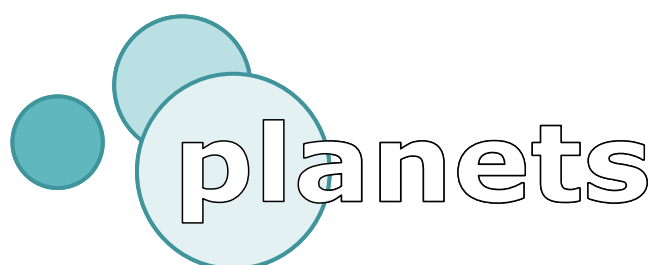

Testbed Assessment Report

1st Iteration

PLANETS SP-TB



Project Number	IST-2006-033789
Project Title	PLANETS
Title of Deliverable	Testbed Assessment Report
Deliverable Number	D6 (1 st iteration)
Contributing Sub-project and Work-package	TB/3
Deliverable Dissemination Level	External Public
Deliverable Nature	Report
Contractual Delivery Date	31 May 2008
Actual Delivery Date	24 June 2008
Author(s)	KB-NL

Abstract

This report gives a first evaluation of the current and future use of the Testbed software. This evaluation is given by the Planets partners who are participants in TB/3 and based on information gathered through means of a questionnaire. This report gives recommendations on the future deployment and use of the Testbed software.

Keyword list: Testbed, Evaluation, Experiments

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References

Ref.	Document	Date	Version	Details
[1]	Project Proposal			
[2]	Annex I- Description of Work	01-07-2007	1.1	http://www.planets-project.eu/private/planets-ftp/docs/contract/PLANETS_033789_DoW_final_draft_v1_1.pdf
[3]	Testbed Use Cases v1.1	19-12-2006	1.1	http://www.planets-project.eu/private/planets-ftp/TB/M1toM18/use_cases/Testbed%20Use%20Cases%20v1.1.pdf
[4]	Testbed Non-functional Requirements	14-12-2006	0.9	http://www.planets-project.eu/private/planets-ftp/TB/M1toM18/NFR/NFR_v0_9.doc
[5]	Testbed Software Requirements	20-02-2007	1.21	http://www.planets-project.eu/private/planets-ftp/TB/M1toM18/SRS/Testbed_software-requirements_v1_21.pdf
[6]	Testbed Design Document	13-04-2007	1.1	http://www.planets-project.eu/private/planets-ftp/TB/M1toM18/ADD/Testbed_design_document_v1_1_al_20070413_final.pdf
[7]	Test-bed Workflow, Checklists and Templates	15-12-2006	0.3	http://www.planets-project.eu/private/pages/wiki/images/d/d3/TB3-D1-D3-v0.3.pdf
[8]	Practical experiences of the Dutch Digital Preservation Testbed	2004		http://www.digitaleduurzaamheid.nl/bibliotheek/docs/Article_in_VINE_2004.pdf
[9]	The Planets Testbed: Science for Digital Preservation	2008		Forthcoming on code4lib

Executive summary

This is the first iteration of the Testbed Assessment report.

In the Testbed Assessment reports, which will be compiled every half year, the practicability and suitability of the tools, services and preservation strategies in organisational environments will be assessed, partly based on the experiment evaluation reports. In these reports, the applicability of the outcomes of the other sub-projects in existing workflows and organisational contexts will be assessed and their efficiency in providing practicable solutions for organisations engaged in digital preservation will be evaluated. This will provide critical formative evaluation information to guide developments in all sub-projects.

The Testbed Assessment reports will also analyse the evaluation reports with respect to the experiment processes, to provide feedback for the Testbed Management team, and support synthesis of the experiment/ test results of the project.

The version of the Testbed software that was available at the writing of this report was version 0.5 of the local instance of the software. A central instance was not yet available and three services were available for testing (two migration services and one characterisation service). This means that there is no centrally gathered user data available yet. For this reason the data for this iteration of the report was gathered via a questionnaire.

The questionnaire was sent to fourteen Planets partners. Out of these, seven institutions returned a completed questionnaire. Four of the respondents had installed the Testbed software; two of these four had conducted experiments. No documented experiments were conducted. Two of the respondents had trouble installing two of the available services within the Testbed software.

When asked about the planned future use of the Testbed software, four respondents indicated they would keep or start using the local instance of the software. All seven respondents were planning to use the central instance of the software. The respondents also gave suggestions for other tools they would like to experiment with within the Testbed software. All respondents will test using their own objects. They all own copyright on at least some of these objects and will be able to upload these objects to the Testbed corpora.

This report shows that even though the number of local installations of the Testbed software is low, the Planets partners are planning to use the Testbed software. However, they prefer the central instance over the local instance. There is a request for more tools to be available within the Testbed software. This report also shows that there are digital objects of various types available for inclusion within the Testbed corpora.

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1 Role of the document

In the Testbed Assessment reports, the practicability and suitability of the tools, services and preservation strategies in organisational environments will be assessed, partly based on the experiment evaluation reports. In these reports, the applicability of the outcomes of the other sub-projects in existing workflows and organisational contexts will be assessed and their efficiency in providing practicable solutions for organisations engaged in digital preservation will be evaluated. This will provide critical formative evaluation information to guide developments in all sub-projects. The Testbed Assessment reports will also analyse the evaluation reports with respect to the experiment processes, to provide feedback for the Testbed Management team, and support synthesis of the experiment/ test results of the project.

The evaluation of the Testbed will be an iterative process because usage is expected to increase during time. Therefore, this report will be issued every three or six months, depending on the increase of experiments.

Chapter 2 (Document Overview) and chapter 3 (Overall description of the Testbed software) contain static information that will be unchanged in all versions. It contains information that is needed as background information to understand the scope of the document.

The information in chapter 4 (Testbed usage) and Chapter 5 (Conclusion and recommendations) will be updated in each version. Paragraph 1.1 contains information on the time period of the current version.

1.1 Version information

This version 1 is the first version of the Testbed Assessment Report for external review. The Testbed software release this report is based on, is version 0.5. This version must be installed locally. The data in this version is collected through questionnaires. In future versions, input for this report will be gathered from the central instance of the Testbed software, which will collect usage data.

This version of the report contains information about the use of version 0.5 and the intended use of future versions of the Testbed software. Information has also been gathered about the other tools the Planets partners would like to see integrated in the Testbed software, and the possible input they can give to the Testbed corpora.

This document contains information about experiments carried out from PLANETS month M22 (March 2008, when the Testbed software was released) up to and including M23 (April 2008).

2 Document overview

2.1 Purpose

This Testbed Assessment Report should evaluate whether the Testbed meets its goals as set out in the 'Project Proposal' [1] and the 'Description of Work' [2].

In chapter 2 the purpose and scope of the document are described and the context of the deliverable within the Planets context is explained. Chapter 3 gives an overall description of the Testbed and describes the methodology that was used for the assessment. In chapter 4 the usage of the Testbed is analysed using a questionnaire conducted amongst the users of the Testbed. In chapter 5 conclusions are drawn and some recommendations are made.

2.2 Scope of TB/3

This report is an external deliverable of the Testbed sub-project, workpackage TB/3: Management and Execution of experiments. The overall objectives of the TB/3 workpackage are:

- Facilitating of PLANETS partners to prepare, execute and evaluate experiments on various preservation tools / services in a controlled experimental setting, via a structured work flow, using a web application.
- Analyse the experiment results to gather empirical evidence. This knowledge will add to the information on tools / services and is used to assess their usability in relation to different object types.
- Assure the quality of the experiments and their scientific value. Therefore, make sure experiment are reproducible and their results are structured, making use of structured sets of possible evaluation criteria, that depend on the experiment type.
- Provide a plan for the building of corpora: well-described files that can be used as reference for the experiments.
- Provide a good user guidance and support for designing and executing experiments.
- Planning of experiments
- Reporting on Testbed and on planned and executed experiments to project governance bodies

N.B. Setting up and maintenance of the Testbed is a task of the TB/2 workpackage.

2.3 Scope of this document

This report will evaluate whether, so far, the Testbed meets its goals as set out in the 'Project Proposal' [1] and the 'Description of Work' [2]. It will do so by analysing the usage of the Testbed. This report will not evaluate technical and design matters, although when evaluating the use of the Testbed, some findings may be the result of technical or design principals.

2.4 Context

This document is based on previous work which was done in the TB/2 and TB/3 work-packages as described in the following documents:

- Testbed Use Cases v1.1 [3]
- Testbed Non-functional Requirements v0.9 [4]
- Testbed Software Requirements v1.21 [5]
- Testbed Design Document v1.1 [6]
- Testbed Workflow, Checklists and Templates v0.3 [7]

The document can serve as input for the Preservation Planning (PP) sub-project. The results of the experiments can provide the input needed to write preservation plans. The choice for a certain tool within a preservation plan can use the test results from the Testbed.

The results from the Testbed experiments will be input for the sub-projects Preservation Action (PA) and Preservation Characterisation (PC) as well. The results from the Testbed will provide the sub-projects with information on how well the preservation action and characterisation tools work. This assessment report will provide a gap analysis that will show the sub-projects which type of tools or objects need further testing.

2.5 Definition of terms

This subsection provides the definitions of all terms, acronyms, and abbreviations required to properly interpret the Testbed Assessment Report.

Acronym	Definition
PP	Preservation Planning
PA	Preservation Action
PC	Preservation Characterisation
IF	Interoperability Framework
TB	Testbed
DT	Dissemination and Takeup
D	Deliverable

3 Overall description of the Testbed software

3.1 Purpose of the Testbed Software

There is a significant lack of reliable comparative information about the effectiveness of different strategies for preservation, and of the usefulness of tools that are available for supporting digital asset characterisation and preservation actions.

To bridge this gap, Planets will create a framework within which the execution of preservation plans can be tested both before and after implementation, and where tools can be evaluated against a set of transparent, consistent criteria. This framework will provide an infrastructure for the empirical evaluation of different preservation plans and for testing and evaluating preservation action and characterisation services. There will be a controlled central research infrastructure, while at the same time providing the opportunity to deploy local Testbed instances.

The Testbed Assessment report will evaluate whether the Testbed has met these objectives.

3.2 Methodology

3.2.1 Overview of Testbed Software infrastructure

Below a short overview is given of the Testbed Software infrastructure. For more information, see [9].

The first version of the Planets Testbed was released for internal use by the Planets partners in March 2008. After evaluation, review and further development, the Testbed is expected to be released externally in spring 2009. The central instance of the Testbed will be hosted by HATII at the University of Glasgow. This central version will collect experiment results for use in, amongst other things, future iterations of this report. A local instance of the Testbed software will also be made available.

During the development of the Testbed Software, there were two main demands that needed to be satisfied. The software needed to be platform independent to enable everyone to use the software, regardless of the operating system they use and to enable the testing of tools that run natively on an operating system different from the one the experimenter uses. Also, the Testbed software needed to be a part of Planets infrastructure.

The Interoperability Framework sub-project has been tasked with providing many of the registries and components which would be required by many of the various Planets applications, including Testbed. This approach enabled the Testbed developers to focus primarily on the components that were unique to the Testbed. The Planets infrastructure provides user accounts, security management systems and administration pages for the Testbed Software.

Through access to the Planets infrastructure, experimenters also have access to corpora of data to experiment on. Each corpus will contain individual "difficult" objects for the worst-case analysis of a given tool, and large sets of objects of a given type, or very large files, for average-case analysis. This will avoid duplication of effort for experimenters who would otherwise have to find and upload their own data.

The steps involved in registering and configuring a service to test with are handled by the Testbed administrator. This enables users to access and use the available services without requiring any knowledge of service configuration.

The availability of the corpora of digital objects is also a necessary basis for the certification of third-party tools, an additional feature that the Planets Testbed will offer in a future release. The Testbed will not only make available existing, well-known digital preservation tools, it will also present a unique opportunity to software developers, enabling them to certify their tools against a

collection of digital objects, following a strict experiment process, and benefiting from previous experiment results collected in the Testbed database.

3.2.2 Overview Experiment Workflow

To execute an experiment within the Testbed a defined procedure has to be followed. This procedure is based on the NANETH Testbed [8]. The basic procedure for a main experiment is displayed in figure 1.

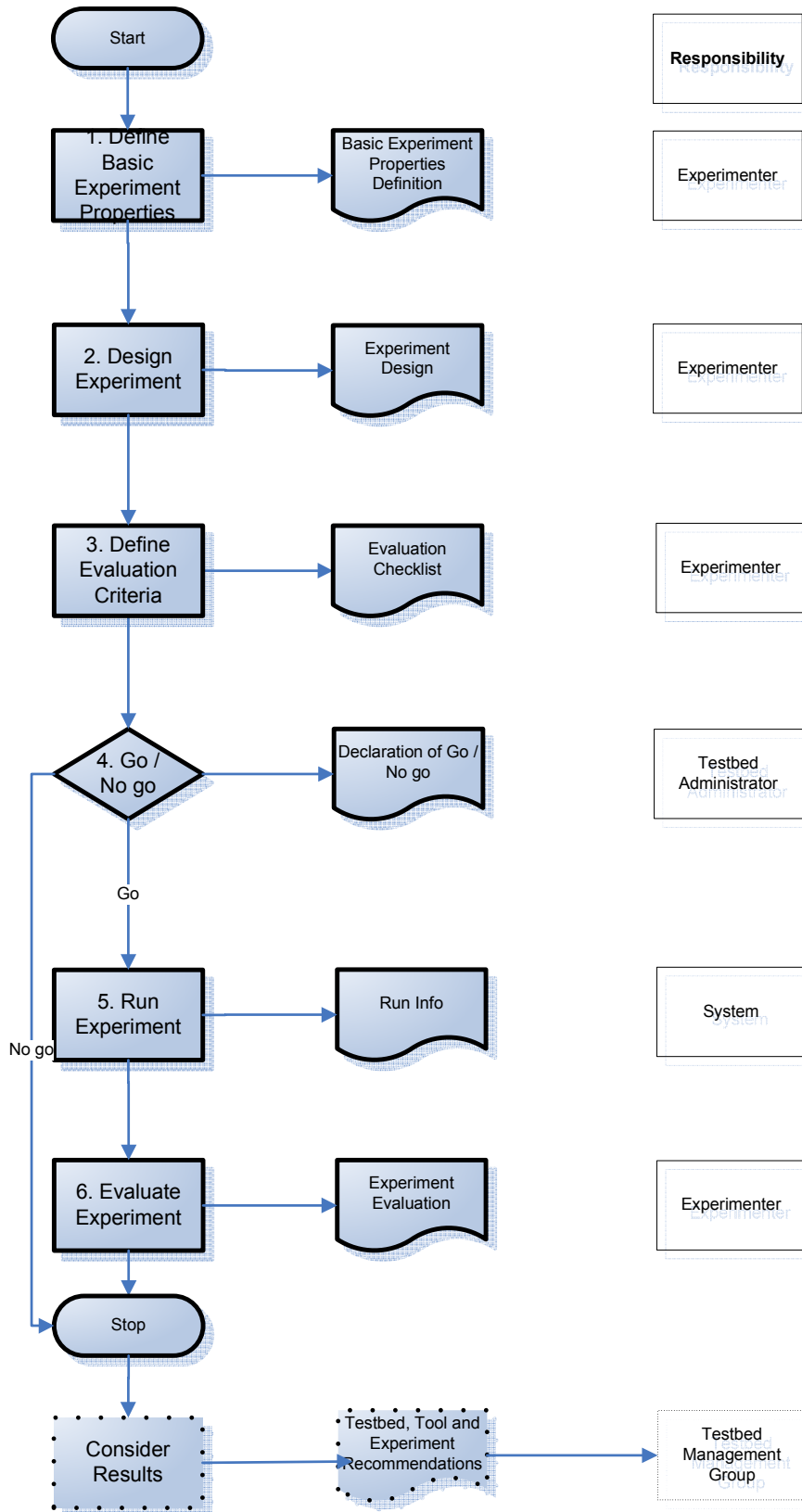


Figure 1: overview workflow experiment. For more details see ‘TB/3 -D1v1 (Workflow and Checklist) and D3v1 (Templates)’ [7]

Each step has to be fulfilled to successfully execute an experiment.

- In stages 1, 2 and 3 the experiment is designed: definition of experiments and evaluation checklists. This will be done by the Experimenter, possibly with help from User Support. The tools to be tested will typically come from PA, PC and PP. The experimenting itself will be carried out in work package TB/3.
- After these three stages a go / no go decision is made by the Testbed Administrator. This decision is based on the estimated system requirements and the availability of the required storage capacity and processor time.
- In case of a No Go decision, the experimenter is informed and the experiment ends here (though it can be edited and re-submitted).
In case of a Go decision, the administrator may schedule the experiment, according to the estimated use of resources, and the next steps are carried out.
- In stages 5 and 6 the experiment is run and evaluated. This will be the responsibility of the Experimenter. Here ends the experiment.
 - After this, the results can be considered by Readers (and other Experimenters), who can comment on the experiments. The results from the experiments will – at regular times or continuously - feed into information on the services, and can then be used by decision support tools for compiling a preservation plan (not part of the experiment process). Based on the Testbed results, recommendations for refinements and enhancements for future experiments can be made, to propose further experiments, and also to provide input into the evaluation of the Testbed.

The products of each step in the workflow will be captured in forms and available for analysis, reuse or further development. These output products are the sources of information that are used in future iterations of this assessment report.

3.2.3 Forms

When working through the steps of the experiment workflow the experimenter will have to fill out several forms to provide all necessary information to decide on the feasibility of the experiment, to control the reproducibility of the experiment and to provide all information needed for the interpretation of the results. The fields for each form are described in 'TB/3-D1v2 (Workflow and Checklist) and D3v1 (Templates)' [7].

The 'Basic Experiment Properties Definition' that is the output of step 1 'Define Basic Experiment Properties' will for example address the following topics:

General information

Name of the experiment	
Experiment ID	Unique name
Summary	Summary of the experiment.
Contact	Info on person/ institution to contact on this experiment
Purpose	Purpose of experiment
References	
Division of roles	Specify who is involved in this experiment, e.g. who acts as the Scientific Validator for this experiment.
Scope of experiment	Definition of the area to be explored.
Experimental data	
Tool type	What kind of tool is to be tested? e.g. a characterisation tool, tool for objects, tool for environments, tool for workflow, etc.
Object Type	What kind of test objects are used?
Experiment Approach	Short description of the steps of the experiment, e.g. "We will use characterisation tool A on 10 objects Y, then migrate objects using tool B, then use characterisation tool A on transformed records and compare characterisations".
Considerations	Summary of the factors that determined or influenced the Basic Properties Definition(e.g. definition of the scope).

A field such as Object Type will be used to evaluate the usage of the Testbed for different types of objects such as images, text documents, sound etc. All output documents such as definitions, designs, specifications and results that are the result of the different steps in the workflow above, will be stored in the Testbed data registry when the central instance of the Testbed software is used. The 'Software Requirements' document of the Testbed [5] states that it should be possible to 'View Testbed Usage Statistics'. It will be possible to automatically generate Testbed usage information from the central Testbed instance.

3.2.4 Questionnaire

The local instance of the Testbed software does not automatically generate Testbed usage information. Because of this, and the short time available between the release of the Testbed software and the delivery date of this report, the information for this version of the Testbed Assessment Report has been gathered using a questionnaire. The questionnaire, found in Appendix A, contained questions dealing with the current and future use of the Testbed Software. This questionnaire was sent out to all Planets partners who take part in the sub-project Testbed, workpackage 3. Out of the 14 partners that received the questionnaire, 7 returned it completed. One partner returned it saying they could not fill it in because they are a technology and implementation provider (as opposed to a content holding organisation) and were involved in the development of the Testbed software.

4 Testbed usage

The Testbed application, available to all Planets partners at the time of the writing of this report, is version 0.5 of the local instance, released in March 2008. This version must be installed locally. To install the application, first the Java Development Kit (JDK) must be installed.

The Testbed application contains three services which can be tested. The available services are a characterisation service and two migration services (DOC to DOCX Open Office XML and TIFF to JPEG). The characterisation service enables the verification of several different file types.

4.1 Results from survey

As said before, seven filled-in questionnaires were received from the Planets Partners. The seven organisations are:

- The Swiss Federal Archives (BAR);
- The British Library (BL);
- The National Library of Denmark (KB-DK);
- The National Library of the Netherlands (KB-NL);
- The National Archives of the Netherlands (NANETH);
- The Austrian National Library (ONB);
- The National Archives (TNA)

The answers to the questions in the questionnaire are presented below.

4.1.1 Recognition

All the respondents to the survey knew of the release of the Planets Testbed application. This was to be expected, as the release was announced via e-mail to the Planets-All mailing list.

4.1.2 Installation

Out of the seven organisations that replied, four have installed the Testbed application. These were BL, KB-NL, NANETH and ONB.

Two of these four organisations have experienced problems with the installation. KB-NL as well as NANETH indicated that they were successful in installing the JDK and the Testbed application. However, they both encountered problems with registering the services. They were able to register the characterisation service, but unable to register either migration service.

ONB and BL did not experience any problems with any part of the installation of the Testbed application.

None of the four organisations that have installed the software experienced any problems with the use of the Testbed application.

4.1.3 Number of users per institution

Each of the four organisations has indicated the number of Testbed application users and their roles (Table 1). The roles that are given here are standard user roles used within the Testbed application.

Table 1: Number of users and roles within each institution

Institution	Number of users	User roles
BL	2	As developers: Admin/Experimenter/Reader/User
KB-NL	1	Admin
NANETH	1	Admin/Experimenter
ONB	3	Admin/Experimenter

4.1.4 Conducted experiments per institution

Out of the four organisations that have installed the Testbed application, only two have conducted experiments, BL and NANETH.

The BL has conducted about 10 characterisation experiments and up to 10 migration experiments with the DOC to DOCX Open Office XML migration tool. These experiments were conducted with text and image type objects. There were no specific criteria used for these experiments because this was not relevant in the development phase. None of the experiments were fully documented. All experiments were conducted with only one object. The failure rate of the experiments was also not relevant during development. The BL was satisfied with the Testbed application and its documentation.

NANETH conducted fewer than 10 experiments to get a basic grasp of the workings of the Testbed application. These experiments were only conducted with the characterisation service because NANETH had trouble installing the two migration services. They have executed characterisation experiments with text and image objects. The criteria used in these experiments were random to see how the Testbed application works. No experiments were fully documented. The experiments were conducted using 2 to 10 objects at a time. All attempted migration experiments failed, all characterisation experiments worked. NANETH was generally satisfied with the Testbed application. The only aspect that wasn't completely satisfactory was the evaluation criteria. However, this was known beforehand.

4.2 Plans for future use

4.2.1 Use of future releases

Four out of the seven respondents are not currently planning to install future versions of the local instance of the Testbed application. This includes ONB, who have installed the local instance now. However, all seven respondents are planning to use the central instance of the Testbed application when this becomes available.

4.2.2 Number of future users

Each of the respondents has indicated how many future users there will be of the Testbed software within their organisation, as seen in table 2.

Table 2: Number of future users within each institution

Institution	Number of future users
BAR	3
BL	Uncertain

KB-DK	1-5
KB-NL	2
NANETH	8-10
ONB	3
TNA	1-5

4.2.3 Planned experiments with available services

All organisations are planning to conduct experiments with the included services. What organisation is planning which test can be seen in table 3.

Table 3: Planned experiments with each of the available services

Institution	Characterisation	DOC to DOCX Open Office XML migration	TIFF to JPEG migration
BAR	X	X	
BL	X	X	X
KB-DK	X	X	
KB-NL		X	
NANETH	X	X	X
ONB	X		
TNA	X	X	X

Table 3 shows that six out of seven respondents are planning to experiment with characterisation and the DOC to DOCX Open Office XML migration services. However, only three respondents are planning to conduct experiments with the TIFF to JPEG migration service.

4.2.4 Experiments on specific object types

The respondents also indicated on what type of objects experiments will be executed (table 4). This includes possible experiments with services that are not yet offered within the Testbed software.

Table 4: Object types experiments will be performed on by each organisation

Institution	Text	Image	Sound	Video	Other
BAR					X
BL	X	X	X	X	X
KB-DK	X	X	X	X	X
KB-NL	X	X			
NANETH	X	X			X
ONB	X	X	X		
TNA	X	X	X	X	X

The object type 'other' is defined by most organisations as:

- BAR wants to test e-mail files and relational databases
- KB-DK wants to test PDF files
- NANETH wants to test databases, websites and spreadsheets
- TNA and BL did not define 'other'.

4.2.5 Evaluation criteria that will be tested

Three of the seven respondents do not know yet which evaluation criteria will be used in the tests. The other four have some indication:

- BAR will for example test e-mail files with the criteria that they must be to create and read mail files after conversion and establish binary identity of in- and output files. They will test relational databases for example on if they are able to create tables and recognize them in XML.
- KB-DK will focus on testing the preservation of embedded metadata in TIFF files.
- NANETH will evaluate on the preservation of characteristics. These characteristics will be dependent on the creators of each record.
- ONB will test and evaluate the integrity and authority of digital objects.

4.2.6 Other tools for experimenting

Six of the seven respondents want to experiment with tools other than those available at this point within the Testbed software. Specific tools that were mentioned are:

- MSGTEXT (BAR)
A program for converting .msg files to .txt files and extracting the attachments.
- SIARD (BAR)
SIARD stands for Software Independent Archiving of Relational Databases and converts relational databases into a migration format suitable for long-term preservation.
- DROID (BL)
- PRONOM (BL)
- Metadata Extraction Tool (BL)
A program that extracts preservation metadata from a wide range of formats.

KB-DK would like to test with tools capable of handling the JPEG2000 and the PDF/A formats. KB-NL is interested in testing a DOC to PDF/A migration tool, for example Open Office. NANETH wants to experiment with emulation, for example with Dioscuri, QEMU, Bochs, Virtual PC etc. Also they would like to test any other characterisation or migration tool that looks promising for digital preservation. ONB would like to test tools that are capable of the conversion of a format to a higher format.

4.2.7 Digital objects available for experimenting

The respondents were asked whether they had digital objects available for testing. They were also asked who owns the copyright on these objects, and if it is possible for them to upload these objects to the Testbed corpora.

All respondents would use their own objects for testing. The types of objects that would be used for testing are:

- Electronic records (TNA)
- E-mail files (BAR)
- Databases (BAR)
- Text files (KB-NL, ONB)

- Images (KB-DK, KB-NL, ONB)
- Sound files (ONB)

The BL and NANETH did not specify what type of object they would use.

All of the respondents own copyright on at least some of the objects they will use for testing, and are able to upload these objects to the Testbed corpora if needed.

5 Conclusion and recommendations

The release of the Testbed Software version 0.5 was only available for two months at the time of the questionnaire. However, four out of the seven respondents had installed the Testbed Software. Only two of these respondents performed experiments with the Testbed software, and only to test the Testbed, not the services. There were some problems with the installation of the services within the Testbed software; two respondents were unable to install either migration service.

The inquiry into the planned use of the Testbed software shows that with the availability of the central instance of the Testbed software, the use will increase. All respondents to the questionnaire will use the central instance of the Testbed, as opposed to only four respondents that will use the local instance. The tests the respondents are planning to perform with the available services, show that the TIFF to JPEG migration service will be tested the least. This is something to keep an eye on, because all available services must be tested rigorously.

All respondents want to test with tools that are not yet available within the Testbed software. These tools are migration, emulation and characterisation tools. Also, all respondents will test with their own objects of various types, most of which will be available to upload into a central Testbed corpus.

In future iterations of this report, the testing of services must be evaluated to ensure all services are tested. The use of data from the central instance of the Testbed software will make it easier to keep an eye on the experiments that are performed.

The added value of the Testbed is, that it will contain the collected experiment results from lots of partners and on lots of service, and therefore can provide valid information about the usefulness of certain tools. If there are lesser experiments, the added value of the Testbed becomes less obvious. Endorsement of the importance of experimenting in the Testbed also by project management could have a stimulating effect on this.

Appendix A Testbed use questionnaire

After the interviews performed in the Autumn of 2006, which led to the writing of the Testbed scenarios and ultimately to the design and implementation of the Testbed application, the Testbed subproject is now making plans for the actual execution of experiments on the newly released Testbed software. Therefore we would ask you to take some time to answer the following questionnaire. Your answers are also necessary for the completion of the next TB/3 project plan.

Preliminary questions

1. Do you know about the release of the Planets Testbed application?
2. Is the Testbed application installed within your organisation?
 - If yes, continue with question 3
 - If no, continue with question 17

Current usage of the local Testbed instance

3. How many users are there within your organisation?
 - 3.1. What is the role of those users (as used within the Testbed application, e.g. experimenter, reader, admin, user)?
4. Have you executed any experiments?
 - If yes, continue with question 5
 - If no, continue with question 12
5. How many experiments have been executed with each service?
 - Characterisation =
 - DOC to DOCX Open Office XML migration =
 - TIFF to JPEG migration =
6. What types of objects were tested?
 - Text
 - Image
 - Sound
 - Video
 - Other
7. What evaluation criteria were used for each experiment?
8. How many experiments were fully documented?
 - Characterisation formal =
 - DOC to DOCX Open Office XML migration formal =
 - TIFF to JPEG migration formal =
9. How many objects were tested in each experiment?
 - 1
 - 2-10
 - 10-100
 - Other
10. How many experiments failed for each experiment type?
 - Characterisation =
 - DOC to DOCX Open Office XML migration =
 - TIFF to JPEG migration =

11. Were you generally satisfied with the Testbed application?
12. Was the documentation adequate?
13. Did you experience any problems with the installation of the Testbed application?
14. Did you experience any problems using the Testbed application?
 - With creating accounts
 - With logging on and off
 - Other
15. Did you have any problems executing experiments with the Testbed application?
 - With defining experiments
 - With selecting tools
 - With selecting data
 - With selecting evaluation criteria
 - With running the experiment
 - With cancelling experiments
 - With the feedback received
 - With the evaluation of experiments
 - With managing the data
 - Other
16. Do you have any suggestions for the improvement of the Testbed application?

Plans for the usage of a local or central Testbed instance

The Planets Testbed is already available for downloading from the wiki, where documentation and additional information can also be found; installing a local instance to your machine gives you the possibility of providing immediate feedback on the application and its usability. However, for the future systematic execution of experiments within the Planets framework, one or more central instances will be used, where all experiment results and corpora will be stored.

17. Are you planning to install a local instance of the Testbed in the future?
18. Are you planning to use the central instances when they will become available?
19. How many intended users will there be?
20. What tools among those already available would you experiment with?
 - Characterisation
 - DOC to DOCX Open Office XML migration
 - TIFF to JPEG migration
21. What other tools would you like to experiment with?
22. Do you have preservation tools available that could be wrapped as services and deployed to the Testbed application?
23. On what type of objects will you perform experiments?
 - Text
 - Image
 - Sound
 - Video
 - Other
24. Would you use your own digital objects?
 - 24.1. If so, what types of digital objects would they be?

- 24.2. Who owns copyright on those digital objects?
- 24.3. Would it be possible for you to upload them to the Testbed corpora?
- 25. What evaluation criteria would you test with?
- 26. How much effort (in terms of person months, if possible) are you planning to allocate to Testbed experiments in the next year?
- 27. Is there a person or more persons already allocated to Testbed experiments in your institution?