

2020 Census Program Management Review

Systems Engineering and Integration (SE&I) Project Status Report

March 8, 2013



Overview of Investment Area 2.0: Systems Engineering and Integration (SE&I)

The SE&I Program Area serves as a centralized functional group within the 2020 Research and Planning Office (20RPO), enabling individual project efforts to define, design, and implement integrated solutions that support efficient and effective operations during the R&T and later phases of the 2020 Census program. As an interdisciplinary approach, SE&I will promote a total system solution for the Bureau that is the following:

- Capable of adapting to changing technical and operating environments;
- Open to the needs of multiple stakeholders;
- Aligned with Census Bureau's Enterprise Architecture;
- Complies with the Census Bureau's Information Technology Standards;
- Flexible in design, agile in development, and responsive in operation ; and
- Integrates with cross-program solutions to gain efficiencies, allows for extensive testing, and reduces the possibility of a "siloeed" approach.

Investment Area 2.0 -- Systems Engineering and Integration

- 2.101 Technical Integration
- 2.102 Decennial Architecture
- 2.103 Requirements Engineering
- 2.104 SE&I Management Functions
- 2.105 Enterprise IT Infrastructure and Architecture Integration
- 2.106 Security and Privacy



WBS 2.101 - Technical Integration

Project Description:

The Technical Integration project develops standards and plans for design, development, integration, and testing, ensures conformance with enterprise standards, puts in place processes to ensure data integrity and data quality, and integrates SE&I related activities across the 2020 Census Research and Testing (R&T) Phase.

Recent Accomplishments:

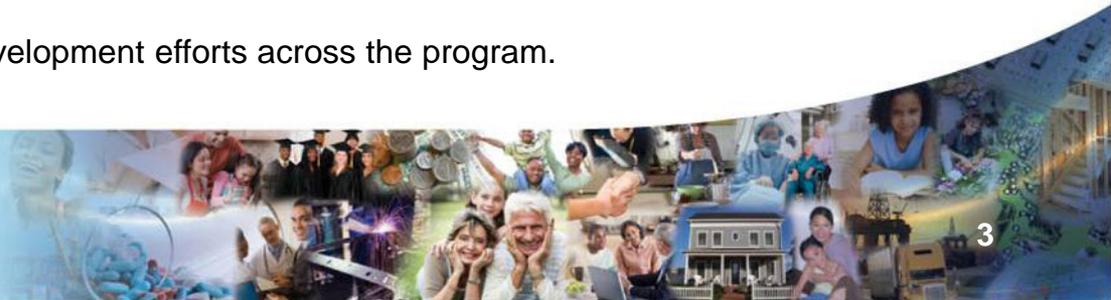
- Prepared a schedule template of standard system development and testing activities that are expected of each system development group providing a component for the R&T Phase Field Tests.
- Prepared templates for reporting SE&I metrics to integrate with the 2020 Census SharePoint Business Intelligence (BI) project, which will automate metrics reporting for the program dashboard.
- Began to support project teams' development of System Engineering Management Plans (SEMP) and Test and Evaluation Management Plans (TEMP).

Risks:

- IF the 2020 Census Program does not establish a testing and evaluation approach and manage testing and evaluations throughout the Research and Testing Phase THEN IT solutions to support the program may not meet 2020 Census needs. (Project)

Near-term Project Focus Items:

- Continue to support teams in their development SEMP and the TEMP.
- Implement schedule template for system development efforts across the program.



WBS 2.102 - Decennial Architecture

Project Description:

- The Decennial Architecture project facilitates the development of the business/solution architecture and ensures aligns and complies with the enterprise architecture.

Recent Accomplishments:

- Completed “As Was” Business Process Models for critical 2010 operations.
- Created Operational Flow Diagrams, Business Process Diagrams, Systems Diagrams, and Interface Control Document (ICD) Catalogs in support of upcoming R&T Phase Field Tests.

Risks:

- No current project or program-level risks.

Near-term Project Focus Items:

- Create Business Process Diagrams, Systems Diagrams and ICD Catalogs for later R&T Phase Field Tests.



WBS 2.103 - Requirements Engineering

Project Description:

The Requirements Engineering project defines the processes and tools related to developing and managing requirements for the 2020 Census R&T phase and beyond.

Recent Accomplishments:

- Submitted Mission-level business requirements for baselining, which outline high-level requirements of the 2020 Census program.
- Identified Capability & Solution requirements (mobile devices) in support of upcoming R&T Phase Field Tests.
- Conducted Requirements Engineering lessons learned sessions, the results of which will be used to update future versions of the Requirements Engineering Management Plan (REMP).

Risk Highlights:

IF the 2020 Census Program does not establish a well-structured and properly managed requirements engineering approach THEN Decennial operations and systems may not integrate, may fail, may operate less efficiently, and may not produce the quality required by the 2020 Census Program. (Program)

Near-term Project Focus Items:

- Baseline project-level business requirements for the R&T Phase of the 2020 Census program.
- Integrate with enterprise requirements repository, Hewlett Packard's Application Lifecycle Management (HP ALM), based upon IT Directorate's Bureau-wide implementation schedule.



WBS 2.104 - Management Functions

Project Description:

The Management Functions project ensures that technical management standards and SE&I functions are established and integrated to support program and project needs throughout the 2020 Census Lifecycle.

Recent Accomplishments:

Completed the following monthly quality audits of Document Management and Change Management processes.

Risks:

- IF appropriate personnel are unavailable to support the 2020 Census Program SE&I Team due to retirements, new job opportunities, or conflicting priorities, THEN some SE&I activities may not be completed. (Project)
- IF the 2020 Census Program SE&I processes are not enforced, THEN the processes will not mature and associated benefits (e.g., greater standardization, coordination, collaboration, and efficiency) may not be realized. (Project)
- IF roles and responsibilities are not clearly defined, communicated, and understood, THEN the SE&I discipline will not mature and associated benefits (e.g., greater standardization, coordination, collaboration, and efficiency) may not be realized. (Project)

Near-term Project Focus Items:

- Conduct monthly quality audits of PM and SE&I processes.
- Conduct Quality Management Lessons Learned to ensure continuous process improvement.
- Verify resolution of gaps discovered in the conduct of quality audits.
- Investigate leveraging Knowledge Management process to disposition quality audit findings.



WBS 2.105 - Enterprise IT Infrastructure and Architecture Integration

Project Description:

The Enterprise IT Infrastructure and Architecture Integration project facilitates, coordinates and administers the provision of IT infrastructure and architecture services between the Information Technology Directorate (ITD), other IT providers and the 2020 Census program.

Recent Accomplishments:

- Drafted the 2013 Census Site Test Solution Architecture.
- Drafted 2020 Touch Points and Key Activities to align with the IT Enterprise System Development Lifecycle (SDLC).

Risks:

- IF enterprise IT solutions cannot meet Decennial Requirements THEN the later phases of the program may require substantial modifications to existing systems or the development of entirely new systems, adding complexity and reducing the opportunity for program cost efficiencies. (Program)
- IF IT services are not effectively managed and coordinated, THEN IT solutions to support the program may not meet 2020 Census needs. (Project)

Near-term Project Focus Items:

- Finalize the Enterprise IT Infrastructure and Architecture Integration Plan.
- Update Project Plan to reflect planned research supporting the 2020 Census program.
- Baseline the 2013 Census Site Test Solution Architecture, and draft the 2020 Decennial Target State Application View and 2014 Census Site Test Solution Architecture.



WBS 2.106 – Security and Privacy

Project Description:

The Security and Privacy project aligns with the Census Bureau's Risk Management Framework (RMF) to maintain acceptable Security and Privacy controls for all IT systems while minimizing the burden on research and testing teams. By building security principles into the systems architecture from inception, the Security and Privacy project acts as conduit between the IT Directorate, Office of Information Security (OIS), the 2020 Research and Planning Office (20RPO), and 2020 teams to develop Federal Information Security Management Act (FISMA) compliant Assessment and Authorization (A&A) packages for 2020 R&T Phase systems.

Recent Accomplishments:

- Received an authorization to operate (ATO) for the Enumeration and Listing and Mapping Applications, Mobile Integration & Testing (I&T) environment, and Android and Apple iOS Mobile devices for the 2013 Census Site Test and other R&T Phase tests.

Risks Highlights:

- IF physical security, information security, privacy, and/or confidentiality requirements change following major 2020 Census design decisions THEN IT solutions to support the program may be delayed. (Project)

Near-term Project Focus Items:

- Obtain A&A for Microsoft Windows 8.
- Facilitate the development of security requirements for the Virtual Office Computing Environment (VOCE) project and A&A for the environment.
- Ensure that systems slated for modification and re-use to support the upcoming R&T Phase Field Tests obtain the necessary security accreditation.

