<table>
<thead>
<tr>
<th>Storage and Geographic Location</th>
<th>Level 1 (Protect your data)</th>
<th>Level 2 (Know your data)</th>
<th>Level 3 (Monitor your data)</th>
<th>Level 4 (Repair your data)</th>
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| - Two complete copies that are not collocated
- For data on heterogeneous media (optical discs, hard drives, etc.) get the content off the medium and into your storage system | - At least three complete copies
- At least one copy in a different geographic location
- Document your storage system(s) and storage media and what you need to use them | - At least one copy in a geographic location with a different disaster threat
- Obsolescence monitoring process for your storage system(s) and media | - At least three copies in geographic locations with different disaster threats
- Have a comprehensive plan in place that will keep files and metadata on currently accessible media or systems |
| File Fixity and Data Integrity | - Check file fixity on ingest if it has been provided with the content
- Create fixity info if it wasn’t provided with the content | - Check fixity on all ingest
- Use write-blockers when working with original media
- Virus-check high risk content | - Check fixity of content at fixed intervals
- Maintain logs of fixity info; supply audit on demand
- Ability to detect corrupt data
- Virus-check all content | - Check fixity of all content in response to specific events or activities
- Ability to replace/repair corrupted data
- Ensure no one person has write access to all copies |
| Information Security | - Identify who has read, write, move and delete authorization to individual files
- Restrict who has those authorizations to individual files | - Document access restrictions for content | - Maintain logs of who performed what actions on files, including deletions and preservation actions | - Perform audit of logs |
| Metadata | - Inventory of content and its storage location
- Ensure backup and non-collocation of inventory | - Store administrative metadata
- Store transformative metadata and log events | - Store standard technical and descriptive metadata | - Store standard preservation metadata |
| File Formats | - When you can give input into the creation of digital files encourage use of a limited set of known open formats and codecs | - Inventory of file formats in use | - Monitor file format obsolescence issues | - Perform format migrations, emulation and similar activities as needed |