



# Department of Defense Healthcare Management System Modernization (DHMSM) Program

## *Attachment 5: Program WBS*

DHMSM Program Management Office  
DoD Healthcare Management Systems (DHMS) Program Executive Office

Contract Number: N00039-15-D-0044

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WBS	L	Title	Description
1.0	1	DoD Healthcare Management System Modernization (DHMSM) - Segment 1	DHMSM Automated Information System (AIS). The complex of enterprise elements, equipment (hardware), software, legacy systems, users, business rules, data and facilities required to develop or configure, test and deploy DHMSM. This WBS element includes all elements and tasks common between Segment 1 and Segment 2, as well as all elements unique to Segment 1.
1.1	2	Prime Mission Product	The hardware, software, and associated effort used to analyze, design, integrate, and test all elements common between Segment 1 and Segment 2, as well as any elements unique to Segment 1.
1.1.1	3	Custom Application Software 1...n	This element includes all the hardware, software, and associated effort needed to analyze, design, build, and test a custom software application, at the system developer's site, to fulfill a capability gap not captured by COTS only software packages. (COTS only are captured under 1.1.2.2 Enterprise Service Element Software.)  Excludes, for example: Software development necessary for external system interfaces. (external is 1.1.4.2)  Note: Create 1...n elements at level 5 of WBS (example: 1.1.1.1.1, 1.1.1.2.1, etc.)
1.1.1.1	4	Custom Application Software Hardware	This element includes all the associated hardware equipment needed to analyze, design, build, and test the "custom application software" element at the system developer's site to fulfill a capability gap not captured by the services element software packages. Use lower levels to identify individual hardware items (servers, routers, etc.). - Includes, for example: Development and test hardware - Excludes, for example: Deployment hardware at each operational site. (deployment h/w 1.10.x.1.1)
1.1.1.2	4	Custom Application Software Component	This element includes all the associated effort needed to analyze, design, build, and test a custom software application to fulfill a capability gap not captured by the COTS only software packages. Use lower levels to identify individual custom computer software component. See Note 1
1.1.1.3	4	Custom Application Software Integration, Assembly, Test, and Checkout	The element includes the effort and material associated with integrating and testing subsystem software components and hardware of an individual (or group of) subsystem software application that have undergone individual software component qualification test.  Excludes, for example: Software development efforts necessary for external system interfaces (external is 1.1.4.2)
1.1.2	3	Enterprise Service Element 1...n	This element includes all the hardware, software, and associated effort needed for developing functionality or software services: unassociated, loosely coupled units of functionality that have no calls to each other embedded in them. These services can be integrated or used by several organizations, even if their respective client systems are substantially different.  Includes, for example: enterprise service management (monitoring, fault management); machine-to-machine messaging; service discovery; people and device discovery; metadata discovery; mediation; service security; content discovery and delivery; federated search; enterprise catalog service; data source integration; enterprise content delivery network (caching specification, distributed caching, forward staging); session management; presence and awareness; Audio over internet protocol (IP); video over IP; text collaboration (chat, instant messaging); white boarding and annotation; application sharing; application broadcasting; virtual spaces; identity management (people and device discovery); content discovery; collaboration; and user profiling and customization.  Note: Create 1...n elements at level 5 of WBS (example: 1.1.2.1.1, 1.1.2.2.1, etc.)
1.1.2.1	4	Enterprise Service Element Hardware	This element includes all the associated hardware equipment needed at the system developer's facility for assessing and tailoring COTS software applications or modules that can be attributed to a specific software service or bundle of services within the AIS system. Use lower levels to identify individual hardware items.  Includes, for example: a. Development and test hardware  Excludes, for example: a. Deployment hardware at each operational site (deployment h/w 1.10.x.1.1)
1.1.2.2	4	Enterprise Service Element Software	This element includes all the associated effort for assessing and tailoring COTS software applications or modules that can be attributed to a specific software service or bundle of services within the AIS system. See Note 2
1.1.2.3	4	Enterprise Service Element Integration, Assembly, Test, and Checkout	The element includes the effort and material associated with integrating and testing the required software and hardware of an individual (or group of) Enterprise Service Element(s).
1.1.3	3	Enterprise Information Systems 1...n	This element includes all the hardware equipment and effort to plan, analyze, design, build, and test functionality(s) of an enterprise information system that uses an integrated database to support typical business processes within business/functional areas and consistent information access across areas and systems.  Includes, for example: enterprise resource planning, enterprise data warehouse, data mart, and operational data store.  Note: Create 1...n elements at level 5 of WBS (example: 1.1.3.1.1, 1.1.3.2.1, etc.)
1.1.3.1	4	Business Area Hardware	This element includes all the associated hardware equipment needed at the system developer's facility for planning, analyzing, designing, building, and testing functionalities that can be attributed, in whole or in-part, to a specific functional/business area or module within the EIS system.  Includes, for example: a. Development and test hardware  Excludes, for example: a. Deployment hardware at each operational site (deployment h/w 1.10.x.1.1)
1.1.3.2	4	Business Area Software	This element includes all the associated effort needed at the system developer's facility for planning, analyzing, designing, building, and testing functionalities that can be attributed, in whole or in-part, to a specific functional/business area or module within the EIS system. See Note 3  Includes, for example: a. All necessary labor and materials for analyzing, designing/building/configuring, and testing the required business objects -- reports, forms, interfaces, conversions, workflows, fact tables, dimension tables, scripts, enhancements, etc. -- that can be attributed, in whole or in-part, to a specific functional module or business area within the EIS system b. Effort for assessing and tailoring COTS software applications or modules that can be attributed, in whole or in-part, to a specific functional module or business area within the EIS system
1.1.3.3	4	Business Area Integration, Assembly, Test, and Checkout	The element includes the effort and material associated with integrating and testing the required software and hardware of an individual (or group of) Business Area Element(s).

WBS	L	Title	Description
1.1.4	3	External System Interface Development 1...n	The hardware equipment and effort necessary for developing the set of software artifacts (threads, reports, queries, or scripts, or data export schemas) for a specific DHMSM external system interface. Use lower levels to identify each specific external system interface that must be developed or modified.  Includes, for example: Design of the interface specification and the development of the interface.  Excludes, for example: Data Migration/Cleansing (Data Migration captured at individual site deployment starting at 1.10.x.5)  NOTE: An external system interface is required for proper transmission of data and/or control between the AIS solution and separate systems for which a mutual dependency exists.  Note: Create 1...n elements at level 5 of WBS (example: 1.1.4.1.1, 1.1.4.2.1, etc.)
1.1.4.1	4	External Interface Hardware	The hardware equipment necessary at the system integrator's facility for developing the set of software artifacts (threads, reports, queries, or scripts, or data export schemas) for a specific external system interface. Use lower levels to identify each specific hardware item.  Includes, for example: a. Development and test hardware  Excludes, for example: a. Deployment hardware at each operational site (deployment h/w 1.10.x.1.1)
1.1.4.2	4	External Interface Software	The effort associated with developing the set of software artifacts (threads, reports, queries, or scripts, portlets, or data export schemas) needed for a specific external system interface. Use lower levels to identify specific artifacts that must be developed or modified. See Note 4  Includes, for example: a. Software requirements b. Software architecture and design c. Software code and unit test d. Software integration e. Software qualification testing f. Software COTS/GOTS approach (requirements negotiation) g. Software COTS/GOTS component identification h. Software COTS/GOTS assessment and selection i. Software prototyping j. Software COTS/GOTS glue code development k. Software COTS/GOTS tailoring and configuration l. Subsystem software product engineering (e.g., configuration management, quality assurance, managed services, etc.) m. Both the design of the interface specification and the development of the interface
1.1.4.3	4	External Interface Integration, Assembly, Test, and Checkout	The element includes the effort and material associated with integrating and testing the required software and hardware of an individual (or group of) External System Interface(s).
1.1.5	3	AIS Platform Hardware	Includes all effort and equipment to develop a hardware system to host the deliverable DHMSM software.
1.1.6	3	System Level Integration	Includes all effort and equipment to assemble, integrate, and test all joint and Segment 1 elements as a whole at the system developer's facility.
1.2	2	System Engineering / Systems Analysis	The technical and management efforts of directing and controlling a totally integrated engineering effort of a system or program. Includes, for example: a. System definition, overall system design, design integrity analysis, system optimization, system/cost effectiveness analysis, and intra-system and inter-system compatibility assurance, etc.; the integration and balancing of reliability, maintainability, productivity, safety, human health, environmental protection, and survivability, security requirements, configuration management and configuration control, quality assurance program, value engineering, preparation of equipment and component performance specifications, design of test and demonstration plans; determination of software development or software test facility/environment requirements; b. Preparation of the Systems Engineering Plan (SEP), specification tree, program risk analysis, system planning, decision control process, technical performance measurement, technical reviews, subcontractor and vendor reviews, work authorization, and technical documentation control. c. Reliability engineering—the engineering process and series of tasks required to examine the probability of a device or system performing its mission adequately for the period of time intended under the operating conditions expected to be encountered. d. Maintainability engineering—the engineering process and series of tasks required to measure the ability of an item or system to be retained in or restored to a specified condition of readiness, skill levels, etc., using prescribed procedures and resources at specific levels of maintenance and repair. e. Human systems integration—the engineering process and the series of tasks required to define, as a comprehensive technical and engineering effort, the integration of doctrine, manpower, and personnel integration, materiel development, operational effectiveness, human characteristics, skill capabilities, training, manning implication, and other related elements into a comprehensive effort. f. Supportability analyses—an integral part of the systems engineering process beginning at program initiation and continuing throughout program development. Supportability analyses form the basis for related design requirements included in the system specification and for subsequent decisions concerning how to most cost effectively support the system and its infrastructure over its entire life cycle. g. System of Systems (SoS) and System Level Architecting, modeling and simulation, verification and validation and external interface definition and management. h. Information Systems Integration (ISI) – an overarching set of tools and processes which enables the integration of sound engineering practices at the system level; the impetus being the sustainment of safety, suitability and effectiveness for the life of the system. Includes the ability to return systems to specification level performance after repair/overhaul activities. ISI is an integral process through which operational safety, suitability, and effectiveness (OSS&E) are implemented.
1.2.1	3	Government System Engineering	Specific System Engineering activities to be performed and/or managed directly by the Government.
1.2.2	3	Contractor System Engineering	Specific System Engineering activities to be performed by a system engineering contractor. The contractor will provide its own sub-elements under this WBS element.
1.3	2	Program Management	The business and administrative planning, organizing, directing, coordinating, controlling, and approval actions designated to accomplish overall program objectives, which are not associated with specific hardware elements and are not included in systems engineering.  Includes, for example: a. Cost, schedule, performance measurement management, warranty administration, contract management, data management, vendor liaison, subcontract management, etc. b. Support element management, defined as the logistics tasks management effort and technical control, and the business management of the support elements. The logistics management function encompasses the support evaluation and supportability assurance required to produce an affordable and supportable defense materiel system c. Planning and management of all the functions of logistics. Examples are, Maintenance support planning and support facilities planning; other support requirements determination; support equipment; supply support; packaging, handling, storage, and transportation; provisioning requirements determination and planning; training system requirements determination; computer resource determination; organizational, intermediate, and depot maintenance determination management; and data management
1.3.1	3	Government Program Management	Specific Program Management activities to be performed and/or managed directly by the Government.
1.3.2	3	Contractor Program Management	Specific Program Management activities to be performed by a system engineering and/or development contractor. The contractor will provide its own sub-elements under this WBS element.
1.4	2	Change Management	Change management refers to the broad process for managing organizational change. Change management encompasses planning, oversight or governance, project management, testing and implementation.
1.4.1	3	Change Management Planning	Identification of the sequence of steps or activities that a change management team or project leader would follow to apply change management to a project. The objective of change management in this context is to ensure that standardized methods and procedures are used for efficient and prompt handling of all changes to control IT infrastructure, in order to minimize the number and impact of any related incidents upon service. Changes in the IT infrastructure may arise reactively in response to problems or externally imposed requirements, e.g. legislative changes, or proactively from seeking improved efficiency and effectiveness or to enable or reflect business initiatives, or from programs, projects or service improvement initiatives.
1.4.2	3	Change Management Tools	Tools used to perform change management
1.5	2	System Test and Evaluation	The use of pilot, production, or specifically configured systems to obtain or validate engineering data on the performance of the system during the developmental phase (normally funded from RDT&E) of the program. It also includes all effort associated with the development of any specialized tools or data in support of the system level test program.  Includes, for example: a. Developmental test and evaluation b. Operational test and evaluation c. Mock-ups/System Integration Labs (SIL) d. Test support e. Test facilities

WBS	L	Title	Description
1.5.1	3	Development Test and Evaluation	<p>This effort is planned, conducted and monitored by the developing agency of the DoD component. It includes test and evaluation conducted to:</p> <ul style="list-style-type: none"> <li>a. Demonstrate that the engineering design and development process is complete.</li> <li>b. Demonstrate that the design risks have been minimized</li> <li>c. Demonstrate that the system will meet specifications</li> <li>d. Estimate the system's military utility when introduced</li> <li>e. Determine whether the engineering design is supportable (practical, maintainable, safe, etc.) For operational use</li> <li>f. Provide test data with which to examine and evaluate trade-offs against specification requirements, life cycle cost, and schedule</li> <li>g. Perform the logistics testing efforts to evaluate the achievement of supportability goals, the adequacy of the support package for the system, (e.g., deliverable maintenance tools, test equipment, technical publications, maintenance instructions, and personnel skills and training requirements, etc.)</li> </ul> <p>Includes, for example:</p> <ul style="list-style-type: none"> <li>a. All system developer in-house effort</li> <li>b. All programs, where applicable; models, tests and associated simulations; integration ground tests; qualification test and evaluation, test instrumentation, environmental tests, test facility operations, test equipment (including its support equipment), and logistics testing. Qualification test</li> <li>d. Accreditation</li> <li>e. Independent verification and validation</li> <li>f. Test software</li> </ul>
1.5.2	3	Operational Test and Evaluation	<p>The test and evaluation conducted by agencies other than the developing command to assess the prospective system's military utility, operational effectiveness, operational suitability, logistics supportability (including compatibility, inter-operability, reliability, maintainability, logistic requirements, etc.), cost of ownership, and need for any modifications.</p> <p>Includes, for example:</p> <ul style="list-style-type: none"> <li>a. Initial operational test and evaluation conducted during the development of a system</li> <li>b. Such tests as system demonstration, qualification operational test and evaluation, etc., and support thereto, required to prove the operational capability of the deliverable system</li> <li>c. Contractor support (e.g., technical assistance, maintenance, labor, material, etc.) Consumed during this phase of testing</li> <li>d. Logistics testing efforts to evaluate the achievement of supportability goals and the adequacy of the support for the system (e.g., deliverable maintenance tools, test equipment, technical publications, maintenance instructions, personnel skills and training requirements, and software support facility/environment elements)</li> </ul>
1.5.3	3	Mock-ups / System Integration Labs (SILs)	<p>The design engineering and production of system or subsystem —mock-ups, which have special contractual or engineering significance, or which are not required solely for the conduct of one of the above elements of testing. SILs are often used in lieu of (or in addition to) mock-ups. SILs are risk reduction facilities where software and hardware can be developed, integrated, tested and evaluated for both stand alone functionality and/or interoperability prior to being fielded.</p> <p>Includes, for example:</p> <ul style="list-style-type: none"> <li>a. Hardware/lab equipment</li> <li>b. SIL software (written to simulate the operating environment or written to operate the SIL)</li> </ul>
1.5.4	3	Test and Evaluation Support	<p>The support elements necessary to operate and maintain, during test and evaluation, systems and subsystems, which are not consumed during the testing phase and are not allocated to a specific phase of testing.</p> <p>Includes, for example:</p> <ul style="list-style-type: none"> <li>a. Repairable spares, repair of repairables, repair parts, consumables, warehousing and distribution of spares and repair parts, test and support equipment, contractor technical support</li> </ul> <p>Excludes, for example:</p> <ul style="list-style-type: none"> <li>a. Operational and maintenance personnel, special fixtures, special instrumentation, etc., that are utilized and/or consumed in a single element of testing and that should be included under that element of testing (exclusions map to multiple WBS elements)</li> </ul>
1.5.5	3	Test Facilities	<p>The special test facilities required for performance of the various developmental test necessary to prove the design and reliability of the system or subsystem.</p> <p>Includes, but not limited to:</p> <ul style="list-style-type: none"> <li>a. Test fixtures, white rooms, test chambers</li> </ul> <p>Excludes, for example:</p> <ul style="list-style-type: none"> <li>a. Brick and mortar-type facilities identified as industrial facilities (industrial facilities are in 1.11)</li> </ul>
1.6	2	Training	<p>Deliverable training services, devices, accessories, aids, equipment, and parts used to facilitate instruction through which personnel will learn to operate and maintain the system with maximum efficiency.</p> <p>Includes, for example:</p> <ul style="list-style-type: none"> <li>a. All effort associated with the design, development, and production of deliverable training equipment and its associated software as well as the execution of training services</li> <li>b. Operational trainers, maintenance trainers, training testers, and other items such as cutaways, mock-ups, and models</li> <li>c. Training course material development; contractor-conducted training (in-plant and service training); and the materials and curriculum required to design, execute, and produce a contractor developed training program</li> <li>d. Materiel, courses, and associated documentation (primarily the computer software, courses and training aids)</li> <li>e. Modification or rehabilitation of existing facilities used to accomplish training objectives</li> <li>f. Development</li> <li>g. Training and professional development</li> <li>h. Training software</li> </ul> <p>Excludes, for example:</p> <ul style="list-style-type: none"> <li>a. User training costs (user training occurs at each individual site deployment under 1.10.x.4)</li> </ul>
1.6.1	3	Equipment	<p>Distinctive deliverable end items of training equipment, assigned by either a contractor or military service, required to meet specific training objectives.</p> <p>Includes, for example:</p> <ul style="list-style-type: none"> <li>a. Operational trainers, maintenance trainers, and other items such as cutaways, mock-ups, and models (e.g. Operational Instructional Equipment, Maintainer Instructional Equipment)</li> </ul>
1.6.2	3	Services	<p>Deliverable training services, accessories, and aids necessary to accomplish the objectives of training.</p> <p>Includes, for example:</p> <ul style="list-style-type: none"> <li>a. Training course materials; contractor-conducted training (in-plant and service training); and the materials and curriculum required to design, execute, and produce a contractor developed training program. (e.g. Operator Instructional Software, Maintainer Instructional Software)</li> <li>b. Materiel, courses, and associated documentation (primarily the computer software, courses and training aids)</li> </ul> <p>Excludes, for example:</p> <ul style="list-style-type: none"> <li>a. Deliverable training data associated with the WBS element support data (Support Data is 1.7.4)</li> </ul>
1.6.3	3	Facilities	<p>The special construction necessary to accomplish training objectives.</p> <p>Includes, for example:</p> <ul style="list-style-type: none"> <li>a. Modification or rehabilitation of existing training facilities and infrastructure used to accomplish training objectives</li> </ul> <p>Excludes, for example:</p> <ul style="list-style-type: none"> <li>a. Installed equipment used to acquaint the trainee with the system or establish trainee proficiency</li> <li>b. The brick and mortar-type facilities identified as industrial facilities (industrial facilities are in 1.11)</li> </ul>

WBS	L	Title	Description
1.7	2	Data	The deliverable data required to be listed on a contract data requirements list, DD Form 1423.  Includes, for example: a. Technical publication b. Engineering data c. Management data d. Support data e. Data repository
1.7.1	3	Technical Publications	Technical data, providing instructions for installation, operation, maintenance, training, and support, formatted into a technical manual. Data may be presented in any form regardless of the form or method of recording. Technical orders that meet the criteria of this definition may also be classified as technical manuals.  Includes, for example: a. Operation and maintenance instructions, parts lists or parts breakdown, and related technical information or procedures exclusive of administrative procedures b. Data item descriptions set forth in categories selected from the Acquisition Management Systems and Data Requirements Control List (DoD 5010.12-L)
1.7.2	3	Engineering Data	Recorded scientific or technical information (regardless of the form or method of recording) including computer software documentation. Engineering data defines and documents an engineering design or product configuration (sufficient to allow duplication of the original items) and is used to support production, engineering and logistics activities.  Includes, for example: a. All final plans, procedures, reports, and documentation pertaining to systems, subsystems, computer and computer resource programs, component engineering, operational testing, human factors, reliability, availability, and maintainability, and other engineering analysis b. Technical data package (re-procurement package) that includes all engineering drawings, associated lists, process descriptions, and other documents defining physical geometry, material composition, and performance procedures  Excludes, for example: a. Computer software or financial, administrative, cost or pricing, or management data or other information incidental to contract administration (exclusions include multiple WBS elements, including 1.7.3 and 1.3)
1.7.3	3	Management Data	The data items necessary for configuration management, cost, schedule, contractual data management, program management, etc. (required by the Government).  Includes, for example: a. Contractor cost reports, cost performance reports, contract funds status reports, schedules, milestones, networks, integrated support plans
1.7.4	3	Support Data	The data items designed to document support planning in accordance with functional categories.  Includes, for example: a. Supply, general maintenance plans and reports; training data; transportation, handling, storage, and packaging information; facilities data; data to support the provisioning process and all other support data; and software supportability planning and software support transition planning documents
1.7.5	3	Data Depository	The facility designated to act as custodian to maintain a master engineering specification and establish a drawing depository service for Government approved documents that are the property of the U.S. Government. As custodian for the Government, the repository, authorized by approved change orders, maintains these master documents at the latest approved revision level. This facility is a distinct entity.  Includes, for example: a. All drafting and clerical effort necessary to maintain documents
1.8	2	Peculiar Support Equipment	The design, development, and production of those deliverable items and associated software required to support and maintain the system or portions of the system while the system is not directly engaged in the performance of its mission, and which are not common support equipment.  Includes, for example: a. Any production of duplicate or modified factory test or tooling equipment delivered to the Government for use in maintaining the system. (Factory test and tooling equipment initially used by the contractor in the production process but subsequently delivered to the Government will be included as cost of the item produced.) b. Any additional equipment or software required to maintain or modify the software portions of the system  Excludes, for example: a. Overall planning, management and task analysis functions inherent in the work breakdown structure element, systems Engineering/Program Management (1.2, 1.3) b. Common support equipment, presently in the DoD inventory or commercially available, bought by the using command, not by the acquiring command
1.8.1	3	Test and Measurement Equipment	The peculiar or unique testing and measurement equipment that allows an operator or maintenance function to evaluate operational conditions of a system or equipment by performing specific diagnostics, screening or quality assurance effort at an organizational, intermediate, or depot level of equipment support.  Includes, for example: a. Test measurement and diagnostic equipment, precision measuring equipment, automatic test equipment, manual test equipment, automatic test systems, test program sets, appropriate interconnect devices, automated load modules, tapes, and related software, firmware and support hardware (power supply equipment, etc.) Used at all levels of maintenance b. Packages that enable line or shop replaceable units, printed circuit boards, or similar items to be diagnosed using automatic test equipment
1.8.2	3	Support and Handling Equipment	The deliverable tools and handling equipment used for support of the mission system.  Includes, for example: a. Ground support equipment, vehicular support equipment, powered support equipment, non-powered support equipment, materiel handling equipment, and software support equipment (hardware and software)

WBS	L	Title	Description
1.9	2	Common Support Equipment	The items required to support and maintain the system or portions of the system while not directly engaged in the performance of its mission, and which are presently in the DoD inventory for support of other systems.  Includes, for example: a. Acquisition of additional quantities of this equipment needed to support the item b. All efforts required to assure the availability of this equipment to support the item
1.9.1	3	Test and Measurement Equipment	The common testing and measurement equipment that allows an operator or maintenance function to evaluate operational conditions of a system or equipment by performing specific diagnostics, screening or quality assurance effort at an organizational, intermediate, or depot level of equipment support.  Includes, for example: a. Test measurement and diagnostic equipment, precision measuring equipment, automatic test equipment, manual test equipment, automatic test systems, test program sets, appropriate interconnect devices, automated load modules, tapes, and related software, firmware and support hardware (power supply equipment, etc.) Used at all levels of maintenance b. Packages that enable line or shop replaceable units, printed circuit boards, or similar items to be diagnosed using automatic test equipment
1.9.2	3	Support and Handling Equipment	The deliverable tools and handling equipment used for support of the mission system.  Includes, for example: a. Ground support equipment, vehicular support equipment, powered support equipment, non-powered support equipment, materiel handling equipment, and software support equipment (hardware/software)
1.10	2	Operational/Site Activation	The costs associated with deploying the AIS solution at the user site(s). This should cover only those efforts that are incurred at the implementation site. Any up-front effort involved with designing/engineering the solution for a particular site should be included in under Client-side Site Development. Any effort related to re-design of the solution once implementation has begun should be captured here.  Includes, for example (by site type): a. Deployment hardware and software b. Site activation labor c. User training d. Data migration Note: This element will also include the real estate, construction, conversion, utilities, and equipment to provide all facilities required to house, service, and launch the AIS solution at the user sites.
1.10.1	3	Site Type 1: IT Enterprise	Includes all deployment hardware and software, user documentation, site survey, site activation, user training, data migration, management/engineering support, and interim logistics support related to the IT Enterprise level sites (e.g., centralized data center).
1.10.1.1	4	Deployment Hardware and Software	This includes all the hardware (such as servers, gateways, routers, etc.) and the software (such as DHMSM application, middleware, etc.) to be deployed at the given site.
1.10.1.1.1	5	Deployment Hardware	Included in this element should be any Commercial-Off-the-Shelf (COTS) hardware purchased for the primary site type 1.  Includes, for example: a. Processing equipment (servers, CPUs, etc.) b. Network/communications c. Storage d. Security/crypto e. UPS f. Other/ancillary equipment  Excludes, for example: a. Development /test hardware (captured with the prime mission product) (PMP hardware is 1.1.2.1)
1.10.1.1.2	5	Deployment Software	Included in this element should be any Commercial-Off-the-Shelf (COTS) deployment software purchased for the primary site type 1. This would include the purchase of software licenses related to the AIS solution.
1.10.1.2	4	User Documentation	This includes the development of user documents, tutorials, online help, etc. that describe each feature of the new system being deployed and assists the user in realizing these features.
1.10.1.3	4	Site Activation	This element includes the costs associated with shipping costs to the site, site survey, site preparation, equipment installation, equipment integration, test and checkout to allow implementation of the AIS solution. This should cover only those efforts that are incurred at the implementation site. Any effort related to re-design of the solution once implementation has begun should be captured here.
1.10.1.4	4	User Training	This element represents the effort involved with training the users of the implemented AIS solution at the user sites. The primary cost captured here will be the labor costs of instructors to train users on the new system and business processes required to operate within the new system(s). Any costs incurred as a result of revising the training courses and/or materials once implementation has begun should also be captured here.  Excludes, for example: a. Any up-front costs associated with training the trainers, as well as course development and material costs that are not incurred as a result of circumstances encountered at the user sites (Training course development is 1.6)
1.10.1.5	4	Data Migration	This element includes the effort for translating data from one format to another. This should cover only those efforts that are incurred at the implementation site. Also include any expense associated with the transition of data from the legacy systems to the AIS solution. Use lower levels to identify individual legacy systems.  Includes, for example: a. Data translation b. Data cleansing c. Data loading  Excludes, for example: a. External System Interface Development (External System Interface Development is 1.1.4) Note: Data migration is necessary when an organization decides to use a new computing system or database management system that is incompatible with the current system. Typically, data migration is performed by a set of customized programs or scripts that automatically transfer the data.
1.10.1.6	4	Management/Engineering Support	This element captures those support elements that are attributable only to specific user /implementation sites. This would include systems engineering/program management effort associated with a specific site, as well as any system test and evaluation specific to particular user sites.

WBS	L	Title	Description
1.10.2	3	Site Type 2: IT Non-Enterprise	Includes all deployment hardware and software, user documentation, site survey, site activation, user training, data migration, management/engineering support, and interim logistics support related to the IT Non-Enterprise level sites (e.g., local site hub).
1.10.2.1	4	Deployment Hardware and Software	This includes all the hardware (such as servers, gateways, routers, etc.) and the software (such as DHMSM application, middleware, etc.) to be deployed at the given site.
1.10.2.1.1	5	Deployment Hardware	Included in this element should be any Commercial-Off-the-Shelf (COTS) hardware purchased for the primary site type 2.  Includes, for example: a. Processing equipment (servers, CPUs, etc.) b. Network/communications c. Storage d. Security/crypto e. UPS f. Other/ancillary equipment  Excludes, for example: a. Development /test hardware (captured with the prime mission product) (PMP hardware is 1.1.2.1)
1.10.2.1.2	5	Deployment Software	Included in this element should be any Commercial-Off-the-Shelf (COTS) deployment software purchased for the primary site type 2. This would include the purchase of software licenses related to the AIS solution.
1.10.2.2	4	User Documentation	This includes the development of user documents, tutorials, online help, etc. that describe each feature of the new system being deployed and assists the user in realizing these features.
1.10.2.3	4	Site Activation	Preparation of a site to perform its assigned or intended function. It may include construction of facilities, installation of equipment, software, hardware, personnel, etc.
1.10.2.4	4	User Training	This element represents the effort involved with training the users of the implemented AIS solution at the user sites. The primary cost captured here will be the labor costs of instructors to train users on the new system and business processes required to operate within the new system(s). Any costs incurred as a result of revising the training courses and/or materials once implementation has begun should also be captured here.  Excludes, for example: a. Any up-front costs associated with training the trainers, as well as course development and material costs that are not incurred as a result of circumstances encountered at the user sites (Training course development is 1.6)
1.10.2.5	4	Data Migration	This element includes the effort for translating data from one format to another. This should cover only those efforts that are incurred at the implementation site. Also include any expense associated with the transition of data from the legacy systems to the AIS solution. Use lower levels to identify individual legacy systems.  Includes, for example: a. Data translation b. Data cleansing c. Data loading  Excludes, for example: a. External System Interface Development (External System Interface Development is 1.1.4) Note: Data migration is necessary when an organization decides to use a new computing system or database management system that is incompatible with the current system. Typically, data migration is performed by a set of customized programs or scripts that automatically transfer the data.
1.10.2.6	4	Management/Engineering Support	The technical and management efforts of directing and controlling the integrated engineering effort of DHMSM for the given site.  Includes, for example: effort to define the system and the integrated planning and control of the technical program efforts of design engineering, specialty engineering, production engineering, and integrated test planning; effort to transform an operational need or statement of deficiency into a description of system requirements and a preferred system configuration; technical planning and control effort for planning, monitoring, measuring, evaluating, directing, and re-planning the management of the technical program; where applicable: value engineering, configuration management, Human Systems Integration (Human factors engineering; Personnel; Habitability; Manpower; Training; Environment, Safety and Occupational Health; Survivability); vulnerability, maintainability, reliability, standardization, system analysis, logistic support analysis, etc.; technical baseline management and event based technical reviews with independent subject matter expertise participation; cross product IPT integration; survivability/vulnerability analysis; and System of Systems (SoS) and System Level Architecting, modeling and simulation, verification and validation and external interface definition and management.

WBS	L	Title	Description
1.10.3	3	Site Type 3: Hospital	Includes all deployment hardware and software, user documentation, site survey, site activation, user training, data migration, management/engineering support, and interim logistics support related to the Hospital sites.
1.10.3.1	4	Deployment Hardware and Software	This includes all the hardware (such as servers, gateways, routers, etc.) and the software (such as DHMSM application, middleware, etc.) to be deployed at the given site.
1.10.3.1.1	5	Deployment Hardware	Included in this element should be any Commercial-Off-the-Shelf (COTS) hardware purchased for the primary site type 3.  Includes, for example: a. Processing equipment (servers, CPUs, etc.) b. Network/communications c. Storage d. Security/crypto e. UPS f. Other/ancillary equipment  Excludes, for example: a. Development /test hardware (captured with the prime mission product) (PMP hardware is 1.1.2.1)
1.10.3.1.2	5	Deployment Software	Included in this element should be any Commercial-Off-the-Shelf (COTS) deployment software purchased for the primary site type 3. This would include the purchase of software licenses related to the AIS solution.
1.10.3.2	4	User Documentation	This includes the development of user documents, tutorials, online help, etc. that describe each feature of the new system being deployed and assists the user in realizing these features.
1.10.3.3	4	Site Activation	Preparation of a site to perform its assigned or intended function. It may include construction of facilities, installation of equipment, software, hardware, personnel, etc.
1.10.3.4	4	User Training	This element represents the effort involved with training the users of the implemented AIS solution at the user sites. The primary cost captured here will be the labor costs of instructors to train users on the new system and business processes required to operate within the new system(s). Any costs incurred as a result of revising the training courses and/or materials once implementation has begun should also be captured here.  Excludes, for example: a. Any up-front costs associated with training the trainers, as well as course development and material costs that are not incurred as a result of circumstances encountered at the user sites (Training course development is 1.6)
1.10.3.5	4	Data Migration	This element includes the effort for translating data from one format to another. This should cover only those efforts that are incurred at the implementation site. Also include any expense associated with the transition of data from the legacy systems to the AIS solution. Use lower levels to identify individual legacy systems.  Includes, for example: a. Data translation b. Data cleansing c. Data loading  Excludes, for example: a. External System Interface Development (External System Interface Development is 1.1.4) Note: Data migration is necessary when an organization decides to use a new computing system or database management system that is incompatible with the current system. Typically, data migration is performed by a set of customized programs or scripts that automatically transfer the data.
1.10.3.6	4	Management/Engineering Support	The technical and management efforts of directing and controlling the integrated engineering effort of DHMSM for the given site.  Includes, for example: effort to define the system and the integrated planning and control of the technical program efforts of design engineering, specialty engineering, production engineering, and integrated test planning; effort to transform an operational need or statement of deficiency into a description of system requirements and a preferred system configuration; technical planning and control effort for planning, monitoring, measuring, evaluating, directing, and re-planning the management of the technical program; where applicable: value engineering, configuration management, Human Systems Integration (Human factors engineering; Personnel; Habitability; Manpower; Training; Environment, Safety and Occupational Health; Survivability), vulnerability, maintainability, reliability, standardization, system analysis, logistic support analysis, etc.; technical baseline management and event based technical reviews with independent subject matter expertise participation; cross product IPT integration; survivability/vulnerability analysis; and System of Systems (SoS) and System Level Architecting, modeling and simulation, verification and validation and external interface definition and management.
1.10.4	3	Site Type 4: Medical Clinic	Includes all deployment hardware and software, user documentation, site survey, site activation, user training, data migration, management/engineering support, and interim logistics support related to the Medical Clinic sites.
1.10.4.1	4	Deployment Hardware and Software	This includes all the hardware (such as servers, gateways, routers, etc.) and the software (such as DHMSM application, middleware, etc.) to be deployed at the given site.
1.10.4.1.1	5	Deployment Hardware	Included in this element should be any Commercial-Off-the-Shelf (COTS) hardware purchased for the primary site type 4.  Includes, for example: a. Processing equipment (servers, CPUs, etc.) b. Network/communications c. Storage d. Security/crypto e. UPS f. Other/ancillary equipment  Excludes, for example: a. Development /test hardware (captured with the prime mission product) (PMP hardware is 1.1.2.1)
1.10.4.1.2	5	Deployment Software	Included in this element should be any Commercial-Off-the-Shelf (COTS) deployment software purchased for the primary site type 4. This would include the purchase of software licenses related to the AIS solution.
1.10.4.2	4	User Documentation	This includes the development of user documents, tutorials, online help, etc. that describe each feature of the new system being deployed and assists the user in realizing these features.
1.10.4.3	4	Site Activation	Preparation of a site to perform its assigned or intended function. It may include construction of facilities, installation of equipment, software, hardware, personnel, etc.
1.10.4.4	4	User Training	This element represents the effort involved with training the users of the implemented AIS solution at the user sites. The primary cost captured here will be the labor costs of instructors to train users on the new system and business processes required to operate within the new system(s). Any costs incurred as a result of revising the training courses and/or materials once implementation has begun should also be captured here.  Excludes, for example: a. Any up-front costs associated with training the trainers, as well as course development and material costs that are not incurred as a result of circumstances encountered at the user sites (Training course development is 1.6)
1.10.4.5	4	Data Migration	This element includes the effort for translating data from one format to another. This should cover only those efforts that are incurred at the implementation site. Also include any expense associated with the transition of data from the legacy systems to the AIS solution. Use lower levels to identify individual legacy systems.  Includes, for example: a. Data translation b. Data cleansing c. Data loading  Excludes, for example: a. External System Interface Development (External System Interface Development is 1.1.4) Note: Data migration is necessary when an organization decides to use a new computing system or database management system that is incompatible with the current system. Typically, data migration is performed by a set of customized programs or scripts that automatically transfer the data.

WBS	L	Title	Description
1.10.4.6	4	Management/Engineering Support	The technical and management efforts of directing and controlling the integrated engineering effort of DHMSM for the given site.  Includes, for example: effort to define the system and the integrated planning and control of the technical program efforts of design engineering, specialty engineering, production engineering, and integrated test planning; effort to transform an operational need or statement of deficiency into a description of system requirements and a preferred system configuration; technical planning and control effort for planning, monitoring, measuring, evaluating, directing, and re-planning the management of the technical program; where applicable: value engineering, configuration management, Human Systems Integration (Human factors engineering; Personnel; Habitability; Manpower; Training; Environment, Safety and Occupational Health; Survivability), vulnerability, maintainability, reliability, standardization, system analysis, logistic support analysis, etc.; technical baseline management and event based technical reviews with independent subject matter expertise participation; cross product IPT integration; survivability/vulnerability analysis; and System of Systems (SoS) and System Level Architecting, modeling and simulation, verification and validation and external interface definition and management.
1.10.5	3	Site Type 5: Dental Clinic	Includes all deployment hardware and software, user documentation, site survey, site activation, user training, data migration, management/engineering support, and interim logistics support related to the Dental Clinic sites.
1.10.5.1	4	Deployment Hardware and Software	This includes all the hardware (such as servers, gateways, routers, etc.) and the software (such as DHMSM application, middleware, etc.) to be deployed at the given site.
1.10.5.1.1	5	Deployment Hardware	Included in this element should be any Commercial-Off-the-Shelf (COTS) hardware purchased for the primary site type 5  Includes, for example: a. Processing equipment (servers, CPUs, etc.) b. Network/communications c. Storage d. Security/crypto e. UPS f. Other/ancillary equipment  Excludes, for example: a. Development /test hardware (captured with the prime mission product) (PMP hardware is 1.1.2.1)
1.10.5.1.2	5	Deployment Software	Included in this element should be any Commercial-Off-the-Shelf (COTS) deployment software purchased for the primary site type 5. This would include the purchase of software licenses related to the AIS solution.
1.10.5.2	4	User Documentation	This includes the development of user documents, tutorials, online help, etc. that describe each feature of the new system being deployed and assists the user in realizing these features.
1.10.5.3	4	Site Activation	Preparation of a site to perform its assigned or intended function. It may include construction of facilities, installation of equipment, software, hardware, personnel, etc.
1.10.5.4	4	User Training	This element represents the effort involved with training the users of the implemented AIS solution at the user sites. The primary cost captured here will be the labor costs of instructors to train users on the new system and business processes required to operate within the new system(s). Any costs incurred as a result of revising the training courses and/or materials once implementation has begun should also be captured here.  Excludes, for example: a. Any up-front costs associated with training the trainers, as well as course development and material costs that are not incurred as a result of circumstances encountered at the user sites (Training course development is 1.6)
1.10.5.5	4	Data Migration	This element includes the effort for translating data from one format to another. This should cover only those efforts that are incurred at the implementation site. Also include any expense associated with the transition of data from the legacy systems to the AIS solution. Use lower levels to identify individual legacy systems.  Includes, for example: a. Data translation b. Data cleansing c. Data loading  Excludes, for example: a. External System Interface Development (External System Interface Development is 1.1.4) Note: Data migration is necessary when an organization decides to use a new computing system or database management system that is incompatible with the current system. Typically, data migration is performed by a set of customized programs or scripts that automatically transfer the data.
1.10.5.6	4	Management/Engineering Support	The technical and management efforts of directing and controlling the integrated engineering effort of DHMSM for the given site.  Includes, for example: effort to define the system and the integrated planning and control of the technical program efforts of design engineering, specialty engineering, production engineering, and integrated test planning; effort to transform an operational need or statement of deficiency into a description of system requirements and a preferred system configuration; technical planning and control effort for planning, monitoring, measuring, evaluating, directing, and re-planning the management of the technical program; where applicable: value engineering, configuration management, Human Systems Integration (Human factors engineering; Personnel; Habitability; Manpower; Training; Environment, Safety and Occupational Health; Survivability), vulnerability, maintainability, reliability, standardization, system analysis, logistic support analysis, etc.; technical baseline management and event based technical reviews with independent subject matter expertise participation; cross product IPT integration; survivability/vulnerability analysis; and System of Systems (SoS) and System Level Architecting, modeling and simulation, verification and validation and external interface definition and management.
1.11	2	Industrial Facilities	The construction, conversion, or expansion of industrial facilities for production, inventory, and contractor depot maintenance required when that service is for the specific system. This may be a Software Integration Laboratory (SIL).  Includes, for example: a. Equipment acquisition or modernization, where applicable b. Maintenance of these facilities or equipment c. Industrial facilities for hazardous waste management to satisfy environmental standards
1.11.1	3	Construction/Conversion/Expansion	The real estate and preparation of system peculiar industrial facilities for production, inventory, depot maintenance, and other related activities.
1.11.2	3	Equipment Acquisition or Modernization	The production equipment acquisition, modernization, or transfer of equipment for DHMSM. This pertains to Government owned and leased equipment under facilities contract.
1.11.3	3	Maintenance (Industrial Facilities)	The maintenance, preservation, and repair of industrial facilities and equipment.
1.12	2	Initial Spares and Repair Parts	The deliverable spare components, assemblies and subassemblies used for initial replacement purposes in the materiel system equipment end item.  Includes, for example: Repairable spares (repairables) and repair parts required as initial stockage to support and maintain newly fielded systems or subsystems during the initial phase of service, including pipeline and war reserve quantities, at all levels of maintenance and support  Excludes, for example: Developmental test spares (1.5.1) and spares provided specifically for use during installation, assembly, and checkout on site, lower level WBS breakouts should be by subsystem
1.13	2	DHMSM Segment 1 Operations and Support (O&S)	Operations and sustainment are all direct and indirect costs incurred in using the prime system—manpower, maintenance, and support—through the entire life cycle. Also included are sustaining engineering and other collateral activities.
1.13.1	3	Facility Operations	Includes all facility costs for operations and maintenance (e.g., rent, utilities, etc.)
1.13.2	3	System Hosting	Includes all purchased hosting related costs (e.g., processing, storage, etc.)
1.13.3	3	Software Maintenance	Includes COTS software configuration and/or customization maintenance and COTS software license maintenance and renewal.
1.13.3.1	4	Configuration/Customization Maintenance	Includes maintenance costs of all configuration and/or customizations made to the product application.
1.13.3.2	4	COTS Software License Maintenance and Renewal	Includes COTS software license maintenance costs (including annual cost required for continued product patches and technical support).
1.13.4	3	Hardware Maintenance	Includes COTS hardware warranty and maintenance costs.
1.13.5	3	Change Architecture / Design	Includes any engineering change proposals (ECPs), pre-planned product improvements (P3I), software modification, etc.
1.13.6	3	Purchased Software and Hardware refresh	Includes any new COTS SW purchases and new hardware purchase (including tech refresh). Includes all new hardware, new software, and spares.
1.13.6.1	4	Purchased Software	Includes any new COTS SW purchases.
1.13.6.2	4	Hardware Refresh	Includes any new hardware purchase (including tech refresh).
1.13.6.3	4	Recurring Spares	Includes any spares associated with new hardware (including tech refresh) purchases.
1.13.7	3	Purchased Communications	Includes all purchased circuits, communications lines, etc.
1.13.8	3	IT Operations & Monitoring	Includes costs for system administration, database administration, help desk support, data maintenance, recurring training, data migration updates, sustaining engineering and program management, recurring testing, and other.

WBS	L	Title	Description
1.13.8.1	4	System Administration	This element includes the cost of system administration functions, which include managing the computer resources and performance -- performing disk performance monitoring, balancing/tuning and reporting, and rectifying bottlenecks.
1.13.8.2	4	Database Administration	This element includes the cost of database administration functions, which include database and web site configuration, deletion, startup, shutdown, etc. -- including all other tasks which are considered to be a normally accepted, database/web administrator functions.
1.13.8.3	4	System Operations/Monitoring	This element includes the cost of system monitoring functions, which include event management, storage management, network management, and CPU capacity metrics reporting.
1.13.8.4	4	Help Desk Support	Includes the cost for providing Level 1, 2, & 3 help desk support to users of the solution.
1.13.8.5	4	Data Maintenance	Includes any data (e.g., documentation) review, update, and maintenance.
1.13.8.6	4	Recurring Training	Includes updates of training materials and conduct of recurring training for end users, developers, IT operations personnel, or any other users.
1.13.8.7	4	Data Migration Update	Include any continued data migration efforts after system implementation.
1.13.8.8	4	Sustaining Engineering	The labor, material, and overhead costs incurred in providing continued systems engineering and program management oversight to determine the integrity of a system, to maintain operational reliability, to approve design changes, and to ensure system conformance with established specifications and standards. Specific costs in this category may include (but are not limited to) government and/or contract engineering services, technical advice and training for component or system installation, operation, maintenance, and support.
1.13.8.9	4	Program Management	This cost element covers the resource requirements for system management. Management includes the costs incurred in the process of acquiring, employing, and retraining needed personnel, i.e. fully burdened salaries, benefits, relocation expenses, retirement accrual, required TDY, and all costs associated with the personnel of the deployed IT systems. It also includes the services, studies and support resources needed to manage the program after deployment.
1.13.8.10	4	Recurring Testing	Includes all recurring testing, certifications, and accreditations.
1.13.8.11	4	Other (specify)	Includes any costs not captured in other elements.

WBS	L	Title	Description
2.0	1	DoD Healthcare Management System Modernization (DHMSM) - Segment 2 Unique	DHMSM Automated Information System (AIS). The complex of enterprise elements, equipment (hardware), software, legacy systems, users, business rules, data and facilities required to develop or configure, test and deploy DHMSM. This WBS element includes all elements and tasks unique to Segment 2 (Expeditionary environment).
2.1	2	Prime Mission Product	The hardware, software, and associated effort used to analyze, design, integrate, and test all elements unique to Segment 2 (Expeditionary environment).
2.1.1	3	Custom Application Software 1...n	This element includes all the hardware, software, and associated effort needed to analyze, design, build, and test a custom software application, at the system developer's site, to fulfill a capability gap not captured by COTS only software packages. (COTS only are captured under 2.1.2.2 Enterprise Service Element Software.  Excludes, for example: Software development necessary for external system interfaces. (External is 2.1.4.2)  Note: Create 1...n elements at level 5 of WBS (example: 2.1.1.1.1, 2.1.1.2.1, etc.)
2.1.1.1	4	Custom Application Software Hardware	This element includes all the associated hardware equipment needed to analyze, design, build, and test the "custom application software" element at the system developer's site to fulfill a capability gap not captured by the services element software packages. Use lower levels to identify individual hardware items (servers, routers, etc.). - Includes, for example: Development and test hardware - Excludes, for example: Deployment hardware at each operational site. (Deployment h/w is 2.10.x.1.1)
2.1.1.2	4	Custom Application Software Component	This element includes all the associated effort needed to analyze, design, build, and test a custom software application to fulfill a capability gap not captured by the COTS only software packages. Use lower levels to identify individual custom computer software component. See Note 1.
2.1.1.3	4	Custom Application Software Integration, Assembly, Test, and Checkout	The element includes the effort and material associated with integrating and testing subsystem software components and hardware of an individual (or group of) subsystem software application that have undergone individual software component qualification test.  Excludes, for example: Software development efforts necessary for external system interfaces (External is 2.1.4.2)
2.1.2	3	Enterprise Service Element 1...n	This element includes all the hardware, software, and associated effort needed for developing functionality or software services: unassociated, loosely coupled units of functionality that have no calls to each other embedded in them. These services can be integrated or used by several organizations, even if their respective client systems are substantially different.  Includes, for example: enterprise service management (monitoring, fault management); machine-to-machine messaging; service discovery; people and device discovery; metadata discovery; mediation; service security; content discovery and delivery; federated search; enterprise catalog service; data source integration; enterprise content delivery network (caching specification, distributed caching, forward staging); session management; presence and awareness; Audio over internet protocol (IP); video over IP; text collaboration (chat, instant messaging); white boarding and annotation; application sharing; application broadcasting; virtual spaces; identity management (people and device discovery); content discovery; collaboration; and user profiling and customization.  Note: Create 1...n elements at level 5 of WBS (example: 2.1.2.1.1, 2.1.2.2.1, etc.)
2.1.2.1	4	Enterprise Service Element Hardware	This element includes all the associated hardware equipment needed at the system developer's facility for assessing and tailoring COTS software applications or modules that can be attributed to a specific software service or bundle of services within the AIS system. Use lower levels to identify individual hardware items.  Includes, for example: a. Development and test hardware  Excludes, for example: a. Deployment hardware at each operational site (Deployment Hardware is 2.10.x.1.1)
2.1.2.2	4	Enterprise Service Element Software	This element includes all the associated effort for assessing and tailoring COTS software applications or modules that can be attributed to a specific software service or bundle of services within the AIS system. See Note 2.
2.1.2.3	4	Enterprise Service Element Integration, Assembly, Test, and Checkout	The element includes the effort and material associated with integrating and testing the required software and hardware of an individual (or group of) Enterprise Service Element(s).
2.1.3	3	Enterprise Information Systems 1...n	This element includes all the hardware equipment and effort to plan, analyze, design, build, and test functionality(s) of an enterprise information system that uses an integrated database to support typical business processes within business/functional areas and consistent information access across areas and systems.  Includes, for example: enterprise resource planning, enterprise data warehouse, data mart, and operational data store.  Excludes, for example: general ledger, accounts payable, revenue and accounts receivable, funds control and budgetary accounting, cost management, financial reporting, and real property inventory and management. (most excluded items appear in 2.7.3)  Note: Create 1...n elements at level 5 of WBS (example: 2.1.3.1.1, 2.1.3.2.1, etc.)
2.1.3.1	4	Business Area Hardware	This element includes all the associated hardware equipment needed at the system developer's facility for planning, analyzing, designing, building, and testing functionalities that can be attributed, in whole or in-part, to a specific functional/business area or module within the EIS system.  Includes, for example: a. Development and test hardware  Excludes, for example: a. Deployment hardware at each operational site (Deployment Hardware is 2.10.x.1.1)
2.1.3.2	4	Business Area Software	This element includes all the associated effort needed at the system developer's facility for planning, analyzing, designing, building, and testing functionalities that can be attributed, in whole or in-part, to a specific functional/business area or module within the EIS system. See Note 3  Includes, for example: a. All necessary labor and materials for analyzing, designing/building/configuring, and testing the required business objects -- reports, forms, interfaces, conversions, workflows, fact tables, dimension tables, scripts, enhancements, etc. -- that can be attributed, in whole or in-part, to a specific functional module or business area within the EIS system b. Effort for assessing and tailoring COTS software applications or modules that can be attributed, in whole or in-part, to a specific functional module or business area within the EIS system
2.1.3.3	4	Business Area Integration, Assembly, Test, and Checkout	The element includes the effort and material associated with integrating and testing the required software and hardware of an individual (or group of) Business Area Element(s).
2.1.4	3	External System Interface Development 1...n	The hardware equipment and effort necessary for developing the set of software artifacts (threads, reports, queries, or scripts, or data export schemas) for a specific DHMSM external system interface. Use lower levels to identify each specific external system interface that must be developed or modified.  Includes, for example: Design of the interface specification and the development of the interface.  Excludes, for example: Data Migration/Cleansing (Data Migration captured at individual site deployment starting at 2.10) NOTE: An external system interface is required for proper transmission of data and/or control between the AIS solution and separate systems for which a mutual dependency exists.  Note: Create 1...n elements at level 5 of WBS (example: 2.1.4.1.1, 2.1.4.2.1, etc.)
2.1.4.1	4	External Interface Hardware	The hardware equipment necessary at the system integrator's facility for developing the set of software artifacts (threads, reports, queries, or scripts, or data export schemas) for a specific external system interface. Use lower levels to identify each specific hardware item.  Includes, for example: a. Development and test hardware  Excludes, for example: a. Deployment hardware at each operational site (Deployment Hardware is 2.10.x.1.1)

WBS	L	Title	Description
2.1.4.2	4	External Interface Software	<p>The effort associated with developing the set of software artifacts (threads, reports, queries, or scripts, portlets, or data export schemas) needed for a specific external system interface. Use lower levels to identify specific artifacts that must be developed or modified. See Note 4</p> <p>Includes, for example:</p> <ul style="list-style-type: none"> <li>a. Software requirements</li> <li>b. Software architecture and design</li> <li>c. Software code and unit test</li> <li>d. Software integration</li> <li>e. Software qualification testing</li> <li>f. Software COTS/GOTS approach (requirements negotiation)</li> <li>g. Software COTS/GOTS component identification</li> <li>h. Software COTS/GOTS assessment and selection</li> <li>i. Software prototyping</li> <li>j. Software COTS/GOTS glue code development</li> <li>k. Software COTS/GOTS tailoring and configuration</li> <li>l. Subsystem software product engineering (e.g., configuration management, quality assurance, managed services, etc.)</li> <li>m. Both the design of the interface specification and the development of the interface</li> </ul>
2.1.4.3	4	External Interface Integration, Assembly, Test, and Checkout	The element includes the effort and material associated with integrating and testing the required software and hardware of an individual (or group of) External System Interface(s).
2.1.5	3	AIS Platform Hardware	Includes all effort and equipment to develop a hardware system to host the deliverable DHMSM software.
2.1.6	3	System Level Integration	Includes all effort and equipment to assemble, integrate, and test all Segment 2 elements as a whole at the system developer's facility.
2.2	2	System Engineering / Systems Analysis	<p>The technical and management efforts of directing and controlling a totally integrated engineering effort of a system or program. Includes, for example:</p> <ul style="list-style-type: none"> <li>a. System definition, overall system design, design integrity analysis, system optimization, system/cost effectiveness analysis, and intra-system and inter-system compatibility assurance, etc.; the integration and balancing of reliability, maintainability, producibility, safety, human health, environmental protection, and survivability; security requirements, configuration management and configuration control; quality assurance program, value engineering, preparation of equipment and component performance specifications, design of test and demonstration plans; determination of software development or software test facility/environment requirements.</li> <li>b. Preparation of the Systems Engineering Plan (SEP), specification tree, program risk analysis, system planning, decision control process, technical performance measurement, technical reviews, subcontractor and vendor reviews, work authorization, and technical documentation control.</li> <li>c. Reliability engineering—the engineering process and series of tasks required to examine the probability of a device or system performing its mission adequately for the period of time intended under the operating conditions expected to be encountered.</li> <li>d. Maintainability engineering—the engineering process and series of tasks required to measure the ability of an item or system to be retained in or restored to a specified condition of readiness, skill levels, etc., using prescribed procedures and resources at specific levels of maintenance and repair.</li> <li>e. Human systems integration—the engineering process and the series of tasks required to define, as a comprehensive technical and engineering effort, the integration of doctrine, manpower, and personnel integration, materiel development, operational effectiveness, human characteristics, skill capabilities, training, manning implication, and other related elements into a comprehensive effort.</li> <li>f. Supportability analyses—an integral part of the systems engineering process beginning at program initiation and continuing throughout program development. Supportability analyses form the basis for related design requirements included in the system specification and for subsequent decisions concerning how to most cost effectively support the system and its infrastructure over its entire life cycle.</li> <li>g. System of Systems (SoS) and System Level Architecting, modeling and simulation, verification and validation and external interface definition and management.</li> <li>h. Information Systems Integration (ISI) – an overarching set of tools and processes which enables the integration of sound engineering practices at the system level; the impetus being the sustainment of safety, suitability and effectiveness for the life of the system. Includes the ability to return systems to specification level performance after repair/overhaul activities. ISI is an integral process through which operational safety, suitability, and effectiveness (OSS&amp;E) are implemented.</li> </ul>
2.2.1	3	Government System Engineering	Specific System Engineering activities to be performed and/or managed directly by the Government.
2.2.2	3	Contractor System Engineering	Specific System Engineering activities to be performed by a system engineering contractor. The contractor will provide its own sub-elements under this WBS element.

WBS	L	Title	Description
2.3	2	Program Management	<p>The business and administrative planning, organizing, directing, coordinating, controlling, and approval actions designated to accomplish overall program objectives, which are not associated with specific hardware elements and are not included in systems engineering.</p> <p>Includes, for example:</p> <ul style="list-style-type: none"> <li>a. Cost, schedule, performance measurement management, warranty administration, contract management, data management, vendor liaison, subcontract management, etc.</li> <li>b. Support element management, defined as the logistics tasks management effort and technical control, and the business management of the support elements. The logistics management function encompasses the support evaluation and supportability assurance required to produce an affordable and supportable defense materiel system</li> <li>c. Planning and management of all the functions of logistics. Examples are, Maintenance support planning and support facilities planning; other support requirements determination; support equipment; supply support; packaging, handling, storage, and transportation; provisioning requirements determination and planning; training system requirements determination; computer resource determination; organizational, intermediate, and depot maintenance determination management; and data management</li> </ul>
2.3.1	3	Government Program Management	Specific Program Management activities to be performed and/or managed directly by the Government.
2.3.2	3	Contractor Program Management	Specific Program Management activities to be performed by a system engineering and/or development contractor. The contractor will provide its own sub-elements under this WBS element.
2.4	2	Change Management	Change management refers to the broad process for managing organizational change. Change management encompasses planning, oversight or governance, project management, testing and implementation.
2.4.1	3	Change Management Planning	Identification of the sequence of steps or activities that a change management team or project leader would follow to apply change management to a project. The objective of change management in this context is to ensure that standardized methods and procedures are used for efficient and prompt handling of all changes to control IT infrastructure, in order to minimize the number and impact of any related incidents upon service. Changes in the IT infrastructure may arise reactively in response to problems or externally imposed requirements, e.g. legislative changes, or proactively from seeking improved efficiency and effectiveness or to enable or reflect business initiatives, or from programs, projects or service improvement initiatives.
2.4.2	3	Change Management Tools	Tools used to perform change management
2.5	2	System Test and Evaluation	<p>The use of pilot, production, or specifically configured systems to obtain or validate engineering data on the performance of the system during the developmental phase (normally funded from RDT&amp;E) of the program. It also includes all effort associated with the development of any specialized tools or data in support of the system level test program.</p> <p>Includes, for example:</p> <ul style="list-style-type: none"> <li>a. Developmental test and evaluation</li> <li>b. Operational test and evaluation</li> <li>c. Mock-ups/System Integration Labs (SIL)</li> <li>d. Test support</li> <li>e. Test facilities</li> </ul>
2.5.1	3	Development Test and Evaluation	<p>This effort is planned, conducted and monitored by the developing agency of the DoD component. It includes test and evaluation conducted to:</p> <ul style="list-style-type: none"> <li>a. Demonstrate that the engineering design and development process is complete.</li> <li>b. Demonstrate that the design risks have been minimized</li> <li>c. Demonstrate that the system will meet specifications</li> <li>d. Estimate the system's military utility when introduced</li> <li>e. Determine whether the engineering design is supportable (practical, maintainable, safe, etc.) For operational use</li> <li>f. Provide test data with which to examine and evaluate trade-offs against specification requirements, life cycle cost, and schedule</li> <li>g. Perform the logistics testing efforts to evaluate the achievement of supportability goals, the adequacy of the support package for the system, (e.g., deliverable maintenance tools, test equipment, technical publications, maintenance instructions, and personnel skills and training requirements, etc.)</li> </ul> <p>Includes, for example:</p> <ul style="list-style-type: none"> <li>a. All system developer in-house effort</li> <li>b. All programs, where applicable; models, tests and associated simulations; integration ground tests; qualification test and evaluation, test instrumentation, environmental tests, test facility operations, test equipment (including its support equipment), and logistics testing. Qualification test</li> <li>d. Accreditation</li> <li>e. Independent verification and validation</li> <li>f. Test software</li> </ul>
2.5.2	3	Operational Test and Evaluation	<p>The test and evaluation conducted by agencies other than the developing command to assess the prospective system's military utility, operational effectiveness, operational suitability, logistics supportability (including compatibility, inter-operability, reliability, maintainability, logistic requirements, etc.), cost of ownership, and need for any modifications.</p> <p>Includes, for example:</p> <ul style="list-style-type: none"> <li>a. Initial operational test and evaluation conducted during the development of a system</li> <li>b. Such tests as system demonstration, qualification operational test and evaluation, etc., and support thereto, required to prove the operational capability of the deliverable system</li> <li>c. Contractor support (e.g., technical assistance, maintenance, labor, material, etc.) Consumed during this phase of testing</li> <li>d. Logistics testing efforts to evaluate the achievement of supportability goals and the adequacy of the support for the system (e.g., deliverable maintenance tools, test equipment, technical publications, maintenance instructions, personnel skills and training requirements, and software support facility/environment elements)</li> </ul>
2.5.3	3	Mock-ups / System Integration Labs (SILs)	<p>The design engineering and production of system or subsystem —mock-ups, which have special contractual or engineering significance, or which are not required solely for the conduct of one of the above elements of testing. SILs are often used in lieu of (or in addition to) mock-ups. SILs are risk reduction facilities where software and hardware can be developed, integrated, tested and evaluated for both stand alone functionality and/or interoperability prior to being fielded.</p> <p>Includes, for example:</p> <ul style="list-style-type: none"> <li>a. Hardware/lab equipment</li> <li>b. SIL software (written to simulate the operating environment or written to operate the SIL)</li> </ul>
2.5.4	3	Test and Evaluation Support	<p>The support elements necessary to operate and maintain, during test and evaluation, systems and subsystems, which are not consumed during the testing phase and are not allocated to a specific phase of testing.</p> <p>Includes, for example:</p> <ul style="list-style-type: none"> <li>a. Repairable spares, repair of repairables, repair parts, consumables, warehousing and distribution of spares and repair parts, test and support equipment, contractor technical support</li> </ul> <p>Excludes, for example:</p> <ul style="list-style-type: none"> <li>a. Operational and maintenance personnel, special fixtures, special instrumentation, etc., that are utilized and/or consumed in a single element of testing and that should be included under that element of testing (exclusions map to multiple WBS elements)</li> </ul>
2.5.5	3	Test Facilities	<p>The special test facilities required for performance of the various developmental test necessary to prove the design and reliability of the system or subsystem.</p> <p>Includes, but not limited to:</p> <ul style="list-style-type: none"> <li>a. Test fixtures, white rooms, test chambers</li> </ul> <p>Excludes, for example:</p> <ul style="list-style-type: none"> <li>a. Brick and mortar-type facilities identified as industrial facilities (industrial facilities are in 2.11)</li> </ul>

WBS	L	Title	Description
2.6	2	Training	<p>Deliverable training services, devices, accessories, aids, equipment, and parts used to facilitate instruction through which personnel will learn to operate and maintain the system with maximum efficiency.</p> <p>Includes, for example:</p> <ul style="list-style-type: none"> <li>a. All effort associated with the design, development, and production of deliverable training equipment and its associated software as well as the execution of training services</li> <li>b. Operational trainers, maintenance trainers, training testers, and other items such as cutaways, mock-ups, and models</li> <li>c. Training course material development; contractor-conducted training (in-plant and service training); and the materials and curriculum required to design, execute, and produce a contractor developed training program</li> <li>d. Materiel, courses, and associated documentation (primarily the computer software, courses and training aids)</li> <li>e. Modification or rehabilitation of existing facilities used to accomplish training objectives</li> <li>f. Development</li> <li>g. Training and professional development</li> <li>h. Training software</li> </ul> <p>Excludes, for example:</p> <ul style="list-style-type: none"> <li>a. User training costs (user training occurs at each individual site deployment under 2.10)</li> </ul>
2.6.1	3	Equipment	<p>Distinctive deliverable end items of training equipment, assigned by either a contractor or military service, required to meet specific training objectives.</p> <p>Includes, for example:</p> <ul style="list-style-type: none"> <li>a. Operational trainers, maintenance trainers, and other items such as cutaways, mock-ups, and models (e.g. Operational Instructional Equipment, Maintainer Instructional Equipment)</li> </ul>
2.6.2	3	Services	<p>Deliverable training services, accessories, and aids necessary to accomplish the objectives of training.</p> <p>Includes, for example:</p> <ul style="list-style-type: none"> <li>a. Training course materials; contractor-conducted training (in-plant and service training); and the materials and curriculum required to design, execute, and produce a contractor developed training program. (e.g. Operator Instructional Software, Maintainer Instructional Software)</li> <li>b. Materiel, courses, and associated documentation (primarily the computer software, courses and training aids)</li> </ul> <p>Excludes, for example:</p> <ul style="list-style-type: none"> <li>a. Deliverable training data associated with the WBS element support data (Support Data is 2.7.4)</li> </ul>
2.6.3	3	Facilities	<p>The special construction necessary to accomplish training objectives.</p> <p>Includes, for example:</p> <ul style="list-style-type: none"> <li>a. Modification or rehabilitation of existing training facilities and infrastructure used to accomplish training objectives</li> </ul> <p>Excludes, for example:</p> <ul style="list-style-type: none"> <li>a. Installed equipment used to acquaint the trainee with the system or establish trainee proficiency</li> <li>b. The brick and mortar-type facilities identified as industrial facilities (industrial facilities are in 2.11)</li> </ul>
2.7	2	Data	<p>The deliverable data required to be listed on a contract data requirements list, DD Form 1423.</p> <p>Includes, for example:</p> <ul style="list-style-type: none"> <li>a. Technical publication</li> <li>b. Engineering data</li> <li>c. Management data</li> <li>d. Support data</li> <li>e. Data repository</li> </ul>
2.7.1	3	Technical Publications	<p>Technical data, providing instructions for installation, operation, maintenance, training, and support, formatted into a technical manual. Data may be presented in any form regardless of the form or method of recording. Technical orders that meet the criteria of this definition may also be classified as technical manuals.</p> <p>Includes, for example:</p> <ul style="list-style-type: none"> <li>a. Operation and maintenance instructions, parts lists or parts breakdown, and related technical information or procedures exclusive of administrative procedures</li> <li>b. Data item descriptions set forth in categories selected from the Acquisition Management Systems and Data Requirements Control List (DoD 5010.12-L)</li> </ul>
2.7.2	3	Engineering Data	<p>Recorded scientific or technical information (regardless of the form or method of recording) including computer software documentation. Engineering data defines and documents an engineering design or product configuration (sufficient to allow duplication of the original items) and is used to support production, engineering and logistics activities.</p> <p>Includes, for example:</p> <ul style="list-style-type: none"> <li>a. All final plans, procedures, reports, and documentation pertaining to systems, subsystems, computer and computer resource programs, component engineering, operational testing, human factors, reliability, availability, and maintainability, and other engineering analysis</li> <li>b. Technical data package (re-procurement package) that includes all engineering drawings, associated lists, process descriptions, and other documents defining physical geometry, material composition, and performance procedures</li> </ul> <p>Excludes, for example:</p> <ul style="list-style-type: none"> <li>a. Computer software or financial, administrative, cost or pricing, or management data or other information incidental to contract administration (exclusions include multiple WBS elements, including 2.7.3 and 2.3)</li> </ul>
2.7.3	3	Management Data	<p>The data items necessary for configuration management, cost, schedule, contractual data management, program management, etc. (required by the Government).</p> <p>Includes, for example:</p> <ul style="list-style-type: none"> <li>a. Contractor cost reports, cost performance reports, contract funds status reports, schedules, milestones, networks, integrated support plans</li> </ul>
2.7.4	3	Support Data	<p>The data items designed to document support planning in accordance with functional categories.</p> <p>Includes, for example:</p> <ul style="list-style-type: none"> <li>a. Supply, general maintenance plans and reports; training data; transportation, handling, storage, and packaging information; facilities data; data to support the provisioning process and all other support data; and software supportability planning and software support transition planning documents</li> </ul>
2.7.5	3	Data Depository	<p>The facility designated to act as custodian to maintain a master engineering specification and establish a drawing depository service for Government approved documents that are the property of the U.S. Government. As custodian for the Government, the repository, authorized by approved change orders, maintains these master documents at the latest approved revision level. This facility is a distinct entity.</p> <p>Includes, for example:</p> <ul style="list-style-type: none"> <li>a. All drafting and clerical effort necessary to maintain documents</li> </ul> <p>Excludes, for example:</p> <ul style="list-style-type: none"> <li>a. All similar effort for facility's specification and drawing control system, in support of its engineering and production activities (?)</li> </ul>
2.8	2	Peculiar Support Equipment	<p>The design, development, and production of those deliverable items and associated software required to support and maintain the system or portions of the system while the system is not directly engaged in the performance of its mission, and which are not common support equipment.</p> <p>Includes, for example:</p> <ul style="list-style-type: none"> <li>a. Any production of duplicate or modified factory test or tooling equipment delivered to the Government for use in maintaining the system. (Factory test and tooling equipment initially used by the contractor in the production process but subsequently delivered to the Government will be included as cost of the item produced.)</li> <li>b. Any additional equipment or software required to maintain or modify the software portions of the system</li> </ul> <p>Excludes, for example:</p> <ul style="list-style-type: none"> <li>a. Overall planning, management and task analysis functions inherent in the work breakdown structure element, systems Engineering/Program Management (2.2, 2.3)</li> <li>b. Common support equipment, presently in the DoD inventory or commercially available, bought by the using command, not by the acquiring command</li> </ul>

WBS	L	Title	Description
2.8.1	3	Test and Measurement Equipment	The peculiar or unique testing and measurement equipment that allows an operator or maintenance function to evaluate operational conditions of a system or equipment by performing specific diagnostics, screening or quality assurance effort at an organizational, intermediate, or depot level of equipment support.  Includes, for example: a. Test measurement and diagnostic equipment, precision measuring equipment, automatic test equipment, manual test equipment, automatic test systems, test program sets, appropriate interconnect devices, automated load modules, tapes, and related software, firmware and support hardware (power supply equipment, etc.) Used at all levels of maintenance b. Packages that enable line or shop replaceable units, printed circuit boards, or similar items to be diagnosed using automatic test equipment
2.8.2	3	Support and Handling Equipment	The deliverable tools and handling equipment used for support of the mission system.  Includes, for example: a. Ground support equipment, vehicular support equipment, powered support equipment, non-powered support equipment, materiel handling equipment, and software support equipment (hardware and software)
2.9	2	Common Support Equipment	The items required to support and maintain the system or portions of the system while not directly engaged in the performance of its mission, and which are presently in the DoD inventory for support of other systems.  Includes, for example: a. Acquisition of additional quantities of this equipment needed to support the item b. All efforts required to assure the availability of this equipment to support the item
2.9.1	3	Test and Measurement Equipment	The common testing and measurement equipment that allows an operator or maintenance function to evaluate operational conditions of a system or equipment by performing specific diagnostics, screening or quality assurance effort at an organizational, intermediate, or depot level of equipment support.  Includes, for example: a. Test measurement and diagnostic equipment, precision measuring equipment, automatic test equipment, manual test equipment, automatic test systems, test program sets, appropriate interconnect devices, automated load modules, tapes, and related software, firmware and support hardware (power supply equipment, etc.) Used at all levels of maintenance b. Packages that enable line or shop replaceable units, printed circuit boards, or similar items to be diagnosed using automatic test equipment
2.9.2	3	Support and Handling Equipment	The deliverable tools and handling equipment used for support of the mission system.  Includes, for example: a. Ground support equipment, vehicular support equipment, powered support equipment, non-powered support equipment, materiel handling equipment, and software support equipment (hardware/software)
2.10	2	Operational/Site Activation	The costs associated with deploying the AIS solution at the user site(s). This should cover only those efforts that are incurred at the implementation site. Any up-front effort involved with designing/engineering the solution for a particular site should be included in under Client-side Site Development. Any effort related to re-design of the solution once implementation has begun should be captured here.  Includes, for example (by site type): a. Deployment hardware and software b. Site activation labor c. User training d. Data migration Note: This element will also include the real estate, construction, conversion, utilities, and equipment to provide all facilities required to house, service, and launch the AIS solution at the user sites.
2.10.1	3	Site Type 6: Role 1 Care	Includes all deployment hardware and software, user documentation, site survey, site activation, user training, data migration, management/engineering support, and interim logistics support related to the IT Enterprise level sites (e.g., centralized data center).
2.10.1.1	4	Deployment Hardware and Software	This includes all the hardware (such as servers, gateways, routers, etc.) and the software (such as DHMSM application, middleware, etc.) to be deployed at the given site.
2.10.1.1.1	5	Deployment Hardware	Included in this element should be any Commercial-Off-the-Shelf (COTS) hardware purchased for the primary site type 6  Includes, for example: a. Processing equipment (servers, CPUs, etc.) b. Network/communications c. Storage d. Security/crypto e. UPS f. Other/ancillary equipment  Excludes, for example: a. Development /test hardware (captured with the prime mission product) (PMP hardware is 2.1.2.1)
2.10.1.1.2	5	Deployment Software	Included in this element should be any Commercial-Off-the-Shelf (COTS) deployment software purchased for the primary site type 6. This would include the purchase of software licenses related to the AIS solution.
2.10.1.2	4	User Documentation	This includes the development of user documents, tutorials, online help, etc. that describe each feature of the new system being deployed and assists the user in realizing these features.
2.10.1.3	4	Site Activation	This element includes the costs associated with shipping costs to the site, site survey, site preparation, equipment installation, equipment integration, test and checkout to allow implementation of the AIS solution. This should cover only those efforts that are incurred at the implementation site. Any effort related to re-design of the solution once implementation has begun should be captured here.
2.10.1.4	4	User Training	This element represents the effort involved with training the users of the implemented AIS solution at the user sites. The primary cost captured here will be the labor costs of instructors to train users on the new system and business processes required to operate within the new system(s). Any costs incurred as a result of revising the training courses and/or materials once implementation has begun should also be captured here.  Excludes, for example: a. Any up-front costs associated with training the trainers, as well as course development and material costs that are not incurred as a result of circumstances encountered at the user sites (Training course development is 2.6)
2.10.1.5	4	Data Migration	This element includes the effort for translating data from one format to another. This should cover only those efforts that are incurred at the implementation site. Also include any expense associated with the transition of data from the legacy systems to the AIS solution. Use lower levels to identify individual legacy systems.  Includes, for example: a. Data translation b. Data cleansing c. Data loading  Excludes, for example: a. External System Interface Development (External System Interface Development is 2.1.4) Note: Data migration is necessary when an organization decides to use a new computing system or database management system that is incompatible with the current system. Typically, data migration is performed by a set of customized programs or scripts that automatically transfer the data.
2.10.1.6	4	Management/Engineering Support	This element captures those support elements that are attributable only to specific user /implementation sites. This would include systems engineering/program management effort associated with a specific site, as well as any system test and evaluation specific to particular user sites.
2.10.2	3	Site Type 7: Role 2 Care	Includes all deployment hardware and software, user documentation, site survey, site activation, user training, data migration, management/engineering support, and interim logistics support related to the IT Non-Enterprise level sites (e.g., local site hub).
2.10.2.1	4	Deployment Hardware and Software	This includes all the hardware (such as servers, gateways, routers, etc.) and the software (such as DHMSM application, middleware, etc.) to be deployed at the given site.

WBS	L	Title	Description
2.10.2.1.1	5	Deployment Hardware	<p>Included in this element should be any Commercial-Off-the-Shelf (COTS) hardware purchased for the primary site type 7</p> <p>Includes, for example:</p> <ul style="list-style-type: none"> <li>a. Processing equipment (servers, CPUs, etc.)</li> <li>b. Network/communications</li> <li>c. Storage</li> <li>d. Security/crypto</li> <li>e. UPS</li> <li>f. Other/ancillary equipment</li> </ul> <p>Excludes, for example:</p> <ul style="list-style-type: none"> <li>a. Development /test hardware (captured with the prime mission product) (PMP hardware is 2.1.2.1)</li> </ul>
2.10.2.1.2	5	Deployment Software	<p>Included in this element should be any Commercial-Off-the-Shelf (COTS) deployment software purchased for the primary site type 7. This would include the purchase of software licenses related to the AIS solution.</p>
2.10.2.2	4	User Documentation	<p>This includes the development of user documents, tutorials, online help, etc. that describe each feature of the new system being deployed and assists the user in realizing these features.</p>
2.10.2.3	4	Site Activation	<p>Preparation of a site to perform its assigned or intended function. It may include construction of facilities, installation of equipment, software, hardware, personnel, etc.</p>
2.10.2.4	4	User Training	<p>This element represents the effort involved with training the users of the implemented AIS solution at the user sites. The primary cost captured here will be the labor costs of instructors to train users on the new system and business processes required to operate within the new system(s). Any costs incurred as a result of revising the training courses and/or materials once implementation has begun should also be captured here.</p> <p>Excludes, for example:</p> <ul style="list-style-type: none"> <li>a. Any up-front costs associated with training the trainers, as well as course development and material costs that are not incurred as a result of circumstances encountered at the user sites (Training course development is 2.6)</li> </ul>
2.10.2.5	4	Data Migration	<p>This element includes the effort for translating data from one format to another. This should cover only those efforts that are incurred at the implementation site. Also include any expense associated with the transition of data from the legacy systems to the AIS solution. Use lower levels to identify individual legacy systems.</p> <p>Includes, for example:</p> <ul style="list-style-type: none"> <li>a. Data translation</li> <li>b. Data cleansing</li> <li>c. Data loading</li> </ul> <p>Excludes, for example:</p> <ul style="list-style-type: none"> <li>a. External System Interface Development (External System Interface Development is 2.1.4)</li> </ul> <p>Note: Data migration is necessary when an organization decides to use a new computing system or database management system that is incompatible with the current system. Typically, data migration is performed by a set of customized programs or scripts that automatically transfer the data.</p>
2.10.2.6	4	Management/Engineering Support	<p>The technical and management efforts of directing and controlling the integrated engineering effort of DHMSM for the given site.</p> <p>Includes, for example: effort to define the system and the integrated planning and control of the technical program efforts of design engineering, specialty engineering, production engineering, and integrated test planning; effort to transform an operational need or statement of deficiency into a description of system requirements and a preferred system configuration; technical planning and control effort for planning, monitoring, measuring, evaluating, directing, and re-planning the management of the technical program; where applicable: value engineering, configuration management, Human Systems Integration (Human factors engineering; Personnel; Habitability; Manpower; Training; Environment, Safety and Occupational Health; Survivability), vulnerability, maintainability, reliability, standardization, system analysis, logistic support analysis, etc.; technical baseline management and event based technical reviews with independent subject matter expertise participation; cross product IPT integration; survivability/vulnerability analysis; and System of Systems (SoS) and System Level Architecting, modeling and simulation, verification and validation and external interface definition and management.</p>

WBS	L	Title	Description
2.10.3	3	Site Type 8: Role 3 Care	Includes all deployment hardware and software, user documentation, site survey, site activation, user training, data migration, management/engineering support, and interim logistics support related to the Hospital sites.
2.10.3.1	4	Deployment Hardware and Software	This includes all the hardware (such as servers, gateways, routers, etc.) and the software (such as DHMSM application, middleware, etc.) to be deployed at the given site.
2.10.3.1.1	5	Deployment Hardware	Included in this element should be any Commercial-Off-the-Shelf (COTS) hardware purchased for the primary site type 8  Includes, for example: a. Processing equipment (servers, CPUs, etc.) b. Network/communications c. Storage d. Security/crypto e. UPS f. Other/ancillary equipment  Excludes, for example: a. Development /test hardware (captured with the prime mission product) (PMP hardware is 2.1.2.1)
2.10.3.1.2	5	Deployment Software	Included in this element should be any Commercial-Off-the-Shelf (COTS) deployment software purchased for the primary site type 8. This would include the purchase of software licenses related to the AIS solution.
2.10.3.2	4	User Documentation	This includes the development of user documents, tutorials, online help, etc. that describe each feature of the new system being deployed and assists the user in realizing these features.
2.10.3.3	4	Site Activation	Preparation of a site to perform its assigned or intended function. It may include construction of facilities, installation of equipment, software, hardware, personnel, etc.
2.10.3.4	4	User Training	This element represents the effort involved with training the users of the implemented AIS solution at the user sites. The primary cost captured here will be the labor costs of instructors to train users on the new system and business processes required to operate within the new system(s). Any costs incurred as a result of revising the training courses and/or materials once implementation has begun should also be captured here.  Excludes, for example: a. Any up-front costs associated with training the trainers, as well as course development and material costs that are not incurred as a result of circumstances encountered at the user sites (Training course development is 2.6)
2.10.3.5	4	Data Migration	This element includes the effort for translating data from one format to another. This should cover only those efforts that are incurred at the implementation site. Also include any expense associated with the transition of data from the legacy systems to the AIS solution. Use lower levels to identify individual legacy systems.  Includes, for example: a. Data translation b. Data cleansing c. Data loading  Excludes, for example: a. External System Interface Development (External System Interface Development is 2.1.4) Note: Data migration is necessary when an organization decides to use a new computing system or database management system that is incompatible with the current system. Typically, data migration is performed by a set of customized programs or scripts that automatically transfer the data.
2.10.3.6	4	Management/Engineering Support	The technical and management efforts of directing and controlling the integrated engineering effort of DHMSM for the given site.  Includes, for example: effort to define the system and the integrated planning and control of the technical program efforts of design engineering, specialty engineering, production engineering, and integrated test planning; effort to transform an operational need or statement of deficiency into a description of system requirements and a preferred system configuration; technical planning and control effort for planning, monitoring, measuring, evaluating, directing, and re-planning the management of the technical program; where applicable: value engineering, configuration management, Human Systems Integration (Human factors engineering; Personnel; Habitability; Manpower; Training; Environment; Safety and Occupational Health; Survivability), vulnerability, maintainability, reliability, standardization, system analysis, logistic support analysis, etc.; technical baseline management and event based technical reviews with independent subject matter expertise participation; cross product IPT integration; survivability/vulnerability analysis; and System of Systems (SoS) and System Level Architecting, modeling and simulation, verification and validation and external interface definition and management.
2.10.4	3	Site Type 9: Enroute Care	Includes all deployment hardware and software, user documentation, site survey, site activation, user training, data migration, management/engineering support, and interim logistics support related to the Medical Clinic sites.
2.10.4.1	4	Deployment Hardware and Software	This includes all the hardware (such as servers, gateways, routers, etc.) and the software (such as DHMSM application, middleware, etc.) to be deployed at the given site.
2.10.4.1.1	5	Deployment Hardware	Included in this element should be any Commercial-Off-the-Shelf (COTS) hardware purchased for the primary site type 9  Includes, for example: a. Processing equipment (servers, CPUs, etc.) b. Network/communications c. Storage d. Security/crypto e. UPS f. Other/ancillary equipment  Excludes, for example: a. Development /test hardware (captured with the prime mission product) (PMP hardware is 2.1.2.1)
2.10.4.1.2	5	Deployment Software	Included in this element should be any Commercial-Off-the-Shelf (COTS) deployment software purchased for the primary site type 9. This would include the purchase of software licenses related to the AIS solution.
2.10.4.2	4	User Documentation	This includes the development of user documents, tutorials, online help, etc. that describe each feature of the new system being deployed and assists the user in realizing these features.
2.10.4.3	4	Site Activation	Preparation of a site to perform its assigned or intended function. It may include construction of facilities, installation of equipment, software, hardware, personnel, etc.
2.10.4.4	4	User Training	This element represents the effort involved with training the users of the implemented AIS solution at the user sites. The primary cost captured here will be the labor costs of instructors to train users on the new system and business processes required to operate within the new system(s). Any costs incurred as a result of revising the training courses and/or materials once implementation has begun should also be captured here.  Excludes, for example: a. Any up-front costs associated with training the trainers, as well as course development and material costs that are not incurred as a result of circumstances encountered at the user sites (Training course development is 2.6)
2.10.4.5	4	Data Migration	This element includes the effort for translating data from one format to another. This should cover only those efforts that are incurred at the implementation site. Also include any expense associated with the transition of data from the legacy systems to the AIS solution. Use lower levels to identify individual legacy systems.  Includes, for example: a. Data translation b. Data cleansing c. Data loading  Excludes, for example: a. External System Interface Development (External System Interface Development is 2.1.4) Note: Data migration is necessary when an organization decides to use a new computing system or database management system that is incompatible with the current system. Typically, data migration is performed by a set of customized programs or scripts that automatically transfer the data.

WBS	L	Title	Description
2.10.4.6	4	Management/Engineering Support	The technical and management efforts of directing and controlling the integrated engineering effort of DHMSM for the given site.  Includes, for example: effort to define the system and the integrated planning and control of the technical program efforts of design engineering, specialty engineering, production engineering, and integrated test planning; effort to transform an operational need or statement of deficiency into a description of system requirements and a preferred system configuration; technical planning and control effort for planning, monitoring, measuring, evaluating, directing, and re-planning the management of the technical program; where applicable: value engineering, configuration management, Human Systems Integration (Human factors engineering; Personnel; Habitability; Manpower; Training; Environment, Safety and Occupational Health; Survivability), vulnerability, maintainability, reliability, standardization, system analysis, logistic support analysis, etc.; technical baseline management and event based technical reviews with independent subject matter expertise participation; cross product IPT integration; survivability/vulnerability analysis; and System of Systems (SoS) and System Level Architecting, modeling and simulation, verification and validation and external interface definition and management.
2.10.5	3	Site Type 10: Other	Includes all deployment hardware and software, user documentation, site survey, site activation, user training, data migration, management/engineering support, and interim logistics support related to the Dental Clinic sites.
2.10.5.1	4	Deployment Hardware and Software	This includes all the hardware (such as servers, gateways, routers, etc.) and the software (such as DHMSM application, middleware, etc.) to be deployed at the given site.
2.10.5.1.1	5	Deployment Hardware	Included in this element should be any Commercial-Of-the-Shelf (COTS) hardware purchased for the primary site type 10  Includes, for example: a. Processing equipment (servers, CPUs, etc.) b. Network/communications c. Storage d. Security/crypto e. UPS f. Other/ancillary equipment  Excludes, for example: a. Development /test hardware (captured with the prime mission product) (PMP hardware is 2.1.2.1)
2.10.5.1.2	5	Deployment Software	Included in this element should be any Commercial-Of-the-Shelf (COTS) deployment software purchased for the primary site type 10. This would include the purchase of software licenses related to the AIS solution.
2.10.5.2	4	User Documentation	This includes the development of user documents, tutorials, online help, etc. that describe each feature of the new system being deployed and assists the user in realizing these features.
2.10.5.3	4	Site Activation	Preparation of a site to perform its assigned or intended function. It may include construction of facilities, installation of equipment, software, hardware, personnel, etc.
2.10.5.4	4	User Training	This element represents the effort involved with training the users of the implemented AIS solution at the user sites. The primary cost captured here will be the labor costs of instructors to train users on the new system and business processes required to operate within the new system(s). Any costs incurred as a result of revising the training courses and/or materials once implementation has begun should also be captured here.  Excludes, for example: a. Any up-front costs associated with training the trainers, as well as course development and material costs that are not incurred as a result of circumstances encountered at the user sites (Training course development is 2.6)
2.10.5.5	4	Data Migration	This element includes the effort for translating data from one format to another. This should cover only those efforts that are incurred at the implementation site. Also include any expense associated with the transition of data from the legacy systems to the AIS solution. Use lower levels to identify individual legacy systems.  Includes, for example: a. Data translation b. Data cleansing c. Data loading  Excludes, for example: a. External System Interface Development (External System Interface Development is 2.1.4) Note: Data migration is necessary when an organization decides to use a new computing system or database management system that is incompatible with the current system. Typically, data migration is performed by a set of customized programs or scripts that automatically transfer the data.
2.10.5.6	4	Management/Engineering Support	The technical and management efforts of directing and controlling the integrated engineering effort of DHMSM for the given site.  Includes, for example: effort to define the system and the integrated planning and control of the technical program efforts of design engineering, specialty engineering, production engineering, and integrated test planning; effort to transform an operational need or statement of deficiency into a description of system requirements and a preferred system configuration; technical planning and control effort for planning, monitoring, measuring, evaluating, directing, and re-planning the management of the technical program; where applicable: value engineering, configuration management, Human Systems Integration (Human factors engineering; Personnel; Habitability; Manpower; Training; Environment, Safety and Occupational Health; Survivability), vulnerability, maintainability, reliability, standardization, system analysis, logistic support analysis, etc.; technical baseline management and event based technical reviews with independent subject matter expertise participation; cross product IPT integration; survivability/vulnerability analysis; and System of Systems (SoS) and System Level Architecting, modeling and simulation, verification and validation and external interface definition and management.

WBS	L	Title	Description
2.11	2	Industrial Facilities	The construction, conversion, or expansion of industrial facilities for production, inventory, and contractor depot maintenance required when that service is for the specific system. This may be a Software Integration Laboratory (SIL).  Includes, for example: a. Equipment acquisition or modernization, where applicable b. Maintenance of these facilities or equipment c. Industrial facilities for hazardous waste management to satisfy environmental standards
2.11.1	3	Construction/Conversion/Expansion	The real estate and preparation of system peculiar industrial facilities for production, inventory, depot maintenance, and other related activities.
2.11.2	3	Equipment Acquisition or Modernization	The production equipment acquisition, modernization, or transfer of equipment for DHMSM. This pertains to Government owned and leased equipment under facilities contract.
2.11.3	3	Maintenance (Industrial Facilities)	The maintenance, preservation, and repair of industrial facilities and equipment.
2.12	2	Initial Spares and Repair Parts	The deliverable spare components, assemblies and subassemblies used for initial replacement purposes in the materiel system equipment end item.  Includes, for example: Repairable spares (repairables) and repair parts required as initial stockage to support and maintain newly fielded systems or subsystems during the initial phase of service, including pipeline and war reserve quantities, at all levels of maintenance and support  Excludes, for example: Developmental test spares (2.5.1) and spares provided specifically for use during installation, assembly, and checkout on site, lower level WBS breakouts should be by subsystem
2.13	2	DHMSM Segment 2 Unique Operations and Support (O&S)	Operations and sustainment are all direct and indirect costs incurred in using the prime system—manpower, maintenance, and support—through the entire life cycle. Also included are sustaining engineering and other collateral activities.
2.13.1	3	Facility Operations	Includes all facility costs for operations and maintenance (e.g., rent, utilities, etc.)
2.13.2	3	System Hosting	Includes all purchased hosting related costs (e.g., processing, storage, etc.)
2.13.3	3	Software Maintenance	Includes COTS software configuration and/or customization maintenance and COTS software license maintenance and renewal.
2.13.3.1	4	Configuration/Customization	Includes maintenance costs of all configuration and/or customizations made to the product application.
2.13.3.2	4	COTS Software License Maintenance	Includes COTS software license maintenance costs (including annual cost required for continued product patches and technical support).
2.13.4	3	Hardware Maintenance	Includes COTS hardware warranty and maintenance costs.
2.13.5	3	Change Architecture / Design	Includes any engineering change proposals (ECPs), pre-planned product improvements (P3I), software modification, etc.
2.13.6	3	Purchased Software and Hardware refresh	Includes any new COTS SW purchases and new hardware purchase (including tech refresh). Includes all new hardware, new software, and spares.
2.13.6.1	4	Purchased	Includes any new COTS SW purchases.
2.13.6.2	4	Hardware	Includes any new hardware purchase (including tech refresh).
2.13.6.3	4	Recurring	Includes any spares associated with new hardware (including tech refresh) purchases.
2.13.7	3	Purchased Communications	Includes all purchased circuits, communications lines, etc.
2.13.8	3	IT Operations & Monitoring	Includes costs for system administration, database administration, help desk support, data maintenance, recurring training, data migration updates, sustaining engineering and program management, recurring testing, and other.
2.13.8.1	4	System Administration	This element includes the cost of system administration functions, which include managing the computer resources and performance -- performing disk performance monitoring, balancing/tuning and reporting, and rectifying bottlenecks.
2.13.8.2	4	Database Administration	This element includes the cost of database administration functions, which include database and web site configuration, deletion, startup, shutdown, etc. -- including all other tasks which are considered to be a normally accepted, database/web administrator functions.
2.13.8.3	4	System Operations/Monitoring	This element includes the cost of system monitoring functions, which include event management, storage management, network management, and CPU capacity metrics reporting.
2.13.8.4	4	Help Desk	Includes the cost for providing Level 1, 2, & 3 help desk support to users of the solution.
2.13.8.5	4	Data	Includes any data (e.g., documentation) review, update, and maintenance.
2.13.8.6	4	Recurring Training	Includes updates of training materials and conduct of recurring training for end users, developers, IT operations personnel, or any other users.
2.13.8.7	4	Data Migration	Include any continued data migration efforts after system implementation.
2.13.8.8	4	Sustaining Engineering	The labor, material, and overhead costs incurred in providing continued systems engineering and program management oversight to determine the integrity of a system, to maintain operational reliability, to approve design changes, and to ensure system conformance with established specifications and standards. Specific costs in this category may include (but are not limited to) government and/or contract engineering services, technical advice and training for component or system installation, operation, maintenance, and support.
2.13.8.9	4	Program Management	This cost element covers the resource requirements for system management. Management includes the costs incurred in the process of acquiring, employing, and retraining needed personnel, i.e. fully burdened salaries, benefits, relocation expenses, retirement accrual, required TDY, and all costs associated with the personnel of the deployed IT systems. It also includes the services, studies and support resources needed to manage the program after deployment.
2.13.8.10	4	Recurring	Includes all recurring testing, certifications, and accreditations.
2.13.8.11	4	Other (specify)	Includes any costs not captured in other elements.

Notes	
<p>1 This element includes all the associated effort needed to analyze, design, build, and test the custom software application to fulfill a capability gap not captured by the services element software packages. Use lower levels to identify individual custom computer software items. Includes, for example:</p> <ul style="list-style-type: none"> <li>a. Software requirements</li> <li>b. Software architecture and design</li> <li>c. Software code and unit test</li> <li>d. Software integration</li> <li>e. Software qualification testing</li> <li>f. Software COTS/GOTS approach (requirements negotiation)</li> <li>g. Software COTS/GOTS component identification</li> <li>h. Software COTS/GOTS assessment and selection</li> <li>i. Software prototyping</li> <li>j. Software COTS/GOTS glue code development</li> <li>k. Software COTS/GOTS tailoring and configuration</li> <li>l. Subsystem software product engineering (e.g., configuration management, quality assurance, managed services, etc.)</li> </ul>	<p>3 Business Area Software Items 1...n. This element includes all the associated effort needed at the system developer's facility for planning, analyzing, designing, building, and testing functionalities that can be attributed, in whole or in-part, to a specific functional/business area or module within the EIS system. Includes, for example:</p> <ul style="list-style-type: none"> <li>a. All necessary labor and materials for analyzing, designing/building/configuring, and testing the required business objects -- reports, forms, interfaces, conversions, workflows, fact tables, dimension tables, scripts, enhancements, etc. -- that can be attributed, in whole or in-part, to a specific functional module or business area within the EIS system</li> <li>b. Effort for assessing and tailoring COTS software applications or modules that can be attributed, in whole or in-part, to a specific functional module or business area within the EIS system</li> </ul>
<p>2 Enterprise Service Element Software Items 1...n (Specify). This element includes all the associated effort for assessing and tailoring COTS software applications or modules that can be attributed to a specific software service or bundle of services within the AIS system. Includes, for example:</p> <ul style="list-style-type: none"> <li>a. Software COTS/GOTS approach (requirements negotiation)</li> <li>b. Software COTS/GOTS component identification</li> <li>c. Software COTS/GOTS assessment and selection</li> <li>d. Software prototyping</li> <li>e. Software COTS/GOTS glue code development</li> <li>f. Software COTS/GOTS tailoring and configuration</li> <li>g. Subsystem software product engineering (e.g., configuration management, quality assurance, managed service contract, etc.)</li> </ul> <p>Excludes, for example: COTS software procurement: licenses, warranties, etc. include in the operational site activation element</p>	<p>4 External System Interface Software Items 1...n. The effort associated with developing the set of software artifacts (threads, reports, queries, or scripts, portlets, or data export schemas) needed for a specific external system interface. Use lower levels to identify specific artifacts that must be developed or modified. Includes, for example:</p> <ul style="list-style-type: none"> <li>a. Software requirements</li> <li>b. Software architecture and design</li> <li>c. Software code and unit test</li> <li>d. Software integration</li> <li>e. Software qualification testing</li> <li>f. Software COTS/GOTS approach (requirements negotiation)</li> <li>g. Software COTS/GOTS component identification</li> <li>h. Software COTS/GOTS assessment and selection</li> <li>i. Software prototyping</li> <li>j. Software COTS/GOTS glue code development</li> <li>k. Software COTS/GOTS tailoring and configuration</li> <li>l. Subsystem software product engineering (e.g., configuration management, quality assurance, managed services, etc.)</li> <li>m. Both the design of the interface specification and the development of the interface</li> </ul>