Introduction to the Roadmap

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Background

- Digital preservation is (still) an area where workflows and easily applicable universal toolkits are not widely available, although the toolbox is constantly being topped up.
- Current solutions normally require adaptation to the specific mandate of the individual cultural heritage institution, its existing technological infrastructure and the competences of its staff.

Background

- The cultural heritage sector is also producing a large volume of digital content that needs to be safely stored, permanently accessed and easily re-used over time by different end-user groups.
- Improving digital preservation practices in cultural heritage institutions is, without any doubt, a complex task.

Background

- The need to address this situation and to offer concrete and robust support to cultural heritage institutions efforts in digital preservation was identified by the former **INDICATE** project.
- To get an understanding of the magnitude of the situation, an initial survey of existing digital preservation tools and services was commissioned by its sister-project **DC-NET**.
- The **DCH-RP** project can, therefore, be seen as a logical follow-up of both the INDICATE and DC-NET projects

Background

- The DCH sector also has the challenge of the complexity of the information itself. Common procedures and workflows, shared internationally, would reduce the cost both in terms of time and money to be allocated to this task and would contribute to the general interoperability and openness of scientific DCH data.

Background

- The so-called ‘hard sciences’ are already demonstrating that research can advance its capability by the use of e-Infrastructures offering high-speed connections, shared computing and storage resources, sophisticated authentication and authorisation mechanisms etc.

Background

- A basic assumption is, therefore, that existing e-Infrastructures for research and academia (including NREN, NGI and other data infrastructures) could be efficient channels also for the delivery of advanced services that can be used by the digital cultural heritage sector in the field of digital preservation.

Background

- Another foundation of the work in DCH-RP is the assumption that it will be possible to establish common policies, processes and protocols which will allow digital cultural heritage organisations to access e-Infrastructures, despite the fact that NRENs and NGIs are national entities, often with different policies and procedures for access and usage.

The aim of the DCH-RP project

- The aim of the DCH-RP project is to develop a roadmap to implement a preservation infrastructure for digital cultural heritage.
- The roadmap should be coherent and realistic in order to
  - help policy makers and programme owners to plan ahead
  - and also assist managerial teams of cultural heritage institutions in taking decisions related to digital preservation.
- The design of the roadmap will be supported by practical experiments (proofs of concept) in the project partners' countries

Aim of the DCH-RP project

- Focus of the Roadmap: digital preservation services for DCH collections and holdings.
- The roadmap should define an action plan with a realistic timeframe for the implementation of its stages.
- The short term part of the plan should be addressed by the DCH-RP project.

The overall work plan for the Roadmap

- A first step in the development of the DCH-RP roadmap for preservation was presented in deliverable D3.1 *Study on a Roadmap for preservation*, which provides
  - An analysis of key characteristics and requirements of digital preservation in cultural heritage institutions and how they could be linked with e-Infrastructure services, and
  - A framework and a preliminary action plan for the development.
- Deliverable D3.1 also looks at types of analysis that are required and propose a possible timeline for the roadmap.

The overall work plan for the Roadmap

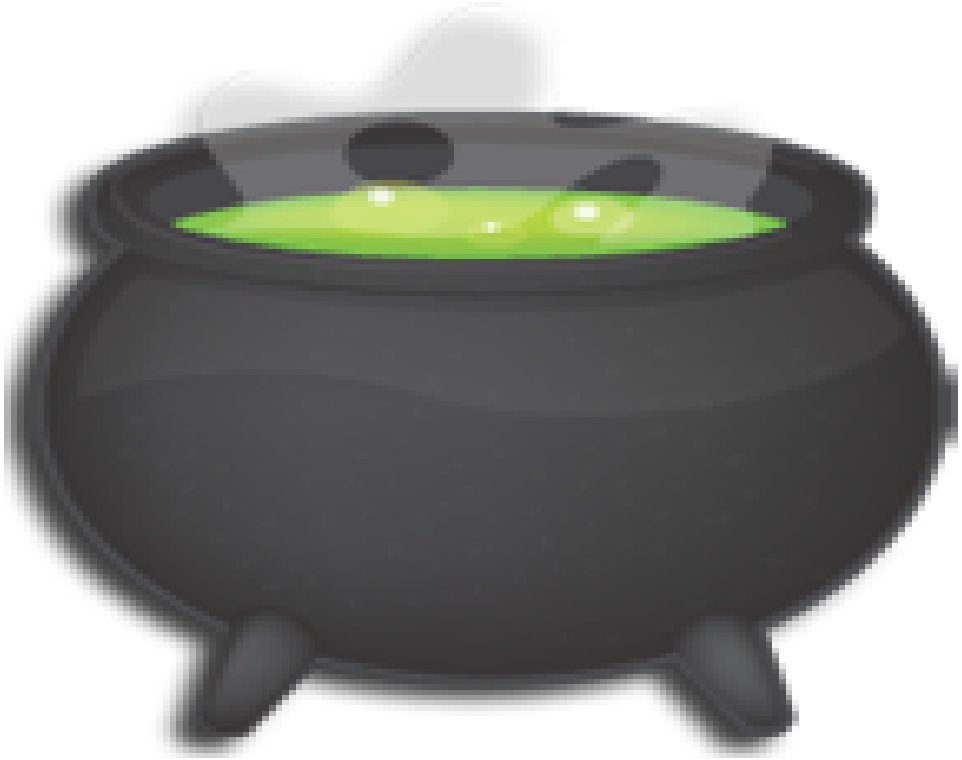
- A second step was to develop a registry of services and tools, presented in deliverable D3.3 Registry of Services
- In an third step the project has to consider how standards and interoperability principles can be adopted by the cultural heritage and e-infrastructure communities in order to maximise their potential benefits. The results were presented in deliverable 3.2 Standards and interoperability best practice report

The overall work plan for the Roadmap

- On top of that the project
  - investigate how Infrastructure as Service can contribute to digital preservation services for DCH
  - conducted the First Proof of Concept, presented in deliverable D5.3 Report on first Proof of Concept

The overall work plan for the Roadmap

Result: The Intermediate Roadmap



The overall work plan for the Roadmap

The intermediate roadmap (deliverable D3.4)

- Main objective: To be an evolution of D3.1, providing a first description of what the roadmap will look like.
- It is ”work in progress”.
- Targets primarily two main communities: DCH institutions and e-Infrastructure already including digital archiving functions in their preservation programmes

The overall work plan for the Roadmap

The intermediate roadmap

- Describes a working model for the implementation of distributed digital preservation services for the DCH community, including an action plan for
  - concrete steps to take (short term)
  - which services to address
- Three annexes:
  - An outline for a trust model
  - An analyses of IaaS
  - Examples of current use of distributed digital preservation

The overall work plan for the Roadmap

ROADMAP Main components	Vision	Major areas to concentrate on	Timeframe	Infrastructure model for distributed digital preservation	
Detailed descriptions	Formulating a vision	Connecting the major areas of the road map to a time-line Short term (2014) Medium term (2016) Long term (2018)		Service architecture	Infrastructure framework
ACTION PLAN	Challenges and advantages to target on	Actions to take		Services to address	*To be specified in the final version of the roadmap*
CONDENSED ROADMAP	What to do and when - short term				

Figure 3: Working model for the DCH-RP roadmap

Digital Cultural Heritage – Roadmap for Preservation

Step 1: Where are we now and where do we want to get to?

Before starting planning for the use of distributed digital preservation solutions, there are some basic considerations:

- Agree on a vision - what will distributed digital preservation look like? (see section 4.3.1)
- Decide about challenges to target (see section 5.1.1)
- Have a clear understanding of advantages to explore (see section 5.1.2)

Step 2: Take actions in identified major areas of the roadmap

Harmonise data storage and preservation (see section 5.2.1)

- Define critical system requirements (general and specific) – understand and articulate your requirements
- Choose a suitable AA control system
- Look into IaaS

Improve interoperability (see section 5.2.2)

- Review best practice and how-to guides (avoid inventing the wheel again)
- Consider aspects of internal interoperability to avoid building digital silos within the organisation – set up a mandate

Establish conditions for cross- sector integration (see section 5.2.3)

- Decide about standards to use and look into available tools for guidance
- Use the DCH-RP registry of preservation tools to find what suits your organisation best

Establish a governance model for infrastructure integration (see section 5.2.4)

Decide about a

- General governance model
- Trust model
- Business model

Step 3: Choose services to address

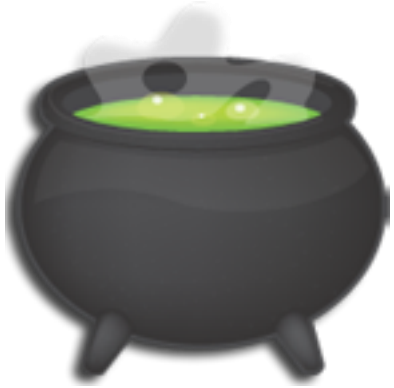
Decide about addressing services according to:

- Functional areas (see section 5.3.1)
- Services types and objects (see section 5.3.2)
- Type of architecture (see section 5.3.3)
- Level of maturity (see section 5.3.4)
- License conditions (see section 5.3.5)

From an intermediate version to a final version

- Trustbuilding (deliverable D4.1)
- Second Proof of Concept

Together with additional input from the rest of the project, the Roadmap will be finalised by the end of the project (deliverable D3.5).



Some lessons learned from the Intermediate Roadmap

What is needed in digital preservation is a readiness for handling perpetual change.

Keywords are distinct functional and technical requirements, solid models for handling business issues, governance and trust, and a service architecture that altogether can guarantee the authenticity of the digital resources over time, physically and technically preserve them over time, and verify that they are accessible and usable over time.

When summarising the work on the DCH-RP projects road map, so far, the use of e-Infrastructure in meeting these demands looks promising!

Some lessons learned from the Intermediate Roadmap

The two basic assumptions that the DCH-RP roadmap is built on are achievable:

- existing e-Infrastructures for research and academia are efficient channels also for digital cultural heritage sector to be used for distributed digital preservation
- it is possible to establish common policies, processes and protocols to allow digital DCH organisations to access e-Infrastructures, despite the fact that NRENs and NGIs are national entities, sometimes with different policies and procedures for access and usage.

Some lessons learned from the Intermediate Roadmap

Service architecture: The main challenge is whether to use the OAIS as the underlying model and map the grid/cloud services to it as “add-ons”, or use the service and architecture models provided by the e-infrastructures and embed preservation services into them.

We need to decide about a final vision of a service architecture to target.

Some lessons learned from the Intermediate Roadmap

A ground breaking part of the concept is the possibilities to customise the services provided by e-Infrastructure, i.e. tailoring the service portfolio and characteristics to the actual preservation tasks and requirements.

Even if the e-Infrastructure resources seems to be allocated in ways that could support preservation functions and sub-functions quite well, ***the general conclusion must be that the market for distributed digital preservation services is still in its infancy.***

Some lessons learned from the Intermediate Roadmap

An important issue is the level of maturity in the DCH sector to handle distributed digital preservation solutions. E-Infrastructures can reach their maximum potential in serving the DCH preservation practice only if the DCH sector is prepared to exploit the opportunities of the e-Infrastructure. ***This is obviously not the case today***.

To find ways to bridge this gap is a main challenge for the final version of the roadmap.

The DCH-RP projects initial aim was ***have a practical approach with a strong focus on what to do, and it has become even more important than expected in the beginning of the project.***

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