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AUTOMATED ELECTRONIC RECORDS MANAGEMENT REPORT/PLAN

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Section I: Automated Electronic Records Management Report

A. PURPOSE AND ORGANIZATION

In August of 2012, the Archivist of the United States and the acting director of the Office of Management and Budget released the *Managing Government Records Directive*. There are two central goals of the Directive. First, Federal agencies will require electronic recordkeeping to ensure transparency, efficiency, and accountability. Second, agencies are required to demonstrate compliance with Federal records management statutes and regulations. In addition, the Directive specifically states that by the end of 2019, Federal agencies will manage all permanent electronic records in an electronic format.

To help meet this goal, item A3.1 in the Directive encourages NARA, agencies, and stakeholders to automate records management. Automating records management will not only reduce the burden of records management responsibilities on individuals, but will make Federal government records and information easier to access because they are more consistently managed. The Directive promotes greater transparency, efficiency, accountability in Federal government and automating records management helps achieve that vision.

Item A3.1 of the Directive required NARA to produce a comprehensive plan in collaboration with its stakeholders to describe suitable approaches for the automated management of email, social media, and other types of digital record content, including advanced search techniques. The plan should detail expected outcomes and outline potential associated risks. To address this requirement, NARA is issuing this document as a report and plan to help agencies automate records management.

This document is divided into two sections. Section I (the report) identifies suitable approaches for Federal agencies to pursue when automating electronic records management (ERM) and discusses the outcomes, benefits, and risks of these approaches. Section II (the plan) describes a framework to help agencies meet the goals of the Directive and lists ideas or activities that will help NARA, agencies and stakeholders implement Federal electronic records management.

All the automated approaches described in this report and plan depend on having a solid records management policy and program foundation in place to guide them. Automation is a tool, not a replacement for a professional records and information management program.

B. OUTCOMES

This document aims to assist agencies in the transition to digital government so that government information will be vastly more accessible, as outlined in the *Managing Government Records Directive*. NARA supports agencies in meeting the 2016 and 2019 requirements of the Directive

by working toward streamlined methods of getting automated electronic records management approaches into widespread agency use.

Although the Directive uses the term “records management” and this report inherits that language, NARA recognizes that well-conceived automation can improve the management of all government information for a wide range of information governance purposes. These include information security, privacy, eDiscovery, Freedom of Information Act (FOIA), and proactive disclosure of government information as part of open government and open data programs. While records management is stressed here because of this report’s origin in the Directive, the greatest efficiencies and improvements in effectiveness will be achieved if agencies consider the automation of their information management in a holistic way.

C. PROBLEM AND PROPOSED SOLUTION

The Managing Government Records Directive requires a shift to electronic recordkeeping in the Federal government by the end of 2019. The Directive “requires that to the fullest extent possible, agencies eliminate paper and use electronic recordkeeping.” The processes and tools that agencies currently use to manage electronic records are not adequate to support consistent compliance with the Federal Records Act, as agencies have reported in [Records Management Self Assessments](#).

There is a wide range of sophistication in agencies’ infrastructures, but most agencies are relying on individual staff members to capture and categorize their electronic records, if they are managing electronic records at all. Some agencies have DOD 5015.2-certified records management applications (RMAs) to manage records centrally once captured. However, the availability of RMAs does not necessarily ensure consistency or reduce the burden of recordkeeping on the end user because of the need for individual action to capture records. There are also types of records that are not well managed by RMAs, like database files. NARA also recognizes that the availability of RMAs on the market has not led to universal use of these tools in agencies even for types of records that RMAs can manage; the problem of achieving consistent management of all agency electronic records remains unsolved in spite of this technology.

End users find it burdensome to manage their electronic records if that means touching each file and making a separate recordkeeping decision about each one. Relying on busy end users who are focused on achieving the agency mission leads to inconsistent capture of electronic records. The time required for each human records management action also means that manual processes will not scale up to manage the sheer volume of email, social media, and other electronic records being created. Automated tools for managing electronic records could reduce the recordkeeping burden on end users and lead to more consistent, scalable results, and ultimately more accessible and usable agency information.

The goal of encouraging automation is to reduce the reliance on all individual agency staff members to capture and manage records appropriately. (This document uses “agency staff members” or “end users” to mean all agency or contractor staff members who create Federal records but whose primary job is not records management.)

Effectively using automation to reduce the burden on end users has three positive effects: 1) records are more consistently captured and managed and therefore more accessible for support of the agency mission and for documenting the history of the United States, 2) processes can scale up to handle a higher volume of information, and 3) staff members have more time available for the agency mission. To achieve these positive effects, NARA believes that many agencies will require automation to consistently comply with the Federal Records Act and meet the goals of the Managing Government Records Directive.

Promising tools for automation already exist in the records management field and in other industries. The advanced search space, including machine learning or predictive coding as used in eDiscovery, is one of several promising areas for records management exploration. Applied research projects to develop new tools may still be needed and future steps in this plan, such as agency lessons learned, will uncover unmet requirements.

There are many acceptable ways of managing electronic records. DOD 5015.2-certified RMAs are one tool for managing electronic records, but there are other acceptable strategies. Certain methods for managing electronic records may work better in some environments or with some types of records than with others. For example, agencies may choose different methods to manage social media records than they use to manage static electronic documents like formal reports.

NARA actively supports automation of as many RM tasks as possible, as long as results of automation improve on the status quo. If automation allows an agency to capture and manage more electronic records than its current processes, and transfer more permanently valuable electronic records to NARA than its current processes, NARA will support the use of automation. Naturally, agencies will want to do a risk assessment to ensure that any new automation will not introduce unacceptable risk of destroying records prematurely. Agency management and general counsel should understand the benefits and risks before approving the new strategy.

However, NARA does not require the use of automation to manage electronic records, electronically, as required by the Directive. If agencies can transition to electronic recordkeeping and achieve consistent compliance with the Federal Records Act and 36 CFR Subchapter B without automation, electronic records management processes that require end user action are acceptable.

NARA will not mandate any particular tool for automating records management. However, NARA will work with the community to identify and share information about tools that support good automated records management, and provide practical information about how agencies can achieve compliance. NARA will provide standards that all tools must meet, such as metadata and format requirements for records transferred to the archives. NARA's intent is to maintain compliance as we do this with ISO 15489-1:2001 Information and documentation -- Records management and ISO 23081-2:2009 Information and documentation -- Managing metadata for records. Our work on Managing Government Records Directive Goal A1 (revised format and metadata transfer guidance) will be one phase of this work. NARA also intends to develop a specification for a standard records package for ingest into the archives (the Submission Information Package, or SIP).

D. 2013 ACTIVITIES

In 2013, NARA initiated several activities that collected information for this document and laid the groundwork for future activities outlined in the Automated Electronic Records Management Plan. NARA also completed several other goals in the Managing Government Records Directive that directly support the long term goals of this project, such as the new email guidance, social media guidance, and updated format transfer guidance.

NARA consulted with stakeholders from the Federal Records Council and began recruiting members from this group for a new Electronic Records Management Automation Working Group. The working group was advertised to the larger records management community in the government and by the end of 2013 contained a knowledgeable group of Federal information management and information technology professionals. The working group shared experiences, best practices, and lessons learned through peer discussions and presentations on agency automation projects. The working group also solicited vendor presentations and launched an ongoing series to learn more about tools on the market today. Several presentations were held in the summer and fall of 2013. Any interested Federal staff member could elect to receive invitations to vendor presentations.

NARA, working with members of the Electronic Records Management Automation Working Group and members of the CIO Council, hosted an industry day for automation vendors on September 10, 2013: The Managing Government Records Directive: A Grand Challenge for Industry. On September 13, NARA posted a [request for information \(RFI\)](#) on FedBizOpps outlining what the automated electronic records management project is trying to achieve and a list of questions vendors should answer. NARA had received over 50 responses. All responses are available to any Federal government staff member through the Electronic Records Management Automation Working Group's wiki on OMB MAX. (The wiki is available at <https://max.omb.gov/community/x/5QlfJw>)

NARA used the RFI responses to better understand the current state of the art in electronic records management automation. The approaches to automation described by the vendors informed the current document. Federal agency staff are using the RFI responses to research tools that agencies could use to meet the goals of the Managing Government Records Directive, reduce the burden on end users, and build scalable records management processes to handle 21st century electronic records volume.

The Electronic Records Management Automation Working Group also provided input to this plan by suggesting strategies that agencies would find most helpful in implementing automated solutions within the timeframe of the Managing Government Records Directive.

E. APPROACHES TO AUTOMATION

It is important to emphasize that the approaches to automation outlined below will only succeed in situations where records management principles themselves are well-defined and understood and clear records schedules are in place. Automated tools are not a replacement for sound records management practice; they are a way of implementing a professionally developed records management strategy.

This document defines “approach” as a technical strategy for automating electronic records management, with a particular focus on capture and categorization. Approaches to automation range from no automation at all to highly sophisticated, enterprise-wide autocategorization, using machine learning techniques (for example) that support automated capture of records into management systems. [Note that this document uses the word “capture” to indicate the act of bringing records under records management control, which may or may not involve moving a copy of a record into a separate system. These approaches apply to managing data in place as well as managing a copy in a separate repository, whether in the cloud or on site.]

The goal of this project is to explore ways to increase the quality and consistency of electronic records management by reducing the burden of electronic records management on individual agency staff members and improving the quality of transfers to NARA. The first and greatest burden on end users is appropriate capture and categorization of records. Even with the use of records management applications, which can automate or centralize most records management tasks, the tasks of capture and categorization often remain the responsibility of the end user. Since appropriate management for the rest of the records lifecycle depends on initial capture, inconsistency here puts the effectiveness of the entire electronic records management program at risk.

For this reason, the approaches outlined here focus on automation of capture and initial categorization into retention schedule categories, which are the most burdensome steps and therefore the weakest links in most programs. After appropriate capture (into a records management application or another tool) a records manager or a records management application

can more easily perform the remaining tasks of records management. However, many other steps in the management of records could also be automated with great benefit. For example, if the events that trigger event-based disposition actions create changes in business systems (e.g. a contract is marked closed) automated workflow rules can communicate those changes to a recordkeeping system.

There is an important role for automation in records creation as well. Where there is a well-defined, repeatable business process, encouraging creation of records in structured or semi-structured form as part of business systems. This can make the records far easier to capture and manage appropriately, and automation can play a role in creating template structured records in this way. This reduces the work of record creation for the end user, but also makes the records easier to search and access for researchers in the future.

As noted above, automation of electronic records management is not required if an agency is able to manage its electronic records in electronic form using individual action. For this reason, we are outlining a spectrum of acceptable approaches to managing electronic records that ranges from completely manual processes to high degrees of sophisticated automation. We intend for this to provide practical approaches for agencies of all sizes and budgets.

Factors that agencies should consider when choosing an approach:

- Volume of records
- Tolerance of end users for performing individual records management tasks
- Value of records to business process
- Percentage of records scheduled as permanent
- Litigation risk
- Public interest in records (FOIA, desire for proactive electronic disclosure)
- Types of electronic records that predominate (video, geospatial, social media, text, etc.)
- Agency size
- Agency budget
- Records management and IT resources available (staff time, skill sets, etc.)
- Need to incorporate collections of legacy electronic records into strategy
- Technical infrastructure, including any existing RM related applications or centralized repositories
- Level of management support for comprehensive automation projects

Agencies may also choose different approaches for different types of records or different parts of the organization. For example, agencies may use one approach to automate management of email and another approach for permanent records created within a mission-critical workflow system.

Agencies may also use different approaches as a series of filters. For example, an agency could use business process capture to manage several important record series that have their own

workflow systems, and then apply machine learning to categorize everything else. A combination of approaches like this could lead to excellent compliance, and could provide the opportunity to gain new understanding of the nature of the information accumulating in the agency. For instance, this approach could uncover large numbers of files of a type not covered by the retention schedule that should be scheduled.

NARA also encourages agencies to consider approaches to automation that do not require a dedicated procurement or large budget allocation specifically for electronic records management. Agencies should explore more effective ways to use the business systems they already have to improve electronic records management. For example, one of the advantages of a Capstone email approach is that agencies can often execute the approach using existing tools. Similarly, records management can often be integrated into existing systems through adjustments in workflow rules. Agencies should discuss with vendors the ways their existing tools can be used more extensively.

1. NO AUTOMATION: MANUAL MANAGEMENT OF ELECTRONIC RECORDS

This approach includes any process that requires individual agency staff members to file each of their emails, social media records, or other electronic record content into an electronic recordkeeping system. This approach can include individual capture into a range of technical infrastructures, from the use of shared drives as repositories for electronic records, to collaborative environments such as SharePoint, to DOD 5015.2-certified records management applications. Each of those repositories provides different degrees of automation of records management tasks after capture and categorization, but on their own, none automate capture and categorization.

DOD 5015.2-certified records management applications do provide for automation or centralization of most records management tasks after capture, however. Many agencies make effective use of them to manage their electronic records. However, there are other acceptable ways of managing electronic records. DOD 5015.2-certified repositories are not required, and on their own they do not automate the most burdensome part of records management for end users.

For small agencies, agencies with small IT budgets, and agencies with low risk and a very low record volume, managing electronic records manually may be a viable strategy. It requires active monitoring, comprehensive training, auditing, and user intervention to ensure compliance.

Risks: It is very difficult to get consistent compliance using this approach because of the reliance on end user action. The approach does not scale up to large volumes of records or staff, risking failure to effectively manage both permanent and temporary electronic records.

See NARA Bulletin 2012-02, Guidance on Managing Content on Shared Drives

<http://www.archives.gov/records-mgmt/bulletins/2012/2012-02.html>

2. RULE-BASED AUTOMATION

Effective and consistent electronic records management is achievable for many agencies for at least some of their records using automated business rules that act on metadata, user roles, or another feature of records. Implementing this type of automation requires analyzing records retention schedules to write executable rules that identify records falling under each schedule item or disposition bucket. The records that belong in each category can be identified using a metadata element, role, or a combination of elements. In some cases, existing schedules will not lend themselves to execution using rules and an agency may choose to reschedule the records to create schedules that can be implemented using rules.

For example, an agency may decide to implement the “Capstone” approach to managing email. In this case, the agency could program its email archiving system to execute a rule saying all email messages sent or received by a particular email account during 2012 that are not tagged as “non-record” should be transferred to NARA when the records are 5 years old. This capability in many email platforms and archiving applications makes this a practical approach for email records. NARA’s “Capstone” email guidance is an example of a strategy based on rules and roles.

See NARA Bulletin 2013-02: Guidance on a New Approach to Managing Email Records (aka “Capstone”)

<http://www.archives.gov/records-mgmt/bulletins/2013/2013-02.html>

Similar rules can be written in other systems. For example, a rule could be written to capture all documents saved in a document management system that selected “contract” from a drop down list, or all documents uploaded by a user associated with the department “Facilities.”

There may be cases where straightforward rules are written to categorize records based on keyword or regular expression searches of the content of records rather than metadata. This would also be an example of the rule-based approach.

Similarly, technology that executes rules about which web sites or social media accounts to capture can implement this approach.

See [NARA Bulletin 2014-02: Guidance on managing social media records](#) and NARA White Paper on Best Practices for Social Media Capture

<http://www.archives.gov/records-mgmt/resources/socialmediacapture.pdf>

This strategy requires close analysis of the retention schedules and may require some rescheduling to allow for more automation based on clear rules. However, the results are predictable and consistent and require minimal work on the part of end users.

Risks: Approaches simple enough for easy implementation may lead to over-retention of low value records, leading to higher storage costs and increased litigation risk, or failure to capture permanent records that occur in unexpected places.

3. BUSINESS PROCESS AND WORKFLOW AUTOMATION

Many important agency business processes have information systems or workflow systems designed specifically to support the flow of information through that process. This automated approach relies on integrating workflow steps to capture necessary metadata, to associate resulting records with a retention schedule, and to destroy or transfer the records to the archives at the end of a retention period within that system. For example, an online system supporting citizen applications for permits might route each application from initial request through final approval and notification. In the last step in the process, the system automatically saves a copy of the final approved record in a repository designed to retain this series of records for the mandated retention period.

This approach can lead to consistent capture of major business process records with no additional effort from end users. It is less likely to be an option for unstructured business processes without a defined workflow or IT infrastructure.

This strategy requires integration of basic records management requirements into the system or workflow design, as described in the Federal Enterprise Architecture Records Management Profile. However, modern workflow systems are configurable, so adding additional workflow steps to manage records do not always require redevelopment of the system.

See the Federal Enterprise Architecture Records Management Profile

<http://www.archives.gov/records-mgmt/policy/rm-profile.html>

Risks: While there are challenges in implementing this approach, because of its inherent consistency, the risk of mismanaging records when it is applied well is very low. However, there is a risk that existing systems not originally designed with records management in mind may not create adequate records or metadata for records management purposes. Relying on this approach alone may leave many electronic records unmanaged if the agency cannot integrate appropriate records management capabilities into all agency records-creation workflows, which will usually be the case.

4. MODULAR RE-USABLE RECORDS MANAGEMENT TOOLS

A comprehensive approach that has potential to allow seamless, background integration of records management into most agency business processes is providing modular records management tools, services, or applications that are accessible to and interoperable with many

agency systems. There are a number of possible ways to achieve this. For example, NARA worked with the Object Management Group to develop Records Management Services that could be deployed as part of a service-oriented architecture. Several organizations have developed services on this model, but it is not yet widespread.

See: Records Management Services: Object Management Group

<http://gov.omg.org/gov-doclib.htm#RMS-Adopted>

However, any tool or application that could be deployed across many environments to perform an electronic records management task in an automated way would support this approach. For example, a tool to identify personally identifiable information (PII) in electronic records might be a component part in many agencies' electronic records management infrastructures. In another model, the requirements that have been integrated and sold as single records management applications could be met by interoperable modules. Agencies could select just the modules that they need, potentially lowering agency costs. To make this approach most powerful, the Federal records management community will need a central catalog of modular records management tools and services available for use.

Modular automated records management tools or applications could form the basis for flexible, forward-looking electronic records management architecture and could be developed and deployed across a variety of technical environments and enterprise architectures.

Risks: Relying on a flexible, modular approach runs the risk of leaving some electronic records unmanaged since not all existing systems may interoperate with modular tools and services.

5. AUTOCATEGORIZATION

The most advanced type of automation is autocategorization of records. In this approach, computer analysis of record content links the records to appropriate file categories. In many types of autocategorization with machine learning, an expert trains the system to recognize records that fit in each retention category based on categorization of a training set and iterative reviews of additional machine-coded documents. The expert never strictly defines the characteristics of the category as would be necessary to write an executable rule. The algorithm learns to recognize patterns that are common to records that have already been categorized in a particular series with increasing accuracy as the expert trains it.

Software that uses this approach may also incorporate other forms of automation, such as metadata and rule-based automation, so the tools themselves may not be mutually exclusive even though the approaches are distinct. This approach may be described using alternative or more specific terms, including predictive coding and machine learning. What these methods share is analysis of the content of records by the computer program that learns what to do with records

through training on a sample set until the algorithm approaches the point of making the same decisions a human would.

The autocategorization approach has the potential to categorize records from unstructured business processes, including email, with a high degree of sophistication, something that is difficult to do with other approaches. Whereas Capstone's rule-based approach categorizes email records based on user role and account, machine learning can categorize email messages based on message content. This content analysis could potentially allow effective email retention according to more traditional subject or function-based records schedules instead of Capstone's account-based schedules.

Because autocategorization works with so many unstructured record types, this approach has great potential to address the records in an agency that cannot be managed automatically any other way. However, the technology is relatively new and is still improving, and records managers are still learning best practices for working with it effectively.

Analysis of records retention schedules will be required to ensure that schedule items are clearly defined and mutually exclusive so that system training will work. The approach also requires a significant investment of expert user time in selecting example documents from each retention schedule and training the system to reliably identify new records that belong in that schedule. Agencies should ensure their schedules support their true business need for categorization, which will often mean consolidating granular legacy records schedules into fewer "big bucket" schedules. The potential payoff of machine learning is significant after the systems are trained, but the work by experts required to train the systems is significant.

As more agencies gain experience working with autocategorization tools, the records management community should share best practices and lessons learned about effective and efficient deployment. At this time, NARA does not have enough data to compare the relative costs of these systems against simpler forms of categorization; the required investment may not be within reach for the smallest agencies, although hosted or subscription services may bring them within reach for many.

Risks: Because training autocategorization systems requires a significant investment of time by expert users, lack of availability or commitment by users could affect project success, both at launch and in the ongoing process of fine-tuning. Because autocategorization is not 100% accurate, there is some risk of incorrect disposal or over-retention of temporary records, although this risk may not be higher than with current manual approaches and the accuracy rate can be more transparent and better quantified. Agency stakeholders may not trust automated algorithms, regardless of actual accuracy rates.

F. NEXT STEPS

The Automated Electronic Records Management Plan, Section II of this document, outlines next steps to meet the goals of A3.1. The plan includes a high-level framework to help agencies meet the goals of the Directive and lists ideas or activities that will help NARA, agencies and stakeholders implement Federal electronic records management. The framework areas are **governance**, **procurement**, and **technology** as NARA recognizes that these three areas can be major challenges to developing and implementing automated records management systems.

In addition to the ideas listed in the plan, agencies themselves can begin next steps to implement automated records management technology. Agencies may choose any of the technical approaches to automation outlined in the report as appropriate for their records and environment, and indeed may identify additional approaches over time. As demonstrated by the responses to NARA's request for information from vendors in the automated electronic records management field, agencies can now procure electronic records automation products that are installed on-site, services available in the cloud, and hybrid installations. Agencies that are ready to do so can begin their automation projects now and share their lessons learned with the community.

The plan relies on increasing collaboration among agencies and between the government and the private sector and open source communities. NARA cannot do all these tasks, or in fact fully flesh out this plan, alone. However, working together, the information management community can make the transition to digital government, reduce the burden of records management on the end user, and provide easier access to information for all.

Section II: Automated Electronic Records Management Plan

A. INTRODUCTION TO THE PLAN

The *Managing Government Records Directive* states that by the end of 2019, Federal agencies will manage all permanent electronic records in an electronic format. To help meet this goal, item A3.1 in the Directive encourages NARA, agencies, and stakeholders to make automated records management solutions more accessible and affordable. Automating records management will not only reduce the burden of records management responsibilities on individuals, but will make Federal government records and information easier to access because they are more consistently managed. The Directive promotes greater transparency, efficiency, accountability in Federal government and automating records management helps achieve that vision.

In Section I of the Automated Electronic Records Management Report, NARA identifies suitable approaches for Federal agencies to pursue when automating electronic records management (ERM) and discusses the outcomes, benefits, and risks of these approaches. In this section - Section II - NARA identifies a framework to help agencies meet the goals of the Directive and lists ideas or activities that will help NARA, agencies and stakeholders implement Federal electronic records management.

The purpose of this plan is to:

- support the automated records management approaches identified the A3.1 report;
- identify ideas where agency engagement with NARA and stakeholders will support Federal automated records management;
- provide concrete ideas and activities as rallying points for resources and energy related to automated records management in Federal agencies; and
- serve as a lens to look at project ideas and make decisions about further exploration.

B. FRAMEWORK CONCEPT

The framework of the plan consists of three areas where NARA and agencies should focus resources and energy to reach the goals of the Directive. At a high-level, the three areas are **governance**, **procurement**, and **technology**. NARA has listed ideas or activities as part of the plan under each area of the framework. Some ideas may fit into more than one area of the framework. The framework is meant to be flexible enough to accommodate complex ideas for high-level projects with long timeframes as well as for practical activities with short durations. Many of the ideas are described as NARA-led, however all ideas require some level of engagement with stakeholders and agency partners to be successful. The ideas or activities listed in the plan are either currently underway or will begin in FY15. This document does not include specific project deliverables or dates.

C. A3.1 PLAN WEBSITE

Turning a good idea into a workable initiative and project requires time, dedication, and flexibility. Therefore, this plan is meant to be a living document that will change over time. In order to share information about these ideas as they mature, NARA will create a place on the NARA website to share progress and updates on the A3.1 plan.

This space will provide more information as new ideas are identified, explored and shared and as some ideas develop into concrete projects and programs. Finally, this space will provide an avenue for engagement by agencies and stakeholders.

D. FRAMEWORK AREAS

At a high-level, the three framework areas are **governance, procurement, and technology**. When discussing the challenges agencies face with meeting the Directive goals, these three areas are mentioned repeatedly. This plan uses the framework of management support, adequate budget and effective tools as a way to organize the ideas and activities to be undertaken to improve and automate records management programs.

1. GOVERNANCE

The governance framework area recognizes that there must be high-level support that includes strategic planning, enterprise-wide IT support, and best practices for agencies to be successful in implementing automated records management technologies. Governance includes the collaboration and engagement from agency stakeholder communities - legal, technical, and records management. The following governance projects and activities include guidance, requirements, and research as well as the long-term strategies needed to integrate automated records management technologies into agency business processes. NARA is uniquely positioned to champion for automated records management at a Federal-level to support the individual agency efforts. The items currently included under governance are:

a. Records Management Line of Business Establishment
b. Electronic Records Management Requirements Issuance
c. Metadata Guidance
d. Standards Development
e. Communities of Interest
f. Agency Engagement
g. Senior Agency Official Engagement

A. RM LINE OF BUSINESS ESTABLISHMENT

NARA, with OMB support, will establish a Records Management Line of Business (RM LOB) as an EGov Initiative. The vision of the RM LOB initiative is to provide a government-wide, modern, cost-effective, standardized, and interoperable set of RM solutions providing common, core functionality to support records management operations in Federal agencies. The goals of the RM LOB are to:

- increase operational efficiencies in the acquisition, development, implementation and operation of records and information management solutions;
- increase cost savings and cost avoidance from RM solutions and activities; and
- improve the government-wide management of electronic records.

B. ERM REQUIREMENTS ISSUANCE

NARA will research and establish business requirements for ERM automation services that can be provided through the RM LOB. For example, NARA will 1) reach out to Federal agencies to identify existing business requirements, 2) collaborate with partners to identify minimum requirements for commercial or agency-supplied electronic records management services, and 3) identify market segments for specialized electronic records management services suitable for different agency environments and identify specific requirements for those scenarios.

C. METADATA GUIDANCE

NARA will develop metadata guidance for agencies to use when implementing automated technologies for records management to address the creation, management and eventual transfer of permanent electronic records to NARA. NARA will publish our metadata elements, content standards, and content authority files for electronic records to reduce the amount of processing required by agencies prior to transfer and by NARA prior to making electronic records accessible as part of the National Archives. Previous guidance identified metadata for a few record types including digital photographs, geospatial records, and email records, but this will be the first time that NARA has specified individual elements of metadata for all permanent electronic records at the item level.

D. STANDARDS DEVELOPMENT

In addition to working with ISO Technical Committee 46, as described above, NARA will work with industry and standards groups on current standards and the need for new ones to meet our long term goals, such as increased interoperability among records systems. This may take the form of standards workshops or another kind of activity.

E. COMMUNITIES OF INTEREST

NARA will continue to sponsor the ERM Automation Working Group and the Federal Records Officer Network as a community of interests that discuss ERM automation issues, share best practices and lessons learned, and foster collaboration and engagement to create new thinking and opportunities in agencies for meeting the goals of A3.1.

F. AGENCY ENGAGEMENT

There is an opportunity for NARA, the Department of Justice (DOJ) and CIO Council and other agencies to engage and collaborate on cross-cutting issues related to records management. Many agencies take their cue on records management responsibilities from the guidance offered by DOJ as part of litigation requirements, such as litigation holds, discovery, and document production for information requests. DOJ can directly and indirectly support the adoption of automated technologies for records management in Federal agencies. The CIO Council can support and champion approaches to automated records management across the Federal government.

G. SENIOR AGENCY OFFICIAL ENGAGEMENT

Senior Agency Officials (SAOs) for records management are senior officials at the Assistant Secretary level (or equivalent) who have direct responsibility for ensuring their department or agency efficiently and appropriately plans and develops strategies for implementing all applicable records management statutes, regulations, and policies. SAO engagement with the Records Officers in their agencies, with NARA, and with stakeholders is crucial to ensuring effective records and information management programs and successes that meet needs. NARA will engage with SAOs to determine strategies for and encourage the adoption of automated records management in their department or agency.

2. PROCUREMENT

The second framework area focuses on procurement and acquisition strategies that will make it easier for agencies to obtain automated records management technologies. This framework area recognizes that agency budgets are one of the main obstacles to implementing successful records management programs in a time of shrinking annual budgets. Several of the projects and activities in this area relate to contracts management. The items listed under procurement are:

a. Budget Planning
b. Shared Services Exploration
c. Centralized Contract Vehicle Creation
d. Electronic Records Management Contract Language Development
e. Market Research Continuation

A. BUDGET PLANNING

Senior agency management will develop agency-specific strategies to include the deployment of automated technologies in agency planning cycles and processes, including budget cycles. NARA may potentially consider helping agency SAOs or records managers to justify the costs of an e-RM approach within their agencies by providing bench-marking for the quantifiable benefits of improved records management or providing guidance on preparing cost-benefits analyses. These strategies may be developed or championed by the Senior Agency Officials responsible for records management. The projects that result from the secured funding may be based on the approaches described in the A3.1 report and may leverage existing agency technology to meet a specific electronic records format, such as email or social media, or to meet a specific use case for records management, such as implementing deletion.

B. SHARED SERVICES EXPLORATION

NARA will host meetings for agencies and stakeholders to foster partnerships for leveraging existing resources for records management services. The goal for these engagements is to look for new ideas and opportunities for agencies to find ways to share records management services and find more efficient and cost effective automated records solutions. NARA will look to sponsor pilots for shared services between agencies. When mature, these shared services could be offered through the RM LOB.

C. CENTRALIZED CONTRACT VEHICLE CREATION

NARA will reach out to stakeholders to explore ways to establish centralized contract vehicles for automated RM technologies or services. This may be accomplished by partnering with another agency to use an existing vehicle (for example, Mega-4 in Department of Justice) or by leveraging a best practice as a model. This idea presents an opportunity to engage with OMB, GSA, and Federal acquisition communities. This idea may be useful for medium to small agencies with fewer contracting resources. This idea may be useful for agencies who want to select a vendor that specializes in their particular situation (perhaps minimally compliant electronic records management in one case, and machine learning for autocategorization of electronic records in another case). When mature, these centralized vehicles could be offered through the RM LOB.

D. ERM CONTRACT LANGUAGE DEVELOPMENT

NARA will work with agencies, legal and acquisitions experts to develop and issue standard language for ERM requirements that can be used in any contracts for IT systems. The requirements would focus on the recordkeeping functionality that must be

built-in to systems, such as creating data sets for transfer to NARA, or implementing deletion according to schedule instructions.

E. MARKET RESEARCH CONTINUATION

NARA will refresh its market research by periodically (such as every other year) issuing additional Requests for Information (RFI) to ensure Federal agencies understand the changing state of ERM automated technology and the range of emerging solutions.

3. TECHNOLOGY

The third framework area focuses on the technology itself and the products, tools, applications, and solutions that allow agencies to transform to digital government. NARA recognizes that agencies often ask us “how” to implement new or better automated records management technology. This area explores ways to answer that question. The items listed under technology are:

a. Identify open source records management tools
b. Encourage external involvement to develop open source records management tools
c. Digital processing environment prototypes and technical specification
d. Capstone email pilots

A. IDENTIFY OPEN SOURCE RECORDS MANAGEMENT TOOLS

NARA will compile a list of available open source tools that could be used for various records management functions and maintain the information online as a resource for the Federal records management community. NARA will identify gaps in open source records management tools and identify opportunities for external involvement to develop new RM solutions.

B. ENCOURAGE EXTERNAL INVOLVEMENT TO DEVELOP OPEN SOURCE RECORDS MANAGEMENT TOOLS

NARA will work with stakeholders to develop open source records management components, applications, or tools for specific business needs. Possible activities are 1) engage with external groups to work with open source and research communities on NARA’s behalf for developing practical, affordable electronic records management tools, 2) sponsor a test bed/evaluate open source tools, 3) host an event in NARA’s Innovation Hub to share information, best practices, with open source practitioners working in areas related to records management.

C. DIGITAL PROCESSING ENVIRONMENT PROTOTYPES AND TECHNICAL SPECIFICATION.

NARA is undertaking several activities related to the Digital Processing Environment (DPE), which will enable NARA to better process electronic records when they are transferred to the National Archives. NARA will share the lessons learned in processing permanent electronic records during transfer to help agencies improve ways of creating and maintaining permanent electronic records.

1. NARA will complete a prototype of a new DPE to provide a more scalable and flexible environment for ingest and processing of electronic records. The DPE will be designed to support a modular tool set for processing records for accessioning, preservation, and access.
2. NARA will identify agencies to participate in an evaluation of the DPE prototype and the tools that will be required to process and accession agencies' electronic records. NARA will also evaluate the performance of the DPE prototype and complete requirements to support the development of a production version of DPE.
3. NARA will develop a technical specification for a standard records package for ingest into the archives (the Submission Information Package, or SIP). This package would provide a standard way for ERM solutions to export electronic records for ingest into NARA's DPE and Electronic Records Archives (ERA).
4. NARA will investigate the role that Records Management Services, component-based approaches, and tools or apps can play in the DPE. NARA will publish a list of tools that agencies can use to prepare permanent electronic records for processing within NARA's DPE.

D. CAPSTONE EMAIL PILOTS

NARA will work with agencies to pilot the transfer of collections of Capstone emails. This will give NARA and agencies the opportunity to identify the tools, techniques, standards, and approaches needed to successfully identify, capture, cull, transfer, and make email available at the National Archives.

E. E-RECORDS TESTING ENVIRONMENTS

NARA will develop an e-records testing environment to evaluate how well records management approaches and specific tools will work with NARA's archival processing and access systems and procedures. "Approaches" refers to the various approaches

identified in Section I of this document, the A3.1 report. The specific tools refers to the tools that will be identified from activities listed in the plan, such as open source tools identification, shared services exploration, or continued market research.

E. CONCLUSION

A3.1 is a high-profile, integral part of the Directive, but it is only one part of the Directive. Other Directive goals highlight the importance of improving scheduling approaches and training of all Federal employees to better capture, maintain, and manage Federal records. NARA, agencies and stakeholders will continue the push to reform records management practices in agencies. These reforms will enable agencies to provide an open, transparent, and accountable government.

A3.1 and all the other goals in the Directive support the long term vision of bringing the Managing Government Records Directive, the Open Data Policy and Plan, and the Strategic Plan of the National Archives and Records Administration together to improve openness and transparency in the government. This goal also highlights the value of approaching the automation of electronic records management from a broader information governance perspective, so the needs of business analysis, eDiscovery, FOIA, security, privacy and other information management disciplines can be addressed at the same time.

In conclusion, this is a living document that the community will continue to revise as we learn more, automate more, and build toward a future of easier and more consistent electronic information management. NARA will continue to work with its stakeholders to identify milestones and tasks that will move Federal records management toward digital government, including increased automation, reduced burden on end users, and more consistent and affordable compliance with recordkeeping requirements.