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Abstract

This document describes version 2 of the preservation planning tool *Plato*, thus it is the accompanying document to the software deliverable. It gives an overview of the underlying Planets preservation planning workflow which Plato implements, explains how to install and access Plato, and gives an overview of events and case studies.

Keyword list

Digital Preservation, Preservation Planning, Tool support, Prototype, Distributed Preservation Services, Migration, Characterisation, Preservation Action, Registry, Design

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EXECUTIVE SUMMARY

This document describes the deliverable PP/4-D4 Planets Planning Tool (version 2.0). Plato 2 is the second of three planned versions of the preservation planning tool within the work package PP4 of Planets. This document provides an installation guide, an introductory user guide for the software, and an overview of case studies being conducted.

The source code of the application is available at:
<http://gforge.planets-project.eu/gf/project/planningtool>.

A deployed version of the tool can be accessed at:
<http://www.ifs.tuwien.ac.at/dp/plato>

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1. Introduction

This document describes how to use the Planets Preservation Planning Tool Plato. Plato implements the Planets Preservation Planning approach which is described in more detail in the next chapter.

The fast changes of technologies in today's information landscape have considerably shortened the lifespan of digital objects. Digital preservation has become a pressing challenge. Different strategies such as migration and emulation have been proposed; however, the decision for a specific tool e.g. for format migration or an emulator is very complex. The process of evaluating potential solutions against specific requirements and building a plan for preserving a given set of objects is called preservation planning. So far, it is a mainly manual, sometimes ad-hoc process with little or no tool support. The planning tool **Plato** is a web-based decision support tool that implements a solid preservation planning process and integrates services for content characterisation, preservation action and automatic object comparison in a service-oriented architecture to provide maximum support for preservation planning endeavours.

Plato 1 was released in November 2007, based on the revision of the Planets Preservation Planning Workflow as described in [Planets Deliverable PP4-D1](#)

A deployed version of Plato can be found at <http://www.ifs.tuwien.ac.at/dp/plato> .

The main new features of Plato 2 are:

- **Extended workflow for plan definition.** The fourth phase of the Planets PP workflow, where a [preservation plan](#) is defined, has been implemented.
- **File format identification.** Plato now facilitates automatic file format identification with DROID (Digital Record Object Identification).
- **XCL characterisation and automated object comparison.** We have integrated the XCL engine and provide its functionality through the Plato application. It is furthermore possible to compare specific properties automatically between original and transformed objects using the Planets XCDL comparison service.
- **Template and fragments library.** A library of reusable fragments and templates assists the objective tree definition and reuse of recurring requirements such as significant properties of objects.
- **Service Integration** First migration services have been integrated.
- **XML import and export.** You can export completed projects to XML files, and import them again.
- **Detailed preservation plan.** The preservation plan has been extended. Parts of the enhancements made to the preservation plan were motivated by TRAC (Trustworthy Repositories Audit and Certification Checklist).
- **Online help.** For the more complex steps, we have written explanatory help pages describing how to use the tool.

2. Installation guide

This chapter describes the installation of the PLANETS Planning Tool (Plato).

This only applies if you want to run and deploy your own Plato server. For using Plato to create your own preservation plans, a Plato server is available at the Vienna University of Technology at the URL <http://www.ifs.tuwien.ac.at/dp/plato>

For information on how to use Plato, please refer to the user manual which is available on the Plato homepage.

The installation comprises three steps:

1. Download source code
2. Package generation
3. Deployment

The installation steps are described below.

Prerequisites

Before Plato can be installed (i.e. deployed) the following requirements must be met:

1. Java Development Kit (JDK)
In order to install Plato the Java Standard Edition Development Kit (JDK) 1.5.0 must be installed on the target machine. (Due to a known issue in the underlying Interoperability Framework with the used web services stack, Java 6 cannot be supported at the moment. This shall be resolved in the next version.) Java can be installed following the instructions at: http://java.sun.com/javase/downloads/index_jdk5.jsp
2. Apache Ants
The installation scripts are written for Apache Ant. It can be download at: <http://ant.apache.org/bindownload.cgi>
3. Planets Interoperability Framework (rev. 1190)
Plato requires version 1190 of the IF for integration. This version must be downloaded from the Planets GForge and installed following the instructions on: http://gforge.planets-project.eu/gf/download/docmanfileversion/44/104/IF_InstallationGuide_rel_0_1_mr.doc
4. Eclipse IDE with JBoss IDE for Eclipse [optional]
Plato was developed with the Eclipse SDK. Plato can be checked out as an Eclipse project.
Eclipse is available at: <http://www.eclipse.org/downloads>
JBoss IDE Eclipse Plug-in is available at: <http://labs.jboss.com/jbosside>

Download source code

The source code can be checked out from the PLANETS Planning Tool source code repository which is available under <http://gforge.planets-project.eu/svn/planningtool>. The repository is organised as follows:

- **trunk** contains the latest source code in the main development stream
- **branches** contains branches that may be developed independently and in parallel to trunk
- **tags** contains snapshots of the source code repository at certain points/dates

The version, considered as the first deliverable, can be checked out from http://gforge.planets-project.eu/svn/tags/plato1_internal.

The latest source code can be checked out from: <http://gforge.planets-project.eu/svn/planningtool/trunk>.

Package generation

In order to deploy Plato on the server two property files must be adapted:

1. build.properties defines the location of the Interoperability Framework web server. The variable jboss.home must point to the IF web server (e.g. d:\bin\jboss, /home/username/jboss)
2. server.properties configures the host name of the web server. By default it is set to localhost.

After the two files have been adapted, Plato can be built and deployed. This is done by executing two ANT targets provided by build.xml.

1. buildall
2. deploy

When deploying Plato for the first time the data source file (plato-derby-ds.xml) must be deployed. This is done by running the ANT file build.xml with the target deploy-datasource.

Please note that Plato has been developed as an Eclipse project and can therefore also be comfortably built and deployed with the help of the Eclipse IDE.

3. The workflow

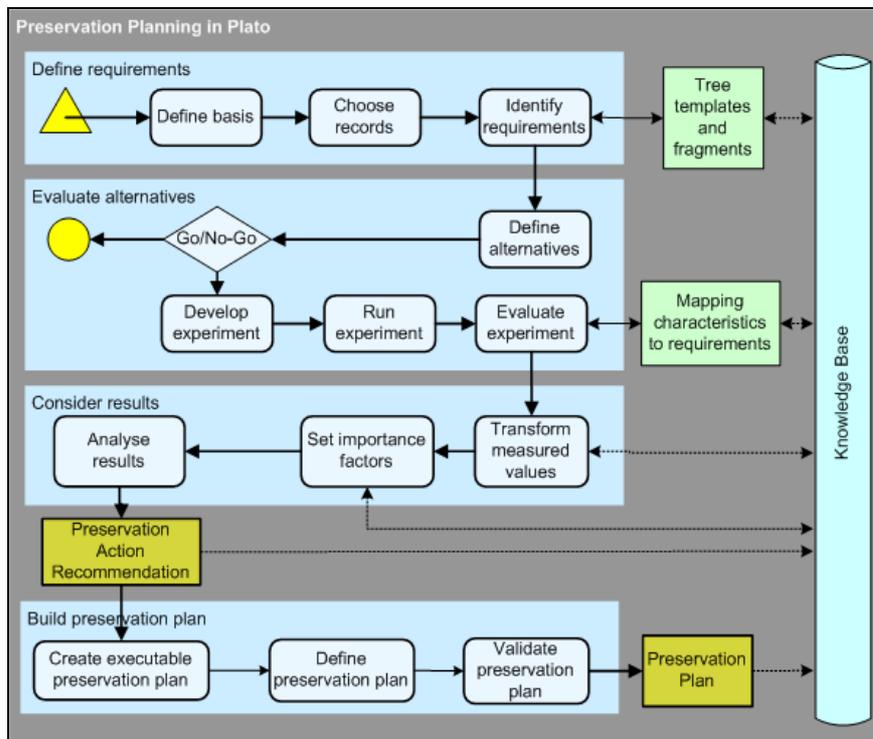
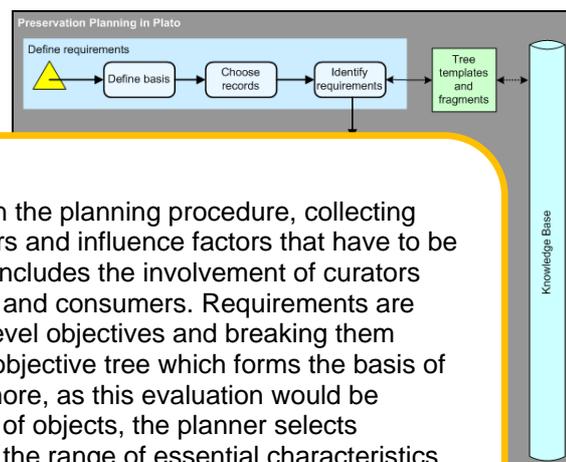


Figure 1 Overview of the PLANETS Preservation Planning workflow

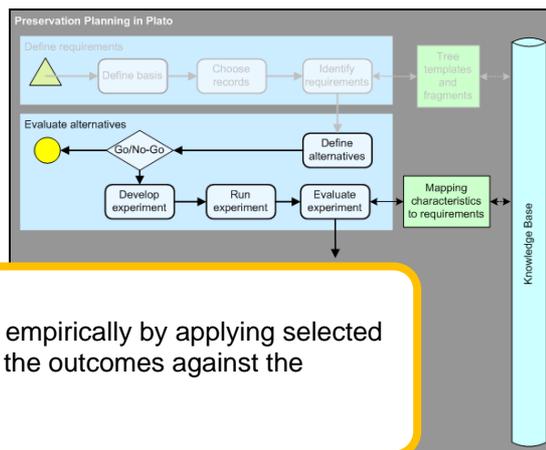
The Planets preservation planning workflow as described in Figure 1 consists of four main stages:

1. Define requirements
2. Evaluate alternatives
3. Consider results
4. Build preservation plan

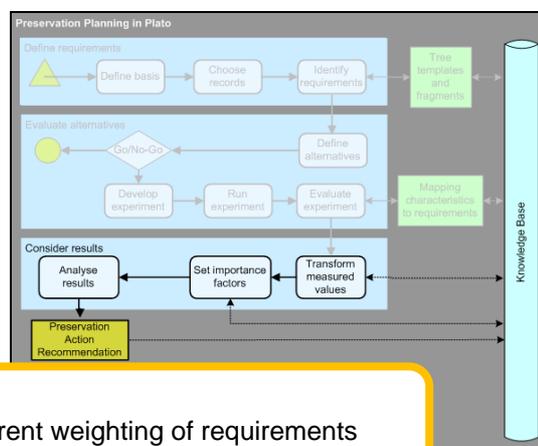


1. Define requirements

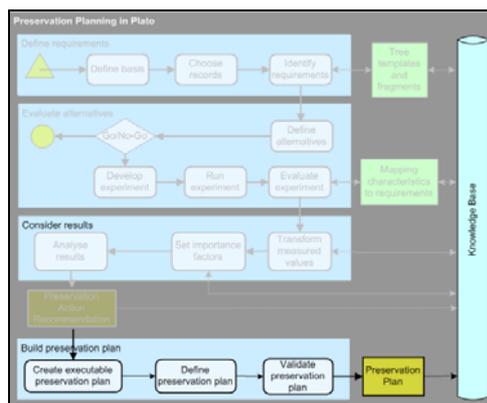
Requirements definition is the natural first step in the planning procedure, collecting requirements from the wide range of stakeholders and influence factors that have to be considered for a given institutional setting. This includes the involvement of curators and domain experts as well as IT administrators and consumers. Requirements are specified in a quantifiable way, starting at high-level objectives and breaking them down into measurable criteria, thus creating an objective tree which forms the basis of the evaluation of alternative strategies. Furthermore, as this evaluation would be infeasible on the potentially very large collection of objects, the planner selects representative sample objects that should cover the range of essential characteristics present in the collection at hand.



2. Evaluate alternatives
 The evaluation of potential strategies is carried out empirically by applying selected tools to the defined sample content and evaluating the outcomes against the specified requirements.



3. Consider results
 Analysis of the results takes into account the different weighting of requirements and allows the planner to arrive at a well-informed recommendation for a solution to adopt.



4. Build preservation plan
 A **preservation plan** defines a series of preservation actions to be taken by a responsible institution due to an identified risk for a given set of digital objects or records (called collection).

4. Introducing Plato

Welcome page

Four sections introducing Plato

Welcome to *Plato*, the Planets Preservation Planning Tool

[Introduction](#) | [Documentation](#) | [Case Studies](#) | [Events](#)

Introduction

What is Plato?

The fast changes of technologies in today's information landscape have considerably shortened the lifespan of digital objects. Digital preservation has become a pressing challenge. Different strategies such as migration and emulation have been proposed; however, the decision for a specific tool e.g. for format migration or an emulator is very complex. The process of evaluating potential solutions against specific requirements and building a plan for preserving a given set of objects is called preservation planning. So far, it is a mainly manual, sometimes ad-hoc process with little or no tool support. The planning tool **Plato** is a decision support tool that implements a solid preservation planning process and integrates services for content characterisation, preservation action and automatic object comparison in a service-oriented architecture to provide maximum support for preservation planning endeavours.

Best Demo award at ECDL

Dear visitor!
We are delighted to inform you that at the recent European Conference on Digital Libraries, ECDL 2008, Plato shared the first prize for the best demonstration of the conference with the search engine Summa. Our congratulations to the Summa team, and we would like to thank everyone who voted for us!

What's new?

Plato 1 was released in November 2007, based on the revision of the Planets Preservation Planning Workflow as described in Planets Deliverable PP4-D1, which is based on earlier work in DELOS. A description of the workflow can be found [here](#). Since then we have been working on extending the functionality and concepts of Plato.

Plato 2 is scheduled for October 2008. The current version has all features but the PP5 comparator which is scheduled for the beta in two weeks.

- **Extended workflow for plan definition.** The fourth phase of the Planets PP workflow, where a **preservation plan** is defined, has been implemented.
- **File format identification.** Plato now facilitates automatic file format identification with DROID (Digital Record Object Identification).
- **Template and fragments library.** A library of reusable fragments and templates assists the objective tree definition and reuse of recurring requirements such as significant properties of objects.
- **Service Integration** First migration services have been integrated.
- **XML import and export.** You can export completed projects to XML files, and import them again.
- **Detailed preservation plan.** The preservation plan has been extended. Parts of the enhancements made to the preservation plan were motivated by TRAC (Trustworthy Repositories Audit and Certification Checklist).
- **Online help.** For the more complex steps, we have written explanatory help pages describing how to use the tool.

Feedback and browser compatibility

Did you encounter any bugs? In this case, please submit bug reports and comments on our [GForge homepage](#).

For information regarding browser compatibility and known issues, please [click here](#).

[Click here to enter Plato.](#)

Figure 2 Welcome page

The first page (Figure 2) of Plato is a welcome page presenting detailed information about Plato. The information is subdivided into 4 sections:

1. Introduction	2. Documentation	3. Case Studies	4. Events
<ul style="list-style-type: none"> • What is Plato • News • What is new? • Feedback and browser compatibility 	<ul style="list-style-type: none"> • Introductory material • Scientific Papers • Plan Deliverables 	<ul style="list-style-type: none"> • Video Games • Interactive Multimedia Art • Electronic Theses and Dissertations • Bitstream Preservation of Digital Photographs 	<ul style="list-style-type: none"> • Upcoming Events • Past Events

Table 1 Information which is on the welcome page

To enter Plato you have to click the link: 'Click here to enter Plato'.

A detailed description of how to use Plato is available in the Plato user manual.

5. Case studies

In order to evaluate the preservation planning methodology, gather feedback, and apply the methodology in practice, we have conducted a series of case studies and are continuously working on case studies with partners. Most of the requirements trees of the case studies listed here are available within the fragments library of the planning tool.

We are currently performing or advising case studies in the areas of

- database preservation,
- a range of different types of electronic documents, and
- computer games.

The results of these case studies will be summarized in deliverable TB3-D8.

Interactive Multimedia Art

This case study presents the findings of a pilot project for investigating approaches for preserving born-digital interactive multimedia art which was conducted together with the Ars Electronica. The study focused on the significant properties of a collection of interactive multimedia art pieces. The results were published at ICADL 2007.

Electronic Theses and Dissertations

This case study investigated different preservation strategies for electronic publications, it has been conducted in cooperation with the Austrian National Library in 2006. The results were published at RCDL 2007.

Video games.

This case study investigates the digital preservation of console video games and has been conducted in the course of a diploma thesis. The results were published at IPRES 2007.

Further information and complete references are available on the Plato homepage at www.ifs.tuwien.ac.at/dp/plato.

6. Events

Plato has been presented at a series of international events. The following list provides a selection of past and upcoming events. An up-to-date list is available at the Plato homepage.

Upcoming Events

The 11th ICADL 2008: Universal and Ubiquitous Access to Information

A tutorial will be held at the conference.

02-05 December 2008

Bali – Indonesia

Tackling the Digital Preservation Challenge: Steps for Repository Managers

December 12, 2008

London, UK

Past Events

Starting out: Preserving Digital Objects - Principles and Practice

October 13th - 17th 2008

Prague, Czech Republic

Russian Conference on Digital Libraries (RCDL 2008)

A tutorial was held at the conference.

October 7th - 11th, 2008

Dubna, Russia

iPRES 2008: The Fifth International Conference on Preservation of Digital Objects

September 29-30, 2008

London, UK

European Conference on Digital Libraries (ECDL 2008)

Demonstration and conference paper. Furthermore, a tutorial was held at the conference.

September 14th - 19th, 2008

Aarhus, Denmark

Digital Preservation Planning: Principles, Examples and the Future with Planets.

29th July 2008

London

RIOJA Workshop

Emerging publishing models: exploring new ventures for delivering science publishing

July 7th 2008

University of Cambridge, UK

nestor Summer School 2008

June 16th - 20th 2008

Staufen/Breisgau, Germany

nestor Summer School 2008

June 16th - 20th 2008

Staufen/Breisgau, Germany

Joint Conference on Digital Libraries (JCDL) 2008

Demonstration and Conference Paper

Planning the future with Planets: a preservation planning tutorial

A two-day preservation planning workshop and training event held in Vienna.

April 14th - 15th 2008.

Vienna, Austria

nestor Winter School 2007

November 11th - 15th 2007

Gernrode, Germany

The first joint DPE/Planets/nestor training event

Principles of Digital Preservation: a hands-on approach

October 1st - 5th 2007

Vilnius, Lithuania

CeBIT 2007

Plato has been presented at CeBIT 2007 in Hannover.

DELOS Summer School 2007

June 3th - 8th 2007

Pisa, Italy