

Functional Area	Level			
	Level 1 (Know your content)	Level 2 (Protect your content)	Level 3 (Monitor your content)	Level 4 (Sustain your content)
Storage	<p>Have two complete copies in separate locations</p> <p>Document all storage media where content is stored</p> <p>Put content into stable storage</p>	<p>Have three complete copies with at least one copy in a separate geographic location</p> <p>Document storage and storage media indicating the resources and dependencies they require to function</p>	<p>Have at least one copy in a geographic location with a different disaster threat than the other copies</p> <p>Have at least one copy on a different storage media type</p> <p>Track the obsolescence of storage and media</p>	<p>Have at least three copies in geographic locations, each with a different disaster threat</p> <p>Maximize storage diversification to avoid single points of failure</p> <p>Have a plan and execute actions to address obsolescence of storage hardware, software, and media</p>
Integrity	<p>Verify integrity information if it has been provided with the content</p> <p>Generate integrity information if not provided with the content</p> <p>Virus check all content; isolate content for quarantine as needed</p>	<p>Verify integrity information when moving or copying content</p> <p>Use write-blockers when working with original media</p> <p>Back up integrity information and store copy in a separate location from the content</p>	<p>Verify integrity information of content at fixed intervals</p> <p>Document integrity information verification processes and outcomes</p> <p>Perform audit of integrity information on demand</p>	<p>Verify integrity information in response to specific events or activities</p> <p>Replace or repair corrupted content as necessary</p>
Control	<p>Determine the human and software agents that should be authorized to read, write, move, and delete content</p>	<p>Document the human and software agents authorized to read, write, move, and delete content and apply these</p>	<p>Maintain logs and identify the human and software agents that performed actions on content</p>	<p>Perform periodic review of actions/access logs</p>
Metadata	<p>Create inventory of content, also documenting current storage locations</p> <p>Backup inventory and store at least one copy separately from content</p>	<p>Store enough metadata to know what the content is (this might include some combination of administrative, technical, descriptive, preservation, and structural)</p>	<p>Determine what metadata standards to apply</p> <p>Find and fill gaps in your metadata to meet those standards</p>	<p>Record preservation actions associated with content and when those actions occur</p> <p>Implement metadata standards chosen</p>
Content	<p>Document file formats and other essential content characteristics including how and when these were identified</p>	<p>Verify file formats and other essential content characteristics</p> <p>Build relationships with content creators to encourage sustainable file choices</p>	<p>Monitor for obsolescence, and changes in technologies on which content is dependent</p>	<p>Perform migrations, normalizations, emulation, and similar activities that ensure content can be accessed</p>

NDSA Levels of Digital Preservation Matrix V2.0

Authored by the Levels of Preservation Revisions Working Group, released October 2019

The NDSA Levels of Digital Preservation (LoP) is a resource for the digital preservation community to help build and evaluate the technological components of digital preservation programs. Originally created in 2013, Version 2.0 was released in 2019 along with supporting documentation and resources. This cover sheet was added in December 2020.

Preferred Citation: Levels of Preservation Revisions Working Group, "Levels of Digital Preservation Matrix V2.0," October 2019, <https://osf.io/2mkwx/>.

NDSA Levels of Digital Preservation v. 2.0: The main webpage for the Levels has links to all of the Levels documentation and will include links to future revisions and additional resources. The OSF site is the repository for those documents.

- Levels web page: <https://ndsa.org/publications/levels-of-digital-preservation/>
- Levels OSF site: <https://osf.io/qgz98/>

Implementation Guidelines: Information to help you use the Levels. There is a link to the guide on the main [webpage](#) as well as on the [OSF site](#) for the Levels:

- Implementation Guidelines: <https://osf.io/nt8u9/>

Working definitions: The Levels Working Definitions of Terms provide further explanation on terms used within the grid and are designed to be used in conjunction with the Levels:

- Working Definitions of Terms: <https://osf.io/rnymf/>

Levels Assessment Tool: An Assessment Tool is also available to help you use the Levels of Digital Preservation. This spreadsheet template can be downloaded and used to record and visualise your assessment results:

- Assessment tool: <https://osf.io/8ctpu/>
- Guide to Using the Levels of Digital Preservation as an Assessment Tool: <https://osf.io/m6j4q/>

Share your feedback: NDSA will be gathering feedback to inform future revisions of the Levels and to supplement the FAQ for the Levels in the interim. You can use the feedback form to share your comments and suggestions:

- Feedback form: <https://forms.gle/S3BHByMNLBru4JwX9>

