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Electronic and Born-Digital Records: A Beginner's Guide

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TENNESSEE STATE LIBRARY & ARCHIVES
Tennessee Secretary of State

2025

ELECTRONIC AND BORN-DIGITAL RECORDS: A BEGINNER'S GUIDE

INTRODUCTION

Electronic records - especially born-digital records - are increasingly common in Tennessee county governments. These records originate, are stored, and managed entirely in digital form and include:

- Emails
- Word documents and PDFs
- Spreadsheets and databases
- Social media posts
- Cloud-based collaborative files (i.e. Google Docs)
- Digital photos, audio, and video files

These records require specific strategies for digital preservation, metadata management, and access control to ensure their long-term usability and integrity.

DEFINING CHARACTERISTICS OF ELECTRONIC RECORDS

According to Lucidea, electronic records must meet four key criteria to be considered trustworthy:

- Authenticity: Proven to be what they claim to be
- Reliability: Accurately reflect the activity or transaction they document
- Integrity: Remain unaltered and complete
- Usability: Can be located, retrieved, researched, and interpreted [1]

Maintaining these qualities is essential for legal, administrative, and historical value.

CHALLENGES TO LONG-TERM PRESERVATION

Electronic records are vulnerable to:

- Technological obsolescence: File formats, software, and hardware change rapidly
- Storage capacity and fragility: Magnetic and optical media degrade over time
- Security risks: Cyber threats, unauthorized access, and accidental deletion
- Legal concerns: Copyright, intellectual property, fair use, and access rights

[1] Lucidea https://lucidea.com/blog/how-electronic-records-and-physical-records-differ/

- Cost: Digital/cloud storage and IT support can be expensive

As the Council of State Archivists (CoSA) notes, formats must be transparent, interoperable, and well-documented to support long-term preservation. [2]

Although born-digital records do not require physical storage space, they do require virtual storage, which can become increasingly costly as the volume and complexity of records grow. This challenge is expected to intensify in the future, as the majority of new records are now created in digital formats. Additionally, electronic records are vulnerable to security risks, including unauthorized access, cyber threats, and accidental deletion. To mitigate these risks, it is essential to implement robust security measures that protect sensitive information and ensure the long-term integrity and confidentiality of digital assets.

PRESERVATION STRATEGIES

Several preservation strategies are available to help protect electronic records.

Redundancy

- Maintain 2-3 copies of each record in separate physical and digital locations
- Include one cloud-based or off-site copy for disaster recovery

Format Migration

- Convert files to preferred preservation formats. According to the Smithsonian Institution Archives,[3] the following are common types of electronic records along with their preferred preservation formats.

Type	Preferred Preservation Format
Text documents	PDF
Spreadsheets	PDF
Presentations	PDF
Databases	Keep original
Images	TIFF
Audio recordings	WAV
Video recordings	MOV
Web content	WARC
Emails	XML

[2] https://www.history.nd.gov/archives/CoSA_fileformats_2020.pdf
[3] https://siarchives.si.edu/what-we-do/digital-curation/recommended-preservation-formats-electronic-records

Inventory and Documentation

- Maintain a digital records inventory with metadata
- Track file formats, creation dates, and preservation actions

METADATA

Metadata plays a crucial role in managing, preserving, and providing access to born-digital records. It provides context and provenance by telling who created the record, when, why, and how. Without metadata, digital records can quickly lose their meaning, context, and usability. It also plays a pivotal role in finding and managing these records. Descriptive metadata, such as titles, subjects, and keywords, allows for records to be located more efficiently.

ACCESS

Providing access to electronic records is a core archival responsibility. Records should be searchable and readable by the public. Provide access through free and open sources, such as your organization's website or a paid subscription platform like ContentDM or PastPerfect Online. Regardless of the platform you use, records must be presented in formats that are interoperable and transparent.

PRIVACY

Electronic records often contain personal data such as names, addresses, phone numbers, social security numbers, etc. To protect privacy, limit who can view, edit, or share sensitive records, follow legal requirements and organizational policies, and apply best practices for secure handling of personal data.

SECURITY

Security is another important issue to consider when working with born-digital records. Restrict editing and deleting of records to authorized staff only. Apply role-based permissions to control access for essential staff. Protect your hardware and software by using strong passwords and securing devices and storage media after hours. Additionally, keep your organization's software, operating systems, and antivirus programs up to date.

TENNESSEE CODE ANNOTATED (TCA) relating to Electronic Records
TCA § 10-7-121[4]

> **(1)** Notwithstanding any other law to the contrary, any information required to be kept as a record by any government official may be maintained on a computer or removable computer storage media, including in any appropriate electronic medium, instead of bound books or paper records if the following standards are met:
>
> > **(A)** Such information is available for public inspection, unless it is a confidential record according to law;

[4] https://law.justia.com/codes/tennessee/title-10/chapter-7/part-1/sec tion-10-7-121/

(B) Due care is taken to maintain any information that is a public record during the time required by law for retention;
(C) All daily data generated and stored within the computer system shall be copied to computer storage media daily, and the newly created computer storage media more than one (1) week old shall be stored at a location other than at the building where the original is maintained; and
(D) The official can provide a paper copy of the information when needed or when requested by a member of the public.

(2) Nothing in this section shall be construed to require the government official to sell or provide the media upon which such information is stored or maintained.

TCA § 10-7-404(d)(1)(d)[5]

(1) In addition to the foregoing procedure for the destruction of original public records, the county public records commission may, upon the request of any office or department head of county government having custody of public records, including court records, authorize the destruction or transfer of original public records which have been reproduced onto computer or removable computer storage media, in any appropriate electronic medium, in accordance with § 10-7-121 and this subsection (d). Notwithstanding subdivision (d)(2), an original paper version of a record required by law to be permanently retained must not be destroyed once reproduced in accordance with this subsection (d) without a majority vote of the county public records commission. Additionally, the county public records commission shall not order the destruction of such original public records which have been reproduced pursuant to this subsection (d) unless the county public records commission has complied with §§ 10-7-413 and 10-7-414. Prior to any order of destruction or transfer of any original public records pursuant to this subsection (d), the officer or department head having custody of such records shall advertise in a newspaper of general circulation in the county, and in counties having a population in excess of two hundred thousand (200,000), according to the 1990 federal census or any subsequent federal census, also in a weekly newspaper, that certain records of the office or department, to be described in the advertisement by title and year, have been electronically stored, reproduced and protected and that the office or department has applied for permission to no longer retain such originals. The authority to destroy original public records granted by this subsection (d) is not exclusive and shall not prevent the destruction of original public records where otherwise authorized.

These statues highlight that:

- Permanent records **MUST be accessible indefinitely**
- Electronic systems **MUST support public inspection and access**

[5]https://law.justia.com/codes/tennessee/title-10/chapter-7/part-4/section-10-7-404/#:~:text=(1)%20In%20addition%20to%20the%20foregoing%20procedure%20for%20the%20destruction,or%20transfer%20of%20original%20public

- Records **MUST be protected against deletion, obsolescence, and system failure**
- Destruction **requires PRC vote and compliance with ALL statutory conditions**

FINAL GUIDANCE

Electronic and born-digital records that are permanent should be:

- Preserved in stable, open formats
- Managed with redundancy and documentation
- Made accessible to the public
- Retained in accordance with TCA and TSLA standards

ADDITIONAL RESOURCES

- National Archives and Records Administration Tables of File Formats
- Library of Congress Sustainability of Digital Formats
- CoSA's File Format Guidelines
- Smithsonian Strategies
- Lucidea
- Federal Agencies Digital Guidelines Initiative (FADGI)
- Digital Preservation Coalition