



F E D E R A L
S T U D E N T A I D
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**Debt Management and Collection System (DMCS)
Technical Architecture GAP Analysis**

Assumptions for Quester Technical Architecture

Assumptions

No	Assumptions
1	All GAPS will be reviewed with Raytheon
2	All requirements are for the Quester DMS product of whether it can meet the requirement as of the end of 06/2002.
3	<p>The priority of each requirement will be ranked in high, medium, and low. This ranking will be decided upon with input from FSA, Raytheon, and Mod Partner.</p> <p>High Requirement: A critical requirement for FSA that the system must have to fulfill the basic business functions. Medium Requirement: A priority item that the business community would like to have but is not critical for the system to function. Functional will be integrated into the application in multiple releases. Low Requirement: Functionality that is required but that can wait until a future release.</p>
4	As the project moves forward into detailed requirement gathering, the priority of each requirement might change.
5	Fulfillment will not change for the first initial release of the new DMS Quester system.
6	The ranking of high, medium, and low were ranked within each technical area. The technical areas themselves were not compared nor ranked. This could be a separate effort if needed.
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Issues

No	Issues	Solutions
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DMCS Replacement
Technical Architecture
Gap Analysis

Req ID	Functional Area	Requirement	Priority	GAP	GAPS Identified with DMS	% Complete	Actions Recommended	Comments	Reviewed	Approval
1.00	Application Architecture		High			70%			Reviewed at Raytheon on 06/07/2002	
1.01	Configuration Management	The configuration management of the application vendor should be rated as obtaining CMM level 3 compliance: This defines the software process for both management and engineering activities is documented, standardized, and integrated into a standard software process for the organization. All projects use an approved, tailored version of the organization's standard software process for developing and maintaining software.	High	No	Raytheon is CMM Level 3 certified.	100%				
1.02		The software vendor should use established software development lifecycle processes for document tracking, problem resolution, action items, and identifying risks	High	No	Raytheon has the appropriate process, procedure, and software in place.	100%				
1.03	Functional System Requirements	The system shall have utilities for system administration	High	Yes	Raytheon is currently developing administrative functionality	50%				
1.04		The Graphical User Interface (GUI) shall meet the system performance/response time requirements dictated by FSA in the detailed requirements phase.	High	Partial	DMS has both fat-client (Java Swing components) and thin-client (browser) for different functionality. Need to identify response time requirements from different user groups.	50%				
1.05		The application must be Section 508 compliant	High	No	DMS is Section 508 compliant.	100%				
1.06		The application should be designed to be displayed on a minimum resolution of 800x600 and a minimum color depth of 256.	High	No	Modernization Partner standard to meet clients with lower resolution capability.	100%				
1.07	Development Standards	Use proper project shells and program header blocks	High	No	All modules have the appropriate headers and change log information.	100%				
1.08		Follows project coding standards for application language	High	No	Coding standard documentation is already in place.	100%				
1.09		Uses proper naming standards for variables and functions	High	No	Naming convention is based on the coding standard documentation.	100%				
1.10		The server-side application should be able to run on Solaris and Java-based application servers	High	Partial	DMS is currently developed on Solaris and WebLogic 6.1. It has not been ported to the FSA standard of IBM web server IHS and app server Websphere. May need to migrate application to IBM WebSphere v5.0 to EJB 2.0 support. WebSphere is Modernization Partner's standard Java-based application server.	80%				
1.11		The client-side application should be able to run on Windows NT 4.0 SP 6, Windows 2000, Windows 2000 Professional, and Windows XP.	High	No	Client-side application is able to run to any of the OS listed with the appropriate JDK version installed.	100%				
1.12	Overall Design	The application architecture shall be based on an n-tier architecture for scalability (note this is hardware scalability)	High	No	DMS is 4-tier architecture - presentation, business logics, persistence, and data storage. The application is built on model-view-controller design pattern (MVC2).	100%				
1.13		Application is based on Object-Oriented technology	High	No	DMS uses UML for system analysis and modelling	100%				
1.14		Application is based on Java 2 Enterprise Edition technology (J2EE)	High	No	DMS is based on JSP, Servlet, EJB, and JDBC	100%				
1.15		Application must meet performance requirements as set by FSA	High	Partial	It is unclear what the performance of the new system will be. Extensive stress and load testing will need to occur in order to verify that the performance metrics are met. Persistence strategy may be a driving factor on meeting the performance requirements	50%				
1.16		Application architecture must be scalable (The application and database layers must be able to be load balanced or clustered).	High	Partial	The use of Entity EJBs may hinder scalability. Since CMP 2.0 is relatively new, extensive testing needs to be done to ensure scalability.	50%				
1.17		Proper persistence strategy must be in place	High	Partial	The use of CMP 2.0 Entity EJBs may cause performance issues - given the amount of EJBs in the system under load. Load and stress testing must be performed as early as possible to ensure the application is scalable and will meet all performance metrics. JDBC or JDO may be an alternative to Entity EJB solution.	50%				
1.18		Application shall support personalization	High	Partial	Web-based GUI supports personalization but the Swing GUI may not support personalization	80%				
1.19		The application shall support the capability of batch processing	High	No	DMS has batch processing in its current application.	100%				
1.20		There shall be a batch process scheduler that can display all batch job names, the times started, the times finished, and who scheduled the job.	High	Yes	While this has not been envisioned by Raytheon at this point, Raytheon has selected Cronos as a batch scheduler.	0%	Gather additional information and work with Raytheon to fulfill this requirement.			

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1.21		The batch job scheduler shall be able to add new processes for running.	High	No						
1.22		The batch job scheduler shall be web based.	Medium	No						
1.23		The batch job scheduler shall be secure based on user profile. (ie only administrators can access this screen).	High	No						
1.24		The batch process scheduler shall be able to model a nightly run to ensure that those processes that are selected can be run in one night.	High	Yes	While this has not be invisioned by Raytheon at this point, Raytheon has selected Cronos as a batch scheduler.	0%	Gather additional information and work with Raytheon to fulfill this requirement.			
1.25		Application shall have the ability to manage user state	High	Partial	The application's session management architecture is still under development	70%				
1.26	Code	All Java files (JSP, Servlet, EJB, Swing classes) are appropriately named	High	No	Each Java file is appropriately named based on its function.	100%				
1.27		Adequate comments are provided	High	Partial	Contains good header comments. However, comments throughout the code are not detailed enough, especially around complex code logic.	70%				
1.28		Code is readable	High	Partial	Spacing, tab, and max line length coding standard is followed but not consistently across all developers	70%				
1.29		No hard coded values (without a valid reason)	High	Partial	All application wide values are hard coded except for error messages. Additionally the workflow piece has hardcoded rules as well. There is a lack of Configuration service.	70%		Need a Configuration service for developers to access system wide data or configuration data		
1.27		Extensive/repetitive logic placed in functions/methods	High	Partial	While a good portion of the Java code has functions and methods not all code has been developed.	70%				
1.28		Methods/Functions declared with appropriate scope	High	Partial	While a good portion of the Java code has functions and methods not all code has been developed.	70%				
1.29		No global variables (without valid reason)	High	Partial	The application code is still under development and must be monitored for unreasonable global variables.	70%				
1.30		Proper use of project global libraries	High	Partial	The application code is still under development and must be monitored for proper use of global libraries	70%				
1.31		Unused code, variables, comments removed	High	Partial	The application code is still under development	70%				
1.32		Industry known application architecture best practices in place	High	Partial	Raytheon uses many industry standard best practices in the application design. This includes: MVC, Session Façade, and Data Object design pattern. The Persistence strategy is a potential performance and scalability concern. See respective sections for details.	90%				
1.33		Database access mechanism leverages database connection pool	High	Partial	Entity EJBs leverage connection pool but JDBC (RowSet) may not. Unfinished application code prevents verification that RowSet is obtained via pool JDBC connections using application server's connection pool	80%				
1.34		Use of assertion to verify variable state/condition	High	Yes	Need simple assertion framework to assert different conditions	0%				
1.35		Ability to store business entity details (Guaranty Agencies, Lenders, Schools, Closed Schools, Private Collection Agencies)	High	No	Entity EJBs are used for this purpose	100%				
1.36		Supports triggers and alerts which allow events to be proactively discovered and managed	High	No	Triggers are currently being implemented using Oracle 8i and cannot yet be fully investigated.	70%				
1.37	Logging	Standardized logging across the application	High	No	Developers uses LumberJack for the logging facility. LumberJack is an open-source Java API used for logging.	100%				
1.38		Ability to set different logging levels - Critical, Error, Warning, Information	High	Partial	Need more logging levels, ie. Critical and High	80%				
1.39		Ability to log to different destinations - file, database, others	High	Partial	Application code is still under development and logging capabilities are not fully defined.	80%				
1.40		Ability to create a new log file based on time or/and size	High	Partial	Application code is still under development and logging capabilities are not fully defined.	50%				
1.41		Log file format shall be configurable to meet monitoring tool specification	High	Partial	Application code is still under development and logging capabilities are not fully defined.	50%				
1.42	Error Handling	Errors are handed consistently across the application	High	No	Raytheon established standard for exception handling.	100%				
1.43		All error messages are properly logged	High	Partial	Application code is still under development and logging functionality is not fully defined.	70%				
1.44		Application exits appropriately if fatal error	High	Partial	Application code for such error situations has not been developed yet	50%				
1.45		User is properly informed where applicable	High	Partial	Raytheon established standard for exception handling, though application code is still be developed	80%				
1.46		Use common project error message functions	High	No		100%				
	Testing	All code shall pass all unit test and regression test conditions	High	No	Developers uses Junit to unit and regression test all code. Junit is a Java-based automated test tool	100%				

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1.47		All test conditions have been identified	High	Partial	Test conditions are determined as code is developed.	50%				
1.48		Test documentation clear and concise	High	Partial	Test documentation is developed as code is written and ready to be tested.	50%				
1.49		All testable conditions have been tested	High	Partial	Application code is still under development and so all testable conditions cannot be tested, yet.	50%				
1.50		Special startup/shutdown requirements tested	High	Partial	Application code is still under development	50%				
1.51	Documentation	Documentation is well organized	High	Partial	All documentation has not been completed	50%				
1.52		Documentation follows project standards	High	Partial	All documentation has not been completed	50%				
1.53		Java class name follows project standards	High	Partial	Application code is still under development	50%				
1.54		All design documentation is located in proper directory	High	Partial	All documentation has not been completed	50%				
1.55		GUI follows project standards	High	Partial	Application development for GUIs has not been completed - is still under development	50%				
1.56		Meets all of its functional requirements	High	Partial	All documentation has not been completed	50%				
1.57		Open design issues are tracked	High	Partial	Rational ClearQuest is used for issue management though documentation is still be generated	50%				
1.58		Completed spec pack walk-through with programmer	High	Partial	Application code still under development	50%				
1.59		The system shall have a data back-up procedure for the application server.	High	Partial	Application code still under development	50%				
1.60		All test conditions and results must be well documented	High	Partial	Test documentation is developed as code is written and ready to be tested.	50%				
2.00	Database		High			75%			Reviewed with Raytheon on 06/18/2002	Reviewed with Tech Arch Team on 6/25/2002
2.01		The database for the new DMCS replacement project shall be a relational database.	High	No	Oracle 8.1.7. They are using web logic drivers that are specific to oracle 8.1.7. They can upgrade web logic drivers so that they are compatible with 9i.					
	High Availability	The relational database will have the following high availability features and functions:								
2.02		The ability to setup a standby database	High	No						
2.03		Fast-start selectable recovery time	High	No						
2.04		Online index build	High	No						
2.05		Online index coalesce	High	No						
2.06		Global index maintenance during DDL	High	No						
2.07		Flashback Query	High	No						
2.08		Quiesce database	High	No						
2.09		Block-level media recovery	High	No						
2.10		Incremental backup and recovery	High	No						
2.11		Online backup and recovery	High	No						
2.12		Parallel backup and recovery	High	No						
2.13		Point-in-time tablespace recovery	High	No						
2.14		Transparent application fail over	High	No						
2.15	Scalability	The database should provide scalability and high availability for any packaged or custom application by exploiting clustered hardware configurations, with the simplicity and ease of use of a single system image. This clustered database should allow access to a single database from multiple nodes of a clustered system configuration, to insulate application and database users from hardware and software failures, while providing performance that scales with the hardware environment.	High	No						
		The relational database shall also have the following scalable and high available features:								
2.16		The ability to cluster the database file system	High	No						
2.17		Clustering Technology: The ability to cluster two or more computers into one logical unit. All nodes should be able to concurrently execute transactions against the same database. The clustering management tool shall coordinate each node's access to the shared data to provide consistency and integrity.	High	No						
2.18		Java native compilation	High	No						

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2.19	Security	The database application shall provide strong authentication and encryption by implementing industry standard encryption and integrity algorithms as well as supporting several external authentication services. The relational database product shall provide robust enterprise user security where organizations have a choice of implementing end-to-end security by authenticating users using digital certificates or passwords, reducing the total cost of deploying security.	High	No						
2.20		The database shall have label security or a way to provide sophisticated and flexible security based on row labels for fine-grained access control. Label security should employ labeling concepts used by government, defense and commercial organizations to protect sensitive information and provide data separation. This database application should include a powerful tool to manage policies, labels, and user label authorizations.	High	No						
		The security of the database shall also include the following features and functions:	High							
2.21		Encryption toolkit	High	No						
2.22		Virtual Private Database	High	No						
2.23		Fine grained auditing	High	No						
2.24		DBA auditing	High	No						
2.25		Password management	High	No						
2.26		Proxy authentication	High	No						
2.27	Development Platform	The programming environment for the relational database shall include precompilers and a SQL module for ad hoc SQL.	High	No						
2.28		The programming platform for the database shall include java support.	High	No						
		The database application shall also support the following functionality:	High							
2.29		Compatibility with SQLJ, ODBC, JDBC, at least two COM data access interfaces (OLE and OLE DB), the latest ANSI standards, and at least two utilities to generate host-language bindings from database schemas (example an object type translator or JPub).	High	No						
2.30		XML DB	High	No						
2.31		Objects and extensibility	High	No						
2.32		PL/SQL stored procedures and triggers	High	No						
2.33		PL/SQL Server Pages	High	No						
2.34		User-defined aggregates	High	No						
2.35		Microsoft Transaction Server integration	High	No						
2.36		VLM Support	High	No						
2.37		OLE DB.NET and ODBC.NET support	High	No						
2.38		Autonomous transactions	High	No						
	Manageability	The database shall have the following management capabilities that can either be part of the database or an additional add on to the database:	High							
2.39		Tuning functionality - a tuning module to provide database administrators with expert performance management for the database environment, including SQL tuning and storage optimization.	High	No						
2.40		The system shall have the ability to customize the data model through the use of a third party tool (Rational rose is recommended but ERWIN is acceptable).	High	No						
2.41		Ability to track specified online or batch changes to the database by retaining "before and after" images and a record of the user/batch program which requested the change for audit purpose.	High	No						

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2.42		Diagnostics functionality - A diagnostics module shall enable database administrators to perform advanced monitoring, diagnosis, and planning for the database environment.	High	No						
2.43		Change Management functionality - A change management module shall eliminate the errors and loss of data when upgrading databases to support new applications. The functionality shall analyze the impact and complex dependencies associated with application change and automatically performs database upgrades.	High	No						
2.44		Management functionality - Management module enables the administrator to monitor, diagnosis, capacity plan, and tune database environment.	High	No						
		The database management functions shall also include the following features:								
2.45		Automatic undo management	High	No						
2.46		Self-tuning memory management	High	No						
2.47		Server managed backup and recovery	High	No						
2.48		A Recovery Manager	High	No						
2.49		A Storage Manager	High	No						
2.50		Duplexed backup sets	High	No						
2.51		Database Resource Manager	High	No						
2.52		Reusable space allocation	High	No						
2.53		Unused index identification	High	No						
2.54	Disk Volume Management, Data Warehousing, Business Intelligence	Disk Partitioning: The database application should have partitioning capabilities to permit large tables to be broken into individually managed smaller pieces, while retaining a single application-level view of the data. Range, hash, composite (range combined with hash), and list partitioning methods shall be supported.	High	No						
2.55		The relational database shall use the Java OLAP API to provide efficient object-orientation for building applications that require complex analytical queries. Fully integrated in the database, OLAP shall provide a complete set of analytical functions. Predictive analysis can be used to forecast market trends, predict product manufacturing requirements, and build enterprise budgeting and financial analysis systems. Using complex, multidimensional queries and calculations, information such as market shares and net present value can be derived.	High	No						
2.56		The relational database shall have a Java-based API for data mining. This API shall embed data mining functionality for making classifications, predictions, and associations. All model-building and scoring functions shall be accessible through this API.	High	No						
		The database intelligence and warehousing functions shall also include the following features:								
2.57		Data Compression	High	No						
2.58		Optimizer statistics management	High	No						
2.59		Analytic functions	High	No						
2.60		Bitmapped index and bitmapped join index	High	No						
2.61		Descending index	High	No						
2.62		Function-based index	High	No						
2.63		Automated parallel query degree	High	No						
2.64		Parallel statistics gathering	High	No						
2.65		Parallel bitmap star query optimization	High	No						
2.66		Parallel DML	High	No						
2.67		Parallel index build	High	No						
2.68		Parallel index scans	High	No						
2.69		Parallel load	High	No						
2.70		Parallel query	High	No						

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2.71		Star query optimization	High	No						
2.72		Sample scan	High	No						
2.73		Long operations monitor	High	No						
2.74		Multi-table insert	High	No						
2.75		Pipelined table functions	High	No						
2.76		Synchronous change data capture	High	No						
	Integration	The database application shall be able to integrate with the following applications or have the following functionality:								
2.77		Integration with Siebel	High	No						
2.78		Advanced queuing of data	High	No						
2.79		Compatibility with a variety of 3rd party workflow tools	High	No						
2.80		Messaging Gateway to IBM MQSeries	High	No						
2.81		Trigger based replication for dynamic exchange of data based on insert, update, or delete events. (this applies to one master database and one replicated database).	High	No						
2.82		Snap shot replication of data at scheduled or manual activated events that take the current data in a master database and replicate it to a external database. Note this type of replication can also replicate just the deltas between replication times.	High	No						
2.83		Advanced Replication (replication manager functionality to handle dynamic replication between two active databases. In this scenario, both databases are being updated, inserted, and delete events at the same time).	High	No						
2.84		Distributed queries	High	No						
2.85		Distributed transactions	High	No						
2.86		Heterogeneous Services	High	No						
2.87	Networking	The database shall have the ability to do connection pooling	High	No						
2.88		The database should have functionality that allows users and application developers to be able to do an analysis based on the spatial relationships of associated data, like the proximity of store locations to customers within a given distance and sales revenue per territory. This functionality shall manage spatial data in an industry-standard database, resulting in application integration that takes place at the data server.	High	No						
	Content Management	Additional database functions and features shall include the following in regards to content management:								
2.89		Parallel text index creation	High	No						
2.90		Ultra Search	High	No						
2.91		interMedia	High	No						
	Additional Database Features	Additional database functions and features shall include the following:	High							
2.92		Database event triggers	High	No						
2.93		A DBMS_REPAIR package for corruption.	High	No						
2.94		A DBMS_METADATA package	High	No						
2.95		Drop column functionality	High	No						
2.96		Index-organized table	High	No						
2.97		LOB (large object) support	High	No						
2.98		Ability to create temporary tables	High	No						
2.99		Support for the next generation of XML Schema to enabled unification of both document modeling and data modeling	High	No						
3.00		Support for W3C XML data model	High	No						
3.01		Should support the JSWP compliant debugging of Java and PL/SQL in the database with debugging from any JDB compliant tool.	High	No						

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3.02		It should also support JDK 1.3 with JDBC support for TIMESTAMP data type and statement pooling. It shall provide thin JDBC support for PL/SQL index tables, NUMBER conversions routines and optimized statement execution time. It shall implement all Java methods for NUMBER and DATE, and have J2EE 1.3 compliance for JMS.	High	No						
3.03	Archiving	Archiving of data shall be event driven with it occurring from the event of an account entering a close status..	Medium	Yes	This is not a requirement for the GA version but Raytheon has envisioned this functionality for the Collections version.	0%	Consult with FSA SMEs to determine possible updates/modifications to the current archiving procedures. With their agreement of process and procedures, set up triggers in the new system to fire on detecting an account status that has changed to the "close" state. Invoke appropriate actions as a response to the trigger.			
3.04		The process of archiving accounts shall be able to run concurrently with all other subsystems without having an overall adverse affect on any other subsystems.	Medium	Yes	This is not a requirement for the GA version but Raytheon has envisioned this functionality for the Collections version.	0%	Evaluate all processes that may be running when an account has been selected for archival. Determine which processes need to be idle/stopped in order for selected accounts to be archived. Code the archival process to immediately trigger when specified processes are idle and the archival process will not have an adverse affect to the system. Example, if a user is working on the account, it should be locked. Once the user finishes, the account can than be archived.			
3.05		A user shall have the ability to restore an account manually if needed. A log of all user actions for restoring shall be kept.	High	Yes	This is not a requirement for the GA version but Raytheon has envisioned this functionality for the Collections version.	0%	When designing and developing the archive subsystem, include this functionality in the code. Provide a convenient user interface for the selection of accounts to restore, with the appropriate checks and validation in place. Provide proper notification to predetermined individuals upon restoration of an account. Write all restore actions to a log file.			
3.06		All archiving of data shall be automated with pre-defined business rules.	High	Yes	This is not a requirement for the GA version but Raytheon has envisioned this functionality for the Collections version.	0%	Work with appropriate FSA and Accenture SMEs to determine the archival criteria. Consider the possibility that archival rules may change in the future and/or accounts may be archived to certain "degrees" in the future.			
3.07		All archived data will be stored in a database on an external server other than the production DMS database. No tapes shall be used in the archiving and restoring process.	High	Yes	This is not a requirement for the GA version but Raytheon has envisioned this functionality for the Collections version.	0%	Determine a location for the external DB to reside. Purchase a DB server that will provide sufficient storage capacity. Develop scripts to synchronize the archival and production databases.			

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3.08		Accounts that are archived shall have a stub (key) that links the record to the archival database. Additionally, the end users will have some type of visual notification (check box, text indicating the account is archived, etc) letting them know that the account is archived and a restore must be done.	High	Yes	This is not a requirement for the GA version but Raytheon has envisioned this functionality for the Collections version.	0%	The database administrator should design and develop the archival process such that a stub is kept in the production database that points to the associated record (s) in the archival database. The design of certain interfaces and notification schemes should include archive/restore information.			
3.09		Accounts shall be able to be restored via approved queries to the archive database. Queries can be ad-hoc or canned. (Example, restore all accounts with a certain school code). This should be able to be done by designated users. It shall also be tested before being implemented	High	Yes	This is not a requirement for the GA version but Raytheon has envisioned this functionality for the Collections version.	0%	The restore functionality and user interfaces) for the restore procedure should be designed to allow for account selection via query or manual selection. After the requirements and design are complete, implement this functionality and test it. It may be possible to run the query off the reporting tool and then export it, if the results are as desired, to the restore tool.			
3.10		A reporting utility will be available for use on the archive database in order gather metrics on number of accounts stored, when accounts were archived, etc.	Medium	Yes	This is not a requirement for the GA version but Raytheon has envisioned this functionality for the Collections version.	0%	Investigate the possibility of using the archive database on the reporting server. If feasible and recommended, the stand-alone reporting tool can be used for archive reports. If the databases are kept separate, configure the stand-alone reporting tool to have access to data from multiple sources, hence allowing reports to be generated off both databases.			
3.11		Ability to restore accounts to any state in the DMCS system. This will be defined by the business logic. (example restore school accounts to a protect location code and issues refunds if the school was closed).	High	Yes	This is not a requirement for the GA version but Raytheon has envisioned this functionality for the Collections version.	0%	Design the restore subsystem to allow for multiple end-states of accounts. Make the business logic configurable so that rules can be modified if needed.			
3.12		The archival process shall be dynamic with retrieval of archived documents as fast as possible (less than one hour per account).	High	Yes	This is not a requirement for the GA version but Raytheon has envisioned this functionality for the Collections version.	0%	Evaluate the most recent technology (servers, communication lines, indexing all tables, etc) and select hardware/software that enables the archival process to be as fast as possible. Work with FSA and Accenture SMEs to determine the situations when archival cannot occur (such as when certain other processes are running) and develop an archival strategy that works around these limitations.			
3.00	Workflow Management		Medium			25%			Reviewed with Raytheon on 06/05/2002	Reviewed with Tech Arch Team on 6/25/2002

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3.01		Object Oriented: The workflow tool should be an object-oriented application promoting high "reuse" of software components in application building. These workflow objects should allow authors to refine business processes without having to undertake new development activities. The tool should also allow real-time modification of work.	High	Partial	While the current DMS application is object oriented because it uses Java objects, it does have hardcoded workflow rules. For example, the different states for each account object are hardcoded.	25%	Use a 3rd party Object oriented workflow engine, which dynamically uses natural language to define business requirements. (Suggest engine JRule. However, JRules is a component and is not intended to be an end-to-end, out-of-the-box solution. ILOG JRules can potentially work with common server platforms (EJB, MTS, JSP, ASP, CORBA, etc.), but since ILOG does not provide a server, more work will be required during implementation.)			
3.02		RAD Development: The workflow tool should be a rapid application development (RAD) tool, (featuring object-oriented technology), in order to speed development of the workflow. If the tool uses Microsoft technology is should provide an extensive set of OLE automation-compliant, ActiveX controls in order to dramatically reduces the time it takes to create workflow applications. Drag-and-drop of the controls using any OLE automation-compliant visual development environment to quickly produce powerful Workflow Services applications is required. If the workflow is java based it should provide similar services.	High	No	Functionality available within DMS					
3.03		Authoring tool to quickly create workflow process maps using graphical user interface	High	Yes	There is no existing workflow tool selected	0%	Use a 3rd party Object oriented workflow engine.			
3.04		Flexible flow control options and work validation rules for the most complex routing and work sequencing	Medium	No	Functionality available within DMS					
3.05		Comprehensive suite of programming services using Java class libraries, ActiveX controls, and APIs for: - Work creation, participation and management - Participation of client or server in work process - Flexible work sequencing - Security management - Statistics and logging of workflow metrics - Exception handling	Medium	Yes	Within the current DMS application, the framework has been built out, however the workflow rules are still hardcoded values.	20%	Use a 3rd party Object oriented workflow engine. (Jrule would have to add Rule Builder and Editor Components to define business rules).			
3.06		Process Definition Interchange: The workflow tool should define a common specification for interfacing Business Process Re-engineering (BPR) systems with workflow management systems. The tool should comprise of a common meta model for describing the process definition as a textual grammar for the interchange of process definitions (Workflow Process Definition Language – WPDL).	Medium	Yes	There is no existing workflow tool selected	0%	Use a 3rd party Object oriented workflow engine.	Multiple work lists provided that allow supervisors to customize assignments to staff.		
3.07		Workflow Client Application Programming Interface Specification: The workflow tool should provide a standard workflow management Application Programming Interface (API). This API set provides a consistent method of access to workflow functions in cross-product workflow engines. The API set is named Workflow Application Programming Interfaces (WAPI).	Medium	Partial	Yes the Raytheon EJBS have this functionality, however, no workflow tools is enabled.	10%	Use a 3rd party Object oriented workflow engine. (JRules fully supports EJB integration and can be directly embedded into Enterprise Java Beans, session, and entity Beans, therefore review requirements with Raytheon, configure tool, test and deploy)	Feature not presently incorporated.		

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3.08		Interoperability: The workflow tool should facilitate the interoperability of workflow management systems, allowing a workflow process from Vendor A to interface with a workflow process from Vendor B. This is seen as highly desirable in situations where a workflow process might need to interact (launch and monitor) a workflow process of a supplier, partner or sister corporate division. The transport mechanism for this interoperability should at least be trigger based upon relational database tables. Future releases for this transport mechanism should include communication by email.	Medium	Partial	Yes the Raytheon EJBs have this functionality, however, no workflow tools is selected	20%	Review requirements with Raytheon for additional functionality using a new workflow engine	Feature for alert not presently incorporated. Work lists may address some cases.		
3.09		Audit Data: The tool should have proper logging of all workflow activities in order to ensure that at least a minimum set of data is available to aid in the analysis and management of workflow systems. This management includes providing the workflow authors/business managers with tools to track, monitor, and measure process productivity and effectiveness.	High	Yes	Yes the Raytheon EJBs have this functionality, however, no workflow tools is selected	0%				
3.10		The Workflow tool should be capably of development in either Java or COM/ActiveX.	Low	Yes	No workflow tool is selected at this point in time	0%	Ensure that the workflow tool selected is Java compliant			
3.11		Thin Client (Web) Deployable: The workflow application should be able to be integrated into an application for display on thin web clients.	Medium	Yes	No workflow tool is selected at this point in time	0%	Ensure that the workflow tool selected meets this requirement.			
3.12		The desktop hardware required for the workflow tool should be any computer technology supported by JDK 1.2 with Microsoft Windows 95, 98, Windows NT, windows 2000 professional. Additionally the supported web browsers should be any browser supporting plug-ins for JDK 1.2 or higher.	High	Yes	No workflow tool is selected at this point in time	0%	Ensure that the workflow tool selected meets this requirement.	This is to be handled through customer's imaging system.		
3.13		The server required technology should be Microsoft NT, Microsoft server 2000, HP-UX, IBM AIX with support for the following web servers Apache (HP & AIX), Microsoft IIS, Netscape Enterprise Server, Sun Java Web Server	High	Yes	No workflow tool is selected at this point in time	0%	Ensure that the workflow tool selected meets this requirement.			
3.14		Required options for type of work delivery accommodating push and pull models of work	Medium	Partial	They have push queues but they do not currently have any pull queues. Additionally, there is no Raytheon workflow tool.	35%	Ensure that the workflow tool selected meets this requirement.			
3.15		Configurable, automatic workload delivery and balancing	Medium	Yes	No workflow tool is selected at this point in time	0%	Ensure that the workflow tool selected meets this requirement.			
3.16		Management of parallel and conditional work routing	Medium	No	Yes they have parallel and conditional work routing for different queues.					
3.17		Supports workflow rollback	High	Yes	No workflow tool is selected at this point in time	0%	Ensure that the workflow tool selected meets this requirement.			
3.18		Flexibility to allow super business users to define and modify internal workflow without programming code changes	Medium	Partial	Can do some customization but cannot modify Java objects	20%	Ensure that the workflow tool selected meets this requirement.			
3.19		Account status automatically triggers an account to be moved to a queue in a particular workflow	High	No	Current workflow tool can accommodate this requirement					
3.20		Ability to break out work queues and repositories onto their own workflow servers.	High	No	While they cannot do it now, the J2EE model can accommodate.					
3.21		Highly configurable and scalable to accommodate departmental or enterprise solutions with thousands of users	High	No	J2EE Yes					
3.22		Flexible security for users, groups, type of work, type of task. Additionally, the security services should support LDAP.	High	No	J2EE allows security per work queue. Additionally, they have filtering on users ability to see the queues.					
4.00	Document Management		Medium			20%			Reviewed with Raytheon and FSA on 06/11/2002	Reviewed with Tech Arch Team on 6/25/2002

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4.01	Documents	Need the ability for the application to be able to attach imaged files (Example Promissory notes and other loan records in Account Lookup).	Medium	Yes	The GAs have not asked to have Raytheon have an attachment section. Regardless, this is something that will have to be built for Siebel. Tiff group 4 format is what all the images are scanned in at the SLPC/NPC.	0%	Gather requirements for new functionality, design, build, test and deploy	Imaging processes and integration are unique to each client's imaging system. Can be customized and accommodated.		
4.02		Generate various forms on demand for each account (i.e., financial statements, discharge forms, etc.)	High	Partial	DMS has not been designed to generate any type of form. However, DMS is flexible enough to have any type of letter generation tool to be able to plug into it or have a link to DMS from a common Dept of Ed forms web site. DMS is currently in the build phase to create a web page that will have the ability to generate financial statements for borrowers. (Transaction history, different types of loans, sort loans on balance category, and a request for hard copy of a full history).	20%	Gather requirements for 3rd party letter generation tool. Document new requirements, design system, build, test and deploy.	Imaging processes and integration are unique to each client's imaging system. Can be customized and accommodated.		
4.03		Generate various forms automatically based on predetermined criteria (e.g. timed alerts, status changes, approvals, denials, etc.)	Medium	Yes	DMS cannot do this functionality at this time.	0%	Gather requirements for 3rd party letter generation tool. Document new requirements, design system, build, test and deploy.	Imaging processes and integration are unique to each client's imaging system. Can be customized and accommodated.		
4.04		Generate various letters automatically based on predetermined criteria (e.g. timed alerts, status changes, approvals, denials, etc.)	Medium	Partial	DMS is in the build phase of creating processes that can generate letters based on certain timed conditions and events.	20%	Gather requirements for 3rd party letter generation tool. Document new requirements, design system, build, test and deploy.			
4.05		Web based letter template generation. Administrative / Developer functionality to allow generation/ distribution of templates via the web using object oriented component technology. This reduces the amount of time to create new templates and roll them out.	Medium	Yes	Not a requirement from the GAs. DMS can interface with a 3rd party letter generation application.	0%	Gather requirements, evaluate 3rd party letter generation application, test and deploy	Imaging processes and integration are unique to each client's imaging system. Can be customized and accommodated.		
4.06		Track status of documents that are sent to borrowers. Date correspondence was sent out and the status of whether it was delivered or not delivered.	High	No	Correspondence Tab in DMS currently exists.	100%				
4.07		Ability to delivery letters via electronic format.	High	Yes	Not a requirement from the GAs. DMS can interface with a 3rd party letter generation application.	0%	Gather requirements, evaluate 3rd party letter generation application, test and deploy	Imaging processes and integration are unique to each client's imaging system. Can be customized and accommodated.		
4.08		Check in and out for document version control. If someone changes the templates for the documents, need to track those changes and who changed it.	Medium	Yes	Not a requirement from the GAs. DMS can interface with a 3rd party letter generation application.	0%	Gather requirements, evaluate 3rd party letter generation application, test and deploy			
4.09		Ability to handle digital signatures.	High	Yes	Not a requirement from the GAs, so therefore, not currently a functionality in the DMS application	0%	Gather requirements, evaluate 3rd party letter generation application, test and deploy			
4.10		Ability to log into the loan origination system (AFSAs FileNET system) and view images - this is task order 76 which is too link into the loan origination web site.	High	Yes	Not a requirement from the GAs, so therefore, not currently a functionality in the DMS application	0%	Gather requirements, evaluate 3rd party letter generation application, test and deploy			
4.11	Images	Acceptance of a variety of existing imaged files format (Tiff, JPEG, BMP, GIF, etc)	High	Yes	Not a requirement from the GAs, so therefore, not currently a functionality in the DMS application	0%	Gather requirements, evaluate 3rd party letter generation application, test and deploy			
4.12		Ability to convert documents as needed to proper formats.	High	Yes	Not a requirement from the GAs, so therefore, not currently a functionality in the DMS application	0%	Gather requirements, evaluate 3rd party letter generation application, test and deploy			
4.13		Ability to store images locally in case image needs to be examined at a future date or for distribution.	Medium	Yes	Not a requirement from the GAs, so therefore, not currently a functionality in the DMS application	0%	Gather requirements, evaluate 3rd party letter generation application, test and deploy			
4.14		OCR / ICR character recognition.	High	No	The SLPC NPC application has this capability	100%				

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4.15		Ability for images to be compressed if desired.	Medium	No	The SLPC NPC application has this capability	100%				
4.16		Ability for an image be printed or mailed or sent out to the PIC. The debt management system should be able to query for an image to be sent out.	High	Yes	Not a requirement from the GAs, so therefore, not currently a functionality in the DMS application	0%	Gather requirements, evaluate 3rd party letter generation application, test and deploy			
4.17		Ability to send fax from the system through a web or client application.	Medium	Yes	Not a requirement from the GAs, so therefore, not currently a functionality in the DMS application	0%	Gather requirements, evaluate 3rd party letter generation application, test and deploy			
5.00	Security		High			15%			Revised with Raytheon and FSA on 06/12/2002	Reviewed with Tech Arch Team on 6/26/2002
5.01	Security Compliance and Administration	Every FSA system shall have a system security plan written in the format and containing the topics prescribed in NIST Special Publication 800-18. The system security plan shall describe the system and its relationship with all interconnected systems. The SSO must review and update the security plan at least annually to reflect current conditions and risks. Security plans must be dated to ease tracking of modifications and approvals, and a summary of the plan shall be incorporated into the strategic IT Handbook of FSA.	High	Yes	They do not currently apply to this act but they plan on having compliance	0%	Gather FSA security requirements (currently in draft format) and design new system to meet these requirements	A130 review is for a new system and requires an outside vendor to come in and test the system (try to break it).		
5.02		There shall be a security team to ensure that all requirements of FSA are met for the new system	High	Yes	While Raytheon has security personnel, they do not have a dedicated security team for the new application.	0%	Form a team of crossfunctional personnel to ensure that all areas are documented thoroughly and all requirements are met.			
5.03		The Inspector General or another independent evaluator may conduct an independent review. The findings from these reviews will be reported to OMB as required by the Government Information Security Reform Act (GISRA). The system owners shall take any system review seriously and dedicate adequate resources to sufficiently meet the needs of the reviewer(s). Similar to the requirement in risk management, the system administrators must aggressively implement appropriate mitigating actions to countermand any findings.	High	Yes	Raytheon has not reviewed these documents to date	0%	Ensure that all security issues are solved.			
5.04		The security team will go through a security review that is modeled after the government information security reform act (GISRA).	High	Yes	Raytheon has not reviewed these documents to date	0%	Work with Raytheon to ensure that all security requirements are met. Review with FSA SSO and achieve approval.			
5.05		A security risk assessment document shall be written for the new system.	High	Yes	Raytheon has not reviewed these documents to date	0%	Gather FSA security requirements (currently in draft format) and write document			
5.06		System Managers shall conduct a routine self-assessment, in NIST 800-26 format, every three years or whenever a major change occurs.	High	Yes	While Raytheon is doing this, this requirement has not been accounted for to date.	0%	Gather FSA security requirements (currently in draft format) and make sure that self-assessments are run.			
5.07	Authentication and Application Security	The application should authenticate users via a single sign on ID and Password	High	No						
5.08		The application should be LDAP version 3.0 or higher compliant.	High	No	Raytheon is using LDAP					
5.09		There should be a central security administration screen that is a web based screen that an administrator will use to assign security privileges for groups and users. This screen will have a statement about misuse.	High	Yes	While Raytheon is doing this, this requirement has not been accounted for to date.		Design and Develop a security administration screen for the web.			
5.10		A user shall be able to stand alone without a group or be a part of a group's security profile	High	No						
5.11		Groups can inherit other groups security privileges.	High	No						
5.12		The database should be able to link the security of the users / groups to database level security, table level security, and field level security.	High	No						

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5.13		The application should have view level security where different users can see different views of the data.	High	No						
5.14		Procedures will be implemented to identify sensitive and confidential information.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.15		Security policies will be enforced to ensure environment will not be compromised in terms of unauthorized access, denial of service, corruption of data, etc.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.16		System owners shall establish Rules of Behavior for each FSA system. The Rules of Behavior shall be published, distributed, and signed by every developer, maintainer, and user of the system. The set of rules must describe the use of, and access to, FSA systems and set appropriate limits on any interconnected equipment that permits access to them. The Rules of Behavior shall contain detailed procedures for friendly and unfriendly termination of employment. The rules of behavior shall capture but not be excluded to the following: Work at home Protection of Privacy Act information Reporting violations Dial-in access Connection to the Internet Use of copyrighted works Limitations on the unofficial use of government equipment The assignment and limitation of system privileges Individual accountability	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.17		The application team shall follow the Security Solution Life Cycle (SLC) maintained by the FSA Security and Privacy team. The Security SLC is divided into six phases: Vision Definition Construction Deployment Support Retirement	High	Partial	While this has been done for the FFEL system, there is currently no plan for the new system. Raytheon does invasion doing this work.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.18		Each phase of the lifecycle contains a corresponding security requirements checklist that shall be completed at the conclusion of each phase by the System Security Officer (SSO). No system may proceed to the next SLC phase until the security checklist is complete and signed by the SSO and SM.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.19		The application team shall perform a Certification and Accreditation before going online unless the system receives an Interim Authority To Operate (IATO). The system's owner may obtain an IATO for a period not to exceed 6 months when the system has the following: A full Risk Assessment A Draft Security Plan A Project Plan for full Accreditation	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			

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5.20		System Managers shall monitor the training of information security personnel who support their systems to ensure they receive and maintain the necessary training to achieve the system's security objectives. In addition, every FSA employee must receive annual information security awareness training that is adequate to fulfill his or her security responsibilities. System Managers shall monitor employee training, both type and frequency.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.21		FSA shall review the security controls of every system and interconnected systems on a periodic basis. Every system shall have a network diagram and documentation of any interconnected systems including access to the Internet, its names/unique identifiers, and a description of the interaction(s) between or among them.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.22	Establishing and Terminating Accounts	The application team shall use a documented process for requesting, establishing, issuing, and closing all user accounts. This process shall include linkages to the human resource and contracting functions involved in new hires, transfers, contract award and completion, and termination of employment. All user accounts shall be reviewed periodically and kept current.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.23		The application team shall establish job descriptions that accurately document assigned duties and responsibilities. The system manager must use these job descriptions when designating the sensitivity levels of these positions.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.24		System Managers shall classify the sensitivity of each position. When determining a position's sensitivity, consideration must be given to the laws, regulations, and policies that establish specific requirements for the protection of data and information an individual may affect (e.g. the Privacy Act and the Financial Services Modernization Act, referred to as the Gramm-Leach-Bliley Act).	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.25		All vendors and system owners shall undergo an appropriate background screening for their assigned positions prior to obtaining access to FSA systems. The amount of screening directly relates to the sensitivity level of the particular job position (see Handbook 11 for implementation procedures). Additionally, if an employee or contractor's position changes, FSA must update the background screening commensurate with the position. Screenings shall be renewed at least every five years thereafter. This policy applies to all new and re-hired employees, as well as all contractors and consultants.	High	No						
5.26		There security plan shall have documentation that describes the conditions for access to that system, especially when it is necessary to grant access prior to the completion of a background screening. The documentation also must state the compensating controls that will be used to mitigate associated risk.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			

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5.27		Formal procedures must define the authority granted to each user or class of users. Users must only receive the minimum access(es) necessary to perform their jobs. FSA must separate system support functions that allow a single individual to perform multiple sensitive processes. Whenever possible, development, test and operational facilities shall be separated to enable this segregation of duties and prevent unwanted alteration or modification of operational systems. At least two persons must possess expertise in important computer, network or telecommunications related areas. Having such back-up expertise prevents undue interruptions in a system's service and also increases the likelihood that unauthorized or abusive acts will be noticed.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.28		On at least an annual basis, program officials shall validate compliance with personnel security controls for all personnel under their supervision.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.29	Physical Access Controls	There shall be controls to access facilities through the use of guards, identification badges, or entry devices such as keycards.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.30		The data hosting vendor shall control access to data centers or similar sensitive areas to prevent unauthorized entry. The data hosting vendor must establish emergency exit and reentry procedures to protect assets during an emergency and to prevent unauthorized reentry into facilities after the emergency expires. All of these requirements must be captured in the security plan.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.31		The data hosting vendor shall securely store unused keys, keycards or other entry devices used to enter sensitive areas and return these devices when no longer needed. This process shall be document in the security plan for the system.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.32		All personnel shall obtain and display their identification badges at all times. Facility personnel must authenticate visitors, contractors, and maintenance personnel through the use of preplanned appointments and identification checks, and must escort these persons when in restricted or sensitive areas. This process shall be document in the security plan for the system.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.33		Restricted or sensitive areas within the data hosting facility must have clearly defined security perimeters, with appropriate access controls. The data hosting vendor shall restrict access to these areas to authorized personnel only and grant access in a way that creates a clearly defined audit trail. Audit logs shall be reviewed periodically for suspicious activity. If applicable, facility personnel must change entry codes periodically. FSA management and supervisors must regularly review the list of persons with physical access to these areas. FSA personnel shall report and investigate all suspicious activity and/or security violations. These processes shall be documented in the security plan for the system.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.34		Facility personnel must authorize and log the withdrawal of tapes and other storage media from storage or other restricted areas. This process shall be document in the security plan for the system.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			

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5.35		To protect data from unauthorized disclosure, personnel shall locate computer monitors displaying sensitive data in areas that prevent viewing by unauthorized personnel. Facility personnel must restrict and monitor physical access to data and telecommunication transmission lines and their housing facilities. In the case of portable/mobile devices, personnel must encrypt data files that contain information designated as "sensitive". These requirements shall be documented in the security plan for the system.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.36		The system security plan shall have documented an assessment of the risk that considers internal and external threats to the confidentiality, integrity and availability of the system and to data supporting FSA's business operations.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.37		The system security plan shall determine the effectiveness of any countermeasures or risk mitigations for the system(s) being assessed and whether they are adequate.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.38		The system security plan shall create a mission/business impact analysis to determine potential effects of unmitigated risks on the mission or business process the IT system supports, to include an estimated degree of harm or loss that could occur if corrective actions are not taken.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.39		On the basis of the impact analysis, the system security plan shall recommend corrective or mitigating actions to bring the system risk to a level the program official is willing to accept.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.40		The system security plan shall propose an implementation schedule and milestones with cost estimates for mitigating unacceptable risks.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.41		The system security plan shall detail the scheduled updates of the security plan for new procedures.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.42		System Managers are responsible for periodic management testing and evaluation of the effectiveness of security control policies, procedures and techniques, and for remediation of any noted deficiencies found during these tests	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.43		Tests and examinations, (i.e. network scans, penetration testing) of key controls must also be made on a routine basis. If security incidents or significant weaknesses are found, FSA must take remedial or corrective actions and report them to FSA management.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			

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5.44		The hosting facility must maintain and periodically review its environmental assets for risk of failure. In particular, the hosting vendor must locate water circulation systems and piping in such a way as to prevent them from representing an environmental risk to critical electrical and/or data processing facilities. Facility personnel must implement controls to mitigate natural disasters (floods, earthquakes, tornadoes, etc.) as well as man-made disasters such as fire, water-line breaks, sewage problems, etc. Since power outages/spikes occur more frequently than most other utility problems, facilities must provide uninterruptible power supplies or backup generators to areas that support sensitive and vital FSA systems to allow critical systems to shut down without damage or loss of data. Where feasible, facilities must have alternate power sources, such as emergency generators, to maintain the functionality of critical data systems.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.45		All FSA systems shall have documented procedures controlling system production inputs and outputs. Every FSA system shall have access to a help desk or other user support system capable of providing assistance to authorized users of the system.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.46		The data hosting vendor must ensure that unauthorized individuals cannot read, copy, alter or remove any printed or electronic information for their own use or the use of another. Only authorized users may pick up, receive, or deliver input and output information and media. To assist in compliance, the data hosting vendor shall externally label all media for sensitivity and include any special handling instructions on the label.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.47		Removal of sensitive media from the organization must be logged and an audit trail must be maintained to record all such removals. Security personnel must establish and maintain controls for transporting or mailing media or printed output.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.48	Contingency Planning	There shall exist a contingency plan policy that defines the emergency operating procedures that must be followed to ensure FSA's critical functions continue to operate and support IT systems in the event of disruptions, both large and small. Emergency procedures must have timelines for recovery and restoration of specified services prioritized by the system's mission criticality. FSA and the hosting vendor must regularly review and test backup and restoration procedures.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.49		There shall be a document that identifies / prioritizes the most critical, sensitive functions, and operations with the information system resources that support those functions. Thereafter, FSA must assess the changes to the processing priorities for each system and obtain approval by the PO with system owner input. The system vendor shall develop, document, and test a comprehensive contingency and disaster recovery plan for each system on the basis of this prioritization.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.50		The contingency plans shall have detailed procedures for restoring operation of the system, including the personnel responsible and the timeline within which the FSA system must be returned to normal business operations.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			

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5.51		All contingency plans shall incorporate the results of the latest Risk Assessments to focus attention on the likeliest disrupting events.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.52	Plan Maintenance	Each plan shall specify conditions necessary for activating the plan and who is to be involved in the activation decision. The system manager, SSO, and CSO must review and approve the contingency plan. In addition to the primary operating location, FSA must store plans at a secure offsite facility along with all necessary documentation for operating and/or restoring each of FSA's systems and applications. Additionally, FSA must maintain copies of key vendor contracts that impact the operation or restoration of core FSA functions at this location.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.53		System Managers must conduct and document at least biennially tests of their contingency/disaster recovery plans. System Managers must readjust and update contingency and disaster recovery plans as necessary to continue their effectiveness. The system manager must inform the Designated Accrediting Authority (DAA) of the results of the testing and any resulting readjustments to the plans.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.54	Alternate Site Capability	The hosting vendor shall have the ability to support high priority FSA functions that call for the use of a secure alternate processing site that is geographically removed from its primary site. Such alternate processing sites may only operate with a contract or service level agreement in place that includes the appropriate standards of confidentiality, integrity and availability.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.55		Every system must have documented backup procedures, which include frequency (daily, weekly, monthly) and scope (full backup, incremental backup, and/or differential backup). System operators must backup all systems' critical data files nightly and move the files to a geographically separate location each day. System personnel must ensure that all essential business information and software can be recovered up to the most recent system backup preceding any contingency event. System back-ups shall be completed at least weekly.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.56	Data Integrity	The application vendor shall document data integrity procedures to describe how the system will detect and prevent any unauthorized alteration or destruction of data, caused by either malicious or accidental means.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.57	Virus Detection and Elimination	The data hosting vendor shall install virus detection and elimination software on every system. Once installed, every system must routinely update virus signature files, including automatic and/or manual virus scans. Users must scan untrusted removable media. Virus scanning must include screening non-text files.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.58	Reconciliation	Every system must establish procedures to reconcile data transfers, including a description of the actions taken to resolve any discrepancies. These requirements shall be documented in the security plan.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			

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5.59	Verification	The hosting facility shall provide verification programs that shall look for evidence of deliberate acts such as data tampering, as well as data entry errors, corruption of correctly entered data and omissions. Techniques must include consistency and reasonableness checks and validation during data entry and processing.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.60	Message Authentication	FSA systems with messaging capability and medium or high integrity requirements shall have written procedures regarding the use of message authentication. Message authentication is used to both verify identity of the sender of a message and determine whether or not the message has been altered during transmission. FSA personnel must review these procedures at least annually to sustain their continued validity.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.61	Performance Measurements	Every system must use system performance monitoring to create and analyze system performance logs for availability problems, including active attacks and system and network slowdowns and crashes. Commensurate with the system's availability requirements, personnel may need to conduct analyses of performance logs on a near real time basis. The application vendor shall establish written procedures concerning whether their system requires near real-time performance analysis. The application vendor also must identify whether their system's availability level can operate using periodic performance sampling or other less demanding controls. FSA System Managers must review these procedures at least annually.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.62	Intrusion Detection	The data hosting vendor must monitor current status of intrusion detection tools on the information systems and networks for which they are responsible. The data hosting vendor must inform FSA whenever intrusion detection tools are implemented or modified. The records must include a description of intrusion detection tools installed on the system, where they are placed, the type of processes detected/reported, and the handling procedures. System logs shall be reviewed for anomalies on a daily basis, using automated or manual methods. Additionally, system mangers must routinely review intrusion detection reports after suspected incidents, and assign responsibility for incident resolution and lessons learned.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.63		System Managers must conduct periodic reviews on the software and data content of the systems for which they are responsible. All unapproved files or amendments discovered during such reviews are subject to a formal review process to determine the level of risk such unapproved software/data content represents, and the extent to which intrusion detection or other tools may not have performed adequately to alert system operators to the unauthorized installation(s). FSA must maintain formal documentation concerning all such reviews.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			

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5.64	Penetration Testing	System Managers must oversee the penetration testing performed on the system(s) for which they are responsible. In addition, they must establish procedures for each system to ensure that the penetration testing is conducted appropriately and on a periodic basis. The SSO must record results of such testing and report on the ensuing corrective actions.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
	Documentation	Every FSA system must have sufficient security documentation to adequately describe the security controls and procedures governing the operation and maintenance of the system. At a minimum, System Managers shall maintain the following documentation for all FSA Major Applications and General Support Systems:								
5.65		A current System Security Plan	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.66		Certification and Accreditation documents and statements authorizing a system to process, including all required appendices.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.67		A log of service packs, patches upgrades, etc. for the system, and the installation order.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.68		Documentation concerning the placement of firewalls, intrusion detection sensors or other security software or appliances.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.69		Standard operating procedures that support all operations of the application or general support system.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.70		User manuals to explain correct usage of software/hardware.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.71		Vendor-supplied documentation of software and hardware.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.72		Application documentation, requirements, and specifications per the system's original contract.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.73		Software and hardware testing procedures and results.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.74		The System Security Officer must know the locations and latest version numbers of all required documentation.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.75	Configuration Management	System manager must create a configuration management plan that describes the hardware and system software maintenance controls in place and the process by which configuration controls will be maintained for that system.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			

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		System Managers shall establish procedures to address configuration matters unique to the system. The system managers must create a formal change control process for each system requiring tests and approval for any change before entering into production. The procedures must include the following:								
5.76		Every system must use software change requests forms to document requests and related approvals.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.77		Systems must use version control, allowing association of system components to the appropriate system version.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.78		System security officers must attend the configuration control meetings and make recommendations concerning the change control process.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.79	PKI	If a Public Key Infrastructure (PKI) technology is to be used it shall conform to FIPS 186-1, Digital Signature Standard, and FIPS 180-1, Secure Hash Standard, issued by NIST, unless the system security officer grants a waiver. Every system must have procedures describing cryptographic key management procedures for key generation, distribution, storage, entry, use, destruction, and archiving.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.80	Access Control Lists	The hosting facility shall have a designated team to create and maintain a current list of authorized users and their access. The system security officer must approve the list before its implementation. This Access Control List (ACL) must be protected to prevent unauthorized access or viewing of the file. The person(s) responsible for the ACS must remove users who no longer have access rights from the ACL. To corroborate this process, system personnel must review ACLs at least every six months to identify and remove users who have left the organization (inactive users), users whose duties no longer require access to the application or system, invalid users, and redundant user IDs and accounts.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.81	Audit Trails	Audit trails shall maintain a record of system activity both by system or application processes and by user activity. In conjunction with appropriate tools and procedures, audit trails must provide individual accountability, a means to reconstruct events, detect intrusions, and identify problems.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.82		The system vendor must strictly control and protect access to audit logs and automated tools against unauthorized changes and/or operational problems. To access and review audit logs, the reviewer must be an appropriate system-level or application-level administrator. Logs must be reviewed after a known system or application software problem, a known violation of existing requirements by a user, or some unexplained system or user problem.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
		FSA audit logs must include:								
5.83		Information on all activity involving access to and modification of sensitive or critical files.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			

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5.84		Sufficient information to establish what events occurred, and who or what caused them. In general, an event record shall specify:	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.85		Type of event;	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.86		When the event occurred;	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.87		User ID associated with the event; and	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.88		Program or command used to initiate the event.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.89		Records of the number of successful and rejected system access attempts, data access attempts, and other resource access attempts.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.90		The audit logs must have the capability of being queried by user ID, terminal ID, application name, date and time, or some other set of parameters in order to run reports of selected information. Audit trail clocks must be synchronized to an agreed upon standard to avoid discrediting the validity of the logs during an investigation. FSA System Managers must develop procedures to check and correct any deviations in the time.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.91		If keystroke monitoring is used, the SSO must document the procedures and provide a means of user notification. Also, the procedures must indicate whether the Department of Justice has reviewed the policy.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.92		There shall be an audit trail for all DBAs who have access to the database and are making changes to the system.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.93		There shall be a audit trail for all security changes in the system with time, date, user making the change, and data changed.	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.94		Audit data must be protected against destruction or change. Audit trail records written for the purpose of logging data and/or resource access must be classified in one of two ways; requiring regular review due to the sensitive or critical nature of the data, written for historical purposes only to be archived but not reported on or reviewed until needed	High	Yes	While Raytheon invisions doing this, this requirement has not been accounted for to date.		Gather FSA security requirements (currently in draft format) and design new system to meet these requirements			
5.95		Application should run over a SSL enabled network - functionality provided by the firewall and proxy architecture	High	Yes	This is planned for the data hosting facility.	0%	In choosing a new hosting facility, ensure that this requirement is part of the selection criteria.			

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5.96		There shall be hardware encryption of SSL at the web server layer	High	Yes	This is planned for the data hosting facility.	0%	In choosing a new hosting facility, ensure that this requirement is part of the selection criteria.			
5.97		Web servers have restricted port access through the corporate firewall as needed to data inside the intranet.	High	Yes	This is planned for the data hosting facility.	0%	In choosing a new hosting facility, ensure that this requirement is part of the selection criteria.			
5.98		Firewalls shall have packet filters, application proxies, and stateful inspection of packets	High	Yes	This is planned for the data hosting facility.	0%	In choosing a new hosting facility, ensure that this requirement is part of the selection criteria.			
5.99		The system should have the capability to use PGP encryption	High	No	The system could use this.					
6.00		There will be security education support and training information available.	High	Yes	There is no plan for security education	0%	Work with Andy Boots security administrator to initiate a security education course. We could also have the vendors pay for security training.			
6.00	Conversion		High			0%			Revised with Raytheon and FSA on 06/13/2002	Reviewed with Tech Arch Team on 6/25/2002
6.01		A conversion plan shall be required for porting required data from the IDMS database to a new relational database.	High	Yes	There is no plan or strategy for conversion but one will be designed.		Investigate creating a task order for conversion. The conversion effort shall include this requirement.			
6.02		The conversion strategy shall include deliverables documenting data sources, an analysis of old data, and grouping the data into categories static (master) data or dynamic (transactional) data.	High	Yes	There is no plan or strategy for conversion but one will be designed.		Investigate creating a task order for conversion. The conversion effort shall include this requirement.			
6.03		The conversion strategy shall create data mappings for all data that can be moved over, data that needs to be converted then moved over, data that needs to be created for new system, and data that does not need to be moved over.	High	Yes	There is no plan or strategy for conversion but one will be designed.		Investigate creating a task order for conversion. The conversion effort shall include this requirement.			
6.04		A conversion tool should be identified and used in the converting of data from IDMS to a relational database.	High	Yes	There is no tool selected but they have had demos from various vendors and have narrowed down the list to (2). Raytheon is looking for a tool specifically for converting from IDMS to Oracle.		Investigate creating a task order for conversion. The conversion effort shall include this requirement.			
6.05		Conversion programs will be developed as needed to unload the IDMS database, organize the data, scrub the data into the proper format, and load the data into a relational database.	High	Yes	These programs will be developed after the analysis phase.		Investigate creating a task order for conversion. The conversion effort shall include this requirement.			
6.06		The conversion strategy shall create a process to automatically move data over. For data that cannot be moved over automatically, it will be identified as a manual step and procedures will be created for implementation.	High	Yes	There is no plan or strategy for this task but one will be designed.		Investigate creating a task order for conversion. The conversion effort shall include this requirement.			
6.07		There are currently roughly 40,000 tapes that need to be researched as to what data they contain and if they will be converted. The conversion plan should include an analysis of these roughly 40,000 tapes.	High	Yes	There is no plan or strategy for this task but one will be designed.		Investigate creating a task order for conversion. The conversion effort shall include this requirement.			
6.08		The conversion strategy shall include a data cleaning process (who will do the data cleaning, how the data should look, etc) and how the actual data will be cleaned.	High	Yes	There is no plan or strategy for this task but one will be designed.		Investigate creating a task order for conversion. The conversion effort shall include this requirement.			
6.09		The conversion strategy shall include a conversion-timing schedule - This step includes creating the order and timing of the different parts of the conversion (static data, dynamic data, automatic scripts for data, what data has to be manually moved, etc).	High	Yes	There is no plan or strategy for this task but one will be designed.		Investigate creating a task order for conversion. The conversion effort shall include this requirement.			
6.10		The conversion strategy shall include data synchronization procedures.	High	Yes	There is no plan or strategy for this task but one will be designed.		Investigate creating a task order for conversion. The conversion effort shall include this requirement.			

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6.11		The conversion strategy shall include and execute at least 1 mock conversion run before actual conversion. The number of mock runs should be at a maximum the amount necessary to successfully complete a conversion of the entire system.	High	Yes	There is no plan or strategy for this task but one will be designed.		Investigate creating a task order for conversion. The conversion effort shall include this requirement.			
6.12		The conversion strategy shall create and execute data verification procedures. This will be a deliverable for review.	High	Yes	There is no plan or strategy for this task but one will be designed.		Investigate creating a task order for conversion. The conversion effort shall include this requirement.			
6.13		A go-live approach document shall be delivered that will outline all the steps and timing of the data conversion.	High	Yes	There is no plan or strategy for this task but one will be designed.		Investigate creating a task order for conversion. The conversion effort shall include this requirement.			
6.14		A contingency plan shall be required in order to outline the steps necessary to take if something were to go wrong during the data conversion.	High	Yes	There is no plan or strategy for this task but one will be designed.		Investigate creating a task order for conversion. The conversion effort shall include this requirement.			
6.15		There will be the need for a FSA resource to resolve data cleaning issues. The conversion plan should take into account that some data will have to be department approved to not convert the data or to delete the data.	High	Yes	There is no plan or strategy for this task but one will be designed.		Investigate creating a task order for conversion. The conversion effort shall include this requirement.			
6.16		A certification process will be created and documented. This process will review operations immediately after the production release in order to identify issues, functionality, and review procedures. On going evaluations of the operations will continue all questions and issues are satisfied.	High	Yes	There is no plan or strategy for this task but one will be designed.		Investigate creating a task order for conversion. The conversion effort shall include this requirement.			
7.00	Interfaces		High			10%			Reviewed with Raytheon and FSA on 06/17/2002	Reviewed with Tech Arch Team on 6/25/2002
7.01		All interfaces to and from the new system should be in some form of electronic format.	High	Yes	Raytheon has architected their system using EJBs that are ready to accept data loading into their system but no process has been defined for how to connect to external systems.	0%	Leverage the EAI Bus as it already has developed/implemented interfaces that exchange data via electronic format.	Need to contact all interfaces, gather requirements, design new interfaces, test and deploy		
7.02		The application shall be required to interface, real-time with a Siebel front end.	High	Yes	Not designed	0%	Gather requirements from the Siebel system to create requirements, design documents, code, and test scripts for the new Quester system.			
7.03		The interface system must be flexible to allow for a migration path to electronic format of messages. In some cases, the external system will not be able to change from tape format to electronic format in the amount of time given.	High	Yes	DMS will have tape readers sitting in their data center but while this is designed it is not implemented.	15%	Ensure that tape readers are located in the VDC data center where the EAI Bus is located	Need to verify which interfaces have limitations and regulatory restrictions		
7.04		All interfaces to and from the system must be able to process XML data	Medium	Yes	DMS has the crimson parser for XML data, however, they do not have a interface built	15%	Leverage EAI bus since it already it already has systems exchanging XML data.	Ensure requirements are gathered for SOAP interface		
7.05		All interfaces to the new Quester system shall have a interface specification document that defines how to load data into and retrieve data out of the system.	High	Yes	DMS can build any type of interface needed but they have not built any to date	0%	Requirements will be gathered from all external interfaces in order to design interface specification documents for each system	Need to contact all interfaces, gather requirements, design new interfaces, test and deploy		
7.06		All interfaces must be able to support different data formats for particular groups of subsystems. Example all GAs use CCI format and all the PCAs use XML (comma delimited, fixed width, XML)	High	Yes	While the DMS system is architected to do this, there are no examples of this being completed.	0%	Gather requirements, design new interfaces, build, test and deploy	Need to contact all interfaces, gather requirements, design new interfaces, test and deploy		

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7.07		File layouts for each inbound and each outbound interface will be developed with and confirmed by the external system's providing or receiving the file. This includes defining file format, structure and content.	High	Partial	While the DMS system has file layouts specified for GA data exchanges, there are no other designs for other data exchanges	25%	Gather requirements, design new interfaces, build, test and deploy			
7.08		All interfaces to and from the system must be able to ensure message (file transfer) integrity	High	Yes	Message integrity has been built into the DMS architecture but interfaces for the new system have not been designed, built or tested	0%	EAI's use of MQ series ensures message integrity through the use of messaging queues, persistence, and high available systems.			The Raytheon backend system will ensure message integrity for all batch files sent. For a dynamic interface (example Siebel), the MQ series bus may do some transformation base on end user requirements.
7.09		All interfaces to and from the system must perform error handling functions and generate error reports	High	Yes	While there is a logging and reporting mechanism in addition to a retention policy, there is no interface currently built	35%	Leverage EAI bus since it already is performing event logging and reporting for systems currently on the bus			
7.10		The interface process shall ensure that all messages will be delivered once and only once.	High	Yes	Interfaces Not Designed	0%	Leverage EAI's team use of MQ Series guaranteed delivery mechanisms.			
7.11		Upon detection of a transmission error while receiving or sending a data message or file, Raytheon shall provide real-time electronic notification to the operations center and take corrective actions. For example, this notification shall include: Job name, Sending System Name, Receiving System Name, Job Time, Number of Records Processed, Completion Status and a Date/Time Stamp.	High	Yes	Current status notification is not built into the current DMS system	0%	Leverage EAI since it has experience sending status messages for data delivered across the bus and review requirements with Raytheon to determine what types of status messages to be sent.			
7.12		Upon successful processing of a batch of messages, Raytheon shall track status via an auditing table. For example, this tracking information shall include: Job name, Sending System Name, Receiving System Name, Job Time, Number of Records Processed, Completion Status and a Date/Time Stamp.	High	Yes	Current status notification is not built into the current DMS system	0%	Design auditing functionality with Oracle for all data loaded into and out of the system.			
7.13		The interface mechanism shall support a configurable security management system that has the ability to link into any LDAP compliant system	High	Partial	While a Interface architecture is not designed, the DMS Quester system is fully LDAP compliant.	0%	Work with single sign on group to ensure that Raytheon used the Mod Partner single sign on LDAP database for all security related tasks.			
7.14		Raytheon shall support the ability to encrypt data for all messages sent and received across the messaging infrastructure.	High	Partial	DMS is architected to encrypt file exchanges between GAs and their trading partners, however, no example has been provided.	15%	Provide hardware based SSL encryption on servers.			
7.15		The following internal systems shall have the ability to send and receive data from the Quester system via the following interfaces: DLCS, FMS, DLSS, FMS, NSLDS, COD, CMDM, PEPS, Siebel, NPC/SLPC.	High	Yes	Current DMS is being architected to interface with NSLDS via a batched-based interface, however, interfaces have not been developed to transfer data across the EAI Bus.	0%	Need to contact all interfaces, gather requirements, design new interfaces, test and deploy			
7.16		The following systems shall have the ability to send and receive data from the new Quester system via the following interfaces: 12 PCAs, 36 GAs, and all other External Trading Partners to include government agencies	High	Yes	Current DMS is being architected to interface with external groups, Lenders, Credit Bureaus, NDNH, PCAs (OCAs), Treasury (TOP), Employers, Credit Card Company's, USPS, via batched-based and EFT interfaces, however, no example has been provided and interfaces need to be built for other external groups.	20%	Leverage EAI's use of MQ Series to contact all interfaces, gather requirements, design new interfaces, build, test and deploy			
7.17		The new Quester application shall handle all data transformation, edit checks, format checks, and validation necessary.	High	Yes	Current DMS is being architected to support various standards (I.e. system will support CCI GA standard and Credit Bureau's Metro II format), however requirements for new DMCS have not been addressed.	20%	Review functional requirements for new application with Raytheon			

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7.18		For all batch-based interfaces, Raytheon shall be responsible for maintaining batch level integrity. This shall include all edits and checks on the file before loading into the new application.	High	Partial	DMS is architected to supports batch-based transfers of data and editing of data prior to loading it into the DB, however examples of this have not been provided.	10%	Review functional requirements for new application with Raytheon			
7.19		All interfaces to and from the system must be able to support high reliability and availability requirements	High	Yes	Interfaces not designed for this requirement	0%	Leverage EAI since it is a high-available clustered system.			
7.20		All interfaces to and from the system must allow for modification to meet changes in system/application requirements.	High	Yes	Interfaces Not Designed	0%	Leverage EAI as it is a flexible and robust architecture. (leverage business process smes for functional changes of data (changes of data elements and			
7.21		All interfaces must support dynamic exchanges of data. An example of this is Siebel updating customer information immediately and not in batch format.	High	Yes	Interfaces Not Designed	0%	Leverage EAI as it is a flexible and robust architecture.			
7.22		The interface system shall be flexible enough to handle any FSA disaster recovery requirements necessary.	High	Yes	Interfaces not designed nor FSA DR Requirements known at this point in time.	0%	Leverage EAI Bus as DR mechanisms are currently built in to the architecture.			
7.23		Traceability of all changes to interfaces must be documented	High	Yes	Interfaces not designed	0%	Leverage EAI team as they already have a traceability process in place.			
7.24		High-capacity interfaces shall have the ability to run nightly as opposed to running online during the day	Medium	Partial	The DMS has been designed to support high-capacity interfaces for GAs, however it has not been impletemented or designed for new interfaces.	0%	Leverage EAI Bus as it is currently running a process for COD that transfers over 100MB files/night.			
7.25		All tape batched based interfaces built must support a migration path to electronic file transfer	High	Yes	Interfaces Not Designed	0%	Leverage EAI CommerceQuest Data Integrator as it will transport data from a variety of media types.			
8.00	Reporting		Medium			5%			Reveiwed with Raytheon and FSA on 06/18/2002	Reviewed with Tech Arch Team on 6/25/2002
8.01		Exporting- ability to copy resulting data to other applications (Excel, HTML, XML, etc)		No						
8.02		Importing - ability to take external data from a source other than the main database and generate reports based on this data		No						
8.03		Printing - Report/print on any online query/analysis performed and it comes out like it displays on the screen.	High	Yes	Must export report to Adobe Acrobat in order to print. Printing options available in Adobe Acrobat component.	0%	Customize a web interface for users such that the Internet Explorer (or selected web browser) print capability can be used to cleanly print the report from the web interface OR Select a different Reporting tool that does have printing capabilities	Note: by selecting a different Reporting tool, new gaps will arise that are not currently documented		
8.04		Saving - ability to save data for later use or to a local PC/laptop or for other users to view		No						
8.05		Drilling - ability to drill down to various levels of a hierarchy. Example, selecting a pie chart, double clicking on a slice, and getting a display of the data that makes up that slice.		No						
8.06		Data Manipulation - slice & dice data on the fly, pivoting, sorting, rearranging columns, etc.		No						
8.07		Ability to build pre-defined (canned) reports		No						
8.08		Ability to build report templates		No						
8.09		Ability to develop custom reports according to a user profile		No						
8.10		Ability to develop custom reports ad-hoc (available to certain users to varying degrees)		No						

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8.11		Ability to create ad-hoc, custom calculations over the web	High	Yes	Custom calculations (on-the-fly) can only be done in Excel, not over the web.	0%	Predefine all conceivable calculations and make them accessible to users. Instruct the users on how to create calculations so that the process is quick (though not "on-the-fly"). OR Select a different Reporting tool that does allow the user to create custom calculations ad-hoc	Note: by selecting a different Reporting tool, new gaps will arise that are not currently documented		
8.12		Ability for users to group attributes into their own adhoc groupings		No						
8.13		Point and Click Query generation (no SQL needed)		No						
8.14		Drag and Drop Formatting		No						
8.15		Ability to add run-time prompts		No						
8.16		Ability to re-prompt a given report		No						
8.17		Ability to sort without re-querying		No						
8.18		Wizards to help with functionality		No						
8.19		Ability to present the list of valid values for a field/variable being queried. Selection of values from the list can then be used to build a constraint on the query. (example a drop down list of filter values).		No						
8.20		Statistical analysis is available for queried data	High	Yes	Must use either eAnalysis or eSpreadsheet. Raytheon does not have either component. Can do limited analysis in Excel (export the report in xls format) without above components.	0%	Purchase eAnalysis and/or eSpreadsheet OR Select a different Reporting tool that can do statistical analysis	Note: by selecting a different Reporting tool, new gaps will arise that are not currently documented		
8.21		Trending / Forecasting - ability to predict future results based on historical data and one of many forecasting techniques. Note this is a key requirement for PCA assignment and should be done in the Reporting tool.	High	Yes	Would require eAnalysis or eSpreadsheet. Can use a combination of VB scripting and complex formulas in current software for trending.	0%	Purchase eAnalysis and/or eSpreadsheet OR Select a different Reporting tool that can do trending analysis	Note: by selecting a different Reporting tool, new gaps will arise that are not currently documented		
8.22		What If Analysis - ability to change data in a cell and have results recalculated based on the new data	High	Yes	Must use eSpreadsheet.	0%	Purchase eSpreadsheet OR Select a different Reporting tool that can do What If analysis	Note: by selecting a different Reporting tool, new gaps will arise that are not currently documented		
8.23		Data Mining Options/Pattern Analysis - ability to search data for patterns that may not be intuitive using one of many techniques	High	Partial	Smart Search tool in server supports Boolean algebra search techniques. Recommended to use Excel.	0%	Purchase eSpreadsheet OR Select a different Reporting tool that can do pattern analysis	Note: by selecting a different Reporting tool, new gaps will arise that are not currently documented		
8.24		Graphs are dynamically updated at the time the data is re Queried		No						
8.25		Graphs are dynamically updated at the time the report format is changed		No						
8.26		Graphs can be reported on the same page as the report		No						
8.27		Support for rich graphing options (Line, Bar, Pie, Scatter, 3D)		No						

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8.28		Interactive Graphs (Drill down from graphs)	Medium	Partial	Drilling down in a graph to a table or linked report is possible. Cannot drill down into further pictorial granularity for the graph.	50%	For canned reports/graphs, predefine several related graphs that present the same data in varying units and granularity. Use hyperlinks to connect these charts for a mock graphical drill-down capability OR Select a different Reporting tool that has graphical drill-down	Note: by selecting a different Reporting tool, new gaps will arise that are not currently documented		
8.29		Administration capabilities available over web	High	Yes	Only eReport Designer (client/server based) can be used for Administration - cannot use over the web.	0%	None. Actuate does not allow administration over the web. Must provide sufficient eReport Designer clients to necessary personnel. OR Select a different Reporting tool that does allow an Administrator to work over the web	Note: by selecting a different Reporting tool, new gaps will arise that are not currently documented		
8.30		Ability to export graph as a certain file type (PPT, GIF, JPEG)		No						
8.31		Reports can be defined graphically (report definition via icons, drag-and-drop, etc rather than coding)		No						
8.32		Graphical interface exists for building a data model (data tree) of the customized attributes	Low	Yes	No such utility exists in Actuate to layout the relationships between attributes visually.	0%	None. Create Visio diagrams if needed and incorporate into the web interface OR Select a different Reporting tool that does contain a graphical interface for data modeling	Note: by selecting a different Reporting tool, new gaps will arise that are not currently documented		
8.33		Concurrent report and template designers are supported		No						
8.34		Versioning for reports and templates		No						
8.35		Report Caching		No						
8.36		Ability to see SQL query generated		No						
8.37		User can cancel the query at any time		No						
8.38		Intelligence to warn/restrict users of long running queries (# rows, time)		No						
8.39		Push technologies - ability to broadcast reports to wireless devices, voicemail, email.		No						
8.40		Schedule based report generation - canned reports generated via a calendar/timetable (configured by admin or management)		No						
8.41		User profile based report generation - canned reports (created by admin or user) generated via user's personal schedule and preferences		No						
8.42		Ability save user reports to personal folders on the reporting server		No						
8.43		Threshold based report generation - report generation triggered by an event (i.e. a specific data value hitting a predefined threshold value)	Medium	Partial	Must be implemented through a database trigger and by coding a component in Actuate scripting language.	0%	Evaluate the need for threshold-based actions. If deemed necessary, work with DBA and VB scripiter to generate triggers and scripts to execute report generation, notification, etc OR Select a different Reporting tool that can perform trigger-based actions without requiring extensive customization and scripting			

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8.44		Report Distribution - email notify with link (option of individual email or batch)	Medium	Partial	Cannot email the report, only a link. Would require automatic export of report to a specific format.	50%	Evaluate the need for a report to be emailed. If an email link to a report is not sufficient, script an Actuate component to automatically export a report and attach to a notification email OR Select a different Reporting tool that can email a full report			
8.45		Oracle Specific Support		No						
8.46		ODBC Support		No						
8.47		Software development kit (for customizing the Reporting tool) is available		No						
8.48		Support for NT		No						
8.49		Support for UNIX		No						
8.50		Ability to support Java based development tools		No						
8.51		Reporting tool is scalable		No						
8.52		High Availability for reporting tool clients and interfaces	Medium	Partial	Raytheon's reporting tool can be configured for high availability, but Raytheon does not have the licenses, servers, and additional software to accomplish this.	50%	Design a clustering scheme and purchase the necessary servers, licenses, and additional software OR leverage Mod-partner's recommended reporting tool that already has this requirement built into the system.			
8.53		Servers can be clustered into a high available system for 24x7 uptime	High	Partial	Raytheon's reporting tool can be clustered for high availability, but Raytheon does not have the licenses, servers, and additional software to accomplish this.	50%	Design a clustering scheme and purchase the necessary servers, licenses, and additional software OR leverage Mod-partner's recommended reporting tool that already has this requirement built into the system.			
8.54		Ability to generate a file for batch updates of the reporting database. (note this is assuming a high level of administrative and DBA control).		No						
8.55		Reporting database can store non-traditional data (Word docs, .PIC files, etc.)		No						
8.56		Simple software/upgrade delivery process		No				Simple implies upgrade via CD Rom or a download from the web for an update. Complex implies a consultant from the reporting tools company coming out and doing an upgrade.		
8.57		Relational OLAP / Multidimensional OLAP		No						
8.58		Security can be applied on data access		No						
8.59		Security can be applied on report access		No						
8.60		Ability to set limitations on user rights and abilities		No						
8.61		Row level security can be applied		No						
8.62		Application level security can be applied		No						
8.63		Ability for user admins to administer users/groups		No						
8.64		Ability to notify appropriate individuals upon report completion - success or failure		No						
8.65		One report can be created from multiple databases or various data sources		No						
8.66		Refresh capabilities (prevents user from using stale data)		No						
8.67		Ability to set query table limits (by administrator)		No						
8.68		Ability to set query row limits (by administrator)		No						
8.69		Ability to set query time limits (by administrator)		No						
8.70		Compatible with Oracle 8 or greater		No						
8.71		Compatible with IBM Websphere		No						

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8.72		Compatible with SOAP		No						
8.73		Compatible with Siebel		No						
8.74		On-line help utilities are available		No						
8.75		On-line tutorials are available		No						
8.76		External manuals are available		No						
8.77		Help desk - telephone support is available		No						
9.00	Performance Testing		High			0%			Reviewed with Raytheon and FSA on 06/19/2002	Reviewed with Tech Arch Team on 6/25/2002
9.01		There shall be a performance test approach document that will outline the steps necessary for performance testing. Note this is a high level document.	High	Yes	A performance test approach document was created when Rational Robot was used to test the throughput of the application.	40%	Use the performance test approach document that was used for the throughput testing as a starting point for creating a new performance test approach document. Leverage existing performance test approach documents from previous Raytheon projects and/or Accenture knowledge capital.			
9.02		There shall be a performance test plan that will document in detail the functional areas being tested, the number of tests to run, the type of tests being run (functional versus a stress test), and team required to run the tests.	High	Yes	Raytheon has not created a performance test plan to address the specific functional areas, types of tests, or specific teams for DMS testing, aside from the plan written for testing throughput of the application.	10%	Work with testing personnel within Raytheon and Accenture to develop a performance test plan specific to DMS. Possibly leverage Accenture's knowledge capital with other performance test plans as a guideline for the DMS test plan.			
9.03		The performance test team will test the Siebel front end by identifying those functional areas with high transaction rates or those areas that are deemed critical by the functional experts.	High	Yes	No front end testing has been executed on the DMS.	0%	Include Siebel testing in the test approach, plan, and execution. If Rational Robot is not capable of doing Siebel testing, select a performance testing tool that is compatible with Siebel. A recommendation for a new tool would be Mercury Interactive Load Runner.			
9.04		A performance test tool will be selected that can test web based systems, client server systems that have front ends developed in either Java or VBscript, batch processing, and EJB testing.	Medium	Partial	Rational Robot has only been selected for client server testing. It has not been evaluated for web based testing.	50%	Evaluate Rational Robot and other performance test tools for different types of performance testing.			
9.05		The performance test tool shall be a dynamic tool that is able to generate scripts based on critical functional paths through the application. These scripts shall be easily modified to kick off other scripts or break out certain functionality for further performance testing.		No						
9.06		The performance test tool shall show transaction response time, transaction per second (Passed), and transaction per second (Failed), Hits per second, throughput, and elapsed time. The performance test tool should have a capability to ramp up the number of users to find the application breaking (or stress) point.		No						
9.07		The performance test tool shall easily allow the increase of simulated virtual concurrent users on the system to determine performance times and stress points.		No						
9.08		The performance tool shall support all 2002 versions of UNIX, Microsoft NT, and Oracle.		No						

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9.09		The performance test tool shall collect all test performance data and provide a web based analysis and reporting tool to quickly identify performance problems and drill down to their source. This reporting tool should be able to determine the time required for all images, frames and text to be downloaded for each Web / Client page. This component breakdown analysis should be able to show whether a large GIF or third party data feed, for example, is responsible for the performance slowdown.	Medium	Partial	Rational Robot can do everything listed in this requirement but it cannot view the results via the web with the current version.	85%	Evaluate whether web-based results are necessary. If they are, develop a web interface that can display the testing results in a simple, convenient manner. OR Select a different performance testing tool that has web analysis capabilities. A recommendation for a new tool would be Mercury Interactive Load Runner.			
9.10		Each test scenario should be able to be re-run multiple times in order to pinpoint system problems.		No						
9.11		The performance testing application shall fully support the load testing of Enterprise Java Beans.		No						
9.12		The performance testing application shall test the oracle database	High	Yes	While the Rational Robot is capable of performing this test, this has not been done to date.	0%	Include Oracle testing in the test approach and plan. Generate test conditions and scripts. Execute the test(s).			
9.13		The performance testing application shall test the transport application for all the interfaces.	High	Yes	While the Rational Robot is capable of performing this test, this has not been done to date.	0%	Include transport application testing in the test approach and plan. Generate test conditions and scripts. Execute the test(s).			
9.14		The application shall have been fully performance tested for the web based version up to 1000 concurrent users.	High	Yes	Rational Robot has not been used to test the web-based version, only the client server component	0%	Include web-based testing in the test approach and plan. Generate test conditions and scripts. Execute the test(s).and execution. If Rational Robot is not capable of doing web front end testing for 100 users, select a reporting tool that is compatible. A recommendation for a new tool would be Mercury Interactive Load Runner.			
9.15		The application shall have been fully performance tested for the web server version up to 1000 concurrent users.	High	Partial	Rational robot was used in a performance test for up to 250 client server concurrent users.	25%	Leverage the test approach, test plan, and test scripts associated with the earlier test of 250 concurrent users and scale it to 1000 concurrent users. Execute the test according to the overall performance testing plan.			
9.16		The performance testing application shall fully support the load testing of batch processes. At least up to 20 batch processes	High	Yes	While Rational Robot can perform this test, it has not been done to date.	0%	Include load testing of batch processes in the test approach and plan. Generate test conditions and scripts. Execute the test(s).			
9.17		There shall be a performance test report document that details the results and fixes from each test. The report shall also document future recommendations and actions for the application.	High	Yes	Data was recorded from the results of previous performance testing, but the format, content, and intention of this documentation may not match the details of this requirement.	35%	Use the existing documentation as a basis for the reporting of performance test results. Tie in the documentation to the requirements and change request tools.			
10.00	Data Hosting		High			0%			Reveiwed with Raytheon and FSA on 06/21/2002	Reviewed with Tech Arch Team on 6/25/2002

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10.01	Enterprise Network Monitoring	Automated 24 hour a day, seven days a week real-time monitoring at customer (client Administrators) control intervals ranging from once every 60 seconds to once an hour health checks.	High	Yes	The data facility is not currently ready for production, and the requirements invasion 24x7 but no client monitoring	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.	As of 06/21/2002, the blueprints of the data hosting center has been done. The space has been cleaned. Raytheon is currently working on power, air conditioning, and other hardware components		
10.02		Secure, Browser-based, control panel where one can update and configure the monitoring to specific needs. All changes should be able to occur in real time.	High	Yes	The data facility is not currently ready for production and it is unknown whether this requirement will be met.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.03		The hosting facility shall have reports via the web that will include such detailed information as production vs. development, rack location, and more.	Medium	Yes	The data facility is not currently ready for production and it is unknown whether this requirement will be met.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.04		Problem alerts shall be sent to a distribution list of the administrator's choice. The distribution list can contain one to many persons that can be contacted via any device that accepts an email.	High	Yes	The data facility is not currently ready for production and it is unknown whether this requirement will be met.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.05		An administrator should be able to acknowledge alerts via the web or email. Acknowledged alerts cause the alerts to cease until escalated or resolved.	Medium	Yes	The data facility is not currently ready for production and it is unknown whether this requirement will be met.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.06		Problem resolution alerts are sent when the problem has been resolved.	High	Yes	The data facility is not currently ready for production and it is unknown whether this requirement will be met.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.07		Service level agreement reporting showing specific down time for each item monitored along with details to provide to the data center or management.	High	Yes	The data facility is not currently ready for production, but this requirements is invasion in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.08		One should be able to set up an escalation distribution list to be notified within a time period specified by the client administrator should the problem still be unresolved.	High	Yes	The data facility is not currently ready for production and it is unknown whether this requirement will be met.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.09		A administrator should be able to setup one or more maintenance windows for which items being monitored will not be reported as being down during the maintenance window. A message to the distribution list of the administrators choice will be sent when the maintenance window starts and stops.	High	Yes	The data facility is not currently ready for production, but this requirements is invasion in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.10		Browser-based and email subscription reporting. Browser-based reports are in real-time detailing server statistics such as CPU, Memory, Network Bandwidth, IO.	Medium	Yes	The data facility is not currently ready for production, but this requirements is invasion in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.11		Port monitoring can handle any port (standard or user defined) to help in trouble shooting and virus detection.	High	Yes	The data facility is not currently ready for production, but this requirements is invasion in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.12		The monitoring system should be able to at least handle the following: - Databases - Content - Pings - Ports - Server Performance	High	Yes	The data facility is not currently ready for production, but this requirements is invasion in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			

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10.13		A Service level agreement should be made available to clients for all activities covered in monitoring.	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.14	Data Migration - Server Migration	Migration of external sites to the data hosting facility. For example: there might be some existing systems that are located in x sites and y sub domains split among z virtual accounts on several servers. The data hosting facility should offer services to migrate the data from external sources in the data hosting site (potentially migration even to one server). Migration capabilities should include: - Migration of one or more web sites - Migration of batch / CGI / Unix scripts - Migration of Oracle databases - Migration of Microsoft SQL Server - Migration of configuration files. - Migration of emails.	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.15	Database Monitoring	Monitoring of Microsoft SQL and Oracle availability. The two main monitoring tasks are to determine if the database server is running and if the database is accessible.	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system however Microsoft technology is not invisioned.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.16		Resolution of Microsoft SQL and Oracle storage allocation issues (Proactive monitoring storage with alerts at administrator defined thresholds).	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system however Microsoft technology is not invisioned.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.17		Configuration, scheduling, and monitoring of database backups	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.18		Additional proactive database administration should include: - Backup and recovery planning and execution - Proactive bug tracking and patch application - Performance monitoring and system tuning - Space management and capacity planning - Security reviews	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.19	Content Monitoring	The data hosting facility should be able to monitor whether the application content is delivered properly. This type of monitoring answers the question "Is the specific content on the specified page?"	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.20		Content monitoring should support delivery mechanisms ASP, Cold Fusion, Java Servlets, Perl/CGI, and PHP.	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.21	Performance Monitoring	Performance monitoring should cover the following: - Server monitoring: CPU, I/O, Disk Space, Memory. - Network monitoring of bandwidth utilization, and activity - Network component monitoring of firewalls, routers, hubs, switches, and load balancers	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.22	Ping Monitoring	Ping monitoring ensures the network device -- switch, hub, router, server, etc. -- are alive. The data hosting facility should have the capability to ping a set of administrative defined IP addresses. Reports for this activity should be accessible via the web. If a IP address is not working, an alert should be sent via electronic media (Email, pager, etc) to a user defined group.	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			

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Req ID	Functional Area	Requirement	Priority	GAP	GAPS Identified with DMS	% Complete	Actions Recommended	Comments	Reviewed	Approval
10.23	Port Monitoring	Port monitoring ensures the application or service running on a given IP address and port is running. The data hosting facility should be able to monitor whether a port is working or not. If a port is not working, an alert should be sent via electronic media (Email, pager, etc) to a user defined group.	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.24	High Availability Solutions	The data center should be able to support all types of high availability solutions such as clustering, storage area networks (SAN), Load Balancing, Data Replication. It should also supply redundant network connections to all servers, disaster recovery architecture, redundant ISPs, multiple DNS servers, clustered EMAIL services, and a high availability architecture of any critical points of failure.	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.25		The hosting facility should be flexible enough with hardware and software to meet the requirements of the number of operations-per-second that need to be processed in order to meet an applications traffic needs?	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.26	Monitor, Manage, Resolve, Report	All monitoring should be 24 x 7 of the dedicated servers, co-located servers, and hosted networking equipment.	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.27		Alerts will go to technicians who will respond within 10 minutes of an alert; technicians shall be responsible to manage, resolve, and report on alerts.	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.28		Manage: The hosting facility shall manage the application and database software (Oracle, Microsoft SQL Server) along with providing all of the system administration and server management the equipment requires on a proactive basis. The hosting facility will apply all operating system, application, and security updates on an approved schedule with the client team.	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system (without Microsoft SQL server support)	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.29		The hosting facility will have a designated support staff that will resolve all the problems as they occur. The will start all resolutions within 10 minutes of being alerted by the monitoring system or by the customer.	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.30		Reports shall be provide via the web that show monitoring events and server performance, change logs showing server management tasks completed, along problem descriptions and resolutions.	Medium	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			

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10.31	Managed Security	patches and updates where possible) all potential security threats. This should be done on a scheduled basis. This includes but is not limited to: General: G1 - Default installs of operating system and applications, G2 - Accounts with no passwords or weak passwords, G3 - Nonexistent or Incomplete backups, G4 - Large number of open ports, G5 - Not filtering packets for correct incoming and outgoing addresses, G6 - Non-exist or incomplete logging, G7 - Vulnerable CGI programs Client Microsoft Windows: W1 - Unicode vulnerability (web server folder traversal), W2 - ISAPI extension buffer overflows, W3 - IIS RDS exploit, W4 - NETBIOS - unprotected Windows networking shares, W5 - Information leakage via null session connections, W6 - Weak hashing in SAM (LM host). UNIX: U1 - Buffer overflow in RPC services, U2 - Sendmail vulnerabilities, U3 - BIND weakness, U4 - R commands, U5 - lpd remote print protocol daemon, U6 - sadmind and moudnd, U7 - Default SNMP	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.32	Managed Firewalls	The hosting facility should manage all firewall activities such as updates and security patches, review of log files, and be proactive in finding security holes. The hosting facility should also have a detailed monitoring and alerting plan for making administrators aware of issues.	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.33	Security Audit	Security audits and server security vulnerability testing should be done by the hosting facility on a scheduled basis.	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.34		The data hosting facility should do a footprint analysis - what operating system and what services and applications are running on it.	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.35		The data hosting facility should do a port scanning - what ports are open that can allow potential connection to the system?	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.36		The data hosting facility should do a vulnerability analysis - what areas of the system can be exploited by hackers?	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.37		The data hosting facility should do a penetration testing - Attempt to exploit vulnerabilities found in the vulnerability analysis phase.	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.38		The data hosting facility should do a securing - Fix the weaknesses found in the penetration testing phase and institute procedures to minimize future weaknesses in the environment.	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.39	Network Architecture, Design and Implementation	Data hosting facility should have a designated design and implementation team that will work with the client to define network and system architecture requirements.	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.40		The design team should be able to present recommendation for hardware, software and communication equipment.	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			

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10.41		The design team should be able to perform complete system review to ensure all hardware and software components meet availability requirements.	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.42		The design team should be able to review setup for operating system, database, application servers, web servers, load balancing, firewalls and links to the application.	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.43		The design team should be able to define roles and responsibilities, including identification of dedicated support personnel.	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.44		A disaster recovery facility should be available that is at least 200 miles away from the existing data hosting facility. The disaster recovery facility should offer an exact replica of the services and hardware capabilities of the existing data center if desired by the client.	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system. This disaster recovery system would be in greenville texas and the host system would be in falls church VA.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.45	Server Management	The data hosting facility should manage the following: - Setting up an email server and managing an email server. - Setting up a client server database and managing the database server. - Configuration of the software side of load balancing. - Integration with back end databases. - Setting up web site accounts. - Day to day management of the equipment.	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.46	Server Software Installation and Configuration	The data hosting facility should be able to provide server installation and configuration duties.	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.47		A Service level agreement should be made available to clients for all activities covered in server installation and configuration.	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.48	Technology Evaluation, Recommendations and Enhancements	The data hosting facility should be current on all new technologies and services available on the market. Once a year, the data hosting team should review and evaluate the current application infrastructure and make recommendations for enhancing the technology to improve functional performance.	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.49	Networking	The data hosting facility should have the ability to handle high bandwidth requirements through the use of a ATM, SONET, or FrameRelay connections to the outside world.	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system. Note that there will be a recommended high bandwidth technology for all clients that have their equipment in the data hosting facility. This is to reduce cost of having to maintain a variety of different architectures.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.50	Operations and Maintenance	There shall be a implementation plan with all activities for deployment defined (a spreadsheet of times, personnel assigned to task, etc)	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.51		Installation of service packs, hardware patches and upgrades shall be done on a planned interval. All upgrades to the servers / application shall be tested first in the development and test environments.	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.52		Timeline of future releases shall be published and agreed upon by all functional and technical groups.	High	Yes	The data facility is not currently ready for production, but this requirements is invisioned in the system. Note that there might also be a maintenance environment to do additional testing.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			

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Req ID	Functional Area	Requirement	Priority	GAP	GAPS Identified with DMS	% Complete	Actions Recommended	Comments	Reviewed	Approval
10.53		There shall be technical support (level 3) for all servers and services offered by the help desk. Additionally, the technical support shall be able to tie into a help desk management structure (tier 1, tier 2, tier 3).	High	Yes	The data facility is not currently ready for production, but it is envisioned to have a help desk and on-site support if needed.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.54		Messaging of alerts shall be communicated via phone, email, fax, pager, instant messaging, etc.).	Medium	Yes	The data facility is not currently ready for production, but it is envisioned to have phone, email, fax, pager for now. The facility is envisioned to be able to handle any type of requirement needed for this.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.55		The hosting facility shall allow client specific modifications/extensions to the product.	High	Yes	Raytheon is a client focused company. They are still working details on this requirement but they are open to modifications and extensions to the product.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.56		The data hosting facility shall have a technical support group that provides assistance to application release schedules.	High	Yes	The data facility is not currently ready for production, but it is envisioned that critical updates would go out ASAP. Application releases would go out annually. If it is a regulatory requirement (a new law by the government), it will be done in time.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.57		The hosting facility shall have an administrative group that supports software patches to the application, servers, and communications equipment.	High	Yes	The data facility is not currently ready for production, but it is envisioned that critical updates would go out ASAP. Application releases would go out annually. If it is a regulatory requirement (a new law by the government), it will be done in time. For the client server version, there could be a push web site that could automatically install the patches. Additionally if the upgrade is major, a CD could be provided.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
10.58		The hosting center shall comply with Federal guidelines for ADP contingency planning.	High	Yes	The data facility is not currently ready for production, but this requirements is in visioned in the system.	0%	Perform a new hosting vendor analysis based on data hosting requirements. Select at least 3 vendors for cost benefit examination.			
11.00	Training		High			0%			Reviewed with Raytheon and FSA on 06/20/2002	Reviewed with Tech Arch Team on 6/25/2002
11.01		The training architecture shall be such that there is web based on-line modules that cover different system functionality training. These modules will walk a user through the functional area using interactive tests and demonstrations. All system users will have access to these training materials via the web or may request a CD-ROM.	High	Yes	There is no formal training application or process designed for the new system.	0%	A formal requirements gathering, analysis and design effort must be undertaken or the training effort should be outsourced. A separate cost benefit effort will have to be done.			
11.02		Web based training should be dependent on UserID for authorization to the proper training materials (the security architecture for training should be LDAP).	Medium	Yes	There is no formal training application or process designed for the new system.	0%	A formal requirements gathering, analysis and design effort must be undertaken or the training effort should be outsourced. A separate cost benefit effort will have to be done.			
		There shall be a formal training process that shall have the following features and capabilities:								
11.03		Vendor Training where applicable (system administrator might go to Siebel training).	Medium	Yes	There is no formal training application or process designed for the new system.	0%	The new training process will take this requirement into account, assess it, and meet it if feasible.			
11.04		Group Activities, Role-Plays, Practice Activities	Medium	Yes	There is no formal training application or process designed for the new system.	0%	The new training process will take this requirement into account, assess it, and meet it if feasible.			
11.05		Videos that provide consistent messages around the new customer experience	Medium	Yes	There is no formal training application or process designed for the new system.	0%	The new training process will take this requirement into account, assess it, and meet it if feasible.			

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Req ID	Functional Area	Requirement	Priority	GAP	GAPS Identified with DMS	% Complete	Actions Recommended	Comments	Reviewed	Approval
11.06		Reference Manuals for new employees	High	Yes	There is no formal training application or process designed for the new system.	0%	The new training process will take this requirement into account, assess it, and meet it if feasible.			
11.07		There shall be a designated training environment that users may attend training. This environment shall contain no more than 20 workstations with a designated training instructor, and server.	High	Yes	There is no formal training application or process designed for the new system.	0%	The new training process will take this requirement into account, assess it, and meet it if feasible.			
11.08		The training material shall be such that there can be on the job training where a regional office can request training for all their users (at least 5 users must be able to attend this training in order to justify remote classroom training).	High	Yes	There is no formal training application or process designed for the new system.	0%	The new training process will take this requirement into account, assess it, and meet it if feasible.			
11.09		There shall be a formal feedback process for all training material, classes, and self-study. This feedback should evaluate course content, evaluate facilitators, tie into performance management and ongoing evaluation.	High	Yes	There is no formal training application or process designed for the new system.	0%	The new training process will take this requirement into account, assess it, and meet it if feasible.			
	Training Plan and Documentation	A complete training plan shall be completed with subject matter experts (SME) to define the following:								
11.10		Purpose	High	Yes	There is no formal training application or process designed for the new system.	0%	The new training process will have a training plan that includes this requirement.			
11.11		Audience	High	Yes	There is no formal training application or process designed for the new system.	0%	The new training process will have a training plan that includes this requirement.			
11.12		Objectives/Performance Expectations (actionable, testable, behavior change oriented)	High	Yes	There is no formal training application or process designed for the new system.	0%	The new training process will have a training plan that includes this requirement.			
11.13		Competencies	High	Yes	There is no formal training application or process designed for the new system.	0%	The new training process will have a training plan that includes this requirement.			
11.14		Delivery Method	High	Yes	There is no formal training application or process designed for the new system.	0%	The new training process will have a training plan that includes this requirement.			
11.15		Existing Training Materials	High	Yes	There is no formal training application or process designed for the new system.	0%	The new training process will have a training plan that includes this requirement.			
11.16		Evaluation	High	Yes	There is no formal training application or process designed for the new system.	0%	The new training process will have a training plan that includes this requirement.			
11.17		Review training plan and obtain SME signoff	High	Yes	There is no formal training application or process designed for the new system.	0%	The new training process will have a training plan that includes this requirement.			
11.18		The training plan shall document the benefits, competencies, and technical/functional skills developed for the audience.	High	Yes	There is no formal training application or process designed for the new system.	0%	The new training process will have a training plan that includes this requirement.			
11.19		The training plan shall have a process to teach trainers on how to instruct users in the system. (ie train the trainers program).	High	Yes	There is no formal training application or process designed for the new system.	0%	The new training process will have a training plan that includes this requirement.			
11.20		The training plan shall include a complete course outline with a course description and objectives.	High	Yes	There is no formal training application or process designed for the new system.	0%	The new training process will have a training plan that includes this requirement.			
11.21		The training plan shall identify all tasks, deadlines / overall timings, resources, estimated time to complete task, and actual time to complete task.	High	Yes	There is no formal training application or process designed for the new system.	0%	The new training process will have a training plan that includes this requirement.			
11.22		Functional course materials shall exist that include templates, participant and instructor guides, presentations, job aids, and trainer tips	High	Yes	There is no formal training application or process designed for the new system.	0%	The new training process shall include this documentation			
11.23		The training courses designed shall emphasize coaching and sustaining. Training is not a one time event, it is an ongoing process. The training plan will outline on-going training activities.	High	Yes	There is no formal training application or process designed for the new system.	0%	The new training process will have a training plan that includes this requirement.			

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11.24		There shall be a document library of all documentation for the system training. This library will be restricted based on user access. (There is some sensitive data. I.e. the data hosting infrastructure and development information)	High	Yes	There is no formal training application or process designed for the new system.	0%	The new training process shall include this documentation			
12.00	Help Desk		Medium			0%			Reviewed with Raytheon and FSA on 06/20/2002	Reviewed with Tech Arch Team on 6/25/2002
12.01	High Level Functionality	While the hours of operation still need to be defined, at a minimum the help desk for the application should be able to support 5 days a week from 8:00 am EST to 8:00 pm EST.	High	No	Normal business hours for the current Raytheon help desk are 8 am to 8 pm 6 days a week (Saturday)			Please contact Danny at Raytheon he is the manager simstrd@raytheon.com		
12.02		While the average response times have not been qualified by FSA, at a minimum the help desk operator should respond within an average of 10 seconds.	High	No	For the operators, to answer it is less than 10 seconds.			Infoman is the mainframe product.		
12.03		There shall be dedicated staff support for the product.	High	No	Yes there is designated Support group for the FFEL help desk and NSLDS					
12.04		The help desk facility shall have prior experience in help desk activities and be able to support more than one application at a time.	High	No	Yes NSLDS (Besides FFEL)					
	Incident/Problem Management Plan	An incident is a single occurrence of an issue, which affects the delivery of normal or expected service. A problem is the underlying cause of one or more incidents. Specifically, Incident/Problem Management should define in document format the following:								
12.05		Who the business-user will contact to report an incident/problem/request	High	No						
12.06		The types of incidents/problems/requests that will be reported to and addressed by The Help Desk	High	No						
12.07		When the Help Desk will be available to respond to incidents/problems/requests	High	No						
12.08		How the business-user will contact the Help Desk	High	No						
12.09		What the business-user can expect when contacting the Help Desk	High	No						
12.10		How incidents/problems will be tracked, addressed, and resolved	High	No						
12.11		How incidents will be prioritized and escalated	High	Partial	Everything right now is set to a priority 1. There is no scaling of priorities. Note this is a FSA request and not a limitation of the system.	50%	Ensure that it is documented with a new help desk application.			
12.12		How the business-user will be notified of status updates	High	No						
12.13		The types of reports that will be generated to monitor Help Desk performance	High	Partial	Some of the reports are documented but not all	50%	Ensure that it is documented with a new help desk application.			
12.14		The types of tools that will be needed to manage Help Desk processes	High	No	They use ED problem tracking package off of the mainframe.					
	Request Management	The help desk should have clearly defined procedures for the coordination and control of all activities associated with the fulfillment of a request from a business-user, vendor, or developer (I.e. User set-up request, PC/Workstation request, CRT request, etc). Procedures shall include:								
12.15		The types of requests that will be coordinated and/or processed by the Help Desk	High	No	Yes the parameters are there					
12.16		Processing expectations for the fulfillment of requests	High	No	Yes the parameters are there					
12.17		The business-users who will be responsible for submitting requests	High	Partial	Partially, it says support of anyone in FFEL but not which groups.	50%	Ensure that all groups are properly documented in the new help desk process.			

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	Technical Assistance	The help desk shall have clearly defined documented information about the technical support services provided by the Help Desk to enhance/improve the utilization of a newly implemented technology (i.e. assisting a business-user who is trying to access the mainframe from PC/Workstation). Specifically, the documentation should include information about the following:								
12.18		The types of technical inquiries that will be supported by the Help Desk (i.e. PC, modem, phone, etc. inquiries)	High	No	Yes it does do this.					
	Application Assistance	The help desk shall have clearly defined documented information on the functional guidance for all inquiries related to the utilization of a specific application (i.e. responding to questions related to the functionality of an application). Specifically, this document should define the following:								
12.19		The extent of application assistance that will be provided by the Help Desk	High	No	Yes the representative fields the call but not sure if it is in the documentation. They also break out level 1, level 2, and level 3 support. Note that there is not official SLA on any of this.					
12.20		The types of inquiries that would be accepted by the Help Desk	High	No	Yes it will do this					
12.21		Does the help desk have training for internal personnel?	High	Partial	Partial...Yes they roll on a new person and have a training program for them. However this process is not formally documented.	50%		A formal documented training program will have to be designed for the new system. Further analysis will have to be done for potential outsourcing.		
12.22	Service Level Management	There shall exist Service Level Agreements (or Objectives) with business-users. This shall be documented and provide the specific business-users' requirements of each function based on the results of a questionnaire that shall be distributed to designated business-user representatives for completion. Those expectations should have been identified, documented, and addressed prior to the actual implementation of applications.	High	Yes	No. There are no formal SLAs with the department of education.	0%		A formal SLA process will have to be defined for the new help desk system. Further analysis will have to be done for potential outsourcing.		
	User Groups	The business-users that will be supported by the Help Desk shall include but not be excluded to the following client Employees (both current and future):								
12.23		Data Entry Operators	High	Partial	Yes they are supported but not documented.	50%		Ensure the new help desk application and process is documented for this requirement.		
12.24		OCR Entry Processors	High	Partial	Yes they are supported but not documented.	50%		Ensure the new help desk application and process is documented for this requirement.		
12.25		File Retrieval Clerks	High	Partial	Yes they are supported but not documented.	50%		Ensure the new help desk application and process is documented for this requirement.		
12.26		Exception Resolution Personnel	High	Partial	Yes they are supported but not documented.	50%		Ensure the new help desk application and process is documented for this requirement.		
12.27		Centralized Receiving/Retrieval Personnel	High	Partial	Yes they are supported but not documented.	50%		Ensure the new help desk application and process is documented for this requirement.		
12.28		Maintenance and Support Personnel	High	Partial	Yes they are supported but not documented.	50%		Ensure the new help desk application and process is documented for this requirement.		

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12.29		Service Support Personnel	High	Partial	Yes they are supported but not documented.	50%	Ensure the new help desk application and process is documented for this requirement.			
	Information Services Groups	There shall be a document that clearly defines the different levels of support. This document shall include the support service providers that currently perform the help functions such as the following:								
12.30		Information Support Operations (Technical Support functions)	High	Partial	Yes they are supported but not documented.	50%	Ensure the new help desk application and process is documented for this requirement.			
12.31		Internal Audit (Security functions)	High	No	The help desk does get audited for their support effort and send out surveys.	0%				
12.32		Human Resources (Application assistance/training)	High	Partial	Yes they have training but not documented.	50%	Ensure the new help desk application and process is documented for this requirement.			
12.33		LAN Support (LAN/Workstation support)	High	Yes	No they do not provide support of LAN Support. This is done by CSC.	0%	Ensure the new help desk application and process is documented for this requirement.			
	Additional Help Desk Documentation	The help desk shall provide documentation that clearly defines the following:								
12.34		The help desk mission statement or goals of the help desk at the enterprise wide corporate level	High	No	Yes it does					
12.35		The scope of the services offered	High	No	Yes it does					
12.36		The organizational structure	High	No	Yes it does but the document is not revised or updated.					
12.37		The service level agreements or service level objectives that are in place	High	Yes	No service level agreements defined.	0%	Ensure the new help desk application and process is documented for this requirement.			
12.38		The reports generated by the system and the reporting tool used.	High	No	Reports are generated from the info management system from the mainframe.					
12.39		All processes and procedures for the help desk (call tracking process flows, incident/problem management process flows, request management process flows, report generation process flows, processes for potential hand-offs to external support such as 2nd or 3rd level application support/vendor support, internal Help Desk procedures needed by Help Desk personnel to perform routine activities, and processes for maintaining / archiving documented process flows / procedures)	High	No	Yes these are defined in the documentation.					
12.40		All support staff for the help desk	High	Yes	No it does not define the organization for the help desk.	0%	Ensure the new help desk application and process is documented for this requirement.			
12.41		The training procedures for help desk personnel	High	Yes	The training is not formally documented	0%	Ensure the new help desk application and process is documented for this requirement.			
12.42		The technology implemented at the help desk (tracking tools, PCs, servers, etc)	High	Yes	No it does not document any custom applications or additional tracking tools.	0%	Ensure the new help desk application and process is documented for this requirement.			
12.43	Help Desk Application Requirements	The system should be able to grant access to any ED user who wants to see how issues are going.	High	Yes	Note that Raytheon is currently looking at c.supportit from GWI software to replace the existing help desk support software. Although no tool has been selected yet.	0%	Ensure the new help desk application selected meets this requirement.			
12.44		Each issue recorded shall be given a job number (or alphanumeric code) so that it can be called up quickly.	High	Yes	No tool has been selected to replace the FFEL help desk system.	0%	Ensure the new help desk application selected meets this requirement.			
12.45		It should be possible to prioritize jobs so that effective use is made of staff in solving problems.	High	Yes	No tool has been selected to replace the FFEL help desk system.	0%	Ensure the new help desk application selected meets this requirement.			

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12.46		When a problem is solved, its solution should be stored, so that if it crops up again it can be found. Identical problems should be able to be cross-referenced easily so that the solution is not written into the databases many times.	High	Yes	No tool has been selected to replace the FFEL help desk system.	0%	Ensure the new help desk application selected meets this requirement.			
12.47		It should be possible to search the database for similar looking problems, possibly by using keywords in the problem text. This will allow similar problems and their solutions to be found	High	Yes	No tool has been selected to replace the FFEL help desk system.	0%	Ensure the new help desk application selected meets this requirement.			
12.48		It should be possible to find out which problems, sharing one solution, come up the most, to allow user education, the creation of FAQs for users, the identification of problem pieces of software which should have priority for upgrading (or patching), etc.	High	Yes	No tool has been selected to replace the FFEL help desk system.	0%	Ensure the new help desk application selected meets this requirement.			
12.49		Web based response time for incidents viewing will be determined in the future. At a maximum using a cable modem or DSL connection, response times shall not exceed 15 seconds.	High	Yes	No tool has been selected to replace the FFEL help desk system.	0%	Ensure the new help desk application selected meets this requirement.			
12.50		The help desk application shall be LDAP compliant so that it can hook into the single sign on architecture of the system	High	Yes	No tool has been selected to replace the FFEL help desk system.	0%	Ensure the new help desk application selected meets this requirement.			
12.51		The help desk application shall be fully web based so that any user with proper security privileges can view incidents via the web.	Medium	Yes	No tool has been selected to replace the FFEL help desk system.	0%	Ensure the new help desk application selected meets this requirement.			
12.52		The help desk application shall be able to display all reports via a web interface.	Medium	Yes	No tool has been selected to replace the FFEL help desk system.	0%	Ensure the new help desk application selected meets this requirement.			
12.53		The help desk application shall be able to export its database / tables / fields / or individual records to a Reporting server with an oracle backend.	High	Yes	No tool has been selected to replace the FFEL help desk system.	0%	Ensure the new help desk application selected meets this requirement.			
12.54		The help desk application shall be able to export its reports into excel format for distribution.	High	Yes	No tool has been selected to replace the FFEL help desk system.	0%	Ensure the new help desk application selected meets this requirement.			
12.55		The help desk application shall be fully scalable to allow for (or have a migration path towards) high availability or 24x7 support if necessary.	High	Yes	No tool has been selected to replace the FFEL help desk system.	0%	Ensure the new help desk application selected meets this requirement.			
12.56		The help desk application shall allow a user to enter in their own trouble ticket via a web interface.	Medium	Yes	No tool has been selected to replace the FFEL help desk system.	0%	Ensure the new help desk application selected meets this requirement.			
12.57		The help desk application shall allow a user to have their own views of the system. This will be tied to security.	Medium	Yes	No tool has been selected to replace the FFEL help desk system.	0%	Ensure the new help desk application selected meets this requirement.			
12.58		The help desk application shall allow users run reports off their incidents via a web interface.	Medium	Yes	No tool has been selected to replace the FFEL help desk system.	0%	Ensure the new help desk application selected meets this requirement.			
12.59		The help desk application shall be able to give managers the ability to customize their view of the incidents and resolutions	High	Yes	No tool has been selected to replace the FFEL help desk system.	0%	Ensure the new help desk application selected meets this requirement.			
12.60		The help desk application shall be able to give managers the ability to view the availability of technicians	High	Yes	No tool has been selected to replace the FFEL help desk system.	0%	Ensure the new help desk application selected meets this requirement.			
12.61		The help desk application shall be able to create inter-related incidents, duplicate incidents, and deferred incidents.	High	Yes	No tool has been selected to replace the FFEL help desk system.	0%	Ensure the new help desk application selected meets this requirement.			
12.62		The help desk application shall have multi-level SLA features to ensure that each incident is correctly prioritized and acknowledged	High	Yes	No tool has been selected to replace the FFEL help desk system.	0%	Ensure the new help desk application selected meets this requirement.			
12.63		The help desk application shall have a history list for users calling in and robust auditing / logging features.	High	Yes	No tool has been selected to replace the FFEL help desk system.	0%	Ensure the new help desk application selected meets this requirement.			
12.64		The help desk application shall have a history list for users calling in and robust auditing / logging features.	High	Yes	No tool has been selected to replace the FFEL help desk system.	0%	Ensure the new help desk application selected meets this requirement.			
12.65		The help desk application shall have an object oriented workflow manager to route incidents, assign work, and integrate into other third party workflow engines (i.e.. Traceably between a help desk call an a clearquest rational suite SIR, Action Item, Issue, CR, or Risk).	High	Yes	No tool has been selected to replace the FFEL help desk system.	0%	Ensure the new help desk application selected meets this requirement.			

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12.66		A knowledge base shall be maintained of all resolved, deferred, and rejected calls. Ideally, when a user places a call, tier 1 support can search this data base for key word matches.	High	Yes	No tool has been selected to replace the FFEL help desk system.	0%	Ensure the new help desk application selected meets this requirement.			
12.67		The help desk application shall be able to link to an external assets tracking tool (in order to troubleshoot any workstation issues.	High	Yes	No tool has been selected to replace the FFEL help desk system.	0%	Ensure the new help desk application selected meets this requirement.			
12.68		The help desk application shall have the ability to initiate surveys for end user feedback.	High	Yes	No tool has been selected to replace the FFEL help desk system.	0%	Ensure the new help desk application selected meets this requirement.			
12.69		The help desk application shall have the ability to define specific service level thresholds and notifications based on customers or categories.	High	Yes	No tool has been selected to replace the FFEL help desk system.	0%	Ensure the new help desk application selected meets this requirement.			
12.70		The help desk application shall have the ability to send email notification of calls to end users.	High	Yes	No tool has been selected to replace the FFEL help desk system.	0%	Ensure the new help desk application selected meets this requirement.			
12.71		The help desk application shall have the ability to integrate with an existing web site	High	Yes	No tool has been selected to replace the FFEL help desk system.	0%	Ensure the new help desk application selected meets this requirement.			
12.72	Help Desk Application Reporting	The help desk reporting tools shall be able to display different statistics on each technician (number of issues initiated a day, number of issues resolved, number of issues deferred, etc)	High	Yes	No tool has been selected to replace the FFEL help desk system.	0%	Ensure the new help desk application selected meets this requirement.			
12.73		The help desk reporting tool shall be able to generate custom reports and save each report for reviewing.	High	Yes	No tool has been selected to replace the FFEL help desk system.	0%	Ensure the new help desk application selected meets this requirement.			
12.74		The help desk reporting tools shall be able to filter data	High	Yes	No tool has been selected to replace the FFEL help desk system.	0%	Ensure the new help desk application selected meets this requirement.			
12.75		The help desk reporting tools shall be able to export the help desk database to an oracle reporting database.	High	Yes	No tool has been selected to replace the FFEL help desk system.	0%	Ensure the new help desk application selected meets this requirement.			
12.76		The help desk reporting tools shall have a robust set of metrics (totals, subtotals, trend analysis, comparison analysis)	High	Yes	No tool has been selected to replace the FFEL help desk system.	0%	Ensure the new help desk application selected meets this requirement.			
12.77		The help desk reporting tools shall be able to display data in charts and graphs.	High	Yes	No tool has been selected to replace the FFEL help desk system.	0%	Ensure the new help desk application selected meets this requirement.			
12.78		The help desk reporting tools shall be able to export the help desk reports to an excel database	High	Yes	No tool has been selected to replace the FFEL help desk system.	0%	Ensure the new help desk application selected meets this requirement.			

*Priority shall be ranked in high, medium, low. See assumptions for details.

Requirement	Raytheon verification
Error handling	We would like to see examples of the application generating errors
Log Files	We would like to see examples of the application generating log files
Testing	We would like to see the automated unit testing and functional testing
Auditing	We would like to see examples of auditing in the database.
Software Configuration Management	We would like to see your clearquest database and some of the bugs that you have found.

ITEMS NOT IN DMS	MAJOR CHANGES FOR ED
NEW DEBT LOAD PERKINS	AUDIT
NEW DEBT LOAD DIRECT LOAN	AWG
NEW DEBT LOAN GSL	WORK LIST (LAA)
NEW DEBT LOAN POVIR	WIR
NEW DEBT LOAD FISL ?	OCA ASSIGNMENT
MIDAS PROCESS (FIS and FND)	IVRU ?
WAREHOUSE	MANAGEMENT
CREDIT REFORM	SKIPTRACE
ICRP ?	UTILITY
DIRECT DEBIT ?	REHABILITATION
DOJ	LOAN OVERVIEW
FDP ?	Subledger
PRE	Posting
Archive/Restore	User Services
REPORTS ?	Server Services
Returned Letters	

? = May or may not be needed for ED

List of 3rd Party COTS Capabilities for Intergration with CORE DMS

(local indicates specific client installed base)

1	Local Letter Writer Software
2	Actuate provided, other COTS AS-HOC tools may be used
3	Local Autodialers (Phone Campaigns)
4	Local Imaging Systems
5	Local IVRUs
6	Local Credit Card Software
7	Local Direct Debit Software
8	Local Automatic Call Distribution (ACD)

Technical Review Checklist (Code)

Module:

Review Team

Tech. Code Reviewer:

Standards:

Documentation

All necessary spec pack documents included/up to date	Y	N	N/A
Documentation is well organized	Y	N	N/A

Standards

Use proper project shells and program header blocks	Y	N	N/A
Shell comments have been deleted	Y	N	N/A
Follows project coding standards for application language	Y	N	N/A
Uses proper naming standards for variables and functions	Y	N	N/A

Code

- General -

Header comments are accurate and complete	Y	N	N/A
Code is readable and easy to follow	Y	N	N/A
Variable declarations are commented	Y	N	N/A
Variable and function names are meaningful	Y	N	N/A
Complex logic is well commented	Y	N	N/A
No hard coded values (without a valid reason)	Y	N	N/A
Extensive/repetitive logic placed in functions	Y	N	N/A
Functions always return a value	Y	N	N/A
Functions declared with appropriate scope	Y	N	N/A
Proper use of project global libraries	Y	N	N/A
No global variables (without valid reason)	Y	N	N/A
Unused code, variables, comments removed	Y	N	N/A
Latest technical architecture recommendations in place	Y	N	N/A

- C -

Code passes lint	Y	N	N/A
Copy of Purify log file included with code	Y	N	N/A
Check for success after all DB actions	Y	N	N/A
DB login/logout done using global project functions	Y	N	N/A

Error Handling

All function return values are checked (without valid reason)	Y	N	N/A
All error messages are properly logged	Y	N	N/A
Application exits if fatal error	Y	N	N/A
User is properly informed where applicable	Y	N	N/A
Use common project error message functions	Y	N	N/A

Testing

All test conditions have been identified	Y	N	N/A
Test documentation clear and concise	Y	N	N/A
All testable conditions have been tested	Y	N	N/A
Special startup/shutdown requirements tested	Y	N	N/A

Data

SQL explain plans have passed DBA review	Y	N	N/A
Contains logic to support module's logical units of work	Y	N	N/A
Checks for success after commits and rollbacks	Y	N	N/A
Latest DB changes accounted for	Y	N	N/A

Technical Review Checklist (Design)

Module:

Review Team

Functional QA:

Functional Analyst:

Standards:

Documentation

All necessary spec pack documents are included	Y	N	N/A
Documentation is well organized	Y	N	N/A

Standards

Documentation follows project standards	Y	N	N/A
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Module name follows project standards	Y	N	N/A
Design all documentation located in proper directory	Y	N	N/A
GUI follows project standards	Y	N	N/A

Functional

Meets all of its functional requirements	Y	N	N/A
Open design issues documented in module .LOG	Y	N	N/A
Completed spec pack walk-through with programmer	Y	N	N/A
GUI has been reviewed and signed off by users	Y	N	N/A

Technical

All tech issues discussed with tech team	Y	N	N/A
Module design technically efficient	Y	N	N/A

Data

Module SQL approved by DBA (T238)	Y	N	N/A
Logical unit of work issues addressed	Y	N	N/A
Latest DB changes accounted for	Y	N	N/A

Review Date:

Programmer:

DBA:

Meets Requirements

Comments

Review Date:

Technical Rep.:

DBA:

Meets Requirements

Comments