ELECTRONIC RECORDS ARCHIVES

TARGET RELEASE PAPER
(TAR v1.1)
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for the

NATIONAL ARCHIVES AND
RECORDS ADMINISTRATION

ELECTRONIC RECORDS ARCHIVES
PROGRAM MANAGEMENT OFFICE
(NARA ERA PMO)

Final
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Signature Page

Program Director,

I recommend approval of the Target Release Paper (TAR).

_____   _____

Dyung Le,   Date
ERA Program

Approved,

_____   _____

Kenneth Thibodeau,   Date
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1.0   Introduction

The *ERA Requirements Document (RD),* as baselined for the ERA procurement activity, is written to convey scope for the ERA program. The *ERA RD* is deliberately written at a high level and without implementation details so as to allow the ERA development contractors the maximum amount of freedom to craft their designs and development approaches. The requirements in the *ERA RD* are at too high a level to allocate atomically to individual Increments. A clean and unique mapping of requirements to individual Increments will not be possible until the ERA contractors have decomposed the requirements to a lower level. NARA has established broad guidelines for the implementation of ERA capabilities across the Increments. This document provides qualitative descriptions of time phased system functions. These descriptions are provided first in text, and then later in a matrix.

1.1   Purpose

The *ERA Target Release Plan (TAR)* provides qualitative guidance on the phasing of archival and system related capabilities for the Electronics Records Archives (ERA) program. The first version of the *ERA TAR* is being released in advance of the *ERA RFP* in order to provide guidance to the prospective integrators to inform and help normalize their technical and costing proposal efforts.   The *ERA TAR* attempts to convey current NARA thinking and priorities with regards to ERA and the role the system is envisioned to take within the Agency. This version of the *ERA TAR* provides a narrative description and philosophy behind the major goals and capabilities National Archives and Records Administration (NARA) currently envisions for ERA over the five Increments. Only the first three Increments are described in detail. The *ERA TAR* should be used, in conjunction with the *ERA RFP* materials and directions to offerors, by the integrators in preparing the technical and cost approaches for their ERA proposals.

1.2   ERA Program Overview

ERA will be a comprehensive, systematic, and dynamic means for preserving virtually any kind of electronic record, free from dependence on any specific hardware or software. The ERA, when operational, will make it easy for NARA customers to find records they want and easy for NARA to deliver those records in formats suited to customers' needs.

2.0   Document Assumptions

The following assumptions were made during the development of this document.

- The paper's intended audience is the ERA development contractors and the ERA Program Management Office (PMO).
- The paper is meant to provide guidance for the proposal phase of the ERA program. It is expected that the TAR will be superceded by the ERA contractors' decomposed and time phased requirements documents.

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- The plan reflects work of the Business Process Re-engineering (BPR) To-Be Process Model and ongoing initiatives within NARA.

3.0 Acronyms and Definitions

Table 3-1, Acronyms List, contains a list of acronyms used herein.

ACRONYM	DEFINITION
AAD	Access to Archival Databases
ADRRES	Archives Document Review and Redaction System
AERIC	Archival Electronic Records Inspection and Control
AIP	Archival Information Package
APS	Archival Preservation System
ARC	Archival Research Catalog
BPR	Business Process Re-engineering
CM	Configuration Management
ConOps	Concept of Operations
DT	Data Types
ERA	Electronic Records Archives
FOIA	Freedom of Information Act
FRC	Federal Records Centers
GIS	Geographic Information System
GRS	General Records Schedules
NARA	National Archives and Records Administration
OAIS	Open Archival Information System
PM	Preventive Maintenance
PMO	Program Management Office
POV	Point of View
RD	Requirements Document
RFP	Request for Proposal
RLC	Records Lifecycle
RMI	Records Management Initiative
ROI	Return on Investment
RT	Record Types
SBU	Sensitive But Unclassified
SF	Standard Form
TAR	Target Release Paper
TBD	To Be Determined
TIPT	Transition Integrated Product Team
URTS	Unclassified Redaction and Tracking System

Table 3-1: Acronyms List

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## 4.0   General Guidelines/Philosophies

The following guidelines capture some key underlying expectations and directions NARA is expecting to follow as it develops the ERA system. These guidelines will be further explored in the breakdowns of the individual Increments.

1. ERA needs to first establish a core infrastructure/capability that performs basic electronic record processing and also transactions for lifecycle management of records of all types and provides a framework for evolvability and performance. This includes the basic fielding/establishment of a system as well as all the process related engineering that is required to form a solid base on which to build. Some aspects of this core infrastructure include:
   - The plans, procedures, and agreements within NARA as to how to operate in this new environment, training, Configuration Management (CM), build and test environments, etc.
   - A complete and well-designed security approach for the system. This design includes capability to process records at all classification levels, the plans and operating procedures required, and the building of the secure infrastructure that is required. Note that while records of higher classification may not require support in the early Increments, the design and approach to accommodate these records must be fleshed out from the beginning.
   - A level of system automation is required from the start to support workflow and decision making for lifecycle management of records, the processing of electronic records from ingest through storage and access, the coordination of manual operations and tasks, and the maintenance of an operable system.
2. ERA interfaces are established when needed within the infrastructure framework.
3. Every Increment must be useful from a NARA business Point of View (POV). No Release level granularity is provided at this time in this *ERA TAR*.
4. Initially the core system capability will provide a full range of support for preservation and access for electronic records in a minimum set of record and data types. Support for various Record Types (RTs) and Data Types (DTs) are added to the system over time. As RTs and DTs are added to the system, they need to be supported by the existing services. Example: Extraction of basic Records Lifecycle data from Disposition Agreements and the actual records will be established early in the ERA system. When new RTs and DTs are supported in later Increments, this basic extraction of Records Lifecycle data must be supported for these new RTs and DTs.
5. Initially the core system will include a minimum set of capabilities for the maximum range of data types. These capabilities include reliable ingest, storage, and output of bit files in their native formats. For common data types, output services should include onscreen display and formatted printing as well as file copies.
6. System support for long-term preservation of electronic records is also augmented over time. Initial focus will be on highly reliable transfer (for ingest and access) and storage of bit files regardless of data type or record type. Ability to migrate data types to newer formats and to transform them into persistent archival formats will be implemented for additional data types and record types in each increment.

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7. Other services for archives and records management will be incremented gradually over time. For example, support for automated generation of archival description might be limited initially to extraction of specific data elements from electronic forms, such as the SF-115, Request for Records Disposition Authority, SF-135, Records Center Program Records Transmittal and Receipt, and SF-258, Agreement to Transfer Records to the National Archives of the United States. Subsequent increments would include service for extracting data needed for description from electronic records containing semantic markup. Later, automated tools for content characterization and summarization might be implemented.

8. NARA's expectation is that the first Increments would be concentrating more on establishing and augmenting services, with the latter Increments focusing more on adding RTs and DTs to the established system. For planning purposes, NARA is assuming that by Increment 3 all core ERA services should be established at a fairly mature level of service. Increments 4 & 5 are generally expected to be more Data Type and Record Type intensive. A number of RTs and DTs will be required in the early Increments, just as services will be augmented and added during Increments 4 & 5, but the emphasis on RTs/DTs will become more pronounced in the later Increments.

Figure 4-1: New Services and RTs/DTs Delivered per Increment, and **Figure 4-2: Cumulative Service and RTs/DTs Delivered**, graphically illustrates the shift in emphasis over time from services to RTs/DTs. (**Figure 4-1 and Figure 4-2** are qualitative in nature and do not imply quantitative comparisons between the number of services and RTs/DTS. The figures are meant to illustrate the philosophy behind service deployment and RT/DT support over time.)
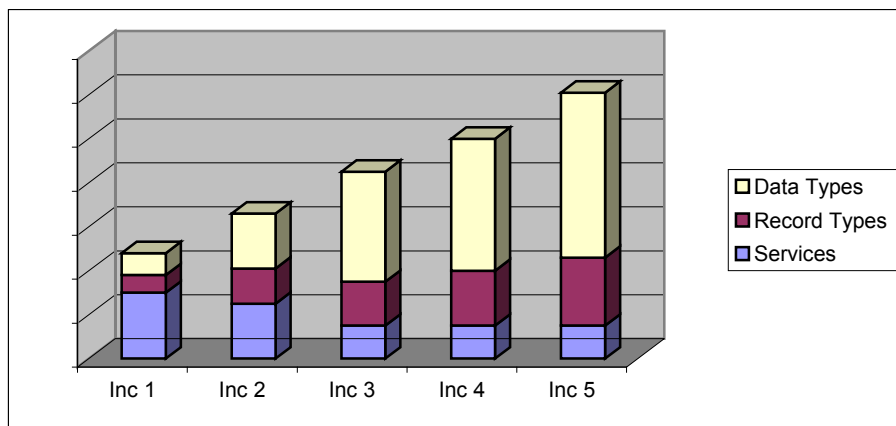
Figure 4-1: New Services and RTs/DTs Delivered per Increment

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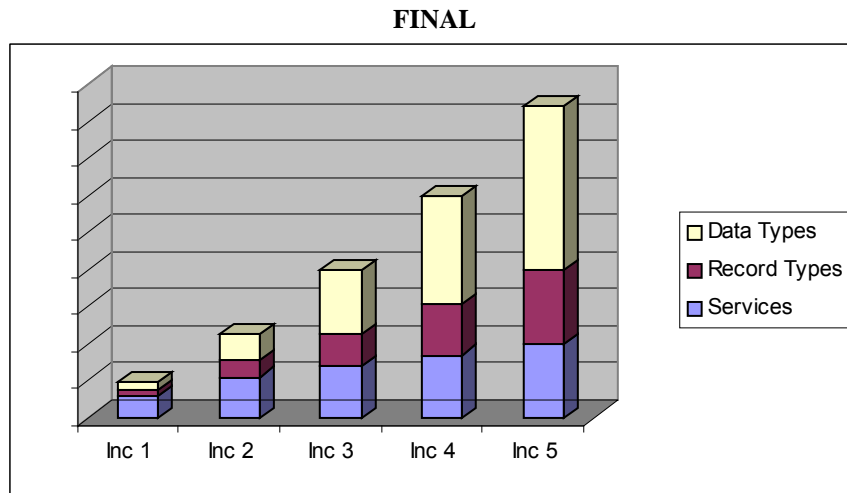
Figure 4-2: Cumulative Service and RTs/DTs Delivered

5.0   Description of Increments

A notional description of Increment functionality and successive enhancements to the system is provided using two different methods. The first is a series of narrative descriptions of each Increment highlighting the primary themes/intent of the Increment along with particular areas of emphasis. The second method, represented by **Table 6-1, Records Related Functions to Increments Roadmap**, and **Table 6-2, System Related Functions to Increments Roadmap**, provides a different view of system functionality across the Increments. Note that both the narrative descriptions and the Increment roadmap are not meant to be exhaustive descriptions of system functionality, they do not address all the requirements and capabilities of the system, and in no way should they be construed as adequate or complete in terms of a requirements verification method. The narrative descriptions and Increment Roadmap table are meant to convey NARA's current high level thinking about ERA and its time phasing of capabilities.

5.1   Increment 1: Establishment of Infrastructure

End-to-end archival lifecycle processing and control is established in Increment 1. Disposition agreement processing, description generation and maintenance, and descriptive searching for all records will be supported. ERA will be required to support the transfer, processing, storing, and access to electronic records.

Particular Areas of Emphasis include the following:
- Establish template repository and hierarchy of templates. Template repository should include record and disposition agreement templates.
- Establish workflow capabilities. Begin realization and enforcement of business rules through assignments and linking of work sequences.
- Increment 1 will support creation, modification and processing of disposition agreements. The execution of disposition agreements will be tied into workflow and system service management.

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- Begin the re-engineering and retirement of legacy systems. Note that re-engineered capabilities may go through internal testing and trials before exposure to end user communities. Exposure process is TBD. Exposure in some case may start with beta testing with limited groups of end users.
- Initial checking of records for validity, structure, and format.
- Reliable ingest, storage and output of electronic records both in the digital formats in which they are received and in any migrated or persistent formats produced in the system.
- Establish security architecture and infrastructure. This includes system security and National Sensitive But Unclassified (SBU) level security.
- Begin institutional change management and training for NARA staff.
- Limited deployment to NARA staff and targeted external user groups.

5.2   Increment 2: Operability and automation

In Increment 2, ERA is capable of opening up to a larger user base. The system becomes more resilient to loads (both Ingest and Access) and more operable. Record preservation processes are in place for select RTs and DTs.

Particular Areas of Emphasis include the following:
- The ERA Template repository is fully functional and is being populated during the operational phase of Increment 2
- Records Lifecycle (RLC) data is being routinely harvested from disposition agreements and the processing of the records. The records themselves are starting to be used as RLC information sources.
- Begin preservation techniques for RTs and DTs that have high Return on Investment (ROI).
- Begin extension of services to processing of classified electronic records
- The ERA system is more tunable, more feedback on service progress, able to support larger user base effectively, internal care and feeding
- Interfacing with other NARA systems (financial, traditional records, etc.)
- Subscription and service management allow for controlled and efficient utilization of system resources

5.3   Increment 3: Major Services Established

All core services established. System is robust in terms of interfaces, operability, and performance over a sizable set of assets. Automated processing is firmly established.

Particular Areas of Emphasis include the following:
- Full RLC model operational (population and search)
- System integration in Federal Enterprise Architecture and/or agency systems
  - Components mature and stable
  - Schedule assist capability available
- Begin secure electronic transfer of classified electronic records
- Begin technology insertion program

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- Begin the shift from service emphasis to DT/RT
- Full implementation of storage subsystem services (media migration, destruction, automated storage system maintenance)

5.4   Increments 4 & 5: Growth of Assets

ERA has evolved into a solid system poised for large growth in its electronic assets. Electronic assets will expand during operations, with additional RTs and DTs being defined and supported within system context. In order to handle the larger Ingest and processing loads further automation is provided in the areas of data extraction, asset analysis, and redaction capabilities. Technology insertion continues as do records preservation activities.

6.0   Functions to Increments Roadmap

High level functions of the ERA system have been identified by the ERA PMO based on the ERA RD and the ERA Concept of Operations (ConOps) document. These functions are provided in **Table 6-1, Records Related Functions to Increments Roadmap,** and **Table 6-2, System Related Functions to Increments Roadmap**, and should be considered representative in nature and do not imply a desired design approach or necessarily a preferred grouping of requirements. The functions have been kept at a high level so as to be as design independent as possible. As with the qualitative write ups for the Increments, **Tables 6-1** and **6-2** should be utilized as guidance and not as a final direction for the development of ERA. The arrows used in Tables 6-1 and 6-2 signify that the capabilities called out continue to expand and be applied over the remaining Increments for the RTs and DTs supported during those Increments.

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Records Related Functions	Increment 1	Increment 2	Increment 3	Increment 4	Increment 5
Lifecycle Data Repository	Core Records Lifecycle (RLC) data model implemented (current ARC data model + any additional objects, attributes and behaviors needed to support increment's functions)		Full RLC data model established		
	Automated RLC data extraction only from RLC management transactions using Standard Forms in Template Repository	Data extraction from any RLC management transaction or electronic records submission conforming to a registered template.	Data extraction from self-describing records	RLC data extracted from records themselves	Full RLC data extraction capability established
Generate Archival Descriptions	Basic tools for viewing, manual input, and editing of descriptions	Import of existing ARC descriptions	Description extraction automated for self-describing records	Descriptive information extracted from records themselves	Full descriptive capabilities established
	Support versioning	Full manual description support tools			
Templates	Establish Template Registry/Repository	Establish capability for linkage, import, and export with external Registries			
	Preliminary NARA record hierarchy/template scheme defined	Full record hierarchy/template scheme defined			
	Register NARA Templates for key Disposition Transactions (e.g. SF 115)	Default Templates for all types of Disposition Agreements established	Tools to facilitate and support automated template creation		
	Test registration of producer templates and their conformance with NARA standard	Verify conformance of top level producer templates to NARA standard	Verify conformance of hierarchy of producer templates to NARA standard		

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Records Related Functions	Increment 1	Increment 2	Increment 3	Increment 4	Increment 5
	Register increment's Data Types	Register increment's Data Types	Register increment's Data Types	Register increment's Data Types	Register increment's Data Types
	Templates generated for Increment's Record Types (RTs)	Templates generated for Increment's Record Types (RTs)	Templates generated for Increment's Record Types (RTs)	Templates generated for Increment's Record Types (RTs)	Templates generated for Increment's Record Types (RTs)
Disposition Agreement Support	Post some 'best practices' examples	Post 'executable form' GRS	Begin population of knowledge base of existing disposition agreements		
	Allow for electronic submission of Agency's agreements (free form, not fully template based)	Evaluate items in well formed records schedules for GRS coverage	Evaluate items in well formed records schedules for coverage in applicable existing agency schedule	Support systematic analysis of records schedules	
	Production version of tools piloted in RMI & BPR projects		Initial deployment of Scheduling Assistance Capability	Further enhancements to Scheduling Assistance Capability	Full deployment of Scheduling Assistance Capability
Transfer of Records Sets	Online File Transfer (preferred option)	Online File Transfer (additional options)	Export Record Packages		
		Online Transfer of some classified electronic records	Online Transfer of all classified electronic records	→	→
	Approved NARA media				
Support for transferred records	Verify number of files, file labels, and amount of data received are as expected				

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Records Related Functions	Increment 1	Increment 2	Increment 3	Increment 4	Increment 5
Check Representation Information of Records	Verify record types are what was expected	Limited ability to verify the record is indeed what it purports to be	Enhanced ability to verify the record is indeed what it purports to be	Full ability to verify the record is indeed what it purports to be	
	Identify & verify data type of digital components for Increment's record types	→	→	→	→
	Validation of structure of structured data sets	Validation of structure of semi-structured data sets			
	Validation of range and finite domain values of structured data sets	Validation of range and finite domain values of semi-structured data sets			
		Some processing of classified electronic records	Additional processes for classified electronic records		
Preservation of Electronic Records	External wrapping of bit files	Transform record aggregate data to persistent form			
	Aggregation of small bit files in physical containers	Migrate high-demand, at-risk data types			
	Transformation of structured data sets	Transformation of semi-structured data sets	Transformation of Increment's record types	→	→
	Begin Migration of Legacy Electronic Records Holdings: TBD, work progressing under Transition IPT (TIPT)	Completion of Legacy Record Migration			

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Records Related Functions	Increment 1	Increment 2	Increment 3	Increment 4	Increment 5
	Secure storage of classified electronic records		Migration of classified electronic records in increment's data types	Transformation of classified electronic records in supported record types	
Storage of Electronic Records	Establish archive (name space and conventions, insertion and access methods)	Media monitoring and maintenance	Media migration for ERA's Archival media		
	Institute security controls (access and integrity)	Media destruction			
	Minimal archival wrapping (establish equivalent of an OAIS AIP)	Versioning			
		Begin storing of classified records			
Redaction of Restricted Content	Not supported. Use URTS/ADRESS	Basic tools for manual review and redaction of limited data types (text and images)	Full manual redaction for all supported data types	Automated redaction of limited data types	Automated redaction of supported data types
	Support the overwriting/blanking of sensitive information (e.g., Social Security Number)	Support for access reviews, capture determinations, support for Freedom of Information Act processing and status			
Searching of Descriptive Information	Basic search capability on RLC data (single and multiple attributes)	Proximity searching	Any/all items defined in templates are searchable	Concept based searching	
	Limit search execution times	Progress indicators, estimated completion time			

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Records Related Functions	Increment 1	Increment 2	Increment 3	Increment 4	Increment 5
		Support for canned searches, popular searches			
Searching of Electronic Records		Proximity searching	Any/all items defined in templates are searchable	Concept based searching	
	Limit search execution times	Progress indicators, estimated completion time	Initial searching within non-structured records		Full searching within non-structured records
	Standard data base queries for structured and semi-structured data on-line	Support for canned searches, popular searches	Automated question and answer searching		
Retrieval of Electronic Records	All stored files can be retrieved and provided as bit files	Retrieval of records comprising multiple digital components for supported record types			
	User specified output parameters equal to APS & AERIC				
	Data base instantiation in line with AAD capabilities	Item and file-unit instantiation for aggregates defined in templates	Geospatial Information System instantiation		
Presentation of Electronic Records	Simple viewers used for identified supported data types (so they can be viewed in their native format)	Viewers available for data types primarily accessed (support for most popular should give us 75%+ coverage)	All data types (supported through increment) identified as needing presentation viewable via viewers or persistent preservation	→	→

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Records Related Functions	Increment 1	Increment 2	Increment 3	Increment 4	Increment 5
	List and form presentation of structured and semi-structured database	Application based presentation of persistently preserved formats			
Output of Electronic Records	Output to screen, download of files; limited number/type (legacy) of physical media distribution	Email support, full physical media distribution	Output of classified electronic records on secure network	Output in formats suitable for ingest on specified target platforms	
Access Review	Establish security infrastructure to allow for records to be stored and accessed according to sensitivity, classification, and applied access rights	Support for movement of declassified records to lower level security environments			
	Ability to assign access control and restrictions to records based on classification, sensitivity, and position in the processing lifecycle				
Records Disposal	Procedures and tools for off line records/media disposal	Support for on-line and near line disposal	Full complement of disposal techniques/levels supported		

Table 6-1: Records Related Functions to Increments Roadmap

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System Related Functions	Increment 1	Increment 2	Increment 3	Increment 4	Increment 5
Interfaces Established					
- Financial	Authorization for basic activities	Status query interface, estimating of required resources			
- Location/Life Cycle	Basic status provided on disposition status changes	Augmentation with regards to physical information on shipments			
- Producer	Electronic submission of records supported, support for submission of Disposition Agreements (SF115 based but free form)	Expanded media types supported for Records submission, structured Disposition Agreement interfaces			
- Consumer	Limited number of static User Interfaces (Workbenches)	Tools to allow Operations to define/change Workbenches (specialty Workbenches, focused on NARA staff)	Support user tailoring of Workbenches (customized to registered individual)		
Workflow	Ability to represent business rules via a managed set of tasks	Prioritization, suspension, and resumption of workflows	Estimate resource requirements and project completion times for tasks		
	Ability to define and execute a series of queued and managed tasks	Support tools for editing, defining, and modifying workflows by the general staff (with privileges)			

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System Related Functions	Increment 1	Increment 2	Increment 3	Increment 4	Increment 5
		Dynamic balancing of workloads between users and groups			
Subscriptions		Basic event/service invocation subscriptions supported	Suspension/resumption	Time based subscriptions	
			User selectable subscription invocation limit		
User Accounts	NARA accounts, primary producers/consumers, general accounts	Individual registration for primary producers/consumers	Full user registration (individuals)		
Event logs and reports	Select which information to log	Expunge event log information			
	Log all system events	Define retention period for logs and types of log entries			
Reporting	Create routine reports	Support for report analysis (i.e., trending, graphical analysis, projections)	Dynamically define/create report contents	Automated reporting/maintenance reporting	
Service Management	Monitoring, queuing, prioritization	Limit service run time, check pointing	Suspension/resumption	Dynamic system load balancing	
Security	Basic security infrastructure in place (authority sources, access control, authentication, non-repudiation)	Record type level security implemented (if applicable)	Declassification/movement to lower security levels supported		

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System Related Functions	Increment 1	Increment 2	Increment 3	Increment 4	Increment 5
	Network/edge security in place (denial of service, packet filtering, firewalls)	Limited classified records solution provided	Full classified records solution provided		
User Support					
- Mediated Searches/Archival Help Desk	Limited staff/hours		Full staff/hours		
- Technical Support/Help	On-line Help consistent with supplied system services and record types, limited staff/hours	User account support	Full staff/hours		
Training	For NARA staff on deployed functions	For records managers on scheduling & transfer of accessions	Advanced training for NARA staff. For records managers on FRC services; template development and registration		
Logistics Management	Support operational CM on system components	Provide inventory management of consumables	Scheduling and projecting required Preventative Maintenance (PM) and associated system reconfigurations		

Table 6-2: System Related Functions to Increments Roadmap