



KB and migration Test Plan

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KB and Migration Test Plan

History of KB and Migration Test Plan

Document version	Date of modification	Author	Summary of modifications
1.0	8 August 2006	Caroline van Wijk	
2.0	6 November 2006	Caroline van Wijk	<ul style="list-style-type: none">- Test T2 has been executed partly, the other half will be executed in the next test round (2007) together with T3-T5.- T4 and T5 might be redundant in the next test round: a choice has been made for normalisation to PDF. Next year it will be considered whether T4 and T5 will be executed or not will be executed.- The normalisation test has been extended – batch migration tools will be tested.- The tool DocMorph (normalisation service via website) will not be tested, just MyMorph (installation, batch migration possible).- Predifined migration guidelines have been completed with experiences of the first test round.

Related documents

Project Initiation Document – Migration Research, C. van Wijk (2006)

Starting Point Migration Research, C. van Wijk (2006)

KB and Migration, C. van Wijk (2006)

KB and Migration Test Plan

Table of Content

1	Introduction.....	5
1.1	Purpose of this document	5
1.2	Sections in this document	5
	<i>Description of the test objects.....</i>	<i>5</i>
	<i>Objective and scope.....</i>	<i>5</i>
	<i>Strategy.....</i>	<i>5</i>
	<i>Description test cases.....</i>	<i>5</i>
	<i>Resources.....</i>	<i>5</i>
	<i>Planning.....</i>	<i>6</i>
	<i>Report.....</i>	<i>6</i>
	<i>Risks and dependencies.....</i>	<i>6</i>
	<i>Demarcation.....</i>	<i>6</i>
2	Description test object.....	7
2.1	Introduction	7
	<i>Conversion tools.....</i>	<i>7</i>
3	Objective and scope.....	8
4	Strategy.....	9
	Preparations	9
	Test conversion tools	9
	Test files	9
	Test cases	9
	Start criteria	9
	Acceptation criteria	9
4	Description test cases.....	10
	General	10
	Test cases	10
	Test files	10
7	Resources.....	12
	General	12
	Personnel	12
	Software	12
7	Planning.....	14
	Overview	14
8	Risks and dependancies.....	15
9	Rapportage.....	16
	Appendix Test cases.....	17
T1	Normalisation: Word, PowerPoint and WordPerfect documents to PDF / PDF/A	18
	<i>Test file categories.....</i>	<i>18</i>
	<i>Tool.....</i>	<i>18</i>
	<i>Functional migration guideline.....</i>	<i>18</i>

KB and Migration Test Plan

	<i>Technical migration guideline</i>	18
	<i>Measurement</i>	18
T2	Version migration PDF files (step by step)	20
	<i>Test file categories</i>	20
	<i>Tool</i>	20
	<i>Functional migration guideline</i>	20
	<i>Technical migration guideline</i>	20
	<i>Measurement</i>	20
T3	Version migration PDF files (by leaps)	22
	<i>Test file categories</i>	22
	<i>Tool</i>	22
	<i>Functional migration guideline</i>	22
	<i>Technical migration guideline</i>	22
	<i>Measurement</i>	22
T4	Conversion: PDF to XML (content) + TIFF	24
	<i>Test file categories</i>	24
	<i>Tool</i>	24
	<i>Functional migration guideline</i>	24
	<i>Technical migration guideline</i>	24
	<i>Measurement</i>	24
T5	Normalisation: Word-documents to XML	26
	<i>Test file categories</i>	26
	<i>Tool</i>	26
	<i>Functional migration guideline</i>	26
	<i>Technical migration guideline</i>	26
	<i>Measurement</i>	26

KB and Migration Test Plan

1 Introduction

1.1 Purpose of this document

This document describes the Migration Research (2006) Project test plan. The test plan consists of a description of the test objective, the scope, the strategy, the required resources, the planning, the test report and the risks and dependencies.

1.2 Sections in this document

Description of the test objects

The test objects are the conversion tools mentioned in chapter 7 Resources.

Objective and scope

The conversion tools test objective is to determine whether errors occur during conversion and (to a certain extend) to asses the performance of the conversion tools.

The test results will also be used to determine whether any conversion tools, required in the digital preservation area, are missing.

Strategy

In this part of the document an overview of the preparations before and activities during the test is described.

Description test cases

The test consists of several test cases. The test cases are described in the appendix of this document.

Resources

The chapter Resources describes which software (and hardware) is required for executing the test and which activities are executed by whom. Furthermore, the composition of the test sets is described.

KB and Migration Test Plan

Planning

The test planning is part of the migration research project planning.

Report

The test results will be discussed in a test report.

Risks and dependencies

The risks and dependencies that can be of influence on the test are displayed as complete as possible in an overview.

Demarcation

The following subject is not part of this test for the Migration Research Project:

- Batch-migration

KB and Migration Test Plan

2 Description test object

2.1 Introduction

Conversion tools

Normalisation

- Xena 3.0 Lite(PDF 1.x of MS Office documents will be converted to XML and TIFF-files. DTDs and XML-files that contain references to external files will be converted to DTD_NORM_1 and XML_NORM_1.): More information: <http://xena.sourceforge.net/> Developed by: National Archives of Australia
- MyMorph (image formats TIFF, GIF will be converted to PDF by batch migration), more information: <http://docmorph.nlm.nih.gov/docmorph/default.htm>
- Bullzip PDF Printer (Word-documents will be converted to PDF), more information: <http://www.bullzip.com/products/pdf/info.php>
- Go2PDF (Word-documents will be converted to PDF), more information: <http://www.go2pdf.com/product.html>
- Adobe Acrobat Standard 7.0 (Word-documents will be converted to PDF / PDF/A)
- Print2PDF SE 6 (<http://www.software602.com/products/print2pdfserver/>)
- Silentprint (<http://www.funasset.com/home.htm>)
- Express Server (<http://www.adlibsoftware.com/SoftwareProducts-Express-ServerEdition.html?source=google&campaign=1&group=Convert+To+PDF+-+General&creative=3>)
- Undecided: PDF to XML
- Undecided: Word-documents to XML

Migration to a newer version

- PDF: Open in Adobe Acrobat Standard 7.0 and save as a newer version
- PDF Version Converter, more information: http://www.freedownloadcenter.com/Multimedia_and_Graphics/Misc_Graphics_Tools/PDF_Version_Converter.html

KB and Migration Test Plan

3 Objective and scope

The objective of the Migration Research Project test is to determine whether existing conversion tools meet the requirements of the KB for the execution of correct (faultless) migration of digital objects for digital preservation purposes.

The requirements of the KB about faultless migration are based on the predetermined properties of the digital objects. (for an explanation of the properties see the document *KB and Migration*). For each conversion will be predetermined which properties should be retained *minimally* in the target file. If the minimal properties have been retained and if the migration has been executed faultlessly, then the migration can be marked as “successful”.

The migration research test will be conducted on a small scale. The evaluation of the performance of the conversion tools is part of the test. Batch-migration, however, is not part of this test.

Testing migration on request is too complex for the scope of the migration research project (development of new tools is necessary).

The PLANETS project might be a good opportunity for the KB and PLANET partners to start concrete application of migration on request.

KB and Migration Test Plan

4 Strategy

Preparations

Preparations for the test include:

1. Implementation of the test environment (initially the pc of the project staff member)
2. Selection test files
3. Formulation of requirements concerning quality of the conversions (determine the minimal conversion result)

Test conversion tools

The migration research test consists of:

- The quality of the conversion
- The performance of the conversion

Test files

Scientific articles from the e-Depot and the DARE project will be used as test files. The file formats of these articles are PDF, WordPerfect, Word documents and MS PowerPoint.

Test cases

For each test case the type of conversion and the requirements concerning quality and accuracy are defined.

The test cases are described in the appendix of this document.

Start criteria

The criterion to start the test is the settlement of all items mentioned in the paragraph Preparations (in this chapter).

Acceptation criteria

Not applicable for this migration research project test.

KB and Migration Test Plan

4 Description test cases

General

The tests, which will be executed during the migration research project, will be performed on a small scale. Batch migration is not a part of the project.

Test cases

The current and future options for applying migration at the KB are described in the document *KB and migration*. The intended tests concerning migration of digital objects are:

- Normalisation: Word- documents, PowerPoint, WordPerfect to PDF or PDF/A
- Version migration (step by step): PDF 1.1 to PDF 1.2 and so on.
- Version migration (by leaps): PDF 1.1 to PDF 1.4
- Conversion: PDF to XML (content) + TIFF (if images are part of the source file)
- Normalisation: Word- documents to XML

The test cases are described in detail in the appendix at the back of this document.

Test files

For the test a selection of digital scientific publications from the e-Depot and DARE project will be used. Extra PDF test files will be created to look at the consequences of the use of security certificates and Envelopes on migration.

The following formats will be tested:

e-Depot:

- Word-documents
- PDF-documents

DARE:

- Word-documents
- PDF-documents
- PowerPoint-documents
- WordPerfect-documents

Other:

- PDF-documents (test files specifically created for this test)

The PDF files will be subdivided in the following categories:

- Version (1.0 to 1.6)

KB and Migration Test Plan

- With and without password security
- With and without permission security (possibly also per permission property such as modify or copy)
- With and without Certificates
- With and without Enveloppes
- With and without fonts embedded
- File size of the PDF
- PDFs of which the File format research project established problems.
- PDFs of which Jhove established problems in the header of the file. The document is, however, still readable in a reader application.

KB and Migration Test Plan

7 Resources

General

The resources required for execution of the migration research project tests are described in this chapter.

Personnel

Activities	Realisation
Installation conversion tools	Project staff member migration research
Selection test set	
Characterising the test files, define the migration guidelines and the minimal migration result.	
Testing	
Reports	

Software

Conversion tool	System requirements	Installation
Xena 3.0 Lite	Windows pc, Java Runtime Environment version 1.5.0	Installation after download: http://xena.sourceforge.net/download.html
MyMorph	Windows XP, Microsoft Internet Explorer version 5.01 +	Installation after download: http://docmorph.nlm.nih.gov/docmorph/mymorph.htm
Bullzip PDF Printer	Microsoft Windows 2000/XP/2003 GPL Ghostscript 8.15	Installation after download: http://www.bullzip.com/products/pdf/info.php http://www.ghostscript.com/doc/GPL/index.htm
Print2PDF SE 6	Microsoft Windows NT, 2000, 2003 or XP	Installation after download: http://www.software602.com/products/print2pdfserver/
Silentprint	Windows platform + additional MS Office software, Adobe software	Installation after download: http://www.funasset.com/home.htm
Express Server	Not available on website, user manual has to be requested	Installation after download: http://www.adlibsoftware.com/Softwar

KB and Migration Test Plan

Conversion tool	System requirements	Installation
		eProducts-Express-ServerEdition.html?source=google&campaign=1&group=Convert+To+PDF+-+General&creative=3
PDF Version Converter	Intel Pentium or better CPU 32MB RAM or more 30MB free disk space Microsoft Windows 98, 98SE, ME, NT4, 2000, XP, Server 2003, Vista Microsoft Word, Excel, PowerPoint installed	Installation after download: http://www.freedownloadscenter.com/Multimedia_and_Graphics/Misc_Graphics_Tools/PDF_Version_Converter.html
Adobe Acrobat Standard 7.0	Windows pc	Installation by ICT KB
Go2PDF		Installation after download: http://www.go2pdf.com/product.html
PDF to XML		
Word-documents to XML		

KB and Migration Test Plan

7 Planning

The planning overview is presented in this chapter

Overview

Test	Periode	Status
T1	8-2006	Executed
T1b	11-2006 (part of PLANETS)	Open
T2	10-2006 (PDF Version Converter tested)	Partly executed
T3	2007	Open
T4	2007 (with reservation – choice for normalisation to PDF has already been made)	Open
T5	2007 (with reservation – choice for normalisation to PDF has already been made)	Open

8 Risks and dependancies

No risks and dependancies are known at this point in time.

KB and Migration Test Plan

9 Rapportage

Reports are made per test per tool. Summaries are made per test.

KB and Migration Test Plan

Appendix Test cases

KB and Migration Test Plan

T1 Normalisation: Word, PowerPoint and WordPerfect documents to PDF / PDF/A

Test file categories

- DARE Word files
- DARE PowerPoint files
- DARE WordPerfect files
- e-Depot Word files

Tool

- MyMorph
- Bullzip PDF Printer
- Go2PDF
- Adobe Acrobat Standard 7.0
- Print2PDF SE 6
- Silentprint
- Express Server

Functional migration guideline

The main properties of the digital object that must be retained during migration are described in the table below.

Type of object	Functional purpose of object		
	Scientific publication		
Text document	Content Structure		

Technical migration guideline

The target file should be a PDF version 1.6 or a PDF/A file.

Measurement

- Accuracy (technical and functional properties of source file and target file), including for example the actual printing accuracy of the original and converted file

KB and Migration Test Plan

- Tool configuration possibilities
- Performance
- Batch migration and automatic migration possibilities
- Logging of conversion process
- Error messages
- Other remarks

KB and Migration Test Plan

T2 Version migration PDF files (step by step)

Test file categories

- DARE PDF files
- e-Depot PDF files
- Version (1.0 to 1.5)
- With and without password security
- With and without permission security (possibly also per permission property such as modify or copy)
- With and without Certificates
- With and without Enveloppes
- With and without fonts embedded. Note: Check which fonts are installed on test pc
- File size of the PDF
- PDFs of which the File format research project established problems
- PDFs of which Jhove established problems in the header of the file. The document is , however, still readable in a reader application

Tool

- PDF Version Converter
- Adobe Acrobat Standard 7.0

Functional migration guideline

The main properties of the digital object that must be retained during migration are described in the table below.

Type of object	Functional purpose of object		
	Scientific publication		
Text document	Content Structure		

Technical migration guideline

The target file should be a PDF file of a version that is one version higher than the source file.

Measurement

- Accuracy (retaining the technical and functional properties of the source file) – After conversion the functional properties (e.g. number of pages) of the source file and

KB and Migration Test Plan

target file will be compared. Where possible Jhove will be used for technical comparison of the source file and target file.

- Tool configuration possibilities
- Performance
- Batch migration and automatic migration possibilities
- Logging of conversion process
- Error messages
- Other remarks

KB and Migration Test Plan

T3 Version migration PDF files (by leaps)

Test file categories

- DARE PDF files
- e-Depot PDF files
- Version (1.0 to 1.5)
- With and without password security
- With and without permission security (possibly also per permission property such as modify or copy)
- With and without Certificates
- With and without Enveloppes
- With and without fonts embedded. Note: Check which fonts are installed on test pc
- File size of the PDF
- PDFs of which the File format research project established problems
- PDFs of which Jhove established problems in the header of the file. The document is , however, still readable in a reader application

Tool

- PDF Version Converter
- Adobe Acrobat Standard 7.0

Functional migration guideline

The main properties of the digital object that must be retained during migration are described in the table below.

Type of object	Functional purpose of object		
	Scientific publication		
Text document	Content Structure		

Technical migration guideline

The target file should be a PDF file of a version that is two or three versions higher than the source file.

Measurement

KB and Migration Test Plan

- Accuracy (retaining the technical and functional properties of the source file) – After conversion the functional properties (e.g. number of pages) of the source file and target file will be compared. Where possible Jhove will be used for technical comparison of the source file and target file.
- Tool configuration possibilities
- Performance
- Batch migration and automatic migration possibilities
- Logging of conversion process
- Error messages
- Other remarks

KB and Migration Test Plan

T4 Conversion: PDF to XML (content) + TIFF

Test file categories

- DARE PDF files
- e-Depot PDF files
- Version (1.0 to 1.5)
- With and without password security
- With and without permission security (possibly also per permission property such as modify or copy)
- With and without Certificates
- With and without Enveloppes
- With and without fonts embedded. Note: Check which fonts are installed on test pc
- File size of the PDF
- PDFs of which the File format research project established problems
- PDFs of which Jhove established problems in the header of the file. The document is, however, still readable in a reader application

Tool

- Xena Lite

Functional migration guideline

The main properties of the digital object that must be retained during migration are described in the table below.

Type of object	Functional purpose of object		
	Scientific publication		
Text document	Content Structure		

Technical migration guideline

The target file should be an XML file and possibly TIFF files, if the PDF contains images.

Measurement

- Accuracy (retaining the technical and functional properties of the source file) – After conversion the functional properties (e.g. number of pages) of the source file and

KB and Migration Test Plan

target file will be compared. Where possible Jhove will be used for technical comparison of the source file and target file.

- Tool configuration possibilities
- Performance
- Batch migration and automatic migration possibilities
- Logging of conversion process
- Error messages
- Other remarks

KB and Migration Test Plan

T5 Normalisation: Word-documents to XML

Test file categories

- DARE PDF files
- e-Depot PDF files

Tool

- Not available yet

Functional migration guideline

The main properties of the digital object that must be retained during migration are described in the table below.

Type of object	Functional purpose of object		
	Scientific publication		
Text document	Content Structure		

Technical migration guideline

The target file should be an XML file.

Measurement

- Accuracy (technical and functional properties of source file and target file), including for example the actual printing accuracy of the original and converted file
- Tool configuration possibilities
- Performance
- Batch migration and automatic migration possibilities
- Logging of conversion process
- Error messages
- Other remarks