



# MoVE-IT:

## Modeling Viable Electronic Information Transfers

A JOINT RESEARCH PROJECT OF  
Council of State Archivists  
Preservica, Inc.  
AVP, Inc.

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## About CoSA

Formed in 2002, the Council of State Archivists (CoSA) is a national nonprofit using collaborative research, education, and advocacy to provide leadership that strengthens and supports state and territorial archives in their work to preserve and provide access to government records. Its members comprise the state archivists in the 50 state, 5 territorial and District of Columbia archives. These individuals oversee agencies that hold a legal mandate to document government and protect the rights and history of the American people across our country.

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# Preface

The year 2021 is the 10th anniversary of CoSA's State Electronic Records Initiative (SERI). I can think of no better recognition of that anniversary than the publication of the [MoVE-IT \(Modeling Viable Electronic Information Transfers\)](#) Report. SERI was launched to focus on improving management, preservation, and access to state and territorial government electronic records in all 56 states and territories. SERI has supported the state and territorial archives through self-assessments, guidance documents, community exchanges, and professional development opportunities. The state and territorial archives have supported the work of SERI, their archival community, and themselves through participation in and development of these efforts. Indeed, all of the SERI work is accomplished through the commitment of the CoSA members who provide time, expertise, and passion to the projects.

The MoVE-IT Report is similarly a CoSA product made possible by the community. CoSA would like to thank [Preservica](#) and [AVP](#) for the financial support and project guidance they have provided. Lori Ashley of Preservica and Amy Rudersdorf of AVP have been instrumental in the scoping, shaping, and direction of this report. The focus group participants—state and territorial archivists who participated in the review and discussion of state electronic records content transfer projects—have provided insight, guidance, and direction throughout the project. Their participation has resulted in a deeper understanding of what elements are critical to successful content transfers and should therefore be prioritized. CoSA's appreciation goes to:

- Rachel Smith, Digital Archivist, Alabama State Archives
- Megan Rohleder, Senior Archivist of Public Services, Kansas Historical Society
- Derek Clark, Electronic Records Branch Manager, Kentucky Department for Libraries and Archives
- Roger Christman, Senior State Governor's Records Archivist, Library of Virginia
- Frank Patnaude, Director of Information Technology Development, Maryland State Archives
- V. Joyce Phelps II, Records Transfer Archivist, Maryland State Archives
- Veronica Martzahl, Digital Archivist, Massachusetts State Archives

- Tyler Stump, Digital Archivist, Pennsylvania State Archives
- Erin Gallagher, Electronic Records Description Archivist, State Archives of North Carolina
- Mark Myers, Senior Electronic Records Specialist, Texas State Library and Archives Commission
- Debbie Bahn, Digital Archivist, Washington State Archives

Our sincerest thanks also go to Nick Connizzo, (Project Manager and Lead Researcher), and Michelle Gallinger, (SERI Coordinator) who have spearheaded the project on CoSA's behalf. Nick's professional expertise, research, facilitation, and writing skills have brought this project to fruition with this written report documenting the process and offering insights and recommendations for successful transfer of electronic records within state and territorial governments. Michelle's steady guidance, encouragement, and knowledge have been invaluable to advancing SERI's impact as CoSA's flagship educational and training program.

The MoVE-IT report has been the result of community support and involvement. It also is an indicator of the SERI's plans for the future, reflecting the interest CoSA has in developing templates and workflows for digital preservation work to support state and territorial archives in their management of state electronic records. CoSA envisions that the next 10 years of SERI will involve providing support to state and territorial archives in new and detailed ways. The MoVE-IT report is an opportunity for CoSA's SERI to identify and focus on the elements of content transfer that would be of most benefit to state and territorial archives.

Barbara Teague  
Executive Director  
Council of State Archivists



# Executive Summary

The Modeling Viable Electronic Information Transfers (MoVE-IT) project builds upon work surveying state and territorial archives regarding the efficacy of their electronic records management and digital preservation programs. Leveraging the findings from two previous reports, *A National Risk* (2017)<sup>1</sup> and *Toward a Common Understanding* (2019)<sup>2</sup>, the MoVE-IT project sought to identify and analyze a set of successful agency-to-archives electronic records transfers in order to better understand required roles, methods, and benefits for all stakeholders.

In the 2016 *State of the State Electronic Records Report*, CoSA members identified exponential growth in electronic records in state and territorial government, increasing 1,693% over the previous decade. Despite this growth in electronic recordkeeping, many of these records remain housed in agency systems unsuited for long-term digital preservation. As governments have transitioned from traditional paper workflows and recordkeeping processes to fully digital ones, the slow development of electronic records management processes has created an area of great concern for the preservation of the historical record. Due to the fragile nature of electronic records and legal requirements for retention of and access to public records, this situation presents significant risk: documentary evidence of the nation's decisions, actions, and consequences being lost forever.

In 2019, to better understand the reasons why electronic records classified for permanent historical preservation were not making their way to archival repositories, CoSA and partners surveyed agencies, IT units, and archives in US states and territories, the results of which were published in *Toward a Common Understanding* that year. This research of backlogged holdings looked at a variety of areas including the availability and currency of transfer guidance and protocols, level of collaboration and engagement between the parties, and types of applications holding permanent records. The results were concerning, as 60% of agencies surveyed across 27 states reported that they did not identify or did not know how to

identify permanent public records, and 42% reported they were unaware of how to transfer records to permanent repositories.

CoSA initiated the MoVE-IT project to address some of these challenges, with the goal of profiling successful electronic records transfers covering a variety of record types, producing agencies, and source systems of records. Analyzing a select set of successful, but divergent, transfer projects provided an opportunity to identify success factors with the intent of turning them into actionable tools and resources for archives, producer agencies, as well as IT support staff to promote more effective and efficient processes for digital preservation.

## Methodology and Model Projects

CoSA issued a call for expert digital archivists and successful electronic records transfer projects in state and territorial governments, which yielded a dozen practitioners from archival institutions and seven projects. The experts formed a focus group, some providing detailed accounts of model transfers while all reviewed and analyzed the data and results, and provided guidance and support to the MoVE-IT project manager.

The MoVE-IT project brought together a dozen experts from across the United States to profile, analyze, and dissect the examples of electronic records transfers from the past decade and found that the projects could hardly be more different in their specific details. At the same time, the projects were quite similar in theoretical approach and methods. Solid theoretical foundations based on standards and best practices allowed the experts to build sustainable and reliable processes that were able to be adopted and executed by those with limited digital records management experience. State and territorial governments may not yet be fully mature in terms of their enterprise-wide digital preservation programs, but efforts to preserve electronic records can be built upon the most basic of foundations: well-articulated requirements, shared vision and priorities, and close collaboration across government agencies despite different mandates.

<sup>1</sup> [Council of State Archivists. \*A National Risk: State of the State Electronic Records Report\*, 2017.](#)

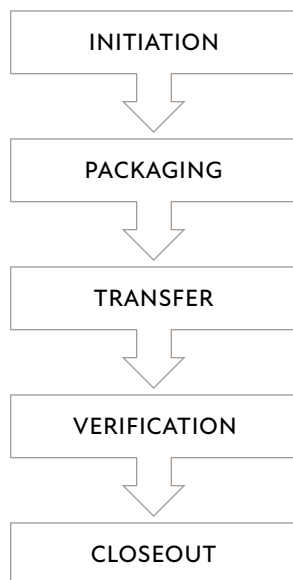
<sup>2</sup> [Council of State Archivists. \*Toward a Common Understanding: Insights on Inter-Agency State Electronic Records Transfer\*, 2019.](#)

## Findings

Analysis of the model projects<sup>3</sup>, their governmental context, and lessons learned showed that the following factors to be highly correlated with electronic records transfer success:

- **Strong collaborative relationships between stakeholders:** Transfer projects are time-consuming and have many moving parts involving different staff from multiple government agencies. Strong, centralized coordination ensured that the archives could drive the process and address any issues that arose. Producer agencies developed confidence in the archives and a willingness to work through the, sometimes, challenging process of records transfer as a result of relationship-building. Clear, open channels of communication between all stakeholders were keys to success.
- **Thorough understanding of the recordkeeping and technological context:** The creation, use, and recordkeeping context of the electronic records are the requirements upon which the transfer model must be built. Archivists who had access to and knowledge of this context were able to develop models and processes that successfully accounted

for and preserved the essential elements of public records.



- **Flexible workflows:** There is no one-size-fits-all approach to transferring electronic records, as the details and context of individual records sets and circumstances of each transfer are likely to be unique. Some transfers involve small quantities of records administered by few staff over a few months, while others involve dozens of staff transferring records regularly over the course of years. Being able to address variables including organizational context, records collection size and format, and transfer frequency, while providing a simple, manageable, and clearly-articulated framework was key to the success of these transfer efforts.

- **Shared terminology:** Transfer processes necessarily require the collaboration of multiple staff from multiple government agencies. Clear language that is free of excessively technical terminology aids

transparency in documenting requirements and processes. Collectively establishing these guideposts, in a process driven by digital preservation and access needs, led to success through common ground and shared visions for success.

The following factors were less correlated with transfer project success:

- **Use of specific technologies:** While technology tools are obviously necessary for the packaging, transfer, and verification of electronic records, there was very little common ground in the tools utilized by the archivists involved with the MoVE-IT project set. More important was the understanding and articulation of the roles and requirements that these tools addressed. For example, the specific software used to generate and verify fixity information was less significant than the use of fixity information to ensure data integrity; whether it was performed mattered much more than how it was performed.
- **Funding:** Some of the MoVE-IT projects had specific funding attached but for the most part these specific transfers were conducted in the normal scope and purview of the archives' functions. Additional funding, when present, was used to build capabilities, not ensure successful transfers. Investments in training and process development provided the foundations for success rather than additional resources spent on technologies. In fact, much of the software and hardware used in these projects was open-source (free) or included with existing governmental platforms (e.g. Windows-based utilities).
- **Agency recordkeeping maturity:** Highly successful transfers can be conducted with relatively inexperienced agency staff if archives provide clear guidance. While organizational maturity in terms of records management, information governance, and taxonomic description are desirable for many reasons, they are not required. Archives can and should be able to adapt to the circumstances present at their producer agencies in order to meet public recordkeeping requirements.

### SUCCESS FACTORS

- Collaboration between stakeholders
- Understanding of recordkeeping and technology
- Flexibility
- Common terminology

Opportunities for CoSA and its partner organizations to leverage the findings include:

- **Training/Education with IT professionals:** CoSA can leverage existing relationships with organizations like the National Association of State Chief Information

<sup>3</sup> See Appendix B for a cross-section of data collected for each project

Officers (NASCIO) to provide archives and IT agencies with a framework of requirements and mechanisms for electronic records transfers. The domains of IT and archives necessarily overlap in the management of data, and establishing working groups that can create practical approaches to requirements-gathering and procurement will enhance both disciplines.

- **Improving infrastructure:** State and territorial archives and archivists are knowledgeable and well-equipped to handle the challenges of accessioning electronic records; however, the state of records (including their description and arrangement) at public agencies is something of a “black box.” Often, archivists know little about the records before being notified that a transfer is desired. Archivists need better tools and processes for collaborating with their stakeholders to survey, inventory, and classify records “in place” to determine their organization, meta-data elements, and requirements.

#### OPPORTUNITIES:

- Transfer training
- Improving Infrastructure
- Flexible Tools

- **Simple tools to meet complex needs:** Many of the tools available to archivists have significant limitations such as complexity, incompatibility

with the Windows-based computing environments common to most governments, and unreliability or inapplicability to a wide variety of transfer situations. CoSA should work with its members to clearly articulate functional software requirements for the entire records lifecycle. Additionally, investments in efforts to develop simple software that preserves essential qualities of records that can be used with basic training would be welcome.



# Introduction

Public records are one of the cornerstones of democracy. They contain essential evidence of the decisions, actions, and consequences of government agencies and officials, and are the primary vehicle through which they are held accountable by its citizens. For centuries, the federal government of the United States and its states and territories have recognized the value provided by the management, preservation and provision of access to public records.

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## Preservation has and will require a substantial investment both in the technological and human resources that support this requirement.

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For the better part of the second half of the 20th century and into the first decades of the 21st, essentially all levels of public administration have utilized computer technology for business operations and citizen service. Records created by and stored on computer devices are electronic records, and nationwide public records laws apply to the management, preservation, and provision of access to electronic records in much the same way as analog records. As electronic records require hardware and software to render and interpret the information contained within, the infrastructure necessary to support and maintain these records must reflect these requirements. Public agencies for the most part have assembled this required technology over the last half-century; however, despite this infrastructure, electronic records remain extremely fragile.

Public archives are the designated repositories of government records with permanent administrative, legal, or historical value. As analog records of permanent value have traditionally made their way to the archives after the end of their operational use, so must electronic records. In many jurisdictions in the United States, it is the responsibility of public archives to preserve indefinitely those electronic records appraised

as permanent, and to guard against loss, theft, and destruction, accidental or otherwise. This preservation has and will require a substantial investment both in the technological and human resources that support this requirement.

### Problem Statement

In 2016 the Council of State Archivists (CoSA) conducted a nationwide survey of state and territorial archives aimed at capturing standards of practice in digital preservation and electronic records management.<sup>4</sup> Among the most important findings was the incredible growth in the number of electronic records in state government, increasing by at least 1,693% from 2006-2016.<sup>5</sup> The vast majority of these records were at the time stored in business systems, operational databases, network drives, and vendor-managed cloud platforms at their creating agencies and not in the custody of archival institutions. Many, if not most, of these platforms were not designed with long-term digital preservation in mind and lack the functions necessary to ensure that electronic records retain their authenticity, reliability, and integrity that is required of public records.

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## Electronic records are extremely fragile. They both share the risk factors for traditional analog records, as well as face additional threats...

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Electronic records are extremely fragile. They both share the risk factors for traditional analog records, as well as face additional threats like power surges, operator error, and simple bit-rot that make the task of preserving digital information that much more difficult.

Less than half of state agencies participating in a recent CoSA/NASCIO survey indicated that they possess government records with permanent value.<sup>6</sup> This

<sup>4</sup> [Council of State Archivists. The State of State Records 2016-2017.](#)

<sup>5</sup> [Council of State Archivists. A National Risk: State of the State Electronic Records Report, 2017.](#)

<sup>6</sup> [Council of State Archivists. Toward a Common Understanding: Insights on Inter-Agency State Electronic Records Transfer, 2019.](#)

signaled a concern given that every public agency at a minimum creates administrative records of official decisions and policy that would likely be appraised as permanently valuable in nearly every jurisdiction in the US. Furthermore, the survey also revealed a lack of consensus among agencies, archives, and state IT agencies as to which information systems and repositories contain permanent archival records. Thus:

- Public agencies have a growing backlog of electronic records appraised for permanent preservation;
- There is a lack of consensus about which records these are and where these records are stored;
- Electronic records managed in systems that lack digital preservation capabilities are at risk of losing authenticity, integrity, and reliability over time;
- Many states and territories lack mature formalized policy or process for migrating electronic records from agency systems to the custody of the archives.

The MoVE-IT project sought to investigate whether the transfer process itself is a significant impediment to addressing this systematic situation. The reasons are myriad: data at rest is generally more secure than data in motion, so most operational systems are not designed to easily transmit (i.e. copy and delete) data; the expertise required to safely transfer valuable data is in short supply; and easy-to-use mechanisms (including software) are not readily available to extract data from the aforementioned systems and to route it to archival repositories. By looking throughout the country for best practices in transfers, the project sought to both articulate the difficulties in transferring electronic records while highlighting best practices so that archives and their institutional partners can improve their processes and tools into the future.

# Project Scope and Methodology

Following the publication of *Toward a Common Understanding*, the Council of State Archivists, Preservica<sup>7</sup>, and AVP<sup>8</sup> collaborated to scope a follow-on project to address risks and some issues arising from the research. Paramount among the objectives was identifying what collaboration between the identified stakeholders was required and what an exemplar electronic records transfer looked like. After the project's inception, a Steering Committee was formed, which included:

- Nick Connizzo, CoSA Project Manager and Lead Researcher
- Lori Ashley, Preservica
- Michelle Gallinger, CoSA State Electronic Records Initiative Coordinator and Project Sponsor
- Amy Rudersdorf, AVP

The Steering Committee met weekly throughout April 2020 to define the scope of the project, outline the methodology to be used by the project manager, and determine the goals and potential deliverables for the project. Ultimately it was determined that the project would leverage input from experienced digital archivists in CoSA's state and territorial membership and focus on examples of successful transfers of electronic records. These projects (the exemplar transfers) would be profiled in-depth in search of common success factors, shared difficulties, and best practices.

In addition to defining the scope of the project and mapping out its timeline, the Steering Committee collaborated to draft a questionnaire<sup>9</sup> for model transfer projects, which was intended to be a central focus of the information-gathering process. As a qualitative study, more focus was devoted to open-ended questions to allow the digital archivists to elaborate and consider all factors that contributed to the success of the transfer. During the information-gathering phase of the project, details gathered during the early interviews reinforced and contributed to the questionnaires in later interviews and in the analysis of the projects.

To assemble the focus group of expert digital archivists, the Steering Committee used a two-pronged approach: CoSA's Executive Director, Barbara Teague, announced the formation and scope of the project to all state and territorial archivists along with a solicitation directly to their archives for exemplar transfers and experienced staff with availability to be a part of this focus group. At the same time, the Project Manager reached out to individual digital archivists who had previously participated with CoSA, SERI, or other governmental digital preservation initiatives. In addition, archives which had self-identified in prior CoSA surveys as having a high level of digital preservation maturity were targeted and individually contacted as well. Over 75 individuals in all state and territorial archives were directly contacted as

## Focus Group Membership

| Archivist/Staff    | Title                                          | State | Organization                                   |
|--------------------|------------------------------------------------|-------|------------------------------------------------|
| Rachel Smith       | Digital Archivist                              | AL    | Alabama State Archives                         |
| Megan Rohleder     | Senior Archivist of Public Services            | KS    | Kansas Historical Society                      |
| Derek Clark        | Electronic Records Branch Manager              | KY    | Kentucky Department for Libraries and Archives |
| Roger Christman    | Senior State Governor's Records Archivist      | VA    | Library of Virginia                            |
| Frank Patnaude     | Director of Information Technology Development | MD    | Maryland State Archives                        |
| V. Joyce Phelps II | Records Transfer Archivist                     | MD    | Maryland State Archives                        |
| Veronica Martzahl  | Digital Archivist                              | MA    | Massachusetts State Archives                   |
| Tyler Stump        | Digital Archivist                              | PA    | Pennsylvania State Archives                    |
| Erin Gallagher     | Electronic Records Description Archivist       | NC    | State Archives of North Carolina               |
| Mark Myers         | Senior Electronic Records Specialist           | TX    | Texas State Library and Archives Commission    |
| Debbie Bahn        | Digital Archivist                              | WA    | Washington State Archives                      |
| Nick Connizzo      | Project Manager                                | CoSA  | Council of State Archivists                    |

<sup>7</sup> <https://preservica.com/>

<sup>8</sup> <https://www.weareavp.com/>

<sup>9</sup> See Appendix D for the questions from the questionnaire

## Model Projects\*

| Records Set                                                                       | State | Major Record Types                                                                    | Branch and Agency          | Systems                                                          |
|-----------------------------------------------------------------------------------|-------|---------------------------------------------------------------------------------------|----------------------------|------------------------------------------------------------------|
| Governor Matthew Bevin Administration                                             | KY    | Various – including photographs, audio, video, administrative documents               | Executive (Governor)       | Various – network drives, personal drives, cloud                 |
| Maryland Judiciary Court Clerks Land Instruments                                  | MD    | Various – mostly TIFF and PDF imagery of court-filed records                          | Judicial (District Courts) | MS Access, Reformatted/Scanned analog originals                  |
| Center for Geographic Information and Analysis GIS Data                           | NC    | GIS images and metadata                                                               | Executive (NCGIA)          | GIS Data (structured)                                            |
| Pennsylvania Department of Military and Veterans Affairs Persian Gulf Bonus Files | PA    | Documentary records, specifically agency-reformatted analog records to PDF, TIFF, PNG | Executive (PDMVA)          | Vendor-supplied proprietary software, reformatted analog records |
| Governor Rick Perry Administration                                                | TX    | Various – including email, photographs, video, administrative records                 | Executive (Governor)       | Various                                                          |
| Governor Terry McAuliffe Administration                                           | VA    | Various – including email, databases, administrative documents                        | Executive (Governor)       | IQ/CRM, Outlook, MSOffice                                        |
| Washington State Superior Court Case Files                                        | WA    | Casefiles, primarily scanned or born-digital JPG/TIFF/PDF                             | Judicial (Superior Court)  | Case Management systems at each participating court              |

\* Appendices B and C contain additional information on these transfers. They consist of brief narratives regarding the individual transfers in addition to the collected data.

part of this search, with the goal of finding as broad a coverage of both institutional maturity and exemplar size, scope, and type as possible.

As part of the focus group solicitation, the archivists were asked to provide a number of model transfer candidates. The Steering Committee sought four to six model projects to round out its focus. Projects were selected that would provide a broad coverage of multiple record types (e.g., administrative reports, election results, executive orders, court cases), multiple agencies (Governors' offices, IT agencies, courts, etc.), and multiple systems of origin (productivity applications/platforms, databases, GIS platforms). Since the project would involve qualitative examinations of every detail of each transfer, a diverse set of exemplar projects was required to ensure that as many different permutations were captured.

The project team was looking for not only specific types of transfer projects but a self-assessed standard of "highly-successful." The project team stressed that this terminology emphatically did not mean "flawless," neither did it mean that it had to reflect modern standards of practice. The goal of studying these projects in-depth was to attempt to account for as many variations of process and practice as possible. The ultimate goal of this project was to search for best practices to inform guidance and tools that could be applicable broadly for archives across the United States, having broad coverage is essential.

Some states and territories responded to the initial query asking for clarification, but a number specifically suggested digital archivists on staff to be included in the project. Others declined to join the project, citing lack of expertise, lack of specific staff, concerns about staff time and access to resources during the COVID-19 pandemic, and lastly that the archives had received few or no electronic records transfers. The project manager solicited over a dozen candidates and narrowed it to a final slate of seven candidates, which were then approved by the Steering Committee as meeting the goal of broad coverage of record types, agencies, and systems of origin.

After final selection of the model projects, the Project Manager scheduled individual interviews during the months of June and July 2020 (and one joint interview with members from the State of Maryland) during which time they collaboratively walked through the transfer from inception through closeout. Questionnaires were used as guides but the discussion of the practice and process of the individual exemplars was left up to the archivists describing them. After gathering information on the successful projects, the Project Manager returned to each of the participating focus group members a fully complete and expanded template for their review. Once finalized, the entirety of the data was shared with the focus group and with the Steering Committee, comparing similar segments of data. This corresponded with the first presentation by the Project Manager to the CoSA/SERI audience.<sup>10</sup>

<sup>10</sup> This presentation can be found at: <https://www.youtube.com/watch?v=oevjOg-LHko>

Following the review of the data, in August 2020, the Project Manager divided the focus group into three segments—each focused on a different aspect of the Information Technology Infrastructure Library (ITIL)<sup>11</sup> People-Process-Technology framework. Each subgroup met to discuss and review the tools and guidance borne out of the analysis of the exemplar data. The People group focused on analyzing the staffing, expertise, and collaboration aspects of records transfers with a goal. The Process group focused on the policy and procedural considerations that impact transfers. And lastly, the Technology group focused on aspects related to the software and hardware that could be part of records transfers. These groups were not rigidly defined so core topics such as “vendor relationship management” were discussed in all subgroups.

During this phase the focus group members also got an opportunity to interact with some of the data collected and make direct suggestions about the outputs of the project. At the core of the project was the expertise and contributions of the focus group members, whose experience with the specific transfers was far eclipsed by their overall knowledge on the processes and tools used to conduct electronic records transfers. Indeed, many of the projects led to large-scale systemic changes in procedure or structure, major advancements in digital preservation capability, or the development of institutional knowledge that led to impacts far greater than the individual exchanges of data. The successful execution of transfer projects was a catalyst for improvement in digital preservation within the archives. As such, if CoSA were to directly support content transfer activities for its members, it would likely yield a widespread benefit to the archives’ digital preservation programs.

To conclude the project, the Project Manager shared draft versions of the tools and guidance with the focus group members for input and review, and finalized these resources with the Steering Committee before publication of this report. A second webinar is scheduled in early 2021 to announce publication of the report and present the final results of the project, along with the tools and recommendations.

<sup>11</sup> Information Technology Infrastructure Library (ITIL) framework, which has been absorbed into and is a component of [ISO-20000](#)



# Project Analysis

The analysis of the seven selected projects came down to a combination of ethnographic analysis (insofar as the focus group members, in their interviews, examined as closely as possible the governmental context in which the transfers took place) and a close examination of case studies. These results should not be taken as the only methods to which strict adherence is necessary—indeed, a close examination of the individual project narratives should indicate that very few of them went exactly according to plan, and all of the archivists involved in the focus group mentioned that there were significant changes to process and policy that resulted from these projects. The analysis thus focused largely on trends across government; the individual cases can and should be examined individually but, as with all of archival practice, *context is key*. The scope of this report is not large enough to present a complete picture of the governmental, political, and archival context of each of these transfers.

## Foundational Context

Each transfer project had at least one transfer event (that is, the custodial exchange of records) in the five years preceding this report. Notably, for several of these transfers (Maryland's Court records and North Carolina's GIS Records), the process of initiating the transfer began years earlier (NC in 2008) or that regular transfers have been ongoing for decades (MD since 2001). Others had shorter lead times from the initiation of the transfer to the actual custodial exchange, the shortest being the various Governors' records (TX and KY especially) which had less lead time. This is for good reason—elected officials' administrations can come to an end suddenly and unexpectedly, providing less time to prepare thorough retention and transfer arrangements. Recency in transfer timing is relevant for several reasons, chief among them being the preservation environments available at the archives.

Several states and territories reported during the initial survey that they had not accessioned any electronic records due to not having a proper repository in which to preserve them. Indeed, one project (records of Texas Governor Rick Perry) had little in the way of digital preservation at the time they were contacted by the Governor's office and notified about an upcoming planned transfer. Digital preservation capabilities were

established by the Texas State Library and Archives Commission in response to this expected transfer. Lack of suitable repositories for long-term records retention and preservation is a serious issue facing state and territorial government.

There was little commonality among projects in the nature and role of the systems that either created or housed records prior to transfer. Some systems were proprietary or vendor-hosted, while others were homegrown or managed by government staff. In nearly every project, however, there was an existing government-vendor relationship (typically with the originating agency) that impacted the project. In some cases, agency or archives staff were able to extract records directly from these systems, while in others, requests had to be made of vendors to comply with transfer and preservation requirements.

Additionally, many of the transfers involved the creation of new records series or were the first transfers of their kind. Transfers of routine sets of records (such as MD's land instruments or WA's court records) continued at regular intervals; others were discrete transfers of a single set of records. The creation of new records series requires time and effort including the drafting of records schedules (and all attendant legal and policy analysis), preparing descriptions of records, collaborating with records creators, and so on. Archives reported that the number of staff assigned to many of these projects was small, creating challenges for the timely completion of the tasks required of a well-formed electronic records transfer.

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## Records schedules provide the legal foundations upon which the pillars of the transfer are built.

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All of the MoVE-IT projects had records schedules or similar instruments in place. These were absolutely essential to the transfer processes. Records schedules provide the legal foundations upon which the pillars of the transfer are built. They can include descriptive elements in the form of classification and taxonomy. They contain retention information, which notifies all

parties involved when records are eligible for disposition. And lastly, they typically consolidate all relevant law into a single instrument. For all of the studied projects, record schedules were either up-to-date at the time of the transfer or were updated as a result of the transfer itself.

### Policies, Procedures, Roles and Responsibilities

An important measure of foundational context is the availability of operational policies and procedures governing the transfer process, and staff from each of the stakeholder groups who have the expertise, accountability, and resources to carry out these procedures.

Up-to-date procedures for the transfer of electronic records were not present at the outset of several of the projects. This is not surprising—as previously addressed, several of these transfers were the first of their kind and others substantially affected the subsequent development of policy and procedure, if not outright prompting the stakeholders involved to change and update those procedures immediately in order to execute the transfer. An informal survey of state archives’ published policies and procedures<sup>12</sup> conducted as part of this project found that a majority of states did not have electronic records transfer procedures or instead had a single set of procedures for both paper and electronic records transfers. Indeed, many of the MoVE-IT projects used procedures at the time of transfer that had been closely adapted from physical records transfers in place at the time.

Despite the seeming lack of up-to-date procedures, however, all of the studied projects had specific roles and responsibilities assigned to staff of all three stakeholder groups. As a matter of taxonomy, the MoVE-IT data collection inquired about three major groups of staff roles:

- **Communications/Administration:** staff specifically dealing with collaboration and process management
- **Technicians:** staff specifically performing selection, packaging, transfer, and verification activities required to complete the physical transfer
- **Authorizers:** staff (typically leadership or records custodians) who were responsible for signing off on the intellectual custody transfer

These roles are not mutually exclusive, and for several of the exemplars the same staff members (especially on the archives’ side) filled multiple roles in the process.

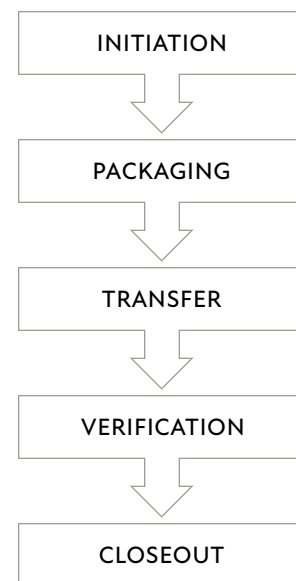
At the agencies, the roles were most often distributed widely, with most staff falling into the *technician* role.

**...strong relationships (and a shared understanding of goals and priorities) were essential to the success of the transfers, even in the absence of standards of practice.**

Additionally, all focus group members stressed that existing relationships among the archives, agencies, and IT were strong and that these strong relationships (and a shared understanding of goals and priorities) were essential to the success of the transfers, even in the absence of standards of practice. Furthermore, all states surveyed have robust records management programs (whether part of the archives agency or elsewhere placed throughout state government) who worked closely with archivists on these projects or were responsible for training and education for agency staff. In certain cases, records and information management (RIM) professionals (either as designated by law or by expertise and background) were embedded in the agencies and assisted with these transfers.

### Initiation

MoVE-IT focused on a distinction between automated and manual transfer initiation. Automated transfer initiations are those defined by a machine-generated notification dependent on some piece of metadata about the individual records or their set. Examples might include automated records retention software mechanisms that key off time or date stamps to determine transfer eligibility, or could be as simple as regularly scheduled calendar notifications that serve as reminders to staff. Manual initiation is characterized by an ad-hoc start to the process based on other factors; real examples from the model projects include Pennsylvania’s archives regularly inquiring about records they



<sup>12</sup> CoSA’s project manager visited every state/territory’s archives and records management websites in search of existing procedures for the transfer of records (around March-May 2020). This survey was informal in nature as obviously not every procedure would necessarily be posted publicly. Many archives, however, did have some procedures, even if they were not up to date.

knew to be eligible for transfer, or Texas's governor's office notifying the archives that they would be transferring a large volume of electronic records at the end of the term. Both Maryland's and Washington's model projects integrated automated processes into them, as the projects matured and developed regular transfer schedules. An important aspect of the initiation process is the identification of the mechanism by which the process will be initiated; utilizing automated processes (including accurate description and assignment of recordkeeping metadata) is far more reliable than assigning these responsibilities to staff.

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## There has been a huge increase in electronic records volume at the state/territorial level, but a corresponding increase in electronic records transfers has yet to be seen...

There was a mostly even split (3 out of 7) between the originating agency and the archives when it came to taking the first action (typically notification) of the initiation process. Most of the focus group members reported that the most common or de-facto procedure for records transfers was to notify the archives or the state records center when records had met their retention requirements. In the cases of the Office of the Governor, these came at the ends of their terms when their administrations (and the offices/staff accountable for managing the records) would leave office. MoVE-IT characterized these decisions as the "reason for initiation," which is arbitrarily defined, but necessary nonetheless due to the known pressures of the management of data. As mentioned previously, there has been a huge increase in electronic records volume at the state/territorial level, but a corresponding increase in electronic records transfers has yet to be seen by the archives despite; the archivists belonging to the focus group indicated that they were aware of permanent records that had met their retention at public agencies, but myriad factors (inertia, unfamiliarity with requirements, effort required to identify and transfer records) are present as obstacles to the flow of records to the archives.

### Packaging

One of the more variable aspects of the set of MoVE-IT projects comprised the methodology, staff, and tools used to select and prepare records for transfer. Referring to the draft workflow, the packaging phase involves these two primary functions: identifying

records eligible for transfer and preparing them for the physical transfer.

By and large, agency staff (who in some instances included records management professionals but largely comprised administrative and program staff) were responsible for selecting and preparing records for transfer. Focus group members reported several reasons for this. First, such a task would have been nearly impossible for archivists due to the opacity of records management procedures at the agencies. Archivists, even in the best-case scenarios, did not have enough in-depth knowledge about where and how records were managed at the agencies. Conversely, administrative staff at the agencies had challenges in this regard as well. In several cases, those with direct knowledge of records (e.g., their immediate creators) were individually tasked with adding records to a hard drive as part of the packaging process. This was done with assistance from archivists, which included training regarding retention, description, and more.

In several cases, records at the agency were not described in ways (either in their file or folder names, or in metadata) conducive to efficient identification and transfer. All focus group members (save one, PA) reported that additional work was required to arrange and describe records before the transfer could be executed. This occurred for several reasons including an existing lack of description, prior lack of training for agency staff, and/or lack of tools to do so (especially files stored on network or personal drives which lack robust descriptive tools).

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## Vendor relationships and communication were a common pain point among projects though archivists rarely interacted directly with software suppliers...

Some of the records transferred in these sets required substantial reformatting and modifications to their structure that went beyond ordinary arrangement and description. Most notably, records that were housed primarily in proprietary vendor-managed platforms were the most difficult to extract, in some cases requiring extensive work between the agency, IT, the archives, and the vendors to ensure that no data was lost and that records were preservable and accessible indefinitely. Vendor relationships and communication were a common pain point among projects though archivists rarely interacted directly with software

suppliers; advising agency staff on how to best work with their vendors was reported as being essential to ensuring that records arrived at the archives intact and accessible. For this reason most likely, the packaging phase of the transfer took a substantial amount of time. While most transfers were completed within one year of initiation, we estimate that packaging accounted for at least 50% of that time.

Most packages were created using simple tools like Windows Explorer. The most common method of packaging involved shared media (e.g., a hard drive) to which various records custodians copied records before handing it off to the next staffer in the process. North Carolina used Bagger.<sup>13</sup>

### Transfer

The exchange of physical custody of records was relatively simple for most of the transfers that were analyzed. Projects were split evenly between the use of network transfers (in which digital objects were copied using network protocols) versus handoffs of media, including flash drives and hard drives. Perhaps more surprising was that nearly all the projects used nothing more complex than simple tools like Windows Explorer and Secure File Transfer Protocol (SFTP) servers to conduct transfers. Only WA used a piece of custom software, ArchiveThis, which was produced by the state for this purpose.

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## ...the projects demonstrated that successfully transferring records does not require extremely sophisticated technology, just clear understanding of basic process steps and requirements.

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Focus group members indicated that the decisions on how to transfer records were largely guided by the archives but heavily dependent on the capabilities of the producing agencies. Limitations in the IT infrastructure on the nature and kinds of software available was a significant hurdle. A recurring theme throughout focus group interviews and discussions is the limited availability of Windows-based tools to support these processes, or at least the limited ability to persuade IT stakeholders to implement said tools. Additionally, the software and hardware environments at the producing agencies were limiting factors, as well. For example, if an agency was unable to use a specific transfer protocol

due to limited network capability regardless of whether the archives preferred it, the archives may have been forced to compromise to other methods. This is not to say that the integrity of the process was compromised, in fact, just the opposite—the projects demonstrated that successfully transferring records does not require extremely sophisticated technology, just clear understanding of basic process steps and requirements.

### Verification

In terms of intellectual verification of object sets, there was significant disparity between the projects. Some archives relied heavily on the producing agency's assurance that transferred records sets were complete. In other cases, more detailed processes were required, including the creation of an inventory which the archives used as a manifest for ensuring that all digital objects sent were received. As mentioned, a tool like Bagger or the BagIT specification includes the creation of manifests (e.g., inventories) of transfer packages which can then be verified upon receipt.

This is distinct from the verification of each object's individual integrity. All of the exemplar projects featured some measures of fixity verification and, in some cases, individual files were spot-checked to verify useability as well. Furthermore, it is standard practice across all of these archives to perform virus and malware scans on incoming electronic records before ingestion. The methods used for these processes were similar, but ultimately not uniform (most divergent was the timing in which the verification was performed).

Finally, virus and malware scans were a crucial part of the verification process, and were uniformly performed by all of the archives. Ensuring that existing records in repositories are not infected has become the standard of practices across the US. Few agencies performed virus and malware scans as part of the transfer process, instead relying on utilities built into existing software solutions (such as Windows Defender for antivirus and malware protection) to weed out threats at the point of creation or receipt, well before the time of transfer.

There was much discussion by focus group members on the appropriate amount of verification to be done. Ultimately the only correct answer regarding "how much" verification should be done is "enough to preserve fully the authenticity, integrity, reliability, and accessibility" of records. *As much as is practicable* should be the archives' guiding principle, but it should be no less than ensuring that what was intended to be sent was actually received, bit-for-bit, uncorrupted and undamaged.

<sup>13</sup> <https://github.com/LibraryOfCongress/bagger>

## Closeout

During the closeout phase, all stakeholder groups sign off on the transfer and perform the necessary “cleanup” steps to complete the process or transition it to other processes. For the MoVE-IT projects, all of the participating archives created or provided, as standard practice, documentary evidence that the transfer was complete. These records serve multiple purposes.

Firstly, any transfer form with a signature by an authorized custodian helps cement the legal backing for the intellectual custody transfer of records. As discussed previously, intellectual custody transfers are essential to archival practice. These forms provide documentary evidence that the *authenticity* of the records has been preserved. Secondly, these records provide an opportunity to ensure that all stakeholders are in sync at the end of the transfer. The agency and archives agree that what has been transferred has been received. This understanding is essential as internal government disagreements greatly damage records’ authenticity.

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After the closeout of the transfer,  
the work is not done. Future transfers  
should be considered, using lessons  
learned from the just-completed project.

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After the closeout of the transfer, the work is not done. Future transfers should be considered, using lessons learned from the just-completed project. Additional digital preservation processing may need to be performed by the archives, and additional access methods for the transferred records may need to be developed. The work of the archivist is not yet done, but the discrete work of transferring one set of records from producer to preserver is complete.



# Observations, Recommendations, and Tools

Government archives are still very much in new territory when it comes to accessioning and preserving electronic records. Even states that had excellent examples of successful projects have not done very many individual transfers (reflecting again the conclusions found in *Toward a Common Understanding and A National Risk* that there are significant obstacles to permanent records reaching the archives). While the transfer projects included in the MoVE-IT project are useful examples of what successful projects can look like, they are obviously not the exclusively “correct” way to conduct transfers. In fact, there is quite possibly no one “correct” way, considering the number of variables present in both the composition of records sets and the organizational, legal, and technological contexts of disparate state and territorial governments.

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**With strong foundational elements like retention schedules, well-trained staff, and extensive relationship-building, successful transfers can be executed.**

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The MoVE-IT projects demonstrate that good process arose from necessity. Focus group members reported that at the outset of some of these projects, the archives were unprepared for these transfers. However, with strong foundational elements like retention schedules, well-trained staff, and extensive relationship-building, successful transfers can be executed. Effective transfers are not built on tools, but on policy, proficiency, and collaboration.

## Success Factors

### Collaborative Relationships with Government Stakeholders

By a large margin, the focus group reported that successful collaboration with governmental stakeholders (especially producer agencies and IT) was the single most influential factor in determining the success of these transfer projects. As discussed, each project was primarily built upon an extensive collaboration between state agencies. Projects like MD’s MDLAN-DREC and WA’s Superior Court Records involved work

with dozens of individual courts, all of which had their own internal policies and procedures and often had individual relationships with vendors supporting their technology. While this might go without saying, the implications of having close working relationships with stakeholder agencies are worth examining more deeply.

In terms of policy development (including the drafting and implementation of records schedules and similar instruments), many states and territories implicitly or explicitly require the collaboration of the subject matter and legal expertise at producer agencies to supplement the records management and digital preservation expertise present at archives. Some state models (like TX) leave the drafting of records schedules to the agencies; other states have commissions who draft or review schedules, while others rely on a collaboration between archival and records management agencies. Each state and territory may have different approaches to the records scheduling process, but essentially all have multiple overlapping requirements (including state and federal laws). Schedules created must address all legal and business requirements, and must be pragmatic while remaining simple enough to understand and implement by non-RIM professionals.

Scheduling is not the only assignment of information (retention information) that requires collaborative effort. State government, through its administrations and their priorities, is constantly changing, and the taxonomies used to describe the programs and their implementations frequently change, as well. Descriptive information about the context of a record (how it is used, when it was created, what its purpose is) is born from the producer agencies’ work. The application of these taxonomies (and associated metadata) to public records at the point of creation (or ingest into a records management platform) would significantly simplify the processes of identifying and selecting records for transfer (not to mention other aspects of digital records management). Simply put, it appears that most producer agencies are not well-equipped in terms of RIM expertise and staff to accomplish this task. It is often left undone (or not able to be done) until the point of transfer. Or, worse, the lack of description makes knowing which records to transfer, and when, impossible. This issue was addressed in the projects by persistent and consistent relationship building, training, and attention by the archives

and their staff. The Library of Virginia, for example, began the process of collaboration with the Governor's staff during the transition, before the Governor took office. The archivists benefitted from Virginia's term limit laws (each Governor may serve only a single term), so they knew when the transfer would be expected, but they worked to collaborate, and more importantly *be of service* to the Governor and cabinet from the ground up, which aided them immensely when the time came to identify, package, and transfer records.

Additionally, the archives must have the authority to develop policies and procedures for managing electronic records throughout their lifecycle, including digital preservation (whether in-place or in an archival repository). However, those policies and procedures will face enormous challenges in adoption unless there is significant support from stakeholders; collaboratively-developed processes with all requirements considered are ideal. Archives have been able to promulgate standards for records sets and digital objects that they are willing to accept and accession (e.g., file format policies). It is possible that stringent transfer requirements are inhibiting producers' willingness to transfer records to archival repositories; after all, there is little to no enforcement mechanism for transferring records and the effort required to do so is large compared to doing nothing.

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### ...the archives must have the authority to develop policies and procedures for managing electronic records throughout their lifecycle, including digital preservation...

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Timelines for transfer projects, whether they encompass single or multiple packages, can be long. Maintaining collaboration over long periods of time can be challenging, but essential. When archivists working on the MoVE-IT projects encountered challenges, it was often due to the absence of their collaborators, such as IT or agency staff having their time or other resources diverted to other projects. Furthermore, staff turnover, especially toward the end of an administration, can leave vacancies or inexperienced staff in crucial roles. Resolving issues that might arise also requires careful collaboration. For this reason, we recommend that any transfer project with an estimated timeframe that lasts longer

than three months have a more formalized collaboration platform—a project committee or working group that has a single project manager who can both organize and coordinate the progress of the project. Importantly, all stakeholders must be invested in the project and the project team must be empowered to ensure it happens.

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### ...the archives as an institution must be trustworthy, as must its staff. Not only does it preserve the authenticity of records, it promotes collaboration.

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Finally, one topic of frequent discussion in the focus group regarded the concept of institutional reputation. Many focus group members brought their experience working for multiple institutions to bear and reported that maintaining institutional reputation was required to effect change within government. If stakeholders view the archives and records managers as obstructionists (even if true) that impede their work, effective collaboration will not be possible. Transparency in goals and processes also supports good governance and relationship-building; the archives as an institution must be trustworthy, as must its staff. Not only does it preserve the authenticity of records, it promotes collaboration.

#### Shared Language

Another common pain point articulated by focus group members was a disconnect between IT professionals and records management and archives professionals. This is not to say that focus group members had difficulty with their IT counterparts; quite the opposite was true. As discussed above, collaboration with IT made the projects highly successful. However, despite IT and RIM/Archives having very similar goals, lacking common language can create friction and cost valuable time. Even the term “archive” has vastly different meanings in the domains of IT and records management.<sup>14</sup> Those exemplar projects that were best able to leverage their IT resources were most successful, and that leveraging was made possible by partnerships with IT staff and agencies built upon shared goals and respect for the process and its requirements.

The requirements for electronic records, including their management and preservation, must be articulated using language that speaks to the requirements of IT

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<sup>14</sup> Archive (IT): most commonly, the term archive in the context of computing means to “back-up” files, or it could mean a file comprised of multiple other files and folders, created for the purposes of such a back-up.

Archive (RIM/Archives): to archive records means to accession them to the custody of an organization (an archives) who will preserve their content, form, and context and provide access to authorized individuals, indefinitely

professionals. Understanding the needs of enterprise architects, of network and infrastructure professionals, and of information security specialists will only boost the prospects of successful collaborations in the future. The goals of IT (e.g., information governance) are either directly shared with RIM/Archives or directly support these functions. Projects all had significant IT support, with either IT staff directly embedded as part of the project team or as support personnel helping the archives meet its technical requirements, all of which was made possible by building a shared vision with common language.

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## The requirements for electronic records, including their management and preservation, must be articulated using language that speaks to the requirements of IT professionals.

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There are many opportunities for further collaboration with IT. Archives should begin by equipping their staff with the necessary training. Even basic professional training in information governance or data management can help to bridge the gap between these domains. Conversely, providing simple-to-understand training and educational modules for IT professionals to clearly state the priorities of archival institutions and their designated communities can bring these stakeholders closer together.

Archives could also be served well by thinking critically about and articulating their hardware, software, and computing environment requirements. State and territorial governments are in some ways still siloed, but in many of these jurisdictions there has been considerable consolidation of IT staff and responsibilities. Government is treated less as a disparate set of agencies and more as a single semi-autonomous enterprise. The enterprise is a complex, tangled web of software platforms serving agencies to complete their statutory and regulatory functions. These functions are described in terms of requirements, essentially the functions that software must (or must not) perform. Understanding how to articulate requirements and their priorities is essential to collaboration with IT.

### Knowledge of Technological Context

There has been unquestionable growth in the procurement of vendor-supplied software and contracted hardware, including cloud storage and content management platforms. These are covered by contracts, service-level agreements, and other instruments that

outline the nature and responsibilities of the relationship between vendor and government. Importantly, this outsourcing of technological capabilities has resulted in the outsourcing of physical custody of electronic records to non-governmental entities. All of the MoVE-IT projects required some measure of work with vendors (often undertaken by records producers) to extract public data from proprietary systems so it could be transferred to the archives.

Thorough background knowledge of the context of the records set, including its statutory or regulatory mandate, use during its active life, descriptive elements, and parameters of its storage environment, was essential to preparing and executing a custody exchange. Often archives or agency staff required significant support from their vendor and IT counterparts.

There is no guarantee that the agreements that govern these relationships prioritize or even include transfer or digital preservation requirements. Extracting records from proprietary systems long after their agreements have lapsed can be nearly impossible. Having a third party (a vendor) standing between the archives and physical access to records can obviously present challenges.

These agreements must have disposition requirements built into them, but archival agencies are unlikely to be able to make headway as it currently stands given that they are seldomly consulted as part of the procurement process. Strong collaborations with IT agencies are absolutely necessary to ensure that these requirements are included during the system evaluation and procurement processes. Archival requirements don't need to take precedence over business or IT requirements and can be quite flexible. But the principles of record authenticity, integrity, reliability, and useability must be part of the IT lexicon.

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## Government is treated less as a disparate set of agencies and more as a single semi-autonomous enterprise. The enterprise is a complex, tangled web of software platforms serving agencies to complete their statutory and regulatory functions.

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### Flexible Workflows

Process development is challenging, especially for intragovernmental processes that involve many stakeholders and participants embedded throughout

government. Clear, concise, well-articulated policies and procedures can support transfer workflows by ensuring that all involved are aware of their roles and responsibilities. However, the MoVE-IT projects demonstrated that even those projects with many similarities, the workflows cannot be “one size fits all.” Workflows must provide a solid framework upon which requirements can be overlaid rather than monolithic rules to which agencies and staff must adhere.

On one hand, standardized workflows may neglect to account for variance in the size, organizational state, and institutional priorities of the stakeholders involved. What works for a small agency with ten staff and a small budget may be completely ineffective at a large thousand-staff agency with a substantial budget. Agencies with high degrees of scrutiny (such as law enforcement) may have requirements that go above and beyond typical records management requirements. Workflows must be able to account for the variable requirements for information and the needs, availability, and expertise of staff across government.

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**...the workflows cannot be “one size fits all.” Workflows must provide a solid framework upon which requirements can be overlaid rather than monolithic rules to which agencies and staff must adhere.**

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Further, one must consider the human element in any process. A procedure will not maximize its effectiveness without clearly defining the roles and responsibilities of the staff involved in the process. However, the assignment of roles and responsibilities does not always produce desired results. For example, a role that requires technical expertise to perform it may not always be assigned to technical staff; in some instances, technical staff may not be available at all!

Transfer workflows must be clearly documented and should be simple in structure. Responsibilities and tasks to be performed should be defined as specifically as possible, and assigned to roles which can, in turn, be assigned to appropriate staff. Flexibility in the assignment of roles and responsibilities can allow processes to function despite substantial diversity in circumstance, while still being able to meet all requirements necessary to protect records and their contexts. The archives may not be able to ensure that their IT and agency counterparts will possess the expertise

or even time to perform necessary tasks. Again, this underscores the absolute necessity for stakeholders to collaborate early, often, and openly, as well as the need to find shared understanding and common ground.

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**Flexibility in the assignment of roles and responsibilities can allow processes to function despite substantial diversity in circumstance...**

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## Conclusions

The collection and analysis of the seven model electronic records transfers profiled in the MoVE-IT project provided the opportunity to look at the best practices of success scenarios conducted by state and territorial government agencies over the past two decades. As the focus group members asserted, these transfers were far from perfect, and more was learned from what went wrong than from what went right. When it comes to protecting electronic public records and their contexts, perfection cannot be the enemy of the good.

The Council of State Archivists is committed to supporting archival agencies in the development of sustainable, efficient, and effective workflows to support the transfer of electronic records from producer agencies to their designated archives. To this end, some sample tools and templates have been produced to assist state and territorial archives, IT agencies, and records producers:

- Annotations to the Advanced Transfer Workflow (PDF) ([https://www.statearchivists.org/files/6616/1062/6506/MoVE-IT\\_AnnotationsToTheAdvancedTransferWorkflow.pdf](https://www.statearchivists.org/files/6616/1062/6506/MoVE-IT_AnnotationsToTheAdvancedTransferWorkflow.pdf))
- Basic Electronic Records Transfer Requirements (PDF) ([https://www.statearchivists.org/files/3316/1062/6523/MoVE-IT\\_BasicElectronicRecordsTransfer.pdf](https://www.statearchivists.org/files/3316/1062/6523/MoVE-IT_BasicElectronicRecordsTransfer.pdf))
- Electronic Records Transfer Form (Word) ([https://www.statearchivists.org/download\\_file/view/1111/3193/](https://www.statearchivists.org/download_file/view/1111/3193/))
- Sample Electronic Records Transfer Workflow–Advanced (PDF) ([https://www.statearchivists.org/files/9516/1062/6547/MoVE-IT\\_SampleElectronicRecordsTransferWorkflow\\_Advanced.pdf](https://www.statearchivists.org/files/9516/1062/6547/MoVE-IT_SampleElectronicRecordsTransferWorkflow_Advanced.pdf))
- Sample Electronic Records Transfer Workflow–Simple (PDF) ([https://www.statearchivists.org/files/2916/1062/6559/MoVE-IT\\_SampleElectronicRecordsTransferWorkflow\\_Simple.pdf](https://www.statearchivists.org/files/2916/1062/6559/MoVE-IT_SampleElectronicRecordsTransferWorkflow_Simple.pdf))
- Basic Inventorying Scripts and Instructions (zip file) ([https://www.statearchivists.org/download\\_file/view/1114/3193/](https://www.statearchivists.org/download_file/view/1114/3193/))

# Standards and Models

## Standards

The following standards were relevant to the MoVE-IT project and used as the theoretical foundation for analyzing the exemplar projects. As the goal of this project is to provide a framework for electronic records transfer good practices, this foundation was based on international standards related to electronic records management and digital preservation.

- **ISO-15489-1:2016, Records Management**<sup>15</sup>

The Records Management standard is essential for defining a theoretical framework upon which the preservation of electronic records can be built. Specifically, we borrow from these standard definitions for authenticity, reliability, integrity, and accessibility of records; all of these factors are addressed during the transfer process and the key to a successful transfer is ensuring that these measures of records' values are not damaged or lost in any way. (These terms are further defined elsewhere in the report).

The ISO standard defines four foundational elements of records management (all definitions are drawn directly from the standard):

**Authenticity:** An authentic record is one that can be proven to: a) be what it purports to be; b) have been created or sent by the agent purported to have created or sent it; and c) have been created or sent when purported.

**Reliability:** A reliable record is one: a) whose contents can be trusted as a full and accurate representation of the transactions, activities, or facts to which they attest; and b) which can be depended upon in the course of subsequent transactions or activities.

**Integrity:** A record that has integrity is one that is complete and unaltered. A record should be protected against unauthorized alteration.

**Useability:** A usable record is one that can be located, retrieved, presented, and interpreted within a time period deemed reasonable by stakeholders.

These concepts are essential to contextualizing the transfer process as records are most vulnerable in all of these dimensions when in transit. Improper or ineffective exchanges of records can damage chain of custody (authenticity), cause loss of records (reliability), corruption of data (integrity), all of which render essential public records unuseable for the purposes guaranteed by the law.

- **ISO-14721:2012, Open Archival Information System (OAIS)**<sup>16</sup>

The Open Archival Information System standard has been the de-facto standard for digital preservation systems (and organizations) for the archival community since its creation. It specifically articulates the functions necessary to create a trusted digital repository.

- **ISO-20104:2015, Producer-Archive Interface Specification (PAIS)**<sup>17</sup>

The Producer-Archive Interface Specification provides clarification and parameters around the relationship between the records creators and their designated archival repositories, defining specifications for the object sets that can be transferred between them (i.e. their interfacing).

These standards comprise the theoretical framework that underpins this project, its conclusions, and its outputs. The MoVE-IT project team did not try to redefine or rework these standards; however one of the goals of the project was to examine how these frameworks are implemented in real-world examples, whether those examples strictly adhered to these models or not. This project uses these international best practices as models against which these disparate projects can be compared, to search for success factors.

<sup>15</sup> <https://www.iso.org/standard/62542.html>

<sup>16</sup> <https://www.iso.org/standard/57284.html>

<sup>17</sup> <https://www.iso.org/standard/67056.html>

## Electronic Record Transfer Terminology

In general, this report references the models created in the standards for the [Open Archival Information System \(OAIS\)](#) and the [Producer-Archive Interface Specification \(PAIS\)](#).<sup>18</sup> While the terminology used in these models has been simplified for the purposes of this report and its recommendations, these models serve as invaluable tools for the understanding of the fundamentals of digital archival operations and their rationale.

### Stakeholders

Through previous projects the Council of State Archivists and the State Electronic Records Initiative have identified the three major stakeholders in the electronic records transfer process: archival agencies, IT units or agencies, and public agencies that create or receive records. To be clear, these are defined as:

- **Archives:** The state or territorial agency legally responsible for digital preservation of, and providing access to, permanent public records.
- **(Producer) Agency:** The state or territorial agency responsible for the creation of records and management of those records during their active (and possibly inactive) life.
- **IT Agency/Unit:** The state or territorial agency or unit responsible for IT activities (including enterprise architecture, procurement, etc.) in that jurisdiction. In some states/territories IT units are embedded within the producer and archives agencies.

These stakeholders are critical to the process of transferring electronic records and to the success of digital preservation in state enterprises. For this reason, the roles and responsibilities of all three groups are at the forefront of the MoVE-IT project.

### Digital Object

A single, complete digital file. Electronic records can consist of one or multiple digital objects.

### Transfer Package

A group of digital objects and associated administrative, descriptive, structural, and technical metadata. In OAIS/PAIS terminology this might be known as an *information package* or a *submission information package (SIP)*.

### Transfer

A *transfer of records* in the context of government is a change in both physical and legal/intellectual custody of records from one agency to another. The process

is either under the jurisdiction of, or supported by, all three of these stakeholder groups. There can be no effective and efficient transfers of electronic records from producers to their designated archival repositories without these groups collaborating and participating in the process.

### Legal Custody

Legal custody concerns the assignment of ownership and accountability for public records, including their management, preservation, and access.

### Physical Custody

Physical custody concerns the responsibility for the care of records and implementing policy governing physical access to records. (Physical custody may be, but is not always, paired with legal custody.)

Physical and legal custody of records are essential in the context of public records. Since many public records involve significant policy or administrative decisions made by elected and appointed officials in public agencies, and those decisions impact the enforcement or implementation of regulations and laws, public records are often relied upon in evidentiary hearings. Clear chain of custody is essential to the evidentiary process as it reinforces the authenticity of the records in question.

A clear definition of the responsibilities of those with custody of records is extremely valuable. Changes to the content, structure, or order of records (and sets of records) is explicitly in the purview of those with *legal* custody. Put another way, any change to the intellectual arrangement or content of records is outside the scope of physical custodianship. As government agencies' relationships with vendors proliferate, and especially those vendors that provide cloud storage (Amazon Web Services, Microsoft Azure Cloud, Google Cloud Platform etc.) or content/records management platforms (Office365, Google Docs, etc.), it falls to governments to clearly define the nature and scope of actions that physical custodians can take on public records.

A transfer is, essentially, a change in custody between public agencies. A change in physical custody in the context of electronic records involves a change in physical control of the media upon which official (i.e. non-transitory) records reside. Ultimately electronic records are recorded on physical media somewhere, and the custody of that media can change hands. In fact, several of the projects analyzed as part of this project involved exchange of physical custody of removable or other storage media.

<sup>18</sup> Implemented as an international standard under ISO 20104:2015

While a change in physical custody may or may not occur as part of an electronic records transfer, at this point the eventual end-state of such a transfer will inevitably involve physical custody transfers as few or no states/territories have implemented enterprise-wide OAIS-conforming repositories. The most common way that a transfer of records from the agency to the archives would avoid physical custody exchanges is if the devices/storage on which the records are stored are managed by a third-party (e.g., state IT Agency).

### A Note on Foundational Elements

Over the course of the MoVE-IT project, the steering committee and focus group were careful to define the scope of the project to include the transfers alone—but it became apparent that in order for a transfer to be effective and efficient, a substantial amount of organizational preparedness was required.

The task of identifying records eligible for transfer is extremely difficult if records have no meaningful descriptive metadata. Imagine the simple example of photographs produced by a digital camera with the file names DSC\_0001, DSC\_0002, and so on, and with dates and times of capture as the only information—a common situation encountered with digital photographs in the last few decades. If some of these records, depending on content and context, are archival and some are not—again, a common situation considering how most schedules are written—there is little available to the average government employee to aid in identifying which ones must be retained without looking at each of them individually. When talking about digital governmental record sets, the number of objects in these sets can easily exceed the millions.

Furthermore, even if there is adequate descriptive metadata, as well as adequate instruments that define retention timeframes, without training for staff or resources (especially staff time) devoted to these tasks, they will not be performed successfully. If clear requirements, responsibilities, and instructions (outlined in policies and procedures) are not provided, then what hope is there for staff to be able to meet those responsibilities and requirements effectively?

As the analysis and conclusions of this report will show, one of the aspects that made the exemplar projects so successful was the careful attention paid by the states to these foundational elements. This attention was not exclusive to the archives; it required strong collaborations among all of the stakeholder groups.

## The MoVE-IT Transfer Model

In order for the MoVE-IT project team to compare projects conducted in different contexts, it was necessary to create a simple model to describe the phases of a records transfer. The MoVE-IT transfer process is broken into five distinct phases: Initiation, Packaging, Transfer, Verification, and Closeout. Not included in these phases are the foundational elements required for transfers to occur and for them to be efficient and effective. For example, records schedules or other instruments that define retention policy may not be directly part of the transfer process but would obviously be required for clarity on which records are designated permanent.

Also outside the scope of this model are activities performed by the archives to support its digital preservation or access requirements. Admittedly, this is a fuzzy delineation to make; for example, records that are poorly organized may require additional arrangement to restore lost context. Whether this is part of the transfer process is debatable; but it is not *required* for a transfer to be conducted. The only thing that is required is the intellectual and physical exchange of records from producer to archive. How the model or contents of those transfers are defined is up to the specific stakeholders involved.

The transfer process begins with the *Initiation* phase, wherein one of the primary stakeholders (agents) in the transfer process (archives, agency, or IT) initiates a transfer. This could be performed on an ad-hoc basis by the agency or could be the results of an automatic notification set by IT policy—whatever is prescribed by the policies or regulations in each jurisdiction. This phase is characterized by the selection or identification of records eligible for transfer. In short, the initiation phase consists of the *identification of eligible records* and the *notification of stakeholders*.

During the *Packaging* phase, the eligible records are selected and organized, creating the *transfer package*. This begins as a conceptual arrangement that eventually takes shape into a physical selection and organization of records. Crucial to this process is the agreement by the producer and the archives on the structure and content of the transfer package. Though selection and preparation may seem simple, these activities can also be incredibly complex and time-consuming, depending on the amount of preparation and how many foundational elements are in place. For example, well-described and organized electronic records with metadata about their retention can be more easily selected than disorganized records possessing no

descriptive information. An important note: a single transfer can consist of multiple packages.

During the *Transfer* phase, the physical exchange of custody of the transfer package(s) occurs. This could be copying through networks or cloud-based storage, or it could be the exchange of storage hardware containing electronic records. This phase is narrowly defined but it involves the movement and copying of data, when it is most vulnerable.

During the *Verification* phase, the archives (recipient) uses verification mechanisms it has in place to confirm the authenticity and integrity of the records. This includes verifying the intellectual model and contents of the transfer package, i.e., that what was received was what was intended to be sent, and how, as well as the *individual integrity* of the digital objects.

Finally, during the *Closeout* phase, the stakeholders to the transfer (specifically the producer and the archive) sign off on the legal/intellectual transfer of records, usually through documentary evidence. Any further agreements that may have been negotiated or proposed throughout the process (such as additional funding, enhanced access, or service agreements) can be handled here as well. Furthermore, this phase presents a transition into another process, which could include either *digital processing* (the archives performing additional arrangement or description activities on the records set) or long-term *digital preservation* (which includes tasks such as characterization of formats, fixity conformance, producing derivatives for web access, creating different facets or methods of access, and more).

# Collected Data Matrix

|                                                            | KY                                               | MD                                                    | NC                                                        | PA                                                  | TX                                            | VA                                                 | WA                                         |
|------------------------------------------------------------|--------------------------------------------------|-------------------------------------------------------|-----------------------------------------------------------|-----------------------------------------------------|-----------------------------------------------|----------------------------------------------------|--------------------------------------------|
| <b>Short Description</b>                                   | Records of Governor Matthew Bevin Administration | MDLANDREC—Land instruments recorded at Circuit Courts | GIS Records beginning with the GeoMAPP Program            | Bonus Files of the Veterans of the Persian Gulf War | Records of Governor Rick Perry Administration | Records of Governor Terry McAuliffe Administration | Washington State Superior Court Case Files |
| <b>Transfer Dates</b>                                      | 2018–2019                                        | 2001–Present                                          | 2008–Present                                              | 2019                                                | 2014–2015                                     | 2018–2019                                          | 2015–Present                               |
| <b>Creating Branch</b>                                     | Executive                                        | Judicial                                              | Executive                                                 | Executive                                           | Executive/Legislative                         | Executive                                          | Judicial                                   |
| <b>Producer Agency</b>                                     | Office of the Governor                           | Circuit Court                                         | Center for Geographic Information and Analysis            | Department of Military and Veterans' Affairs        | Office of the Governor                        | Office of the Governor                             | Superior Court                             |
| <b>Existing Series? (New/Accretion)</b>                    | New                                              | Accretion                                             | Accretion                                                 | New                                                 | New                                           | New                                                | Accretion                                  |
| <b>Record Schedules (Yes/No)</b>                           | Yes                                              | Yes                                                   | Yes                                                       | Yes                                                 | Yes                                           | Yes                                                | Yes                                        |
| <b>Schedules Updated as of</b>                             | 2017                                             | 2005; 2019                                            | 2017                                                      | 2019                                                | 2016                                          | 2018                                               | 2019                                       |
| <b>Producer Agency Staff Roles Assigned?</b>               | Yes                                              | Yes                                                   | Yes                                                       | Yes                                                 | Yes                                           | Yes                                                | Yes                                        |
| <b>Communications</b>                                      | Yes                                              | Yes<br>Court Clerks                                   | Yes<br>Agency IT                                          | Yes<br>Agency Staff                                 | Yes<br>Agency Staff (Records Officer)         | Yes<br>Office of the Counselor                     | Yes                                        |
| <b>Authorizers</b>                                         | No                                               | Yes<br>Judicial Information Bureau                    | No                                                        | Yes<br>Agency Staff                                 | Yes<br>Agency Staff (Asst. Chief of Staff)    | Yes<br>Office of the Counselor                     | Yes                                        |
| <b>Technicians</b>                                         | Yes                                              | Yes<br>Court Clerks                                   | Yes<br>Agency IT                                          | Yes<br>Agency/IT                                    | Yes<br>Agency Staff/<br>Agency IT             | Yes<br>Agency Staff                                | Yes                                        |
| <b>Initiation Method (Automatic/Manual)</b>                | Manual                                           | Manual                                                | Manual                                                    | Manual                                              | Manual                                        | Manual                                             | Automatic<br>Daily                         |
| <b>Initiation Timing</b>                                   | Scheduled                                        | Scheduled<br>Daily                                    | Scheduled                                                 | Ad-Hoc                                              | Scheduled                                     | Scheduled<br>End of Term                           | Scheduled<br>Daily                         |
| <b>Initiated By (Agency/IT/Archives)</b>                   | Archives                                         | Agency<br>Court Clerks                                | Archives                                                  | Archives                                            | Agency                                        | Archives                                           | Agency                                     |
| <b>Reason (Retention/Space/Access)</b>                     | Retention                                        | All                                                   | Access                                                    | Retention                                           | Retention                                     | Retention                                          | Retention/<br>Access                       |
| <b>Archives Pre-Transfer Records Survey</b>                |                                                  |                                                       |                                                           |                                                     |                                               |                                                    |                                            |
| <b>Scope/Extent</b>                                        | Yes                                              | Yes                                                   | Yes                                                       | Yes                                                 | Yes                                           | Yes                                                | Yes                                        |
| <b>Technical Specifications</b>                            | Yes                                              | Yes                                                   | Yes                                                       | Yes                                                 | Yes                                           | Yes                                                | Yes                                        |
| <b>Access/Legal Restrictions</b>                           | Yes                                              | Yes                                                   | Yes                                                       | Yes                                                 | Yes                                           | Yes                                                | Yes                                        |
| <b>Digital Transfer Procedures at Archives (at outset)</b> | Yes                                              | No                                                    | Yes                                                       | No                                                  | No                                            | Yes                                                | Yes                                        |
| <b>Vendor-Supported Technology Involved</b>                | Yes                                              | Yes<br>Individual vendors at courts                   | Yes<br>ArcGIS                                             | Yes                                                 | Yes                                           | Yes                                                | Yes<br>Individual vendors at courts        |
| <b>Size of Transfer</b>                                    | 275+ GB                                          | 40 TB+; and counting                                  | 100+ GB total; most recent transfer 36.7 GB, and counting | 4.46 GB                                             | 8 TB                                          | 3 TB                                               | 36 million+ digital objects; and counting  |

|                                                          | KY                                               | MD                                                                       | NC                              | PA                                                     | TX                                                                      | VA                                                                       | WA                                                          |
|----------------------------------------------------------|--------------------------------------------------|--------------------------------------------------------------------------|---------------------------------|--------------------------------------------------------|-------------------------------------------------------------------------|--------------------------------------------------------------------------|-------------------------------------------------------------|
| <b>System(s) of Origin</b>                               |                                                  |                                                                          |                                 |                                                        |                                                                         |                                                                          |                                                             |
| <b>Social Media</b>                                      | Yes<br>Facebook, Twitter                         | n/a                                                                      | n/a                             | n/a                                                    | n/a                                                                     | Yes                                                                      | n/a                                                         |
| <b>Email</b>                                             | Yes<br>iConstituent                              | n/a                                                                      | n/a                             | n/a                                                    | Yes                                                                     | Yes<br>Intranet<br>Quorum (IQ)                                           | n/a                                                         |
| <b>Text Messages</b>                                     | n/a                                              | n/a                                                                      | n/a                             | n/a                                                    | n/a                                                                     | n/a                                                                      | n/a                                                         |
| <b>Structured Data</b>                                   | Yes                                              | Yes                                                                      | Yes                             | Yes                                                    | Yes<br>Internal CRMs                                                    | Yes                                                                      | Yes                                                         |
| <b>Web server</b>                                        | Yes<br>State of KY<br>Websites                   | n/a                                                                      | n/a                             | n/a                                                    | Yes<br>Governor's<br>Websites                                           | Yes                                                                      | n/a                                                         |
| <b>Proprietary system</b>                                | Yes                                              | Yes                                                                      | Yes                             | Yes                                                    | Yes                                                                     | Yes<br>IQ                                                                | Yes                                                         |
| <b>Unstructured Data</b>                                 | Yes                                              | Yes                                                                      | Yes<br>Geo-imagery              | Yes                                                    | Yes                                                                     | Yes                                                                      | Yes                                                         |
| <b>Responsible for Packaging</b>                         | Agency/<br>Archives                              | Agency                                                                   | Agency                          | Agency                                                 | Agency                                                                  | Agency                                                                   | Agency                                                      |
| <b>Additional arrangement performed before transfer</b>  | Yes (agency)                                     | Yes<br>Packages according to "book" system established for paper records | Yes                             | No                                                     | Yes                                                                     | Yes<br>Agency selection and organization                                 | Yes                                                         |
| <b>Additional Description prior to transfer</b>          | Yes<br>Archives – webcrawls                      | No                                                                       | Yes                             | No                                                     | Yes                                                                     | Yes<br>Additional information added where needed                         | Yes                                                         |
| <b>Modification/Reformatting prior to transfer</b>       | Yes<br>Webcrawls, extracts from vendor platforms | Yes<br>Some reformatting from original microfilm/ paper records          | No                              | Yes<br>Reformatting                                    | Yes                                                                     | Yes<br>Extracts from proprietary systems                                 | Yes                                                         |
| <b>Tools Used for Packaging</b>                          | Proprietary Systems, Windows Explorer            | Reformatting from paper (scanner); Windows Explorer                      | Bagger                          | Windows Explorer; Proprietary RM system used by agency | Checksum hashes, extracts from proprietary CRM                          | Windows Explorer                                                         | ArchiveIT                                                   |
| <b>Specifications Used in Packaging</b>                  | Preservica SIP                                   | Fixity                                                                   | BagIT                           | n/a                                                    | md5                                                                     | n/a                                                                      | n/a                                                         |
| <b>Method of Transfer</b>                                | Media                                            | Network                                                                  | Network<br>Shared network space | Media                                                  | Media                                                                   | Media                                                                    | Network<br>Initially media                                  |
| <b>Tools Used for Transfer</b>                           | External HDD                                     | SFTP                                                                     | Windows Explorer                | External HDD                                           | External HDD                                                            | External HDD                                                             | ArchiveTHhis                                                |
| <b>Number of Transfer Packages/Events (One/Multiple)</b> | One                                              | Multiple<br>Daily                                                        | Multiple                        | One                                                    | Multiple                                                                | Multiple<br>Individuals added files to external HDD provided by Archives | Multiple<br>Daily                                           |
| <b>Intellectual Verification by Archives</b>             | No<br>But extensive consultation before transfer | Yes                                                                      | Yes                             | No<br>Planned during processing                        | Yes                                                                     | Yes                                                                      | No                                                          |
| <b>Integrity Verification by Archives</b>                | Yes                                              | Yes<br>Quality assurance and completeness                                | Yes                             | Yes                                                    | Yes                                                                     | Yes                                                                      | Yes                                                         |
| <b>Virus/Malware Scan</b>                                | Yes                                              | Yes                                                                      | Yes                             | Yes                                                    | Yes                                                                     | Yes                                                                      | Yes                                                         |
| <b>Custody Transfer Agreements</b>                       | No<br>Standard "receipt" provided                | Yes<br>Major MOU governing MDLANDREC program                             | Yes                             | Yes<br>Form STD-59                                     | Yes<br>Specifically for funding, otherwise conformed to state standards | Yes<br>Chain of Custody forms                                            | No<br>Transfer information plan serves as transfer template |

# Model Project Narratives

Collected here are short narrative descriptions of the transfer projects modeled by the MoVE-IT project. These were constructed using interviews with and reference materials provided by focus group members.

## Kentucky: Records of Governor Matthew Bevin Administration

This model records set covered the entirety of the 4-year term of Governor Bevin and his administration. Staff of the Lieutenant Governor's office contacted the State Archives for records consultations at the beginning of 2019 and a relationship developed there that facilitated the entire project. Records included unstructured documents and data, databases, social media, websites, correspondence (especially constituent correspondence).

The Archives staff had an extremely collaborative relationship with the Governor and Lieutenant Governor's office throughout this transition. Archives staff were invited to work with various representatives from the different offices on records management, application of schedules/retention, and ultimately transfer.

## Maryland: MDLANDREC

This exemplar set includes broadly the set of recorded land instruments for the State of Maryland. Originally filed at the Circuit Courts, these records comprise the permanent register of land transactions in the State and date back to the 17th century. Maryland has a county-based land recording system, with an additional court in Baltimore City. Deeds and other land instruments are filed at the local Circuit Courts and recorded, historically, in ledger books coupled with indices.

The central component of this transfer project is MDLANDREC, a centralized records repository index and images, as a public access system. The project was a collaboration between the Maryland Judiciary, the 24 elected Circuit Court Clerks of Maryland and the Maryland State Archives and ultimately resulted in an Archives-administered preservation and access system for land records and related instruments. Since 2001, the project has facilitated the transfer of over 250 million images and over 40 terabytes of data.

## North Carolina: Center for Geographic Information and Analysis GIS Data

This model records set consisted of geospatial data from the North Carolina Center for Geographic Information (CGIA), which began as part of the [GeoMAPP](#) grant program from the Library of Congress (2008-2011). Since 2011, additional transfers have taken place with no additional funding. Regularly-scheduled transfers occur once every six months for the NC One Map program, while every four years bulk orthoimagery data is transferred.

An extensive survey of the records including format, function, and associated metadata was collected as part of the GeoMAPP project and provided the foundations for ongoing transfers and eventually archival arrangement. The State Archives of North Carolina uses Bagger and the BagIT specification as their primary data packaging solution. CGIA staff uses these specifications to package the files and then transfers them to the archives, whereupon they are verified and ingested into the digital repository.

## Pennsylvania: Department of Military and Veterans' Affairs, Persian Gulf Bonus Files

This set of records consists of the Bonus Files from the veterans of the Persian Gulf War for the State of Pennsylvania. Originally paper, these records were reformatted between 2010-2016 and stored in a proprietary system called BenefitTrack until their extraction and transfer. The transfer took place in 2019 after conversations between the archives and the Department began in the early 2010's.

Records had met retention as the program had concluded, and State Archives initiated conversations regarding transfer of these records as early as 2010. Persistence on the part of the State Archives (continual follow-up and relationship building) eventually brought the records to the archives.

### **Texas: Records of Governor Rick Perry Administration**

This model records set consists of Governor Rick Perry's official records from his time in office, from 2000-2015. The full extent of transfer included approximately 4000 cubic feet of paper records and approximately 7-8 TB of electronic records, the bulk of which consisted of video and photographic records, documentary material from the Governor and Lieutenant Governor (and staff), as well as constituent correspondence. The transfer took place from late 2014 through early 2015.

The Texas State Library and Archives Commission (TSLAC) was informed by the Office of the Governor in 2014 that they should expect a transfer at the conclusion of the Governor's term in office. This required the development of expertise and digital preservation capability at TSLAC. Archivists provided agency staff with the tools necessary to accomplish most of the transfer protocols. Records were arranged by office and department following the Governor Office's internal classification system, and procedures were established for creating checksums (and verification) as well as virus scans on transferred records.

### **Virginia: Governor Terry McAuliffe Records (2014-2018)**

This model project is comprised of the records of the administration of Governor Terry McAuliffe (2014-2018) and staff. In the Commonwealth of Virginia, by law each governor is permitted to serve a maximum of one term in office. Records were created by the Governor and his staff over the course of the four-year administration. Records included databases (including constituent correspondence), unstructured data including documents and photographs from individual staff shared drives, large quantities of email, and records from Microsoft's CRM.

The Library of Virginia had several mechanisms in place to ensure the orderly transfer of records; it provided training and guidance to the Governor's staff throughout their administration in order to prepare them for transfer, provided simple procedures for staff to follow, maintained chain-of-custody of electronic records media at all times.

### **Washington: Washington State Superior Court Case Files**

Washington's model transfer covers court case files which include docketing information and documents created and received as part of the court proceedings. Agency staff receive either digital records with metadata or digitize submitted documents and index with

metadata. These records are then stored both in the case management system and transmitted to a central repository in Olympia.

The project began with a single court and has since expanded to include nine of the thirty-nine courts in the state, with more being added periodically. Court clerks utilize ArchiveThis, a homegrown tool created by the State of Washington, to transfer digital records to the archives daily.

## APPENDIX D

# Data Collection Template

CoSA-Preservica-AVP  
Electronic Records Research Project 2020  
Case Study Template

Date: \_\_\_\_\_

Name(s): \_\_\_\_\_

State: \_\_\_\_\_

Interviewed by: \_\_\_\_\_

Case Study Topic: \_\_\_\_\_

### Background

- 1 Describe the transferred records in broad and specific terms:
- 2 When (what years) did/does this transfer take place?
- 3 What agency created/transferred these records?
- 4 Were these records transferred into an existing series or other intellectual organization?

### Foundations

- 1 Describe the legal, regulatory, and policy frameworks in place that governed these records and their transfer (e.g., schedules, transfer/retention policies, etc.)

Include:

- Any records schedules other records management guidance governing these records
- Any legal requirements governing these records (such as HIPAA, FERPA, etc.)

- 2 Describe the provenance of the records, specifically how they were created, stored, and used by the creating agency during their active life.

- 3 What staff roles were assigned (at each agency) to carry out the transfer?

Examples include:

- Contact/Communications (responsible for coordinating communications)
- Authorizers (sign-off on custody transfers)
- Technicians (preparing, packaging, transferring, verifying)

## Initiation

- 1 Who (individual) was responsible for initiating the records transfer?
- 2 How was the transfer initiated?
  - Scheduled/Regular
  - Ad-Hoc
  - Emergency
- 3 Why was the transfer initiated?
- 4 What information was collected or provided as part of the initial inquiry?
- 5 What procedures were/are in place at the archives to respond to requests to transfer electronic records?
- 6 What type of system were the records originally created/stored in? Please provide the specific name and version of the software if possible.
  - Content/Records Management System
  - Social Media Platform
  - Communications Platform (e.g., email, text)
  - Database
  - Network/Removable Media
  - Website/Web server

## Packaging/Preparing Records for Transfer

- 1 Describe the actions taken at the originating agency in order to prepare records for transfer.  
Include:
  - Arrangement (were the records reorganized?)
  - Description (was metadata created or otherwise associated with records prior to transfer?)
  - Modification (were the records altered in any way, such as redacting or removing sensitive information) prior to transfer?
- 2 What (tools) technologies were used to select records and prepare them for transfer?
- 3 What technological standards or specifications were used during the packaging process?
  - Encryption Specifications (such as hashing algorithms)
  - Data management standards (such as BagIt)
  - Metadata schema (custom or standardized)
- 4 Who was responsible for packaging records? Did this require any additional assistance from IT staff or other non-agency personnel?

## Transfer

- 1 Describe the transfer process in detail:

- 2 Were there any issues that arose during the transfer process? How were they resolved?
- 3 Were the records transferred in one “package” or across multiple events?
- 4 What technologies were used to perform the data transfer?

#### Verification

- 1 What actions did the archives take to verify incoming data? (if any)
- 2 What technologies or tools were used to verify the incoming data? (if any)
- 3 What aspects of the incoming data were verified? (if any)
- 4 Who performed the verification, and how was this process performed?

#### Closeout

- 1 What agreements governed this transfer of records?

Include:

- Custody transfer agreements (officially transferring custody of records)
- Memoranda of Understanding (governing future use/access to transferred records)
- Contracts (governing relationships with non-governmental entities)

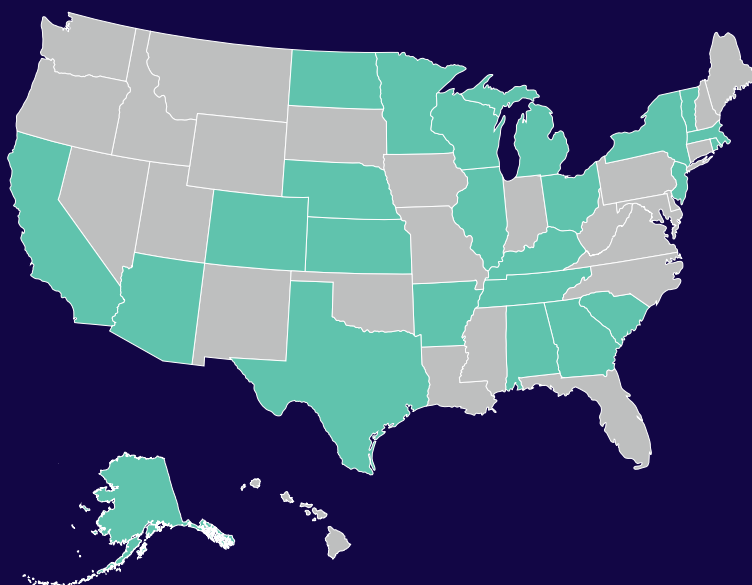
- 2 Describe the long-term management or processing plans for records, post-transfer.
- 3 What was the disposition of the original “copy” of records?
- 4 Were any aspects of these processes modified as a result of this transfer? (How did this transfer inform the archives’ process moving forward?)

# Preserve and protect electronic government records

**Preservica is a proud corporate supporter of the Council of State Archivists (CoSA) and shares their commitment to permanent records preservation and public access to government records.**

Nearly half of all U.S. State Archives use Preservica's active digital preservation solution to ensure permanent digital assets remain authentic and retrievable across generations of technologies and public records custodians.

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*Mary Dunn, Archival Manager for Technology and Access - Arkansas State Archives*

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- ▶ An expert AVP consultant **analyzes** your responses
- ▶ **You get:**
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