State Electronic Records Initiative - Phase I

Report from the Council of State Archivists'
State Electronic Records Initiative (SERI) Committee

FINAL REVIEW DRAFT

June 2012

Additional information about the SERI Project is available on the CoSA website: www.statearchivists.org/seri

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Preface

Access to government records is a fundamental tenet of democracy, promoting government integrity and accountability. State government records are essential documentation of day-to-day circumstances, transactions, and concerns of individuals and communities; they provide rich, authentic content about our nation, from which citizens can learn about their past and prepare for their future. Today, governments run on information technology. For the fifty-six state and territorial archives—whose mission is to identify, acquire, manage, preserve, and provide access to public records of enduring value—the challenge is how best to apply these functions to the management of the electronic records created during the last forty years and how to prepare to manage the digital records of the future.

State governments have been creating electronic records since the 1960s, and individual state archives began dipping their toes in the digital waters in the late 1970s, primarily through small federal grant projects. By the early 1990s several states had appointed electronic records archivists; others were testing approaches for acquiring and preserving digital content such as online publications and Web sites; and others were formulating best practices and tools and building pieces of the required infrastructure. Some state archives partnered with academic institutions to preserve digital content, and others worked closely with their state's records management agency. Most worked in relative isolation, with inadequate budgets for hardware and staff training; none comprehensively addressed the ever-expanding challenges.

A 2007 CoSA report that examined the status of state archives and records management programs nationwide noted that "electronic records—now created in abundance by every state government office— present enormous but as of yet unresolved problems related to long-term preservation and access." It warned of a "digital mortgage" because archives lacked adequate infrastructure and resources to manage born-digital records and newly-created digital files. According to the Blue Ribbon Panel that reviewed the report, many archives experienced "a gap between the authority to act and the ability to act effectively. While most state archives and records management programs [had] sufficient authority in law or regulation to establish policies and procedures for current records and to ensure that those of long-term significance are preserved, most [did] not have commensurate resources, enforcement mechanisms, or mandates to assert their authority effectively."[1]

For more than three decades, the National Historical Publications and Records Commission (NHPRC) has been a primary source of funding for projects focused on electronic records.[2] The Commission and its staff recognized early on the challenges inherent in managing and

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[1] *The State of State Records: A Status Report on State Archives and Records Management Programs in the United States*, January 2007, p. 7; *Report of the Blue Ribbon Panel, a supplement to The State of State Records*, January 2007, p. 5. Available at: http://www,statearchivists.org/reports/2007/ARMreport/State ARMS-2006rpt-final.pdf

[2] Appendix 4 of this report contains a list of all NHPRC electronic records grants, 1980-2012.

preserving electronic records and the need to develop effective policies, procedures, and tools. The first NHPRC electronic records grant went to the State of Wisconsin in 1980 "to develop procedures to schedule, accession, and retrieve information from machine-readable records of Wisconsin state agencies." Since then, NHPRC has funded at least 94 electronic records projects overall, supporting a wide range of research and development initiatives (e.g., InterPARES, testing of FEDORA and XML applications, email management, DCAPE) along with many institution-specific projects. At least 39 grants have had electronic records in state governments as a primary focus. Most of the states that now have the strongest electronic records programs benefitted from one or more NHPRC grants in the last 22 years.

During the last decade, the Library of Congress' National Digital Information Infrastructure and Preservation Program (NDIIPP) has had a significant impact on electronic records in state government. NDIIPP sponsored four major projects that ran from 2008 to 2011 and involved a total of thirty-five states as partners. The projects investigated shared long-term storage options, automated digital preservation workflows, management of geospatial data, and enhanced access to legislative records. These projects reaped new technical and archival strategies and knowledge and fostered supportive interstate collaborations linking archives from coast to coast. Cal Lee (University of North Carolina at Chapel Hill) conducted an in-depth assessment of the four NDIIPP projects, noting that "the past two decades of work on electronic records management and digital preservation have revealed that the most successful initiatives are those that actively seek connections and collaborations with allied experts and professionals."[3]

Until the Library of Congress began NDIIPP, NHPRC was the only program that supported projects with a focus on records management. Now that the NDIIPP state projects have ended, NHPRC is once again the primary source for federal grants to support electronic records projects that address the entire lifecycle of records.

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[3] Appendix 5 of this report contains a brief description of the four NDIIPP projects along with a list of the partner states. A comprehensive analysis of the NDIIPP projects and their impact is provided in Christopher A. Lee, *States of Sustainability: A Review of State Projects funded by the National Digital Information Infrastructure and Preservation Program (NDIIPP)*, March 2012, p. 14. http://www.digitalpreservation.gov/multimedia/documents/ndiipp-states-report032612_final.pdf

I. State Electronic Records Initiative (SERI): Phase One

The Council of State Archivists (CoSA), launched its State Electronic Records Initiative (SERI) in July 2011 to improve the management and preservation of and access to electronic government records in all states and territories. SERI is the first comprehensive national effort to improve digital records preservation in state government. Initial funding for SERI came through Library Services and Technology Act (LSTA) grants from Indiana and Kentucky.

During Phase One of the initiative, the SERI Steering Committee set out to document the current status of electronic records programs in the nation's state and territorial governments and identify strategies that would significantly improve programs to manage and preserve electronic records nationwide. This process included:

- Completion of a written survey by 50 states and 4 territories;

- Telephone interviews with representatives from 48 states and 3 territories;

- Analysis of the SERI survey and interview results by Phillip Bantin, Indiana University, consultant to the SERI Steering Committee;

- Analysis of surveys and interviews from 48 states and territories conducted by Charles Dollar and Lori Ashley using their Digital Preservation Capability Maturity Model (DPCMM);[4]

- Identification of data from earlier CoSA surveys of state archives and records management programs to gain a better understanding of how their electronic records programs have developed and the financial and staffing resources available;

- Consideration of the data and analyses by the SERI Steering Committee and SERI Advisors resulting in four priorities or "planks" for the State Electronic Records Initiative as it moves forward.

From July through September 2011, all fifty state archives plus four territories responded to an online survey about their electronic records programs and nearly all participated in in-depth telephone interviews led by SERI Consultant Phillip Bantin (Indiana University). Section XX of this report presents the results of this data gathering effort including Bantin's analysis and the SERI Committee's plans for moving forward.

The survey and interviews collected information about overall program development and implementation, funding, staffing, policies and procedures, technical infrastructure, records holdings, programmatic needs, and areas of possible collaboration. The initial findings confirmed the anecdotal inadequacy of electronic records programs in the states:

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[4] Dollar and Ashley conducted their analysis using the survey and interview results received by mid-September 2012. The full SERI Phase One report, including the Bantin analysis, includes data from six additional states and territories that participated in late September.

- 35 states—more than 60%—reported they do not have an electronic records program;

- 34% do not accession electronic records;

- Few state archives have the resources and support necessary to integrate special project results into long-term electronic records management strategies;

- Few state archives have a working relationship with their state IT departments, and most are not integrated into the decision making processes about the selection and modification of IT systems.

Only five state archives have a planned system for developing electronic records management and preservation; fifteen-twenty others are using or testing parts of a system but lack an overall plan; and the remaining twenty-five to thirty state archives have neither a plan nor possible pieces in place. Bantin's report to CoSA concludes that it was "likely [that] no state has a system which would pass the test audit for the ISO standards for a Trusted Digital Repository."

The state profiles compiled during this process provide baseline data upon which CoSA can develop comprehensive action plans, both in states individually and nationally in collaborative efforts. In fall 2011 the SERI Steering Committee, with the input of a group of advisors (see table at right), identified four areas in which action was imperative in order to ensure the long-term preservation of state electronic records.

- Advocacy and awareness

- Education and training

- Standards and tools

- Governance

As the State Electronic Records Initiative proceeds, the Committee is focusing its activities around these four priorities. An outline of the Committee's plans and specific activities is provided in Section IV.

SERI Steering Committee members

Jim Corridan (IN), chair
Rod House (ID)
Ann Jenks (ND)
Dave Joens (IL)
Sarah Koonts (NC)
Pat Michaelis (KS)
Beth Shields (KY)
Barbara Teague (KY)
Matt Veatch (KS)
Julia Marks Young (MS)
Staff: Vicki Walch, Jenifer Burlis-Freilich, Becky Julson

SERI Advisors

Tim Baker (MD)
Jerry Handfield (WA)
Mary Beth Herkert (OR)
Cal Lee (University of North Carolina at Chapel Hill)
Meg Phillips (National Archives and Records Administration)
David Pilcher (MS)
Doug Robinson / Charles Robb (NASCIO)
Patricia Smith-Mansfield (UT)
Mike Wash (National Archives and Records Administration)
Bonnie Weddle (NY)

Note: *When the SERI Committee and Advisors met in October 2011, Robert Horton (then State Archivist of Minnesota) also attended the meeting as an advisor. David Carmicheal (then State Archivist of Georgia) was also an advisor at the time, but was unable to attend. Both have since left their state archives positions.*

II. Status of Electronic Records Programs in the States and Territories – Fall 2011

The SERI Committee engaged Phillip C. Bantin, Indiana University, as a consultant during the initial data-gathering process. He assisted with development of the survey instrument, conducted all of the telephone interviews, and submitted a report containing his analysis and recommendations to the SERI Committee in December 2011. The following section draws heavily from Bantin's report with additional analysis from the SERI committee and staff along with data collected during biennial CoSA surveys of state archives and records management programs, 2004-2010.

Purpose

The primary goal of Phase I of the State Electronic Records Initiative (SERI) is to assess the status of electronic records programs in the states and territories. This profile, or snapshot in time, will provide the necessary data from which to develop an action plan that addresses needs and identifies next steps.

Methodology

CoSA launched SERI in late July 2011 by asking each state and territorial archives to respond to a written survey. Most responded by the end of August. The survey's thirteen questions were designed to obtain a general profile of the electronic record program within the state. Topics included legislation, polices and guidelines created for electronic records; staffing devoted to the management of electronic records; partnerships with IT and records managers; and volume and types of electronic records accessioned. (Appendix XX contains a copy of the written survey form.)

As is typical of CoSA's surveys, the response rate to the written survey was excellent. We received responses from all fifty state archives and four territorial archives.

After we received the written surveys and were able to review the responses, we proceeded to the next step, a phone interview with archives staff. Our objective in these interviews was to elicit more detailed information on the development and nature of the electronic records program. More specifically, we asked questions about the evolution of the program, partnerships within government and with other states, needs and priorities, the architecture and functionality of their electronic records system, and how CoSA might help them in strengthening their electronic records program. These interviews started in the second week of August 2011, and were completed by the end of September.

There were seventeen total questions, but the actual number asked to each state archives depended on the category into which the archivist placed the electronic records program in the

written survey. If the response was that the archives had a program that addressed electronic records management throughout some or all of the lifecycle, they were asked all seventeen questions grouped into three categories: creation of the program and partnerships established; program strategies, priorities and needs; and description of the functionality of their electronic records system. If the archives described its status as having started a program but not undertaking any activities to implement it, they were asked thirteen questions in the same categories described above, but with fewer questions about the nature of the electronic records system. Finally if the archives stated that they had not begun tackling electronic records, they were asked six questions, which were all focused on describing activities undertaken, partnerships established, and needs and priorities. (Appendix XX contains a copy of the interview questions.)

Again, the response rate to the phone interviews was excellent. We interviewed staff in forty-eight state archives and in three territories. Moreover, not only the state archivist but most if not all of the staff members involved with electronic records participated in these interviews. This usually included staff from records management in those states in which it is assigned to an agency different from the state archives. Some of the interviews even included information technology (IT) staff who worked in other departments. The interviews lasted for thirty to sixty minutes with the average time being approximately forty-five minutes.

SERI Survey and Interview Results

A. History and Current Status of Electronic Records Programs

1. Which best describes the current status of your electronic records management program?

Category	Number of state and territorial archives responding to written survey	Percentage
A: Have an electronic records program that addresses all stages of the lifecycle	5	9%
B: Have an electronic records program, but it does not address all stages of the lifecycle	17	32%
C: Have started an electronic records program, but little or nothing has been implemented	19	35%
D: Have not yet begun tackling electronic records	13 (9 state archives and 4 territorial archives)	24%

Less than half of the state archives reported that they have an electronic records program, and only five of those indicate that their programs address all stages of the lifecycle. More than one-third of the state archives said they have started an electronic records program but little or nothing had been implemented. One-quarter of the state archives and all four territorial archives participating in the survey indicated that they had done nothing to manage and preserve electronic records.

Because these responses comprised self-assessments, it is likely that the states categorized their programs inconsistently. Information gathered during the follow-up interviews, for instance, indicated that none of the programs truly address all stages of the electronic records management lifecycle. In addition, a number of the archives that identified themselves in Category C should more accurately be placed in Category D. Bantin concluded that institutions tended towards more optimistic assessments of their programs than was warranted and that real conditions may be even worse than depicted in this self-assessment.

CoSA attempted to introduce some more objective measures into the analysis by asking Charles Dollar and Lori Ashley to evaluate the survey and interview data using criteria outlined in their Digital Preservation Capability Maturity Model. The results of their analysis are presented in Section III of this report.

2. What were the first, important steps in getting the program started?

Obviously, each electronic records program has its own unique history. There is no one pattern of development or a road to success that can be replicated everywhere. However, Bantin observed two recurring trends. Most, if not all, of the more successful programs benefit immensely from the support of a high-level administrator or a state chief information officer (CIO). This demonstrates the value of partnerships and of the need for archivists to cultivate these working relationships. Another trend that applies across the board is that the development of electronic records programs has been a very slow, incremental process. Most of the successful programs date their beginning efforts back to the 1990s and have added functionality to their electronic records systems bit-by-bit over a couple decades. This demonstrates that the path to success is not an all or nothing approach but rather a series of small victories that linked together create a viable program.

3. Have you created position descriptions for your electronic records management staff?

Have position descriptions	Number of Archives
Yes	15 state archives
No	32 archives (28 states and 4 territories)
Position description in draft form	2 state archives
No response	5

Many states cannot move forward with the development of an electronic records program because they do not have the trained staff to make the business case or to lead the effort to implement solutions.

During the SERI interviews, many of the states reported that they had lost staff. While the SERI survey and interview process did not collect data on specific staffing levels in each state, responses to the CoSA surveys for FY2006 and FY2010 show the devastating impact of the deep budget and staffing cuts in nearly every state government in the last several years.

In fact the state archives and records management programs collectively lost nearly 20% of their work force between 2006 and 2010. During this same time, the collective holdings of paper records increased from about 2.4 million to 3.4 million linear feet as many states downsized and closed agencies. State archives and records management programs basically held steady in the staff resources devoted to electronic records during this time, but they could not add the staff and expertise needed to manage rapidly evolving electronic records issues effectively.

Staffing as reported in CoSA surveys of archives and records management programs for FY2006 and FY2010

	CoSA Surveys of State Archives & Records Management Programs	
	FY2006	FY2010
Total archives & records management FTEs in all states and territories	1,725 FTEs	1,418 FTEs
Total FTEs in all state archives devoted to electronic records	85 FTEs (4.9% of total)	88.5 FTEs (6.2%)
Have staff devoted to electronic records	31 states	35 states
No staffing for electronic records	16 states	15 states, 1 territory

Number not reporting	3 states, DC, 5 territories	4 territories

B. Basic Documentation Created and Used

1. Is legislation for your state sufficiently broad to cover the capture and long-term management of electronic records?

There are basically two ways that state laws define electronic records and incorporate these definitions into the records management framework. Archivists in twenty states reported that their state does not specifically define electronic records, but rather includes digital content into the broad definition of records as objects regardless of physical form or format or characteristics or means of transmission created and used in connection with the transaction of official business. Archivists in twenty-two states indicated that their laws include a similarly broad definition of records, but that their laws also specifically define electronic records as records created, generated, sent, communicated, received, or stored by electronic means. Only seven of the fifty state archives responded that their state laws regarding electronic records were inadequate or not broad enough. From the survey responses, it is quite clear that state archivists do not view the laws on electronic records as the problem holding back the development of electronic records programs. However, a few archivists did note that records laws in their state, while adequate, could be enhanced by adding more detail, being updated, or by strengthening compliance requirements.

2. Has your state or territory created electronic records management policy documents?

Most of the state archives have created policies related to the management of digital content. Only seven of the fifty state archives responding to the survey indicated that they had no policies or guidelines in place. The policies and guidelines cluster around the management of three types of electronic objects: born digital electronic records, email, and scanned images. [5]

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[5] The CoSA Resource Center provides links to many policy documents regarding electronic records management and preservation that have been developed by state archives and records management programs or other entities. **Electronic records**: http://rc.statearchivists.org/Resource-Center/Topics/Specific-types-of-records/Electronic-records-born-digital.aspx. Email: http://rc.statearchivists.org/Resource-Center/Topics/Specific-types-of-records/Email.aspx.

3. Are you using, or planning to use, a model set of functional requirements for an electronic records management system? If so, which functional requirements are you using?

Name of Requirement	Number of State Archives Using It
No or Unsure or Not at this time or Not clear what you mean or We have not reached that point yet	29 archives (26 states and 3 territories)
Open Archival Information System (OAIS)	15 state archives
Department of Defense (DoD) 5015.2 Standard	6 state archives
Model Requirements for the Management of Electronic Records (MoReq)	4 state archives
Trustworthy Repositories Audit and Certification (TRAC)	3 state archives
Model guidelines for electronic records developed by state	2 state archives
Washington State Requirements Model	1 state archives
Requirements established by the IT department within that state	1 state archives
In process of selection based on consultant's recommendations	1 state archives

We asked about functional requirements to determine if state archives were thinking about this issue, and if so, were these selections concentrated around a few sets of requirements. The high number of "no, not at this time and not clear what you mean" responses would indicate that quite a number of state archives are not investigating or thinking about recordkeeping requirements. It seems that archives staff members believe that they do not need to begin investigation of requirements and specifications until a decision about selecting a system is ready to be undertaken. This is a bit like IT saying that we do not need to discuss recordkeeping and particularly archival requirements until later in the process when the system has been in operation for a number of years. Functional requirements need to be prepared in advance of any serious discussions with IT so that when the dialog begins, the staff can immediately articulate the primary requirements they are seeking. Establishing these requirements is also part of the process of educating the staff about the nature of electronic recordkeeping systems.

In regard to choices made, the OAIS model has clearly made an impact, and this is a positive development. It is also encouraging to see the mention of several other widely accepted functional requirements statements, such as DoD 5015.2, MoReqs, and TRAC. However, these positive developments are ultimately overshadowed by the fact that so many state archives are not yet engaged in the review and discussion of recordkeeping requirements.

4. **Are you using, or planning to use, a particular metadata model for your electronic records system or digital archives? If so, which metadata model are you using?**

Name of Metadata Model	Number of State Archives Using It
N/A, None, ?, Not there yet, or Don't know	17 archives (13 states and 4 territories)
Dublin Core and enhanced Dublin Core	10 state archives
Persistent Digital Archives and Library System (PeDALS) Metadata Schema	4 state archives
Preservation Metadata: Implementation Strategies (PREMIS) Metadata Schema	3 state archives
Metadata Encoding and Transmission Standard (METS)	3 state archives
"Homegrown," Internal Model	3 state archives
Minnesota State Recordkeeping Metadata Model	2 state archives
MARC 21 Metadata Schema	1 state archives
Encoded Archival Description (EAD) Metadata Schema	1 state archives
AGLS Metadata Standard	1 state archives
Department of Defense 5015.2 Metadata Schema	1 state archives
Washington State Metadata Model	1 state archives
State Created Recordkeeping Metadata Model	1 state archives

Again, with this question we were trying to understand if state archives were investigating this issue, and, if so, what were their choices. The concern about the high number of states and territories that are not yet engaged in developing metadata specifications is similar to that for functional requirements for the previous question. Metadata specifications expressed at a higher level are a fundamental document that should be created well before serious discussions about a system are undertaken. Selecting these metadata elements is an essential part of the general education of the staff.

The high use of Dublin Core is not surprising. It reflects in large part the high profile of this model and the fact that for some states the only, or primary, management tool is a commercial package such as ContentDM or a system designed primarily for publications and photos. A relatively low number of state archives are now using or reviewing sets of metadata specifically developed for recordkeeping.

C. Nature of Electronic Records Holdings

1. Has your state archives accessioned electronic records?

Yes/No	Number of archives
Yes	38 archives (37 states, 1 territory)
Not yet, but coming soon	4 state archives
No	12 archives (9 states, 3 territories)

The number of state and territorial archives that have electronic records in their custody is approaching 80% (up from about 50% in 2006), but full archival control of these records is far from the norm across repositories. State archives have received these records in a wide variety of formats and media and sometimes with insufficient documentation to readily prepare them for user access and long-term preservation.

2. What is the total volume of electronic records expressed in terabytes or gigabytes and/or files that you have accessioned?

Number of state and territorial archives reporting holdings of electronic records	38 archives
Total volume	255.45 TB
Highest volume from any archives	75 TB
Lowest volume from any archives	1 GB
Average volume	Approximately 9 TB
Median volume	1.5 TB

Although 37 states and one territory reported holding electronic records, only 28 were able to provide specific volume numbers for these holdings. The quantities varied widely, with just five holding between 20 and 77 TB and nine reporting less than 1 TB. For this reason the average volume is not a particularly useful or accurate figure. A much more accurate approximation of the typical volume within state archives actually holding these records is the 1.3 TB median figure.

The total of 255.45 TB in holdings is not an accurate total volume of electronic records held by all state and territorial archives because it does not include specific volumes for the nine states that were unable to calculate totals for this survey. If we add in volumes reported in 2010 for the biennial CoSA survey of state archives and records management program, the volume of electronic records in 2011 is about 273 TB, plus an unknown quantity for four other states

While it is difficult to compare these statistics with the data derived in earlier CoSA surveys because of variations in the way statistics were reported, it is clear that the volume of electronic records held by state and territorial archives is growing rapidly. In FY2006, states reported a collective total 73 TB of electronic records. We now believe there are at least 273 TB which represents nearly a 400% increase in just five years.

It is also clear that this total represents only a fraction of the total volume of electronic records with long-term value held in state and territorial governments agencies and offices that will or should come to the archives.

3. Of the total volume held, what percentage are scanned, reformatted objects and what percentage are born digital records?

Born Digital or Scanned?	Number of Archives
Majority are Born Digital	16 state archives
Majority are Reformatted/Scanned Records	11 state archives
App. a 50%/50% Split	2 state archives

State and territorial archives hold two distinct bodies of electronic records. Those that were "born digital" typically come directly from a state agency or official's office. Others were originally created in paper form but have subsequently been reformatted usually by scanning documents and storing them as digital images. Often the reformatted files are created using records already held by the archives to enhance access and reduce wear-and-tear on the more fragile paper copies.

While both types have largely the same technical and storage requirements for long-term preservation and access, "born digital" records often are more difficult to manage and more vulnerable to loss. They can be much more complicated to identify, accession, and prepare for use, especially if the archives and records management staff has not been involved in the development of the system that produced them.

4. What format types have you accessioned?

Type of Electronic Record	Number of Archives
Text	35 state archives
Photos	30 state archives
Video	26 state archives
Audio	25 state archives
Databases	18 state archives
Maps	17 state archives

State archives that are accessioning electronic records are taking in a wide variety of types of records. It is not surprising to find text and photos at the top of the list, but perhaps it is unexpected that many archives are accessioning databases which can be especially challenging for long-term preservation.

D. Partnerships

1. Please describe your working relationship with Information Technology (IT) in the management of electronic records.

There appear to be three major trends:

a. In quite a number of state archives, working relationships with IT are non-existent, strained, or very intermittent.

b. In many of those instances where the working relationship with IT is good to very good, the archives is not yet integrated in any formal way into the decision making processes related to the selection and modification of systems, the development of system functionality, or the overall management of information and records systems within the state.

c. All the successful electronic records programs have managed at some point to obtain a "seat at the table" to speak for the inclusion of records management functionality. What these successful programs have done is to make the jump from being viewed as passive recipients of older data to active partners in the creation of an electronic records management strategy.

Here are some of the ways that state archives are working with IT and other information professionals:

- Participation on a state board to review IT projects costing over a certain dollar amount
- Membership on a state committee to review and recommend metadata standards for state systems
- Participation in an electronic records working group with IT
- Working with a state committee to implement a new enterprise email system or to develop a strategy for preserving emails
- Participation in an e-recording council dealing with electronic recording of land records
- Membership on a best practices subcommittee that focuses on electronic records

2. Are you involved in any cooperative electronic records strategies with other state archives or other institutions?

Name of Joint Project	Number of State Archives Participating
Not involved in any joint projects with other states	10 state archives
Washington State Archives Multi-State Consortium Project, NDIIPP funded	8 state archives plus states that are participating as observers
A Model Technological and Social Architecture for the Preservation of State Government Digital Information Project, NDIIPP funded	7 state archives plus states that are participating as observers
Geospatial Multistate Archive and Preservation Project (GeoMAPP), NDIIPP funded	7 state archives plus states that are participating as observers
PeDALS Project, NDIIPP funded	6 state archives plus states that are participating as observers
Distributed Custodial Archival Preservation Environments (DCAPE) Project	6 state archives
Preservation of Electronic Mail Collaboration Initiative	4 state archives

Without question, many state archives are involved in joint projects with other states. The 2007 "Report of the Blue Ribbon Panel" in response to "The State of State Records" report notes that "state archivists recognize the advantage of working together on common problems and continuing to draw on and learn from each other across state lines." The trend continues, and

some states are clearly benefitting from these partnerships. As one state archives staff member said: "If PeDALS had not come along and we were not able to jump on board, we would be far behind where we are right now." Bantin said that he was impressed during his interviews by the impact the PeDALS project has had on some states' overall electronic records management strategy. He also noted the significant number of archives who are aware of the Washington State repository and was also struck by the potential value for state archives of the DCAPE project.

So there are many positives. However there are some negatives as well. A number of states reported that they were not able to fully and actively participate because of budget and staff limitations. Others reported that the project produced very few results because the archives could not get the support of partners within government, particularly IT. Still others stated that the projects did not produce the results they desired because the project strategy was not a good fit for their state; this is a reminder that "one size does not fit all." Finally, the biggest issue is that even when these partnerships are working, a number of states simply lacked the resources and internal support to integrate the results into a larger electronic records management strategy.

E. Priority Needs

1. What are your greatest needs in priority order for moving the program forward?

Of course, increased funding was at the top of everyone's list. However, when asked how they would spend and use any increased funding, they most often pointed to more staff with training and experience in electronic records management. Ultimately most of these archives want to establish a position dedicated solely to the management of electronic records. In the 2007 "The State of State Records" report, it was noted that "archivists and records managers are not receiving sufficient training to deal with digital materials. At the same time, information technology employees are not getting enough training on archival requirements for the records they create and manage in digital form." This is still true today, but because of reductions in staff occurring in the last five to ten years, the situation is even worse today than in 2007. In the foreseeable future, it is hard to imagine many state archives being able to hire new trained staff to deal with electronic records. Likely the more realistic strategy will be to train existing staff to be better managers of electronic records.

The second most expressed need was for infrastructure, especially additional storage space. This was true for both small and large electronic records programs. Many of the less successful programs are not well supported by IT, but they are also dependent on IT to provide additional storage capacity. It is difficult for these archives to make the business case for additional hardware resources. As one archivist stated: "it's been difficult making IT understand why the Archives is different and why they need so much space." For more successful electronic management programs, the problem has been to identify additional space to meet the demands of a program which is or might be on the rise now or in the near future. In other words, for some programs, new and more ambitious plans to add functionality to an existing system are moving

forward without the assurances that the storage space will be available to meet the anticipated increase in volume and use.

Other less frequently stated needs included:

- Greater IT support and cooperation
- More executive level buy-in and support
- Authority and a stronger mandate to manage electronic records
- Creation of better institutional workflows and policies for managing electronic records
- Better compliance with records management laws and policies
- Basic models and templates for developing electronic records management systems

F. Current Strategies for Managing Electronic Records

1. Please describe the basic architecture of your repository or records management system?

Method	Prevalence
Store electronic records on servers with little or no records management functionality	By far the most common strategy at the present time in most state archives
Using PeDALS strategy for ingest and access	A couple of state archives
Using LOCKSS for long term preservation	A couple of state archives
Using ContentDM for reformatted material	Several state archives
Using Archive-It for websites	Many state archives
Using D-Space/Fedora as a repository	A couple of state archives
Using TRIM as the enterprise content management system or as an internal manager for managing the record center and archives holdings	Several state archives
Using a custom built system with some open source software	Several state archives

There are a variety of strategies here, and a few look very promising. However, it must be acknowledged that the most common strategy is to store electronic records on a server managed by IT staff in the unit or within the central IT. Sometimes these systems have some records management functionality added to them, but it is more often the case that they do not have records management capabilities.

G. Recommendations on How CoSA can Help Advance the Electronic Records Management Agenda

1. How can the Council of State Archivists (CoSA) assist your archives in moving forward your electronic records management program?

Most state archives staff felt that CoSA can and must play an active role in advancing the electronic records management agenda nationally and within their states. There were numerous recommendations, which can be grouped into the following categories:

Clearinghouse for Information

- Provide a clearinghouse for information on standards, policies, best practices, requirements and specifications, and file formats

- Create a model statement that identifies minimal requirements for an electronic records management system

- Provide profiles of all the state archives identifying what they are doing and what software applications they are implementing

- Provide analysis of software being used by state archives and, when possible, arrange demonstrations

- Provide information on how states are developing fee structures for use of the digital repository

- Provide current information on key issues, such as cloud storage

- Create a blog for the exchange of information

- Provide case studies on how archives are implementing electronic records strategies

- Provide more information on public access and rights management issues

- Provide regular updates on electronic record projects involving state archives

- Provide more information on preserving websites and especially on the Archive-It application

- Provide information or models depicting how state archives have succeeded in becoming involved in the "front end" of system design

Advocacy

- Work with CIOs and legislators to raise awareness of the importance of the issue

- Develop an advocacy toolkit to assist state archives in selling the need for additional support

- Strengthen the ties between the states' efforts and the national initiatives

- Build an even stronger relationship with NASCIO

- Work more closely with ARMA and the national organization for auditors

- Create some type of joint taskforce with other organizations, such as NASCIO, ARMA, NGA, NASS, NAAG to call attention to the needs of electronic records preservation and access, especially in state archives

- Work with NARA to share information on their system and how it might benefit state archives

Provide Training Modules and Sessions

- Develop training modules, especially on-line sessions

- Create a training session along the lines of "Camp Pitt"

- Sponsor an extended colloquium on digital records aimed at staff who are implementing the system – modeled after the five day colloquium organized by Australian archivists

Work with Funding Agencies on Developing Project Proposals

- Develop project proposals for funding that will assist state archives advance their programs

- Work with NHPRC to develop strategies for "jump starting" electronic records management in state archives where no program presently exists

- Develop a project to investigate the viability of shared, regional repositories for preserving and managing electronic records

Consultant's Assessment and Recommendations

The following recommendations were offered by Phillip Bantin, Indiana University, consultant to the State Electronic Records Initiative (SERI) Steering Committee.

Current Status of Electronic Records Programs

My impression is that there are four to five state archives that have a definite plan for constructing an electronic records management system. I think there are another fifteen to twenty state archives that have selected or are in the process of testing specific parts of an electronic records system, but do not have a plan for a complete system. The remaining twenty-five to thirty state archives do not yet have any of the pieces of a trusted recordkeeping system in place, and have no definite plans for creating this type of system. At present very few state archives have anything that resembles a records management or recordkeeping system, and likely no state has a system which would pass the test audit for the ISO standard for a Trusted Digital Repository.

In the interviews I also strongly sensed that in regards to electronic records management quite a number of archives are in a holding action; they are sitting on the sidelines waiting for a solution. In some ways this is not a bad strategy. Not many archives can be on the cutting edge; most will inherit and use strategies developed by others. However, there is a down-side to this lack of activity among state archives staff. In the interviews I got the distinct sense that a number of state archives are not actively engaging the electronic records literature and are not familiar with the emerging standards and best practices. Many commented that in light of the cuts in staffing, there is not the time to attend to these issues. I certainly understand this argument, but I would argue that it does not require many resources to research and prepare model requirements' statements and to become familiar with best practices and standards. In the process staff will begin to address training issues and will be preparing fundamental statements on functionality and specifications so that when the call comes to engage in a project to manage electronic records the staff will be ready to present its case.

Partnerships with Information Managers within Government

Most state archives are still not viewed as players who have something of value to contribute in the management of digital records. Many state archives have not made that first important step of "getting to the table" by participating in standing committees consisting of IT staff and other information managers involved in the management of digital information and records. Until this dynamic changes, state archives will not have a significant impact on the development and evolution of information systems within government.

Partnerships with Other State Archives

Everyone agrees partnerships are critical, and as noted earlier, collaboration among state archives is one of the few positives emerging from this survey. However, I think we need to find ways to make the collaborative projects work more effectively. To me this means that funding agencies need to more actively and systematically insist that projects provide ample evidence that the partnerships have the potential to work effectively. This will require relying less on volunteers and more on active selection of state archives with similar needs or strategies. It also means that a state archives seeking to join a collaborative project must demonstrate that they have the resources to participate actively in the project. In addition, I think state archives also need to extend these partnerships to other communities, such as academic archivists and records managers.

Funding to Support Electronic Records Programs

Funding for the development and the ongoing support of state electronic records management programs continues to be a major issue. In the Blue Ribbon Panel commentary on the 2007 "The State of State Archives" report, it was recommended that "state archives and records management programs should continue to seek new sources of revenue to support the management of current records and preservation of archival holdings." This remains a good

idea, and a number of state archives are actively investigating a fee structure for charging government offices that use the electronic records system. I personally believe that for many state archives some type of strategy for charging fees to deposit records and use the system will be the only way that they will be able to sustain an electronic records management program over time.

Authority and Mandate to Implement and Enforce Electronic Records Programs

In the 2007 "State of the State Archives" report it was noted that "while most states and records management programs have sufficient authority in law or regulation to establish policies and procedures for current records and to ensure that those of long-term significance are preserved, most do not have commensurate resources, enforcement mechanisms, or mandates to assert this authority effectively." The interviews conducted for this survey would indicate that there is still a significant "gap between the authority to act and the ability to act effectively." Collectively we must develop strategies for addressing this major issue. Ultimately it means making electronic records management a higher priority among legislators and other resource providers.

Consultant's Conclusions

It is impossible not to conclude that there exists a crisis in the management of electronic records within state government. Evidence from this survey would strongly indicate that in regard to electronic records management most state archives do not know where they want to go or how they will get there. Moreover there is every indication that this situation will not change much in the near future unless decisive action is taken. Something has to happen now. We cannot wait any longer; too much of our cultural heritage is at risk. We must act now and on many fronts, from training, identifying funding, promoting partnerships with all those involved in information management, and raising awareness among resource providers. Activities must be coordinated, must be focused, must be well supported, and they must start immediately.

III.   Analysis of the Survey and Interview Results Using the Digital Preservation Capability Maturity Model©

This section contains a report by Charles Dollar and Lori Ashley presenting an analysis of data gathered during the 2011 SERI surveys and interviews using their Digital Preservation Capability Maturity Model (DPCMM)©.

Executive Summary

Information is fundamental to the operation of government programs and systems. Over the last decade, public sector employees have increasingly come to depend on digital technologies and sophisticated software to support decision-making and provide services to a diverse set of information consumers.

The Internet has expanded access to government services and data and created new ways to interact with the public, the broad business community, regulators and legislators, and to conduct routine affairs. Stakeholder expectations for transparency, accountability and ready access to government information are on the rise.

The volume of routine business records that are created, received, tracked and transmitted electronically grows exponentially each year. Most of these electronic public records have yet to be brought under lifecycle records management controls.

This expanding digital content is stored in dozens of file formats and in hundreds of repositories across each state's networks. Interest in leveraging third party cloud infrastructure and services to manage electronic content has also risen sharply, driven in part by economic pressures and severe resource constraints.

Many electronic records can only be retrieved, displayed, and printed using the original software application that created the records. In many instances, software applications become obsolete after only a few years, thereby increasing the likelihood that records will not be accessible or usable in the future.

Electronic Records At Risk

The public sector's significant reliance on digital technologies places long-term (10+ year retention) business and archival (permanent) records at risk. Unless these electronic records are adequately managed and protected from the point of their creation/receipt, their authenticity and usability over time may become suspect, and therefore, undermine the foundation of our democratic processes.

In addition, the sheer volumes of unmanaged stored digital information eventually will make efficient and accurate retrieval virtually impossible. Technology obsolescence presents an equally serious challenge to state government accountability and the promise of access to public records.

Addressing these challenges requires that state and territorial archives and records management programs develop policies, strategies and capabilities for the long-term preservation of electronic records. Lifecycle management and preservation of electronic records crosses professional, political, organizational and geographic lines and so this digital preservation capability framework must be developed for a wide range of stakeholders who share in the responsibility to preserve and provide access to electronic public records.

Key stakeholders in the long-term preservation of electronic records include:

- Public sector employees who create, manage and use business records and are often responsible for identifying, classifying and preserving them.
- Archivists and records management professionals who are experts in understanding and appraising records; determining how and when to capture them; defining why and to whom those records are important, and ensuring their preservation for as long as the records are needed.
- Legal professionals who provide risk management advice on evidentiary requirements for records and help to interpret evolving standards for privacy and data protection.
- Information technology professionals who understand data security and integrity challenges, and are knowledgeable about storage capabilities and transfer protocols.
- Internal and external users of state government information and records that depend on reliable, authentic and retrievable documentation.
- Subject matter experts in municipal, state, federal and international institutions working to find solutions to long-term digital preservation challenges.
- Citizens through their interactions with government and the exercise of their rights.

SERI Phase I

In July 2011, the Council of State Archivists (CoSA) launched an initiative focused on improving efforts to manage, preserve, and provide access to state government electronic records nationwide.

Phase 1 of the State Electronic Records Initiative (SERI) seeks to create a profile of electronic records programs in order to develop an action plan that addresses the needs of state archives and records management programs and identifies next steps.

As part of Phase 1 of the SERI initiative, written responses to questions and transcripts from phone interviews with the directors and electronic records staff of 48 state and territorial archives

and records management programs were analyzed and mapped to fifteen (15) components of a Digital Preservation Capability Maturity Model© (DPCMM).[6]

The Digital Preservation Capability Maturity Model offers a way to understand the complex and integrated components of people, processes and technologies that are required to manage long-term electronic records.

In addition to providing a composite "score" on the readiness of state and territory archives to preserve long-term and permanent electronic records, the analysis highlighted current good practices as well as enormous gaps. The DPCMM was designed to help stakeholders, decision-makers and resource allocators chart a three to five year plan for improving electronic records management capabilities
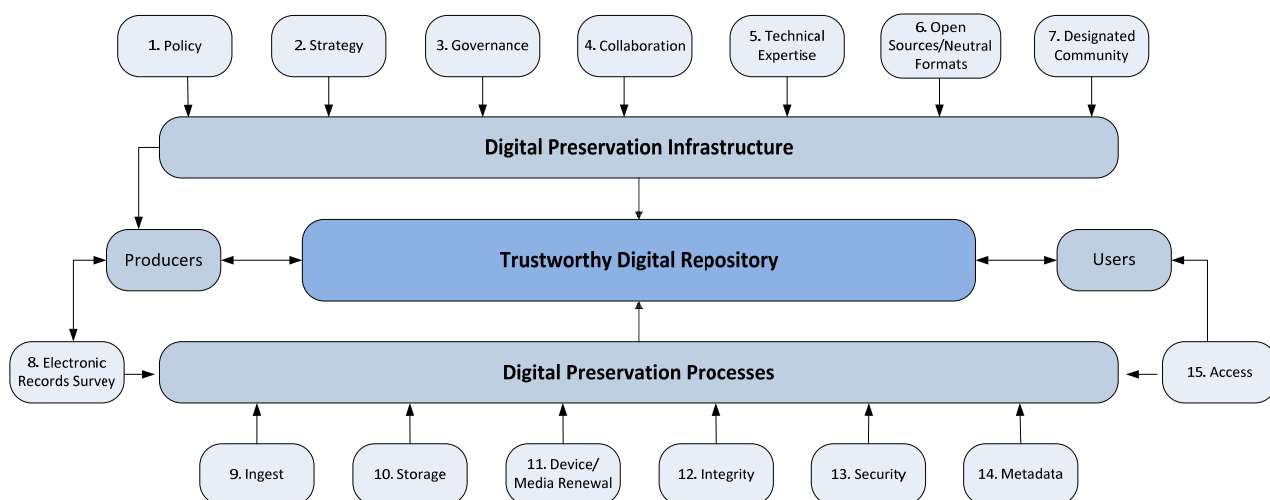
Profile of State and Territory Electronic Records Management Programs

The overall composite score for the forty-eight (48) responding states and territories was at the Minimal Digital Preservation Capability level. This means that no territorial archives and only a few of state archives have digital repositories that have been designed to preserve long-term electronic records over successive generations of technologies.

Few archives and records management programs have enforceable strategies or business rules to create digital preservation "objects" (records and metadata) near or at the time of records creation/receipt that ensure their authenticity and support their integrity over time.

Organizations with a Minimal Digital Preservation Capability are characterized by:

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[6] Dollar and Ashley completed their analysis in mid-September 2011. At that point, 48 states and territories had participated in the survey and telephone interviews. The larger SERI Phase One report, including the Bantin analysis, incorporates data from a few more states whose responses were received in late September.

- Environments where ISO 14721-based digital content repositories are not yet in place or DoD5015.2-compliant records management systems are not universally available for state/territory records producing units
- Digital preservation infrastructure and electronic records management requirements have notbeen systematically integrated into business processes and information architectures
- Rudimentary state of digital preservation infrastructure
- Some understanding of digital preservation issues but it is limited to a relatively few individuals
- Virtually no relationship between the success or failure of one digital preservation initiative or project and the success or failure of another one
- Success is largely the result of exceptional (perhaps even heroic) actions of an individual or a project team
- Knowledge about lifecycle electronic records management good practices is not widely shared or institutionalized

DPCMM Component	Nominal	Minimal	Intermediate	Advanced	Optimal
Policy	72	5	1	0	0
Strategy	41	5	1	1	0
Governance	39	5	4	0	0
Collaboration	51	13	4	0	0
Technical Expertise	34	13	1	0	0
Open Source Neutral formats	51	5	0	2	0
Designated Communities	53	4	0	0	0
Electronic Records Survey	48	6	0	0	0
Ingest	47	10	1	0	0
Storage	52	5	1	0	0
Device/Media Renewal	53	4	1	0	0
Integrity	72	6	0	0	0
Security	53	13	2	1	0
Metadata	43	5	0	0	0
Access	49	9	0	0	0

Call to Action

The analysis of the SERI Phase 1 survey responses underscored the need for all state and territory archives and records management programs to chart a course towards robust and sustainable capabilities to mitigate the obsolescence of long-term government records and archival (permanent) materials. Although some digital preservation capabilities may require major resources and years to develop to an Advanced digital preservation capability level, actions can and should be taken now to get moving in the
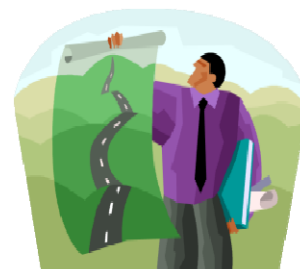
right direction.

A road map of incremental investments and capability improvements in its people, core business processes, and information management systems and technologies will enable state and territory archives and records management units to establish increasingly credible levels of digital preservation capability. This journey can begin with embracing community-supported solutions and joining collaborative initiatives to address the challenges of long-term preservation of archival and business records. CoSA can play a major leadership role in giving voice to the needs and requirements of state and territory archives and records management programs.

Raise Awareness

There is an urgent need to raise awareness about the potential loss of electronic records that document the decisions and activities of state and territory governments. At the same time state archives and records management professionals have an unprecedented opportunity to lead their organizations forward by:

- Developing a written Digital Preservation Policy and Strategy to codify the commitment to long-term records preservation and access, define the way forward, and assign accountabilities.

- Clarifying preservation roles among various stakeholders such as constitutional officers, archives, records management, technology units, business units, senior management, program managers and supervisors as well as third party service bureaus and vendors;

- Identifying skills and training needed for electronic records management and preservation and provide on-going educational opportunities for the stakeholders that create/receive, store, use and manage electronic records.

Mitigate Technology Obsolescence

Some public sector records must be retained for decades to meet operational and legal requirements but can eventually be destroyed. Other public sector records stored in digital format remain active or "open" over the course of many years. These records have nearly all of the same requirements for long-term preservation as permanent electronic records.

Many archives and records centers do not yet have the capability to accept the transfer of electronic records for either temporary or permanent storage. This leaves the critical task of long-term preservation for the moment in the hands of the record-producing local and state government units.

The condition of electronic records as they are transferred from the unit that created/received them to the custody of the state and territory archives or records center may profoundly affect the costs over the lifetime of the records. State and territory governments are well advised to inventory

their electronic records stores and make risk-based decisions on which collections to target for near-term action.

Near-term actions can be taken with existing resources and information systems to make more electronic records "preservation-ready." This means that at the time of records creation, receipt or capture, records are stored in open standard interoperable technology neutral formats that can stand the test of time.

Archives and records management units can help records producing units to:

- Proactively identify records that are endangered by technology obsolescence, media fragility and other threats;
- Develop preservation rules and methodologies for essential components of the lifecycle management of electronic records;
- Address security, privacy and custodial issues to ensure authorized and authenticated access to digital materials.

Information management and technology units can help records custodians by:

- Proactively addressing obsolescence of formats, software and hardware through preservation methods to ensure that electronic records will remain accessible throughout their lifecycle and after being transferred to a trustworthy digital repository;
- Hiring and supporting experienced technical and professional digital preservation experts in all of the information domains.
- Establishing storage architecture and infrastructure for electronic records and their preservation metadata in order to preserve the understandability, authenticity and integrity of the records over time.

Next Steps

Digital preservation programs and resources are sorely needed to enable the states and territories to preserve access to permanent and long-term government records over time and over successive generations of technologies. The SERI Phase 1 survey provides a window into the current state of electronic records management programs and identifies numerous ways in which increased collaboration and knowledge exchange can benefit the states and territories.

The Steering Committee is currently developing strategies and plans to define high priority needs and recommend next steps that will enable state and territory archives and records management professionals to meet dynamic information governance demands no

IV. SERI Moving Forward

As the State Electronic Records Initiative enters Phase II, CoSA is focusing its activities around the four priorities or "planks" established by the SERI Steering Committee and its advisors during its October 2011 meeting.

Advocacy and awareness especially targeted at key state officials—governors, secretaries of state, CIOs, attorneys general, legislators, court administrators, budget and procurement officers, auditors—to make them aware of the rapidly expanding threats posed by inadequate attention to managing digital records and the critical need to ensure access, preservation, and authenticity for the long-term.

> *Actions to date:* CoSA opened the dialog with stakeholder organizations at a briefing in Washington DC on May 7, 2012. The following day, CoSA President Julia Marks Young addressed the National Association of Chief Information Officers at their mid-year meeting in Baltimore.

> *Planned activities:* CoSA is developing outreach efforts targeting leaders in state and local government, public policy, information technology, archives/records, and communications to advance their understanding of the challenges of electronic records management and digital preservation and gain support for improving programs.

Education and training focused at two levels: (1) a broad introductory curriculum designed to help the 30-35% of states and territories that have not yet begun grappling with government electronic records to a significant degree, and (2) programs for more advanced states that will focus on specific applications, methodologies, and other implementation issues.

> *Actions to date:* CoSA has held two in a planned series of SERI-sponsored web conferences to educate its members and their staffs about current projects, model programs, and best practices in managing and preserving state electronic records.

> *Planned activities:* CoSA has received a $489,880 grant from the Institute for Museum and Library Services for a project starting October 1, 2012, that will (1) provide scholarships for state archives staff to attend existing training; (2) deliver intensive week-long institutes to one staff member from each state, laying a solid foundation of skills, knowledge, and collaborative relationships on which to build each state's ERM/DP program; and (3) identify gaps in existing training programs and recommend ways to fill those gaps. A separate proposal to NHPRC *(funding pending)* contains plans to deliver webinars and self-directed training to all staff designed to encourage implementation of key standards, tools, and best practices in state ERM/DP programs;

Standards and tools, includes (1) working to ensure that states and territories are aware of existing standards and guidelines, policy documents, and tools that can be adopted for use in

their own program; (2) sustaining communications with the National Archives, the Library of Congress, the National Digital Stewardship Alliance (NDSA), and similar organizations and initiatives that can provide access to models, advice, and tools; and (3) developing models and guidance where none yet exist.

Actions to date: (1) CoSA commissioned Dollar and Ashley to prepare a customized version of their Digital Preservation Capability Maturity Model (DPCMM) which all states and territories will use to conduct a self-assessment of their existing ERM/DP programs in June 2012 *(supported by a grant from NHPRC).* (2) The SERI section of the CoSA website (www.statearchivists.org/seri) contains the first of what will evolve into a comprehensive Portal providing access to and explanations of electronic records policy and guidance documents issued by state archives and records management programs as well as standards and applications now in use or being considered by them.

Planned activities: CoSA has developed a plan for an Electronic Records Resource Portal to assist state governments manage electronic records from creation until final disposition. It will provide a Framework linked to the stages of development defined by the DPC Self-Assessment. It will also include a software toolkit containing the essential functions of a digital preservation platform based on OAIS Reference Model (ISO 14721:2003) and training in implementing the models. *(Funding pending)*

Governance, to integrate the electronic records management and archives requirements in decisions made during IT planning, procurement, systems development, and operations.

Actions to date: CoSA has sought advice from the National Association of State Chief Information Officers, the National Archives, and individual state IT managers and looked for programs in which archives and records management participate in system development.

Planned activities: A SERI subcommittee is charged with information gathering and analysis, will continue and expand consultations.

Appendices

Appendix 1. SERI written survey questions

CoSA asked each state to respond to the following questions via SurveyMonkey in advance of their telephone interviews.

SERI Pre-Interview Survey

Part 1. Electronic records policies and program status

*Name of state/territory:

[   ]

*Please tell us who is completing this survey.

Name: [   ]

Title: [   ]

Email: [   ]

Phone: [   ]

*Which best describes the current status of your electronic records program?

○ We have an electronic records program that addresses all the stages from creation in the agency to long-term preservation.

○ We have an electronic records program, but it does not address all stages of the lifecycle (maybe you have done a lot of work with agencies, but have not yet addressed long-term preservation, or have an electronic records archives but no records management program).

○ We have started to develop an electronic records program, or have plans to do so, but little or nothing has been implemented.
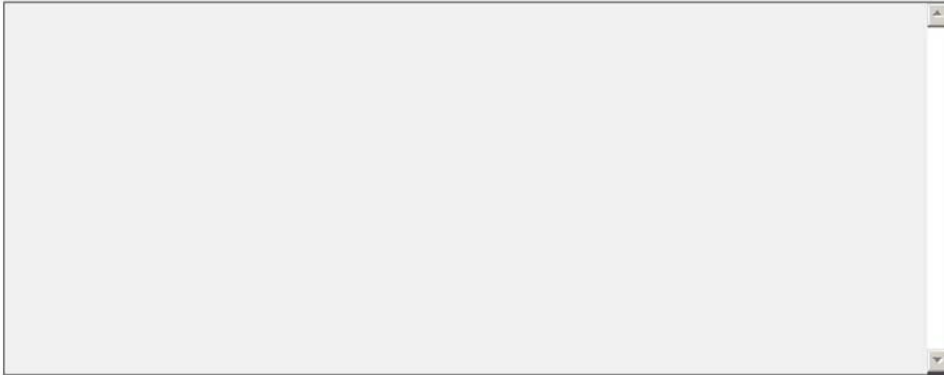
○ We have not yet begun tackling electronic records.

○ Other (please specify)

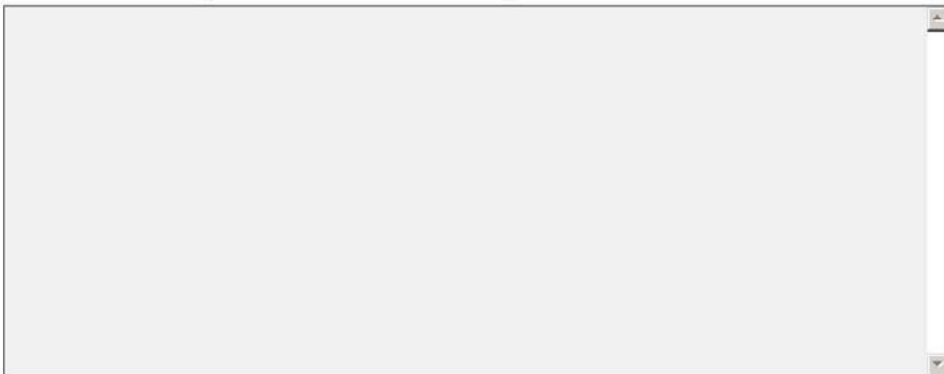[   ]

LEGISLATION: Is legislation for your state sufficiently broad to cover the capture and long term management of electronic records? How does your state define an electronic record?

[   ]

Page 1

SERI Pre-Interview Survey

POLICIES: Have you created electronic records management policy documents? What other kinds of documentation have you created? Would you please provide a link to your policies and procedures or send copies to rjulson@statearchivists.org?
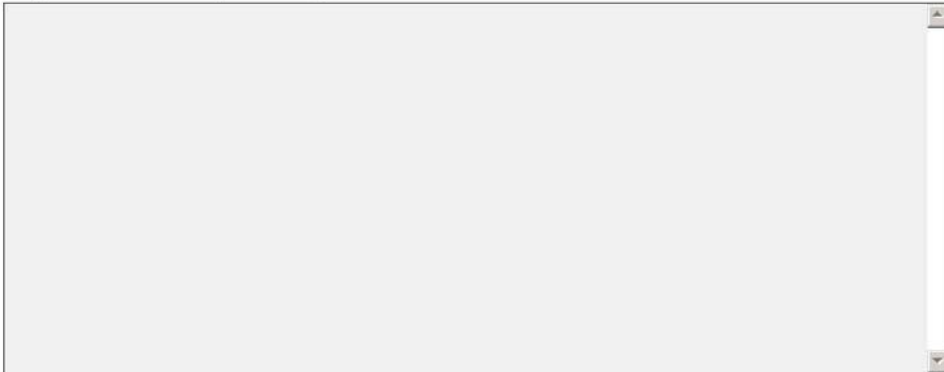
POSITION DESCRIPTIONS: Have you created position descriptions for your electronic records management staff? Would you please include a link to these position descriptions or send them to rjulson@statearchivists.org?
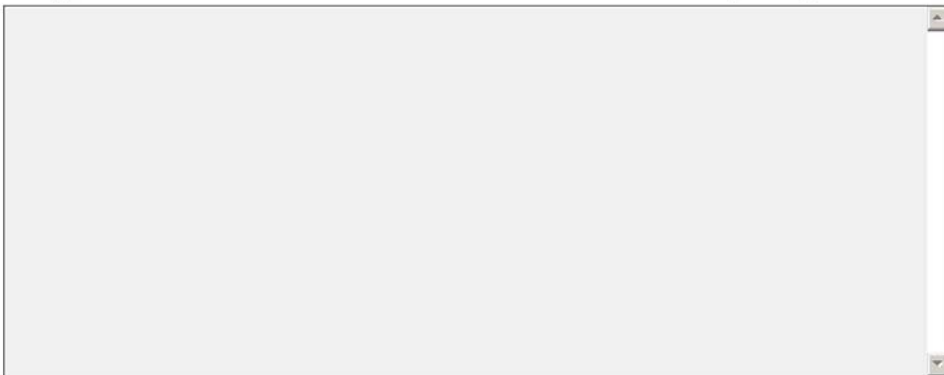
Page 2

SERI Pre-Interview Survey

FUNCTIONAL REQUIREMENTS: Are you using, or planning to use, a model set of functional requirements for an electronic records management system or for a digital repository to guide you in decisions about functionality? If so, what functional requirements are you using?

METADATA MODELS: Are you using (or planning to use) a particular metadata model for your electronic records system or digital archives? If so, which metadata model are you using? Please send a list of or a link to the metadata elements you require.
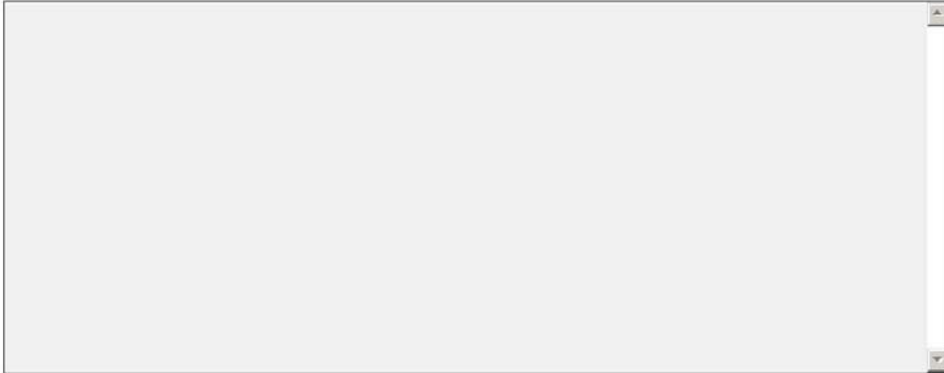
Page 3

SERI Pre-Interview Survey

Please describe your working relationship with Information Technology Technology (both in your agency and with the state IT department/unit) in the management of electronic records.

Describe how electronic records are handled within your state's records management program.

SERI Pre-Interview Survey

Is your program seeking to capture electronic records from local government agencies? If not, is this a high priority need for the future?
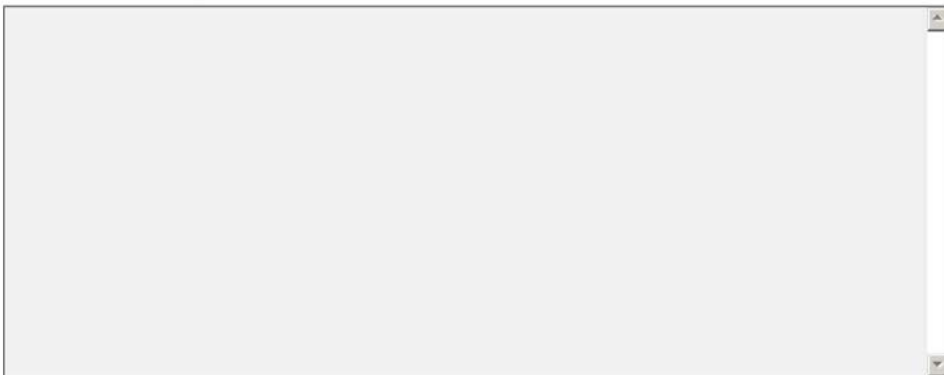
Has your state archives accessioned electronic records?

◯ Yes (please answer questions in Part 2)

◯ Not yet, but coming soon (skip to Part 3)

◯ No (skip to Part 3)

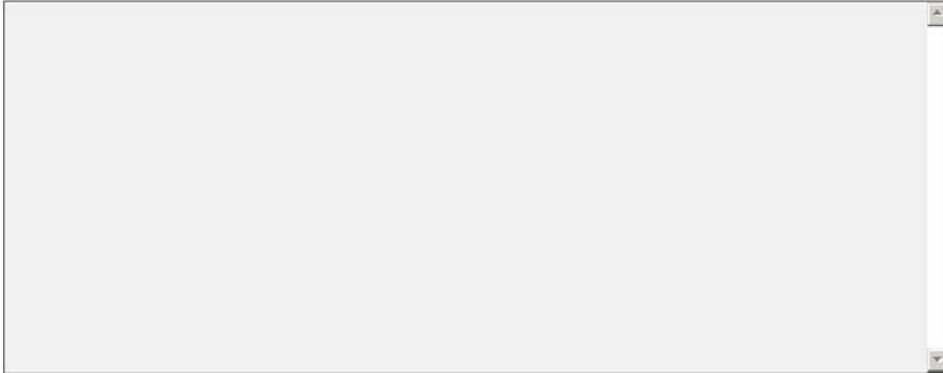### Part 2. Volume and types of electronic records

<u>If you have accessioned electronic records,</u> please answer the four questions below. Otherwise skip to Part 3.

What is the total volume of electronic records (excluding backups) expressed in gigabytes and/or files that you have accessioned?

Page 5

SERI Pre-Interview Survey
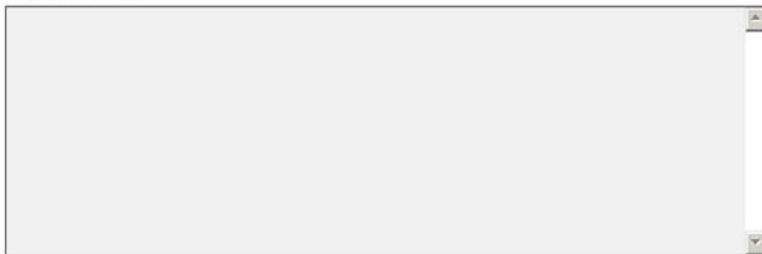
Of the total volume reported above, what percentage are scanned, reformatted objects and what percentage are born-digital records?

What format types have you accessioned? (check all that apply)

	Have accessioned	Expecting to accession soon	Have not accessioned
Text	☐	☐	☐
Audio	☐	☐	☐
Video	☐	☐	☐
Photos	☐	☐	☐
Databases	☐	☐	☐
Maps	☐	☐	☐

Other (please specify)
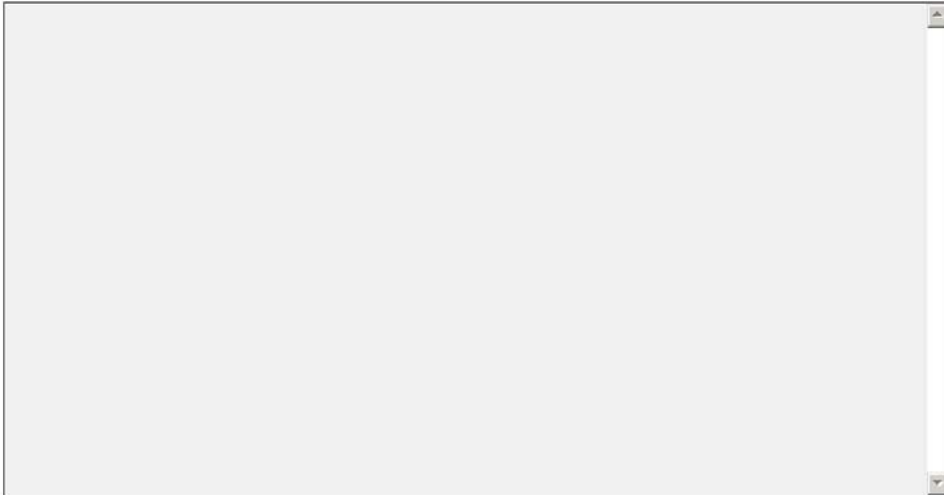
Part 3. Concluding questions

SERI Pre-Interview Survey

Please provide a brief description of your electronic records program.

For the telephone interviews, we would like each state archivist to include individuals who have knowledge of and/or responsibility for electronic records in the state. This could include staff from the state archives, the records management program (especially if it operates separately from the state archives), and the information technology agency, as appropriate.
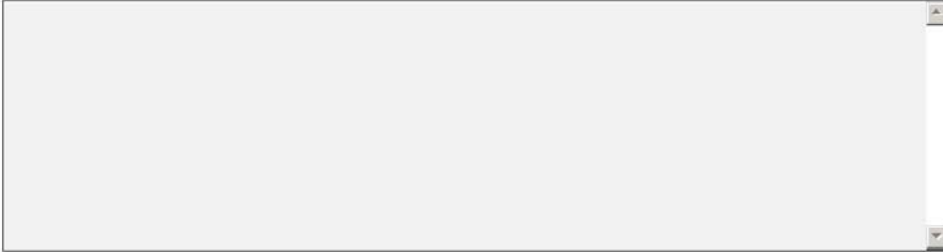
Please provide the names/titles for the individuals you expect to participate in the call:

Participant #1
Participant #2
Participant #3
Participant #4
Participant #5
Other participants

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SERI Pre-Interview Survey

The SERI Steering Committee welcomes any additional information or comments you might like to provide.

Thank you for providing information about the status of your program for CoSA's State Electronic Records Initiative (SERI). If you have any questions about the SERI project or the upcoming telephone interviews, please contact Becky Julson, CoSA Program Associate, at rjulson@statearchivists.org or 319-645-0067.

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Appendix 2. SERI interview questions

CoSA distributed the following questions to each state and territorial archives in advance of their telephone interviews so they would have adequate time to prepare their responses.

The questions that will be used during the telephone interview will be based on your response to the following:

1. Which best describes the current status of your electronic records program?
    A. We have an electronic records program that addresses all the stages from creation in the agency to long-term preservation.
    B. We have an electronic records program, but it does not address all stages of the lifecycle (maybe you have done a lot of work with agencies, but have not yet addressed long-term preservation, or have an electronic records archives but no records management program).
    C. We have started to develop an electronic records program, or have plans to do so, but little or nothing has been implemented.
    D. We have not yet begun tackling electronic records.

If your answer to Question 1 is A, you will be asked the following questions:

Creating an electronic records program

2. What were first, important steps in getting the program started?   What was the most challenging aspect of getting the program off the ground?
3. What arguments were most effective in getting support/funding for an electronic records program? Least effective?
4. Who were the most important partners in the creation of the electronic records program?
5. What has been the positive impact of having an electronic records program?

Program strategies and priorities:

6. Are you involved in any cooperative electronic records strategies with other state archives or other institutions?
7. What are your greatest needs in priority order for moving the program forward?
8. If CoSA pursued grant funding to advance the electronic records management agenda, what activities or issues should be emphasized or stressed? In other words, what should state archives be doing collectively to assist one another?

For the electronic records you have accessioned:

9. Please describe the basic architecture of your repository or records management system? Was it built internally or purchased from a vendor? What software does it use?
10. Does your system allow for the automated retention and disposal of records? If so, how are you implementing this? If not, how are retention schedules implemented?
11. Does your system automatically capture and ingest electronic records? If so, how are you implementing this? If not, how do records get into your system?
12. Does your system automatically capture audit trail data documenting the capture, use and management of the electronic records?
13. How do you provide access to your electronic records?
14. Have you employed a distributed custody model? If not, why not. If yes, why? And how are you managing this distributed system?
15. Do you have a strategy for managing databases? If so, please describe.
16. Do you have a method for redacting confidential electronic data?
17. What strategies are you employing for long-term preservation?
18. Does your system systematically create back-ups of your electronic records?

If your answer to Question 1 is B, you'll be asked the following questions:

Creating an electronic records program

2. What were first, important steps in getting the program started? What was the most challenging aspect of getting the program off the ground?
3. What arguments were most effective in getting support/funding for an electronic records program? Least effective?
4. Who were the most important partners in the creation of the electronic records program?
5. What has been the positive impact of having an electronic records program?

Program strategies and priorities:

6. Are you involved in any cooperative electronic records strategies with other state archives or other institutions?
7. What are your greatest needs in priority order for moving the program forward?
8. If CoSA pursued grant funding to advance the electronic records management agenda, what activities or issues should be emphasized or stressed? In other words, what should state archives be doing collectively to assist one another?

For the electronic records you have accessioned:

9. Please describe the basic architecture of your repository or records management system? Was it built internally or purchased from a vendor? What software does it use?

10. Does your system allow for the automated retention and disposal of records? If so, how are you implementing this? If not, how are retention schedules implemented?
11. Does your system automatically capture and ingest electronic records? If so, how are you implementing this? If not, how do records get into your system?
12. Does your system automatically capture audit trail data documenting the capture, use and management of the electronic records?
13. How do you provide access to your electronic records?
14. Have you employed a distributed custody model? If not, why not. If yes, why? And how are you managing this distributed system?
15. Do you have a strategy for managing databases? If so, please describe.
16. Do you have a method for redacting confidential electronic data?
17. What strategies are you employing for long-term preservation?
18. Does your system systematically create back-ups of your electronic records?

If your answer to Question 1 is C, you'll be asked the following questions:

Creating an electronic records program

2. What steps have you taken to start an electronic records program?
3. What roadblocks and challenges have you run into?
4. What arguments were most effective in getting support/funding for an electronic records program? Least effective?
5. Have you been able to connect with any partners who may be able to help you implement an electronic records program?

Program strategies and priorities:

6. Are you involved in any cooperative electronic records strategies with other state archives or other institutions?
7. What are your greatest needs in priority order for moving the program forward?
8. If CoSA pursued grant funding to advance the electronic records management agenda, what activities or issues should be emphasized or stressed? In other words, what should state archives being doing collectively to assist one another?

In the development of your electronic records management strategy:

9. How are you planning to implement the retention and disposal of electronic records?
10. How are you planning to capture and ingest electronic records?
11. How are you planning to provide access to your electronic records?
12. What strategies will you employ for long-term preservation?

If your answer to Question 1 is D, you'll be asked the following questions:

Creating an electronic records program

2. Have you taken any steps to start an electronic records program? Please describe your activities or priorities.
3. What roadblocks and challenges have you run into?
4. Have you been able to connect with any partners who may be able to help you implement an electronic records program?

Program strategies and priorities:

5. What are your greatest needs in priority order for establishing an electronic records program?
6. If CoSA pursued grant funding to advance the electronic records management agenda, what activities or issues should be emphasized or stressed? In other words, what should state archives being doing collectively to assist one another?

Appendix 3. Agencies and individuals who participated in the SERI surveys and interviews, August - September 2011

State / Territory	Participants in SERI survey and interview process
Alabama	Christine Garrett, Appraisal Archivist and PeDALS Project Lead Mike Breedlove, Collections Management Archivist and Metadata Lead Alan Legleiter, IT Systems Specialist Associate and PeDALS IT person Iris Bailey, IT Systems Specialist Tracey Berezansky, Assistant Director for Government Records Drew Davis, Collections Archivist
Alaska	Dean Dawson, State Archivist Gordon Brown, State Records Manager Chris Hieb, Archivist II
American Samoa	James Himphill, Territorial Archivist (only completed pre-interview questions)
Arizona	Melanie Sturgeon, Director, History and Archives Division
Arkansas	Wendy Richter, Director Jane Wilkerson, Archival Manager Mary Dunn, Archival Manager
California	Nancy Lenoil, State Archivist, CA State Archives Rebecca Wendt, Electronic Records Archivist, CA State Archives Sydney Bailey, Archivist, State Records Appraisal Program, CA State Archives Jenny Chakanova, Records Analyst, CalRIM Danelle Hamilton, Program Manager, CalRIM
Colorado	Terry Ketelsen, State Archivist
Connecticut	Mark Jones, State Archivist Paul Barren, Assistant State Archivist Jeff , state public records archivist
Delaware	Steve Marz, State Archivist James Frazier, Government Services Manager
District of Columbia	Did not participate

Florida	Gerard Clark, State Archivist Beth Golding, Archivist Supervisor II LaDonna Wagers, Government Operations Consultant
Georgia	David W. Carmicheal, Director, The Georgia Archives Amelia Winstead, State/Local Government Services and main architect of Digital Archives Kayla Barrett, Head, Descriptive Services
Guam	Did not participate
Hawaii	Susan Shaner, Archives Administrator Gina Vergara-Baustista, Hawaii Digital Archives Project Manager
Idaho	Rod House, State Archivist Michal Walden, Archivist David Matte, Reference Archivist Erica Cook, Photo Archivist
Illinois	Dave Joens, Director Gloria Huston, Records Management Supervisor
Indiana	Jim Corridan, Director & State Archivist Tim Dunwoody, Director of Processing Amy Robinson, Records Management Vicki Casteel, Visual Collections Archivist Ted Cotterill, Deputy Director, Indiana Commission on Public Records
Iowa	Jeffrey L. Dawson, Deputy State Archivist
Kansas	Pat Michaelis, Director, State Archives and Library Division Matt Veatch, State Archivist
Kentucky	Barbara Teague, State Archivist and Records Administrator Glen McAninch, Technology Analysis and Support Branch Manager Beth Shields, Electronic Records Analyst
Louisiana	Carrie Fager, CRM, Records Management Officer Statewide Doug Harrsion, Conservator and Acquisitions Manager for the State
Maine	David Cheever, State Archivist Nina Osier, Records Management Services Division Director
Maryland	Tim Baker, Deputy State Archivist

Massachusetts	Michael Comeau, Director of Archives and Records Administration Jennifer Fauxsmith, Reference Supervisor/Archivist
Michigan	Mark Harvey, State Archivist Brice Sample, State Records Manager Caryn Wojcik, Government Records Archivist Lindsay Moyer, Imaging Services Manager
Minnesota	Bob Horton, Director, Library, Publications and Collections Division Shawn Rounds, Deputy Head, Collections and Reference Carol Kussmann, Government Records Specialist
Mississippi	David Pilcher, Head of Electronic Records Matthew Glover, Lead Systems Manager, Electronic Archives Julia Young, Director, Archives and Records Services Division Julie Dees, Electronic Records Others
Missouri	John Dougan, State Archivist Craig Kelso, Director of Records Management Nathan Troup, Electronic Records Archivist, RM division
Montana	Jodie Foley Patti Borsberry
Nebraska	Gayla Koerting, Curator of Government Records/State Archivist Cathy Danany, Deputy Secretary, State Records Management Division Mary Ott, RIM Specialist, State Records Management Division Duane Doppler, Electronic Records Manager, State Records Management Rick Becker, OCIO, Legal Counsel Kevin Keller, OCIO, Analysis and Implementation Services
Nevada	Jeffrey M. Kintop, Assistant Administrator for Archives and Records Management Teri Mark, State Records Manager
New Hampshire	Brian Nelson Burford, Director of Div of Archives & Records Management/ State Archivist
New Jersey	Karl Niederer, Director Joseph Klett, Deputy Director for Archives Barbara Goszka, Deputy Director for Records Management and Imaging Services Joanne McKinley, Supervisor of Imaging Certification Ellen Callahan, State Archives Collection Manager

New Mexico	John Hyrum Martinez, State Records Administrator/State Archivist Leo Lucero, Bureau Chief over Agency Analysis Matt Montano, Bureau Chief, Micrographics
New York	Christine Ward, State Archivist Kathleen Roe, Director of Operations Michelle Arpey, Head, Information Services Bonnie Weddle, Electronic Records Archivist Jennifer O'Neill, Government Records Services
North Carolina	Dick Lankford, State Archivist Sarah Koonts, Head of Collections Management Branch Kelly A. Eubank, Head of Electronic Records Branch Becky K. McGee-Lankford, Head of Government Records Branch
North Dakota	Ann Jenks, State Archivist Becky Lingle, State Records Administrator
Northern Mariana Islands	John Cook, CNMI Archivist
Ohio	Fred Previts, State Archivist Jillian Carney, Manager of Digital Services
Oklahoma	Jan Davis, Administrative Archivist Others
Oregon	Mary Beth Herkert, State Archivist
Pennsylvania	David Haury, State Archivist Cindy Bendroth, Chief of Records Services Division Dave Shoff, Chief of State Archives Division Linda Avetta, Chief of Digital Archives and Records Division
Puerto Rico	Milagros Pepin-Rivera, Specialist in Cultural Affairs-Archivist Sigfredo López-López, Technology Resources Coordinator, Conservatory of Music of PR
Rhode Island	Gwenn Stearn, State Archivist & Public Records Administrator
South Carolina	Eric Emerson, Director Bryan Collars, Digital Archivist
South Dakota	Chelle Somsen, State Archivist Tony Rae, Bureau of Information Technology
Tennessee	Wayne Moore Kathy Carmack, Director of Archival Technical Services Jami Awalt

Texas	Jelain Chubb, State Archivist and Director Laura Saegert, Assistant Director, Archives Sarah Jacobson, Records Management Administrator
Utah	Patricia Smith-Mansfield, State Archivist Elizabeth Perkes, Electronic Records Archivist
Vermont	Gregory Sanford, State Archivist Darwin Thompson, Deputy CIO Tanya Marshall, Deputy State Archivist and Senior Records Analyst
Virgin Islands	Susan Laura Lugo, Territorial Coordinator for Archives and Archivist Christian Doute, DPNR/DLAM IT Manager Angel Turnbull, Interim Director, Bureau of Information and Technology Donald G. Cole, Assistant Director, DPNR/DLAM Aretha "Ricki" Marshall, IT Support, DPNR/DLAM Ingrid A. Bough, JD, Director, DPNR/DLAM Serena James
Virginia	Sandra Treadway, Librarian and State Archivist of Virginia John Metz, Director of Archives, Records and Collection Services Kathy Jordan, Digital Initiatives & Web Services Manager Carl Childs, Local Records Services Director Lyn Hart, Description Services Director Paige Neal, State Records Program Manager Anita Vannucci, Records & Information Management Analyst
Washington	Jerry Handfield, State Archivist Russell Wood, State Records Manager Harold Store, Network Administrator from Digital Archives June Timmins, Software Architect
West Virginia	Joe Geiger, Director, Archives and History Debra Basham, Archivist
Wisconsin	Helmut Knies, Archival Supervisor Sarah Grimm, Electronic Records Archivist
Wyoming	Mike Strom, State Archivist Cindy Brown, Reference Archivist

Appendix 4. NHPRC-sponsored projects

The National Historical Publication and Records Commission (NHPRC) funded the first project focused on state electronic records in 1979. Since then NHPRC has been the primary source of ongoing support for electronic records management and preservation, awarding more than 100 grants totaling nearly $12 million to support electronic records projects. Of these, 41 went to state and local government archives and records management programs.

Information on NHPRC's current grant program for electronic records is available on its website at http://www.archives.gov/nhprc/projects/electronic-records/. A list of all grants awarded by NHPRC in each state is available at http://www.archives.gov/nhprc/projects/states-territories/.

Projects Applicable to All Types of Repositories

1990 IL   **Society of American Archivists, Chicago, IL**. $30,913. to develop a model curriculum and educational materials relating to automated records and techniques. (90-121).

1990 MN   **Minnesota Historical Society, St. Paul, MN**. $39,785. to fund a national planning conference on electronic records issues. (90-100).

1993 PA   **The University of Pittsburgh, Pittsburgh, PA**. $359,580. for a three-year study to address the first three questions in the agenda outlined in the Commission-funded report, Research Issues in Electronic Records. The project's three goals are: to identify the archival functional requirements for electronic information systems serving widespread business applications and to evaluate alternative approaches to satisfying those requirements; to identify attributes in organizations, business applications, and software applications which influence the success of achieving archival control over electronic records systems, in order to assist institutional archival electronic records programs to formulate successful approaches; and to suggest criteria to evaluate and indicators to measure the effectiveness of archival policies, methods, and programs in modern organizations. (93-030).

1993 PA   **University of Pittsburgh, Pittsburgh, PA**. $29,005. to support the third and final phase of an advanced institute on electronic records and strategic planning for state government records administrators. (93-053).

1994 IL   **Society of American Archivists, Chicago, IL**. $95,052. to create and publish 10 case studies with teaching notes that address issues relating to archival electronic records and the use of information technologies in archives. The case studies will be used by archival educators and individuals to raise the level of knowledge and understanding of these issues in the archival profession. (94-071).

1996 MI   **Regents of the University of Michigan, Ann Arbor, MI**. $43,450. for an electronic records conference, jointly sponsored by the university's Bentley Historical Library and the School of Information and Library Studies, to assess progress made in electronic records research and program development since the 1991 NHPRC-funded Working Meeting on Electronic Records and to offer recommendations for future electronic records activities. (96-012).

1997   NY   **Syracuse University, School of Information Studies, Syracuse, NY.** $99,993. for a project: to evaluate the degree to which Federal and state government agencies are addressing records management and archival concerns in the management of World Wide Web sites; to develop a set of model "best practices" guidelines for incorporating records management and archival considerations into Web site management; and to promote use of the guidelines by print and electronic dissemination and through briefings of Federal and state officials. (97-014).

1998   DC   **Association of Research Libraries, Coalition for Networked Information, Washington, DC.** $20,000. for a project entitled "Improved Access to Electronic Records, " to develop, offer, and evaluate a pilot workshop that will bring together teams of archivists and information technologists to explore electronic records issues. (98-025).

1998   MI   **Regents of the University of Michigan, Ann Arbor, MI.** $105,845. A 30-month grant for a project entitled "Preserving Electronic Records of Collaborative Processes," to conduct an analysis of recordkeeping practices in six private-sector environments with the goals of producing case studies,assessing the degree to which functional requirements for electronic recordkeeping are applicable in settings without highly structured business processes,developing guidelines for electronic recordkeeping in such settings,and publishing a monograph based on this study. (98-029).

1999   NY   **State University of New York, Albany, NY.** $424,796. for its Long-Term Preservation of Authentic Electronic Records Project to fund the non-NARA elements of the U.S. research team participating in the InterPARES Project, an international research initiative to develop the theoretical and methodological knowledge required for the permanent preservation of authentic records created in electronic systems. (99-073).

2000   CA   **The Regents of the University of California, San Diego, CA.** $300,000. on behalf of the San Diego Supercomputer Center at the University of California, San Diego, to conduct research on long-term preservation of and access to software-dependent electronic records. (2000-040).

2001   NY   **State University of New York, University at Albany, Albany, NY.** $355,392. in support of its Long-Term Preservation of Authentic Electronic Records Project, which supports the non-NARA elements of the U.S. research team taking part in the InterPARES Project. (2001-005).

2002   CA   **The Regents of the University of California, San Diego, CA.** $160,590. on behalf of the San Diego Supercomputer Center for a project to test the ability of a Records Management Application (RMA) to classify, store, and manage the disposition of electronic records. (2002-002).

2002   MN   **Minnesota Historical Society, St. Paul, MN.** $105,400. to examine the NHPRC's Electronic Records Research Agenda and to recommend a revised and newly validated agenda. (2002-024).

2002   NY   **The Research Foundation of the State University of New York, Albany, NY.** $758,662. to build upon the work of the original InterPARES (International Research on Permanent Authentic Records in Electronic Systems) Project through InterPARES 2, which will study new types of non-textual and interactive records

produced by digital government, electronic commerce, and the digital arts. (2002-027).

2003 CA **University of California, San Diego, CA.** $195,023. on behalf of the San Diego Supercomputer Center and the University of California, Los Angeles, for a project to examine the issues involved in the long-term preservation of, and access to, electronic records that were changed over time by their creators. (2003-012).

2004 CA **The Regents of the University of California, San Diego, CA.** $242,500. on behalf of the San Diego Supercomputer Center (SDSC), the Michigan Historical Center, the Minnesota Historical Society, the Kentucky Department for Libraries and Archives, and the Ohio Historical Society for a project entitled Persistent Archive Testbed, which will allow the participating archival institutions to test SDSC's data grid and persistent archives technologies using a variety of archival collections. (2004-008).

2004 NC **The University of North Carolina at Chapel Hill, Chapel Hill, NC.** $281,500. to continue the NHPRC Archival Research Fellowships program established by the Boston consortium consisting of the Massachusetts Historical Society, the WGBH Educational Foundation, Radcliffe Institute at Harvard University, Northeastern University, and the Massachusetts Institute of Technology, modifying the program to focus exclusively on electronic records research, and renaming it the NHPRC Electronic Records Research Fellowship program. (2004-020).

2005 NY **The Research Foundation of the State University of New York, Albany, NY.** $256,968. to build upon InterPARES 2 (International Research on Permanent Authentic Records in Electronic Systems) Project on non-textual and interactive records produced by digital government, electronic commerce, and the digital arts. (2005-083).

2008 CA **The Regents of the University of California, San Diego, CA.** $257,800. to support the San Diego Supercomputer Center development of a Distributed Custodial Preservation Center for electronic records. (RE10010-08).

2008 GA **Emory University, Atlanta, GA.** $300,337. to support MetaArchive: A Sustainable Digital Preservation Service for Cultural and Historical Records. (RE10002-08).

2008 NC **University of North Carolina, Chapel Hill, NC.** $257,800. to support the School of Information and Library Science and the Renaissance Computing Institue in the development of a Distributed Achival Custodial Preservation Environments for electronic records (www.dcape.org). DCAPE will develop a cost-model for providing preservation services for electronic records by developing the iRODS (integrate Rule-Oriented Data System www.irods.org) to meet the needs of state and university archives and other repositories. (RE10010-08). State partners include California, Kansas, Kentucky, Michigan, New York, and North Carolina.

2008 NY **New York University, New York, NY.** $83,100. to support a two year project to incorporate digital technology skills into the university's Archives and Public History course curriculum. (DG10004-08).

2010 MA **Mount Holyoke College, South Hadley, MA.** $69,500. to support a college archives and special collections electronic records start-up. (RE10026-10).

2010 MI **Michigan State University, Lansing, MI.** $251,079. to support a project to accession, preserve, and provide access to a significant portion of the university's permanently valuable records that are created and maintained in electronic form. (RE10025-10).

2010 MA **Simmons College, Boston, MA.** $138,182. to build a digitial curriculum laboratory for electronic records management, in partnership with students at New York University and the University of Wisconsin-Milwaukee. (DG10011-10).

Government Records Repositories

1980 WI **University of Wisconsin-Madison, Madison, WI.** $34,595. to develop procedures to schedule, accession, and retrieve information from machine-readable records of Wisconsin state agencies. (80-008).

1981 WI **State Historical Society of Wisconsin, Madison, WI.** $33,360. for the second and final phase of a project to develop an archival program for machine-readable public records in the state. (81-144).

1983 PA **Temple University, Philadelphia, PA.** $38,955. to survey machine-readable records in public and quasi-public agencies in seven counties of two states, centered at Philadelphia, as part of the university's program to establish a data archives for the area. (83-056).

1985 KY **Kentucky Department for Libraries and Archives, Frankfort, KY.** $143,869. to develop an archives and records management program for machine-readable records in state government. (85-069).

1990 CA **National Association of Government Archives and Records Administrators (NAGARA), Sacramento, CA.** $10,510. to hold a two-day invitational conference of archivists and information resource management officials to identify and address key issues in ensuring the availability of historically valuable records in electronic formats and to establish a framework for analysis and action. (90-063).

1991 PA **University of Pittsburgh, Pittsburgh, PA.** $65,061. to support continuation of an advanced institute on electronic records and strategic planning for chief administrators of state government archives. (91-073).

1992 NY **New York State Archives and Records Administration, Albany, NY.** $185,398. for a project to analyze information management practices in New York State agencies and to determine how agency policies, procedures, and tools can support electronic records management and archival objectives. (92-086).

1992 PA **Commonwealth of Pennsylvania, Governor's Office of Administration, Harrisburg, PA.** $116,230. to enable the executive branch of state government to develop an electronic records program. (92-063).

1994 IN **Indiana Commission on Public Records, Indianapolis, IN.** $11,000. to hire a consultant to work with the staff of the Indiana Commission on Public Records to formulate a strategic plan that establishes goals and objectives for electronic records activities within the state. (94-041).

1994 MO   **Missouri State Historical Records Advisory Board, Jefferson City, MO.** $22,720. for a planning grant to sustain and increase its activities, assess progress on implementing the recommendations of its 1987 assessment report, and develop a five-year strategic plan, which will include specific approaches for addressing the key problems of electronic records and judicial records. (94-035).

1995 AK   **Alaska State Historical Records Advisory Board, Juneau, AK.** $26,126. for a planning project to be conducted over a two-year period. A total of six meetings are planned, some of which will be held in conjunction with the annual meetings of professional organizations in the state. Using the state's 1984 assessment report as a starting point, working groups will meet with members of various constituent groups to identify needs in one of five areas: electronic records, local government and Native records, records repositories, state government records, or statewide functions and services. (95-019).

1995 MI   **Michigan Department of State, Bureau of History-State Archives, Lansing, MI.** $8,814. to hire an electronic records consultant to assist in assessing the electronic records environment within state government and to identify those steps needed to address the management and preservation of electronic records. (95-001).

1995 MN   **Minnesota Historical Society, St. Paul, MN.** $10,000. for an electronic records consultancy and training project. (95-030).

1995 PA   **City of Philadelphia, Philadelphia, PA.** $62,591. for a one-year project for consultation and training in electronic records, to focus on the city's developing information technology systems. (95-031).

1996 DE   **Delaware Bureau of Archives and Records Management, Dover, DE.** $101,744. for a two-year project to develop an electronic records program for state government records. (96-016).

1996 KS   **Kansas State Historical Society, Topeka, KS.** $28,690. for a project to develop and implement an electronic records management policy for Kansas state government and for local governments. (96-009).

1996 OH   **Ohio Historical Society, Columbus, OH.** $10,000. for a six-month consultancy to assist with planning for the development of the Ohio Electronic Records Archives. Project staff will review state-agency records policies and update them where necessary to integrate the functional requirements for recordkeeping developed under a Commission-funded project at the University of Pittsburgh. (96-019).

1996 PA   **City of Philadelphia, Department of Records.** $17,370. for a four-month bridge grant to continue a Commission-funded project that is developing a program to preserve archival electronic records. (96-089).

1997 AK   **Alaska Department of Education, Alaska State Archives, Juneau, AK.** $10,000. to hire an electronic records consultant. (97-011).

1997 ME   **Maine State Archives, Augusta, ME.** $85,235. for a project: 1) to develop state-wide policies for the identification and retention of permanently valuable electronic records; 2) to develop specific procedures for ensuring that permanently valuable electronic records are identified, retained, and accessible; and 3) to implement a plan for state-wide adoption of the policies and procedures developed. (97-008).

1997 MS   **Mississippi Department of Archives & History, MS.** $171,887. to establish an electronic records program in conjunction with the planned design of and move to a new state archives building. (97-003).

1997 PA   **City of Philadelphia, Department of Records, Philadelphia, PA.** $117,862. to complete the third and final phase of the Philadelphia Electronic Records Project. The overall goal of the project is to develop comprehensive recordkeeping policies and standards for the city's information technology systems. Phase III would extend testing of the functional requirements for electronic recordkeeping developed by the University of Pittsburgh in a related NHPRC-supported project. (97-001).

1999 KS   **Kansas State Historical Society, Topeka, KS.** $74,996. for its Electronic Records Applied Research Project to: conduct applied electronic records management research by testing key elements of the NHPRC-funded electronic records management and preservation guidelines; evaluate the feasibility and effectiveness of the guidelines; and modify the guidelines based upon the research results. (99-020).

2000 MI   **Michigan Department of Management and Budget, Lansing, MI.** $190,255. for a project to test the ability of records management applications (RMA) to classify, store, and manage the disposition of electronic records created in state offices. (2000-059).

2000 RI   **Rhode Island Office of the Secretary of State, Providence, RI.** $49,794. for a project to develop an electronic records program development model and starter's manual for small state archival programs. (2000-037).

2001 MN   **Minnesota Historical Society, St. Paul, MN.** $150,546. for its Educating Archivists and Their Constituencies Project to develop workshops on the eXtensible Markup Language (XML) and metadata as they apply to archival concerns about electronic records. (2001-018).

2001 SC   **South Carolina Department of Archives and History, Columbia, SC.** $37,435. for its Electronic Records Training and Awareness Program to develop and conduct six workshops on electronic records issues. (2001-035).

2003 IA   **Iowa Department of Cultural Affairs, Des Moines, IA.** $43,889. to develop a strategic plan to establish an electronic records program to be administered by the State Archives and Records Bureau. (2003-010).

2003 MO   **Missouri State Archives, Jefferson City, MO.** $42,670. to hire electronic records consultants to develop and conduct two presentations and seven workshops on electronic records issues. (2003-013).

2003 SC   **South Carolina Department of Archives and History, Columbia, SC.** $162,315. for a project to move the Department's electronic records program beyond basic policy guidance to direct involvement with state agencies in addressing electronic records management and preservation issues. (2003-008).

2003 WY   **Wyoming State Archives, Cheyenne, WY.** $29,830. for a project to develop strategies and best practices for managing electronic records with archival value created by state government agencies. (2003-035).

2004 ME   **Maine State Archives, Augusta, ME.** 99624. for Creating the GeoArchives, a collaboration among the state archives and other state agencies that are creating

the Maine Library of Geographic Information (GeoLibrary) to develop the GeoArchives. The project plans to use the expertise and infrastructure of the GeoLibrary to create a repository for archival geo-spatial data created by state and local governments. (2004-084).

2006 CA   **California State Archives, Sacramento, CA.** $220,918. to develop the hardware and software infrastructure to preserve the state's geospatial records created by the California Spatial Information Library. (2006-021).

2007 NC   **North Carolina Department of Cultural Resources, Raleigh, NC.** $102,248. to support a two-year effort, the Preservation of Electronic Mail Collaboration Initiative. (RE05701-07).

2008 NY   **New York State Education Department, Albany, NY.** $41,000. to support basic state historical records advisory board activities and for workshops for basic preservation of electronic records. (RC10036-08).

2010 OH   **Ohio Historical Society, Columbus, OH.** $13,623. to support basic activities, provide electronic records workshops, and print a brochure highlighting the importance of public records. (RC10065-10).

2010 HI   **Hawaii State Archives, Honolulu, HI.** $72,500. to support a planning project for establishing a digital state archives. (RE10030-10).

2011 NC   **North Carolina Department of Cultural Resources, Raleigh, NC.** $30,000. to support the work of the North Carolina Historical Records Advisory Board, including support for a part-time project archivist, web design, and a statewide electronic records forum. (RC10092-11).

2012 CA   **Friends of California Archives, Sacramento, CA.** $29,400. to support the efforts of the California State Historical Records Advisory Board to create curricula for workshops and webinars on the topics of electronic records and the digitization of records. (RC10116-12).

2012 OR   **Oregon Secretary of State, Archives Division, Salem, OR.** $134,419. to support a two-year project to integrate the Governor's office into the Oregon Records Management Solution and to work with the Washington State Digital Archives to create a regional system of managing electronic records from creation to final disposition. (RE10046-12).

2012 WI   **State Historical Society of Wisconsin, Madison, WI.** $29,345. to support the Wisconsin State Historical Records Advisory Board's efforts to promote training related to electronic records best practices, provide training in archival management, and improve collaboration among archivists. (RC10125-12).

Academic Repositories

1993 PA   **Pennsylvania State University, State College, PA.** $7,364. for its Penn State Electronic Records Appraisal Program. The funds would be used to continue the current project archivist for four additional months. (93-037).

1994 NY   **The Research Foundation of the State University of New York, Albany, NY.** $132,027. for a two-year project to explore archival and records management

issues using two electronic recordkeeping systems that are currently being developed for SUNY: a full-text retrieval system for SUNY's official policies and a database application for human resource management transactions. (94-038).

1995 IN **Indiana University, Bloomington, IN.** $122,137. for a two-year project to analyze its existing electronic records system and policy, compare them to models or policies at comparable institutions, and create and disseminate a repository information system model and information policy standards. (95-033).

1995 OH **Ohio State University Research Foundation, Columbus, OH.** $12,634. for the Inter-University Council of Ohio to hold a two-day planning conference concerning electronic records and information management in preparation for extending the manual, Records Retention for Public Colleges and Universities, to include electronic records. (95-024).

1996 NY **Research Foundation of the State University of New York, Albany, NY.** $140,000. for a two-year project to develop and promote the use of a "system development model" that incorporates electronic recordkeeping and archival considerations into the creation of networked-computing and communications applications. Collaborators on the project include the university's Center for Technology in Government, the New York State Archives and Records Administration, and the New York State Forum for Information Resource Management. (96-023).

1996 PA **University of Pennsylvania, Philadelphia, PA.** $123,201. to preserve trial records relating to the development of the Electronic Numerical Integrator and Computer (ENIAC). The ENIAC is generally regarded as the first electronic digital computer. (96-068).

1998 MN **Minnesota Historical Society, St. Paul, MN.** $90,031. for the Society's electronic records project, to establish electronic records pilot programs with two state agencies in order to evaluate the metadata the agencies produce, determine the applicability of that metadata to archival concerns, and establish a set of "best practices" and guidelines that will provide incentives for other state agencies to document their information systems and provide the basis for a functioning, sustainable electronic records program within the state archives. (98-001).

1998 NY **Cornell University, Ithaca, NY.** $123,928. A two-year grant of up to $123,928 for project entitled "Archival Electronic Records Practice, " to study the types of archival electronic records produced on the college level within a large university. The goal is to initiate discussions and provide recommendations that will form the basis for future efforts to implement best practices for electronic recordkeeping for Cornell's centralized university information system (Project 2000). (98-028).

1998 NY **The Research Foundation of the State University of New York, Albany, NY.** $381,332. A two-year grant for a project entitled "Secondary Uses of Electronic Records, " to develop guidelines to support and promote long-term preservation of and access to public electronic records of value to secondary users, including historians and other researchers. The project will examine the factors that contribute to or impede secondary use of records, then use applied research methodologies to assess technology tools, management strategies, and resource-sharing models for their potential to facilitate such access. (98-027).

2000 CT   **University of Connecticut Libraries, Storrs, CT.** $9,184. for a project to develop a strategic plan for identifying, preserving, and providing access to electronic records at the University of Connecticut. (2000-055).

2000 IN   **Indiana University, Bloomington, IN.** $171,374. for a project to implement and test the methodology for evaluating electronic recordkeeping systems developed under NHPRC Grant No. 95-033. (2000-036).

2000 VT   **University of Vermont and State Agricultural College, Burlington, VT.** $19,633. to develop rigorous research goals and methods for testing various methods of providing intellectual access to electronic versions of the texts of historical documents. (2000-057).

2001 CA   **The Regents of the University of California, Los Angeles, CA.** $88,924. on behalf of the University of California at Los Angeles for its Information Technology and Policy Curricula Project to identify educational needs in the area of electronic records management. (2001-036).

2001 IN   **The Trustees of Indiana University, Bloomington, IN.** $94,642. for its Developing Instructional Programs in Electronic Records Management Project to develop and teach classes on electronic records management. (2001-31).

2002 NC   **The University of North Carolina at Chapel Hill, Chapel Hill, NC.** $78,605. to study current end user practices in managing e-mail and electronically transmitted documents in selected offices throughout the UNC system. (2002-025).

2003 NY   **The Trustees of Columbia University, New York, NY.** $86,562. on behalf of the Center for International Earth Science Information Network for a project to identify and disseminate practical policies,techniques,standards,and procedures to manage,preserve,and provide access to electronic records that have significant geospatial components,especially those generated by a Geographic Information System. (2003-038).

2004 MA   **Tufts University, Medford, MA.** $196,908. for the Fedora and the Preservation of University Records project, to test the capabilities of the Fedora (Flexible Extensible Digital Object and Repository Architecture) software to serve as an electronic records preservation system at the Digital Collections and Archives of Tufts University and the Manuscripts and Archives section of the Yale University Library. (2004-083).

2007 MI   **Michigan State University, Lansing, MI.** $189,067. to support a two-year project for the preservation of specialized electronic mailing list archives. (RE05699-07).

2008 MA   **Tufts University, Medford, MA.** $149,974. to support an accessioning program for electronic records. (RE10005-08).

2008 MD   **The Johns Hopkins University School of Medicine, Baltimore, MD.** $50,000. to support an assessment of the viability for an Electronic Records Management Consortium for the four major Johns Hopkins Medical Institutions. (RE10014-08).

Other Types of Repositories

2001 MA **The Global Industry Interagency Group, Woburn, MA**. $199,998. for its Good Electronic Recordkeeping Practices Project to pull together from the best available knowledge and practices Good Electronic Records Practices for the long-term preservation of and access to electronic records. (2001-032).

2004 CT **Mystic Seaport Museum, Inc., Mystic, CT**. $33,206. for the Daniel S. Gregory Ships Plans Electronic Access Project, to convert descriptive information from a card catalog and worksheets into various electronic formats. The project staff will create 20 collection-level records, 3,412 design-level records, and at least 3,412 vessel authority records. (2004-067).

2007 ME **Northern Maine Development Commission, Caribou, ME**. $32,200. to support preserving electronic records in Northern Maine. (RE05698-08).

2010 TX **Goodwill Industries of Central Texas, Austin, TX**. $50,940. to establish a Library and Archives at the Goodwill Computer Museum, an educational and research institution, for collecting the documentation related to vintage computer equipment. (RB50097-10).

2010 TX **Museum of Fine Arts, Houston, Houston, TX**. $47,820. to support a planning project for archiving its electronic records. (RE10029-10).

2011 LA **New Orleans Jazz and Heritage Festival, New Orleans, LA**. $21,500. to support a two year project to create a comprehensive plan and increase the capacity of the Festival Archive to create an Electronic Records Archive. (RE10037-11).

2011 NY **Brooklyn Institute of Arts and Sciences, Brooklyn, NY**. $74,521. to support an eighteen month project to survey the Brooklyn Museum of Art's electronic records; develop practical policies and procedures for managing selected areas of electronic records; and to initiate a training program for Museum staff on managing their electronic records. (RE10032-11).

Appendix 5. NDIIPP-sponsored State Electronic Records Projects

In the last decade, the Library of Congress' National Digital Information Infrastructure and Preservation Program (NDIIPP) has been a prime mover in fostering the preservation of state government information. In 2005, all 50 states and three of the territories participated in a series of NDIIPP-sponsored workshops that focused on the preservation of digital information in state governments.[7] In 2008, NDIIPP approved proposals for four multi-state projects funded by awards totaling $2.25 million.

Christopher Lee has written a detailed description and analysis of the four NDIIPP state projects, *States of Sustainability*.[8] He describes the many successes and challenges experienced by the NDIIPP state projects which provide important guideposts for all state and territorial archives—and for CoSA's SERI Project—as it moves forward. Lee is a member of the SERI advisory group and participated in the discussions that led to the four "planks" of the SERI program described on page 4 of this SERI Phase One report. His NDIIPP report contains three recommendations that harmonize with and support SERI's own goals and methods:

Adopt Robust Strategies. Lee encourages states to "cast their collaboration nets widely," and notes that "partnerships with chief information officers, software vendors, advocacy groups, and domain experts from data-intensive units of agencies can be just as important as partnerships with librarians and archivists." SERI's Advocacy and Awareness plank is focused squarely making key stakeholders understand why they should care about electronic records management and preservation and engaging them in partnerships to address the problems. CoSA values its ongoing and active relationship with the National Association of State Chief Information Officers. Over the last decade, NASCIO's leadership has worked hard to educate state CIOs about electronic records issues and assisted state archivists in connecting with their CIOs and other IT staff in their states. More broadly, CoSA can build on existing relationships with other organizations representing important stakeholders and already has identified others to whom it will reach out. The training and information resources developed and delivered through SERI will provide individual state and territorial archivists with the background and tools needed to communicate effectively at the state level with those from other disciplines. In addition, SERI's approach to training will be designed to foster mentoring relationships between more advanced states and states that are just beginning to develop electronic records programs.

Continue of Look Outward. Because digital preservation is characterized by rapid and broad scale change, with "frequent emergence of new projects, technologies, models and funding opportunities," Lee asserts that archives and records professionals must be engaged in and

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[7] **Preservation of State Government Digital Information: Issues and Opportunities**. Report of the Library of Congress Convening Workshops with the States. Library of Congress, National Digital Information Infrastructure and Preservation Program. October 2005. http://www.digitalpreservation.gov/documents/preserving_state_gov_info2005.pdf.

[8] Christopher A. Lee, *States of Sustainability: A Review of Sate Projects Funded by the National Digital Information Infrastructure and Preservation Program (NDIIPP)*. March 2012. http://www.digitalpreservation.gov/multimedia/documents/ndiipp-states-report032612_final.pdf.

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monitor professional forums and events as a "valuable way to learn about trends ,innovations, and opportunities. He also encourages exchanges of "information and experiences" across state lines while clarifying that "collaboration does not require conformity to a single approach across all states." SERI's planned portal on electronic records will be designed to provide ready access for state archives and records management programs to the most important and relevant developments. Rather than expecting individual state archives to monitor dozens of sites and evaluate the significance of hundreds of announcements of new programs and technological advances each year, SERI will watch for developments and post them with explanations of how and why they relate to electronic records in state governments. The portal will also highlight ongoing collaborations and encourage staff in state archives to get involved, and then communicate back through the portal to the rest of their colleagues about what they are learning. This will give the state archives community as a whole multiple channels to communicate with academic, technological, commercial, and other sectors.

Pick a Mode of Contribution and Act on It. Because collaboration is so important, each entity entering into a collaborative effort must be prepared to contribute something valuable to the group.

National Digital Information Infrastructure Preservation Program
NDIIPP State Projects, 2008-2011

Geospatial Multistate Archive and Preservation Partnership (GeoMAPP)

Partner states:
KY, MT, NC (lead), UT
Informational partners:
AZ, DC, GA, IL, KS, MD, ME, MN, MS, NY, TX, WI, WY

Goals: demonstrate a network for transfer and replication of geospatial data within and between states with a focus on preservation of at-risk and temporally significant data. Generated detailed guidance for states re: ingest and management of geospatial data. Released GeoMAPP Geoarchiving Business Planning Toolkit in December 2011.

■ Lead partner
■ Partner
□ Informational partner

Multi-State Preservation Partnership (MSPP)

Partner states:
AK, CA, CO, ID, IN, LA, MT, NC, NV, OR, TN, WA (lead)

Goals: Build on the Washington State Archives digital archives environment to implement a centralized regional repository for state and local digital information. Included development of two components: ArchiveThis! (for submissions to the repository) and Auto Todd (performs various ingest functions).

Model Technological and Social Architecture (MTSA) for the Preservation of State Governmental Digital Information

Partner states:
AR, CA, IL, KS, MN (lead), MS, NE, ND, TN, VT

Explored a variety of technical approaches and architectures for access to and preservation of legislative digital records. Provided training, generated guidance documents. Tested Merritt system and Web Archiving System (U of California Curation Center-UC3) and Safety Deposit Box (Tessella). Partnered with Kansas Enterprise Electronic Preservation (KEEP) project that is building an enterprise-wide trustworthy digital repository for all three branches of Kansas government.

Persistent Digital Archives and Library System (PeDALS)

Partner states:
AL, AZ (lead), FL, NM, NY, SC, WI

Technical goals: (1) develop a curatorial rationale to support an automated integrated workflow to process collections of digital publications and records, and (2) implement "digital stacks" using an inexpensive storage network that can preserve the authenticity and integrity of the collections. **Social goal:** build a community of share practice including a wide range of repositories and remove barriers to technology adoption by keeping costs low.

Table prepared by CoSA based on information contained in Lee, *States of Sustainability* (2012).