is an individual component of a template, such as the introductory paragraph, instruction, question, or header.

comment	This provides more information to the Census Bureau about the question. For example This question should be placed after the age question or Center this instruction above it's group of questions.
content	This is the actual text of the template element. For example, if the type of element is Question, content could be What is your age as of April 1, 2010? Or, if the data element type is Instruction, content could be Mark 'x' one box.
element type	This identifies the type of element on the template, for example, question, comment, and instruction.
grouping identifier	This identifies a set of content on a template. For example, Group Name = MOMB-p2, or Group Title = Person 2.
placement	This identifies the physical location on the data collection template where the template element should be placed. For example, Must be placed on each odd-numbered page in the footer.
version	This is the version identifier of a specific template element.
version date-time	This is the date and time that the version of the template element is created. For example, this is the version of the question on a questionnaire.

Temporary Employee Chronology - This is the list of event dates and associated data tracking temporary employee actions. This includes administrative actions such as date of employment, promotion, termination, etc.

event date	This is the date that the event occurred.

event type	This is the category of the event that defines the status of the employee. For example, promotion, hiring, firing, change of address, and other personnel actions.
reason	This describes the justification for the specific event. For example, the reason an employee was terminated.

Temporary Employee Compensation - This is the total compensation to an individual temporary employee based on hours worked or salary, travel expenses, and other miscellaneous expenses. This is analogous to a paycheck.

amount	This is the total value of the current pay period to include wages and expenses.
expenses incurred	This is the aggregated amount approved for the expenses incurred during the pay period.
hours worked	This is the aggregate number of hours for which the employee is being compensated.
pay period	This is the pay period for which the employee is being compensated.

Time & Expense - This is the record of the time worked and other expenses incurred, reported on a periodic basis. This includes daily or weekly T&E data. This pertains only to tasks in direct support of the 2010 Census.

approval indicator	The indicator shows that the time sheet has been reviewed and approved by the crew leader.
expenses incurred	All expenses claimed by the employee to include mileage, meals and incidental expenses.
hours worked	The number of hours worked by an employee on a specific date.
timesheet date-time	This is the date and time the time sheet was submitted.

Trackable Kit - This is one or more trackable tools and materials to be used by an individual data collector, data capture operator, or facility. This is an item for which we maintain information about its location and use throughout its entire life cycle.

description	This is a text description of the trackable kit, if the name needs more description.
disposal indicator	This indicates if the trackable kit is marked for disposal.
disposal method	This indicates the way that the trackable kit should be disposed.
name	This is the trackable kit name. For example, 676-A Lister Trainee, 676 Lister Instructor, or 641-A Crew Leader Trainee.
notes	This is any additional notes about the trackable kit. For example, this could be work-order notes.
originator	This is the division or department that originally assembled the trackable kit.
tracking number	This is a barcode or number used to identify a specific trackable kit.

use	This identifies the category to which the trackable kit belongs, such as Enumerator, HHC, or LCO bulk supply. Also, this indicates the subcategory of usage, such as address canvassing, RLFU (record linkage follow-up), field follow-up, group quarters visit, update/leave, NRFU, re-interview, and independent visit.

Trackable Kit Data Collection Template - This is the specific data collection template packaged with the trackable kit.	
assembly date-time	This is the date and time that the data collection template was packaged with the trackable kit, or loaded on the HHC.

Trackable Kit Map - This is the specific map contained in a specific trackable kit.	
assembly date	This is the date that the map was packaged in the trackable kit, or loaded on the HHC.

Trackable Kit Ops Template - This is the specific operations template packaged with a specific trackable kit.	
assembly date-time	This is the date and time that the operations template was packaged with the kit, or loaded on the HHC.

Trackable Kit Reference Item - This is the specific reference item contained in a specific trackable kit.	
assembly date-time	This is the date and time that the reference item was packaged with the trackable kit, or loaded on to the HHC.

Training Reference Item - This is the specific reference item that is used by a specific training session.	
quantity	This is the number of a specific reference item used for a specific training session.

Training Session - These are the classes associated with the 2010 Census required to instruct Census staff about the position and how to conduct the operation(s). This is not intended to represent all training for permanent employees.	
course name	This is the title of the specific class.
end date-time	This is the date and time the specific class concludes.
start date-time	This is the date and time that the specific class begins.

Vendor - P - This is an organization external to the census bureau (may be government or private) that provides goods or services during Decennial.	
address	This is the mailing address of the vendor.
contact name	This is the specific name of a vendor employee with whom the Bureau does business.

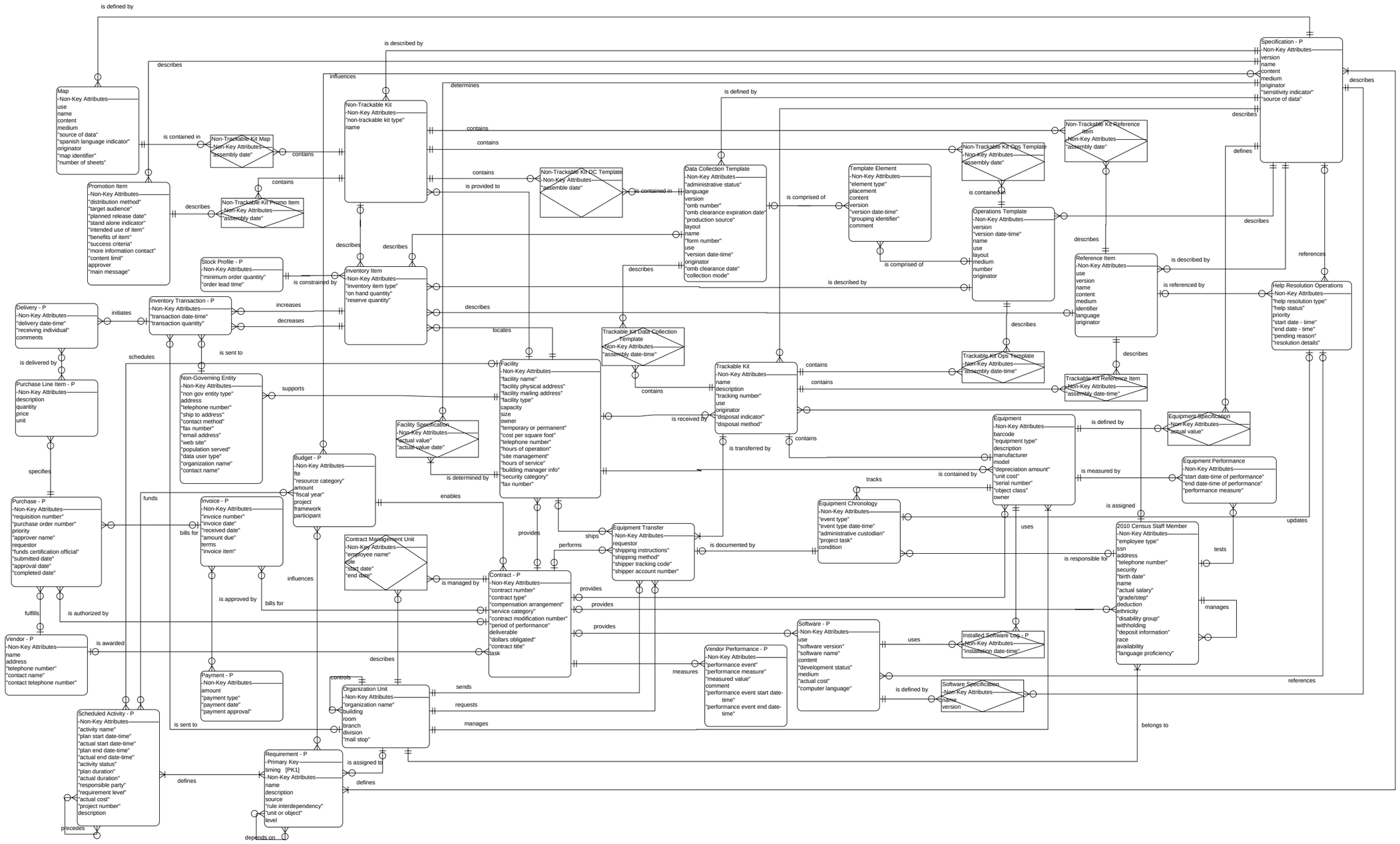
contact telephone number	This is the specific telephone number where the vendor point of contact may be reached.
name	The name of the vendor.
telephone number	This is the telephone number of the vendor.

Vendor Performance - P - This is a single performance event performed by a contractor on a specific contract. This can be used to support a wide variety of measurement approaches such as: Performance Assurance, and comparison of actual daily throughput and completion statistics measured against expected or modeled outcomes.

comment	This is text describing additional observations or subjective notes concerning the vendor's performance.
measured value	This is the quantitative result of the performance measure. Examples include: forms processed per hour, lines of code per day, etc.
performance event	This is a specific occurrence that is being evaluated.
performance event end date-time	This is the date and time when a vendor performance evaluation was completed.
performance event start date-time	This is the date and time when a vendor performance evaluation was begun.
performance measure	This is a description of the way a specific performance event is to be measured.

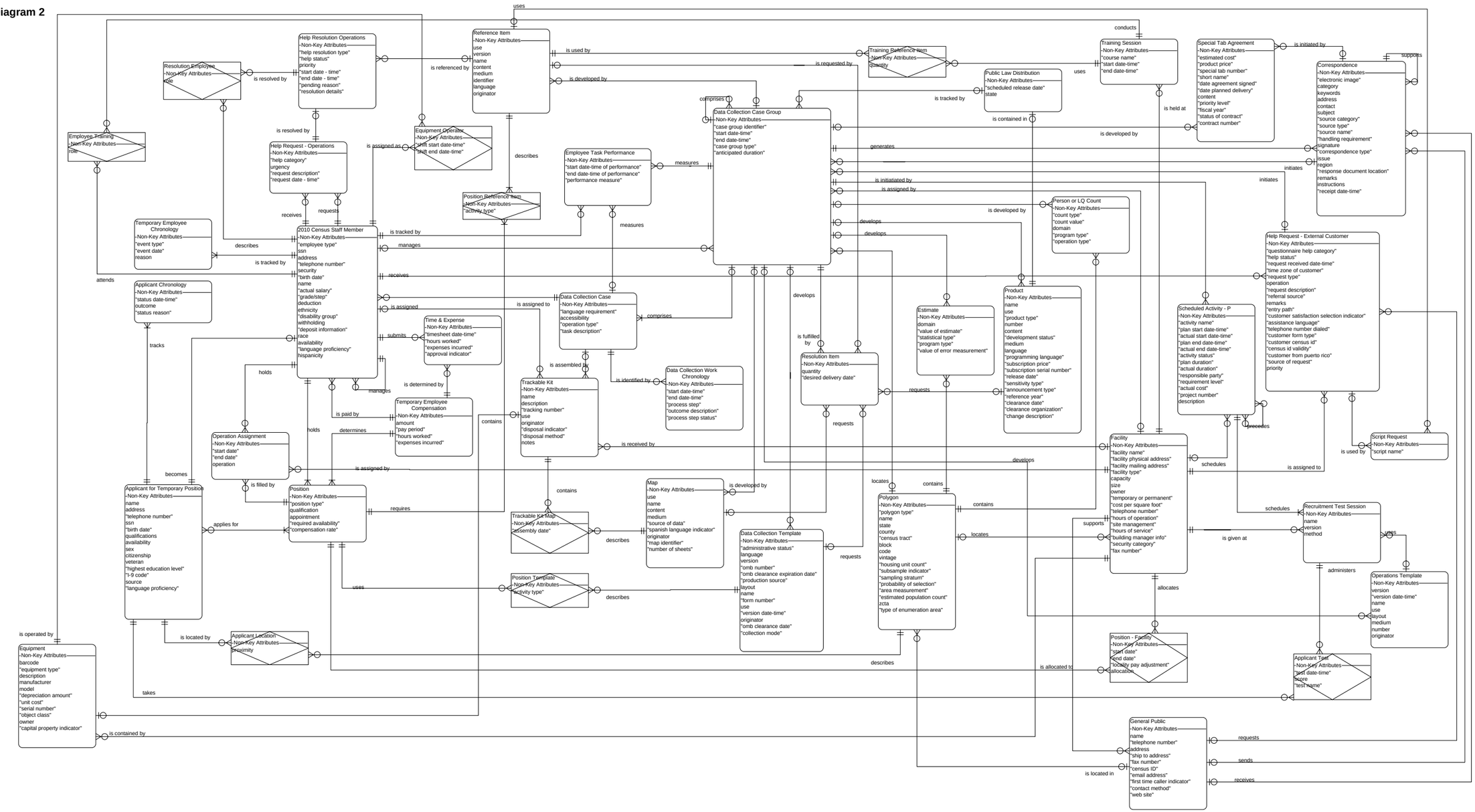
Logical Data Model Diagrams

Diagram 1



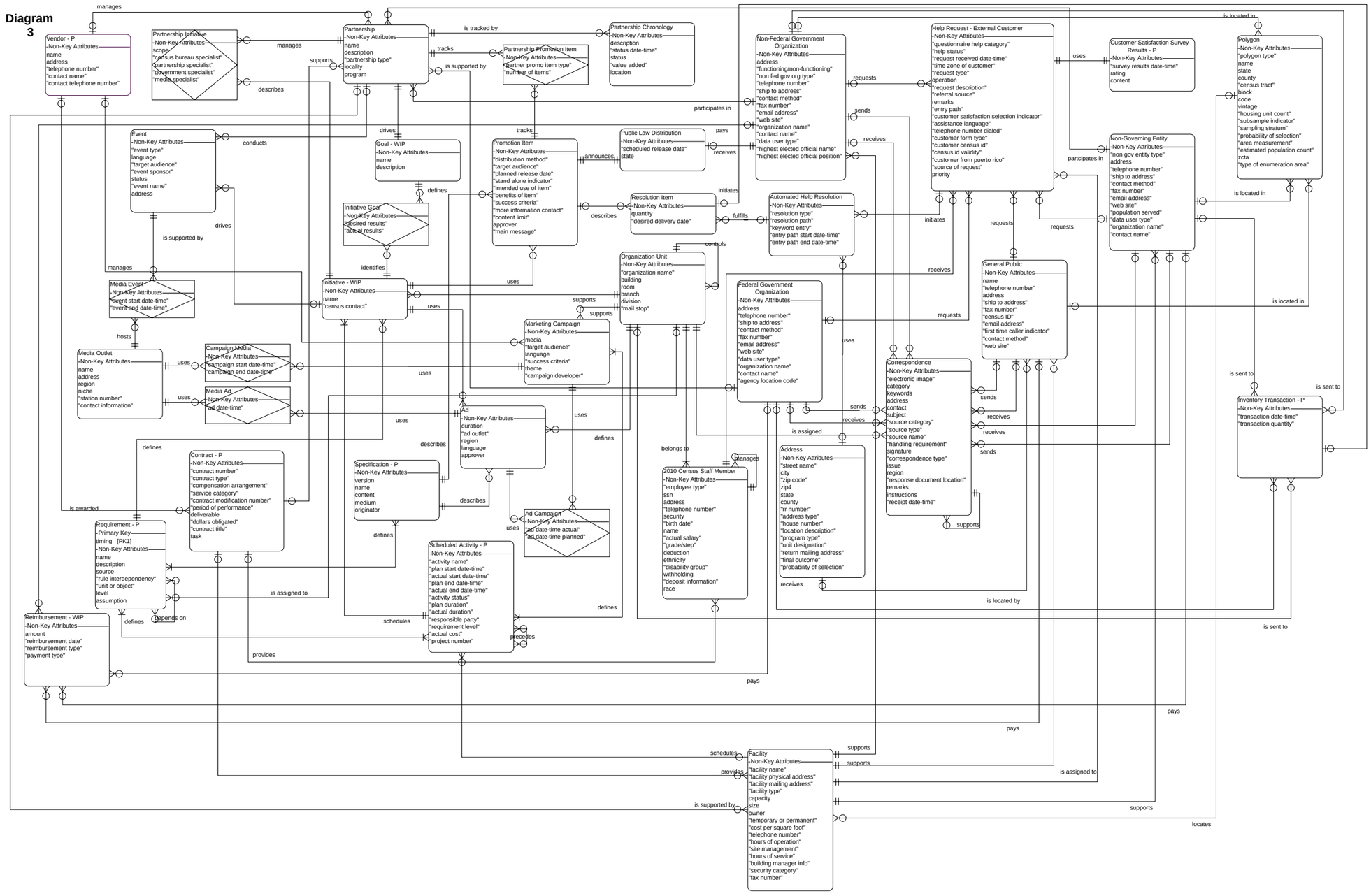
Logical Data Model Diagrams

Diagram 2



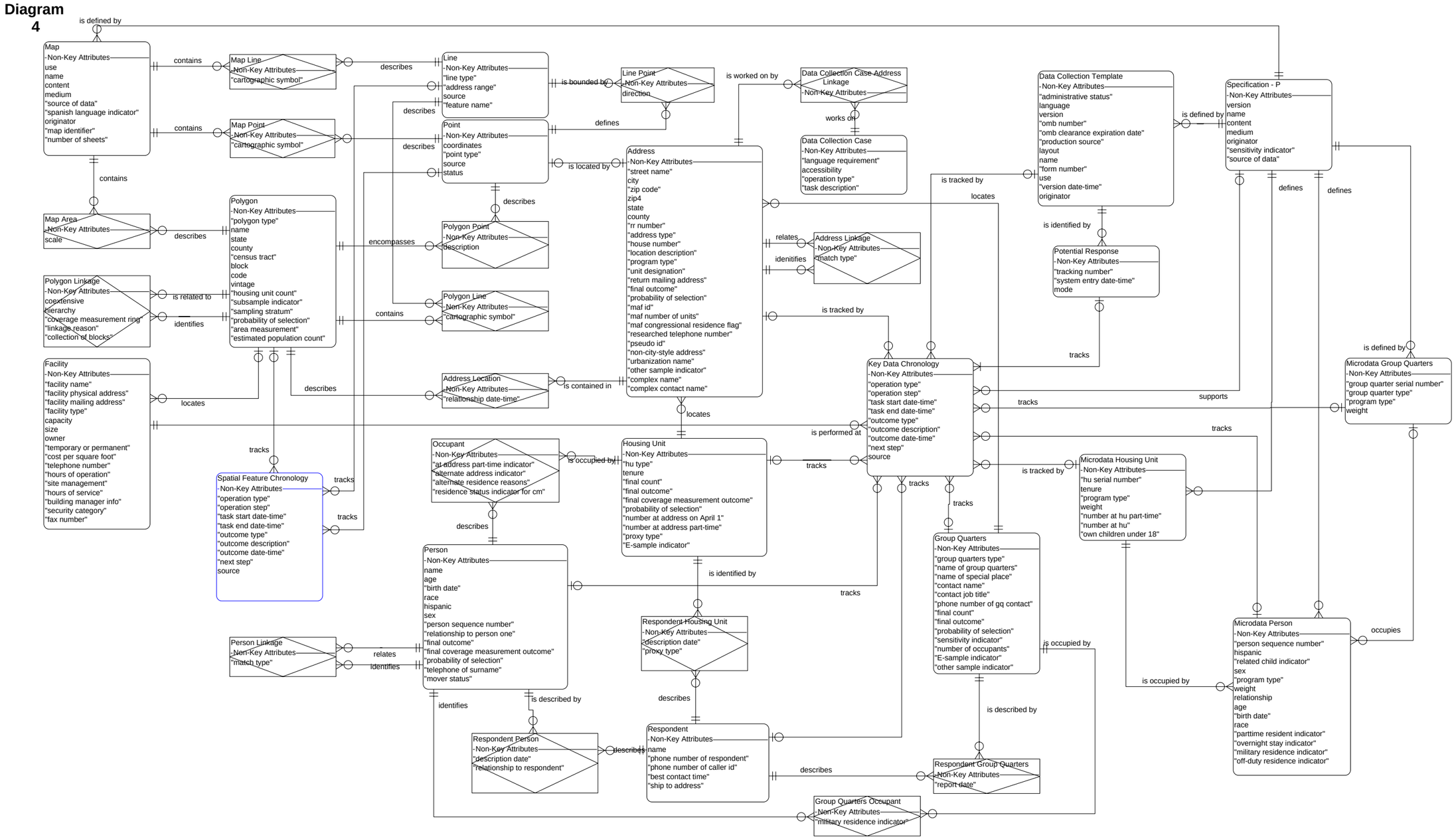
Logical Data Model Diagrams

Diagram 3



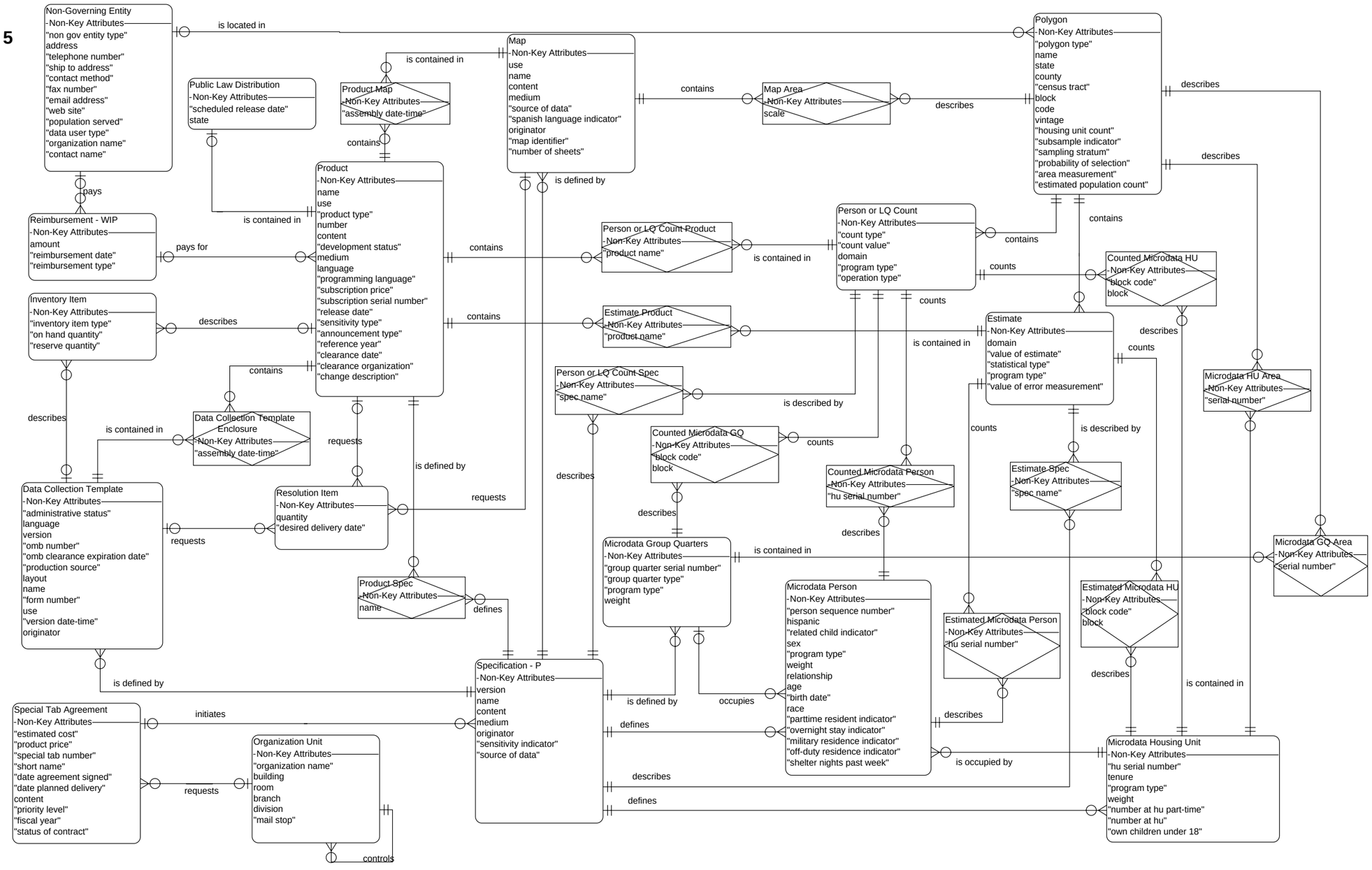
Logical Data Model Diagrams

Diagram 4



Logical Data Model Diagrams

Diagram 5



25. INFORMATION EXCHANGE MATRIX (LOGICAL)

The Information Exchange Matrix provides a description of the needlines identified in the Node Connectivity Diagram (work product #28). In addition to a general description of each Needline, the matrix provides the following mappings:

- Source and destination nodes for each needline
- List of Information Exchanges associated with each needline (Information Exchanges directly map to Activity Model ICOMs). (See work product # 18.)

The description for work product 28 provides a more detailed definition of needlines, nodes and information exchanges, and should be read before reviewing this product.

Information Exchange Matrix: Needline Definitions

Name	Description	From Operational Node	To Operational Node	Information Exchange
Accepted Paper Receipts	This needline represents the LQ, spatial, person and administrative data that is to be converted to electronic format.	Census Data Compilation and Validation	Paper to Electronic Conversion	Respondent Questionnaire Data Respondent Questionnaire and Status Data - Refreshed LQ Data - Address Updates and Status - Refreshed Geographic Feature Updates and Status - Refreshed Operational and Administrative Data - Refreshed
Address and Control Information	This needline represents the address and control information necessary to prepare, label, package, and distribute the appropriate PUFs.	Case Assembly and Tracking	Printing, Assembly and Distribution	Form Type and/or Label Information
Administrative Action	This needline represents the notification to a staff member of a personnel action.	Staff Performance Management	Staff Member	Administrative Action Taken
Administrative Staff Data - Paper	This needline represents time and expense information submitted in paper form.	Staff Performance Management	Census Data Compilation and Validation	Operational and Administrative Data
Approved Payment	This needline represents the amount approved for payment of services rendered by a temporary employee, resulting from the review and approval of reported hours worked, expenses incurred.	Staff Performance Management	Treasury Payment	Operational and Administrative Data - Refreshed

Name	Description	From Operational Node	To Operational Node	Information Exchange
Assigned Kits	This needline represents the package containing the trackable kit that provides decentralized temporary employees with the information and materials they need to perform their jobs. It includes the HHC and equipment needed to operate the HHC; assembled IT systems such as workstations, servers, and their associated peripherals; and instructions to operate the production-ready package.	Kit Preparation and Assignment	Staff Member	Trackable Kits - Production Ready
Case Status	This needline represents the current state of a specific process step on a specific data collection case at a specific date/time.	Field Data Collection	Case Assembly and Tracking	Operational and Administrative Data - Refreshed
Cases	This needline represents trackable units of work, such as an area, address, a person, or group of addresses to collect Census Data. In the case of mailout/mailback, it is the address and control information necessary to prepare, label, package, and distribute the appropriate PUFs. Cases can include	Case Assembly and Tracking	Telephone Response Collection	Work to be Assigned

Name	Description	From Operational Node	To Operational Node	Information Exchange
	units that need to be followed up for various field operations.			
Cases	This needline represents trackable units of work, such as an area, address, a person, or group of addresses to collect Census Data. In the case of mailout/mailback, it is the address and control information necessary to prepare, label, package, and distribute the appropriate PUFs. Cases can include units that need to be followed up for various field operations.	Case Assembly and Tracking	Field Data Collection	Work to be Assigned
Census Queries	This needline represents data collection templates. In the case of canvassing, this would include the ad hoc questions about address, location information and enumerator observations.	Field Data Collection	Respondent	
Cleared Electronic Products and Materials	This needline represents the demographic products and systems that have been cleared by subject matter analysts for electronic dissemination processing.	Products and Material Clearance and Creation	Electronic Assembly and Distribution	Review Comments/Clearance Demographic Products - Final Census Geographic Products Metadata

Name	Description	From Operational Node	To Operational Node	Information Exchange
Cleared Non-Electronic Products and Materials	This needline represents the demographic products that have been cleared by subject matter analysts for non-electronic dissemination processing.	Products and Material Clearance and Creation	Printing, Assembly and Distribution	Review Comments/Clearance Demographic Products - Final Census Geographic Products
Collection Geography	This needline represents the geographic entities used internally by the Census Bureau for managing and controlling data collection activities.	Geographic and LQ Information Management and Creation	Case Assembly and Tracking	LQ Data Geographic Framework Census Geographic Products Geographic Feature Updates and Status - Refreshed
Converted Hours and Expenses	This needline represents hours and Expenses converted from paper to electronic format.	Census Data Compilation and Validation	Staff Performance Management	Operational and Administrative Data
Customer Assistance	This needline represents the resolution of the request for assistance made by a respondent via the telephone.	Telephone Assistance	Respondent	
Customer Assistance	This needline represents the resolution of the request for assistance made by a respondent via the Internet.	Internet Assistance	Respondent	

Name	Description	From Operational Node	To Operational Node	Information Exchange
Data for Products and Materials	This needline represents the microdata that is used to produce reports, evaluations, etc for the public.	Person and LQ Resolution and Update	Products and Material Clearance and Creation	Respondent Questionnaire and Status Data - Resolved Evaluation and Experimental Estimation Results Weighted Evaluation and Experimental Data Final Edited LQs and Person Characteristics Follow-up Enumeration Status and Respondent Data Final Unedited Census LQ and Person Records and Counts Review Products Final Census Microdata
Electronic Data	This needline represents the data that has been converted from paper into electronic form.	Paper to Electronic Conversion	Census Data Compilation and Validation	Respondent Questionnaire and Status Data - Converted Universe Updates - Paper Conversion (incl. surnames/check-in) Operational and Administrative Data - Refreshed Questionnaire Images LQ Data - Converted Address Listing Geographic Feature Updates and Status - Refreshed

Name	Description	From Operational Node	To Operational Node	Information Exchange
Electronic Distributed Products	This needline represents the products that are being disseminated via various media and to various audiences. This may include supporting documentation. This includes the provision of products to redistricting customers.	Electronic Assembly and Distribution	Census Customers and Advisors	Demographic and Geographic Products - Disseminated
Electronic PUFs	This needline represents electronic based products and materials used for field data collection.	Electronic Assembly and Distribution	Field Data Collection	Non-Kit Materials Demographic and Geographic Products - Disseminated
Electronic Response Answers	This needline represents the electronic self-response data received via the Internet.	Internet Response Collection	Census Data Compilation and Validation	Respondent Questionnaire and Status Data
Electronic Response Answers	This needline represents the electronic self-response data received via the telephone.	Telephone Response Collection	Census Data Compilation and Validation	Respondent Questionnaire and Status Data
Electronic Templates	This needline represents a set of questions, instructions, and other information used to collect, or support the collection of, census information in electronic form.	Electronic Assembly and Distribution	IT Provisioning and Maintenance	Material Templates Non-Kit Materials
Electronic Templates	This needline represents a set of questions, instructions, and other information used to collect, or support the collection of, census	Electronic Assembly and Distribution	Internet Response Collection	Non-Kit Materials Material Templates

Name	Description	From Operational Node	To Operational Node	Information Exchange
	information in electronic form.			
Electronic Templates	This needline represents a set of questions, instructions, and other information used to collect, or support the collection of, census information in electronic form.	Electronic Assembly and Distribution	Internet Assistance	Material Templates Non-Kit Materials
Electronic Templates	This needline represents a set of questions, instructions, and other information used to collect, or support the collection of, census information in electronic form.	Electronic Assembly and Distribution	Telephone Assistance	Material Templates Non-Kit Materials
Electronic Templates	This needline represents a set of questions, instructions, and other information used to collect, or support the collection of, census information in electronic form.	Electronic Assembly and Distribution	Telephone Response Collection	Material Templates Non-Kit Materials
Entity Control Information	This needline represents the current state of the universe.	Case Assembly and Tracking	Products and Material Clearance and Creation	Universe Selection - Follow-ups Universe Selection - Updated
Entity Control Information	This needline represents the current state of the universe.	Case Assembly and Tracking	Internet Response Collection	Universe Selection - Follow-ups Universe Selection - Updated
Entity Control Information	This needline represents the current state of the universe.	Case Assembly and Tracking	Telephone Response Collection	Universe Selection - Follow-ups Universe Selection - Updated
Entity Control Information	This needline represents the current state of the universe.	Case Assembly and Tracking	Person and LQ Resolution and Update	Universe Selection - Follow-ups Universe Selection - Updated
Entity Control Information	This needline represents the current state of the universe.	Case Assembly and Tracking	Census Data Compilation and Validation	Universe Selection - Follow-ups Universe Selection - Updated

Name	Description	From Operational Node	To Operational Node	Information Exchange
Field Collection and Status Data	This needline represents respondent, LQ, geographic and administrative data. This includes collected metrics concerning individual job performance.	Field Data Collection	Census Data Compilation and Validation	Operational and Administrative Data Respondent Questionnaire and Status Data Geographic Feature Updates and Status LQ Data - Address Updates and Status
Geocoded Locations	This needline represents the returned results of non-id processing in which completed questionnaires have been received from respondents that have no census id. These may be from operations such as Be-Counted, Update/Enumerate, etc.	Geographic and LQ Information Management and Creation	Person and LQ Resolution and Update	Census Geographic Products LQ Data Geographic Framework
Hired Staff Member	This needline represents individuals assigned to tasks specifically in support of the 2010 Decennial Census for either all or part of their time. The staff members represented in this needline have been trained.	Training	Staff Performance Management	
IT Support	This needline represents the various types of assistance provided to facilities and end-users.	IT Provisioning and Maintenance	Kit Preparation and Assignment	

Name	Description	From Operational Node	To Operational Node	Information Exchange
LQ Data	This needline represents the addresses or spatial units, such as a landmark that can be portrayed on a map.	Person and LQ Resolution and Update	Geographic and LQ Information Management and Creation	LQ Data - Address Updates and Status - Refreshed LQ Data - Non-ID LQ Data - Converted Address Listing
LQ Data and Spatial Information	This needline represents the addresses and spatial data that are provided to external sources that serve as the baseline for partnership programs.	Geographic and LQ Information Management and Creation	External Sources	LQ Data Geographic Framework
New LQ Data & Resolutions	This needline initially represents the list of census units from the USPS, as well as one or more refreshments by the Delivery Sequence File (DSF). This needline represents the information supplied by partnerships that are used to update the census address frame and includes geographic updates from external sources.	External Sources	Census Data Compilation and Validation	LQ Information from External Sources
Operational Assistance	This needline represents the resolution of the request for assistance made by a staff member via the Internet.	Internet Assistance	Staff Member	Assistance Request Refreshed with Resolution

Name	Description	From Operational Node	To Operational Node	Information Exchange
Operational Assistance	This needline represents the resolution of the request for assistance made by a staff member via the telephone.	Telephone Assistance	Staff Member	Assistance Request Refreshed with Resolution
Person and LQ Data	This needline represents the result of the transformation, standardization and validation of the respondent data. This data may be used to tabulate internal products.	Census Data Compilation and Validation	Products and Material Clearance and Creation	Respondent Questionnaire and Status Data - Standardized and Organized

Name	Description	From Operational Node	To Operational Node	Information Exchange
Person and LQ Data	This needline represents the result of the transformation, standardization and validation of the respondent data.	Census Data Compilation and Validation	Person and LQ Resolution and Update	Respondent Questionnaire and Status Data - Standardized and Organized Universe Updates - Validated Electronic (incl. surnames/check-in) Universe Updates - Form Base Data Capture Status LQ Data - Non-ID Universe Updates - Validated (phone numbers) Universe Updates - Paper Conversion (incl. surnames/check-in) LQ Information from External Sources Geographic Feature Information from External Sources Geographic Feature Updates and Status Geographic Feature Updates and Status - Refreshed Geographic Framework - Corporate LQ Data - Address Updates and Status LQ Data - Address Updates and Status - Refreshed

Name	Description	From Operational Node	To Operational Node	Information Exchange
Person and LQ Data and Status	This needline represents the cases that need to be followed up for various field and telephone operations. This is the response data needed to perform the operations. This is done per individual census identification number. This includes all status or operational information. The status contains information that directs cases to rework, reassignment, reinterview, or submission for further processing.	Person and LQ Resolution and Update	Case Assembly and Tracking	LQ Data - Address Updates and Status - Refreshed Respondent Questionnaire and Status Data - Refreshed
Printed Distributed Products	This needline represents the products that are being disseminated via non-electronic media and to various audiences. This may include supporting documentation and maps.	Printing, Assembly and Distribution	Census Customers and Advisors	Demographic and Geographic Products - Disseminated
Printed Kit Materials	This needline represents the printed and packaged forms and related materials delivered to field sites and general public. This also includes PUFs.	Printing, Assembly and Distribution	Kit Preparation and Assignment	Bulk Forms and other PUFs Other Printed Materials

Name	Description	From Operational Node	To Operational Node	Information Exchange
Printed Materials	This needline represents hardcopy products and materials used for field data collection.	Printing, Assembly and Distribution	Field Data Collection	Non-Kit Materials
Product Requirements	This needline represents the discretionary, legal and regulatory (e.g. PL 94-171) statements of what data or information must appear in a product.	Census Customers and Advisors	Products and Material Clearance and Creation	
PUFs	This needline represents mailouts to Respondents and non-labeled forms. Many of these forms are received by the NPC for further packaging and distribution. This includes military and shipboard forms, Be Counted forms, and GQs. It also includes all forms sent to QAC and fulfillment centers.	Printing, Assembly and Distribution	Respondent	Printed / Packaged MO/MB Forms Printed/Packaged U/L Forms Non-Kit Materials
Receipt Validation	This needline represents the response to the data source that the data were either valid or invalid.	Census Data Compilation and Validation	Field Data Collection	Acknowledgement
Receipt Validation	This needline represents the response to the data source that the data were either valid or invalid.	Census Data Compilation and Validation	Internet Response Collection	Acknowledgement

Name	Description	From Operational Node	To Operational Node	Information Exchange
Receipt Validation	This needline represents the response to the data source that the data were either valid or invalid.	Census Data Compilation and Validation	Telephone Response Collection	Acknowledgement
Recruiting and Application Information	This needline represents the advertising of temporary positions using a variety of media, such as internet, print, radio and television. This needline also represents the application template filled in by the applicant with his or her contact information, job history, and other information needed to fill a position.	Applicant	Select and Clear	
Reported Hours & Expenses	This needline represents the submittal of daily time reports and incurred expenses from a temporary census employee.	Staff Member	Staff Performance Management	Operational and Administrative Data
Respondent Mailing Data	This needline represents the paper questionnaires mailed back by self-respondents in the housing unit universe.	Respondent	Census Data Compilation and Validation	Respondent Questionnaire Data Undeliverable Mailing Packages
Respondent, Geographic and LQ Data	This needline represents the person, geographic, LQ, and address characteristics provided by field staff.	Field Data Collection	Census Data Compilation and Validation	Respondent Questionnaire and Status Data LQ Data - Address Updates and Status Geographic Feature Updates and Status

Name	Description	From Operational Node	To Operational Node	Information Exchange
Responses	This needline represents the answers to the questionnaires completed during a personal interview by a field enumerator.	Respondent	Field Data Collection	Respondent Provided Information
Responses	This needline represents the answers to the questionnaires provided to a telephone interviewer.	Respondent	Telephone Response Collection	Respondent Provided Information
Responses	This needline represents the answers to the questionnaires completed electronically on the Internet.	Respondent	Internet Response Collection	Respondent Provided Information
Selected Cleared Recruits	This needline represents qualified applicants who have been cleared and offered a position to work for the 2010 Census.	Select and Clear	Training	
Spatial Data	This needline represents geographic information updates from all sources.	Census Data Compilation and Validation	Geographic and LQ Information Management and Creation	Geographic Feature Information from External Sources Geographic Feature Updates and Status - Refreshed Geographic Framework - Corporate
Spatial Information	This needline represents the spatial information. This includes Geographic Reference Files, Boundary Files, and any other information used to create demographic products.	Geographic and LQ Information Management and Creation	Products and Material Clearance and Creation	Geographic Framework Census Geographic Products

Name	Description	From Operational Node	To Operational Node	Information Exchange
Spatial Products	This needline represents the products which are used as aids in collecting data in the field, such as maps, Master Address File and geographic coordinates.	Geographic and LQ Information Management and Creation	Field Data Collection	Census Geographic Products
Staff Performance Data	This needlines represents metrics concerning the performance of staff members as a by-product of the managment of cases.	Census Data Compilation and Validation	Staff Performance Management	
Staff Performance Data	This needlines represents metrics concerning the performance of staff members as a by-product of the management of cases.	Field Data Collection	Staff Member	
Staff Performance Data	This needlines represents metrics concerning the performance of staff members as a by-product of the management of cases.	Field Data Collection	Staff Performance Management	
Telephone Assistance Referral	This needline represents the TQA request from respondents to go to an operator-assisted interview.	Telephone Assistance	Telephone Response Collection	

26. APPLICATION ARCHITECTURE

The Application Architecture brings together the 2010 Census activities, data, and interfaces. The interfaces describe information exchanged between Application Areas. Application Areas are groupings of activities and data that have a strong affinity with each other (i.e., the same data items that are heavily used by a group of related activities). One or more of these application areas may be combined to define the scope and specify the requirements for an application system (or set of systems).

The Application Architecture work product results from a synthesis of the activity and data models and the interaction of data and activities as depicted in an interaction matrix. The interaction matrix, also called the CRUD (Create, Read, Update, Delete) matrix, represents the strongest action of an activity on each of the entity types that it uses or affects. The CRUD matrix is not published as a formal work product of the 2010 Census Architecture, but can be made available upon request to:

Marjorie Martinez
Bureau of the Census, Decennial Management
Suitland Federal Center, Building 2, Room 1422
301-763-4570
marjorie.martinez@census.gov

An analysis of the interactions, together with an understanding of the work represented by each activity and the data represented by each entity type, reveals groupings of activities and entity types that are called application areas. The analysis also reveals the information that must be exchanged among the application areas in the form of interfaces.

May 11, 2005

2010 Census Architecture
Application Architecture

Version 5

U S C E N S U S B U R E A U

Helping You Make Informed Decisions

Release Notes for Version 5

This version of the Application Architecture (version 5) is updated from the previous version (version 4, published August 27, 2004). It contains updates resulting from the Architecture Team's refinement and streamlining of the activity and data models. Examples of these changes are the combining of the Geography Development and Geography Feature Collection application areas; the combining of the Response Collection and the Response Processing application areas; and the removal of all coverage measurement activities from the Application Architecture because it is envisioned that these activities would be merged into existing response and address collection activities after coverage measurement operational plans have been determined. Also, the Application Architecture does not include Census Planning or evaluations activities, as these activities are still a work-in-progress.

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Application Architecture

Introduction

The Application Architecture is a key product of the Logical Architecture in the 2010 Census Architecture. Of the many objectives of the 2010 Census Architecture, the Application Architecture best supports the objective of facilitating efforts to:

- Improve systems efficiency and integration
- Improve operations and technology alignment

An application is a mechanism for collecting and managing the data of the enterprise. The expression "managing the data" includes such activities as entering, editing, sorting, changing, summarizing, archiving, analyzing, and referencing data. An **application area** is a group of activities and entity types with strong interdependencies such that a single application can be envisioned to support them. The Application Architecture is the set of application areas identified to support the business. An application area may lead to the scope of one or more automated systems, or may be combined with another application area to define the system scope.

Developing the Application Architecture for the business is consistent with the "divide and conquer" approach, which relies on manageable scopes of work in a full business context. Benefits of the approach include:

- The application architecture provides a context for automated system development or enhancement. The context allows the recognition of other application areas that may be affected by a development effort, and facilitates the consideration of relative priorities among the application areas.
- Establishing the scope of automated systems through the definition and allocation of application areas provides clear boundaries for the automated system as well as making the interfaces within and among the application areas clear. Defining clear boundaries between information systems minimizes possible linkages between information systems development efforts.
- Correctly classified information systems predetermine for the system developer what can be in or out of scope of any particular project. In other words, information system developers must conform to the information systems boundaries or "floor plan" of the architecture when developing applications and databases. However, they have complete autonomy within the boundaries of each information system to define *how* things are automated.
- Considering design issues (e.g., build vs. buy, components) and technology issues at the application area level facilitates concentration on the specific characteristics of an application area, and still keeps the analysis in the context of the whole.
- Application areas represent a useful subdivision of activities and data that can be linked to other objects in the architecture (e.g., nodes).

This Application Architecture results from a synthesis of the activity and logical data models and the interaction of data and activities as depicted in an interaction matrix. The interaction matrix, also called the CRUD matrix, represents the strongest action of an activity on each of the entity types that it uses or affects. This action may be to create an occurrence of an entity type, to change or update attributes for

an occurrence of an entity type, or simply to read the attributes of an occurrence of the entity type without changing them. An activity may also delete an occurrence of an entity type, but this is rare for the 2010 Census. An analysis of these interactions, together with an understanding of the work represented by each activity and the data represented by each entity type, reveals groupings of activities and entity types that are called application areas. The analysis also reveals the information that must be exchanged among the application areas, i.e., interfaces.

These application areas are envisioned first without regard to how they are carried out – manually or with automation. However an application area may be envisioned to encompass one or more automated systems or to be a component, along with other application areas, of a single automated system. In addition, the work represented by an application area may be carried out at one or more nodes of the business. A node is an element of the business architecture that produces, consumes, or processes information. Nodes represent an operational/human role (e.g., Field Data Collection), or organization (e.g., United States Postal Service). Understanding the node in which the work of an application area will be performed has technology implications for any portion of that work that will be automated.

This document presents the Application Architecture for the 2010 Census Architecture.

Application Architecture Description

The 2010 Census Architecture is comprised of 26 application areas. Figure 1 below depicts those application areas in 6 categories. The diagram does not depict order of execution.

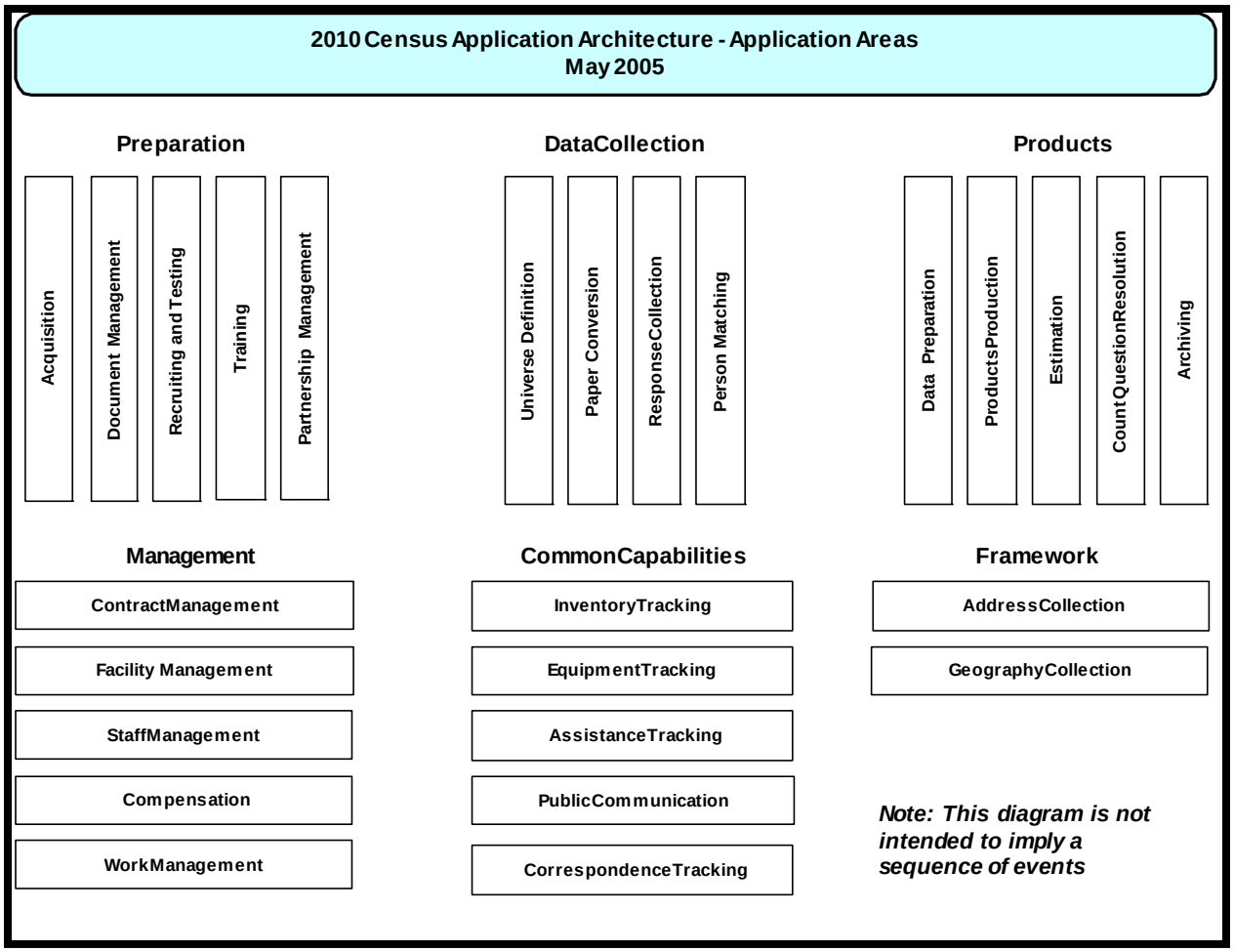


Figure 1—Application Areas

The figure identifies categories of application areas: Preparation, Data Collection, Products, Management, Common Capabilities, and Framework. The first three categories represent stages in the 2010 Census process and would interface with each other in a number of ways. The Management, Common Capabilities, and Framework categories identify application areas that would be executed throughout the 2010 Census process and would interface with many of the other application areas.

Each application area is described in the sections that follow. The descriptions include:

- Text description of likely use and users.
- Activities and entity types of which the application area is comprised. An application area is comprised of the entity types that it creates. In some cases, an application area acts upon an entity type, but the primary creation of the entity type occurs in a different application area. In this case, where a different application area manages the entity type, we show the entity type in bold italics.
- Potential interfaces.

Potential interfaces among application areas are revealed when the activity comprising one application area also acts on entity types in another application area. Sometimes this interaction simply represents the need for the activity to access information in the other application area in order to execute. In other cases, the interaction reveals an actual exchange of information from one application area to another. The determination of the type of interface is largely a design decision. A brief description of potential interrelationships among the application areas is provided along with the specific interactions as recorded in the interaction (a.k.a. CRUD) matrix.

Refer to the Appendix of this document for a complete list of definitions for each activity and entity type listed in the following sections.

Application area descriptions are provided below in alphabetical order.

Acquisition Application Area

Description

This application area covers the acquisition of goods and services for the Government. It includes all acquisition vehicles such as simplified purchases, Government Wide Acquisition Contracts (GWAC), blanket purchase orders, and other competitively awarded contracts. The activity that comprises this application area has not been fully modeled. However, a capability can be envisioned that tracks information regarding specific purchases from the time they are ordered to delivery, invoicing and payment. It can be used to identify specific purchases and deliveries and match these to invoices received from the vendor. It can also produce a payment approval for items received and correctly invoiced as well as identify invoice discrepancies requiring resolution.

The activities and entity types that comprise this area are provided in Figure 2.

Activities
A3112 – Acquire Goods and Services
Entity Types
Purchase - P Purchase Line Item - P Delivery - P Invoice - P Payment – P

Figure 2—Acquisition Application Area Activities and Entity Types

Interfaces and Interrelationships

The activity that comprises the Acquisition application area will need information regarding requirements, schedules, and organization units to guide the purchase of goods and services. The activities to produce this information have not been modeled to-date. However, the Acquisition application area will also need the contract information from the Contract Management application area to employ those vehicles for

making purchases as well as equipment specification information from the Equipment Tracking application area to ensure the appropriate equipment is purchased. The Inventory Tracking application area prompts acquisition actions with alerts of low stock and provides expected lead-time information. Similarly, the Acquisition application area must provide delivery information to the Inventory Tracking and Equipment Tracking application areas.

Acquisition application area potential interfaces as depicted in the CRUD matrix are indicated in the table below. The potential interfaces are not presented in any implied order other than alphabetical by application area name.

Acquisition receives information from:	**Entity Types**
Contract Management	Vendor - P Contract - P Contract Management Unit
Document Management	Specification - P
Equipment Tracking	Equipment Specification
Inventory Tracking	Inventory Item Stock Profile - P
Acquisition gives information to:	
Equipment Tracking	Delivery - P
Inventory Tracking	Delivery - P

Address Collection Application Area

Description

This application area updates the addresses in the LQ universe as provided by or through various sources and using various methods to produce and keep current the full universe of addresses (LQs) that may be included in the census. Living quarters type (e.g., HU, GQ) is determined at the time of address collection. Additions to, or changes in the status and/or description of, Addresses/LQs are noted and retained by source in order to interpret census and evaluative/experimental response information, as well as maintain and select for census inclusion addresses from the Census' multifunctional, corporate address database. Address Collection relates addresses to points and polygons to determine geocodes. It provides the capability for assigning statuses to an address based on business rules; it also provides the list of addresses for use in the distribution of public use forms. The capability includes linkage of addresses due to their potential duplication and correlation to evaluative/experimental activities/operations.

The activities and entity types that comprise this area are provided in Figure 3.

Activities
A41 – Update Census Address Frame A5222 – Collect Address List Updates
Entity Types
Address Address Location Address Linkage ***Group Quarters*** ***Housing Unit*** ***Key Data Chronology***

Figure 3—Address Collection Application Area Activities and Entity Types

Interfaces and Interrelationships

The Address Collection application area provides address status information to Universe Definition as a result of Address Canvassing. Thereafter, Address Collection receives address status information from Universe Definition. Address Collection requires geography information from Geography Collection. Address and living quarters information converted from paper is received by Address Collection from the Paper Conversion application area. Address Collection also requires applicant information (e.g., name, address) from the Recruiting and Testing application area so that geocoding of applicants relative to the available work locations can be performed. In addition, existing applicant location information from Recruiting and Testing may be provided to Address Collection for update (i.e., re-geocoding based on a change of address).

Address Collection provides various address and living quarters information to all application areas in the data collection group, Assistance Tracking, Correspondence Tracking, Data Preparation, and Work Management. Address Collection also provides initial data collection case information to the Work Management application area. Addresses are needed by the Document Management application area to match with documents for mailings. Since the Address Collection application area geocodes all addresses involved in the census process, it would provide point data associated with the location of living quarters to the Geography Collection and Paper Conversion application areas. Address Collection also provides applicant location information to the Recruiting and Testing application area as a result of the geocoding of applicants.

Address Collection application area potential interfaces as depicted in the CRUD matrix are indicated in the table below. The potential interfaces are not presented in any implied order other than alphabetical by application area name.

Address Collection receives information from:	**Entity Types**
Geography Collection	Line Point Polygon Polygon Point Spatial Feature Chronology
Paper Conversion	Address Key Data Chronology

	Group Quarters Housing Unit
Recruiting and Testing	Applicant for Temporary Position Applicant Location
Response Collection	Key Data Chronology Group Quarters Housing Unit
Universe Definition	Key Data Chronology
Work Management	Data Collection Case
Address Collection gives information to:	
Archiving	Address Linkage Address Key Data Chronology Group Quarters Housing Unit
Assistance Tracking	Address
Correspondence	Address
Data Preparation	Address Linkage Address Key Data Chronology Group Quarters Housing Unit
Document Management	Address
Geography Collection	Point Spatial Feature Chronology
Paper Conversion	Point Address Key Data Chronology Group Quarters Housing Unit
Person Matching	Address Linkage Key Data Chronology
Recruiting and Testing	Applicant Location
Response Collection	Address Linkage Address Key Data Chronology Group Quarters Housing Unit
Universe Definition	Address Location Address Linkage Address Key Data Chronology Group Quarters Housing Unit

Work Management	Data Collection Case Address Location Address Linkage Address Key Data Chronology Group Quarters Housing Unit

Archiving Application Area

Description

This application area covers the archiving of final 2010 Census Data as required by the National Archives and Records Administration (NARA), Public Law, and Census Bureau policy. It includes official archival and age search data. It also includes the complete set of census unedited and the final microdata information from which census data products (some of which may also be archived) and estimates are produced. The census unedited data satisfy the NARA requirement for permanent retention of materials for public access after 72 years to the actual responses from the Census. The record provided to NARA is an electronic compilation of universe, geographic, and captured response data, with the addition of the image of that questionnaire considered as the primary form in cases of paper response and if so directed by NARA.

The activities and entity types that comprise this area are provided in Figure 4.

Activities
A64 – Archive Data – WIP
Entity Types
Potentially all entity types

Figure 4—Archiving Application Area Activities and Entity Types

Interfaces and Interrelationships

The Archiving application area will access any and all data that is determined necessary to be archived. Therefore, this application area potentially needs information from any and all application areas. Potentially, the Count Question Resolution application area would need access to archived information.

Archiving application area potential interfaces as depicted in the CRUD matrix are indicated in the table below. The potential interfaces are not presented in any implied order other than alphabetical by application area name. Because the activity in this area has not been fully modeled, the CRUD matrix is incomplete.

Archiving receives information from:	**Entity Types**
Address Collection	Address Linkage Address Key Data Chronology Group Quarters Housing Unit
Data Preparation	Microdata Group Quarters Microdata GQ Area Microdata Housing Unit Microdata HU Area Microdata Person
Geography Collection	Map Map Area Map Line Map Point
Paper Conversion	Potential Response
Products Production	Product
Response Collection	Key Data Chronology Group Quarters Housing Unit Person Respondent Respondent Group Quarters Respondent Person Group Quarters Occupant Respondent Housing Unit Occupant Potential Response
Universe Definition	Key Data Chronology
Archiving gives information to:	
Multiple application areas, depending on need for access to archived data (e.g., Count Question Resolution).	

Assistance Tracking Application Area

Description

This application area supports help functions for employees or external customers. The capability will exist to capture each request for assistance as well as all events associated with the help function, from request initiation through final disposition. It will allow access to the status of all help requests, as well as analysis on the types of requests being received, their characteristics, and time to resolution. There will exist standard scripts, where appropriate, to achieve a consistent level of support and includes Internet help functions as well as those performed by staff. The capability will also support the ability to obtain user comments on the effectiveness of the help services provided through customer surveys.

The activities and entity types that comprise this area are provided in Figure 5.

Activities
A325 – Provide Operational Assistance A331 – Assist the Public
Entity Types
Help Request – Operations Help Resolution Operations Resolution Employee Script Request Help Request – External Customer Automated Help Resolution Resolution Item Customer Satisfaction Survey Results - P General Public Non-Federal Government Organization Non-Governing Entity Federal Government Organization

Figure 5—Assistance Tracking Application Area Activities and Entity Types

Interfaces and Interrelationships

The Assistance Tracking application area needs staff member information from Staff Management in order to identify the individual handling a specific help request; materials from Document Management that are scripts or requested items for external help request handling; facility information from Facility Management to locate the resolution of a request, or origin of an internal request; address information from Address Collection for the instance where the person asking for assistance is a potential census respondent; product information from Products Production; and correspondence information for the instance when a request for assistance came through the mail or e-mail or is resolved by outgoing correspondence. Conversely, Public Communication, Correspondence Tracking, and Partnership Management need information on the various government and non-governing entities managed through the Assistance Tracking application area.

Assistance Tracking application area potential interfaces as depicted in the CRUD matrix are indicated in the table below. The potential interfaces are not presented in any implied order other than alphabetical by application area name.

Assistance Tracking receives information from:	**Entity Types**
Address Collection	Address
Correspondence Tracking	Correspondence
Document Management	Template Element Data Collection Template Reference Item
Facility Management	Facility
Products Production	Product

Staff Management	2010 Census Staff Member
Assistance Tracking gives information to:	
Correspondence Tracking	General Public Non-Federal Government Organization Non-Governing Entity
Partnership Management	Customer Satisfaction Survey Results – P Non-Federal Government Organization Non-Governing Entity Federal Government Organization
Public Communication	Customer Satisfaction Survey Results - P Non-Governing Entity Non-Federal Government Organization

Compensation Application Area

Description

This application collects and provides information to a payroll function that will be used to compensate temporary census staff through a check or funds transfer to each staff member. It captures by task and/or project code(s) reported hours worked and other expenses incurred (miles driven and miscellaneous) and provides for the review and approval/disapproval of the compensation, by examining this time and expense information and comparing to other relevant information such as amount of work produced. The appropriate compensation is based on hours and other expenses and reflects staff member's position and duration of service and location-specific pay rates and travel allowances. This application provides for corrections and reclaims to the information on which compensation is calculated or to the original submission of the compensation claim. This application also must maintain a compensation history for each temporary staff member for archival purposes.

The activities and entity types that comprise this area are provided in Figure 6.

Activities
A326 – Track Data Collection Performance and Work A327 – Compensate Temporary Staff
Entity Types
Time & Expense Temporary Employee Compensation

Figure 6—Compensation Application Area Activities and Entity Types

Interfaces and Interrelationships

The Compensation application area requires position, staff, performance, and operation assignment information from Staff Management; facility information from Facility Management to apply appropriate compensation rates; and assignment information from Work Management to allocate and validate

compensation appropriately. Both Staff Management and Work Management application areas use the hours worked information from the Compensation application area. For contract management activities that occur in this area, see the Contract Management application area.

Compensation application area potential interfaces as depicted in the CRUD matrix are indicated in the table below. The potential interfaces are not presented in any implied order other than alphabetical by application area name.

Compensation receives information from:	**Entity Types**
Facility Management	Position Facility
Staff Management	Position 2010 Census Staff Member Operation Assignment Employee Task Performance
Work Management	Data Collection Case Data Collection Case Group Data Collection Work Chronology
Compensation gives information to:	
Staff Management	Time & Expense
Work Management	Time & Expense

Contract Management Application Area

Description

This application area covers the management of a mutually binding legal relationship obligating a contractor to furnish goods and services to the Government. It includes the management of complex contracts that require the Government to use sophisticated tools to effectively manage the work performed. These types of contracts tend to include large Information Technology (IT) design, development, and deployment efforts. It also includes simpler contractual arrangements such as: blanket purchase agreements for goods; fixed price/fee contracts; and time and materials contracts. This application area covers management performed by Census employees, not management by contractors.

The capability that can be envisioned would capture descriptive information about each vendor and the specifics of the contract including which Census organization is responsible for which aspects of the contract. Also, specifics about the vendor's performance relative to the specific contract would be captured.

The activity comprising this application area has been sparsely modeled, therefore, all entity types and activities that would be involved in the Contract Management application area have not yet been defined.

The activities and entity types that comprise this area are provided in Figure 7.

Activities
A34 – Manage Programs – WIP
Entity Types
Vendor - P Contract - P Contract Management Unit Vendor Performance – P

Figure 7—Contract Management Application Area Activities and Entity Types

Interfaces and Interrelationships

The Contract Management application area would need information regarding requirements, schedules, and budgets. The activities to produce this type of information have not been modeled. Also, the Contract Management activities creating the Vendor Performance entity type will require information from the Acquisition application area regarding invoices and deliveries. However, these have not been modeled at this time. The Contract Management application area will require work information for contractor employees from the Work Management application area. The Contract Management application area will need to provide the contract and vendor information to the Acquisition and Facility Management application areas.

Contract Management application area potential interfaces as depicted in the CRUD matrix are indicated in the table below. The potential interfaces are not presented in any implied order other than alphabetical by application area name.

Contract Management receives information from:	**Entity Types**
Document Management	Specification - P
Work Management	Data Collection Work Chronology
Contract Management gives information to:	
Acquisition	Vendor - P Contract - P Contract Management Unit
Facility Management	Vendor - P Contract - P Contract Management Unit

Correspondence Tracking Application Area

Description

The handling of correspondence has not been fully modeled. However, this application area can be envisioned as a tool for maintaining current information about all communication received by or produced by the Census Bureau in relation to the 2010 Census, including internal communication that is tracked. Communication includes letters, e-mails, and telephone calls. It serves to control and track incoming communication and to ensure the creation of necessary outgoing communication. By categorizing various types of communication, it will also facilitate the analysis of the types of correspondence being received and the identification of trends in queries, requests, or complaints.

The activities and entity types that comprise this area are provided in Figure 8.

Activities
A33 – Manage Public Communication Program – WIP A331 – Assist the Public A35 – Implement LQ and Geographic Partnerships A622 – Review and Clear Products A623 – Assemble and Disseminate Products A65 – Resolve Count Questions – WIP
Entity Types
Correspondence
Note: The listed activities are only examples. Further decomposition should reveal a correspondence management activity to support those listed and all other activities.

Figure 8—Correspondence Tracking Application Area Activities and Entity Types

Interfaces and Interrelationships

The Correspondence Tracking application area may utilize contact information from the Assistance Tracking application area, and partnership information from Partnership Management. Many activities, if decomposed further, would reveal a correspondence management component. It is currently clear that the Public Communication, Partnership Management, Assistance Tracking, and Products Production application areas would have an interest in communication received and would produce communication to be tracked.

Correspondence Tracking application area potential interfaces as depicted in the CRUD matrix are indicated in the table below. The potential interfaces are not presented in any implied order other than alphabetical by application area name.

Correspondence Tracking receives information from:	**Entity Types**
Address Collection	Address

Assistance Tracking	General Public Non-Federal Government Organization Non-Governing Entity
Partnership Management	Partnership
Products Production	Person or LQ Count Product Product Map Product Spec Person or LQ Count Product Public Law Distribution
Public Communication	Correspondence
Correspondence Tracking gives information to:	
Assistance Tracking	Correspondence
Partnership Management	Correspondence
Products Production	Correspondence
Public Communication	Correspondence

Count Question Resolution Application Area

Description

The Count Question Resolution application area supports the administrative review process that handles external challenges to particular official census counts of housing units and the population living in them, and group quarters population received from state, local, and tribal officials of governmental entities. This also includes internal count resolution issues. The application area is envisioned as a capability that facilitates access to the full scope of census data in order to analyze and correct boundary errors in the geographic framework, geocoding errors in the living quarters list, and LQ coverage errors. For example if a living quarters was on an address list and then deleted somewhere in the process by mistake, counts would get corrected. But if we totally missed the living quarters and it never existed on any address list, it would not get added/corrected. This application area includes producing revised housing unit and/or population counts at the block level.

The full functionality of resolving count questions has not been completely modeled. The activities and entity types that comprise this area are provided in Figure 9.

Activities
A65 – Resolve Count Questions – WIP
Entity Types
Potentially all entity types

Figure 9—Count Question Resolution Application Area Activities and Entity Types

Interfaces and Interrelationships

The Count Question Resolution application area will access any and all data necessary to resolve count questions, and so potentially needs information from any and all application areas. Potentially, any providing application area would also be a recipient to record any changes resulting from the count resolution. An interface with Correspondence Tracking is envisioned for count questions received and to provide the resolution to the questioning entity.

Count Question Resolution application area potential interfaces will be defined once the activity is fully modeled. Interactions with entities are currently depicted in the CRUD matrix and will be improved after activity modeling is complete.

Count Question Resolution receives information from:	**Entity Types**
To be determined once activity is completely modeled.	
Count Question Resolution gives information to:	
To be determined once activity is completely modeled.	

Data Preparation Application Area

Description

This application area integrates the response, task, and status data and improves the quality and/or completeness of the census Person, Housing Unit and Group Quarters entities. This iterative process includes coding of response data (e.g., race and Hispanic origin), applying business rules to resolve potential and confirmed duplications, general data hygiene, allocating/imputing values for missing data and/or statuses, applying criteria for unit and person inclusion/exclusion from the final census universe, and data examination for the purpose of clearance for further, internal processing, prior to creation of final microdata entities needed for the creation of products. The application area is envisioned to consist of complex logic applied to the data created by the Address Collection, Response Collection, Person Matching, and Universe Definition application areas as interpreted by and through key data chronology. That is, Key Data Chronology along with the Person, HU, and GQ entities are integrated, edited, reviewed, and processed into the microdata used for product processing.

The activities and entity types that comprise this area are provided in Figure 10.

Activities
A514 – Code Write-ins
A611 – Resolve Person to LQ Linkage
A612 – Prepare/Produce Unedited Records
A613 – Review and Clear Data
A614 – Correct for Missing and Inconsistent Data

A615 – Prepare Final Person and LQ Data A631 – Prepare for Estimation
Entity Types
Microdata Group Quarters Microdata GQ Area Microdata Housing Unit Microdata HU Area Microdata Person Person or LQ Count ***Address Linkage*** ***Address*** ***Group Quarters*** ***Housing Unit*** ***Key Data Chronology*** ***Person Linkage*** ***Person*** ***Person or LQ Count Spec*** ***Counted Microdata GQ*** ***Counted Microdata HU*** ***Counted Microdata Person***

Figure 10—Data Preparation Application Area Activities and Entity Types

Interfaces and Interrelationships

The Data Preparation application area receives and updates data from the Address Collection, Person Matching, and Response Collection application areas, using data from the Universe Definition and Geography Collection application areas. The Data Preparation application area also receives updates to microdata information from the Products Production application area.

Conversely, the Universe Definition, Geography Collection, Products Production, and Estimation application areas use the results of the Data Preparation application area.

Data Preparation application area potential interfaces as depicted in the CRUD matrix are indicated in the table below. The potential interfaces are not presented in any implied order other than alphabetical by application area name.

Data Preparation receives information from:	**Entity Types**
Address Collection	Address Linkage Address Key Data Chronology Group Quarters Housing Unit
Document Management	Specification – P Reference Item

Geography Collection	Point Polygon Polygon Point Polygon Linkage
Person Matching	Person Linkage
Products Production	Microdata Group Quarters Microdata GQ Area Microdata Housing Unit Microdata HU Area Microdata Person
Response Collection	Key Data Chronology Group Quarters Housing Unit Person Respondent Respondent Person Group Quarters Occupant Respondent Housing Unit Occupant
Universe Definition	Key Data Chronology
Data Preparation gives information to:	
Archiving	Microdata Group Quarters Microdata GQ Area Microdata Housing Unit Microdata HU Area Microdata Person
Estimation	Microdata Housing Unit Microdata Person Person or LQ Count
Geography Collection	Person or LQ Count
Products Production	Key Data Chronology Group Quarters Housing Unit Person Microdata Group Quarters Microdata GQ Area Microdata Housing Unit Microdata HU Area Microdata Person Person or LQ Count Person or LQ Count Spec Counted Microdata GQ Counted Microdata HU Counted Microdata Person Product Product Spec

	Person or LQ Count Product
Universe Definition	Key Data Chronology

Document Management Application Area

Description

This application area covers the development, updating, and maintaining of the multitude of documents produced to support and carry out the census. The documents provide instructions on the design and development of tools, materials, products, systems, processes, equipment, facilities, interfaces, etc. The following are examples of these documents: specifications (e.g., minimum square footage for a facility, data elements in a product); reference items (e.g., procedures, training guides, coding manuals, questionnaires reference books, promotional materials); data collection templates (e.g., paper and automated questionnaires, customer satisfaction surveys); operation templates (e.g., batch header sheets, manual check-ins, applications for employment); etc. It should be noted that the activities in this application area have not been fully modeled. However, this application area will be used as a tool to develop, maintain, and track these documents.

This application area also includes the printing, assembling, and distribution of public use forms including bulk, address specific, and bilingual questionnaire packages.

The activities and entity types that comprise this area are provided in Figure 11.

Activities
A21 – Develop Specifications – P A23 – Develop Materials A24 – Print Materials and Forms
Entity Types
Specification – P Special Tab Agreement Reference Item Data Collection Template Operations Template Template Element Position Template Position Reference Item

Figure 11—Document Management Application Area Activities and Entity Types

Interfaces and Interrelationships

To accommodate the printing of public use forms, the Address Collection application area would provide address information to the Document Management application area. In addition, Document Management would need inventory information from the Inventory Tracking application area to know when to produce more materials.

Conversely, virtually every application area would use one or more of the documents such as specifications, special tab agreements, reference or training materials, forms, etc. from the Document Management application area. The Universe Definition application area would receive Key Data Chronology data indicating those addresses to which a mailing of a public use form was made.

Document Management application area potential interfaces as depicted in the CRUD matrix are indicated in the table below. The potential interfaces are not presented in any implied order other than alphabetical by application area name.

Document Management receives information from:	**Entity Types**
Address Collection	Address
Inventory Tracking	Inventory Item Inventory Transaction – P Stock Profile – P
Document Management gives information to:	
Acquisition	Specification - P
Assistance Tracking	Reference Item Data Collection Template Template Element
Contract Management	Specification - P
Data Preparation	Specification – P Reference Item
Equipment Tracking	Specification - P Reference Item Data Collection Template Operations Template
Estimation	Specification - P
Facility Management	Specification - P
Inventory Tracking	Specification - P Reference Item Data Collection Template Operations Template
Partnership Management	Reference Item
Products Production	Specification – P Special Tab Agreement Reference Item Data Collection Template Template Element
Training	Reference Item
Universe Definition	Key Data Chronology

Equipment Tracking Application Area

Description

This application area tracks the location and "ownership" of each item of equipment possessing a bar code. The capability allows immediate access to the whereabouts of all items and will track the transfer of the ownership or the location of each item, such as the deployment of HHC kits to facilities and then to individual staff members. It also tracks the status and condition of each item, maintaining a chronology of failures and repairs within and outside warranty periods.

The activities and entity types that comprise this area are provided in Figure 12.

Activities
A22 – Develop and Integrate IT Systems – P
A251 – Create and Deploy Trackable Kits
A3112 – Acquire Goods and Services
A3113 – Configure Space
A312 – Operate Facility
A313 – Close Out Facility
Entity Types
Equipment
Equipment Specification
Equipment Chronology
Equipment Transfer
Equipment Performance
Installed Software Log - P
Trackable Kit
Trackable Kit Reference Item
Trackable Kit Data Collection Template
Trackable Kit Operations Template

Figure 12—Equipment Tracking Application Area Activities and Entity Types

Interfaces and Interrelationships

The Equipment Tracking application area requires delivery information from the Acquisition application area, facility information from Facility Management application area, and specification information from Document Management. Conversely, the Training application area needs information about trackable kits that may be used or assigned during training; Staff Management needs to know equipment information that staff may be assigned responsibility for operating; and Facility Management needs information about trackable kits.

Equipment Tracking application area potential interfaces as depicted in the CRUD matrix are indicated in the table below. The potential interfaces are not presented in any implied order other than alphabetical by application area name.

Equipment Tracking receives information from:	**Entity Types**
Acquisition	Delivery - P
Document Management	Specification - P Reference Item Data Collection Template Operations Template
Facility Management	Facility
Equipment Tracking gives information to:	
Acquisition	Equipment Specification
Facility Management	Equipment Equipment Specification Equipment Chronology Equipment Transfer Equipment Performance Trackable Kit
Staff Management	Equipment Equipment Chronology Equipment Transfer
Training	Equipment Equipment Chronology

Estimation Application Area

Description

This is a placeholder application area because the activities of which it is comprised have not been fully modeled. This application area provides the means to apply estimation techniques to evaluation data as well as experimental data. This includes techniques to approximate error measurements on the sample estimates. This application area also provides the means to examine the estimates for correctness and reasonableness including the consistency with historical and demographic data and assessing the appropriateness of the estimation methods.

The activities and entity types that comprise this area are provided in Figure 13.

Activities
A632 – Produce Estimates A634 – Review and Clear Estimation Data, Results, and Reports
Entity Types
Estimate Estimate Spec Estimated Microdata HU Estimated Microdata Person

Figure 13—Estimation Application Area Activities and Entity Types

Interfaces and Interrelationships

The Estimation application area needs data from Universe Definition, Geography Collection, and Data Preparation to produce estimates. Conversely, the Products Production application areas uses Estimation application area data.

Estimation application area potential interfaces as depicted in the CRUD matrix are indicated in the table below. The potential interfaces are not presented in any implied order other than alphabetical by application area name.

Estimation receives information from:	**Entity Types**
Data Preparation	Microdata Person Microdata Housing Unit Person or LQ Count
Document Management	Specification - P
Geography Collection	Polygon
Universe Definition	Key Data Chronology
Estimation gives information to:	
Products Production	Estimate Estimate Spec Estimated Microdata HU Estimated Microdata Person

Facility Management Application Area

Description

This application area covers the management of the facility. It maintains information about the facility such as its address and the positions assigned to the facility. It also records aspects of the facility that vary from the facility specification. It is useful as a resource for address information for inventory and equipment distribution, and to track the status of the facility as it moves from build out through operation to, for some facilities, close out.

The activities and entity types that comprise this area are provided in Figure 14.

Activities
A3111 – Obtain Facility Space A3113 – Configure Space A312 – Operate Facility A313 – Close Out Facility

Entity Types
Facility Facility Specification Position Facility

Figure 14—Facility Management Application Area Activities and Entity Types

Interfaces and Interrelationships

The Facility Management application area requires information from the Equipment Tracking application area about the items of equipment and trackable kits to be used by the facility such as their specifications, current status and location, etc. It also requires information about items transferred to and from the facility in the Inventory Tracking application area, and information about the intended configuration of the facility contained in the specification that is managed by the Document Management application area.

Conversely, application areas for Inventory Tracking and Equipment Tracking will use information about the location of the facility to create inventory transaction and equipment transfer information. The Recruiting and Testing and the Compensation application areas will reference the positions assigned to the facility. Other application areas will reference the location of a facility for activities such as locating the resolution of a help request or origin of an internal request, tracking where equipment was shipped, tracking where inventory was sent, scheduling testing sessions, and scheduling training sessions.

Facility Management application area potential interfaces as depicted in the CRUD matrix are indicated in the table below. The potential interfaces are not presented in any implied order other than alphabetical by application area name.

Facility Management receives information from:	**Entity Types**
Contract Management	Vendor - P Contract - P Contract Management Unit
Document Management	Specification - P
Equipment Tracking	Equipment Equipment Specification Equipment Chronology Equipment Transfer Equipment Performance Trackable Kit
Inventory Tracking	Inventory Item Inventory Transaction - P
Facility Management gives information to:	
Assistance Tracking	Facility
Compensation	Position Facility
Equipment Tracking	Facility
Inventory Tracking	Facility
Recruiting and Testing	Facility Position Facility

Training	Facility
Universe Definition	Facility

Geography Collection Application Area

Description

This application area provides the capability to obtain geographic features and boundaries identified in the field or by local governments, update the geographic framework, define geographic collection and tabulation areas, and produce products to support collection and tabulation activities. This application area will produce both electronic and paper maps for use in field collection operations and tabulation activities, as well as maintain various geographic collection areas such as collection blocks, assignment areas, local census offices, and crew leader districts.

The activities and entity types that comprise this area are provided in Figure 15.

Activities
A42 – Update Census Geography Framework A43 – Produce Census Geographic Products A5223 – Collect Geographic Updates
Entity Types
Line Point Line Point Polygon Line Polygon Polygon Point Polygon Linkage Spatial Feature Chronology Map Map Area Map Line Map Point

Figure 15—Geography Collection Application Area Activities and Entity Types

Interfaces and Interrelationships

The Geography Collection application area requires information from the Address Collection application area as well as local government participation to relate identified or updated geographic data. This in turn is used to improve geocoding rates and accuracy and to aid the enumerator in finding the correct assignment area and/or address. The Paper Conversion application area creates a spatial feature

chronology that notes the source, data, and time the geographic information was converted to paper and provides that information to Geography Collection.

Conversely, many application areas such as Address Collection, Response Collection, Data Preparation, Products Production, Estimation, and Work Management require geographic information such as areas and maps, which are provided by the Geography Collection application area.

The potential interfaces for the Geography Collection application area as depicted in the CRUD matrix are indicated in the table below. The potential interfaces are not presented in any implied order other than alphabetical by application area name.

Geography Collection receives information from:	**Entity Types**
Address Collection	Point Spatial Feature Chronology
Data Preparation	Person or LQ Count
Paper Conversion	Spatial Feature Chronology
Work Management	Data Collection Case
Geography Collection gives information to:	
Address Collection	Line Point Polygon Polygon Point Spatial Feature Chronology
Archiving	Map Map Area Map Line Map Point
Data Preparation	Point Polygon Polygon Point Polygon Linkage
Estimation	Polygon
Inventory Tracking	Map
Paper Conversion	Polygon Polygon Point Spatial Feature Chronology
Products Production	Polygon Polygon Linkage Map
Response Collection	Point Map Area Map Map Line Map Point
Universe Definition	Point

	Polygon Polygon Point
Work Management	Data Collection Case Line Point Polygon Polygon Point Map Area Map Map Line Map Point

Inventory Tracking Application Area

Description

This application area tracks the location of all generic goods. This includes inventories of documents, forms, assembled non-trackable kits, hard copies and CDs of products, etc. The capability provides a description of each item stored, including quantity and re-order requirements. It also records all additions and subtractions to the inventory, such as the deployment of non-trackable kits and other materials to specific facilities, or products to external or internal recipients. It will capture the source and destination for each inventory transaction. The capability is envisioned to be used by each facility for tracking the local inventories but should be accessible nationwide. This will facilitate the timely supply of goods to the locations where they are needed.

The activities and entity types that comprise this area are provided in Figure 16.

Activities
A23 – Develop Materials A252 – Create and Deploy Non-Trackable Kits A253 – Create and Deploy Non-Kit Census Materials A3112 – Acquire Goods and Services A312 – Operate Facility A313 – Close Out Facility
Entity Types
Inventory Item Inventory Transaction - P Stock Profile - P Non-Trackable Kit Non-Trackable Kit Reference Item Non-Trackable Kit Promotion Item Non-Trackable Kit DC Template Non-Trackable Kit Map Non-Trackable Kit Operations Template

Figure 16—Inventory Tracking Application Area Activities and Entity Types

Interfaces and Interrelationships

The Inventory Tracking application area requires information about the materials it stores from the Document Management application area; delivery information from the Acquisition application area; and facility information for location of stock from the Facility Management application area. The application area may also use the list of external contacts maintained by the Assistance Tracking application area, although this is not currently modeled. Conversely, the Acquisition, Document Management, and Facility Management application areas need information about inventory stock and transactions.

Inventory Tracking application area potential interfaces as depicted in the CRUD matrix are indicated in the table below. The potential interfaces are not presented in any implied order other than alphabetical by application area name.

Inventory Tracking receives information from:	**Entity Types**
Acquisition	Delivery - P
Document Management	Specification – P Reference Item Data Collection Template Operations Template
Facility Management	Facility
Geography Collection	Map
Inventory Tracking gives information to:	
Acquisition	Inventory Item Stock Profile - P
Document Management	Inventory Item Inventory Transaction – P Stock Profile – P
Facility Management	Inventory Item Inventory Transaction - P

Paper Conversion Application Area

Description

This application area receives and records the receipt of paper address listings and/or questionnaires. It creates a record of receipt for specific occurrences and it maintains a chronology of the status and outcome for each step in the paper conversion activity. The application area converts information on the returned listings and/or questionnaires into machine-readable format. Through this conversion process, information associated with address, housing unit, person, and/or group quarters entity types is updated or created. The capability also creates an electronic image of the questionnaires for archiving purposes to meet NARA requirements. Samples of images will be provided and maintained for use by evaluations and quality assurance activities.

The activities and entity types that comprise this area are provided in Figure 17.

Activities
A511 – Convert Paper to Electronic
Entity Types
Potential Response ***Address*** ***Group Quarters*** ***Housing Unit*** ***Key Data Chronology*** ***Person*** ***Respondent*** ***Respondent Group Quarters*** ***Respondent Person*** ***Group Quarters Occupant*** ***Respondent Housing Unit*** ***Occupant***

Figure 17—Paper Conversion Application Area Activities and Entity Types

Interfaces and Interrelationships

The Paper Conversion application area receives key data from the Address Collection and Response Collection application areas for conversion to electronic format. It also receives the location of the living quarters (via the Point entity) from the Address Collection application area. Paper Conversion requires "unit" status information from the Universe Definition application area.

After conversion to electronic format, this application area interfaces with the Response Collection and Address Collection application areas by providing a major source of response and address data. Paper Conversion then receives an acknowledgement back from the Response Collection application area for receipt of the converted data. The Paper Conversion application area also creates a spatial feature chronology that notes the source, data, and time the geographic information was converted to paper and provides that information to Geography Collection.

Paper Conversion application area potential interfaces as depicted in the CRUD matrix are indicated in the table below. The potential interfaces are not presented in any implied order other than alphabetical by application area name.

Paper Conversion receives information from:	**Entity Types**
Address Collection	Point Address Key Data Chronology Group Quarters Housing Unit

Geography Collection	Polygon Polygon Point Spatial Feature Chronology
Response Collection	Key Data Chronology Group Quarters Housing Unit Person Respondent Respondent Group Quarters Respondent Person Group Quarters Occupant Respondent Housing Unit Occupant Potential Response
Universe Definition	Key Data Chronology
Paper Conversion gives information to:	
Address Collection	Address Key Data Chronology Group Quarters Housing Unit
Archiving	Potential Response
Geography Collection	Spatial Feature Chronology
Response Collection	Key Data Chronology Group Quarters Housing Unit Person Respondent Respondent Group Quarters Respondent Person Group Quarters Occupant Respondent Housing Unit Occupant Potential Response
Universe Definition	Key Data Chronology

Partnership Management Application Area

Description

This application area tracks partnerships and specific events and initiatives associated with them. It maintains a chronology of all interactions with the partnership, facilitating coordinated communication and actions.

The activities and entity types that comprise this area are provided in Figure 18.

Activities
A33 – Manage Public Communication Program – WIP A35 – Implement LQ and Geographic Partnerships
Entity Types
Partnership Partnership Chronology Partnership Initiative Partnership Promotion Item

Figure 18—Partnership Management Application Area Activities and Entity Types

Interfaces and Interrelationships

The Partnership Management application area requires information from the Assistance Tracking and Correspondence Tracking application areas concerning partnership contacts made. The application area also requires reference materials from Document Management for use in promotions provided to partnership members. Conversely, the Public Communication application area would have an interest in partnership activities where they intersect with more general initiatives or campaigns.

Partnership Management application area potential interfaces as depicted in the CRUD matrix are indicated in the table below. The potential interfaces are not presented in any implied order other than alphabetical by application area name.

Partnership Management receives information from:	**Entity Types**
Assistance Tracking	Customer Satisfaction Survey Results – P Non-Federal Government Organization Non-Governing Entity Federal Government Organization
Correspondence Tracking	Correspondence
Document Management	Reference Item
Partnership Management gives information to:	
Correspondence Tracking	Partnership
Public Communication	Partnership Partnership Chronology Partnership Initiative Partnership Promotion Item

Person Matching Application Area

Description

The Person Matching application area provides the complex logic to identify and match two or more persons, assumed in all likelihood to be the same person, who have been enumerated potentially more

than once during the Census in different LQs. The application area accesses data collected in the Address Collection and Response Collection application areas, then identifies linkages across persons who may be the same person enumerated in two or more LQs. This application area supports person matching within the census data to identify potential person duplications across LQs.

NOTE: The Person Matching application area does not identify duplication of LQs or duplication of persons within an LQ.

The activities and entity types that comprise this area are listed in Figure 19.

Activities
A516 – Identify Potential Duplicates Across LQs
Entity Types
Person Linkage ***Key Data Chronology***

Figure 19—Person Matching Application Area Activities and Entity Types

Interfaces and Interrelationships

The Person Matching Application area receives data from the Address Collection and Response Collection application areas, using data from the Universe Definition application area. Conversely, the Response Collection, Data Preparation, and Universe Definition application areas use data resulting from the Person Matching application area.

Person Matching application area potential interfaces as depicted in the CRUD matrix are indicated in the table below. The potential interfaces are not presented in any implied order other than alphabetical by application area name.

Person Matching receives information from:	**Entity Types**
Address Collection	Address Linkage Key Data Chronology
Response Collection	Key Data Chronology Group Quarters Housing Unit Person Respondent Respondent Group Quarters Respondent Person Group Quarters Occupant Respondent Housing Unit Occupant
Universe Definition	Key Data Chronology
Person Matching gives information to:	
Data Preparation	Person Linkage
Response Collection	Person Linkage
Universe Definition	Person Linkage

Products Production Application Area

Description

This application area encompasses the creation, tabulation, assembling, review, clearance, and dissemination of products on various media for release to the public or for internal use. Geographic products, such as maps and geographic reference files, are only assembled and disseminated in the Products Production application area. The creation of geographic products occurs in the Geography Collection application area. Products Production includes the assembling of accompanying geographic products along with the creation, assembly, review, and dissemination of demographic products on paper and electronic media, such as maps, comparability files, apportionment counts, summary files, special tabulations, etc. This also includes the production, review, and clearance of evaluation reports, experimental data, estimation data, and other related products. This application area also includes the assembling of accompanying product metadata.

The activities and entity types that comprise this area are provided in Figure 20.

Activities
A621 – Create Demographic Products A622 – Review and Clear Products A623 – Assemble and Disseminate Products A633 – Produce Evaluation Reports and Other Products A634 – Review and Clear Estimation Data, Results, and Reports
Entity Types
Product Public Law Distribution Product Map Product Spec Data Collection Template Enclosure Person or LQ Count Product Estimate Product ***Person or LQ Count*** ***Person or LQ Count Spec*** ***Counted Microdata GQ*** ***Counted Microdata HU*** ***Counted Microdata Person***

Figure 20—Products Production Application Area Activities and Entity Types

Interfaces and Interrelationships

The Products Production application area needs data from Document Management, Geography Collection, Data Preparation, and Estimation application areas to produce products. In addition, Products Production will receive correspondence information from Correspondence Tracking requesting the production of census demographic products.

Conversely, the Assistance Tracking, Correspondence Tracking, and Public Communication application areas use Products Production data. Microdata information is updated by Products Production and provided back to the Data Preparation application area.

Products Production application area potential interfaces as depicted in the CRUD matrix are indicated in the table below. The potential interfaces are not presented in any implied order other than alphabetical by application area name.

Products Production receives information from:	**Entity Types**
Correspondence Tracking	Correspondence
Data Preparation	Key Data Chronology Group Quarters Housing Unit Person Microdata Group Quarters Microdata GQ Area Microdata Housing Unit Microdata HU Area Microdata Person Person or LQ Count Person or LQ Count Spec Counted Microdata GQ Counted Microdata HU Counted Microdata Person Product Product Spec Person or LQ Count Product
Document Management	Specification – P Special Tab Agreement Reference Item Data Collection Template Template Element
Estimation	Estimate Estimate Spec Estimated Microdata HU Estimated Microdata Person
Geography Collection	Polygon Polygon Linkage Map
Products Production gives information to:	
Archiving	Product
Assistance Tracking	Product

Correspondence Tracking	Person or LQ Count Product Product Map Product Spec Person or LQ Count Product Public Law Distribution
Data Preparation	Microdata Group Quarters Microdata GQ Area Microdata Housing Unit Microdata HU Area Microdata Person
Public Communication	Public Law Distribution

Public Communication Application Area

Description

This application area has not been fully modeled. The capability tracks actions and tools used to reach out to the public and respond to public comment and complaint. The capability also maintains a repository of media contacts, advertisements, and events. The application area is envisioned to provide an integrated source of information pertaining to the methods, organizations, and individuals that are contacted on behalf of the 2010 Census.

The activities and entity types that comprise this area are provided in Figure 21.

Activities
A33 – Manage Public Communication Program – WIP
Entity Types
Marketing Campaign Initiative - WIP Promotion Item Initiative Goal Event Media Event Media Outlet Campaign Media Media Ad Ad Ad Campaign
Note: This application area could possibly be decomposed into two (Marketing and Advertising), but there are no activities for such application areas.

Figure 21—Public Communication Application Area Activities and Entity Types

Interfaces and Interrelationships

The Public Communication application area requires information from the Assistance Tracking and Correspondence Tracking application areas concerning contacts made to the Census. The application area also has an interest in the members and activities from the Partnership Management application area. No application areas have been identified as recipients of Public Communication information other than Correspondence Tracking.

Public Communication application area potential interfaces as depicted in the CRUD matrix are indicated in the table below. The potential interfaces are not presented in any implied order other than alphabetical by application area name.

Public Communication receives information from:	**Entity Types**
Assistance Tracking	Customer Satisfaction Survey Results - P Non-Federal Government Organization Non-Governing Entity
Correspondence Tracking	Correspondence
Partnership Management	Partnership Partnership Chronology Partnership Initiative Partnership Promotion Item
Products Production	Public Law Distribution
Public Communication gives information to:	
Correspondence Tracking	Correspondence

Recruiting & Testing Application Area

Description

This application area manages information about individual applicants for temporary census positions as they move through the application and screening process prior to being hired. It identifies applicants with associated specific characteristics (general source of applicant, demographic characteristics, other personal information, home location, job qualifications, kind of position to which applied) and maintains a chronology of each step in the process for an individual applicant, including receipt of application, scheduling of test session, test session attended and test result, clearance and screening (criminal history, reference checks), inquiry with applicant to affirm continued interest in/availability for job, etc.

This capability would facilitate recruitment and staffing planning and provide information that informs management that various recruitment strategies work and goals are being met (e.g., indigenous staffing, generating sufficient qualified applicants by small area, etc). It also provides information regarding timing and progress of various steps in recruiting and screening to assure that subsequent operations will be appropriately staffed.

The activities and entity types that comprise this area are provided in Figure 22.

Activities
A321 – Recruit and Clear Applicants
Entity Types
Applicant for Temporary Position Applicant Location Applicant Chronology Recruitment Test Session Applicant Test
Note: Additional application areas, such as Clearance Tracking and Applicant Testing, might emerge with further decomposition.

Figure 22—Recruiting and Testing Application Area Activities and Entity Types

Interfaces and Interrelationships

The Recruiting and Testing application area would receive applicant location information from the Address Collection application area as a result of the geocoding of applicants. It would also need information from the Facility Management application area concerning the facility for which the person is being considered, such as its address and the specific positions allocated to it, and the facility in which to schedule a testing session. Recruiting and Testing would also access the position description maintained in the Staff Management application area to ensure that individuals with the needed qualifications are hired.

Conversely, the Recruiting and Testing application area provides applicant information (e.g., name, address) to the Address Collection application area so that Address Collection can perform the applicant geocoding relative to the available work locations. Recruiting and Testing may also provide existing applicant location information to Address Collection for update (i.e., re-geocoding based on a change of address). Recruiting and Testing provides applicant information to the Staff Management application area so that it may incorporate this information for those applicants who are hired.

Recruiting and Testing application area potential interfaces as depicted in the CRUD matrix are indicated in the table below. The potential interfaces are not presented in any implied order other than alphabetical by application area name.

Recruiting and Testing receives information from:	**Entity Types**
Address Collection	Applicant Location
Facility Management	Facility Position Facility
Staff Management	Position
Recruiting and Testing gives information to:	
Address Collection	Applicant for Temporary Position Applicant Location
Staff Management	Applicant for Temporary Position Applicant Location Applicant Chronology

	Recruitment Test Session Applicant Test

Response Collection Application Area

Description

This application area gathers information about living quarters and persons through various census managed mechanisms. These include interviewer-assisted enumeration, electronic self-response, and gathering of data by paper or electronic means, covering all census data gathering except the respondent completed mailed-back questionnaires. Living quarters type (e.g., HU, GQ) is determined at the time of enumeration. This application may provide for real-time data editing, enumerator or respondent prompts for missing information or to clarify inconsistencies, and help functions. It may maintain other administrative information about the gathering process, such as time and date stamps, keystroke history, etc. This application area also supports census evaluations data gathering.

This application area also applies complex logic to the Potential Response entity to confirm the validity of responses received, including verification of the data integrity, through application of operative business rules and interpretation of universe definitions. This application area standardizes and organizes data into a standard, unified structure and format, along with determining if the unit entity described by the valid response is eligible for (further) follow-up based on the content of the response data and the universe from which it was elicited. The outcome of this application area is to update the status of preexisting Key Data Chronology occurrences and create new occurrences. The occurrences of Key Data Chronology emanating from this application area indicate the logical operational flow of Address, Person, Housing Unit, and Group Quarters, along with the outcome status of each discrete operation/universe in which they find themselves. Universe definition and response data are provided as appropriate with each new follow-up case.

The activities and entity types that comprise this area are provided in Figure 23.

Activities
A512 – Validate and Acknowledge All Response Data
A513 – Edit for Follow-ups – Form Based
A515 – Standardize and Organize Response Data
A521 – Conduct Electronic Self-Response Enumeration for HUs
A5221 – Interview Respondent

Entity Types
Group Quarters Housing Unit Person Respondent Respondent Group Quarters Respondent Person Group Quarters Occupant Respondent Housing Unit Occupant Potential Response ***Key Data Chronology***

Figure 23—Response Collection Application Area Activities and Entity Types

Interfaces and Interrelationships

The Response Collection application area requires address and living quarters information from the Address Collection application area, geographic areas and maps from the Geography Collection application area, respondent data from Paper Conversion, and response status from Universe Definition.

Conversely, the application area provides response data to the Universe Definition, Person Matching, Data Preparation, and Work Management application areas. It provides updates to the Key Data Chronology entity type that is used by the Universe Definition, Person Matching, Data Preparation, and Work Management application areas. It also provides Paper Conversion with an acknowledgement by updating Key Data Chronology.

Response Collection application area potential interfaces as depicted in the CRUD matrix are indicated in the table below. The potential interfaces are not presented in any implied order other than alphabetical by application area name.

Response Collection receives information from:	**Entity Types**
Address Collection	Address Linkage Address Key Data Chronology Group Quarters Housing Unit
Geography Collection	Point Map Area Map Map Line Map Point

Paper Conversion	Key Data Chronology Group Quarters Housing Unit Person Respondent Respondent Group Quarters Respondent Person Group Quarters Occupant Respondent Housing Unit Occupant Potential Response
Person Matching	Person Linkage
Universe Definition	Key Data Chronology
Work Management	Data Collection Case Data Collection Case Group
Response Collection gives information to:	
Address Collection	Key Data Chronology Group Quarters Housing Unit
Archiving	Key Data Chronology Group Quarters Housing Unit Person Respondent Respondent Group Quarters Respondent Person Group Quarters Occupant Respondent Housing Unit Occupant Potential Response
Data Preparation	Key Data Chronology Group Quarters Housing Unit Person Respondent Respondent Person Group Quarters Occupant Respondent Housing Unit Occupant
Paper Conversion	Key Data Chronology Group Quarters Housing Unit Person Respondent Respondent Group Quarters Respondent Person Group Quarters Occupant Respondent Housing Unit Occupant Potential Response

Person Matching	Key Data Chronology Group Quarters Housing Unit Person Respondent Respondent Group Quarters Respondent Person Group Quarters Occupant Respondent Housing Unit Occupant
Universe Definition	Key Data Chronology Group Quarters Housing Unit Person Respondent Respondent Group Quarters Respondent Person Group Quarters Occupant Respondent Housing Unit Occupant
Work Management	Key Data Chronology Group Quarters Housing Unit Person Respondent Respondent Person Respondent Housing Unit Occupant

Staff Management Application Area

Description

This application area covers the administration and management of temporary census staff. It provides for the hiring, promotion, rewarding, disciplining, and release of employees and maintenance of all necessary personnel and performance information required by law and by operational need. It provides for the linking of specific work assignments to individual employees, for tracking performance, and maintaining a specific work history for each employee that can be used for subsequent staffing, resource planning, and assignment decisions. This also supports the capture and feedback to individual employees of performance measurement information as needed. This application area covers management by Census employees, not management by contractors.

The activities and entity types that comprise this area are provided in Figure 24.

Activities
A322 – Take Administrative Actions A3242 – Link Assignment Sets to Individuals A326 – Track Data Collection Performance and Work
Entity Types
Position 2010 Census Staff Member Operation Assignment Equipment Operator Employee Task Performance Temporary Employee Chronology

Figure 24—Staff Management Application Area Activities and Entity Types

Interfaces and Interrelationships

The Staff Management application area requires information from Equipment Tracking on the transfer of responsibility for equipment; Recruiting and Testing for applicant information; Training on the results of training sessions for employees; and Compensation and Work Management for staff hours and task completions, respectively, that are needed for staff performance measurement.

The Staff Management application area provides staff information to Training, position descriptions to Recruiting and Testing, staff and position information to Compensation, and staff information to Work Management. For contract management activities that occur in this area, see the Contract Management application area. The Assistance Tracking application area will receive census staff information from Staff Management to track help requests from internal staff.

Staff Management application area potential interfaces as depicted in the CRUD matrix are indicated in the table below. The potential interfaces are not presented in any implied order other than alphabetical by application area name.

Staff Management receives information from:	**Entity Types**
Compensation	Time & Expense
Equipment Tracking	Equipment Chronology Equipment Transfer Equipment
Recruiting and Testing	Applicant for Temporary Position Applicant Location Applicant Chronology Recruitment Test Session Applicant Test

Training	Employee Training
Work Management	Data Collection Case Data Collection Case Group Data Collection Work Chronology Data Collection Case Address Linkage
Staff Management gives information to:	
Assistance Tracking	2010 Census Staff Member
Compensation	Position 2010 Census Staff Member Operation Assignment Employee Task Performance
Recruiting and Testing	Position
Training	2010 Census Staff Member Equipment Operator Temporary Employee Chronology
Work Management	2010 Census Staff Member Operation Assignment Equipment Operator Employee Task Performance

Training Application Area

Description

This application area manages information pertaining to the planning, scheduling, arrangement, and completion of various training sessions required to train temporary census staff. This information includes size of training class, materials required, and planned duration of training. It provides for the scheduling of specific training sessions to location, identification of trainer, and invitation and rostering of trainees for specific sessions. It provides information regarding actual conduct of training as needed, including duration, number/status of invited trainees through the process (invited, no shows, dropped out during, successfully completed) and specific information for individual trainees regarding qualification for work (post-training test score, need for additional on-the-job training or assistance, etc.).

The activities and entity types that comprise this area are provided in Figure 25.

Activities
A323 – Train Temporary Staff
Entity Types
Employee Training Training Session Training Reference Item

Figure 25—Training Application Area Activities and Entity Types

Interfaces and Interrelationships

The Training application area will need training materials from the Document Management application area; trackable kits from the Equipment Tracking application area since it is during the training that these kits are assigned to staff; facility location information from Facility Management to schedule training sessions; and information about the staff attending the training from the Staff Management application area.

The Training application area provides employee training information in the form of training results to the Staff Management and Work Management application areas.

Training application area potential interfaces as depicted in the CRUD matrix are indicated in the table below. The potential interfaces are not presented in any implied order other than alphabetical by application area name.

Training receives information from:	**Entity Types**
Document Management	Reference Item
Equipment Tracking	Equipment Equipment Chronology
Facility Management	Facility
Staff Management	2010 Census Staff Member Equipment Operator Temporary Employee Chronology
Training gives information to:	
Staff Management	Employee Training
Work Management	Employee Training

Universe Definition Application Area

Description

This application area maintains LQ-level information on all census operational universes, from the inception of the Census LQ universe through precensus address updating and evaluative/experimentation sampling, data collection and directed follow-ups, data capture, and post-capture processing intended to define the final census universe. This is accomplished by maintaining the Key Data Chronology on each address, living quarters, and person as the data is collected, validated, enhanced, un-duplicated, ultimately accepted or rejected for inclusion in final census data, selected for evaluations, or corrected for product production. The universe information is used by a variety of other application areas that read it to guide the work, and update it to reflect the results of specific operations. The Universe Definition application area then interprets these results to provide an updated universe. The definition of universes is accomplished with the application of specific rules regarding necessary characteristics for inclusion in a particular universe.

The activities and entity types that comprise this area are provided in Figure 26.

Activities
A441 – Prepare Initial Universe A442 – Prepare Updated Universes A443 – Prepare Follow-Up Universes
Entity Types
Key Data Chronology ***Data Collection Case*** ***Data Collection Case Address Linkage***

Figure 26—Universe Definition Application Area Activities and Entity Types

Interfaces and Interrelationships

All data collection application areas (Address Collection, Response Collection, Paper Conversion, and Person Matching) plus the Data Preparation application area provides information to the Universe Definition application area to reflect the results of specific operations. The Facility Management application area provides facility location information, and the Geography Collection application area provides geographic area information.

Conversely, the Address Collection, Response Collection, Paper Conversion, Person Matching, Data Preparation, and Estimation application areas use the key data chronology from the Universe Definition application area to guide the selection of specific address, living quarters, and person data items. Universe Definition also provides initial data collection case information to the Work Management application area.

Universe Definition application area potential interfaces as depicted in the CRUD matrix are indicated in the table below. The potential interfaces are not presented in any implied order other than alphabetical by application area name.

Universe Definition receives information from:	**Entity Types**
Address Collection	Address Location Address Linkage Address Key Data Chronology Group Quarters Housing Unit
Data Preparation	Key Data Chronology
Document Management	Key Data Chronology
Facility Management	Facility
Geography Collection	Point Polygon Polygon Point
Paper Conversion	Key Data Chronology
Person Matching	Person Linkage

Response Collection	Key Data Chronology Group Quarters Housing Unit Person Respondent Respondent Group Quarters Respondent Person Group Quarters Occupant Respondent Housing Unit Occupant
Work Management	Data Collection Case Data Collection Case Address Linkage
Universe Definition gives information to:	
Address Collection	Key Data Chronology
Archiving	Key Data Chronology
Data Preparation	Key Data Chronology
Estimation	Key Data Chronology
Paper Conversion	Key Data Chronology
Person Matching	Key Data Chronology
Response Collection	Key Data Chronology
Work Management	Data Collection Case Data Collection Case Address Linkage Key Data Chronology

Work Management Application Area

Description

This application area covers the creation of cases and tracking the status of work performed by the staff members working in the temporary, decentralized facilities. It contains information on specific case assignments, the tools needed for the assignment (such as maps), and the specific actions taken by the staff members to accomplish the assigned tasks. It contains tools to track the status and progress of work and the availability of field staff for new assignments. Individuals who may be struggling with an assignment are visible to allow possible retraining or reassignment of work where appropriate. This application area covers work performed by field staff members in tasks such as, but not limited to, canvassing, enumeration, quality control, and evaluation and coverage work. Also, this application area covers management by Census employees, not management by contractors.

The activities and entity types that comprise this area are provided in Figure 27.

Activities
A3241 – Create Assignment Set A3242 – Link Assignment Sets to Individuals A326 – Track Data Collection Performance and Work
Entity Types
Data Collection Case Data Collection Case Group Trackable Kit Map Data Collection Work Chronology Data Collection Case Address Linkage

Figure 27—Work Management Application Area Activities and Entity Types

Interfaces and Interrelationships

The Work Management application area requires address and respondent information from the Address Collection and Response Collection application areas, respectively, as well as geography information from Geography Collection to define the scope of assignments. Work Management also receives initial data collection case information from the Address Collection, Geography Collection, and Universe Definition application areas. Staff and staff performance information from Staff Management as well as time and expense information from Compensation are provided to the Work Management application area. The Training application area provides employee training information to Work Management in the form of training results.

The Address Collection, Geography Collection, Response Collection, Universe Definition, Staff Management, and Compensation application areas require various forms of work assignment information from Work Management. For contract management activities that occur in this area, see the Contract Management application area.

Work Management application area potential interfaces as depicted in the CRUD matrix are indicated in the table below. The potential interfaces are not presented in any implied order other than alphabetical by application area name.

Work Management receives information from:	**Entity Types**
Address Collection	Data Collection Case Address Location Address Linkage Address Key Data Chronology Group Quarters Housing Unit
Compensation	Time & Expense

Geography Collection	Data Collection Case Line Point Polygon Polygon Point Map Area Map Map Line Map Point
Response Collection	Key Data Chronology Group Quarters Housing Unit Person Respondent Respondent Person Respondent Housing Unit Occupant
Staff Management	2010 Census Staff Member Operation Assignment Equipment Operator Employee Task Performance
Training	Employee Training
Universe Definition	Data Collection Case Data Collection Case Address Linkage Key Data Chronology
Work Management gives information to:	
Address Collection	Data Collection Case
Compensation	Data Collection Case Data Collection Case Group Data Collection Work Chronology
Contract Management	Data Collection Work Chronology
Geography Collection	Data Collection Case
Response Collection	Data Collection Case Data Collection Case Group
Staff Management	Data Collection Case Data Collection Case Group Data Collection Work Chronology Data Collection Case Address Linkage
Universe Definition	Data Collection Case Data Collection Case Address Linkage

Application Architecture Table 1: Activities by Application Area

Activities	Acquisition	Address Collection	Archiving	Assistance Tracking	Compensation	Contract Management	Correspondence Tracking	Count Question Resolution	Data Preparation	Document Management	Equipment Tracking	Estimation	Facility Management	Geography Collection	Inventory Tracking	Paper Conversion	Partnership Management	Person Matching	Products Production	Public Communication	Recruiting and Testing	Response Collection	Staff Management	Training	Universe Definition	Work Management
A21 - Develop Specifications – P										X																
A22 - Develop and Integrate IT Systems – P											X															
A23 - Develop Materials										X					X											
A24 - Print Materials and Forms										X																
A251 - Create and Deploy Trackable Kits											X															
A252 - Create and Deploy Non-Trackable Kits															X											
A253 – Create and Deploy Non-Kit Census Materials															X											
A3111 - Obtain Facility Space													X													
A3112 - Acquire Goods and Services	X										X				X											
A3113 - Configure Space											X		X													
A312 - Operate Facility											X		X		X											
A313 - Close Out Facility											X		X		X											
A321 - Recruit and Clear Applicants																					X					
A322 - Take Administrative Actions																							X			
A323 - Train Temporary Staff																								X		
A3241 – Create Assignment Set																										X

Activities	Acquisition	Address Collection	Archiving	Assistance Tracking	Compensation	Contract Management	Correspondence Tracking	Count Question Resolution	Data Preparation	Document Management	Equipment Tracking	Estimation	Facility Management	Geography Collection	Inventory Tracking	Paper Conversion	Partnership Management	Person Matching	Products Production	Public Communication	Recruiting and Testing	Response Collection	Staff Management	Training	Universe Definition	Work Management
A3242 – Link Assignment Sets to Individuals																							X			X
A325 - Provide Operational Assistance				X																						
A326 - Track Data Collection Performance and Work					X																		X			X
A327 - Compensate Temporary Staff					X																					
A33 - Manage Public Communication Program – WIP							X										X			X						
A331 - Assist the Public				X			X																			
A34 - Manage Programs – WIP						X																				
A35 – Implement LQ and Geographic Partnerships							X										X									
A41 – Update Census Address Frame		X																								
A42 – Update Census Geography Framework														X												
A43 – Produce Census Geographic Products														X												
A441 - Prepare Initial Universe																									X	
A442 - Prepare Updated Universes																									X	
A443 - Prepare Follow-Up Universes																									X	
A511 - Convert Paper to Electronic																X										
A512 - Validate and Acknowledge All Response Data																						X				
A513 - Edit for Follow-Ups - Form Based																						X				
A514 - Code Write-ins									X																	

Activities	Acquisition	Address Collection	Archiving	Assistance Tracking	Compensation	Contract Management	Correspondence Tracking	Count Question Resolution	Data Preparation	Document Management	Equipment Tracking	Estimation	Facility Management	Geography Collection	Inventory Tracking	Paper Conversion	Partnership Management	Person Matching	Products Production	Public Communication	Recruiting and Testing	Response Collection	Staff Management	Training	Universe Definition	Work Management
A515 - Standardize and Organize Response Data																						X				
A516 - Identify Potential Duplicates Across LQs																		X								
A521 – Conduct Electronic Self-Response Enumeration for HUs																						X				
A5221 – Interview Respondent																						X				
A5222 – Collect Address List Updates		X																								
A5223 – Collect Geographic Updates														X												
A611 - Resolve Person to LQ Linkage									X																	
A612 - Prepare/Produce Unedited Records									X																	
A613 - Review and Clear Data									X																	
A614 - Correct for Missing and Inconsistent Data									X																	
A615 - Prepare Final Person and LQ Data									X																	
A621 - Create Demographic Products																			X							
A622 - Review and Clear Products							X												X							
A623 - Assemble and Disseminate Products							X												X							
A631 - Prepare for Estimation									X																	
A632 - Produce Estimates												X														
A633 - Produce Evaluation Reports and Other Products																			X							

Activities		Acquisition	Address Collection	Archiving	Assistance Tracking	Compensation	Contract Management	Correspondence Tracking	Count Question Resolution	Data Preparation	Document Management	Equipment Tracking	Estimation	Facility Management	Geography Collection	Inventory Tracking	Paper Conversion	Partnership Management	Person Matching	Products Production	Public Communication	Recruiting and Testing	Response Collection	Staff Management	Training	Universe Definition	Work Management
A634 - Review and Clear Estimation Data, Results, and Reports													X							X							
A64 - Archive Data – WIP				X																							
A65 - Resolve Count Questions – WIP								X	X																		
NOTE: The following activities have not been included in the Application Architecture:																											
A531 – Establish Coverage Measurement Independent HU Sample																											
A532 - Collect Coverage Measurement Person Information																											
A533 - Complete HU Coverage Activities																											
A534 - Collect Coverage Measurement Evaluation Data																											
A54 - Perform Evaluations – WIP																											

Application Architecture Table 2: Application Area by Application Area

Application Area	Acquisition	Address Collection	Archiving	Assistance Tracking	Compensation	Contract Management	Correspondence Tracking	Count Question Resolution (TBD)	Data Preparation	Document Management	Equipment Tracking	Estimation	Facility Management	Geography Collection	Inventory Tracking	Paper Conversion	Partnership Management	Person Matching	Products Production	Public Communication	Recruiting and Testing	Response Collection	Staff Management	Training	Universe Definition	Work Management
Acquisition						X				X	X				X											
Address Collection			X	X			X		X	X				X		X		X			X	X			X	X
Archiving		X						X	X					X		X			X			X			X	
Assistance Tracking		X					X			X			X				X		X	X			X			
Compensation													X										X			X
Contract Management	X									X			X													X
Correspondence Tracking		X		X													X		X	X						
Count Question Resolution (TBD)																										
Data Preparation		X	X							X		X		X				X	X			X			X	
Document Management	X	X		X		X			X		X	X	X		X		X		X					X	X	
Equipment Tracking	X									X			X										X	X		
Estimation									X	X				X					X						X	
Facility Management				X	X	X				X	X				X						X			X	X	
Geography Collection		X	X						X			X			X	X			X			X			X	X
Inventory Tracking	X									X			X	X												
Paper Conversion		X	X											X								X			X	
Partnership Management				X			X			X										X						

Application Area		Acquisition	Address Collection	Archiving	Assistance Tracking	Compensation	Contract Management	Correspondence Tracking	Count Question Resolution (TBD)	Data Preparation	Document Management	Equipment Tracking	Estimation	Facility Management	Geography Collection	Inventory Tracking	Paper Conversion	Partnership Management	Person Matching	Products Production	Public Communication	Recruiting and Testing	Response Collection	Staff Management	Training	Universe Definition	Work Management
Person Matching			X							X													X			X	
Products Production				X	X			X		X	X		X		X						X						
Public Communication					X			X										X		X							
Recruiting and Testing			X											X										X			
Response Collection			X	X						X					X		X		X							X	X
Staff Management					X	X						X										X			X		X
Training											X	X		X										X			X
Universe Definition			X	X						X	X		X	X	X		X		X				X				X
Work Management			X			X	X								X								X	X	X	X	

Appendix A: Activity and Entity Definitions

Definitions for the activities listed in this document are located in work product #18, “Activity Definitions.” Definitions for the entity types listed in this document are located in work product #24, “Entity and Attribute Definitions.”

27. INTERFACE DESCRIPTION (CONCEPTUAL)

The Interface Description is a matrix that maps Application Areas (work product #26) to Nodes (work product #28). An “X” at the intersection of a row and a column in the matrix indicate an Application Area mapping to a Node.

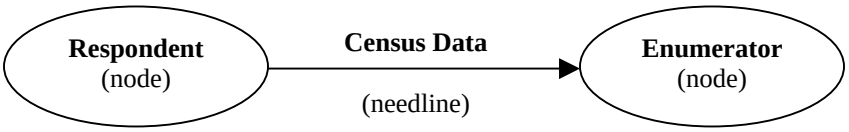
Interface Description (Conceptual)

	Operational Nodes	Internet Response Collection	Telephone Response Collection	Internet Assistance	Telephone Assistance	Census Data Compilation and Validation	Paper to Electronic Conversion	Case Assembly and Tracking	Person and LQ Resolution and Update	Geographic and LQ Information Management and Creation	Field Data Collection	IT Provisioning and Maintenance	Kit Preparation and Assignment	Product and Material Clearance and Creation	Electronic Assembly and Distribution	Printing Assembly and Distribution	Staff Performance Management	Training	Select and Clear
Application Area																			
Acquisition																			
Address Collection										X	X								
Archiving																			
Assistance Tracking				X	X							X							
Compensation									X		X						X		
Contract Management																			
Correspondence Tracking				X	X					X				X	X	X			
Count Question Resolution																			
Data Preparation									X					X					
Document Management														X		X			
Equipment Tracking												X	X						
Estimation									X					X					
Facility Management												X							
Geography Collection										X	X								
Inventory Tracking												X	X	X	X	X			
Person Matching									X										
Paper Conversion							X												
Partnership Management										X									
Products Production														X	X	X			
Public Communication																			
Recruiting and Testing																			X
Response Collection		X	X			X			X		X								
Staff Management									X		X						X		
Training																		X	
Universe Definition								X											
Work Management								X	X		X						X		

28. Node Connectivity Description (Logical)

The Version 1.0 release of the Architecture described nodes as locations where specific functions are performed. This release of the Architecture is based on a logical rendering of nodes as roles as described below. This work product contains the Node Connectivity Diagram and the Node Definition and Activity Mapping. On the Node Definition and Activity Mapping product, external entities (not a part of the Census Bureau) are not mapped to Application Areas or Operational Activities and are blank.

The Node Connectivity Diagram captures the external and internal roles performed by organizations and people in relationship to the 2010 Census by graphically depicting them in a diagram. Additionally, it captures the information sharing requirements among roles, or nodes, through the use of "needlines;" which indicate a need to exchange information between nodes:



The Node Connectivity Diagram has two artifacts:

Node: A node is an element of the business architecture that produces, consumes, or processes information. Nodes represent an operational/human role (e.g., Field Data Collection), or organization (e.g., United States Postal Service).

Needlines: A Needline documents the requirement to exchange information between nodes. The needline does *not* indicate how the information transfer is implemented. For example, if information is produced at node A, is simply routed through node B, and is used at node C, then node B would not be shown on the diagram – the needline would go from node A to node C. The Node Connectivity Diagram is not a communications link or communications network diagram. The system implementation (or what systems nodes or systems are used to execute the transfer) is shown in the physical architecture.

Needlines use arrows to indicate the direction of information flow and are annotated with a phrase that is descriptive of the principal types of information exchanged. It is important to note that the arrows on the diagram represent *needlines* only. This means that each arrow indicates only that there is a need for some kind of information transfer between the two connected nodes.

The Node Connectivity Diagram is integrated with the Activity Model through the mapping of nodes to activities and needlines to ICOMs as described below.

Nodes and Activities

Leaf-level activities, the lowest level activities in the activity model, are mapped to the node that performs that activity. An activity can only be assigned to more than one node when it is performed in its entirety in each of the nodes to which it is assigned.

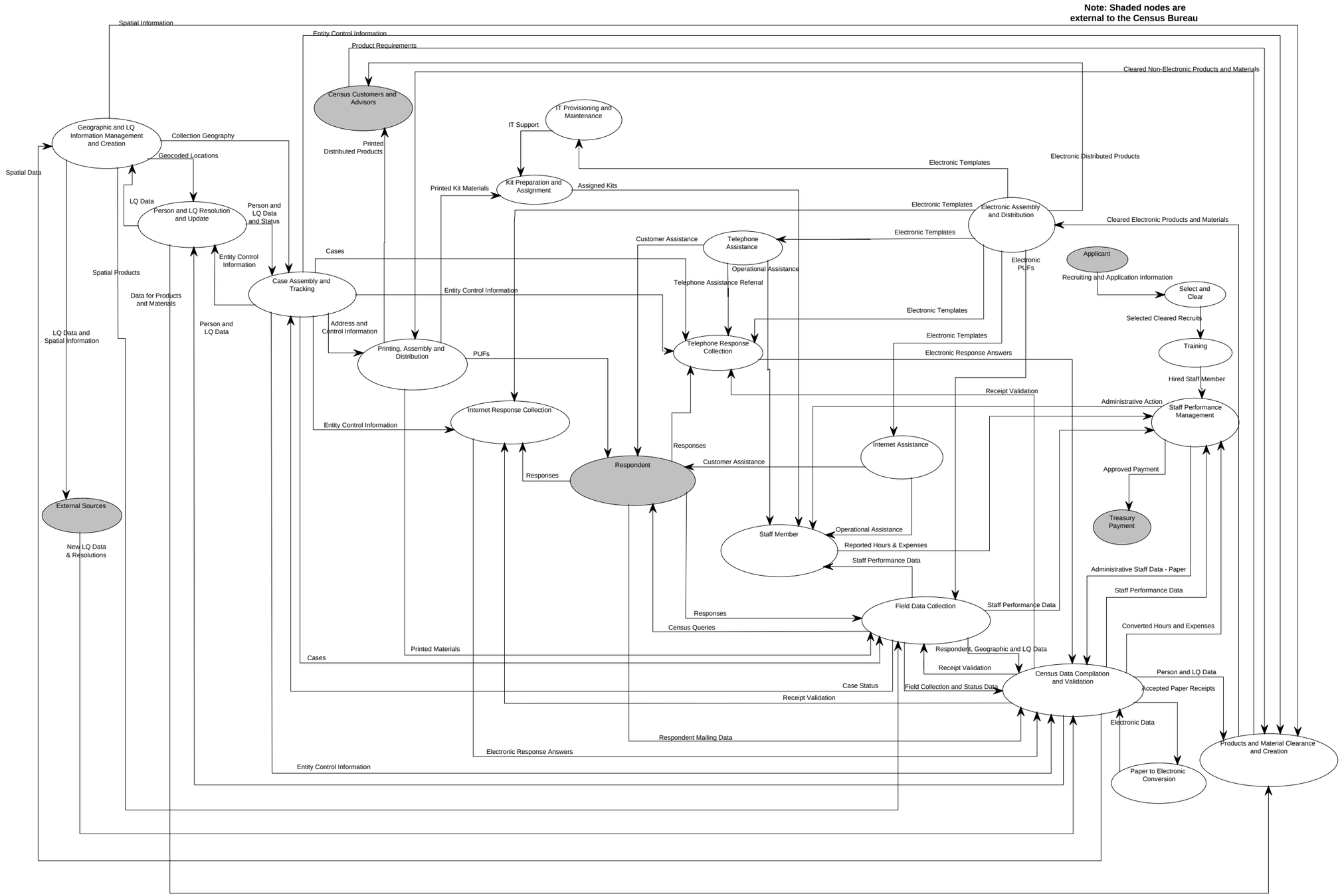
The mapping of Nodes to Activities is provided in two supporting products: The Location Mapped to Functions product (work product #21) provides a matrix simply showing the mapping, while the Node Definition work product, included in this section, provides a definition of each of the nodes/roles, and a mapping of both Application Areas and Activities to the nodes.

Needlines and Information Exchanges

There is a one-to-many relationship from needlines to information exchanges (e.g., a single needline represents multiple individual information exchanges). The Information Exchanges are representations of the ICOMs from the Activity Model. A needline is a summation of the Information Exchanges that it represents.

The mapping of the ICOMS to the needlines is provided for in the Information Exchange Matrix (Logical) - (work product #25).

Node Connectivity Diagram



Node Definitions and Activity Mapping

Name	Description	Type	Application Area	Operational Activities
Applicant	This role consists of the individual who has applied for a temporary census position.	External		
Case Assembly and Tracking	This role parses data and status (e.g., person and LQ) with the purpose of providing addresses for mailout, assigning work to the field, and providing information for monitoring progress of operations.	Internal	Universe Definition Work Management	Prepare Updated Universes Prepare Follow-Up Universes Create Assignment Set Prepare Initial Universe
Census Customers and Advisors	This is an external role consisting of an organization, government entity (federal or non-federal) or individual that provides requirements or receives products from the 2010 Census; a stakeholder.	External		
Census Data Compilation and Validation	This is the receiving, validation, acceptance, check-in, and standardization of the capture of LQ, geographic, and person data. This does not include paper conversion which is a tightly associated role.	Internal	Response Collection	Validate and Acknowledge All Response Data Standardize and Organize Response Data
Electronic Assembly and Distribution	This role assembles and distributes any material or product through electronic media.	Internal	Correspondence Tracking Inventory Tracking Products Production	Assemble and Disseminate Products Create and Deploy Non-Kit Census Materials

Name	Description	Type	Application Area	Operational Activities
External Sources	This role consists of organizations external to the Census that provide new or updated address or LQ information for potential data collection. Examples are LUCA and BAS participants, and the USPS.	External		
Field Data Collection	This role conducts activities associated with field work assignment/reassignment, data collection (respondent, geographic and address information), and tracking.	Internal	Staff Management Work Management Response Collection Compensation Address Collection Geography Collection	Link Assignment Sets to Individuals Track Data Collection Performance and Work Collect Address List Updates Collect Geographic Updates Interview Respondent
Geographic and LQ Information Management and Creation	This role creates and manages spatial and LQ information.	Internal	Correspondence Tracking Partnership Management Address Collection Geography Collection	Update Census Geography Framework Produce Census Geographic Products Update Census Address Frame Implement LQ and Geographic Partnerships
Internet Assistance	This role provides help to those census customers and staff using the Internet.	Internal	Assistance Tracking Correspondence Tracking	Assist the Public Provide Operational Assistance

Name	Description	Type	Application Area	Operational Activities
Internet Response Collection	This role makes self-response via the Internet possible for the population in housing units. This mode will only accept responses with valid electronic access credentials. This will include the online interactive resolution by the respondent of certain edit and person coverage inconsistencies (audit resolution conditions).	Internal	Response Collection	Conduct Electronic Self-Response Enumeration for HUs
IT Provisioning and Maintenance	This role provides configuration, implementation, maintenance and ongoing operational support. This includes help desk activities and equipment tracking.	Internal	Inventory Tracking Assistance Tracking Equipment Tracking Facility Management	Configure Space Provide Operational Assistance Close Out Facility
Kit Preparation and Assignment	This role assembles materials into kits, both trackable and non-trackable. This role provides temporary staff with the applicable trackable and/or non-trackable kit(s). This includes the tracking of the assigned kits.	Internal	Equipment Tracking Inventory Tracking	Create and Deploy Trackable Kits Create and Deploy Non-Trackable Kits
Paper to Electronic Conversion	This role handles the conversion of all paper inputs into an electronic format.	Internal	Paper Conversion	Convert Paper to Electronic

Name	Description	Type	Application Area	Operational Activities
Person and LQ Resolution and Update	This role prepares and controls the flow of LQ and person data. This role resolves ambiguities and discrepancies, codes write-ins and eliminates duplications.	Internal	Staff Management Compensation Data Preparation Estimation Person Matching Response Collection Work Management	Track Data Collection Performance and Work Edit for Follow-Ups - Form Based Identify Potential Duplicates Across LQs Prepare Final Person and LQ Data Prepare/Produce Unedited Records Correct for Missing and Inconsistent Data Review and Clear Data Resolve Person to LQ Linkage Prepare for Estimation Produce Estimates Code Write-ins
Printing, Assembly and Distribution	This role prints, assembles, and/or labels material and products including respondent questionnaires, non-trackable kits and non-electronic data products. A large part of this node is outsourced.	Internal	Correspondence Tracking Document Management Inventory Tracking Products Production	Print Materials and Forms Create and Deploy Non-Kit Census Materials Assemble and Disseminate Products

Name	Description	Type	Application Area	Operational Activities
Products and Material Clearance and Creation	This role enables the process by which data files, materials, and products are examined; and errors are noted for correction and cleared for public release, including Title 13. Items are reviewed for reasonableness and confidentiality protection, as well as for consistency with historical and demographic data, and other data products. This role also designs and develops products representing apportionment counts, redistricting data, summary files, automated matches, printed reports, operational data (e.g. response rates), interactive cross-tabulation systems (Advanced Query), PUMS, special tabulations. This culminates in products such as written reports, presentations, and other data products used for research and future planning. This also includes the design and development of public use forms, operational forms (such as reference materials, procedures, training guides), metadata, outreach and promotional materials and initial coding dictionaries. All operational data is available for production of interim reports.	Internal	Document Management Inventory Tracking Products Production Correspondence Tracking Estimation Data Preparation	Create Demographic Products Develop Materials Produce Evaluation Reports and Other Products Develop Specifications - P Review and Clear Estimation Data, Results, and Reports Review and Clear Products Review and Clear Data
Respondent	This is the person supplying census information about his or her living quarters and its occupants, or a knowledgeable person if a household member is not available.	External		

Name	Description	Type	Application Area	Operational Activities
Select and Clear	This role interviews applicants; makes offers to qualified applicants; and provides employment information to applicants including assigned position, training requirements, benefits, terms of employment, etc. This role clears applicants, and selects and makes offers to qualified applicants.	Internal	Recruiting & Testing	Recruit and Clear Applicants
Staff Member	This is an individual assigned to tasks specifically in support of the 2010 Decennial Census for either all or part of their time. This individual may be a permanent employee, non-benefit temporary employee or a contractor. This is an individual assigned to tasks specifically in support of the 2010 Decennial Census for either all or part of their time. This individual may be a permanent employee, non-benefit temporary employee or a contractor.	Internal		

Name	Description	Type	Application Area	Operational Activities
Staff Performance Management	This role tracks cases and the performance of individuals as they complete their assigned tasks. It includes reviewing the quality of individual cases, timeliness, and cost of the work; identifying when an individual is having difficulty in completing the assignments; working with the individual through coaching to resolve difficulties; identifying when a member of the staff does not meet performance requirements successfully; identifying individual cases for additional enumeration (e.g. rework, reinterview, or reassignment) and transmission to processing; and review and approval of payment for time and expense. This includes aggregating individual case, cost, outcome and performance data, and applying outlier criteria.	Internal	Compensation Staff Management Work Management	Track Data Collection Performance and Work Take Administrative Actions Compensate Temporary Staff
Telephone Assistance	This role provides help to those census customers and staff requesting help via the telephone.	Internal	Assistance Tracking Correspondence Tracking	Assist the Public Provide Operational Assistance
Telephone Response Collection	This role collects person, living quarters, and case characteristics by interviewer-assisted means, via the telephone.	Internal	Response Collection	Interview Respondent

Name	Description	Type	Application Area	Operational Activities
Training	This role schedules training sessions and assigns staff members to a specific session. This is also a training role that includes formal and informal training, the provision of work stations, lap tops or other mobile devices, kits, user guides, check lists, and other instructional or reference materials. This role includes conducting tests and certifying test results, retraining and counseling, and a formal observation program.	Internal	Training	Train Temporary Staff
Treasury Payment	This role pays temporary census staff.	External		