



## Department of Health and Human Services

Centers for Medicare & Medicaid Services  
Enterprise System Development Program



# Section J Enterprise System Development Procurement

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### J.1 Enterprise System Development Services

The Centers for Medicare & Medicaid Services (CMS) have established the following Service Categories for enterprise system development (ESD) under the ESD Indefinite Delivery/Indefinite Quantity (ID/IQ) Contract. These Service Categories correspond to the phases and functions of the ESD Services Model:

- Phase 1 – Initiation and Planning Services
- Phase 2 – Requirements Services
- Phase 3 – Design Services
- Phase 4 – Development Services
- Phase 5 – Test Services
- Phase 6 – Maintenance Services
- ESD Support Services.

Each ESD Phase consists of one or more tasks. A single task is the smallest unit of work that may form the basis for a task order under the ESD ID/IQ Contract. CMS may choose to release a separate Task Order Request for Proposal (Task Order) for each task within a multi-task Phase (e.g., Phase 4 – Development Services) or combine tasks within or across Phases to form a Task Order. Consequently, more than one ESD Contractor may participate in a multi-task phase. Tasks and subtasks have specified deliverables that rely on documented standards, guidelines, and measures. The junctures and dependencies between ESD Phases, tasks, and subtasks may have gates with associated exit criteria and contractual decision points at which CMS management may agree to continue or terminate the effort, combine it with other efforts, or postpone any action concerning the project, task or subtask.

For large and complex development efforts, CMS may choose to sponsor iterative development cycles. If CMS so decides, Phases 2 through 5 may be subdivided into increments that address logical modules of functionality. The products from one phase may be developed and delivered incrementally to subsequent phases. This approach intentionally reduces the complexity of each effort, thereby reducing the risk associated with large, complex systems development efforts. The use of iterative development does not preclude the need to meet gate criteria before exiting to the next phase.

ESD Support Services provide such Phase-independent services as Training, User Documentation, Test Coordination, and Product Management that are essential to the overall ESD Services Model. Although the ESD Contractor shall manage and maintain work products within the scope of its respective task orders, ESD Support Services are needed to manage, maintain, and coordinate the use of work products that have utility across ESD Phases. For example, the Product Management Services manage and maintain work products and formal documentation that are used and updated throughout the life cycle of the system.

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### J.1.1 Assumptions

The ESD ID/IQ Contract establishes certain assumptions that are applicable to all task orders and all ESD Contractors.

1. The ESD Contractor shall verify the quality of work products through formalized internal reviews and audits. The ESD Contractor shall communicate the plan and schedule of these quality measures at project startup. Subsequently, the ESD Contractor shall report monthly to CMS (or as specified by the CMS Contracting Officer) results of reviews and audits, including risks, issues, and plans to mitigate and/or rectify contributing factors.
2. The ESD Contractor shall provide updates to existing documentation as the services performed identifies changes that affect the consistency and accuracy of existing documentation.
3. The ESD Contractor shall coordinate updates to existing work products and work products created within the task order with CMS and the ESD-S Product Management Contractor.
4. The ESD Contractor shall be responsible for ensuring that the artifacts and products can be incorporated automatically and integrated seamlessly into CMS processes and tools.
5. CMS may elect to perform all or part of a Services task or issue a Task Order for ESD Contractor assistance or support as required by the scope and complexity of the program/project.
6. The ESD Contractor shall establish document baselines and shall control changes through a formal change management process that complies with and seamlessly integrates with CMS Configuration Management. This process should include appropriate negotiation among parties affected by the change and should trigger pertinent risk assessments (e.g., for schedules or cost).
7. The ESD Contractor shall ensure that its products and artifacts are in the same format or a format compatible with CMS processes and tools. The ESD Contractor shall be responsible for ensuring that the artifacts and products can be incorporated automatically and integrated seamlessly into CMS processes and tools.
8. CMS prefers the use of COT/GOTS products where feasible and cost effective.
9. The ESD Contractor shall not use any proprietary precuts, processes, hardware, software, etc. unless approved by CMS.
10. The ESD Contractor shall not perform any work outside of the United States unless approved by CMS.
11. All products created under this task order is the sole property of CMS.

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**J.1.2 Constraints**

The ESD ID/IQ Contract establishes certain constraints that affect which offeror may be eligible to perform the work specified in the tasks and the Task Orders. There are two offeror eligibility categories for task orders: *Unrestricted* and *Small Business (SB) Set Aside*. *Unrestricted* indicates that the Phase Services are open to all ESD Contractors under the ESD ID/IQ Contract. *SB* indicates that the services are SB Set Aside and are open only to teams in which the prime is classified as SB Set Aside. Table 1 indicates which category of prime contractor may be eligible to compete for a specific task or group of tasks.

**Table 1. Task Procurement Organization Eligibility Matrix**

| ESD Services Model Phase                    | Unrestricted | SB |
|---|--------------|----|
| <b>1 – Initiation and Planning Services</b> |              | ●  |
| <b>2 – Requirements Services</b>            |              | ●  |
| <b>3 – Design Services</b>                  | ●            |    |
| <b>4 – Development Services</b>             | ●            |    |
| <b>5 – Test Services</b>                    |              | ●  |
| <b>6 – Maintenance Services</b>             | ●            |    |
| <b>ESD Support Services</b>                 |              | ●  |

The following constraints affect ESD Prime Contractor eligibility to compete for tasks in a specific ESD Phase:

1. An ESD Contractor who develops a system or system application shall not perform independent verification and validation (IV&V) on the work products.
2. ESD ID/IQ Contract tasks are subject to Software Engineering Institute (SEI<sup>®</sup>) Capability Maturity Model Integration<sup>®</sup> (CMMI<sup>®</sup>) level requirements. Therefore, ESD Contractors who do not possess independently prepared SCAMPI appraisal results assessed at the appropriate CMMI level for a given task will be restricted from competing for the work.
3. Task orders have built-in gates (checkpoints) that require CMS to formally authorize continuation or termination of the effort by the ESD Contractor.
4. Phase Services are classified for competition as either Unrestricted or SB (see Table 1). At CMS’ discretion, small, limited-scope efforts that might be otherwise Unrestricted may be reserved for SB Set Aside prime contractors, providing the size and complexity

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are sufficiently controlled such that a SB prime contractor could perform the work successfully.

5. CMS may choose to perform some or all of the activities associated with a given Phase.

A specific initiative may involve more than one ESD Contractor. For clarity within the ESD RFP, the following notations distinguish ESD Contractors for the various Phases:

- ESD-P: ESD Contractor(s) performing Phase 1 – Initiation and Planning tasks
- ESD-R: ESD Contractor performing Phase 2 –Requirements tasks
- ESD-DZ: ESD Contractor performing the Phase 3 – Design tasks
- ESD-DV: ESD Contractor performing the Phase 4 – Development tasks
- ESD-T: ESD Contractor(s) performing Phase 5 – Test tasks
- ESD-M: ESD Contractor performing Phase 6 – Maintenance tasks
- ESD-S: ESD Contractor(s) performing ESD Support Services.

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**J.1.3 Data Security Levels**

Both CMS and ESD Contractors are required to ensure the security of CMS data throughout the delivery of services performed within the ESD Services Model. Data requirements for the system include determining the sensitivity of data contained in the information technology (IT) systems, and the operational criticality of the data processing capabilities of those systems. Security-level designations (see Table 2) define the requirements of security efforts to protect CMS' information assets. Some of CMS' most critical information assets are the data recorded in these assets, such as financial, Medicare, Federal Tax Information (FTI), beneficiary eligibility, and hospital and medical claims. The details for these requirements can be found in Section 4.0 of the *IT Systems Sensitivity/Criticality Determinations of the CMS Business Partners System Security Manual*, [http://www.cms.hhs.gov/manuals/downloads/117\\_systems\\_security.pdf](http://www.cms.hhs.gov/manuals/downloads/117_systems_security.pdf)). Table 2 defines the four levels of data security.

**Table 2. CMS Data Security Levels**

| Level    | Sensitivity   | Criticality  |
|----------|---|--|
| <b>1</b> | Threats to this data are minimal and only minimal precautions to protect the data need to be taken. Unintentional alteration or destruction is the primary concern for this type of data.   | Systems requiring minimal protection. In the event of alteration or failure, it would have a minimal impact or could be replaced with minimal staff time or expense. This includes data that has low or no sensitivity.  |
| <b>2</b> | Data that has importance to CMS and must be protected against such acts as malicious destruction. However, because this type of data is most often collected for analytical purposes, disclosure problems are not usually significant.  | Systems that are important but not critical to the internal management of CMS. If systems fail to function for an extended period of time, it would not have a critical impact on the organizations they support. This includes data that has moderate sensitivity.  |
| <b>3</b> | The most sensitive unclassified data processed within CMS IT systems. This data requires the greatest number and most stringent information security safeguards at the user level.  | Systems that are critical to CMS. This includes systems whose failure to function for even a short period of time could have a severe impact or have a high potential for fraud, waste, or abuse. This includes data that has high sensitivity.  |
| <b>4</b> | All databases that contain national security classified information and all databases that contain other sensitive but unclassified information, the loss of which could adversely affect national security interests. (CMS currently processes no information in this category.) | Systems that are critical to the well-being of CMS, such as systems that handle sensitive but unclassified information, the loss of which could adversely affect national security interests. These systems must be protected in proportion to the threat of compromise or exploitation and the associated potential damage. |

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### J.1.4 Task Controls

The task control tables in Sections J.2.5 through J.2.12 present the controls governing the execution of task efforts under the ESD ID/IQ Contract. Deliverables (artifacts) are defined for each of the tasks. CMS specifies the necessary quality and content of the deliverables by reliance on the cited standards, guidance, templates, and specific gates and qualitative/quantitative measures established in the ESD Services Model, respectively.

### J.1.5 Gate Process

Each stage of development, as defined by a Phase, task, or subtask within the ESD Services Model, shall have a formal checkpoint called a gate. To exit a gate successfully, the ESD Contractor shall have completed all draft deliverables due to date, shall have created acceptable action plans for all outstanding issues, and shall have in place a sound plan for the remainder of the project. All affected stakeholders, including stakeholders in the subsequent stage of the project, must also participate in and provide input to the gate evaluations. The project's designated approval authority (CMS sign-off authorities) must provide a written position of concur/non-concur at the gate exit. The ESD Contractor, in coordination with CMS, shall be responsible for identifying, organizing, and ensuring the appropriate stakeholders are part of the gate review process. The following subsections describe the specific requirements for delivery of ESD Services under the ESD ID/IQ Contract and associated task orders.

### J.1.6 Phase 1 – Initiation and Planning Services

Phase 1 – Initiation and Planning Services address the initiation and program planning tasks required for all system development efforts, including new software/systems development, software/systems re-engineering, and engineering efforts that call for enhancements or change beyond normal maintenance activities. Phase 1 activities begin with CMS' identification and initiation of the IT investment process. Potential initiatives are reviewed and vetted by CMS engineering and investment boards. Decisions are made regarding the impact, cost, priorities, and approach of a particular project.

Phase 1 – Initiation and Planning Services consist of the following tasks:

1. Investment Initiation Services
2. Planning Services.

A Phase 1 project may be a short, internal process for tasks of minor scope, or may entail a broader, more ambitious effort requiring contractor services to support project initiation and planning. CMS may seek ESD Contractor support for Phase 1 Services as described in the following subsections.

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### J.1.7 Constraints

The following constraints apply to Phase 1 – Initiation and Planning Services:

1. CMS will perform Investment Initiation and Planning Tasks. At its election, CMS may engage an ESD Contractor to develop or help support development of required Investment Initiation work products.
2. Investment Initiation and Planning Tasks are restricted to SB Set Aside partners only.

#### J.1.7.1 Investment Initiation Services

CMS' Investment Initiation process considers performance, feasibility, reliability, and maintainability factors supporting an investment decision. The Investment Initiation process establishes sound business reasons for proceeding with an IT investment. The Investment Initiation process provides necessary information concerning the scope, alternatives considered, estimated costs and return on investment, risks, and technical and acquisition strategies necessary for the CMS Information Technology Investment Review Board (ITIRB) to make an informed funding decision for the IT investment. All new or proposed IT investments must prepare documentation sufficient to support the CMS ITIRB investment funding decision.

Investment Initiation Services Task Order requirements are as follows:

1. The ESD-P Contractor shall adhere to guidance, standards, and templates as delineated in Table 3.
2. The ESD-P Contractor shall reference the CMS Integrated IT Investment & System Life Cycle Framework (hereinafter referred to simply as the "ILC Framework") for the latest standards, guidance, and templates provided by CMS.
3. The ESD-P Contractor shall provide the deliverables (artifacts) as defined in Table 3 unless otherwise directed in the Task Order Statement of Work (SOW). The list of deliverables may change due to one or more of the following:
  - A. CMS modifies the lists of artifacts in the CMS ILC Framework
  - B. Some artifacts may be deemed unnecessary or redundant with other controls in the context of a specific task order
  - C. Additional artifacts may be deemed necessary in the context of a specific task order.
4. The ESD-P Contractor shall provide a Business Process Model that communicates the business context and processes within the framework of the CMS Enterprise Architecture (EA) and is sufficiently detailed to support CMS' investment decision process.
5. The ESD-P Contractor shall provide a Business Case that communicates the user's needs for and expectations of the proposed system, describes how the system shall operate to meet those needs and expectations, and is sufficiently detailed to communicate understanding of the user's needs and perspectives at a level appropriate to support CMS' investment decision process.

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6. The ESD-P Contractor shall provide a Project Charter that includes key resources, the objectives of the project and the key project milestones.
7. The ESD-P Contractor shall provide a Project Process Agreement to document how the Framework will be tailored to support the project.
8. The ESD-P Contractor shall provide a Requirements Document that details the business requirements and rules for the project.
9. The ESD-P Contractor shall provide a High Level Technical Design document that describes the technical and architectural components of the proposed system and how the system shall operate in the CMS environment.

The ESD-P Contractor shall provide an Information Security Risk Assessment (ISRA) documenting the high-level system design with potential business risks identified along with the system security level.

Table 3 presents the Investment Initiation Services Task Controls.

**Table 3. Investment Initiation Services Task Controls**

| <b>Investment Initiation Services Task Controls</b> |  |
|---|--|
| <b>Dependencies</b>                                 | <p>Project initiated by one or more of the following triggers:</p> <ul style="list-style-type: none"> <li>• Legislation</li> <li>• Department Initiative</li> <li>• Agency Program</li> <li>• Management Strategy</li> <li>• Enhancement Concept</li> </ul>  |
| <b>Guidelines, Standards, and Templates</b>         | <ul style="list-style-type: none"> <li>• <i>CMS Requirements Writer's Guide</i></li> <li>• OMB Circular A-94, <i>Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs</i></li> <li>• Clinger-Cohen Act of 1996</li> <li>• Federal Enterprise Architecture Consolidated Reference Model Version 2.0, June 2006, <a href="http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf">http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf</a></li> <li>• CMS Enterprise Architecture</li> <li>• Federal Acquisition Streamlining Act of 1994, Title V (FASA V) , P.L. 103-355</li> <li>• Capital Asset Plan and Business Case Summary Exhibit 300</li> <li>• IEEE 1362-1998, IEEE Guide for Information Technology – System Definition – Concept of Operations (ConOps) Document</li> <li>• The CMS Technical Reference Architecture (TRA) (<a href="http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp">http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp</a>)</li> <li>• CMS ILC Framework (<a href="http://www.cms.hhs.gov/SystemLifeCycleFramework">http://www.cms.hhs.gov/SystemLifeCycleFramework</a>)</li> </ul> |

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| <b>Investment Initiation Services Task Controls</b> |   |
|---|---|
| <b>Framework Deliverables</b>                       | <ul style="list-style-type: none"> <li>• Business Process Model (BPM)</li> <li>• High Level Technical Design</li> <li>• Information Security Risk Assessment (ISRA)</li> <li>• Project Charter</li> <li>• Project Process Agreement (PPA)</li> <li>• Requirements Document</li> </ul> |
| <b>Gates and Reviews</b>                            | <ul style="list-style-type: none"> <li>• Architecture Review</li> <li>• Investment Selection Review (ISR)</li> <li>• Project Startup Review</li> <li>• Project Control Reviews</li> <li>• Independent Verification &amp; Validation</li> </ul>  |

**J.1.7.2 Planning Services**

The Planning Services task involves the development and maintenance of a workable scheme for the project to meet the business needs identified in the Initiation and Concept Phases of the Framework. In this task, the ESD Contractor creates a Project Management Plan (PMP) and overall planning structure for the ESD initiative (the system/application development project).

Planning at this stage covers the entire scope of the ESD initiative. The planning includes acquisition processes and artifacts that support the acquisition strategy and Task Orders for the individual task orders that will comprise the overall effort. Task Order SOWs will be tailored as appropriate to the individual projects.

The Planning Services Task Order requirements are as follows:

1. The ESD-P Contractor shall adhere to guidance, standards, and templates as delineated in Table 4. The ESD-P Contractor shall reference the CMS ILC Framework for the latest standards, guidance, and templates provided by CMS.
2. The ESD-P Contractor shall produce the deliverables (artifacts) as defined in Table 4 unless otherwise directed in the Task Order SOW. The list of deliverables may change due to one or more of the following:
  - A. CMS modifies the lists of artifacts in the CMS ILC Framework
  - B. Some artifacts may be deemed unnecessary or redundant with other controls in the context of a specific task order
  - C. Additional artifacts may be deemed necessary in the context of a specific task order.
3. The ESD-P Contractor shall provide a Project Management Plan (PMP) that will include a Project Schedule along with the project management approach for the project. The PMP shall also include references to subordinate management plans; i.e. Quality Management Plan, Risk Management Plan.

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4. If the project is implemented in a phased approach, the ESD-P Contractor shall provide a Release Plan that details the release rationale/approach for the entire project.

Table 4 presents the Planning Services Task Controls.

**Table 4. Planning Services Task Controls**

| <b>Planning Services Task Controls</b>      |  |
|---|--|
| <b>Dependencies</b>                         | <ul style="list-style-type: none"> <li>• Work products from Phase 1</li> <li>• Approval of the selected alternative by the Technical Review Board (TRB) and the IT Investment Review Board (ITIRB)</li> </ul>  |
| <b>Guidelines, Standards, and Templates</b> | <ul style="list-style-type: none"> <li>• CMS ILC Framework (<a href="http://www.cms.hhs.gov/SystemLifeCycleFramework">http://www.cms.hhs.gov/SystemLifeCycleFramework</a>)</li> <li>• The CMS Technical Reference Architecture (TRA) (<a href="http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp">http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp</a>)</li> <li>• Department of Health &amp; Human Services (DHHS) EVM Procedures</li> <li>• Federal Enterprise Architecture Consolidated Reference Model Version 2.0, June 2006, <a href="http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf">http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf</a></li> <li>• IEEE 1058-1998, IEEE Standard for Software Project Management Plans</li> <li>• IEEE/EIA 12207.0-1996, IEEE Standard for Information Technology - Software Life Cycle Processes</li> <li>• IEEE/EIA 12207.1-1997, Guide for ISO/IEC 12207, Standard for Information Technology - Software Life Cycle Processes - Life Cycle Data</li> <li>• IEEE/EIA 12207.2-1997, Guide for ISO/IEC 12207, Standard for Information Technology - Software Life Cycle Processes - Implementation Considerations</li> <li>• IEEE Std 1062-1998, IEEE Standard for Recommended Practice for Software Acquisition</li> <li>• IEEE Std 730-1998, IEEE Standard for Software Quality Assurance Plans</li> <li>• IEEE Std 1012-2004, IEEE Standard for Software Verification and Validation</li> <li>• IEEE Std 1028-1988, IEEE Standard for Software Reviews</li> <li>• IEEE Std 1042-1987, IEEE Standard for Software Configuration Management</li> <li>• IEEE Std 1220-1998, IEEE Standard for Application and Management of the Systems Engineering Process</li> <li>• IEEE Std 1540-1998, IEEE Standard for Risk Management</li> <li>• IEEE Std 828-1998, IEEE Standard for Configuration Management Plans</li> <li>• OMB Circular A-94, <i>Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs</i></li> <li>• Clinger Cohen Act of 1996</li> </ul> |
| <b>Framework Deliverables</b>               | <ul style="list-style-type: none"> <li>• Project Management Plan</li> <li>• Project Schedule</li> <li>• Release Plan</li> </ul>  |
| <b>Gates and Reviews</b>                    | <ul style="list-style-type: none"> <li>• Project Baseline Review</li> <li>• Integrated Baseline Review</li> <li>• Project Control Reviews</li> <li>• Independent Verification &amp; Validation</li> </ul>  |

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### J.1.8 Phase 2 – Requirements Services

Phase 2 – Requirements Services encompass the creation of, or modification to, an existing Requirements Document. These tasks build on earlier efforts from Phase 1 – Planning in which a business process model, high level business requirements and project planning documents are developed.

CMS may choose to perform this task internally, issue a Task Order, or combine this task into a larger multi-phase effort.

Phase 2 – Requirements Services consists of the Requirements Analysis Task.

#### J.1.8.1 Constraints

Requirements Analysis Tasks are restricted to SB Set Aside ESD Contractors partners only.

#### J.1.8.2 Requirements Services

Requirements Services constitute services that support the development of functional<sup>1</sup> and nonfunctional<sup>2</sup> requirements as well as any necessary logical data models. Requirements captured in this phase provide a suitable level of detail for establishing a common understanding between CMS and its ESD Contractors of the system requirements that drive the development of the system. Various methods, including user interviews, Business Owner interviews, and Joint Application Development (JAD) sessions, ensure the capture and validation of core functional and nonfunctional requirements. The requirements defined in this phase form the foundation for the System Design Document and Physical Data Model that will be developed in Phase 3 – Design Services.

Phase 2 – Requirements Services is also where the initiation of the security plans and activities critical to this and subsequent phases is begun.

The Requirements Analysis Services Task Order requirements are as follows:

1. The ESD-R Contractor shall provide the Requirements Analysis Services in alignment with the CMS PMP developed in Phase 1 – Planning Task.

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<sup>1</sup> Per the CMS Requirements Writer’s Guide, version 4.0, a functional requirement is a statement of action that describes the behavior and information that the solution will manage. They describe capabilities the system will be able to perform in terms of behaviors or operations – a specific system action or response.

<sup>2</sup> Per the CMS Requirements Writer’s Guide, version 4.0, a nonfunctional requirement is a statement that describes conditions that do not directly relate to the behavior or functionality of the solution, but rather describe environmental conditions under which the solution must remain effective or qualities that the system must have.

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2. The ESD-R Contractor shall adhere to guidance, standards, and templates as delineated in Table 5. The ESD-R Contractor shall reference the CMS ILC Framework for the latest standards, guidance, and templates provided by CMS.
3. The ESD-R Contractor shall produce the deliverables (artifacts) as defined in Table 5 unless otherwise directed in the Task Order SOW. The list of deliverables may change due to one or more of the following:
  - A. CMS modifies the lists of artifacts in the CMS ILC Framework.
  - B. Some artifacts may be deemed unnecessary or redundant with other controls in the context of a specific task order.
  - C. Additional artifacts may be deemed necessary in the context of a specific task order.
4. The ESD-R Contractor shall update the existing Requirements Document with well-formed requirements statements that state functional and nonfunctional capability, are bounded, and can be validated through testing.
5. The ESD-R Contractor shall ensure a common understanding of the purpose and objectives of requirements through validation of functional and nonfunctional requirements with the Business Owners and users.
6. The ESD-R Contractor shall document and communicate requirements in a structured manner to ensure that capabilities, conditions, and constraints are clearly delineated and exhibit the following characteristics:
  - A. Requirements that are derived from other requirements are clearly identified.
  - B. Requirements of different levels of detail are organized into their appropriate level.
  - C. Completeness of the set of requirements can be verified.
  - D. Inconsistencies among requirements can be identified.
7. The ESD-R Contractor shall provide a Test Plan describing the validation approach for the system.
8. The ESD-R Contractor shall provide updates to the existing Release Plan to include the overall release strategy.
9. The ESD-R Contractor shall provide a System Security Plan (SSP) that includes system identification and identifies the appropriate information system controls.
10. The ESD-R Contractor shall provide updates to the existing Information Security Risk Assessment (ISRA) to include the system environment, interconnections/information sharing, and e-authentication assurance level.
11. The ESD-R Contractor shall develop a detailed, normalized, fully attributed, and defined Logical Data Model that includes, but is not limited to, definition of entities, attributes, business rules including referential integrity, access control, and dependencies.

Table 5 presents the Requirements Analysis Services Task Controls.

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**Table 5. Requirements Analysis Services Task Controls**

| <b>Requirements Analysis Services Task Controls</b> |  |
|---|--|
| <b>Dependencies</b>                                 | Work products from Phases 1 and 2  |
| <b>Guidelines, Standards &amp; Templates</b>        | <ul style="list-style-type: none"> <li>• CMS ILC Framework (<a href="http://www.cms.hhs.gov/SystemLifeCycleFramework">http://www.cms.hhs.gov/SystemLifeCycleFramework</a>)</li> <li>• The CMS Technical Reference Architecture (TRA) (<a href="http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp">http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp</a>)</li> <li>• DHHS EVM Procedures</li> <li>• Federal Enterprise Architecture Consolidated Reference Model Version 2.0, June 2006, <a href="http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf">http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf</a></li> <li>• CMS Data Administration: <a href="http://www.cms.hhs.gov/DataAdmin/">http://www.cms.hhs.gov/DataAdmin/</a></li> <li>• IEEE Std 830-1998, IEEE Recommended Practice for Software Requirements Specifications</li> <li>• CMS Requirements Writer's Guide</li> </ul> |
| <b>Framework Deliverables</b>                       | <ul style="list-style-type: none"> <li>• Information Security Risk Assessment</li> <li>• Logical Data Model</li> <li>• Release Plan</li> <li>• Requirements Document</li> <li>• System Security Plan</li> <li>• Test Plan</li> </ul>   |
| <b>Gates and Reviews</b>                            | <ul style="list-style-type: none"> <li>• Requirements Review</li> <li>• Project Control Reviews</li> <li>• Independent Verification &amp; Validation</li> </ul>  |

### **J.1.9 Phase 3 – Design Services**

Phase 3 – Design Services supports those activities related to the design of the system and software components, database design, and system integration. It consists of three (3) tasks, each targeting a major design consideration, software, database, and systems integration, and incorporates comprehensive gate reviews to ensure the quality of the Design Services products before beginning development. Each task contains a gate in which services for the subtask and the overall task can be terminated if the Government deems the ESD Contractor's performance unsatisfactory or if the termination is in the Government's best interest.

The outputs of Phase 3 include the design specifications necessary to develop and integrate the system into the CMS environment.

Phase 3 – Design Services consist of:

1. Software Services
2. Database Services
3. System Integration Services.

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### J.1.9.1 Constraints

The constraints on the Phase 3 – Design Services are as follows:

1. The product design must adhere to and be consistent with CMS' systems architecture, security infrastructure, and architectural standards.
2. The product as designed must integrate and interoperate seamlessly with CMS software, hardware, and network and security infrastructure.
3. The product as designed must integrate and interoperate seamlessly with system and network management and monitoring applications.

### J.1.9.2 Software Services

The Software Services Task Order requirements are as follows:

1. The ESD-DZ Contractor shall provide the Software Services in alignment with the CMS PMP developed in Phase 1 – Planning Task.
2. The ESD-DZ Contractor shall adhere to guidance, standards, and templates as delineated in Table 6. The ESD-DZ Contractor shall reference the CMS ILC Framework for the latest standards, guidance, and templates provided by CMS.
3. The ESD-DZ Contractor shall produce the deliverables (artifacts) as defined in Table 6 unless otherwise directed in the Task Order SOW. The list of deliverables may change due to one or more of the following:
  - A. CMS modifies the lists of artifacts in the CMS ILC Framework.
  - B. Some artifacts may be deemed unnecessary or redundant with other controls in the context of a specific task order.
  - C. Additional artifacts may be deemed necessary in the context of a specific task order.
4. The ESD-DZ Contractor shall provide a System Design Document (SDD) that contains the system architecture, detailed software and interface design solution, including requirements traceability.
5. The ESD-DZ Contractor shall provide a Section 508 Product Assessment.
6. The ESD-DZ Contractor shall provide an Interface Control Document (ICD) describing the interface requirements between the source and target systems. There shall be a separate ICD for each source to target system interface.
7. The ESD-DZ Contractor shall provide a Contingency Plan (CP) describing the concept of operations for the application.
8. The ESD-DZ Contractor shall provide updates to the existing Release Plan to include the release content, schedule, impacts and notification.
9. The ESD-DZ Contractor shall provide updates to the existing Test Plan to include the planned tests, high level test cases, the required test environment and the test schedule.

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10. The ESD-DZ Contractor shall provide a Test Case Specification that describes the objective of each planned test.
11. The ESD-DZ Contractor shall provide an Implementation Plan to include an overview of the planned implementation.
12. The ESD-DZ Contractor shall provide a User Manual providing an overview of the application and information for getting started in using the application.
13. The ESD-DZ Contractor shall provide an Operations & Maintenance Manual to include an overview of the system.

Table 6 presents the Software Services Task Controls.

**Table 6. Software Services Task Controls**

| <b>Software Services Task Controls</b>      |   |
|---|---|
| <b>Dependencies</b>                         | Work products from Phases 1 and 2   |
| <b>Guidelines, Standards, and Templates</b> | <ul style="list-style-type: none"> <li>• CMS ILC Framework (<a href="http://www.cms.hhs.gov/SystemLifeCycleFramework">http://www.cms.hhs.gov/SystemLifeCycleFramework</a>)</li> <li>• The CMS Technical Reference Architecture (TRA) (<a href="http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp">http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp</a>)</li> <li>• DHHS EVM Procedures</li> <li>• Federal Enterprise Architecture Consolidated Reference Model, Version 2.0, June 2006, <a href="http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf">http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf</a></li> <li>• CMS Data Administration: <a href="http://www.cms.hhs.gov/DataAdmin/">http://www.cms.hhs.gov/DataAdmin/</a></li> <li>• IEEE Std 730-1998, IEEE Standard for Software Quality Assurance Plans</li> <li>• IEEE Std 828-1998, IEEE Standard for Software Configuration Management Plans</li> <li>• IEEE Std 830-1998, IEEE Recommended Practice for Software Requirements Specifications</li> <li>• IEEE Std 1074-1997, IEEE Standard for Developing Software Life Cycle Processes</li> <li>• IEEE Std 1540-1998, IEEE Standard for Risk Management</li> <li>• IEEE 1016-1998, IEEE Standard for Software Design Descriptions</li> <li>• Section 4.0, <i>IT Systems Sensitivity/Criticality Determinations of the CMS Business Partners System Security Manual</i>, Rev 7, 03/17/2006)</li> </ul> |

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| <b>Software Services Task Controls</b> |   |
|--|---|
| <b>Framework Deliverables</b>          | <ul style="list-style-type: none"> <li>• Contingency Plan</li> <li>• Implementation Plan</li> <li>• Information Security Risk Assessment</li> <li>• Interface Control Document</li> <li>• Operations &amp; Maintenance Manual</li> <li>• Release Plan</li> <li>• Section 508 Product Assessment</li> <li>• System Design Document</li> <li>• System Security Plan</li> <li>• Test Case Specification</li> <li>• Test Plan</li> <li>• User Manual</li> </ul> |
| <b>Gates and Reviews</b>               | <ul style="list-style-type: none"> <li>• Preliminary Design Review</li> <li>• Detailed Design Review</li> <li>• Project Control Reviews</li> <li>• Independent Verification &amp; Validation</li> </ul>   |

**J.1.9.3 Database Services**

The Database Services activities focus on the development of physical data models, database design, design of extraction, transformation and load design, data preparation design, and data interface design. Data models developed in this phase are very detailed and fully attributed (all data elements are defined); these data models define business rules, adhere to CMS data administration standards, and align with CMS EA data models.

The Database Services Task Order requirements are as follows:

1. The ESD-DZ Contractor shall provide Database Services in alignment with the PMP developed in Phase 1 – Planning task.
2. The ESD-DZ Contractor shall adhere to guidance, standards, and templates as delineated in Table 7. The ESD-DZ Contractor shall reference the CMS ILC Framework for the latest standards, guidance, and templates provided by CMS.
3. The ESD-DZ Contractor shall produce the deliverables (artifacts) as defined in Table 7 unless otherwise directed in the Task Order SOW. The list of deliverables may change due to one or more of the following:
  - A. CMS modifies the lists of artifacts in the CMS ILC Framework
  - B. Some artifacts may be deemed unnecessary or redundant with other controls in the context of a specific task order
  - C. Additional artifacts may be deemed necessary in the context of a specific task order

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4. The ESD-DZ Contractor shall develop a detailed and physically complete Physical Data Model, including, but not limited to, fully defined tables, columns, keys, indexes, allocation, volume parameters, and sizing entities. The Physical data model should contain the necessary constructs and data definition for implementing the model on the targeted database system platform.
5. The ESD-DZ Contractor shall develop a detailed and physically complete Database Design Document, including, but not limited to, data definition language, stored procedures, database triggers, code associated with or managed from within the database, and any scripts and procedures necessary for implementing the database design on the targeted platform.
6. The ESD-DZ Contractor shall provide a Data Conversion Plan that describes the overall approach, assumptions and processes that will be used to convert the data. . The plan shall also describe the strategy, preparation and specifications for converting data from the source system(s) to the target system(s) or within an existing system .
7. The ESD-DZ Contractor shall comply with all CMS data and database standards and conventions.

Table 7 presents the Database Services Task Controls.

**Table 7. Database Services Task Controls**

| <b>Database Services Task Controls</b>      |   |
|---|---|
| <b>Dependencies</b>                         | Work products from Phases 1, 2 and 3  |
| <b>Guidelines, Standards, and Templates</b> | <ul style="list-style-type: none"> <li>• CMS ILC Framework (<a href="http://www.cms.hhs.gov/SystemLifeCycleFramework">http://www.cms.hhs.gov/SystemLifeCycleFramework</a>)</li> <li>• The CMS Technical Reference Architecture (TRA) (<a href="http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp">http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp</a>)</li> <li>• CMS Data Administration: <a href="http://www.cms.hhs.gov/DataAdmin/">http://www.cms.hhs.gov/DataAdmin/</a></li> <li>• DHHS EVM Procedures</li> <li>• Federal Enterprise Architecture Consolidated Reference Model Version 2.0, June 2006, <a href="http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf">http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf</a></li> <li>• IEEE 1016-1998, IEEE Standard for Software Design Description</li> </ul> |
| <b>Framework Deliverables</b>               | <ul style="list-style-type: none"> <li>• Physical Data Model</li> <li>• Database Design Document</li> <li>• Data Conversion Plan</li> </ul>   |
| <b>Gates and Reviews</b>                    | <ul style="list-style-type: none"> <li>• Preliminary Design Review</li> <li>• Detailed Design Review</li> <li>• Project Control Reviews</li> <li>• Independent Verification &amp; Validation</li> </ul>   |

**J.1.9.4 System Integration Services**

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The System Integration Services activities ensure that software and database designs integrate and interoperate accurately and effectively with one another and in the context of the overall CMS IT environment. This task includes design and control activities that support integration in the existing environment and, if applicable, the targeted environment. This task must account for exiting components, including custom software, Commercial Off-the-Shelf (COTS) and Government Off-the-Shelf (GOTS) products, network, security infrastructure, data architecture, web architecture, mainframe environment, and mid-tier architecture in addition to the standards governing the CMS IT environment. The services in this task are intended to provide proactive system integration design control to ensure any software, system, or infrastructure designs or design modifications are of high quality as demonstrated from meeting the business and operating requirements while also proving flexible, cost effective, and forward looking.

The System Integration Services Task Order requirements are as follows:

1. The ESD-DZ Contractor shall provide System Integration Services in alignment with the PMP developed in the Phase 1 – Planning task.
2. The ESD-DZ Contractor shall adhere to guidance, standards, and templates as delineated in Table 8. The ESD-DZ Contractor shall reference the CMS ILC Framework for the latest standards, guidance, and templates provided by CMS.
3. The ESD-DZ Contractor shall produce the deliverables (artifacts) as defined in Table 8 unless otherwise directed in the Task Order SOW. The list of deliverables may change due to one or more of the following:
  - A. CMS modifies the lists of artifacts in the CMS ILC Framework
  - B. Some artifacts may be deemed unnecessary or redundant with other controls in the context of a specific task order
  - C. Additional artifacts may be deemed necessary in the context of a specific task order
4. The ESD-DZ Contractor shall verify and document, for system integration purposes, that the following external system interfaces are complete and specified correctly in the existing System Design Document and Interface Control Document(s):
  - A. Operational
  - B. Computer to computer
  - C. Data links and protocols
  - D. Telecommunications
  - E. Device to system, system to device
  - F. Computer to system, system to computer
5. The ESD-DZ Contractor shall verify and document that the existing System Design Document and Interface Control Document(s) correctly, completely, and clearly provides system integration design specifications that are appropriate, compliant with CMS enterprise architectural standards, and operationally feasible within the existing and/or target CMS enterprise architecture.

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Table 8 presents the System Integration Services Task Controls.

**Table 8. System Integration Services Task Controls**

| <b>System Integration Services Task Controls</b> |   |
|--|---|
| <b>Dependencies</b>                              | Work products from Phases 1, 2 and 3  |
| <b>Guidelines, Standards, and Templates</b>      | <ul style="list-style-type: none"> <li>• CMS ILC Framework <a href="http://www.cms.hhs.gov/SystemLifeCycleFramework">http://www.cms.hhs.gov/SystemLifeCycleFramework</a></li> <li>• The CMS Technical Reference Architecture (TRA) (<a href="http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp">http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp</a>)</li> <li>• CMS Data Administration: <a href="http://www.cms.hhs.gov/DataAdmin/">http://www.cms.hhs.gov/DataAdmin/</a></li> <li>• DHHS EVM Procedures</li> <li>• Federal Enterprise Architecture Consolidated Reference Model Version 2.0, June 2006, <a href="http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf">http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf</a></li> <li>• IEEE 1016-1998, IEEE Standard for Software Design Description</li> </ul> |
| <b>Framework Deliverables</b>                    | <ul style="list-style-type: none"> <li>• Comments and recommendations on the System Design Document (SDD) and Interface Control Document (ICD) from a systems integration perspective.</li> </ul>   |
| <b>Gates, and Reviews</b>                        | <ul style="list-style-type: none"> <li>• Preliminary Design Review</li> <li>• Detailed Design Review</li> <li>• Project Control Reviews</li> <li>• Independent Verification &amp; Validation</li> </ul>   |

### **J.1.10 Phase 4 – Development Services**

Phase 4 – Development Services include software development and database development services. These activities are performed in accordance with the System Design Document to meet the requirements in the Requirements Document. Development Services create source code; create databases; create, prepare, and/or convert data (as needed and appropriate); and conduct unit and string testing of development products.

Phase 4 – Development Services consist of:

1. Software Services
2. Database Services
3. System Integration Services.

#### **J.1.10.1 Constraints**

The following constraints apply to Phase 4 – Development Services:

1. The ESD-DV Contractor is responsible for ensuring that software products meet design objectives and are of good quality, including rectifying software, database, and system defects that are identified during all test phases.
2. CMS will not fund test environments at the ESD Contractor site.

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3. The ESD-DV Contractor shall conduct, in their development environment, the following Development Testing: application, integration and Section 508 testing only.
4. All Validation and Implementation Testing shall be conducted independently by the ESD-T Contractor in the CMS Validation Environment. Validation Testing consists of system, functional, end-to-end integration, user acceptance, regression and Section 508 testing. Implementation Testing consists of system acceptance, performance & stress, initial ST&E, final integration and initial contingency planning testing.

### J.1.10.2 Software Services

Software Services cover the creation of source code for the system or application, including internal and external interfaces; integration of software in the CMS environment; Development Testing within the development environment; and creation and update of operating documentation. Operating documentation describes the processes and procedures required for installing, operating, and supporting the system throughout the software product's life cycle.

The Software Services Task Order requirements are as follows:

1. The ESD-DV Contractor shall provide Software Services in alignment with the PMP developed in the Phase 1 – Planning task.
2. The ESD-DV Contractor shall adhere to guidance, standards, and templates as delineated in Table 9. The ESD-DV Contractor shall reference the CMS ILC Framework for the latest standards, guidance, and templates provided by CMS.
3. The ESD-DV Contractor shall produce the deliverables (artifacts) as defined in Table 9 unless otherwise directed in the Task Order SOW. The list of deliverables may change due to one or more of the following:
  - A. CMS modifies the list of artifacts in the CMS ILC Framework
  - B. Some artifacts may be deemed unnecessary or redundant with other controls in the context of a specific task order
  - C. Additional artifacts may be deemed necessary in the context of a specific task order
4. The ESD-DV Contractor shall ensure their software development methodology, including but not limited to, physical standards for code development, Development Testing and configuration management, is consistent with the System Development Management Plan on file at CMS.
5. The ESD-DV Contractor shall create the source code, including suitable comments, as found in the SDD. The code shall be grouped into processing units consistent with the programming language, COTS component or module, and the SDD. All units shall be transformed into executable code (or implemented in COTS, if applicable) and debugged. Syntactically incorrect code, as identified by the transform output, shall be reworked until the source code can be processed free of syntactical errors.
6. The ESD-DV Contractor shall make available to CMS any source code required for integration, test, or other life-cycle activities so that CMS may provide the source code to other processes as needed.

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7. The ESD-DV Contractor shall submit all source code to CMS ESD Product Management at the completion of the Software Services task. Format and or configuration of source code submitted shall be compatible and in compliance with CMS Configuration Management processes, procedures, and tools to permit automatic uploading of these products into the CMS Configuration Management system.
8. The ESD-DV Contractor is responsible for ensuring the quality of the software products, and is responsible for correcting defects in performance or function identified during development and test. The ESD-DV Contractor shall perform the following Development Testing activities:
  - A. Unit Testing – Testing performed by the system developer/maintainer subsequent to, or in parallel with, application development to assess and correct the functionality and data of a business application’s individual code modules.
  - B. Application Integration Testing – Preliminary testing performed by the system developer/maintainer to assess the interfaces, data, and interoperability of modules and systems within a single business application. This testing function is sometimes also referred to as String Testing or Integration Testing.
  - C. Section 508 Testing – Testing performed by the system developer/maintainer to ensure that the Electronic Information Technology (EIT) product is compliant with applicable Section 508 Accessibility Standards identified in the completed Section 508 Product Assessment.
9. The ESD-DV Contractor shall provide a Version Description Document (VDD) to include a description of the build contents along with installation instructions.
10. The ESD-DV Contractor shall provide updates to the existing Test Case Specifications document to include detailed test procedures.
11. The ESD-DV Contractor shall provide updates to the existing Implementation Plan to include implementation support requirements.
12. The ESD-DV Contractor shall provide updates to the existing Operations & Maintenance Manual to include information on the administration of the application.

Table 9 presents the Software Services Task Controls.

**Table 9. Software Services Task Controls**

| <b>Software Services Task Controls</b>      |  |
|---|--|
| <b>Dependencies</b>                         | Work products from Phases 1, 2 and 3   |
| <b>Guidelines, Standards, and Templates</b> | <ul style="list-style-type: none"> <li>• CMS ILC Framework (<a href="http://www.cms.hhs.gov/SystemLifeCycleFramework">http://www.cms.hhs.gov/SystemLifeCycleFramework</a>)</li> <li>• The CMS Technical Reference Architecture (TRA) (<a href="http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp">http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp</a>)</li> <li>• DHHS EVM Procedures</li> <li>• Federal Enterprise Architecture Consolidated Reference Model Version 2.0, June 2006, <a href="http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf">http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf</a></li> </ul> |

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| <b>Software Services Task Controls</b> |   |
|--|---|
|  | <ul style="list-style-type: none"> <li>• IEEE Std 1045-1992, IEEE Standard for Software Productivity Metrics</li> <li>• IEEE Std 730-1998, IEEE Standard for Software Quality Assurance Plan</li> <li>• IEEE Std 828-1998, IEEE Standard for Software Configuration Management Plans</li> <li>• Section VPAT for 508 Accessibility &amp; Compliancy</li> <li>• CMS Information Security Risk Assessment (RA) Methodology</li> </ul> |
| <b>Framework Deliverables</b>          | <ul style="list-style-type: none"> <li>• Implementation Plan</li> <li>• Operations &amp; Maintenance Manual</li> <li>• Business Product/Code</li> <li>• Test Case Specification</li> <li>• Version Description Document</li> </ul>  |
| <b>Gates, and Reviews</b>              | <ul style="list-style-type: none"> <li>• Validation Readiness Review</li> <li>• Project Control Reviews</li> <li>• Independent Verification &amp; Validation</li> </ul>   |

**J.1.10.3 Database Services**

Database Services cover the physical implementation activities necessary to deploy a database on a specific platform in the targeted environment. The activities include, but are not limited to, creation of the database; initial performance parameters and object allocation; access control mechanisms (e.g., scripts implementing roles, privileges, and permissions); database interfaces, input and output data feeds, and data preparation (e.g., data cleansing and data conversion); data extraction, transformation and load (ETL); and operational scripts and code supporting archival and backup.

The Database Services Task Order requirements are as follows:

1. The ESD-DV Contractor shall provide Database Services in alignment with the PMP developed in the Phase 1 – Planning task.
2. The ESD-DV Contractor shall adhere to guidance, standards, and templates as delineated in Table 10. The ESD-DV Contractor shall reference the CMS ILC Framework for the latest standards, guidance, and templates provided by CMS.
3. The ESD-DV Contractor shall produce the deliverables (artifacts) as defined in Table 10 unless otherwise directed in the Task Order SOW. The list of deliverables may change due to one or more of the following:
  - A. CMS modifies the list of artifacts in the CMS ILC Framework
  - B. Some artifacts may be deemed unnecessary or redundant with other controls in the context of a specific task order
  - C. Additional artifacts may be deemed necessary in the context of a specific task order
4. The ESD-DV Contractor is responsible for ensuring the quality of the database products, and is responsible for correcting defects in performance or function identified during development and test.

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Table 10 presents the Database Services Task Controls.

**Table 10. Database Services Task Controls**

| <b>Database Services Task Controls</b>      |  |
|---|--|
| <b>Dependencies</b>                         | Work products from Phases 1, 2, 3, and 4   |
| <b>Guidelines, Standards, and Templates</b> | <ul style="list-style-type: none"> <li>• CMS ILC Framework (<a href="http://www.cms.hhs.gov/SystemLifeCycleFramework">http://www.cms.hhs.gov/SystemLifeCycleFramework</a>)</li> <li>• The CMS Technical Reference Architecture (TRA) (<a href="http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp">http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp</a>)</li> <li>• DHHS EVM Procedures</li> <li>• Federal Enterprise Architecture Consolidated Reference Model Version 2.0, June 2006, <a href="http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf">http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf</a></li> <li>• CMS Data Administration: <a href="http://www.cms.hhs.gov/DataAdmin/">http://www.cms.hhs.gov/DataAdmin/</a></li> </ul> |
| <b>Framework Deliverables</b>               | <ul style="list-style-type: none"> <li>• Database Products               <ul style="list-style-type: none"> <li>- Database</li> <li>- Physical implementation scripts and code</li> <li>- Data preparation scripts and code</li> <li>- ETL scripts and code, if applicable</li> <li>- Test Database</li> <li>- Data</li> </ul> </li> </ul>   |
| <b>Gates, and Reviews</b>                   | <ul style="list-style-type: none"> <li>• Validation Readiness Review</li> <li>• Project Control Reviews</li> <li>• Independent Verification &amp; Validation</li> </ul>  |

#### **J.1.10.4 System Integration Services**

The System Integration Services activities ensure that software and databases integrate and interoperate effectively and efficiently with one another and in the CMS IT environment. These services are intended to provide proactive system integration development control to ensure any new or modified software, system, or infrastructure components are of high quality, interoperable, and do not negatively impact CMS systems.

The System Integration Services Task Order requirements are as follows:

1. The ESD-DV Contractor shall provide System Integration Services in alignment with the PMP developed in the Phase 1 – Planning task.
2. The ESD-DV Contractor shall adhere to guidance, standards, and templates as delineated in Table 11. The ESD-DV Contractor shall reference the CMS ILC Framework for the latest standards, guidance, and templates provided by CMS.
3. The ESD-DV Contractor shall produce the deliverables (artifacts) as defined in Table 11 unless otherwise directed in the Task Order SOW. The list of deliverables may change due to one or more of the following:
  - A. CMS modifies the lists of artifacts in the CMS ILC Framework

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- B. Some artifacts may be deemed unnecessary or redundant with other controls in the context of a specific task order
- C. Additional artifacts may be deemed necessary in the context of a specific task order
- 4. The ESD-DV Contractor shall verify and document that the Phase 4 development components (software, database, infrastructure) will integrate and interoperate effectively and efficiently within the targeted CMS IT environment. Interoperability pertains, but is not limited, to the following:
  - A. Operational
  - B. Computer to computer
  - C. Data links and protocols
  - D. Telecommunications
  - E. Device to system, system to device
  - F. Computer to system, system to computer

Table 11 presents the System Integration Services Task Controls.

**Table 11 System Integration Services Task Controls**

| System Integration Services Task Controls   |  |
|---|--|
| <b>Dependencies</b>                         | Work products from Phases 1, 2, 3 and 4  |
| <b>Guidelines, Standards, and Templates</b> | <ul style="list-style-type: none"> <li>• CMS ILC Framework <a href="http://www.cms.hhs.gov/SystemLifeCycleFramework">http://www.cms.hhs.gov/SystemLifeCycleFramework</a>)</li> <li>• The CMS Technical Reference Architecture (TRA) (<a href="http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp">http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp</a>)</li> <li>• CMS Data Administration: <a href="http://www.cms.hhs.gov/DataAdmin/">http://www.cms.hhs.gov/DataAdmin/</a></li> <li>• DHHS EVM Procedures</li> <li>• Federal Enterprise Architecture Consolidated Reference Model Version 2.0, June 2006, <a href="http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf">http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf</a></li> <li>• IEEE 1016-1998, IEEE Standard for Software Design Description</li> </ul> |
| <b>Framework Deliverables</b>               | <ul style="list-style-type: none"> <li>• Comments and recommendations on the development products from a systems integration perspective.</li> </ul>   |
| <b>Gates, and Reviews</b>                   | <ul style="list-style-type: none"> <li>• Validation Readiness Review</li> <li>• Project Control Reviews</li> <li>• Independent Verification &amp; Validation</li> </ul>  |

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**J.1.11 Phase 5 – Test Services**

Phase 5 – Test Services are formal testing services performed solely by the ESD-T Contractor to ensure independent validation of software and system components developed or modified in Phases 4 and 6. The ESD-DV Contractor is responsible for Development Testing before the software is provided to Phase 5 – Test Services. as well as for debugging and correcting defects under the provisions of the Development Services Task and the ESD ID/IQ Contract once the software is undergoing independent testing. Test Services identify bugs, integration and performance issues, and validate that the software meets user and system requirements. Test Services perform independent testing on newly developed systems, existing systems that have been enhanced, and software that has had bug fixes and routine and emergency maintenance modifications. Phase 5 – Test Services include the following tasks:

1. **Systems Test** – Systems Test is a form of Validation Testing and consists of the following testing:
  - A. System Testing – Testing to assess the functionality and interoperability of a business application and multiple systems and their integration with infrastructure into an overall integrated system.
  - B. End-to-End Integration Testing – Testing to confirm that the solution works correctly across multiple business applications and systems.
  - C. Regression Testing – Testing to validate that modifications have not caused unintended functional or data results and that the application still complies with its specific requirements.
  - D. Section 508 Testing – Testing to ensure that the Electronic Information Technology (EIT) product is compliant with applicable Section 508 Accessibility Standards identified in the completed Section 508 Product Assessment.
2. **Acceptance Test** – Acceptance Test is a form of Validation Testing and consists of the following testing:
  - A. Functional Testing – Testing to assess the input and output functions of a business application against predefined functional data requirements.
  - B. User Acceptance Testing – Testing by the business owner to assess and accept the overall functionality and interoperability of a business application’s solution in an operational mode.
3. **Implementation Test** – Implementation Test consists of the following testing:
  - A. System Acceptance Testing – Testing to assess the solution’s functionality, architecture and configuration in a production-like environment.
  - B. Performance & Stress Testing – Testing to assess the capacity and throughput of a business application in processing time, CPU utilization, network utilization and memory and storage capacities relative to the expected normal user and processing load.

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- C. Final Integration Testing – Testing to confirm that a business application solution works correctly from end to end in an environment configured the same as production environment and with the same security settings.
  - D. Initial Contingency Planning Testing – Tabletop testing to ensure the personnel are knowledgeable and capable of performing the notification/activation requirements and procedures as outlined in the application’s Contingency Plan.
4. **Security Test & Evaluation** – ST&E testing determines the extent to which the security controls in the business application are implemented correctly, operate as intended, and produce the desired outcome with respect to meeting the security requirements for the application or infrastructure.

### J.1.11.1 Constraints

Phase 5 – Test Services shall be executed in the CMS Baltimore Data Center’s Validation Environment.

### J.1.11.2 System Test Services

System Test Services include system integration, integration, and regression testing. System Test Services ensure the system operates as designed without defects in the production environment.

The System Test Services Task Order requirements are as follows:

1. The ESD-T Contractor shall provide System Test Services in alignment with the PMP developed in the Phase 1 – Planning Services task.
2. The ESD-T Contractor shall adhere to guidance, standards, and templates as delineated in Table 13. The ESD-T Contractor shall reference the CMS ILC Framework for the latest standards, guidance, and templates provided by CMS.
3. The ESD-T Contractor shall produce the deliverables (artifacts) as defined in Table 12 unless otherwise directed in the Task Order SOW. The list of deliverables may change due to one or more of the following:
  - A. CMS modifies the lists of artifacts for the CMS ILC Framework
  - B. Some artifacts may be deemed unnecessary or redundant with other controls in the context of a specific task order
  - C. Additional artifacts may be deemed necessary in the context of a specific task order
4. The ESD-DV Contractor shall perform security self assessments, fix code, and correct procedures based upon defects found during testing new development or major enhancement outside the boundaries of system maintenance.
5. The ESD-M Contractor shall perform security self assessments, fix code, and correct procedures based upon defects found within the boundaries of system maintenance.
6. The ESD-T Contractor shall evaluate the system in accordance with the nonfunctional requirements specified in the existing Requirements Document.

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7. The ESD-T Contractor shall execute the systems tests in accordance with the existing Test Plan and Test Case Specification.
8. The ESD-T Contractor shall review and validate the existing Test Plan and Test Case Specification for accuracy, completeness and robustness, and make any updates as necessary.
9. The ESD-T Contractor shall provide a Test Summary Report detailing the system test results.

Table 12 presents the System Test Services Task Controls.

**Table 12. System Test Services Task Controls**

| <b>System Test Services Task Controls</b>   |  |
|---|--|
| <b>Dependencies</b>                         | Work products from Phases 1, 2, 3, 4, and 6  |
| <b>Guidelines, Standards, and Templates</b> | <ul style="list-style-type: none"> <li>• CMS ILC Framework (<a href="http://www.cms.hhs.gov/SystemLifeCycleFramework">http://www.cms.hhs.gov/SystemLifeCycleFramework</a>)</li> <li>• The CMS Technical Reference Architecture (TRA) (<a href="http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp">http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp</a>)</li> <li>• DHHS EVM Procedures</li> <li>• Federal Enterprise Architecture Consolidated Reference Model Version 2.0, June 2006, <a href="http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf">http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf</a></li> <li>• IEEE Std 829-1998, IEEE Standard for Software Test Documentation</li> </ul> |
| <b>Framework Deliverables</b>               | <ul style="list-style-type: none"> <li>• Test Plan</li> <li>• Test Case Specification</li> <li>• Test Summary Report</li> </ul>  |
| <b>Gates, and Reviews</b>                   | <ul style="list-style-type: none"> <li>• Implementation Readiness Review</li> <li>• Project Control Reviews</li> <li>• Independent Verification &amp; Validation</li> </ul>  |

**J.1.11.3 Acceptance Test Services**

Acceptance Test Services include two subtasks, Functional Test and User Acceptance Test to ensure the application is sound from a business and a user viewpoint.

The Acceptance Test Services Task Order requirements are as follows:

1. The ESD-T Contractor shall provide Acceptance Test Services in alignment with the PMP delivered in the Phase 1 – Planning task.
2. The ESD-T Contractor shall adhere to guidance, standards, and templates as delineated in Table 15. The ESD-T Contractor shall reference the CMS ILC Framework for the latest standards, guidance, and templates provided by CMS.
3. The ESD-T Contractor shall produce the deliverables (artifacts) as defined in Table 13 unless otherwise directed in the Task Order SOW. The list of deliverables may change due to one or more of the following:

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- A. CMS modifies the list of artifacts for the CMS ILC Framework
  - B. Some artifacts may be deemed unnecessary or redundant with other controls in the context of a specific task order
  - C. Additional artifacts may be deemed necessary in the context of a specific task order
4. The ESD-DV Contractor shall perform security self assessments, fix code, and correct procedures based upon defects found during testing new development or major enhancements outside the boundaries of system maintenance.
  5. The ESD-M Contractor shall perform security self assessments, fix code, and correct procedures based upon defects found within the boundaries of system maintenance.
  6. The ESD-T Contractor shall evaluate the system in accordance with the functional and user requirements specified in the existing Requirements Document.
  7. The ESD-T Contractor shall execute the acceptance tests in accordance with the existing Test Plan and Test Case Specification.
  8. The ESD-T Contractor shall review and validate the existing Test Plan and Test Case Specification for accuracy, completeness and robustness, and make any updates as necessary.
  9. The ESD-T Contractor shall provide a Test Summary Report detailing the acceptance test results.

Table 13 presents the Acceptance Test Services Task Controls.

**Table 13. Acceptance Test Services Task Controls**

| <b>Acceptance Test Services Task Controls</b> |  |
|---|--|
| <b>Dependencies</b>                           | Work products from Phases 1, 2, 3, 4, and 6  |
| <b>Guidelines, Standards, and Templates</b>   | <ul style="list-style-type: none"> <li>• CMS ILC Framework (<a href="http://www.cms.hhs.gov/SystemLifeCycleFramework">http://www.cms.hhs.gov/SystemLifeCycleFramework</a>)</li> <li>• The CMS Technical Reference Architecture (TRA) (<a href="http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp">http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp</a>)</li> <li>• DHHS EVM Procedures</li> <li>• Federal Enterprise Architecture Consolidated Reference Model Version 2.0, June 2006, <a href="http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf">http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf</a></li> <li>• IEEE Std 829-1998, IEEE Standard for Software Test Documentation</li> </ul> |
| <b>Framework Deliverables</b>                 | <ul style="list-style-type: none"> <li>• Test Plan</li> <li>• Test Summary Report</li> <li>• Test Case Specification</li> </ul>  |
| <b>Gates, and Reviews</b>                     | <ul style="list-style-type: none"> <li>• Implementation Readiness Review</li> <li>• Project Control Reviews</li> <li>• Independent Verification &amp; Validation</li> </ul>  |

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### J.1.11.4 Performance & Stress Test Services

The Performance & Stress Test Services task focuses on Implementation Testing of the hardware, software, database, and network components.

The Performance & Stress Test Services Task Order requirements are as follows:

1. The ESD-T Contractor shall provide Performance & Stress Test Services in alignment with the PMP developed in the Phase 1 – Planning task.
2. The ESD-T Contractor shall adhere to guidance, standards, and templates as delineated in Table 12. The ESD-T Contractor shall reference the CMS ILC Framework for the latest standards, guidance, and templates provided by CMS.
3. The ESD-T Contractor shall produce the deliverables (artifacts) as defined in Table 14 unless otherwise directed in the Task Order SOW. The list of deliverables may change due to one or more of the following:
  - A. CMS modifies the list of artifacts in the CMS ILC Framework
  - B. Some artifacts may be deemed unnecessary or redundant with other controls in the context of a specific task order
  - C. Additional artifacts may be deemed necessary in the context of a specific task order
4. The ESD-T Contractor shall evaluate performance in accordance with performance requirements and Service Level Agreements (SLA) specified in the existing Requirements Document and/or other documentation as directed in the Task Order.
5. The ESD-T Contractor shall execute the Implementation Testing in accordance with the existing Test Plan and Test Case Specification.
6. The ESD-T Contractor shall perform comprehensive Implementation Testing as directed in the Task Order SOW. Comprehensive performance and stress testing may vary given the type, size, and scope of the software/system product. Performance and stress testing shall include, as appropriate and directed by the Task Order SOW, the following:
  - A. Database volumes
  - B. Transaction volumes
  - C. Concurrent user logons
  - D. Concurrent activities and load balancing
  - E. Batch transaction volumes (daily and other cycles)
  - F. Batch processing windows and dependencies (daily and other cycles)
  - G. Response time expectations
  - H. Network (public and private) load considerations
  - I. System interfaces and printing

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- J. Other performance tests appropriate to the type, scope, and size of the software/system product, which will be specified in the Task Order SOW
- 7. The ESD-DV Contractor shall modify system and software products to rectify performance deficiencies identified during testing new development or major enhancements outside the boundaries of system maintenance.
- 8. The ESD-M Contractor shall perform security self assessments, fix code, and correct procedures based upon defects found within the boundaries of system maintenance.
- 9. The ESD-T Contractor shall review and validate that the existing Test Plan and Test Case Specification for accuracy, completeness and robustness, and make any updates as necessary.
- 10. The ESD-T Contractor shall provide a Test Summary Report detailing Implementation Testing results.

Table 14 presents the Performance & Stress Test Services Task Controls.

**Table 14. Performance & Stress Test Services Task Controls.**

| <b>Performance &amp; Stress Test Services Task Controls</b> |   |
|---|---|
| <b>Dependencies</b>   | Work products from Phases 1, 2, 3, 4, and 6   |
| <b>Guidelines, Standards, and Templates</b>                 | <ul style="list-style-type: none"> <li>• CMS ILC Framework (<a href="http://www.cms.hhs.gov/SystemLifeCycleFramework">http://www.cms.hhs.gov/SystemLifeCycleFramework</a>)</li> <li>• The CMS Technical Reference Architecture (TRA) (<a href="http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp">http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp</a>)</li> <li>• HHS EVM Procedures</li> <li>• Federal Enterprise Architecture Consolidated Reference Model Version 2.0, June 2006, <a href="http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf">http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf</a></li> <li>• IEEE Std 829-1998, IEEE Standard for Software Test Documentation</li> </ul> |
| <b>Framework Deliverables</b>                               | <ul style="list-style-type: none"> <li>• Test Plan</li> <li>• Test Summary Report</li> <li>• Test Case Specification</li> </ul>   |
| <b>Gates, and Reviews</b>                                   | <ul style="list-style-type: none"> <li>• Implementation Readiness Review</li> <li>• Project Control Reviews</li> <li>• Independent Verification &amp; Validation</li> </ul>   |

**J.1.11.5 Security Test & Evaluation Services (ST&E)**

ST&E Services include comprehensive security testing to ensure that the system meets all legislative, regulatory, DHHS, and CMS security and privacy requirements prior to implementation.

The ST&E Services Task Order requirements are as follows:

- 1. The ESD-T Contractor shall provide project-level PMP for the ST&E Services Task Order.

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2. The ESD-T Contractor shall adhere to guidance, standards, and templates as delineated in Table 14. The ESD-T Contractor shall reference the CMS ILC Framework for the latest standards, guidance, and templates provided by CMS.
3. The ESD-T Contractor shall produce the deliverables (artifacts) as defined in Table 15 unless otherwise directed in the Task Order SOW. The list of deliverables may change due to one or more of the following:
  - A. CMS modifies the list of artifacts for the CMS ILC Framework
  - B. Some artifacts may be deemed unnecessary or redundant with other controls in the context of a specific task order
  - C. Additional artifacts may be deemed necessary in the context of a specific task order
4. The ESD-DV Contractor shall perform security self assessments, fix code, and correct procedures based upon defects found during testing new development or major enhancements outside the boundaries of system maintenance.
5. The ESD-M Contractor shall perform security self assessments, fix code, and correct procedures based upon defects found within the boundaries of system maintenance.
6. The ESD-T Contractor shall conduct testing at the CMS Operations facility in which the application is housed.
7. The ESD-T Contractor shall utilize the *CMS Information Security Testing Approach*, which can be found on the Information Security Website at <http://www.cms.hhs.gov/InformationSecurity/ISD/list.asp#TopOfPage>.
8. The ESD-T Contractor shall produce a Rules of Engagement (RoE) document that will govern the testing and evaluation activities.
9. The ESD-T Contractor shall produce an ST&E Test Plan to include all testing and evaluation procedures and techniques necessary to evaluate the internal controls implemented to protect the system.
10. The ESD-T Contractor shall conduct the ST&E using the testing and evaluation techniques and procedures contained in the ST&E Test Plan.
11. The ESD-T Contractor shall produce an ST&E Report using the *CMS Information Security Reporting Standards*, which can be found on the Information Security Website at <http://www.cms.hhs.gov/InformationSecurity/ISD/list.asp#TopOfPage>.
12. The ESD-T Contractor shall produce an ST&E Test Script, which must be annotated with the actual results and be attached to the ST&E Report.
13. The ESD-T Contractor shall provide the ST&E Report to the Business Owner.

Table 15 presents the ST&E Services Task Controls.

**Table 15. ST&E Services Task Controls**

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| <b>ST&amp;E Services Task Controls</b>      |   |
|---|---|
| <b>Dependencies</b>                         | Work products from Phases 1, 2, 3, 4, and 6   |
| <b>Guidelines, Standards, and Templates</b> | <ul style="list-style-type: none"> <li>• CMS ILC Framework <a href="http://www.cms.hhs.gov/SystemLifeCycleFramework">http://www.cms.hhs.gov/SystemLifeCycleFramework</a></li> <li>• The CMS Technical Reference Architecture (TRA) (<a href="http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp">http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp</a>)</li> <li>• DHHS EVM Procedures</li> <li>• Federal Enterprise Architecture Consolidated Reference Model Version 2.0, June 2006, <a href="http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf">http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf</a></li> <li>• CMS Certification and Accreditation (C&amp;A) Procedure <a href="http://www.cms.hhs.gov/InformationSecurity/Downloads/C_and_A_procedures.pdf">http://www.cms.hhs.gov/InformationSecurity/Downloads/C_and_A_procedures.pdf</a></li> <li>• CMS Business Partner System Security Manual <a href="http://www.cms.hhs.gov/manuals/downloads/117_systems_security.pdf">http://www.cms.hhs.gov/manuals/downloads/117_systems_security.pdf</a></li> <li>• NIST Special Publication (SP) 800-55, Security Metrics Guide for Information Technology Systems</li> <li>• NIST SP 800-53, Recommended Security Controls for Federal Information Systems</li> <li>• NIST SP 800-51, Use of the Common Vulnerabilities and Exposures (CVE) Vulnerability Naming Scheme</li> <li>• NIST SP 800-37, Guide for the Security Certification and Accreditation of Federal Information Systems</li> <li>• NIST SP 800-34, Contingency Planning Guide for Information Technology Systems</li> <li>• NIST SP 800-26, Security Self-Assessment Guide for Information Technology Systems</li> <li>• NIST SP 800-18, Guide for Developing Security Plans for Information Technology Systems</li> <li>• Health Insurance Portability and Accountability Act (HIPAA) of 1996</li> <li>• FIPS 200, Minimum Security Requirements for Federal Information and Information Systems</li> <li>• FIPS 199, Standards for Security Categorization of Federal Information and Information Systems</li> <li>• FIPS 191, Guideline for the Analysis of Local Area Network Security</li> <li>• IEEE Std 829-1998, IEEE Standard for Software Test Documentation</li> </ul> |
| <b>Framework Deliverables</b>               | <ul style="list-style-type: none"> <li>• Rules of Engagement (RoE)</li> <li>• ST&amp;E Test Plan</li> <li>• ST&amp;E Test Script</li> <li>• ST&amp;E Report</li> </ul>  |
| <b>Gates, and Reviews</b>                   | <ul style="list-style-type: none"> <li>• System Certification</li> <li>• System Accreditation</li> <li>• Project Control Reviews</li> </ul>   |

### **J.1.12 Phase 6 – Maintenance Services**

Maintenance Services involve activities required to maintain the system code in the production environment and usually covers bug fixes, development of limited scope enhancements, changes

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required by users, and modifications required because of changes in the production environment. Maintenance Services mirror the development life cycle and include the following activities:

1. Initiation – problem and modification identification, classification, and prioritization
2. Analysis – detailed analysis of the modification to determine impact, feasibility, and alternatives
3. Design – design modification solution
4. Implementation – develop code, processes, and procedures to implement modification
5. Development Testing – validate the modification and determine the impact on the existing system or application and the systems environment in general
6. Acceptance testing – validate that the modification meets the requirement
7. Delivery – provide the modification as part of a release package for installation in the operational environment.

Phase 6 – Maintenance Services include three tasks:

1. Maintenance Requirements and Analysis
2. Maintenance Design and Implementation
3. Delivery

The **Maintenance Requirements and Analysis** Task involves identifying and classifying software modifications and assigning an initial priority ranking. Each change request (CR) shall be evaluated to determine its classification and handling priority. Classification shall be identified as corrective, adaptive, perfective, or emergency (see IEEE Std 1219-1998, IEEE Standard for Software Maintenance, for classification). The CR shall be analyzed in conjunction with system and project documentation to determine the feasibility and scope of the modification and to devise a preliminary plan for design, implementation, test, and delivery.

The **Maintenance Design and Implementation** Task involves the activities for design and implementation of the maintenance modification. Design shall be based on the products from the Maintenance Requirements and Analysis Task in conjunction with current system and project documentation and existing software and databases. System documentation shall be updated to reflect changes due to the maintenance modification. Implementation shall include development of source code and creation of implementation products necessary for test and installation of the modification. Existing test strategies and operations manual shall be updated to reflect the changes to the system resulting from the modification. After the modifications are coded and Development Testing performed by the ESD-M Contractor, the ESD-T Contractor shall integrate the modified software into the system and conduct Validation and Implementation Testing.

The **Delivery Services** include the final activities after successful Validation and Implementation Testing of the maintenance modification. The maintenance modification shall be identified for a specific maintenance release dependent on its priority and classification within the context of CMS release schedules, processes, and priorities.

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### J.1.12.1 Constraints

The following constraints apply to Maintenance Services:

1. The ESD-M Contractor is responsible for ensuring that software products meet design objectives and are of good quality, including rectifying software, database, and system defects that are identified during the test phase.
2. CMS will not fund test environments at the ESD Contractor site.
3. All Validation and Implementation Testing shall be conducted independently by the ESD-T Contractor in the CMS Validation Environment. Validation Testing consists of system, functional, end-to-end integration, user acceptance, regression and Section 508 testing. Implementation Testing consists of system acceptance, performance & stress, initial ST&E, final integration and initial contingency planning testing.
4. The ESD-M Contractor shall conduct the following Development Testing: application, integration and Section 508 testing only.

### J.1.12.2 Maintenance Services

The Maintenance Services Task Order requirements are as follows:

1. The ESD-M Contractor shall adhere to guidance, standards, and templates as delineated in Table 16. The ESD-M Contractor shall reference the CMS ILC Framework for the latest standards, guidance, and templates provided by CMS.
2. The ESD-M Contractor shall produce the deliverables (artifacts) as defined in Table 16 unless otherwise directed in the Task Order SOW. The list of deliverables may change due to one or more of the following:
  - A. CMS modifies the lists of artifacts in the CMS ILC Framework
  - B. Some artifacts may be deemed unnecessary or redundant with other controls in the context of a specific task order
  - C. Additional artifacts may be deemed necessary in the context of a specific task order
3. The ESD-M Contractor shall provide a Project Management Plan (PMP) that documents a maintenance development plan, processes, and procedures consistent with CMS operational needs and release management practices. The ESD-M Contractor shall ensure that its performance of the maintenance processes and procedures are consistent with software development best practices, industry standards, and the System Development Management Plan on file with CMS.
4. The ESD-M Contractor shall perform Development Testing to ensure the quality of maintenance modification products, i.e., software, before submitting the products for formal testing by the ESD-T Contractor in the CMS Baltimore Data Center.
5. The ESD-M Contractor shall comply with CMS standard release practices, products, and schedules. The ESD-M Contractor is responsible for ensuring the maintenance

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modifications are ready for release in accordance with CMS maintenance processes, procedures, and release schedules.

6. The ESD-M Contractor shall be responsible for development of source code and implementation products necessary for test and installation of maintenance modifications.
7. The ESD-M Contractor shall provide deliverables as specified in the Task Order, which are consistent with the application’s Release Management processes. These deliverables may include, but are not limited to, the following artifacts:
  - A. Implementation Plan
  - B. Interface Control Document
  - C. Logical Data Model
  - D. Operations & Maintenance Manual
  - E. Physical Data Model
  - F. Project Schedule
  - G. Release Plan
  - H. Requirements Document
  - I. System Design Document
  - J. Test Case Specification
  - K. Test Plan
  - L. Test Summary Report
  - M. User Manual
  - N. Version Description Document

**Table 16. Maintenance Services Task Controls**

| <b>Maintenance Services Task Controls</b>   |  |
|---|--|
| <b>Dependencies</b>                         | Work products from Phases 1, 2, 3, 4, 5, and 6   |
| <b>Guidelines, Standards, and Templates</b> | <ul style="list-style-type: none"> <li>• CMS ILC Framework (<a href="http://www.cms.hhs.gov/SystemLifeCycleFramework">http://www.cms.hhs.gov/SystemLifeCycleFramework</a>)</li> <li>• The CMS Technical Reference Architecture (TRA) (<a href="http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp">http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp</a>)</li> <li>• DHHS EVM Procedures</li> <li>• Federal Enterprise Architecture Consolidated Reference Model Version 2.0, June 2006, <a href="http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf">http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf</a></li> <li>• IEEE Std 1219-1998, IEEE Standard for Software Maintenance</li> </ul> |
| <b>Framework</b>                            | <ul style="list-style-type: none"> <li>• Implementation Plan</li> <li>• Interface Control Document</li> </ul>  |

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| <b>Maintenance Services Task Controls</b> |   |
|---|---|
| <b>Deliverables</b>                       | <ul style="list-style-type: none"> <li>• Logical Data Model</li> <li>• Operations &amp; Maintenance Manual</li> <li>• Physical Data Model</li> <li>• Project Schedule</li> <li>• Release Plan</li> <li>• Requirements Document</li> <li>• System Design Document</li> <li>• Test Case Specification</li> <li>• Test Plan</li> <li>• Test Summary Report</li> <li>• User Manual</li> <li>• Version Description Document</li> </ul>                                   |
| <b>Gates, and Reviews</b>                 | <ul style="list-style-type: none"> <li>• Project Baseline Review</li> <li>• Preliminary Design Review</li> <li>• Detailed Design Review</li> <li>• Validation Readiness Review</li> <li>• Implementation Readiness Review</li> <li>• Operational Readiness Review</li> <li>• Annual Operational Analysis, including System Re-Certification and Re-Accreditation</li> <li>• Project Control Reviews</li> <li>• Independent Verification &amp; Validation</li> </ul> |

### **J.1.13 ESD Support Services**

ESD Support Services provide phase-independent services that partition user support services (user documentation and training requirements) from other ESD Services. ESD Support Services also support the unique needs of maintaining continuity and coordination of ESD products and managing dependencies between phases of the ESD Services Model.

ESD Support Services consist of the following tasks:

1. User Documentation
2. User Training
3. ESD Product Management Services
4. Help Desk Services
5. ESD Program Management Services
6. ESD Test Coordination Services.

#### **J.1.13.1 User Documentation Services**

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User Documentation Services involve developing and publishing user documentation. User documentation may be in the form of electronic or hardcopy documents, online help, online documentation, or context-sensitive help. User Documentation Services shall coordinate with ESD-R Contractors, ESD-DZ Contractors, ESD-DV Contractors, ESD-S Training Contractors, and users to ensure that the user documentation meets user needs. User Documentation Services will also ensure that user documentation is provided to ESD-S Product Management for appropriate configuration control and availability to ESD Contractors and users as needed.

The User Documentation Services Task Order requirements are as follows:

1. The ESD-S Contractor shall provide User Documentation Services in alignment with the CMS PMP developed in the Phase 1 – Planning task.
2. The ESD-S Contractor shall adhere to guidance, standards, and templates as delineated in Table 17. The ESD-S Contractor shall reference the CMS ILC Framework for the latest standards, guidance, and templates provided by CMS.
3. The ESD-S Contractor shall produce the deliverables (artifacts) as defined in Table 17 unless otherwise directed in the Task Order. The list of deliverables may change due to one or more of the following:
  - A. CMS modifies the lists of artifacts in the CMS ILC Framework
  - B. Some artifacts may be deemed unnecessary or redundant with other controls in the context of a specific task order
  - C. Additional artifacts may be deemed necessary in the context of a specific task order
4. The ESD-S Contractor shall provide a User Manual to instruct the user community on the use of the application.

Table 17 presents the User Documentation Services Task Controls.

**Table 17. User Documentation Services Task Controls**

| <b>User Documentation Services Task Controls</b> |   |
|--|---|
| <b>Dependencies</b>                              | Phases 1, 2, 3 and 4 work products  |
| <b>Guidelines, Standards, and Templates</b>      | <ul style="list-style-type: none"> <li>• CMS ILC Framework <a href="http://www.cms.hhs.gov/SystemLifeCycleFramework">http://www.cms.hhs.gov/SystemLifeCycleFramework</a></li> <li>• The CMS Technical Reference Architecture (TRA) (<a href="http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp">http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp</a>)</li> <li>• DHHS EVM Procedures</li> <li>• Federal Enterprise Architecture Consolidated Reference Model Version 2.0, June 2006, <a href="http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf">http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf</a></li> <li>• IEEE Std 1063-2001, IEEE Standard for Software User Documentation</li> </ul> |
| <b>Framework Deliverables</b>                    | <ul style="list-style-type: none"> <li>• User Manual</li> </ul>   |

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| <b>User Documentation Services Task Controls</b> |  |
|--|--|
| <b>Gates and Reviews</b>                         | <ul style="list-style-type: none"> <li>• Operational Readiness Review</li> <li>• Project Control Reviews</li> <li>• Independent Verification &amp; Validation</li> </ul> |

**J.1.13.2 User Training Services**

User Training Services involve the provision of training materials, instructors, and instruction to CMS and CMS partners for systems and applications developed under the ESD ID/IQ Contract.

The User Training Services Task Order requirements are as follows:

1. The ESD-S Contractor shall provide User Training Services in alignment with the CMS PMP developed in the Phase 1 – Planning task.
2. The ESD-S Contractor shall adhere to guidance, standards, and templates as delineated in Table 18. The ESD-S Contractor shall reference the CMS ILC Framework for the latest standards, guidance, and templates provided by CMS.
3. The ESD-S Contractor shall produce the deliverables (artifacts) as defined in Table 18 unless otherwise directed in the Task Order SOW. The list of deliverables may change due to one or more of the following:
  - A. CMS modifies the lists of artifacts in the CMS ILC Framework
  - B. Some artifacts may be deemed unnecessary or redundant with other controls in the context of a specific task order
  - C. Additional artifacts may be deemed necessary in the context of a specific task order
4. The ESD-S Contractor shall provide a Training Plan detailing the training approach and administration of the training services.
5. The ESD-S Contractor shall provide training artifacts as specified in the Training Plan.
6. The ESD-S Contractor shall provide training services as specified in the Training Plan.

Table 18 presents the User Training Services Task Controls.

**Table 18. User Training Services Task Controls**

| <b>User Training Services Task Controls</b> |  |
|---|--|
| <b>Dependencies</b>                         | Work products from Phases 2 and 4 and ESD Support Services User Document   |
| <b>Guidelines, Standards, and Templates</b> | <ul style="list-style-type: none"> <li>• CMS ILC Framework (<a href="http://www.cms.hhs.gov/SystemLifeCycleFramework">http://www.cms.hhs.gov/SystemLifeCycleFramework</a>)</li> <li>• The CMS Technical Reference Architecture (TRA) (<a href="http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp">http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp</a>)</li> <li>• DHHS EVM Procedures</li> <li>• Federal Enterprise Architecture Consolidated Reference Model Version 2.0, June 2006,</li> </ul> |

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| <b>User Training Services Task Controls</b> |  |
|---|--|
|   | <a href="http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf">http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf</a>  |
| <b>Framework Deliverables</b>               | <ul style="list-style-type: none"> <li>• Training Plan</li> <li>• Training Artifacts</li> <li>• Training</li> </ul>  |
| <b>Gates and Reviews</b>                    | <ul style="list-style-type: none"> <li>• Verification Readiness Review</li> <li>• Implementation Readiness Review</li> <li>• Project Control Reviews</li> <li>• Independent Verification &amp; Validation</li> </ul> |

**J.1.13.3 ESD Product Management Services**

ESD Product Management Services support the coordination of all ESD work products among the various ESD Contractors and configuration management of all ESD work products and deliverables across all Phases of the ESD Services Model. ESD Contractors shall deliver documents and work products to the CMS Government Task Lead (GTL), Project Officer (PO), and ESD Product Management. ESD Product Management Services will coordinate with the ESD Contractors to ensure phase and task order products are maintained under rigorous configuration management control and that products are available to ESD Contractors and CMS as required.

The ESD Product Management Task Order requirements are as follows:

1. The ESD-S Contractor shall provide ESD Product Management Services in alignment with the CMS PMP developed in the Phase 1 – Planning task.
2. The ESD-S Contractor shall adhere to guidance, standards, and templates as delineated in Table 19. The ESD-M Contractor shall reference the CMS ILC Framework for the latest standards, guidance, and templates provided by CMS.
3. The ESD-S Contractor shall produce the deliverables (artifacts) as defined in Table 19 unless otherwise directed in the Task Order SOW. The list of deliverables may change due to one or more of the following:
  - A. CMS modifies the lists of artifacts in the CMS ILC Framework
  - B. Some artifacts may be deemed unnecessary or redundant with other controls in the context of a specific task order
  - C. Additional artifacts may be deemed necessary in the context of a specific task order
4. The ESD-S Contractor shall provide a Configuration Management Plan describing the approach and methodology used for the project’s work products.

Table 19 presents the ESD Product Management Services Task Controls.

**Table 19. ESD Product Management Services Task Controls**

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| <b>ESD Product Management Services Task Controls</b> |   |
|--|---|
| <b>Dependencies</b>                                  | Work products from Phases 1, 2, 3, 4, 5, 6, and ESD Support Services  |
| <b>Guidelines, Standards, and Templates</b>          | <ul style="list-style-type: none"> <li>• CMS ILC Framework (<a href="http://www.cms.hhs.gov/SystemLifeCycleFramework">http://www.cms.hhs.gov/SystemLifeCycleFramework</a>)</li> <li>• The CMS Technical Reference Architecture (TRA) (<a href="http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp">http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp</a>)</li> <li>• DHHS EVM Procedures</li> <li>• Federal Enterprise Architecture Consolidated Reference Model Version 2.0, June 2006, <a href="http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf">http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf</a></li> <li>• IEEE Std 828-1998, IEEE Standard For Software Configuration Management Plans</li> <li>• IEEE Std 1042-1987, IEEE Standard for Software Configuration Management</li> </ul> |
| <b>Framework Deliverables</b>                        | <ul style="list-style-type: none"> <li>• Configuration Management Plan</li> </ul>   |
| <b>Gates, and Reviews</b>                            | <ul style="list-style-type: none"> <li>• Project Startup Review</li> <li>• Independent Verification &amp; Validation</li> </ul>   |

**J.1.13.4 ESD Help Desk Management Services**

ESD Help Desk Management Services involve the management and operations of help desk services.

The ESD Help Desk Management Services Task Order requirements are as follows:

1. The ESD-S Contractor shall adhere to guidance, standards, and templates as delineated in Table 20. The ESD-S Contractor shall reference the CMS ILC Framework for the latest standards, guidance, and templates provided by CMS.
2. The ESD-S Contractor shall produce the deliverables (artifacts) as defined in Table 20 unless otherwise directed in the Task Order SOW. The list of deliverables may change due to one or more of the following:
  - A. CMS modifies the lists of artifacts in the CMS ILC Framework
  - B. Some artifacts may be deemed unnecessary or redundant with other controls in the context of a specific task order
  - C. Additional artifacts may be deemed necessary in the context of a specific task order
3. The ESD-S Contractor shall provide a management plan that describes the methodology to be employed during the operation of the Help Desk.
4. The ESD-S Contractor shall maintain a centralized help desk to which all problems shall be referred.
5. The ESD-S Contractor shall ensure that help desk staff have training and experience appropriate to their service level.

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6. The ESD-S Contractor shall develop a training plan that provides that all help desk staff undergo periodic training to ensure that they have the knowledge and domain experience appropriate to their service level.
7. The ESD-S Contractor shall develop a resource management plan that ensures availability and efficient use of resources. Resources shall be carefully managed in order to provide the level of resources appropriate to projected work loads (help desk call volume or resource requirements) and provide for additional resources in response to special circumstances that necessitate higher resource requirements than specified for usual workload profiles.
8. The ESD-S Contractor shall provide Help desk services between 0700–2100 Eastern Standard Time. Live support shall be Monday–Friday; on weekends, an automated response unit will be in effect and will inform callers of the hours of operations, and to call back for other issues. The help desk shall include, but not be limited to, the following:
  - A. A centralized problem database where all problems shall be documented. The database shall record and track all problems, related changes, and status.
  - B. The problem database shall contain sufficient information to manage individual problems operationally and provide the ability to analyze problems for trends. The database content shall include at a minimum the following:
  - C. The problem database shall be used proactively to routinely analyze all problems in order to implement process improvements to the Help Desk operation or to identify changes that others can make to reduce the number of such problems.
9. The ESD-S Contractor shall routinely provide Help Desk utilization reports that include analysis and summaries of help desk usage profiles and problem resolution.

Table 20 presents the ESD Help Desk Management Services Task Controls.

**Table 20. ESD Help Desk Management Services Task Controls**

| <b>ESD Help Desk Management Services Task Controls</b> |  |
|--|--|
| <b>Dependencies</b>                                    | Work products from Phases 3, 4, 6 and ESD Support Services Training and User Documentation   |
| <b>Guidelines, Standards, and Templates</b>            | <ul style="list-style-type: none"> <li>• CMS ILC Framework (<a href="http://www.cms.hhs.gov/SystemLifeCycleFramework">http://www.cms.hhs.gov/SystemLifeCycleFramework</a>)</li> <li>• The CMS Technical Reference Architecture (TRA) (<a href="http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp">http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp</a>)</li> <li>• DHHS EVM Procedures</li> <li>• Federal Enterprise Architecture Consolidated Reference Model Version 2.0, June 2006, <a href="http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf">http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf</a></li> </ul> |

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| <b>ESD Help Desk Management Services Task Controls</b> |   |
|--|---|
| <b>Deliverables</b>                                    | <ul style="list-style-type: none"> <li>• Help Desk Services Management Plan</li> <li>• Help Desk Resource Management Plan</li> <li>• Help Desk Training Plan</li> <li>• Help Desk Activity and Problem Reports</li> </ul> |
| <b>Gates and Reviews</b>                               | <ul style="list-style-type: none"> <li>• Operational Readiness Review</li> <li>• Project Control Reviews</li> <li>• Independent Verification &amp; Validation</li> </ul>  |

**J.1.13.5 ESD Test Coordination Services**

ESD Test Coordination Services involve the control and coordination of Validation and Implementation Testing of products from ESD Phases 4 (ESD-DV Contractors) and 6 (ESD-M Contractors). The ESD-S Test Coordination Contractor shall act as liaison between ESD Contractors to ensure products are adequately tested. The ESD-S Test Coordination Contractor shall also ensure that test products from ESD-T Contractors are managed and coordinated. The ESD-S Test Coordination Contractor shall be responsible for an overall test summary for all Phase 5 – Test Services for each ESD ID/IQ software or system initiative.

The ESD Test Coordination Services Task Order requirements are as follows:

1. The ESD-S Contractor shall provide ESD Test Coordination Services in alignment with the CMS PMP developed in the Phase 1 – Planning task or Phase 6 – Maintenance Services task.
2. The ESD-S Contractor shall adhere to guidance, standards, and templates as delineated in Table 21. The ESD-S Contractor shall reference the CMS ILC Framework for the latest standards, guidance, and templates provided by CMS.
3. The ESD-S Contractor shall produce the deliverables (artifacts) as defined in Table 21 unless otherwise directed in the Task Order. The list of deliverables may change due to one or more of the following:
  - A. CMS modifies the lists of artifacts for the CMS ILC Framework
  - B. Some artifacts may be deemed unnecessary or redundant with other controls in the context of a specific task order
  - C. Additional artifacts may be deemed necessary in the context of a specific task order
4. The ESD-S Contractor shall produce a Test Management Plan describing the approach and methodology for coordinating the testing activities.
5. The ESD-S Contractor shall produce a Test Summary Report detailing the results of the Validation and Implementation Testing.

**Table 21. ESD Test Coordination Services Task Controls**

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| <b>ESD Test Coordination Services Task Controls</b> |  |
|---|--|
| <b>Dependencies</b>                                 | Work products from Phase 5   |
| <b>Guidelines, Standards, and Templates</b>         | <ul style="list-style-type: none"> <li>• CMS ILC Framework <a href="http://www.cms.hhs.gov/SystemLifeCycleFramework">http://www.cms.hhs.gov/SystemLifeCycleFramework</a></li> <li>• The CMS Technical Reference Architecture (TRA) (<a href="http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp">http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp</a>)</li> <li>• DHHS EVM Procedures</li> <li>• Federal Enterprise Architecture Consolidated Reference Model Version 2.0, June 2006, <a href="http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf">http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf</a></li> </ul> |
| <b>Framework Deliverables</b>                       | <ul style="list-style-type: none"> <li>• Test Management Plan</li> <li>• Test Summary Report</li> </ul>  |
| <b>Gates, and Reviews</b>                           | <ul style="list-style-type: none"> <li>• Validation Readiness Review</li> <li>• Implementation Readiness Review</li> <li>• Project Control Reviews</li> <li>• Independent Verification &amp; Validation</li> </ul>   |

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**J.1.13.6 ESD Program Management Services**

ESD Program Management Services provide program management support and planning products across all ESD program investments. Program plans and schedules are integrated into ESD master plans and schedules in order to ensure a consistent, unified view of ESD investments and services over time.

The ESD Program Management Services Task Order requirements are as follows:

1. The ESD-S Contractor shall provide a program-level, integrated PMP in support of the individual project-level PMPs developed in the Phase 1 – Planning tasks.
2. The ESD-S Contractor shall adhere to guidance, standards, and templates as delineated in Table 22. The ESD-S Contractor shall reference the CMS ILC Framework for the latest standards, guidance, and templates provided by CMS.
3. The ESD-S Contractor shall produce the deliverables (artifacts) as defined in Table 22 unless otherwise directed in the Task Order. The list of deliverables may change due to one or more of the following:
  - A. CMS modifies the lists of artifacts for the CMS ILC Framework
  - B. Some artifacts may be deemed unnecessary or redundant with other controls in the context of a specific task order
  - C. Additional artifacts may be deemed necessary in the context of a specific task order
4. The ESD-S Contractor shall provide an Integrated Project Management Plan (PMP) that will include an integrated Project Schedule reflecting all of the efforts associated with the project along with the project management approach for the project. The PMP shall also include references to subordinate management plans; i.e. Quality Management Plan, Risk Management Plan.

Table 22 presents the ESD Program Management Services Task Controls.

**Table 22. ESD Program Management Services Task Controls**

| <b>ESD Program Management Services Task Controls</b> |  |
|--|--|
| <b>Dependencies</b>                                  | Work products from Phase 1, 2, 3, 4, 5 and 6   |
| <b>Guidelines, Standards, and Templates</b>          | <ul style="list-style-type: none"> <li>• CMS ILC Framework <a href="http://www.cms.hhs.gov/SystemLifeCycleFramework">http://www.cms.hhs.gov/SystemLifeCycleFramework</a></li> <li>• The CMS Technical Reference Architecture (TRA) (<a href="http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp">http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp</a>)</li> <li>• DHHS EVM Procedures</li> <li>• Federal Enterprise Architecture Consolidated Reference Model Version 2.0, June 2006, <a href="http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf">http://www.whitehouse.gov/omb/egov/documents/FEA_CRM_v20_Final_June_2006.pdf</a></li> <li>• IEEE 1058-1998, IEEE Standard for Software Project Management Plans</li> <li>• IEEE/EIA 12207.0-1996, IEEE Standard for Information Technology - Software Life</li> </ul> |

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| <b>ESD Program Management Services Task Controls</b> |  |
|--|--|
|  | <p>Cycle Processes</p> <ul style="list-style-type: none"> <li>• IEEE/EIA 12207.1-1997, Guide for ISO/IEC 12207, Standard for Information Technology - Software Life Cycle Processes - Life Cycle Data</li> <li>• IEEE Std 1062-1998, IEEE Standard for Recommended Practice for Software Acquisition</li> <li>• IEEE Std 730-1998, IEEE Standard for Software Quality Assurance Plans</li> <li>• IEEE Std 1540-1998, IEEE Standard for Risk Management</li> <li>• IEEE Std 828-1998, IEEE Standard for Configuration Management Plans</li> </ul> |
| <b>Framework Deliverables</b>                        | <ul style="list-style-type: none"> <li>• Integrated Program Management Plan</li> <li>• Integrated Project Schedule</li> <li>• Integrated Risk Management Plan</li> <li>• Integrated Quality Plan</li> </ul>  |
| <b>Gates, and Reviews</b>                            | <ul style="list-style-type: none"> <li>• Project Startup Review</li> <li>• Investment Selection Review</li> <li>• Project Baseline Review</li> <li>• Requirements Review</li> <li>• Preliminary Design Review</li> <li>• Detailed Design Review</li> <li>• Validation Readiness Review</li> <li>• Implementation Readiness Review</li> <li>• Operational Readiness Review</li> <li>• Project Control Reviews</li> <li>• Independent Verification &amp; Validation</li> </ul>   |

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## **J.2 Enterprise-Level Support Services**

These are the general enterprise-level support services required to facilitate the delivery of the Service Categories described in ESD RFP Section J.1, *Enterprise System Development Services*. The Government does not consider these services to be separately priceable. These general enterprise-level support services must be included in the services ordered under this contract.

### **J.2.1 ESD Collaboration and Oversight**

CMS has established the following requirements for achieving an effective, collaborative environment for the ESD Program:

1. ESD Contractors shall promptly provide CMS, ESD Support Services contractors, CMS IV&V contractors with full access to ESD project-related work products and deliverables
2. ESD Contractors shall provide CMS and CMS IV&V contractors with reasonable, easy, and sufficient access and visibility into ESD project-related internal processes and practices
3. ESD Contractors shall maintain and provide evidence of required CMMI level practice upon request by CMS and CMS IV&V contractors
4. ESD Contractors shall facilitate a collaborative ESD environment by:
  - A. Providing prompt and complete responses to CMS and CMS ESD Contractors' requirements for ESD project-related work products and deliverables within and between tasks and subtasks of the ESD Services Model
  - B. Fostering and practicing open communications that promote smooth transitions between tasks and phases and interoperability between work products
  - C. Publishing schedules and participating in meetings to ensure clear communications between ESD Contractors at all times
  - D. Publishing communication plans that describe the ESD Contractor's approach for ensuring a free flow of information and products among the ESD partnership (CMS and ESD Contractors)
5. ESD Contractors shall be held accountable for positive and negative collaboration performance that advances or impedes the ability of CMS, CMS IV&V contractors, and other ESD Contractors to perform effectively.

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### **J.2.1.1 Technical Review Board**

The ESD Contractor shall comply, as an invited participant, with the existing processes and procedures of the CMS Technical Review Board. Additional participation requirements may be specified in individual Task Orders under the ESD ID/IQ Contract.

### **J.2.1.2 Engineering Review Panel**

The ESD Contractor shall comply with the ESD Peer Review processes and procedures, as an invited participant, of the CMS Engineering Review Panel. Additional participation requirements may be specified in individual Task Orders under the ESD ID/IQ Contract.

### **J.2.1.3 Change/Configuration Control Board**

The ESD Contractor shall comply, as an invited participant, with the existing processes and procedures of CMS Change/Configuration Control Boards. Additional participation requirements may be specified in individual Task Orders under the ESD ID/IQ Contract.

## **J.2.2 Stage Gate Reviews**

For Stage Gate Reviews during ESD Phases, CMS requires attendance and participation from:

1. Representative(s) from the ESD Contractor team and teaming partners/subcontractors responsible for performance of the project/task/subtask under review. Each ESD Contractor shall be prepared to provide, at a minimum, the following:
  - A. Current documentation describing progress on all tasks under review
  - B. All deliverables (artifacts) subject to review
  - C. Project staff fully qualified to address progress, problems, solutions, and resolution of action items
2. Representative(s) from each ESD Support Services Contractors (ESD-S) as appropriate for the project/task/subtask under review.
3. Program Quality Assurance personnel (CMS and/or contractors), including representative(s) from the IV&V contractor(s) currently engaged in assessment and review of ongoing projects/tasks/subtasks

## **J.2.3 ESD ID/IQ Contract Support**

The ESD Contractor shall provide program and technical management support to CMS during the operation of the ESD ID/IQ Contract through the integrated activities of reporting and risk management.

### **J.2.3.1 Reporting**

The ESD Contractor shall provide the project status information cited in the Contract Performance Report, as prescribed in ESD RFP Subsection J.4.2.3, Nos. 1–5, at an agreed-upon

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level of the Work Breakdown Structure (WBS) on a monthly basis or more often as directed by the Contracting Officer. The CPR must be in XML or Microsoft Excel format and compatible with CMS levels.

The ESD Contractor also shall provide a (1) Monthly Electronic Technical Progress Report for Active Task Orders, (2) Monthly Contract Summary Report, and (3) Monthly Financial Planning Report to the CMS PO as directed in each task order. The reports shall be in hard copy and electronic format compatible with CMS Government hardware and software. Other deliverables and reporting requirements may be specified in each task order in addition to those described in the following subsections and ESD RFP Section F.

In addition to completing the reports in accordance with the instructions furnished in each task order, the ESD Contractor shall submit to the PO and Contracting Officer a copy of the letter transmitting the reports to the GTL.

The Government will review and return each submission of a draft report indicating approval or disapproval, and comments, as specified in each task order. In the event the Government delays review and return of any submission of draft reports beyond the period specified, the ESD Contractor shall immediately notify the Contracting Officer in writing and the ESD Contractor will be entitled to an extension in submission of the approved report(s).

The ESD Contractor shall notify the Contracting Officer when 80 percent of the task funds have been spent.

### **J.2.3.1.1** *Monthly Electronic Technical Progress Report for Active Task Orders*

The ESD Contractor shall submit a summary monthly electronic progress report, one (1) copy each to the Contracting Officer, the PO, and the GTL. The monthly status report shall briefly state the progress made for each active task order, and shall specify the actual cost of work performed, the budgeted cost of work performed, the actual work completed, the budgeted work to be completed within the reporting period, and the estimate of total cost to complete the work. Specific areas of interest shall include difficulties encountered during the reporting period and remedial action taken, and a statement of activity anticipated during the subsequent reporting period. The report shall include any proposed changes of key personnel concerned with the contract effort, as well as the number of resource hours expended by labor category, monthly cost incurred, and the total cost incurred within each labor category. Each progress report shall also include a financial graph depicting projected costs versus actual costs incurred to date for each task order and work planned versus work completed for all cost reimbursement orders and time and material orders.

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### **J.2.3.1.2** *Monthly Contract Summary Report*

The summary report is due to the PO by the fifteenth (15th) calendar day of the month. This collection of reports provides a detailed breakdown of contract resource expenditures as well as a workload summarization.

### **J.2.3.1.3** *Monthly Financial Planning Report*

The financial planning report is due to the PO by the thirtieth (30th) calendar day of the month. This collection of reports provides financial planning information for a contract period specified by the PO.

### **J.2.3.1.4** *Monthly Financial Status Report*

Format to be supplied by CMS.

### **J.2.3.1.5** *Work Breakdown Structure (WBS) and Microsoft Project Schedules*

A draft WBS of all of the project work covered under this task order, Section J of the ESD contract, and required project management, shall be provided to CMS within three weeks after this task order award. The contractor shall conduct a walkthrough of the WBS with CMS within one week of this delivery. A final WBS shall be delivered within six weeks after task order award and an additional walkthrough may be requested by CMS. The WBS will be baselined at CMS direction. In addition, the contractor shall provide CMS with a contact list of control account managers (CAMs) for the WBS or an alternative and comparable communications process for CMS to have transparency into the status of project activities at this level of detail. These specific delivery and review dates may change at CMS discretion based on project progress.

The contractor shall develop the draft schedule and it shall be delivered to CMS within four weeks after this task order award. This schedule may be at a higher level (ex. commensurate with level 4 of the WBS) than the final schedule. The contractor shall conduct a walkthrough of this schedule with CMS within one week of this delivery. The final, detailed schedule shall be delivered to CMS within two weeks after the baseline (sign-off) of the systems requirements, and the contractor will conduct a final walkthrough of the schedule with CMS within one week of this delivery. The schedule will be baselined at CMS direction. These specific delivery and review dates may change at CMS discretion based on project progress and go through the contractor's integrated change control process appropriately.

The schedules shall be updated on an on-going basis and updates delivered to CMS on a bi-weekly basis in accordance with the cycle of the bi-weekly project management status meetings. A more frequent delivery of project schedules may be required at the direction of CMS.

Both the WBS and schedule shall be maintained under a contractor-managed, CMS approved, integrated change control process which involves CMS in the approval of changes to the WBS at the control account level, and for schedule changes which impact the project end date and any key milestones.

### **J.2.3.1.6** *Bi-Weekly Project Management Status Meetings*

On a bi-weekly basis, the contractor's Project Manager (and appropriate support staff) will meet with the CMS Project Manager (and appropriate support staff). In this meeting the contractor

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will present and discuss various project management areas including, but not limited to: project scope management (WBS), schedule, budget, risk, change management and quality management.

### **J.2.3.1.7** *Weekly Status Reports*

The contractor shall complete and deliver a weekly status report of major project activity to CMS on a weekly basis including major activities completed, planned activities for the following week, issues, risks, and other pertinent information. The time period contained within each report shall be from the prior week (example: status reports are delivered on Monday morning for the prior week.)

### **J.2.3.1.8** *Change Request Log*

The contractor shall utilize a Change Request Form to gather change requests from CMS. These changes should be tracked in a change request log. This log shall be delivered to CMS on a monthly basis, or more frequently in accordance with CMS direction.

### **J.2.3.1.9** *Action Items*

The contractor shall document, track, and communicate action items for this task order.

### **J.2.3.1.10** *Meeting Minutes*

The contractor shall document and distribute meeting minutes for relevant meetings at the direction of CMS.

### **J.2.3.1.11** *Template Usage*

CMS may require the contractor to utilize CMS templates for various project management artifacts (ex. risk roster). This will be determined by CMS, upon review of the contractor's corporate template content at task order award.

## **J.2.3.2 Risk Management**

In the performance of the ESD ID/IQ Contract, the ESD Contractor shall create and follow a Risk Management Plan (RMP). This CMS-approved document must comply with American National Standards Institute/Project Management Institute (ANSI/PMI) 99-001-2000 Project Management Body of Knowledge (PMBOK) risk management standards and shall describe how the ESD Contractor:

- Develops risk processes that encourage the rigorous identification of risks and continuing assessment/reassessment of risk exposure
- Ensures timely risk handling decisions to prevent negative consequences
- Encourages the development of contingency and mitigation plans that are effective and that are developed sufficiently early to preempt ad hoc reactions
- Tracks and monitors risk status. The contractor will conduct a risk identification session (including appropriate CMS staff and contractors), analyze and perform risk response planning, and track risks. A risk report with all CMS risks should be provided to CMS on a bi-weekly basis, in accordance with the aforementioned bi-weekly project management status meetings cycle.

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### **J.3 ESD Contract-Specific Requirements**

#### **J.3.1 SEI CMMI Certification**

A Prime Contractor under the ESD ID/IQ Contract for *Unrestricted ESD Services* shall demonstrate it possesses independently prepared appraisal results based on a Software Engineering Institute® (SEI®) Software Standard CMMI Appraisal Method for Process Improvement (SCAMPI<sup>SM</sup>), Class A (Versions 1.1 or 1.2), of Level 3, at a minimum, with a process improvement plan and schedule to provide steps toward achieving Level 4 not later than the start of year 6 of the contract. The SCAMPI appraisal must have been led by an SEI-Authorized Lead Appraiser for a SCAMPI, and the Authorized Lead Appraiser must be on the current SEI List of Authorized Lead Appraisers.

A Small Business Prime Contractor under the ESD ID/IQ Contract for SB Set Aside Services shall demonstrate it possesses independently prepared appraisal results based on a SEI® SCAMPI, Class A (Versions 1.1 or 1.2), of Level 2, at a minimum, with a process improvement plan and schedule to provide steps toward achieving Level 3 within twenty-four (24) months of contract award. The independent Appraiser must have been trained and certified in accordance with SEI requirements.

Over the course of the ESD ID/IQ Contract, CMS may, at its discretion, request a SCAMPI Class A appraisal findings and report(s). Furthermore, CMS reserves the right to conduct its own SCAMPIs

#### **J.3.2 Earned Value Management System**

The ESD Contractor shall monitor cost, schedule, and technical performance for program and project-level schedules. The ESD Contractor shall use activity-based costing and other cost performance monitoring tools, such as an Earned Value Management System (EVMS). The Contractor shall use an EVMS that complies with ANSI/EIA Standard EIA-748-A and shall flow EVM requirements to its subcontractors. The ESD Contractor shall assess, quantify, and forecast trends; analyze variances; and facilitate development and implementation of corrective actions. The ESD Contractor shall be certified by a Cognizant Federal Agency (CFA). The certification must be for the functional organization performing the work on the task order.

In the performance of this contract, the ESD Contractor shall create and follow a System Description for their Program Management Control System (PMCS). This Government-approved document shall describe how the ESD Contractor manages cost and schedule on the program in an EVM-compliant manner. The System Description must comply with the EVM Guidelines (ANSI/EIA Standard EIA-748-A).

The ESD Contractor shall not re-baseline its performance measurement baseline without the prior permission from CMS. Re-planning of future work that does not change the project budget, period of performance, and/or scope, however, does not require Government approval.

The ESD Contractor shall not, under any circumstances, adjust cost performance data (budgeted cost of work scheduled (BCWS), budgeted cost of work performed (BCWP), actual cost of work

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performed (ACWP)) from prior months. Any errors, accounting adjustments or approved re-baselining actions shall be recorded as a single point adjustment in the current reporting month.

The ESD Contractor shall provide access to all pertinent records and data requested by CMS or its duly authorized representative to monitor the compliance of the ESD Contractor's actual program/project management procedures with its PMCS.

The ESD Contractor shall ensure that its teaming partners, major subcontractors, and other program suppliers comply with the intent of the EVM Guidelines and report their monthly EVM data accurately and in time for inclusion in the ESD Contractor's Cost Performance Report (CPR). CPR Formats 1–5 shall be used for formal EVM reporting. Each task order will specify which of the five formats are required.

### **J.3.2.1 Annual EVM System Review**

One (1) week per fiscal year, at a time mutually agreeable to both CMS and the ESD Contractor, the ESD Contractor shall make appropriate staff available for an EVM System Review. The goal of the system review will be to ensure that the ESD Contractor's PMCS:

1. Provides timely and reliable cost, schedule, and technical performance measurement information summarized directly from the ESD Contractor's internal management system.
2. Complies with the EVM guidelines.
3. Provides timely indications of actual or potential problems.
4. Maintains baseline integrity.
5. Provides information that depicts actual conditions and trends.
6. Provides comprehensive variance analysis at the appropriate levels including proposed corrective action concerning cost, schedule, technical, and other problem areas.

The system review will focus on major system activities and problem identification to ensure the greatest return for resources expended. The review will rely heavily on interviews with individual Control Account Managers (CAM) to ensure that they have adequate knowledge of the PMCS and to ensure that they are familiar with all of their CAM responsibilities.

The system review team will consist of CMS personnel and ESD Contractor team members. The ESD Contractor shall be prepared to discuss the following topics:

1. Data Analysis and Reporting
2. Performance Measurement
3. Program Budget Planning
4. Subcontract Planning and Control
5. Work Authorization
6. Organization

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### 7. Scheduling.

At the conclusion of each system review, the team will prepare a list of items that require correction or further explanation and will go over the list with the ESD Contractor's management team. At the beginning of each system review, the team will review the action item list with the ESD Contractor's management team and will assess the provided corrections and explanations.

#### **J.3.2.2 Contractor's EVM Self-Monitoring Responsibilities**

The ESD Contractor shall establish and conduct an internal monitoring program to ensure that it continues to follow the EVM Guidelines and that its PMCS is implemented and used correctly on the program. The ESD Contractor will note all instances in which its PMCS is not being followed correctly or where its processes are contrary to the EVM Guidelines, and will ensure that these instances are corrected and not repeated. The ESD Contractor shall also ensure that its team members and subcontractors comply with the EVM Guidelines and will ensure that instances of non-compliance are corrected and not repeated.

#### **J.3.2.3 Earned Value Contract Performance Report**

The ESD Contractor shall prepare and submit a Contract Performance Report (CPR) each month describing the amount of work scheduled and achieved to date and the actual costs associated with that work. The CPR consists of the following five (5) report formats:

1. Format 1 – provides data to measure cost and schedule performance by product-oriented Work Breakdown Structure (WBS) elements, the hardware, software, and services the Government
2. Format 2 – provides the same data as Format 1 by the contractor's organization (functional or Integrated Product Team (IPT) structure)
3. Format 3 – provides the budget baseline plan against which performance is measured
4. Format 4 – provides staffing forecasts for correlation with the budget plan and cost estimates
5. Format 5 – is a narrative report used to explain significant cost and schedule variances and other identified contract problems and topics.

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**J.5 Performance Metrics**

**J.5.1 Qualitative Performance Measures**

The ESD Contractor shall establish qualitative performance metrics appropriate to the task(s) at project startup and report performance progress monthly throughout the life of the project. Established measures and measurement criteria shall provide qualitative performance with regard to all levels of the ESD Contractor's execution of the work, including but not limited to, project planning and management, delivery of work products, quality of work products, and CMS Business Owner and user satisfaction. Software products qualitative metrics shall include, but are not limited to, software product maintainability, portability, reliability, reusability, usability, performance, interoperability, indicators as to the complexity of system design, and estimation of system stability.

**J.5.2 EVMS**

As noted in ESD RFP Subsection J.4.2, the ESD Contractor shall manage cost and schedule on the ESD Program in an EVM-compliant manner. The ESD Contractor shall develop and maintain performance metrics in accordance with the requirements of Subsection J.4.2.

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### J.6 Legislative and Executive Mandates

All work performed under this contract will comply with all CMS Directives and Policies, Department of Health and Human Services (DHHS) Directives and regulations, Office of Management and Budget (OMB) Circulars, Public Laws (P.L.), American National Standards Institute (ANSI) standards, and National Institute of Standards and Technology (NIST) standards, including Federal Information Processing Standards (FIPS) publications contained in the following legislation, regulations, publications, and guidance. Reference documents can be found through the following organizations (web sites provided for information only):

- CMS Directives and Policies: <http://www.cms.hhs.gov/home/regsguidance.asp>;
- NIST standard references: <http://csrc.nist.gov/publications> (computer security division, including FIPS);
- DHHS Directives and Regulations: <http://www.hhs.gov/oamp/dap/procurpol.html> (acquisition policies);
- DHHS Policies and Regulations: <http://www.hhs.gov/policies/index.shtml>;
- ANSI Standards: <http://www.ansi.org/>
- OMB Circulars: <http://www.whitehouse.gov/omb/circulars/index.html>

CMS, and by extension the ESD ID/IQ Contract, is subject to a variety of legislative mandates and executive guidance governing the performance of its mission and protecting the security and privacy of data including, but not limited to, the following:

#### J.6.1 Legislative Mandates

- The Health Insurance Portability and Accountability Act (HIPAA) of 1996 (P.L. 104-191)
- Medicare Prescription Drug, Improvement and Modernization Act (MMA) of 2004 (P.L. 108-173)
- Medicare Regulatory and Contracting Reform Act (MRCRA) of 2001, H.R. 2768
- E-Government Act of 2002 (P.L. 107-347)
- Federal Information Security Management Act (FISMA) of 2002, Title III, Section 301: Information Security, E-Government Act of 2002 (P.L. 107-347)
- Government Paperwork Elimination Act (GPEA) of 1998 (P. L. 105-277, Title XVII)
- Computer Fraud and Abuse Act of 1986 (as amended 1994, 1996, and 2001), 18 U.S.C. 1030
- Paperwork Reduction Act (PRA) of 1995 (P.L. 104-13)
- Electronic Signatures in Global and National Commerce Act (ESIGN) of 2000, (P.L. 106-229)
- Clinger-Cohen Act (CCA), the Information Technology Management Reform Act (ITMRA) of 1996 (P.L. 104-106, Division E)

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- Federal Oversight Guidance, Appendix C, Clinger-Cohen Act Oversight Guidance, Appendix II – Implementation of the Government Paperwork Elimination Act (GPEA), September 1, 2003, guidance for agencies implementing electronic signature technologies
- Government Information Security Reform Act (GISRA) of 2000 (P.L. 106-398)  
<http://www.whitehouse.gov/omb/memoranda/m01-08.pdf>
- Privacy Act of 1974, as amended, 5 U.S.C. 552a (P.L. 93-579)
- Section 508 of the Rehabilitation Act of 1973 (29 U.S.C. § 794 (d)), as amended by the Workforce Investment Act of 1998 (P.L. 105-220), August 7, 1998 (requiring access to electronic and information technology procured by federal agencies)

#### J.6.2 Executive Mandates

- Executive Order 13231, *Critical Information Protection in the Information Age*, October 16, 2001
- Homeland Security Presidential Directive/HSPD-7, *Critical Infrastructure, Identification, Prioritization, and Protection*, December 17, 2003
- HSPD-12, *Policy for a Common Identification Standard for Federal Employees and Contractors*, August 27, 2004
- Office of Management and Budget (OMB) Memorandum, *Implementation of Homeland Security Presidential Directive (HSPD) 12 – Policy for a Common Identification Standard for Federal Employees and Contractors*, OMB M-05-24, August 5, 2005
- OMB Circular Number A-130, *Management of Federal Information Resources*, Appendix III, “Security of Federal Automated Information Systems,” February 8, 1996
- OMB Memorandum, *E-Authentication Guidance for Federal Agencies*, OMB M-04-04, December 16, 2003
- OMB Memorandum, *Implementation Guidance for the E-Government Act of 2002* OMB M-03-18, August 1, 2003
- OMB Memorandum, *Guidance on Implementing GISRA*, OMB M-01-08, January 16, 2001
- OMB Memorandum, *Guidance on Implementing the ESIGN Act*, OMB M-00-15, September 25, 2000
- OMB Circular A-130 (Revised), *Management of Federal Information Resources*, February 8, 1996
- Federal Information System Configuration Audit Manual.

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## **J.7 Regulatory and Standards Guidance**

### **J.7.1 Regulatory Guidance**

- Internal Revenue Code §6103P – Confidential and Disclosure of Returns and Return Information.
- The Consolidated Health Informatics (CHI) initiative standards, adopted to date, are published in the *Federal Register* Notice, December 23, 2005, “Consolidated Health Informatics (CHI) Initiative; Health Care and Vocabulary Standards for Use in Federal Health Information Technology Systems (70 FR 76287) and are also available at: <http://www.hhs.gov/healthit/chi.html>.

### **J.7.2 IEEE Standards**

- Institute of Electrical and Electronics Engineers (IEEE)/Electronic Industries Association (EIA) 12207. CMS has adopted IEEE/EIA 12207 as the standard to be followed for the CMS Enterprise System Development IT Framework. The Framework draws heavily on the IEEE/EIA 12207 standard, but has been customized to meet CMS’ specific needs.

### **J.7.3 American National Standards Institute**

- American National Standards Institute (ANSI) /Electronic Industries Alliance (EIA) Standard 748-98, *Earned Value Management Standards*, May 1998

### **J.7.4 Department of Defense Standards**

- MIL-HDBK-881, *Department of Defense Handbook*, Work Breakdown Structure
- DI-MGMT-81466, Cost Performance Reporting
- MIL-HDBK-61, Configuration Management Guidance

### **J.7.5 National Institute for Standards and Technology**

- NIST Special Publication 800-76, *Biometric Data Specification for Personal Identity Verification (Draft)*, January 24, 2005
- NIST, Federal Information Processing Standards (FIPS) Publication 201, *Personal Identity Verification (PIV) of Federal Employees and Contractors*, February 25, 2005
- NIST, Federal Information Processing Standards (FIPS) Publication 199, *Standards for Security Categorization of Federal Information and Information Systems*, February 2004
- NIST Special Publication 800-18, *Guide for Developing Security Plans for Information Technology Systems*, December 1998
- NIST Special Publication 800-25, *Federal Agency Use of Public Key Technology for Digital Signatures and Authentication*, October 2000

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- NIST Special Publication 800-26, *Security Self Assessment Guide for Information Technology Systems*, November 2001
- NIST Special Publication 800-29, *A Comparison of the Security Requirements for Cryptographic Modules in FIPS 140-1 and FIPS 140-2*, June 2001
- NIST Special Publication 800-30, *Risk Management Guide for Information Technology Systems*, July 2002
- NIST Special Publication 800-32, *Introduction to Public Key Technology and the Federal PKI Infrastructure*, February 2001
- NIST Special Publication 800-34, *Contingency Planning Guide for Information Technology Systems*, June 2002
- NIST Special Publication 800-37, *Guide for Security Certification and Accreditation of Federal Information Systems*, May 2004
- NIST Special Publication 800-53, *Recommended Security Controls for Federal Information Systems*, February 2005
- NIST Special Publication 800-61, *Computer Security Incident Handling Guide*, January 2004.

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**J.8 Departmental Directives and Regulations**

- Department of Health and Human Services (DHHS), *HHS Information Systems Security Program Policy* (guidance on meeting requirements for protecting DHHS information resources, available on the HHS Intranet (infosec/policies\_guides.html)).
- Department of Health and Human Services (DHHS) HHS OCIO Policy for Information Technology (IT) Earned Value Management (EVM), HHS-OCIO-2005-0004.001

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### J.9 CMS Standards and Guidance

The following Centers for Medicare & Medicaid Services (CMS) guidance is applicable to all work under the ESD ID/IQ Contract.

#### J.9.1.1 Current Documentation

- Centers for Medicare & Medicaid Services, *Operational Concepts for the Enterprise System Development Services Model*, Version 0.2, September 11, 2006
- Centers for Medicare & Medicaid Services, *Business Partners System Security Manual*, (available in PDF format at: [http://www.cms.hhs.gov/manuals/downloads/117\\_systems\\_security.pdf](http://www.cms.hhs.gov/manuals/downloads/117_systems_security.pdf))
- Centers for Medicare & Medicaid Services, *Medicare Claims Processing Manual* (available for online viewing download and reference at <http://www.cms.hhs.gov/manuals> ; manual 100-04 under transmittals is the target manual)
- CMS information technology-related policies and standards are available at <http://www.cms.hhs.gov/home/rsds.asp> via the Information Technology section

The CMS Technical Reference Architecture (TRA), and its associated Supplements, documents the standard architecture for all of the CMS Production environments. More information is available at [http://www.cms.gov/SystemLifecycleFramework/10\\_Standards.asp](http://www.cms.gov/SystemLifecycleFramework/10_Standards.asp)

- CMS Acceptable Risk Safeguards and other applicable CMS security standards, policies, procedures and guidelines, which are available for download at: <http://www.cms.hhs.gov/informationsecurity> .

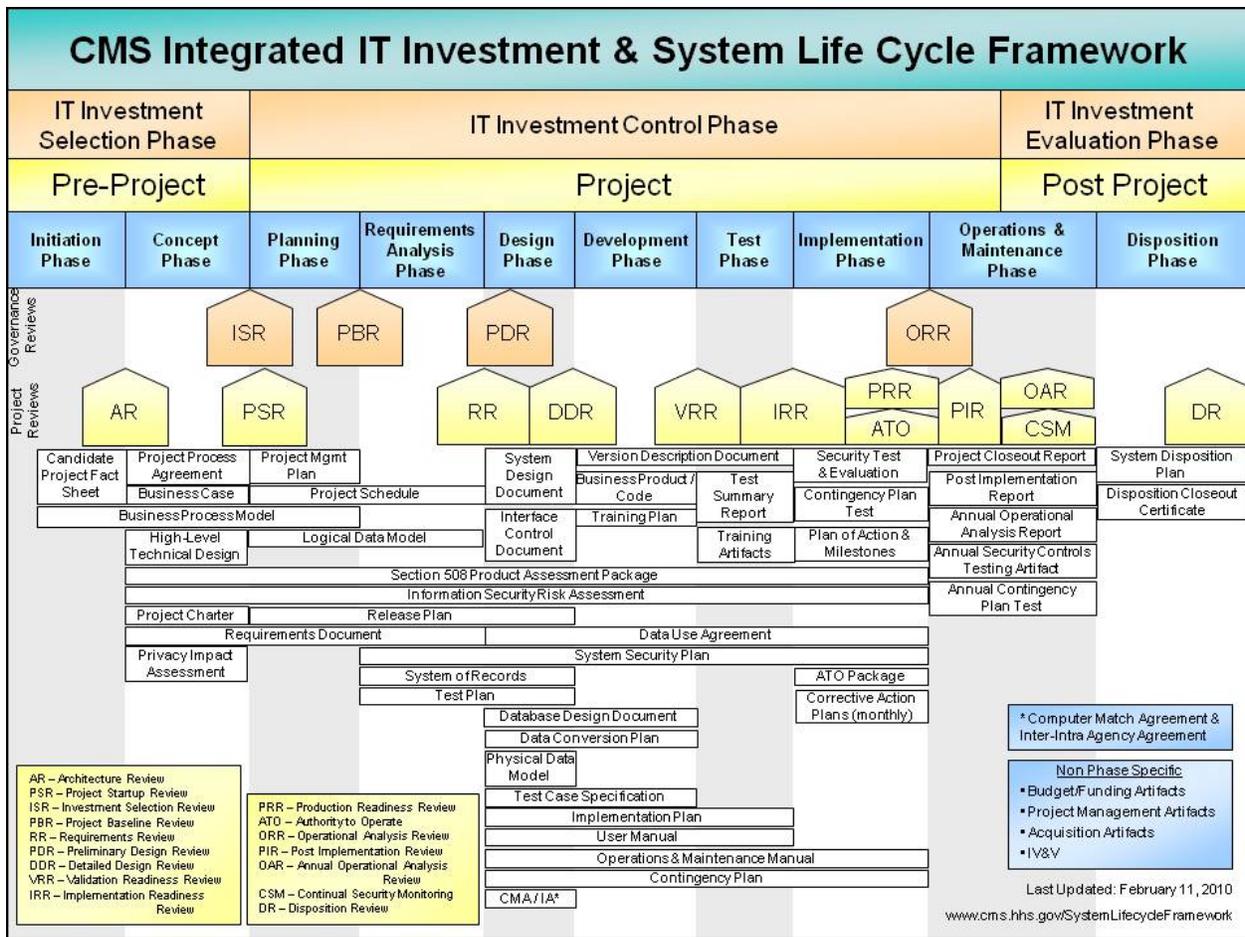
#### J.9.1.2 Integrated IT Investment & System Life Cycle Framework

The CMS Integrated IT Investment & System Life Cycle Framework (hereafter referred to simply as the “CMS ILC Framework”) identified via the links below, provides a graphical representation of the multi-phased life cycle of any approved system development or operations and maintenance project at CMS. The CMS ILC Framework covers all of the major activities, reviews, and documents that are referenced in ESD RFP Section J.2 and ESD RFP Section C (Statement of Work).

<http://www.cms.gov/SystemLifecycleFramework/Downloads/ILCFramework.zip>

<http://www.cms.gov/SystemLifeCycleFramework/downloads/ILCOandMFramework.zip>

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**Figure 1: CMS Integrated IT Investment & System Life Cycle Framework**

Although the phases of the life cycle are depicted in sequential order, some may overlap on certain projects or may occur iteratively in other projects depending upon the system development methodology selected for the specific project.

More information concerning the CMS ILC Framework can be found at the following link: <http://www.cms.hhs.gov/SystemLifecycleFramework/>

### J.9.1.3 Enterprise Architecture

CMS EA guidance can be found at <http://www.cms.hhs.gov/EnterpriseArchitecture/>.

The Clinger-Cohen Act requires that every federal agency develop an Enterprise Architecture (EA), a representation of the functional and technical processes used by the agency to accomplish its mission. Enterprise Architecture consists of models, diagrams, tables, and narrative, which together translate the complexities of the agency into simplified yet meaningful representations of how the agency operates (and intends to operate). The CMS EA Program ensures that the current and future business and technical architectures for the Agency support the DHHS mission, strategic plans, and performance and outcome objectives.

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The CMS EA conforms to and aligns with legislative mandates, federal initiatives, and oversight requirements. These include, but are not limited to, the Government Accountability Office (GAO), OMB, the Federal Enterprise Architecture (FEA), e-Gov initiatives including the Federal Health Architecture (FHA), and other federal lines of business architectures. More information about these initiatives can be found at [www.cms.hhs.gov](http://www.cms.hhs.gov) and [www.egov.gov](http://www.egov.gov).

To help ensure that the development of CMS automated systems is compliant with the CMS Enterprise Architecture, ESD Contractors should adhere to the standards and guidelines that can be found at [http://www.cms.hhs.gov/SystemLifecycleFramework/09\\_Standards.asp#TopOfPage](http://www.cms.hhs.gov/SystemLifecycleFramework/09_Standards.asp#TopOfPage).

### **J.9.1.4 EA Repository**

DHHS has adopted the Metis tool for modeling and reposing all of its Enterprise Architecture artifacts. The DHHS EA framework aligns with OMB's federal enterprise architecture (FEA) framework. CMS has modeled and reposed that EA framework in the architecture modeling tool known as Metis. Both a data repository as well as a robust modeling tool, Metis has been mandated for use throughout HHS operating divisions (opdivs). Metis consists of nine layers that represent the enterprise architecture for an opdiv. These layers include: strategy, stakeholders and investment, business, data, application, technology, workforce, facilities, and security.

The business layer of the framework houses all CMS business process models. Each investment must have a business process model created by the contractor. All CMS business process models shall be captured in business process modeling notation (bpmn) and shall be stored in the CMS EA Metis repository. Bpmn is an open standard notation originally created by the business process management initiative (bpmi.org). Bpmn depicts the end-to-end flow of a business process. The notation has been specifically designed to coordinate the sequence of processes and the messages that flow between different process participants in a related set of activities. Bpmn is targeted at a high level for business users and at a lower level for process implementers. Business users should be able to easily read and understand a bpmn business process diagram. Process implementers may use a business process diagram as an input to physical implementation of the process.

At this time CMS Metis licenses are limited. Therefore, unless a contractor is approved for a CMS Metis license, an alternative method must be used for producing a business process model diagram. All non-Metis business process models must be in business process modeling notation (bpmn) and provided to CMS technical staff for Metis formatting.

All contractors are responsible for ensuring that changes to investments with regard to application, data and systems design are captured so those changes can be reflected in the CMS EA framework.

### **J.9.1.5 Adherence to DHHS and CMS EA Policies, Standards, Processes, and Procedures**

The ESD Contractor is responsible for securing and maintaining adequate knowledge of DHHS and CMS EA policies, standards, and procedures, and must adhere to these policies, standards,

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and procedures in their work for the Agency. Specifically, the CMS ESD Contractor is responsible for:

1. Ensuring adherence to DHHS and CMS EA requirements within contractual terms.
2. Maintaining current knowledge of DHHS Technical Standards and models and ensure compliance in project design.
3. Collaborating with the PO to request waivers from or modifications to EA standards where existing standards may adversely impact project requirements.
4. Providing documentation to the EA Repository according to DHHS EA procedures (see *EA Repository* for more information).

#### **J.9.1.6 Security of the ESD Environment**

Security and the reliability of a secure CMS enterprise system development environment are of paramount importance to CMS. The ESD Contractor will create and maintain a highly integrated development environment to support a unified security approach. The ESD Contractor will provide CMS visibility into ESD task operations and management to ensure close coordination and management of enterprise-level security threats.

The ESD Contractor will ensure the protection of private and confidential data on beneficiaries, providers, etc. as well as information and information systems categorized as National Critical Infrastructure, Health and Human Services Mission-Critical, and all other sensitive assets. The ESD Contractor is obligated to meet federal and DHHS security and privacy requirements and standards. The CMS Security Services Guidelines present an overview of enterprise security services requirements at the system and applications levels, found at this link:

<http://www.cms.hhs.gov/InformationSecurity/>

These security services provide the core security mechanisms for CMS applications. The ESD Contractor shall comply with these guidelines. In addition, the ESD Contractor shall meet CMS requirements for Certification and Accreditation (C&A). These C&A requirements include developing and maintaining a System Security Plan (SSP), Risk Assessment (RA) and Contingency Plan (CP) in accordance with CMS standards and guidelines. As part of the C&A process, the ESD Contractor shall establish, maintain, and test a Disaster Recovery (DR) Plan where required based upon CMS' business continuity guidelines.

The ESD Contractor shall attest to its compliance with the foregoing requirements prior to authorization to proceed on any application task order. As part of this activity, the ESD Contractor shall conduct security administration activities in accordance with these objectives.

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### J.9.1.8 Information Security

The central tenet of the CMS Information Security (IS) Program is that all CMS information and information systems shall be protected from unauthorized access, disclosure, duplication, modification, diversion, destruction, loss, misuse, or theft—whether accidental or intentional. The security safeguards to provide this protection shall be risk-based and business-driven with implementation achieved through a multi-layered security structure. All information access shall be limited based on a least-privilege approach and a need-to-know basis, i.e., authorized user access is only to information necessary in the performance of required tasks. Most of CMS' information relates to the health care provided to the nation's Medicare and Medicaid beneficiaries, and as such, has access restrictions as required under legislative and regulatory mandates.

The CMS IS Program has a two-fold purpose:

- (1) To enable CMS' business processes to function in an environment with commensurate security protections, and
- (2) To meet the security requirements of federal laws, regulations, and directives.

The principal legislation for the CMS IS Program is Public Law (P.L.) 107-347, Title III, *Federal Information Security Management Act of 2002 (FISMA)*, <http://csrc.nist.gov/drivers/documents/FISMA-final.pdf>. FISMA places responsibility and accountability for IS at all levels within federal agencies as well as those entities acting on their behalf. FISMA directs Office of Management and Budget (OMB) through the Department of Commerce, National Institute of Standards and Technology (NIST), to establish the standards and guidelines for federal agencies in implementing FISMA and managing cost-effective programs to protect their information and information systems. As a contractor acting on behalf of CMS, this legislation requires that the Contractor shall:

- Establish senior management level responsibility for IS,
- Define key IS roles and responsibilities within their organization,
- Comply with a minimum set of controls established for protecting all Federal information, and
- Act in accordance with CMS reporting rules and procedures for IS.

Additionally, the following laws, regulations and directives and any revisions or replacements of same have IS implications and are applicable to all CMS contractors.

- P.L. 93-579, *The Privacy Act of 1974*, <http://www.usdoj.gov/oip/privstat.htm> , (as amended);
- P.L. 99-474, *Computer Fraud & Abuse Act of 1986*, [www.usdoj.gov/criminal/cybercrime/ccmanual/01ccma.pdf](http://www.usdoj.gov/criminal/cybercrime/ccmanual/01ccma.pdf) P.L. 104-13, *Paperwork Reduction Act of 1978*, as amended in 1995, U.S. Code 44 Chapter 35, [www.archives.gov/federal-register/laws/paperwork-reduction](http://www.archives.gov/federal-register/laws/paperwork-reduction);
- P.L. 104-208, *Clinger-Cohen Act of 1996* (formerly known as the Information Technology Management Reform Act), [http://www.cio.gov/Documents/it\\_management\\_reform\\_act\\_Feb\\_1996.html](http://www.cio.gov/Documents/it_management_reform_act_Feb_1996.html);

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- P.L. 104-191, *Health Insurance Portability and Accountability Act of 1996* (formerly known as the Kennedy-Kassenbaum Act)  
<http://aspe.hhs.gov/admsimp/pl104191.htm>;
- OMB Circular No. A-123, *Management's Responsibility for Internal Control*, December 21, 2004,  
[http://www.whitehouse.gov/omb/circulars/a123/a123\\_rev.html](http://www.whitehouse.gov/omb/circulars/a123/a123_rev.html);
- OMB Circular A-130, *Management of Federal Information Resources*, Transmittal 4, November 30, 2000,  
<http://www.whitehouse.gov/omb/circulars/a130/a130trans4.html>;
- NIST standards and guidance, <http://csrc.nist.gov/>; and,
- Department of Health and Human Services (DHHS) regulations, policies, standards and guidance <http://www.hhs.gov/policies/index.html>

These laws and regulations provide the structure for CMS to implement and manage a cost-effective IS program to protect its information and information systems. Therefore, the Contractor shall monitor and adhere to all IT policies, standards, procedures, directives, templates, and guidelines that govern the CMS IS Program, <http://www.cms.hhs.gov/informationsecurity> and the CMS ILC Framework, <http://www.cms.hhs.gov/SystemLifecycleFramework>.

The Contractor shall comply with the CMS IS Program requirements by performing, but not limited to, the following:

- Implement their own IS program that adheres to CMS IS policies, standards, procedures, and guidelines, as well as industry best practices;
- Participate and fully cooperate with CMS IS audits, reviews, evaluations, tests, and assessments of contractor systems, processes, and facilities;
- Provide upon request results from any other audits, reviews, evaluations, tests and/or assessments that involve CMS information or information systems;
- Report and process corrective actions for all findings, regardless of the source, in accordance with CMS procedures;
- Document its compliance with CMS security requirements and maintain such documentation in the systems security profile;
- Prepare and submit in accordance with CMS procedures, an incident report to CMS of any suspected or confirmed incidents that may impact CMS information or information systems; and
- Participate in CMS IT information conferences as directed by CMS.

As periodic updates are made to the Information Security requirements, it is recommended that the Contractor check the Information Security website on a monthly basis.

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### J.9.1.9 Data Administration (DB)

<http://www.cms.hhs.gov/DataAdmin/>

### J.9.1.10 Database Administration (DBA)

<http://www.cms.hhs.gov/DataAdmin/>

### J.9.1.11 Information Technology (IT) Project Management

IEEE/EIA Standard 12207.0-1996, Volume 4, “Guide to the Project Management Body of Knowledge.”

## J.10 CMS IT Investment Management Process Guide

Offerors may obtain a copy of the CMS IT Investment Management Process Guide from CMS by requesting the *IT Investment Management Process Guide*, Office of Information Services, August 2001, Centers for Medicare & Medicaid Services, 7500 Security Blvd., Baltimore, Maryland.

## J.11 Data Use Agreement

All ESD Contractors who must access CMS data that is subject to the Privacy Act of 1974, as amended, 5 U.S.C. 552a (P.L. 93-579) shall sign and adhere to the Data Use Agreement identified in ESD RFP subsection C.6.7, which is available for downloading from the CMS website at: <http://www.cms.hhs.gov/cmsforms/downloads/cms-r-0235.pdf>. An executed Data Use Agreement is a prerequisite for any projects/tasking that require access to such data.

## J.12 Small Business Subcontracting Plan

The offeror is directed to <http://www.knownet.hhs.gov/smallbus/subcontractingplan-fillable.pdf> for the downloadable Adobe file for the Small Business Subcontracting Plan (Approved Example) for use in responding to RFP.

## J.13 Section 508 Accessibility of Electronic and Information Technology

This task order is subject to Section 508 of the Rehabilitation Act of 1973 (29 U.S.C. 794d) as amended by the workforce Investment Act of 1998 (P.L. 105-220). Specifically, subsection

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508(a)(1) requires that when the Federal Government procures Electronic and Information Technology (EIT), the EIT must allow Federal employees and individuals of the public with disabilities comparable access to and use of information and data that is provided to Federal employees and individuals of the public without disabilities.

The EIT accessibility standards at 36 CFR Part 1194 were developed by the Architectural and Transportation Barriers Compliance Board ("Access Board") and apply to contracts and task/delivery orders, awarded under indefinite quantity contracts on or after June 25, 2001.

Each Electronic and Information Technology (EIT) product or service furnished under this contract shall comply with the Electronic and Information Technology Accessibility Standards (36 CFR 1194), as specified in the contract, as a minimum. If the Contracting Officer determines any furnished product or service is not in compliance with the contract, the Contracting Officer will promptly inform the Contractor in writing. The Contractor shall, without charge to the Government, repair or replace the non-compliant products or services within the period of time to be specified by the Government in writing. If such repair or replacement is not completed within the time specified, the Government shall have the following recourses:

1. Cancellation of the contract, delivery or task order, purchase or line item without termination liabilities; or
2. In the case of custom Electronic and Information Technology (EIT) being developed by a contractor for the Government, the Government shall have the right to have any necessary changes made or repairs performed by itself or by another firm for the noncompliant EIT, with the contractor liable for reimbursement to the Government for any expenses incurred thereby.

The contractor must ensure that all EIT products that are less than fully compliant with the accessibility standards are provided pursuant to extensive market research and are the most current compliant products or services available to satisfy the contract requirements.

For every EIT product or service accepted under this contract by the Government that does not comply with 36 CFR 1194, the contractor shall, at the discretion of the Government, make every effort to replace or upgrade it with a compliant equivalent product or service, if commercially available and cost neutral, on either a contract specified refresh cycle for the product or service, or on a contract effective option/renewal date; whichever shall occur first.

#### **Section 508 Compliance for Communications**

The Contractor shall comply with the standards, policies, and procedures below. In the event of conflicts between the referenced documents and the Task Order, the Task Order shall take precedence.

##### Rehabilitation Act, Section 508 Accessibility Standards

1. 29 U.S.C. 794d (Rehabilitation Act as amended)
2. 36 CFR 1194 (508 Standards)

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3. [www.access-board.gov/sec508/508standards.htm](http://www.access-board.gov/sec508/508standards.htm) (508 Standards)
4. FAR 39.2 (Section 508)
5. CMS/HHS Standards, policies and procedures (Section 508)

In addition, all contract deliverables are subject to these 508 standards as applicable.

Regardless of format, all Web content or communications materials produced, including text, audio or video - must conform to applicable Section 508 standards to allow federal employees and members of the public with disabilities to access information that is comparable to information provided to persons without disabilities. All contractors (including subcontractors) or consultants responsible for preparing or posting content must comply with applicable Section 508 accessibility standards, and where applicable, those set forth in the referenced policy or standards documents above. Remediation of any materials that do not comply with the applicable provisions of 36 CFR Part 1194 as set forth in the Task Order shall be the responsibility of the contractor or consultant.

The following Section 508 provisions apply to the content or communications material identified in the Task Order:

- 1) 36 CFR Part 1194.21 a - l
- 2) 36 CFR Part 1194.22 a - p
- 3) 36 CFR Part 1194.31 a - f
- 4) 36 CFR Part 1194.41 a – c

The contractor shall provide a completed Section 508 Product Assessment Template and the contractor shall state exactly how proposed EIT deliverable(s) meets or does not meet the applicable standards.

The following Section 508 provisions apply for software development material identified in the Task Order:

For software development, the Contractor/Developer/Vendor shall comply with the standards, policies, and procedures below:

Rehabilitation Act, Section 508, Accessibility Standards

- (1) 29 U.S.C. 794d (Rehabilitation Act as amended)
- (2) 36 CFR 1194 (508 Standards)
  - 36 CFR Part 1194.21 (a – l)
  - 36 CFR Part 1194.31 (a – f)
  - 36 CFR Part 1194.41 (a – c)
- (3) [www.access-board.gov/sec508/508standards.htm](http://www.access-board.gov/sec508/508standards.htm) (508 Standards)
- (4) FAR 39.2 (Section 508)

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- (5) CMS/HHS Standards, policies and procedures (Section 508)
  - a. Information Technology – General Information  
(<http://www.cms.hhs.gov/InfoTechGenInfo/>)

For web-based applications, the Contractor shall comply with the standards, policies, and procedures below:

Rehabilitation Act, Section 508, Accessibility Standards

- (1) 29 U.S.C. 794d (Rehabilitation Act as amended)
- (2) 36 CFR 1194 (508 Standards)
  - 36 CFR Part 1194.22 (a – p)
  - 36 CFR Part 1194.41 (a – c)
- (3) [www.access-board.gov/sec508/508standards.htm](http://www.access-board.gov/sec508/508standards.htm) (508 Standards)
- (4) FAR 39.2 (Section 508)
- (5) CMS/HHS Standards, policies and procedures (Section 508)
  - a. Information Technology – General Information  
(<http://www.cms.hhs.gov/InfoTechGenInfo/>)

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**J.14 Key Personnel**

The Contractor shall propose Key Personnel for the ESD ID/IQ Contract, and the candidates' position (title), role, and responsibilities in response to RFP Section L.18.

**J.14.1 Key Personnel Resume Format**

The Contractor shall use the format shown in Figure 2 for submission of the Key Personnel resumes.

|   |
|---|
| <b>Name of Candidate</b>  |
| <b>Education and Training</b><br>Provide degree earned (e.g., B.S.E.E.), major field of study (e.g., Mathematics), name of college or university, and year(s) degree(s) earned. If the candidate did not earn a degree, indicate the program of study and number of credit hours completed.   |
| <b>Professional and/or Technical Certifications</b><br>List all certifications earned, name of certifying body or institution, and year earned for all certifications relevant to the ESD ID/IQ Contract.   |
| <b>Employment History</b><br>Provide the name of the employer, total period of employment with the employer, and reverse chronological history of job assignments relevant to the proposed assignment for the ESD ID/IQ Contract. For each job assignment, show the candidate's: <ul style="list-style-type: none"><li>• Title and role within program/ project, with duration of assignment</li><li>• Major customers and programs served on the assignment</li><li>• Specific relevance of work performed, including accomplishments and innovations in technical and/or managerial performance</li></ul> |
| <b>Current Security Clearance</b><br>Indicate the current security clearance, Agency, and date of clearance.  |

**Figure 2. Resume Format for Key Personnel Resumes**

## **J.15 Past Performance Documentation**

This section contains the following formats to be used in Volume III, Past Performance:

- Past Performance Survey

### **J.15.1 Past Performance Survey**

The offeror shall use the following letter of introduction requesting completion of the Past Performance Survey as required by ESD RFP Section L.19. The offeror must provide the following Past Performance Survey to the cited contract point of contact.

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[OFFEROR LETTERHEAD]

Reference Name and Address

Date

Dear \_\_\_\_\_:

We are currently responding to the Centers for Medicare & Medicaid Services (CMS) Request for Proposal Number RFP-CMS-2007-0007. The purpose of this contract is to provide Enterprise System Development Services for support of CMS systems and software development.

With the increased emphasis on past performance in the source selection process, CMS Contracting Officers now require that companies submitting proposals in response to a solicitation identify past or current clients and ask them to complete a questionnaire on past performance.

We have identified you as one of our references and respectfully request that you complete the attached questionnaire and then FAX the document to CMS care of Lyandra Emmanuel at FAX (410) 786-9922 or email the document to ESD@cms.hhs.gov. In addition to this survey, CMS may contact you directly by phone for additional information and/or clarification.

Questionnaires are due by 2:00PM EST on February 7, 2007; however, we would appreciate an earlier response if at all possible.

We sincerely appreciate your cooperation in this matter.

Sincerely,

Offeror Point of Contact

### Instructions for Survey Response

The information from this survey will be utilized to evaluate past performance of offerors, in accordance with the 1994 Federal Acquisition Streamlining Act, Section 1091.

Please rate the contractor on the scale of 0 (Unsatisfactory) through 5 (Outstanding) based on the following descriptions.

| Scale    | Description   |
|----------|---|
| <b>0</b> | <b>Unsatisfactory:</b> Performance / behavior was extraordinarily poor and required a very high degree of management intervention. Performance / behavior demonstrated a clear lack of competence and / or unacceptable approach relative to the criterion. There was a significant weakness(es) or major deficiency(ies) that was not correctable. Client goals and objectives were not met.   |
| <b>1</b> | <b>Poor:</b> Below average performance / behavior with a significant number of problems in meeting requirements. Contractor demonstrated questionable competence relative to the criterion. There were many deficiencies and major weaknesses which were difficult to correct and could preclude presentation of award fee or could jeopardize contract renewal or contract option award. Client goals and objectives were often not met.   |
| <b>2</b> | <b>Fair:</b> Performance / behavior sometimes met requirements satisfactorily but with problems. Performance / behavior demonstrated marginal competence relative to the criterion and was characterized by approaches with some strengths but also with weaknesses or deficiencies that suggest risk. These deficiencies or weaknesses were correctable but, if not corrected, could preclude presentation of award fee or could jeopardize contract renewal or contract option award. Client goals and objectives were sometimes not met. |
| <b>3</b> | <b>Good:</b> Acceptable, often above average, performance / behavior with only very minor problems. Performance / behavior demonstrated competence relative to the criterion. Performance / behavior was usually characterized by sound approaches and some major strengths, but with several major or minor weaknesses which were cause for concern. These weaknesses did not present major risk, were correctable, and when corrected, enhanced contractor's position. Client goals and objectives were usually met.                      |
| <b>4</b> | <b>Excellent:</b> Performance / behavior frequently exceeded expectations and demonstrated excellent competence relative to the criterion. Performance / behavior was thorough and characterized by sound approaches and generally demonstrated major strengths with no deficiencies. Minor weaknesses existed but were correctable. Client goals and objectives were met.  |
| <b>5</b> | <b>Outstanding:</b> Performance / behavior was exceptional and consistently exceeded expectations. Performance / behavior demonstrated exceptional competence relative to the criterion. Comprehensive, specific, detailed performance was characterized by sound approaches, many major strengths and technical advantages or innovative ideas. The contractor had no significant weaknesses, deficiencies or risks.   |

**Instructions:** Justify each of your ratings with a comment. Please be as specific in your comment as possible, especially for those situations that warranted ratings that are either very high or very low. Please sign your name and identify the position you held during your association with the referenced contractor. Please attach additional pages as needed.

|  |                                 |
|--|---------------------------------|
| Solicitation No.:  | Contractor:                     |
| Referenced Agency:   | Address:                        |
| Contact Person:  | Telephone:                      |
| Please describe the product(s) / service(s) provided:  |                                 |
| Type of contract:  | Competitive or non-competitive: |
| Total value of contract:   | Period of performance:          |
| Please summarize the contractor's performance using the numeral corresponding to the desired performance rating (for explanation of performance rating categories, see first page) |                                 |

| <b>ESD Services Procurement Past Performance Survey</b>                    |                  |                  |                  |                       |                         |
|--|------------------|------------------|------------------|-----------------------|-------------------------|
| <b>0</b><br>Unsatisfactory   | <b>1</b><br>Poor | <b>2</b><br>Fair | <b>3</b><br>Good | <b>4</b><br>Excellent | <b>5</b><br>Outstanding |
| <b>Question</b>  |                  | <b>Comment</b>   |                  |                       | <b>Rating</b>           |
| 1. Quality of products and services provided.                              |                  |                  |                  |                       |                         |
| 2. Compliance with contract requirements.                                  |                  |                  |                  |                       |                         |
| 3. Accuracy and technical excellence of contract deliverables and reports. |                  |                  |                  |                       |                         |
| 4. Timeliness of contract deliverables.                                    |                  |                  |                  |                       |                         |
| 5. Technical excellence and appropriateness of personnel.                  |                  |                  |                  |                       |                         |
| 6. Key personnel length of stay on contract.                               |                  |                  |                  |                       |                         |
| 7. Key personnel contract management                                       |                  |                  |                  |                       |                         |
| 8. Accuracy and completeness of invoices.                                  |                  |                  |                  |                       |                         |
| 9. Adherence to budget / cost control discipline.                          |                  |                  |                  |                       |                         |
| 10. Introduction of / concern for cost efficiencies.                       |                  |                  |                  |                       |                         |
| 11. Reasonableness of actual costs compared to negotiated costs.           |                  |                  |                  |                       |                         |
| 12. Key personnel responsiveness to technical direction.                   |                  |                  |                  |                       |                         |
| 13. Compliance with interim milestones                                     |                  |                  |                  |                       |                         |

### ESD Services Procurement Past Performance Survey

| 0<br>Unsatisfactory  | 1<br>Poor | 2<br>Fair                                      | 3<br>Good  | 4<br>Excellent                                   | 5<br>Outstanding                                    |  |  |  |
|--|-----------|--|--|--|---|--|--|--|
| Question   |           | Comment  |  |  | Rating  |  |  |  |
| and delivery schedules.  |           |  |  |  |   |  |  |  |
| 14. Completeness of Project Plan   |           |  |  |  |   |  |  |  |
| 15. Compliance with federal, state, local laws and regulations.  |           |  |  |  |   |  |  |  |
| 16. Interface with project/contract officer.   |           |  |  |  |   |  |  |  |
| 17. Interface with end user / commitment to customer   |           |  |  |  |   |  |  |  |
| 18. Anticipation of problems / prompt notification and recommended solutions.  |           |  |  |  |   |  |  |  |
| 19. If there was a cost overrun (delivery delays), in your opinion, how much of the overrun/delay was attributable to contractor management?             |           | a. All <input type="checkbox"/>                | b. Most <input type="checkbox"/>                   | c. Half <input type="checkbox"/>                 | d. Little <input type="checkbox"/>                  | e. None <input type="checkbox"/>                     | f. Not applicable <input type="checkbox"/>       |  |
| 20. Based on your experience with this contractor, do you think it can be relied upon to delivery quality products/services by a specific delivery date? |           | a. Yes <input type="checkbox"/>                | b. No <input type="checkbox"/>                     |  |   |  |  |  |
| 21. How cooperative was the contractor when technical problems were encountered during the performance of the contract?                                  |           | a. Highly cooperative <input type="checkbox"/> | b. Moderately cooperative <input type="checkbox"/> | c. Slightly cooperative <input type="checkbox"/> | d. Slightly uncooperative <input type="checkbox"/>  | e. Moderately uncooperative <input type="checkbox"/> | f. Highly uncooperative <input type="checkbox"/> | g. No opinion <input type="checkbox"/> |
| 22. Do you believe the contractor can be relied upon to control the cost of performance?   |           | a. Yes <input type="checkbox"/>                | b. Uncertain <input type="checkbox"/>              | c. No <input type="checkbox"/>                   |   |  |  |  |
| 23. How frequently did you have to direct the contractor to re-perform services performed unsatisfactorily the first time?                               |           | a. None <input type="checkbox"/>               | b. Occasionally <input type="checkbox"/>           | c. Often <input type="checkbox"/>                | d. Always or almost always <input type="checkbox"/> |  |  |  |
| 24. Would you hire this contractor again?  |           | a. Yes <input type="checkbox"/>                | b. No <input type="checkbox"/>                     |  |   |  |  |  |
| 25. Would you recommend this contractor to others?   |           | a. Yes <input type="checkbox"/>                | b. No <input type="checkbox"/>                     |  |   |  |  |  |
| 26. Any other comments regarding the   |           |  |  |  |   |  |  |  |

| ESD Services Procurement Past Performance Survey |           |           |           |                |                  |
|--|-----------|-----------|-----------|----------------|------------------|
| 0<br>Unsatisfactory                              | 1<br>Poor | 2<br>Fair | 3<br>Good | 4<br>Excellent | 5<br>Outstanding |
| Question   |           | Comment   |           |                | Rating           |
| contractor's performance?                        |           |           |           |                |                  |
|  |           |           |           |                |                  |

PRINT NAME: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

TITLE: \_\_\_\_\_

PHONE NUMBER: \_\_\_\_\_

E-MAIL: \_\_\_\_\_

DATE: \_\_\_\_\_

## **J.16 Invoice/Financing Request Instructions for CMS Cost-Reimbursement Type Contracts**

**General:** The Contractor shall submit claims for reimbursement in the manner and format described herein and as illustrated in the sample invoice/financing request.

**Format:** Standard Form 1034, Public Voucher for Purchases and Services Other Than Personal; and Standard Form 1035, Public Voucher for Purchases and Services Other Than Personal--Continuation Sheet, or reproduced copies of such forms marked ORIGINAL should be used to submit claims for reimbursement.

**Number of Copies:** As indicated in the Invoice Submission/Contract Financing Request clause in the contract.

**Frequency:** Invoices/financing requests submitted in accordance with the payment clause shall be submitted monthly unless otherwise authorized by the Contracting Officer.

**Cost Incurrence Period:** Costs incurred must be within the contract performance period or covered by pre-contract cost provisions.

**Billing of Costs Incurred:** If billed costs include: (1) Costs of a prior billing period, but not previously billed, or (2) costs incurred during the contract period and claimed after the contract period has expired, the amount and month(s) in which such costs were incurred shall be cited.

**Contractor's Fiscal Year:** Invoices/financing requests shall be prepared in such a manner that costs claimed can be identified with the Contractor's fiscal year.

**Currency:** All CMS contracts are expressed in United States dollars. Where expenditures are made in a currency other than United States dollars, billings on the contract shall be expressed, and reimbursement by the United States Government shall be made, in that other currency at amounts coincident with actual costs incurred. Currency fluctuations may not be a basis of gain or loss to the Contractor. Notwithstanding the above, the total of all invoices paid under this contract may not exceed the United States dollars authorized.

**Costs Requiring Prior Approval:** Costs requiring the Contracting Officer's approval which are not set forth in an advance understanding in the contract shall be so identified.

**Invoice/Financing Request Identification:** Each invoice/financing request shall be identified as either:

(a) **Cost Reimbursable - Financing Request:** These are interim payment requests submitted during the contract performance period.

(b) **Completion/Final Invoice:** The completion invoice is a final invoice which is submitted promptly upon completion of the work, but no later than one year from the contract completion

date. The completion invoice should be submitted when all costs (except for finalization of indirect cost rates) have been assigned to the contract and all performance provisions have been completed. A revised final invoice may be required after the amounts owed have been settled between the Government and the Contractor (e.g., final indirect cost rates and resolution of all suspensions and audit exceptions).

Preparation and Itemization of the Invoice/Financing Request: The Contractor shall furnish the information set forth in the explanatory notes below. These notes are keyed to the entries of the sample invoice/financing request.

- (a) Paying Office and Address: The paying office and address, identified in the Invoice Submission/Contract Financing Request clause of the contract, shall be entered on all copies of the invoice/financing request.
- (b) Invoice/Financing Request Number: Insert the appropriate serial number of the invoice/financing request.
- (c) Date of Invoice/Financing Request: Insert the date of the invoice/financing request is prepared.
- (d) Contract Number and Date: Insert the contract number and the date of the contract.
- (e) Payee's Name and Address: Show the Contractor's name (as it appears in the contract), correct address, and the title and phone number of the responsible official to whom payment is to be sent. When an approved assignment has been made by the Contractor, or a different payee has been designated, then insert the name and address of the payee instead of the Contractor.
- (f) Contract Amount: Insert the total estimated cost of the contract, exclusive of fixed-fee. For incrementally funded contracts, enter the amount currently obligated and available for payment.
- (g) Fixed-Fee: Insert the total fixed-fee (where applicable).
- (h) Billing Period: Insert the beginning and ending dates (day, month, and year of the period in which costs were incurred and for which reimbursement is claimed).
- (i) Amount Billed for Current Period: Insert the amount billed for the major cost elements, adjustment and adjusted amounts for the period.
- (j) Cumulative Amount from Inception to Date of this Billing: Insert the cumulative amounts billed for the major cost elements and adjusted amounts claimed during this contract.
- (k) Direct Costs: Insert the major cost elements. For each element, consider the application of the paragraph entitled Costs Requiring Prior Approval on page 1 of these instructions.
- (l) Direct Labor: This consists of salaries and wages paid (or accrued for direct performance of the contract).

(2) Fringe Benefits: This represents fringe benefits applicable to direct labor and billed as a direct cost. Fringe benefits included in indirect costs should not be identified here.

(3) Nonexpendable Equipment: This category of cost includes permanent research equipment and general purpose equipment having a unit acquisition cost of \$1,000 or more and having an expected service life of more than two years. Prepare and attach Form HHS-565 in accordance with the following instructions:

List each item for which reimbursement is requested. A reference shall be made to the following (as applicable):

(A) The item number for the specific piece of equipment listed in the Property Schedule;

(B) The Contracting Officer's Authorization letter and number, if the equipment is not covered by the Property Schedule, or;

(C) Be preceded by an asterisk (\*) if the equipment is below the approval level.

Further itemization of invoices/financing requests shall only be required for items having specific limitations set forth in the contract.

(4) Materials and Supplies: This category includes equipment with unit costs of less than \$500 or an expected service life of two years or less, and consumable material and supplies regardless of amount.

(5) Premium Pay: This is remuneration in excess of the basic hourly rate.

(6) Consultant Fee: Fees paid to consultants. Identify consultant by name or category as set forth in the contract's advance understanding, as well as the effort (i.e., number of hours, days, etc.) and rate being billed.

(7) Travel: Domestic travel is travel within the United States, its territories, possessions and Canada for Contractors located there; otherwise it is the Contractor's own country. It should be billed separately from foreign travel.

(8) Subcontract Costs: List subcontractor(s) by name and amount billed.

(9) Other: List all other direct costs in total unless exceeding \$1,000 in amount. If over \$1,000, list cost elements and dollar amount separately. If the contract contains restrictions on any cost element, that cost element should be listed separately.

(l) Cost of Money (COM): Cite the COM factor and base in effect during the time the cost was incurred and for which reimbursement is claimed.

(m) Indirect Costs--Overhead: Cite the formula (rate and base) in effect during the time the cost was incurred and for which reimbursement is claimed. If special rate is being used; e.g., off-site, then so specify.

(n) Fixed-Fee: If the contract provides for a fixed-fee, it must be claimed as provided for by the contract. Cite the formula or method of computation.

(o) Total Amounts Claimed: Insert the total amounts claimed for the current and cumulative periods.

(p) Adjustments: This includes amounts conceded by the Contractor, outstanding suspensions and disapprovals subject to appeal.

(q) Grand Totals.