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MILDRED
The research data infrastructure

What is MILDRED?

The University of Helsinki (UH) is updating its research data infrastructure to provide:
• tools and services for supporting the management, use, discoverability and sharing of data
• capacity for storage, preservation, computing and processing

In order to meet these goals, UH launched a development project, MILDRED. The aim of MILDRED is to provide researchers with a state-of-the-art infrastructure and design data related services.

Open science

According to the University's strategy[1] for 2017-2020, UH will be a pioneer in the production and exploitation of open knowledge.

In 2017—2020, the UH will make research methods, materials, and results accessible to the academic community and society at large and make increasing use of open forums, digital environments as well as self- and peer-evaluation in teaching.

Through, the Project MILDRED UH's open science strategy is put into effect.

A high level and high-impact research and support for high-quality research infrastructure themes in the strategy are also important for the Project MILDRED.

Where the data is now?

Repository survey[2] responses (N=258) showed that
• 56 % of the respondents did not have their data deposited in any specific digital repository
• 43 % used one or more repositories

Data has been stored also on
• Personal computer hard drives (68 %)
• External hard drives (58 %)
• Network hard drives of the university (54 %)
• Commercial cloud services were currently used (34 %)
• National data services (19 %)

The most common reason for not using existing digital repositories:
• Lack of specific knowledge (29 %)
• Data sensitivity (11 %)
• The depositing theme was not relevant for the field of work (11 %)

4.6 % of respondents explicitly stated that the current hard drive resources are sufficient in data management.

Only 7.7 % of respondents answered that they have small amounts of produced data as a reason for not using digital repositories.

Research data policy as a driver

UH research data policy[3] defines high-level principles regarding the collection, storing, use, and management of research data. According to the policy, UH will provide researchers and research groups with a research data infrastructure that includes tools and services for supporting data management throughout the research lifecycle.

The infrastructure will be built and developed together with national and international parties, taking into account the services and infrastructures that they offer.

As a principle, research data produced at UH is open and available for shared use.

Preliminary service architecture

The preliminary architecture of the MILDRED apply the idea of the mesh app and service architecture[4]. The idea is that applications support multichannel user experiences and their architecture enables continuous delivery of new capabilities.

Open source technologies and interfaces of the services are preferred in all solutions. RDA recommendations will be evaluated as a possible guidelines for the services.
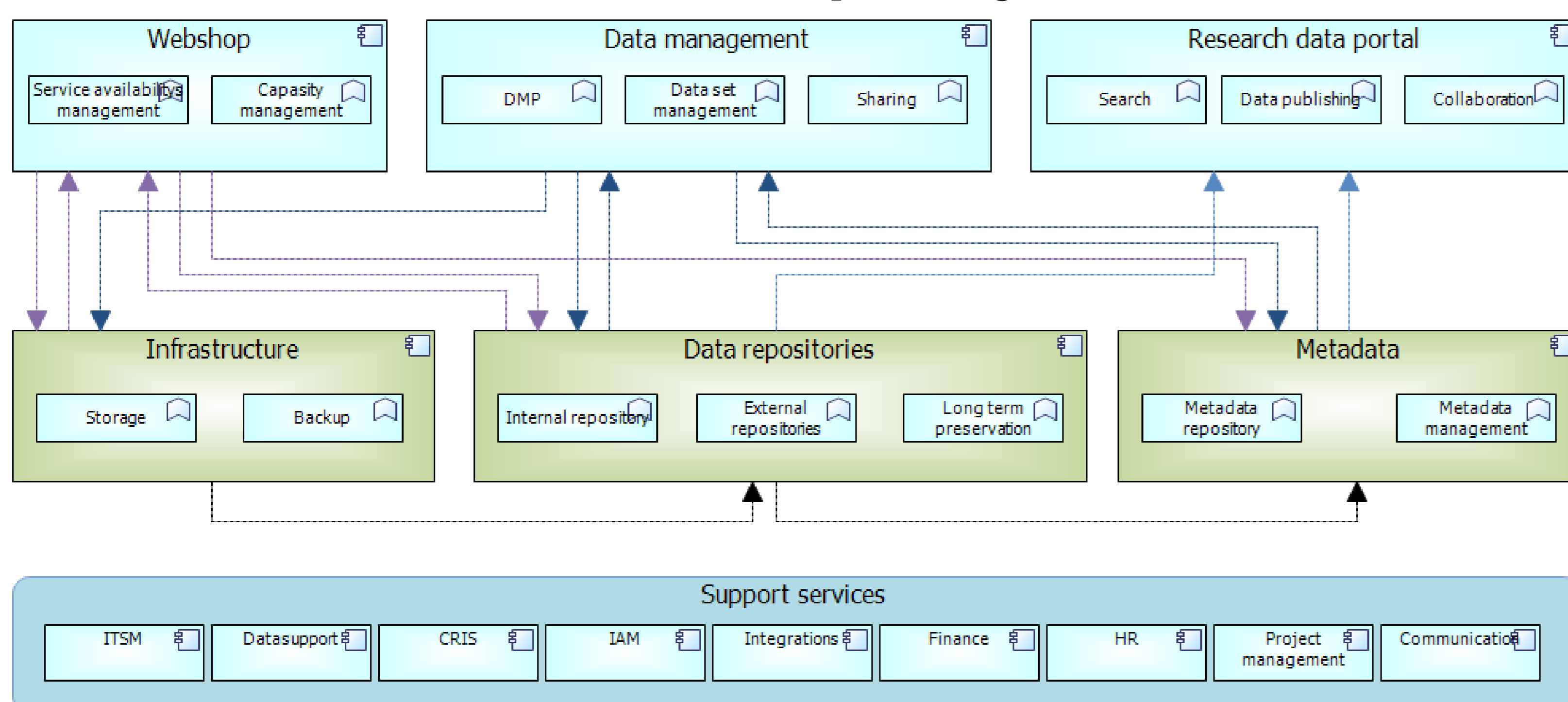

Fig. 1. Preliminary architecture with high level data flows of MILDRED services

Five subprojects

MILDRED include 5 subprojects:
1. Digitalization of research data services delivery
2. Data repository service
3. Data publishing and metadata service
4. Data storage and backup
5. Implementation of data management planning tool – Tuuli

The subprojects will create services to all university disciplines. They will also take into consideration the needs of the big data users, as well as long tail data users. Both qualitative and quantitative research are taken into account in the projects.

Researchers are involved in the user group. They are also represented in the steering group in which half of the members are researchers. The other half includes representatives of research administration, university library and IT center.

References:
1) Strategy of the University of Helsinki (2016). https://www.helsinki.fi/en/university/strategy-and-management/strategic-plan-2017-2020
2) Anna Salmi (2016). Repository survey sheds light to UH depositing practices and data service needs.
http://blogs.helsinki.fi/mildred/2016/08/05/repository-survey-sheds-light-to-uh-depositing-practices-and-data-service-needs/
3) University of Helsinki Research Data Policy (2015). https://www.helsinki.fi/en/research/research-data/data-policy
4) Gartner, Retire the Three-Tier Application Architecture to Move Toward Digital Business, Anne Thomas and Aashish Gupta, 21 June 2016 (G00308298)

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