Implementation of the Data Seal of Approval

The Data Seal of Approval board hereby confirms that the Trusted Digital repository Goportis Digital Archive - German National Library of Science and Technology (TIB) complies with the guidelines version 2014-2017 set by the Data Seal of Approval Board.
The afore-mentioned repository has therefore acquired the Data Seal of Approval of 2013 on September 14, 2015.

The Trusted Digital repository is allowed to place an image of the Data Seal of Approval logo corresponding to the guidelines version date on their website. This image must link to this file which is hosted on the Data Seal of Approval website.

Yours sincerely,

The Data Seal of Approval Board

Assessment Information

Guidelines Version: 2014-2017 | July 19, 2013
Guidelines Information Booklet: DSA-booklet_2014-2017.pdf
All Guidelines Documentation: Documentation

Repository: Goportis Digital Archive - German National Library of Science and Technology (TIB)
Seal Acquiry Date: Sep. 14, 2015

For the latest version of the awarded DSA   http://assessment.datasealofapproval.org/seals/
for this repository please visit our website:

Previously Acquired Seals: None

This repository is owned by: **German National Library of Science and Technology (TIB)**
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Assessment

0. Repository Context

Applicant Entry

Self-assessment statement:

Goportis – Leibniz Library Network for Research Information is the strategic network of the three German National Libraries. The partners involved are TIB (German National Library of Science and Technology, Hannover), ZB MED (German National Library of Medicine – Leibniz Information Centre for Life Sciences, Cologne/Bonn) and ZBW (German National Library of Economics – Leibniz Information Centre for Economics, Kiel/Hamburg). The Goportis partners jointly operate a digital preservation system: "Goportis – digital archive".

TIB is the Rosetta software licensee. Together with its partners ZB MED and ZBW, TIB has established cooperative agreements concerning the use and operation of the digital preservation system (DP system). TIB hosts, operates and administers the DP system, and ensures its Goportis partners have access to it. TIB acts as a service provider to its partners.

ZBW and ZB MED refer to TIB documentation, when necessary. The following criteria are affected:

- Guideline 6
- Guideline 7
- Guideline 8
- Guideline 11
- Guideline 12

ZB MED and ZBW mark references to TIB documentation accordingly. If workflows or stocks differ from those described by TIB, then ZB MED and ZBW shall mark the parts accordingly.

All Goportis partners seek to obtain the "Data Seal of Approval".

The Goportis partners currently operate Rosetta as their dark archive. Preservation Masters are administered in the DP system; access is gained via other platforms.

TIB operates its own portal, which is used for access. Depending on the type of material involved, access copies are currently made available to users via a full-text server, a portal for audiovisual media or Rosetta.

TIB carries out the digital preservation of various types of objects. These are described in further detail in Guideline 1.

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

1. The data producer deposits the data in a data repository with sufficient information for others to assess the quality of the data, and compliance with disciplinary and ethical norms.

Minimum Required Statement of Compliance:

3. In progress: We are in the implementation phase.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

TIB digitally preserves objects from various sources, and helps data producers to submit these to the library:

- Electronic publications by external data producers such as:

  - University publications

  - German research reports

  - Grey literature

  - E-books

- Digitised items

Particularities specific to certain data and data producers are taken into account in this respect (see Guideline 4 and Guideline 9).

TIB has a comprehensive pre-ingest [1].

Data producers have no access to the deposit; they submit objects to the competent library team. Manual deposits are executed solely by staff from the library teams and Digital Preservation. Automated deposits are configured and executed by Digital Preservation (see Guideline 8).

Librarians index publications and import external data from other libraries or publishing companies. In this way, they ensure the uniform quality of descriptive metadata. Additional metadata is collected by Digital Preservation (see Guideline 3).

Librarians coordinate submissions to the library with the data producers. TIB has published guidelines concerning special requirements applicable to submissions. Examples include the submission of BMBF (German Federal Ministry of Education and Research) research reports [2] and the submission of PhD theses [3].

Librarians generate the descriptive metadata, record the licence terms, and coordinate the data producer's consent to preservation.

The descriptive metadata is available to users in the catalogue. The use and licence terms for publications accessible online can also be viewed there (see Guideline 16). Whether or not a publication is available online depends on the rights granted to TIB by the data producer.

Here are examples of a catalogue record for electronic publications:

OPAC: [4]

GetInfo: [5]

GVK: [6]

The metadata to be submitted and the formats for digitised items are coordinated directly with Digitisation. A submission agreement will be concluded between Digitisation and Digital Preservation. The aim of this agreement is to ensure that binding documentation exists on previous agreements concerning the descriptive, structural and administrative metadata to be submitted, the format and the technical parameters of the Preservation Master, and the formats of access copies.

Here is an example of a catalogue record for digitised items:

OPAC: [7]

Viewer: [8]

Planned activities:

There are plans for TIB's Competence Centre for Non-Textual Materials (KNM) to digitally preserve audiovisual objects, including their metadata, as well as IWF Wissen und Medien GmbH holdings and 3D objects.

There are also plans to offer digital preservation as a service.

The Digital Preservation team plans to develop a submission agreement in cooperation with Digitisation.

Related links:

All references last accessed 2015/08/04

[1] http://www.tib-hannover.de/fileadmin/informationsmaterial/lza/01_pre_ingest.png

[2] (German) http://www.tib-hannover.de/ext/bmbf.pdf

[3] http://www.tib.uni-hannover.de/fileadmin/download/dissertationen/anlage-2-en.pdf

[4] http://opac.tib.uni-hannover.de/DB=1/XMLPRS=N/PPN?PPN=715996266

[5] http://doi.org/10.2314/GBV:782824749

[6] http://gso.gbv.de/DB=2.1/PPNSET?PPN=782824749

[7] http://opac.tib.uni-hannover.de/DB=1/XMLPRS=N/PPN?PPN=825936683

[8] https://goobi.tib.eu:443/viewer/image/825936683/1/

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

2. The data producer provides the data in formats recommended by the data repository.

Minimum Required Statement of Compliance:

3. In progress: We are in the implementation phase.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

TIB has not yet published a generally applicable list of preferred file formats. Submission requirements with information about preferred file formats exist for certain types of publication.

The submission requirements for BMBF (Federal Ministry of Education and Research) research reports [1] contain information about the preferred file format in the form of a recommendation. PDF, Postscript or Word formats are preferred. However, objects in other formats will also be accepted.

Obligatory submission formats apply to PhD theses prepared at Leibniz Universität Hannover [2]. PhD theses written at Leibniz Universität Hannover will only be accepted in PDF format; all the other formats will be rejected, and the data producer will be asked to change the file accordingly.

Following the submission of a publication, a librarian will perform a quality check. This check involves using suitable playback software to make sure that the publication is complete and legible. In the case of PhD theses, the file extension will also be checked.

During ingest, Rosetta will execute file identification and validation for each file, for example (see Guideline 8)

TIB does not have sufficient influence on any other data producers to be able to define obligatory submission formats.

These objects are accepted as the Preservation Master in the file format in which they were submitted (see Guideline 12). Preservation Masters will not be normalised. If required, a copy of the Preservation Master will be used to migrate the file to another format. This will be saved as a representation (modified Preservation Master) in the AIP. Access copies can be created from the Preservation Master or the modified Preservation Master, if

required.

Planned activities:

TIB plans to prepare a general list of preferred file formats.

Related links:

All references last accessed 2015/08/04

[1] (German) http://www.tib-hannover.de/ext/bmbf.pdf

[2] http://www.tib.uni-hannover.de/fileadmin/download/dissertationen/anlage-2-en.pdf

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

3. The data producer provides the data together with the metadata requested by the data repository.

Minimum Required Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

Data producers do not enter metadata in the catalogue or digital preservation system themselves. The descriptive metadata is collected by librarians in Cataloguing or imported as external data from other libraries or publishing companies. Technical, structural, administrative and process-related metadata is created by Digital Preservation staff, extraction tools and the digital preservation system Rosetta.

If TIB carries out indexing itself, librarians collect the descriptive metadata in accordance with RAK-WB cataloguing rules [1]. Indexing will be carried out based on RDA cataloguing rules in future [2].

For publications accessible online, librarians document the licence conditions in the catalogue record (for example, creative commons licence conditions or applicable German copyright law).

The descriptive metadata for digitised items is based on the catalogue record of the printed copy. If any metadata is missing in the catalogue record of the printed copy, it will be completed by Cataloguing, if required.

Structural metadata is collected during the digitisation process. The scanning software includes a selection of technical metadata and provenience metadata. This metadata is saved on an METS file and submitted to Digital Preservation together with the files. In addition, OCR is created for digitised objects.

Automated format-based technical metadata is extracted from the files during ingest into the digital preservation system.

Legal metadata is collected in the digital preservation system. Access rights are granted in accordance with the conditions stipulated in the licence agreements. In addition, the licence texts are deposited in the digital preservation system, and access rights to metadata are placed in relation to the object.

Administrative, structural and process-related metadata is created automatically by the digital preservation system. The metadata standards Dublin Core, METS and a PREMIS derivative are used in the digital preservation process.

The descriptive metadata is made available to users in the catalogue for research purposes.

Related links:

All references last accessed 2015/08/04

[1] urn:nbn:de:101-2007072711

[2] http://www.rda-jsc.org/

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

4. The data repository has an explicit mission in the area of digital archiving and promulgates it.

Minimum Required Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

As the German national library for all areas of engineering, as well as architecture, chemistry, computer science, mathematics and physics, TIB's forward-looking services secure the infrastructural requirements for providing scientists, researchers, teachers and practitioners across Germany and the rest of the world with high-quality information and literature.

TIB is:

- The archival library for its collection area. The mandate for digital preservation is set out in writing in operating instructions and in the TIB strategy.
- The repository library for German research reports of the Federal Ministry of Education and Research (BMBF).

TIB archives university publications produced by Leibniz Universität Hannover faculties.

TIB has documented its mission in the TIB Strategy. Reference is made to digital preservation in its mission:

"**STRATEGIC OBJECTIVE**

We ensure long-term access to printed material and electronic collections.

AREA OF ACTION

In order to achieve this objective ...

• we are preparing an archiving strategy

• we are developing a productive digital preservation system with Goportis – Leibniz Library Network for Research Information

• we are operating as a service provider for other scientific institutions

• we are a dedicated partner of the national digital preservation strategy." [1]

TIB communicates its wide range of digital preservation activities – new developments, offers, dates, projects and awards – via TIB's central information channels: the TIB website [2], the TIB Blog [3], press releases and annual reports. Digital Preservation staff produce publications and deliver lectures in order to present TIB's digital preservation system to the specialist community at home and abroad. Joint activities undertaken by the Goportis partners are presented on the institutions' websites as well as on the Goportis website. In addition, Goportis

presents itself to the public at various trade fairs and conferences.

TIB is actively involved at national and international level in the digital preservation networks nestor and Open Preservation Foundation.

TIB is a member of the German-speaking Rosetta User Group (DRAG) and the Rosetta User Group (RUG).

Planned activities:

TIB will be transformed into the new independent legal form of a public-law foundation of the Federal State of Lower Saxony in 2016. From then on, it will be called the "German National Library of Science and Technology (TIB) – Leibniz Information Centre for Science and Technology and University Library".

Related links:

All references last accessed 2015/08/04

[1] (German) http://www.tib-hannover.de/fileadmin/informationsmaterial/TIB-Strategie_2015-2017.pdf

[2] http://www.tib-hannover.de/en/the-tib/news/news/id/620/

[3] (German) http://blogs.tib.eu/wp/tib/2014/06/03/langzeitarchivierung-von-cds-mittels-emulation-as-a-service/

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

5. The data repository uses due diligence to ensure compliance with legal regulations and contracts including, when applicable, regulations governing the protection of human subjects.

Minimum Required Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

TIB is an institution of the State of Lower Saxony and is funded by the German federal government and by all German states. Moreover, TIB is a member of the Leibniz Association.

TIB employs an in-house legal advisor to provide it with internal legal advice.

TIB uses various standard licensing agreements in which it seeks permission for digital preservation:

- the Licensing Agreement for Doctoral Theses [1]
- the Licensing Agreement for Audio-Visual Media (AV Media) [2]
- the Creative Commons licence for AV media [3]
- other licensing agreements

Apart from that, TIB enters into individual licensing agreements with producers.

In doing this, TIB complies with all applicable provisions of copyright law.

Printed works are currently only digitised if they are in the public domain.

The provisions governing the use of the library stock of TIB and the storage of personal data are set out in the Rules for Use of the Library [4].

If a user does not accept the Rules for Use upon registration, he or she will not be able to use offers for restricted access.

Freely accessible digital objects are available to all users. The catalogue entry contains either a reference to a Creative Commons licence or to applicable German copyright law (see Guidelines 14 and 16).

TIB ensures that the confidentiality of confidential objects is preserved.

Confidential objects cannot be searched in reference systems. TIB does not grant users access to confidential objects or objects having a lock flag.

Objects containing confidential information are available in the form of a modified access copy from which all confidential information has been removed.

Objects having a lock flag will be released after expiry of the lock-up period.

Planned activities:

In 2016, TIB will be transformed into the new independent legal form of a foundation under public law [Stiftung des öffentlichen Rechts] of the State of Lower Saxony. It will then be named "TIB – Leibniz Information Centre for Technology and Sciences and University Library" [TIB – Leibniz-Informationszentrum Technik und Naturwissenschaften und Universitätsbibliothek].

Related links:

All references last accessed 2015/08/04

[1] http://www.tib.uni-hannover.de/fileadmin/download/dissertationen/anlage-2-en.pdf

[2] https://av.getinfo.de/resources/Lizenzvereinbarung_english.pdf

[3] https://av.getinfo.de/resources/OpenAccess-Licence-NTM-english.pdf

[4] (German) http://www.tib.uni-hannover.de/fileadmin/download/anmeldung/benutzungsordnung.pdf

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

6. The data repository applies documented processes and procedures for managing data storage.

Minimum Required Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

TIB is one of the three German National Libraries that have joined forces to create Goportis and jointly operate a digital preservation system. Goportis has published a Preservation Policy [1].

The TIB published an institutional Preservation Policy [2].

TIB operates its own Computer Centre, which is administered by its internal IT department [3] [4].

Two independent file servers are available for the archival storage; these are operated as RAID 6 systems. The file servers are positioned in separate, locked server racks at the Computer Centre. Objects are stored redundantly with their metadata; the data is mirrored weekly at a set time. Storage capacity is scalable.

The server racks are equipped with temperature monitoring and a gas fire extinguishing system for each shelf. Each file server has a reporting tool that enables storage capacity, the condition of the hard disks and tasks such as data mirroring to be monitored manually. In the event of a hard disk breakdown or defect, the file server automatically triggers an alert to the administrator.

TIB has a service agreement with a service provider covering the replacement of defective hardware.

Data integrity is ensured using Fletcher4 checksums. One checksum is generated and saved for each block. A checksum is generated at every read access, and compared to the checksum saved. If the checksums do not match, the defective block will be recovered from the RAID 6 system. The redundant copies on the mirror are used for disaster recovery. Checksums ensure the consistency of redundant copies on the mirror.

TIB plans to extend the Computer Centre and to further develop its backup (see Backup Plan [5]).

Access to the Computer Centre is secured by an electronic access system and a burglar alarm system, and is restricted to just a few members of staff. The Computer Centre is equipped with a fire and smoke detection system as well as an independent emergency power supply that ensures continued operation for around one day in the event of a power cut.

Access to the file servers can only be gained if the individual has the corresponding rights and logon information.

Objects are not submitted to the archival storage directly; they are initially saved on a separate deposit server. Only authorised members of staff can transfer objects to the archive server. Changes to objects are documented in the metadata, and the objects are versioned (see Guideline 12).

Planned activities

TIB plans to expand the backup solution, and has devised an online nearline storage solution for this purpose. The aim is to spread the online storage across two locations in the form of redundant RAID systems. The nearline storage is to be spread across two locations in the form of redundant LTO tape libraries. Altogether, the archival storage is to be spread across three locations and administered using storage management software.

Related links:

All references last accessed 2015/08/04

[1]
http://www.goportis.de/en/our-expertise/provision-of-scientific-content/digital-preservation/goportis-long-term-digital-archives-preservati

[2] http://www.tib-hannover.de/fileadmin/informationsmaterial/lza/TIB_Preservation_Policy_EN_v_1_0.pdf

[3] http://www.tib-hannover.de/fileadmin/informationsmaterial/lza/03_archival_storage.png

[4] http://www.tib-hannover.de/fileadmin/informationsmaterial/lza/03_archival_storage_management.png

[5] (German)
http://www.tib-hannover.de/fileadmin/informationsmaterial/lza/TIB_Entwicklungskonzept_Backup_v1_3.pdf

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

7. The data repository has a plan for long-term preservation of its digital assets.

Minimum Required Statement of Compliance:

3. In progress: We are in the implementation phase.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

During pre-ingest, librarians check that the objects submitted are legible and complete. If guidelines exist concerning submission formats, librarians will check the objects using the file extension (see Guidelines 2 and 8).

During ingest, the format is validated using JHOVE and identified using the DROID programme. In addition, technical metadata is extracted using the programmes JHOVE, mediainfo or the NLNZ metadata extraction tool; three checksums are created and a virus check is carried out (see Guideline 8 and [1]). New tools can be integrated in Rosetta as plug-ins at any time.

The basis of preservation planning comprises the formal quality check by librarians, format validation and identification, the extraction of technical metadata, the significant properties, information in the format library and the Preservation Policy.

Technology Watch is based on the continuous observation of the technological development. The obsolescence of formats is also considered in this context.
In addition, TIB engages in exchange with other institutions and is an active member of Goportis – Leibniz Library Network for Research Information, involved, for example, in the Open Preservation Foundation [2], nestor [3] and the Rosetta Format Library Working Group.

The digital preservation system Rosetta has a preservation planning module, which includes a format library, mechanisms for risk analysis and evaluation and for carrying out preservation actions. In addition, significant properties are defined there, which act as criteria for risk management and as a basis for drawing up preservation plans. Technical significant properties are already defined in the format library; additional technical and organisational significant properties can be defined by object group.

Before carrying out a preservation action, the preservation plan is analysed using a test set. In this connection, TIB is guided by the high-level requirements of preservation planning, as described in the Planets project using Plato [4].

The format library is a user-driven global knowledge base for Rosetta users. It contains a list based on the PRONOM database containing relevant metadata on the individual formats and the playback programmes required.

In risk management, risk indicators can be configured individually. Based on risk analyses, preservation actions are automatically proposed, and can be applied to the objects concerned.

TIB has an exit strategy supported by Rosetta. If a change of system is required, objects can be exported along with their metadata and the relationships between the objects. Rosetta does not save the objects and their metadata in proprietary capsule formats in order to avoid a vendor lock-in. The metadata is saved in an METS-XML file. Ex Libris has published the METS profile on the Library of Congress website as part of the exit strategy [5].

So far, there has been no need to carry out any preservation action. In addition to ongoing action to preserve bitstream, TIB will use migration and emulation to ensure the long-term use of objects.

In cooperation with the University of Freiburg, TIB tested the emulation of CD images [6].

There are plans to test the mass migration of objects.

If migration is to be performed, the objects concerned are transferred from the permanent archival storage to the operational storage. In operational storage, the object is migrated and forwarded to re-ingest as a new version of the AIP.

Planned activities:

TIB plans to conduct mass migration tests.

Related links:

All references last accessed 2015/08/04

[1] http://www.tib-hannover.de/fileadmin/informationsmaterial/lza/04_preservation_planning.png

[2] http://openpreservation.org/about/members/

[3]
http://www.langzeitarchivierung.de/Subsites/nestor/DE/Partner/partner_node.html;jsessionid=AA4C1A5EDD1E9A1B41C41E3FD4FFD

[4] http://publik.tuwien.ac.at/files/pub-inf_5204.pdf

[5] http://www.loc.gov/standards/mets/profiles/00000042.xml

[6] http://www.tib.uni-hannover.de/fileadmin/bilder/informationsmaterialien/Poster_TIB-en-ipres_2014_klein.pdf

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

8. Archiving takes place according to explicit work flows across the data life cycle.

Minimum Required Statement of Compliance:

3. In progress: We are in the implementation phase.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

Digital preservation is an integral part of the object life cycle if the respective requirements are met:

- The object corresponds to TIB's acquisition profile.

- TIB obtains the data producer's consent to preserve the object.

- Objects include:

    - PhD theses written at Leibniz Universität Hannover,

    - Audiovisual (AV) media from the IWF collection or

    - Exceptions – the acceptance of objects is decided on a case-by-case basis.

TIB digitally preserves objects acquired by different specialised library teams (see Guideline 1 and [1]):

- PhD theses,
- Grey literature and

- German research reports.

Digitised items, e-books, electronic journals, East-European and East-Asian literature, 3D objects and AV media are prepared for digital preservation.

If an object contains confidential or personal data, the parts concerned are removed (see Guideline 15).

Most of the staff in Digital Preservation have a degree in Library and Information Science or in Computer Science. TIB encourages its staff to gain expertise by enabling them to participate in internal and external further training and in conferences and workshops. In addition, TIB engages in exchange with other institutions and is an active member of Goportis – Leibniz Library Network for Research Information, involved, for example, in the Open Preservation Foundation [2], nestor [3] and the Rosetta Format Library Working Group (see Guideline 7).

Data handling is described in the Preservation Policy [4].

Ingest

The different types of objects are submitted to the digital preservation system via various workflows.

The ingest workflows are configured individually for each library team. Workflows differ with regard to:

- The descriptive metadata collected,
- The licence texts deposited and
- The access rights granted.

The processing steps in Rosetta are identical at the content level. At the technical level, objects are dealt with by suitable plug-ins according to their format requirements (see K7).
Ingest can be carried out manually or automatically [5] [6].

Archival storage

The archival storage is described in detail in Guideline 6 [7] [8].

Data management

Database updates and enquiries occur on a cross-workflow basis [9].

Administration

Detailed information about the administration of the digital preservation system is provided in the descriptions of the other processes.

Preservation planning

Preservation planning is described in detail in Guideline 7 [10].

Access

Access to objects is described in Guideline 9.

At present, users do not have direct access to access copies saved in Rosetta. Access copies are available for use on various access platforms.

In the case of a trigger event, a new access copy will be exported from the digital preservation system and forwarded to the access platform [11] [12].

Trigger events include:

- The access copy no longer exists on the access platform.
- The access copy on the access platform is corrupt.

Planned activities:

TIB plans to make comprehensive use of Rosetta for all library teams that acquire objects relevant to digital preservation.

Related links:

All references last accessed 2015/08/04

[1] http://www.tib-hannover.de/fileadmin/informationsmaterial/lza/01_pre_ingest.png

[2] http://openpreservation.org/about/members/

[3]
http://www.langzeitarchivierung.de/Subsites/nestor/DE/Partner/partner_node.html;jsessionid=AA4C1A5EDD1E9A1B41C41E3FD4FFD9

[4] http://www.tib-hannover.de/fileadmin/informationsmaterial/lza/TIB_Preservation_Policy_EN_v_1_0.pdf

[5] http://www.tib-hannover.de/fileadmin/informationsmaterial/lza/02_manueller_ingest.png

[6] http://www.tib-hannover.de/fileadmin/informationsmaterial/lza/02_automatischer_ingest.png

[7] http://www.tib-hannover.de/fileadmin/informationsmaterial/lza/03_archival_storage.png

[8] http://www.tib-hannover.de/fileadmin/informationsmaterial/lza/03_archival_storage_management.png

[9] http://www.tib-hannover.de/en/the-tib/digital-preservation/data-management/

[10] http://www.tib-hannover.de/fileadmin/informationsmaterial/lza/04_preservation_planning.png

[11] http://www.tib-hannover.de/fileadmin/informationsmaterial/lza/05_interner_access.png

[12] http://www.tib-hannover.de/fileadmin/informationsmaterial/lza/05_externer_access.png

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

9. The data repository assumes responsibility from the data producers for access and availability of the digital objects.

Minimum Required Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

TIB uses various standard form licences, depending on the purpose for which each object is acquired, in order to acquire rights from data producers.

The rights for digital preservation of those objects are always obtained.

For instance, the following licensing agreement is used for doctoral theses [1].

PhD students have to sign this licence statement to be able to publish their doctoral thesis.

The following licensing agreements are used for audiovisual media (AV Media):

- Licence wording for a Creative Commons licence [2]
- Licensing agreement [3]

The Competence Centre for Non-Textual Materials (KNM) also negotiates individual licensing agreements with producers.

The specialist library teams of TIB use other standard-form licences, too.

TIB complies with the applicable statutory provisions and seeks permission for digital preservation from the respective producers.

If those rights are not granted with respect to an object, digital preservation shall be undertaken on the basis of the exceptions to limitations provided by statute. However, technically modified objects can be made available for use only after examination on a case-by-case basis.

TIB will make access copies available to users on various access platforms.

Objects in the digital preservation system Rosetta are accessible only to employees. If and when a trigger event occurs, e.g. if the access copy is no longer available or readable on the access platform, digital preservation staff shall access the access copy stored in Rosetta and forward the same to the user platform as a copy, where it is re-posted.

If Rosetta is unavailable due to maintenance work, the staff involved and the partner institutions will be informed of this. Since access copies are not accessed via Rosetta, times during which the system is not available are not relevant to users' access to the objects.

Planned activities:

In the long term, TIB plans to make access copies available via Rosetta rather than on the full text server.

Related links:

All references last accessed 2015/08/04

[1] http://www.tib.uni-hannover.de/fileadmin/download/dissertationen/anlage-2-en.pdf

[2] https://av.getinfo.de/resources/OpenAccess-Licence-NTM-english.pdf

[3] https://av.getinfo.de/resources/Lizenzvereinbarung_english.pdf

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

10. The data repository enables the users to discover and use the data and refer to them in a persistent way.

Minimum Required Statement of Compliance:

3. In progress: We are in the implementation phase.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

TIB makes objects available in common, easy-to-use formats:

- Text documents are accessible via the full-text server in the form of protected PDF files, and
- Audiovisual media (AV media) are accessible via the AV Portal in the form of Flash or WebM files.

TIB's collections can be researched in TIB/UB's OPAC, GetInfo and the Gemeinsamer Verbundkatalog (Union Catalogue, GVK). These catalogues have comprehensive search functions.

TIB makes some of its catalogue metadata available via an SRU interface [1].

Thanks to various automated video analysis options, such as scene, text, speech and image recognition, as well as tagging, the AV Portal offers comprehensive search functions.

TIB operates a DOI registration agency [2] for its subjects.

The following TIB objects are given a DOI:

- AV media for which TIB has been granted storage permission, if desired by the data producer,
- German Federal Ministry of Education and Research (BMBF) research reports, cruise reports by German

research vessels, and several in-house TIB publications such as the Open Science manual,
- 3D objects from the Probado project, which appear in GetInfo, and
- There are plans to allocate DOIs to all digitised items in future.

PhD theses written at Leibniz Universität Hannover are given a URN, a so-called uniform resource name.

Planned activities:

TIB plans to make digitised items available in a viewer as a JPEG file with structural metadata. In addition, every digitised item is to be given a DOI.

TIB plans to make some of its catalogue data available via an OAI interface (Open Archives Initiative).

Related links:

All references last accessed 2015/08/04

[1] http://www.tib-hannover.de/en/getinfo/interfaces-and-documentations/

[2] http://www.tib-hannover.de/en/services/doi-service/

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

11. The data repository ensures the integrity of the digital objects and the metadata.

Minimum Required Statement of Compliance:

3. In progress: We are in the implementation phase.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

Integrity assurance methods

TIB ensures the integrity of the data in the archival storage using ZFS Scrubbing and Fletcher4 checksums (see Guideline 6). Alternatively, Fletcher2 or SHA-256 can be applied.

In addition, each file is saved with three checksums in the digital preservation system Rosetta:

- SHA1
- MD5
- CRC32

These checksums are created in the deposit and verified upon every file transfer within the system, for example, when creating a copy during versioning.

Rosetta enables the checksums of AIPs to be verified automatically at any interval in Rosetta or externally. TIB plans to use this method in future.

Versioning

AIPs cannot be edited in the permanent/archival storage. In order to change an AIP, a copy of the AIP must be moved to the editing area (see Guideline 8). Changes can only be made there. Any amendment to an AIP must be

confirmed. If the change is confirmed, a new AIP is created. All changes are documented in the metadata (see Guideline 12), and the new version of the AIP is forwarded to permanent storage again.

TIB versions the AIP based on the following rules:

- Any AIP that has been amended will be locked. This way, any inadvertent, simultaneous editing by another user will be avoided.

- Changes to an AIP must be confirmed. Only then is the AIP versioned.

- If a confirmed change is made to the data, the AIP will be versioned. For example:

  - A preservation action was carried out,

  - A new representation was added or

  - Something was deleted from the AIP

- Any changes that are not confirmed will not be accepted and will not trigger versioning.

- If the AIP is versioned, a new version of the AIP and the METS file is created. Different versions of an AIP are placed in relation to each other in the metadata and in data management (database).

Planned activities:

TIB plans to automatically compare the checksums created by Rosetta in addition to conducting integrity assurance using the storage management software.

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

12. The data repository ensures the authenticity of the digital objects and the metadata.

Minimum Required Statement of Compliance:

3. In progress: We are in the implementation phase.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

Authenticity assurance

TIB ensures the authenticity of digitally preserved objects at different stages of the object life cycle.

Upon receipt of an object, librarians check to make sure that it is complete and legible (see Guideline 2).

Although the identity of data producers is not checked by the digital preservation system, librarians exchange written documents with data producers during the acquisition process. In some cases, data producers must appear in person, for example, when submitting a PhD thesis.

Deposit and ingest are performed by the competent library team to make sure that the objects are complete and classified correctly.

Information about which member of staff or service processed the object in any way is automatically recorded. A role and rights concept prevents the unauthorised processing of objects. Each member of staff is only granted the rights required to perform their respective work, and only views objects accordingly.

For this purpose, TIB has configured different roles.

The original object is saved as the Preservation Master and remains unchanged.

Prior to depositing, librarians make changes to a copy of the original file, if required, in order to create the access copy from this file (for example, to create a sequence for the access copy if objects consist of several files). Librarians record this work step in a defined folder structure. Digital Preservation accepts such a file as the modified Pre-Ingest Preservation Master in addition to the Preservation Master.

In cooperation with the library teams, Digital Preservation documents all of the changes made to the object prior to depositing. It has also jointly developed a policy for importing objects with all library teams whose objects are digitally preserved. Digital Preservation intends to expand this collaboration to all library teams.

In order to ensure traceability, all changes to an object are documented in the metadata and the AIPs are versioned (see Guideline 11).

In the manual process, once the Preservation Master has been uploaded, the access copy and the modified Pre-Ingest Preservation Master are added to the AIP, and the process is automatically documented in the metadata.

In the automatic process, all representations are imported in the digital preservation system in one go and deposited in a differentiated manner.

Data model

The AIP structure of Rosetta corresponds to the PREMIS data model.

It is a logical AIP. The AIP structure at TIB is described [1].

If an object is amended in the permanent archival storage (see Guideline 8), for example, by carrying out a preservation action, the AIP will be versioned and the changes will be documented in the metadata and in data management (database) (see Guideline 11).

In Rosetta's preservation planning module, significant properties are defined that act as a basis for drawing up a preservation plan.

Planned activities:

TIB plans to develop import policies with all library teams that acquire objects for TIB's subjects.

TIB plans to introduce the tested uniform folder structure in all library teams.

Related links:

All references last accessed 2015/08/04

[1] http://www.tib-hannover.de/en/the-tib/digital-preservation/data-management/

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

13. The technical infrastructure explicitly supports the tasks and functions described in internationally accepted archival standards like OAIS.

Minimum Required Statement of Compliance:

3. In progress: We are in the implementation phase.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

TIB operates an OAIS-compliant (Open Archival Information System) digital preservation system based on the Rosetta [1] software programme. In addition to OAIS ISO 14721:2012, it is also based on DIN 31644:2012-04 "Criteria for trustworthy digital archives" and the DCC Curation Lifecycle Model.

"The OAIS standard defines minimum requirements that an organisation must meet in order to operate an OAIS-compliant archive [2].

The OAIS should

- Negotiate with information producers about information and accept it accordingly (see Guidelines 1, 2 and 3),

- Gain sufficient control over the information offered to such an extent that its digital preservation is ensured (see Guidelines 1, 2, 5 and 9),

- Determine, either alone or with others, which groups should belong to the envisaged designated community, and should therefore be able to understand the information offered in order to define its basic knowledge [3],

- Ensure that the information to be received is immediately understandable to the envisaged designated community. In particular, the envisaged designated community should be able to understand the information without any use of special aids, such as the help of experts who created the information (see Guidelines 1, 2, 3 and 9),

- Follow the documented guidelines and processes, which ensure that the information is protected against all conceivable risks, including the closure of an archive, ensuring that it will never be deleted, except when this is permitted as part of a proven strategy. There should not be any ad-hoc deletions (see Guidelines 6, 8, 11 and 12),

- Make the preserved information available to the envisaged designated community and enable the information to be delivered as copies of the originally submitted data objects or retraceable to these, including evidence of their authenticity (see Guidelines 12, 16 and [3])."

The processes and workflows involved in digital preservation are described in Guideline 8 (see Guideline 8).

TIB may propose OAIS-compliant adaptations and further developments of the system. As a Goportis partner, TIB is a member of the German-speaking and the international Rosetta User Group (DRAG and RUG). Members engage in exchange with each other and make joint development proposals to Ex Libris.

A specific further development concept exists for the archival storage (see Guideline 6). In addition, the Rosetta architecture is scalable [4].

The system is operated on several servers. Moreover, two further instances exist in addition to the production system, enabling new developments and workflows to be integrated and new staff to be trained without affecting the productive operation.

TIB uses additional standards to ensure the long-term availability of objects:

Dublin Core [5] is used to describe descriptive metadata elements.

DNX elements are used to describe digital preservation metadata (technical, administrative and process-related metadata). DNX is based on PREMIS.

DC and DNX are embedded in METS, where legal, structural and administrative metadata [6] is also described.

If technical metadata is extracted, additional metadata standards are applied (for example, MIX, EXIF). Metadata is written in an METS file containing all of the metadata and the paths to the objects of an AIP.

The METS schema is publicly accessible [7].

Related links:

All references last accessed 2015/08/04

[1] http://www.exlibrisgroup.com/category/RosettaOverview

[2] (German) http://files.d-nb.de/nestor/materialien/nestor_mat_16-2.pdf, Chapter 3.1

[3] http://www.tib-hannover.de/fileadmin/informationsmaterial/lza/TIB_Preservation_Policy_EN_v_1_0.pdf

[4] http://www.exlibrisgroup.com/files/Products/Preservation/RosettaScalingProofofConcept.pdf

[5] http://dublincore.org/documents/usageguide/elements.shtml

[6] http://www.loc.gov/standards/mets/

[7] http://www.loc.gov/standards/mets/profiles/00000042.xml

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

14. The data consumer complies with access regulations set by the data repository.

Minimum Required Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

The stocks of TIB are available on various platforms.

Under German law, an end user licensing agreement (EULA) is not required. The TIB Rules for Use of the Library and German copyright law apply.

The provisions governing the use of the library stock of TIB and the storage of personal data are set out in the Rules for Use of the Library [1].

If a user does not accept the Rules for Use upon registration, he or she will not be able to use offers which require registration.

The terms of use for electronic journals are also available on the TIB websites [2].

The use of GetInfo is governed by the General Terms and Conditions of GetInfo (the "GetInfo General Terms") [3]. If a user does not accept the GetInfo General Terms upon registration, he or she will not be able to use offers which require registration.

Upon registration, the user agrees to acknowledge and comply with the Terms of Use and applicable German copyright law.

Freely accessible digital objects are publicly available to all users. The catalogue entry contains either a reference to the terms of the Creative Commons licence or to applicable German copyright law. Since the objects are freely accessible to everyone, TIB has no influence on whether or not users comply with the legal terms.

Planned activities:

TIB plans to update the Rules for Use of the Library.

Related links:

All references last accessed 2015/08/04

[1] (German) http://www.tib.uni-hannover.de/fileadmin/download/anmeldung/benutzungsordnung.pdf

[2] http://www.tib.uni-hannover.de/en/search-literature/electronic-journals/terms-of-use.html

[3] http://www.tib-hannover.de/en/getinfo/conditions/general-terms-and-conditions/

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

15. The data consumer conforms to and agrees with any codes of conduct that are generally accepted in the relevant sector for the exchange and proper use of knowledge and information.

Minimum Required Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

Use of the stocks of TIB is governed by German copyright law. Licensing agreements may result in further limitations on use. These limitations will be technically implemented.

By getting registered, users of TIB accept the TIB Rules for use of the Library [1].

If a user does not accept the Rules for Use upon registration, he or she will not be able to use offers for restricted access (see Guideline 14).

TIB is subject to the Data Protection Act of Lower Saxony and other applicable data protection rules and regulations, the Higher Education Act of the State of Lower Saxony [Niedersächsisches Hochschulgesetz] and the Ordinance of Leibniz Universität Hannover on the Processing of Personal Data [Ordnung für die Verarbeitung personenbezogener Daten der Leibniz Universität Hannover] [2]

The Data Protection Officer of Leibniz Universität Hannover is competent for all matters in this regard.

Special rules of procedure apply to German research reports: TIB collects scientific and technical literature which normally does not include any personal data. An exception to this rule are German research reports if, contrary to the rules for submission, they are submitted to TIB with confidential information. In this case, either the confidential information will be removed or the object will not be accepted.

TIB does not make objects containing confidential information or objects having a locking flag available for use.

Planned activities:

TIB is working on its own ordinance on the processing of personal data.

Related links:

All references last accessed 2015/08/04

[1] (German) http://www.tib.uni-hannover.de/fileadmin/download/anmeldung/benutzungsordnung.pdf

[2] (German) https://www.uni-hannover.de/fileadmin/luh/content/datenschutz/datenschutzordnung061012.pdf

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

16. The data consumer respects the applicable licences of the data repository regarding the use of the data.

Minimum Required Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

TIB wishes to offer users the most comfortable means of access in compliance with statutory limitations. However, for legal reasons, not all objects of TIB are available online.

The following scenarios of use are possible:

- freely accessible online
- access by campus licence only
- access to registered users only
- access only on site in the reading room
- access only to a data carrier or printed edition
- access only to employees
- no access (object is blocked)

Upon registration, the user agrees to acknowledge and comply with the Rules of Use.

Freely accessible digital objects are available to all users. The catalogue entry contains either a reference to the terms of the Creative Commons licence or to applicable German copyright law. Since the objects are freely accessible to everyone, TIB has no influence on whether or not users comply with the legal terms.

Objects having a locking flag or objects containing confidential information are not available for use (see Guideline 5).

Reviewer Entry

Accept or send back to applicant for modification:

　　Accept

Comments: