



Implementation of the Data Seal of Approval

The Data Seal of Approval board hereby confirms that the Trusted Digital repository BABS - Long Term Preservation at the Bavarian State Library- Library Archiving and Access System complies with the guidelines version 2010 set by the Data Seal of Approval Board.

The afore-mentioned repository has therefore acquired the Data Seal of Approval of 2010 on February 4, 2013.

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:	2010 June 1, 2010
Guidelines Information Booklet:	DSA-booklet_2010.pdf
All Guidelines Documentation:	Documentation
Repository:	BABS - Long Term Preservation at the Bavarian State Library- Library Archiving and Access System
Seal Acquiry Date:	Feb. 04, 2013
For the latest version of the awarded DSA for this repository please visit our website:	http://assessment.datasealofapproval.org/seals/
Previously Acquired Seals:	None
This repository is owned by:	Bavarian State Library Bayerische Staatsbibliothek Ludwigstr. 16 80539 München Bavaria Germany T +49 89 28638 0 E direktion@bsb-muenchen.de W http://www.bsb-muenchen.de/

Assessment

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

Minimum Required Statement of Compliance:

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

This guideline cannot be outsourced.

Applicant Entry

Statement of Compliance:

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

Evidence:

The data in the Library Archiving and Access System (BABS) at the Bavarian State Library (BSB) comes from three different sources:

1. Data from the digitization carried out by the Munich Digitization Center as well as data from digitized materials created by cooperation partners or service providers.
2. Data from external producers (Bavarian public authorities and publishing houses). who deposit e-journals and e-books.
3. Data from web-harvests.

Regardless of its origin, all data is structured into intellectual entities (simple objects for e-books, complex objects for e-journals, digitised books, web-archives). Every single IE in the repository is connected with a full set of bibliographic metadata and can easily be retrieved via the central resource discovery system of the library (OPACplus) and additional portals (e.g. union catalogues, WorldCat, digital collections, europeana, regional and subject gateways) and accessed by our users free of charge. Thus, they are enabled to verify or assess the scientific quality of the content of the archived intellectual entities.

Examples of catalogue entries:

1. <http://opacplus.bsb-muenchen.de/search?oclcno=643707185>
2. <http://opacplus.bsb-muenchen.de/search?oclcno=239676456>
3. <http://opacplus.bsb-muenchen.de/search?oclcno=711827894>

((All URLs in the whole assessment formular were checked on 29.11.2012))

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

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

Minimum Required Statement of Compliance:

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

This guideline cannot be outsourced.

Applicant Entry

Statement of Compliance:

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

Evidence:

1. For the digitization of printed works by the BSB and its partners the corresponding guidelines (http://www.dfg.de/download/pdf/foerderung/programme/lis/praxisregeln_digitalisierung.pdf) of the German Research Foundation (DFG) apply and define the parameters for the scanning process as well as for file formats. In cases where the BSB works with external service providers, the parameters for scanning, handling and delivery of data are always laid down in contractual agreements and thus are under full control of the library. A large quantity of the digitisation output is already undergoing intellectual control.

2. The Library Archiving and Access System has a list of preferred file formats for born digital objects that are deposited by external producers. (See: http://www.babs-muenchen.de/index.html?pcontent=netzpublikationen&scontent=technisches_en). An intellectual control as well as automatic validation of the file formats are in place. For objects that are delivered in non-preferred formats we are currently working on the implementation of a standard-workflow for normalization to the PDF/A-Format.

3. When harvesting and archiving external websites, it is not feasible for a digital library to get full control over used formats. Therefore BSB stores the harvested data in the widely-used container formats ARC and WARC, WARC being an ISO-Standard since 2009. Thus the repository has the greatest control possible over formats for web archiving.

For the future we plan to further extend the list of accepted file formats for long-term preservation (e.g. AV media formats, EPUB etc.).

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

3. The data producer provides the research 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.

This guideline cannot be outsourced.

Applicant Entry

Statement of Compliance:

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

Evidence:

1. For retro-digitized objects already existing bibliographic metadata is taken from the BSB's catalogue. Structural and administrative information is generated automatically. Additional intellectual enrichment of the entities (e.g. with structural information: table of contents, image descriptions) can be done via a web-based editor or integration of xls-sheets. The bibliographic metadata in the catalogue is in MAB-format, METS and TEI are used as metadata standards for the IEs in the repository. This process applies for BSB's in-house digitization as well as for digitization carried out by external service providers and Google.

2. For external producers, who are uploading intellectual entities (or parts of IEs) into the repository via the deposit-web-interface, the provision of descriptive information is mandatory. (See metadata formular in: Ausführliche Anleitung für die Ablieferung von Netzpublikationen im BSB-Deposit, p.8, available in German under: <http://www.babs-muenchen.de/content/netzpublikationen/Handbuch.pdf>). This metadata forms the basis for a catalogue entry in the library catalog (MAB-Format) and in the repository.

3. For web archives already existing bibliographic metadata is taken from the subject gateways. This metadata forms the basis for a catalogue entry in the library catalog (MAB-Format). Structural and administrative information is generated automatically by the WebCuratorTool/WayBackMachine.

Technical metadata is in general not provided by the producer, but created system-based during the ingest process.

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.

This guideline can be outsourced.

Applicant Entry

Statement of Compliance:

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

Evidence:

The Bavarian State Library is the central state library and archival library of the Free State of Bavaria and forms Germany's virtual national library together with the Berlin State Library and the German National Library. Thus, it assumes responsibility for the long-term preservation and enduring usability for a broad range of digital objects (see guideline 1 and http://www.babs-muenchen.de/index.html?pcontent=e-medien_en). Furthermore BSB's digital archiving activities also result from its legal and contractual obligations, such as the regulation concerning the deposit of e-publications of state authorities (<https://www.verkuendung-bayern.de/files/jmbl/2009/01/jmbl-2009-01.pdf>, page 2; in German) and the preservation requirements laid down in the digitisation guidelines of the German Research Foundation.

The main tasks to be performed under this responsibility can be found at:
http://www.babs-muenchen.de/index.html?pcontent=arbeitsbereiche_en

A list of publications, which promulgate the mission in the area of digital archiving, can be found at:
<http://www.babs-muenchen.de/index.html?c=publikationen&l=en>

An extension of the already existing mission description in form of a more detailed preservation policy in German was recently released
(http://www.babs-muenchen.de/content/dokumente/2012-11-22_BSB_Preservation_Policy.pdf).

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.

This guideline cannot be outsourced.

Applicant Entry

Statement of Compliance:

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

Evidence:

1. Printed works are only digitized and presented, if they are no longer subject to copyright regulations (<http://www.bsb-muenchen.de/Digitisation.759+M57d0acf4f16.0.html>) Works that are protected by copyright are only processed and made accessible, if contractual provisions between BSB and the rights holders exist (<http://digi20.digitale-sammlungen.de/en/fs1/about/static.html>).

2. External producers that are uploading e-publications via the deposit-web-interface are required to take notice of /accept the regulations concerning the deposit of e-publications of state authorities that entitles the BSB to store, copy and process the objects and make them publicly accessible. (See rights statement in: Ausführliche Anleitung für die Ablieferung von Netzpublikationen im BSB-Deposit, p.9, available in German under: <http://www.babs-muenchen.de/content/netzpublikationen/Handbuch.pdf>). External producers can also authorize our preservation activities by filling in forms for granting rights to the BSB. (See: http://www.babs-muenchen.de/index.html?pcontent=netzpublikationen&scontent=vordrucke_en).

3. Harvesting, preservation and presentation of websites is only conducted after an explicit permission has been obtained from the rights holder (http://www.babs-muenchen.de/index.html?pcontent=web-archivierung_en).

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.

This guideline can be outsourced.

Applicant Entry

Statement of Compliance:

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

Evidence:

Data and archival storage is carried out by our strategic partner, the Leibniz Supercomputing Centre (LRZ) that is responsible for continuous operation and maintenance of the storage infrastructure. (See:

http://www.babs-muenchen.de/index.html?pcontent=technik_en&scontent=technik_en)

Therefore in the area of data storage the strict precautions and standard processes for data management of one of Germany's leading supercomputing Centres apply. This includes up to date network attached storage (NAS) for operational data and redundant storage of archival data on tape storage systems (Tivoli Storage Manager and StorageTek-Libraries) at locally separated places, regular consistency checks, regular renewal of storage media combined with data/bit stream migration to new systems, disaster prevention, air conditioning and protection of buildings, risk management and means for IT-security.

(See: Reiner, Bernd: Sicherung des Weltkulturerbes am Leibniz-Rechenzentrum, p. 21ff., available at:

http://www.badw-muenchen.de/aktuell/akademie_aktuell/2007/heft3/06_Reiner_LRZ.pdf and TSM Best Practice Guide http://www.lrz.de/services/datenhaltung/adsm/einfuehrung/Best_Practice_Guide.pdf and

Leibniz-Rechenzentrum: Jahresbericht 2010, p. 45ff., 139ff., 159ff. available at:

<http://www.lrz.de/wir/berichte/JP/JBer2010.pdf> ; all documents in German).

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.

This guideline can be outsourced.

Applicant Entry

Statement of Compliance:

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

Evidence:

Bit-stream preservation is ensured by the activities listed under guideline 6. The limited number of file formats (see answer to guideline 2) in the archival systems facilitates content preservation. However, technology and formats watch as well as preservation planning are already part of BSB activities.

Two preservation plans (for digitized material (TIFF-format) and legal deposit material (PDF-format)) have been created with help of the Preservation Planning Tool Plato and format migrations have been performed for testing purposes. (See: Kulovits, Hannes et al. From TIFF to JPEG 2000? Preservation Planning at the Bavarian State Library Using a Collection of Digitized 16th Century Printings, available at: <http://www.dlib.org/dlib/november09/kulovits/11kulovits.html>).

For the future it is planned, to manage and document these activities within the digital preservation system itself: Rosetta includes a module for preservation planning, including format and application libraries with, risk management as well as the possibility to test, evaluate and realize format migrations.

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.

This guideline can be outsourced.

Applicant Entry

Statement of Compliance:

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

Evidence:

Three general workflows for the production/acquisition, ingest, management, storage and presentation of three different types of digital media by the library are established as standard routines. These main workflows are regularly adapted to different contexts and needs (e.g. the digitization partnership with Google, monographic and periodical e-publications):

1. digitized material (see: Baumgartner, Martin et al.: Zur Workflowsteuerung der Massendigitalisierung, available at: http://www.imageware.de/static/common/files/de/156/BIT_3_BSB_Beitrags_dt.pdf and: http://www.babs-muenchen.de/index.html?c=workflows_dig&l=en) and Brantl, Markus et al.; Digitale Langzeitarchivierung in Bayern: Vom explorativen Projekt zum nachhaltigen Modell, in: BIBLIOTHEK Forschung und Praxis. Band 35, Heft 1, S. 15–25 (April/2011), available at: <http://dx.doi.org/10.1515/bfup.2011.003>.
2. deposit of e-publications (see: http://www.babs-muenchen.de/index.html?c=workflows_av&l=en)
3. web archiving (see: http://www.babs-muenchen.de/index.html?c=workflows_web&l=en)

Furthermore the general data flow in the Library Archiving and Access System as a whole is documented. (See: http://www.babs-muenchen.de/index.html?pcontent=technik_en&scontent=technik_en)

As described above (see answer to Guideline 7) the permanent integration of components for preservation planning and action into the technical system is in preparation.

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.

This guideline cannot be outsourced.

Applicant Entry

Statement of Compliance:

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

Evidence:

1. Contractual agreements are signed for digitization projects with external partners (research institutes, libraries, archives and the German Research Foundation). In these cases BSB assumes permanent legal responsibility for preservation and accessibility of the produced digital objects.
2. As described in our answer to guideline 5, BSB acquires the rights for preservation and presentation of digital objects that are deposited by external producers.
3. This also applies for web harvesting. However, this is done in accordance with and as realization of BSB's mission. In this case no legal obligations towards the external producer exist. This is indicated in all forms for granting rights. (e.g. <http://www.babs-muenchen.de/content/netzpublikationen/einzelbewilligung.pdf>)

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

10. The data repository enables the users to utilize the research data and refer to them.

Minimum Required Statement of Compliance:

2. Theoretical: We have a theoretical concept.

This guideline cannot be outsourced.

Applicant Entry

Statement of Compliance:

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

Evidence:

Access to the objects in our digital archive is in general open to everyone via the web and realized with widely used file formats (JPEG, PDF, ARC) In few cases special access limitations apply (e.g. digitised newspapers from the 3rd Reich can only be used within the library building). It is also possible to freely download the digital objects as PDF-files for private or academic purposes.

Local, regional, national, international and subject oriented discovery systems for the BSB's digital objects are listed in the answer to guideline 1.

The comprehensive use of the Uniform Resource Name (URN) as persistent identifier for digital objects and persistent links for single pages of digitized books enables our users to quote and refer to the digital objects in a consistent manner.

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.

This guideline cannot be outsourced.

Applicant Entry

Statement of Compliance:

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

Evidence:

1. A detailed concept for the use of checksums for the archival master files within the whole digitization workflow (from scanning to archival storage and delivery) was developed and recently implemented. (See: Beinert et al: BABS2: A new phase, a new perspective in digital long-term preservation – an experience report from the Bavarian State Library, available at: http://www.babs-muenchen.de/content/dokumente/2010-ipres_lza_bsb.pdf).

2. The generation and display of checksums (CRC32, MD5, SHA-1) is already realised as a standard task within the workflow for deposited e-publications. (See e.g.: http://bvbm1.bib-bvb.de/webclient/DeliveryManager?pid=171384&custom_att_2=simple_viewer and click the small red symbol for checksum in the left upper corner to show the checksums as they are stored as metadata of the archival object). For digital publications that are created, archived and made available on behalf of the Bavarian State ministries within the framework of the “Verkundungsplattform Bayern” an MD5-checksum is used (See e.g. <https://www.verkundung-bayern.de/kwmb1>).

3. The WebCuratorTool generates checksums for all harvests.

Furthermore, regular integrity checks with regard to bit rot are conducted by LRZ for all kinds of storage media.

For the future a detailed concept for how to deal with integrity violations needs to be developed. Furthermore it has to be explored to what extent regular checksum comparisons for archived master files are feasible.

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.

This guideline cannot be outsourced.

Applicant Entry

Statement of Compliance:

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

Evidence:

The use of checksums is described in the answer to guideline 11.

1. Each digitization process gets a unique ID which is also the namespace specific string (NISS) of the URN. The bibliographic metadata of the original are linked to the digitized object. The digitized material undergoes intellectual quality control (at random or full, dependent on the project), so that authenticity can be assured and proved. (See: http://www.babs-muenchen.de/index.html?c=workflows_dig&l=en).

2. Deposit of digital material is only possible for registered users. All material uploaded from external producers additional undergoes intellectual quality control by BSB staff, so that authenticity through the ingest process can be assured on a high level. (See: http://www.babs-muenchen.de/index.html?c=workflows_av&l=en).

3. For web harvests an intellectual quality control (comparison with the original according to an agreed checklist) takes place. (See: http://www.babs-muenchen.de/index.html?c=workflows_web&l=en)

Provenance metadata is already recorded on a basic level for digitized objects, born digital material from the deposit area and the harvested websites. More comprehensive provenance metadata and its partial display to end-users is supposed to be realized within the Rosetta system.

Major data changes from one file format to another through migration action have not been necessary until now, but will be documented in the events metadata.

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.

This guideline can be outsourced.

Applicant Entry

Statement of Compliance:

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

Evidence:

As our remarks to the previous guidelines show, the Library Archiving and Information System had been built with the OAIS functional entities in mind. Ingest, Archival Storage, Data Management, Administration and Access are already integral steps in the whole lifecycle of the digital objects. (See: http://www.babs-muenchen.de/index.html?pcontent=technik_en&scontent=technik_en). Only the functionalities for Preservation Planning and Action have yet to be fully integrated into the technical system with Rosetta.

Our object models are strongly oriented on the OAIS-information model with SIPs, which undergo an enrichment process (identification, bibliographical, structural, technical, administrative metadata) towards AIPs and where appropriate were transformed to DIPs (derivative copies).

Evaluation and improvement of the whole organisational and technical infrastructure of the Library Archiving and Information system, especially regarding scalability and trustworthiness, has already been addressed in a specific project, funded by the German Research Foundation (See: Beinert et al: BABS2: A new phase, a new perspective in digital long-term preservation – an experience report from the Bavarian State Library, available at:http://www.babs-muenchen.de/content/dokumente/2010-ipres_lza_bsb.pdf). The next stage of extension will be the switch to the Rosetta preservation system.

In addition to OAIS the Library Archiving and Access System is strongly oriented towards the nestor catalogue of criteria for trustworthy repositories (See: <http://nbn-resolving.de/urn:nbn:de:0008-2010030806>) and nestor's "Into the Archive - a guide to the information transfer to a digital repository" (See: <http://nbn-resolving.de/urn:nbn:de:0008-20080710002>).

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.

This guideline cannot be outsourced.

Applicant Entry

Statement of Compliance:

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

Evidence:

The digital objects in the BSB's Library Archiving and Access System are almost entirely accessible via the web without any restrictions (see answers to guidelines 1 and 10) for everyone.

The consumers of BSB's digitized works are informed about the legal status of the objects (See:

<http://mdz.bib-bvb.de/copyright.htm>). For pdf-Downloads the user is requested to accept an explanation, that

she/he will only use the downloaded files for academic or private purposes. (See:

http://daten.digitale-sammlungen.de/zend-bsb/pdf_download.pl?vers=e&id=00078345&ersteseite=1&letzteseite=184&nr=1&x=8&y=9)

In the rare cases, where access restrictions for presentation apply, these are realized technically and the user is informed about the reasons. (e.g. <http://www.bayerische-landesbibliothek-online.de/coburger-nationalzeitung> ; in German)

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 higher education and scientific research 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.

This guideline cannot be outsourced.

Applicant Entry

Statement of Compliance:

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

Evidence:

In general the use of services of the Bavarian State Library is governed by the Allgemeine Benutzungsordnung der Bayerischen Staatlichen Bibliotheken (General Regulations for the Use of the Bavarian State Libraries - ABOB), as amended on 18 August 1993. (see: <http://www.bsb-muenchen.de/General-Regulations-on-the-Use-of-Bavarian-Public-Libraries.1438+M57d0acf4f16.0.html>). These regulations include general codes of conduct concerning the handling and copying of media provided by the library.

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

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

Minimum Required Statement of Compliance:

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

This guideline cannot be outsourced.

Applicant Entry

Statement of Compliance:

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

Evidence:

For those rare cases when limitations for the use of digital objects apply, there are technical provisions in place that ensure that these objects can only be used/viewed in accordance with the set restrictions (e.g. use in library reading room only, use only for registered users).

For all other digital objects that are freely available via the web, it is almost impossible for the BSB to control if all consumers use these objects strictly according to the conditions of use. If the BSB becomes aware of violations of these conditions it may take appropriate actions (e.g. IP restrictions).

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments: