



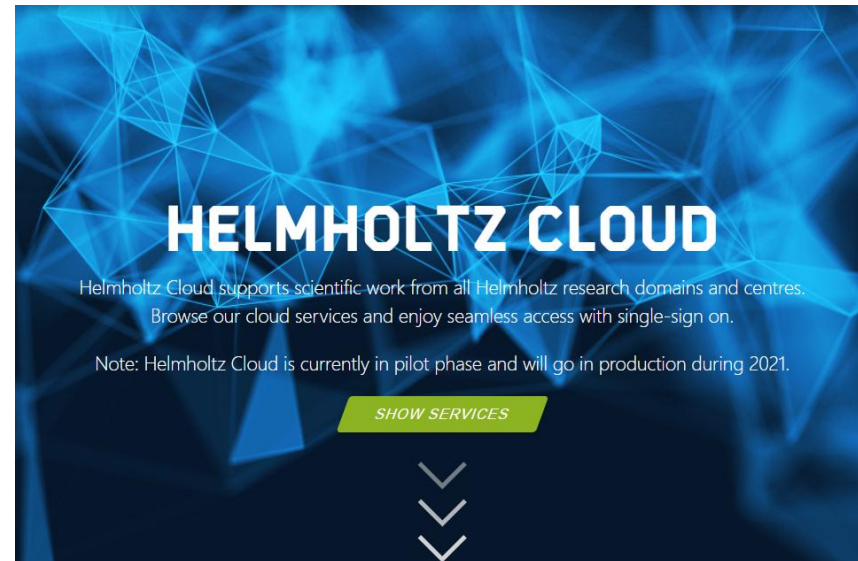
HIFIS CLOUD SERVICES

Status May 2021

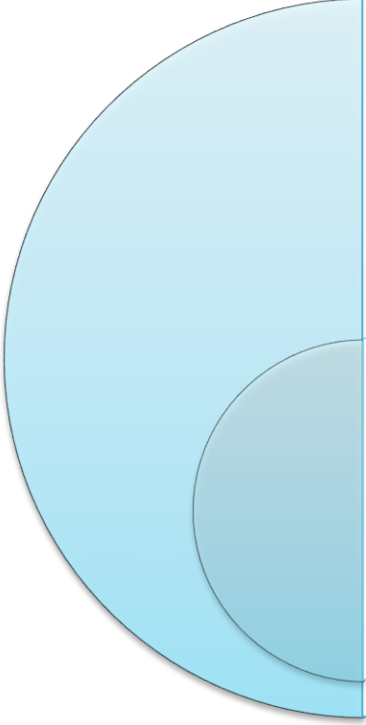
Andreas Klotz (HZB / HIFIS Cloud Architect)

Content

Information on the Service Selection Process	The service survey as our data basis
	The Iterations of the Service Selection Process
	The Service Selection Criteria
The Helmholtz Cloud Portal (beta)	Cloud Portal and Service Information
	Pilot Services
The Cloud Architecture	Helmholtz Cloud Access Layer
	Helmholtz Cloud Agent
The Service Integration	The five Chapters of Service Integration
	Weighing of the Maturity of Service Integration
	Current State
The Cooperation Agreement	Structure of the Cooperation Agreement
	Current State
Infos about HIFIS Cloud Cluster	



Our initial Data Basis: the Service Survey



Survey 1st Round

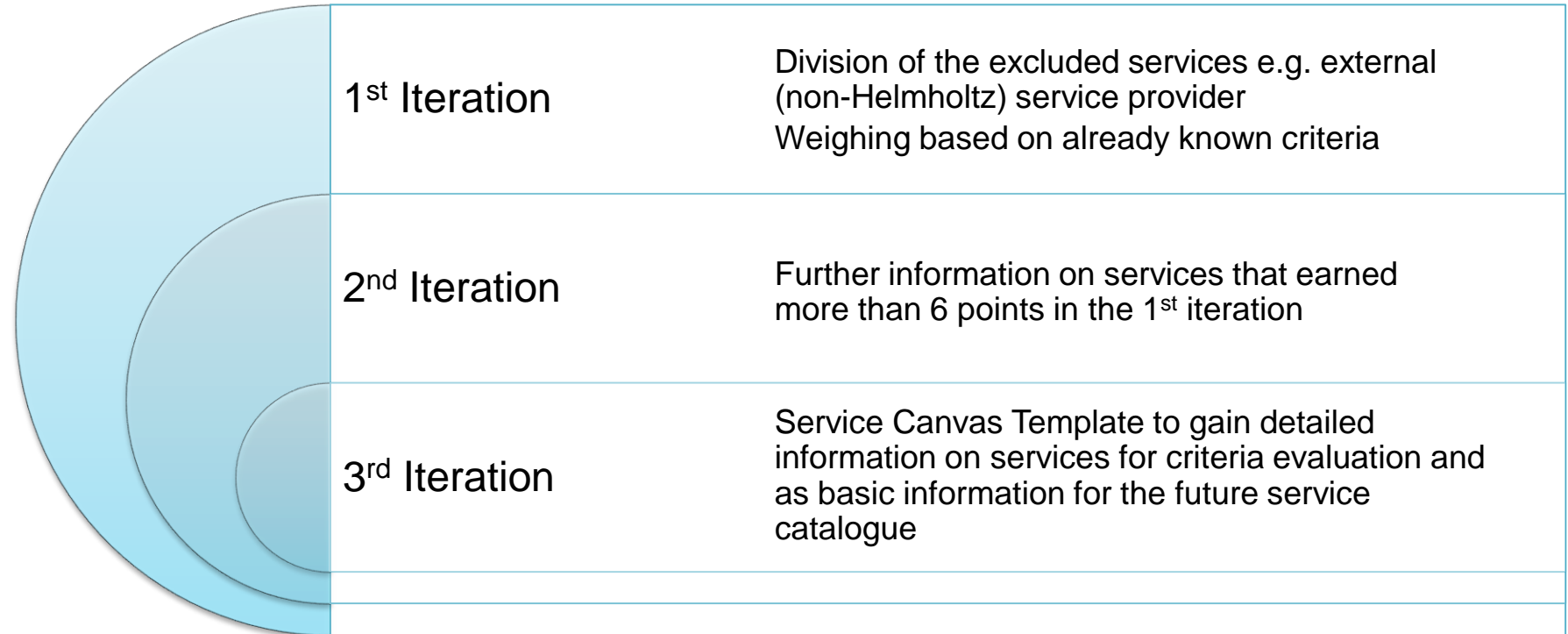
Ants Finke (HZB) and Uwe Konrad (HZDR) visited each Helmholtz center and asked for:

- Services the centers were interested in using
- Services the centers would be willing to offer as a service provider within Helmholtz

Survey 2nd Round

- Verification of the resulting service list gained in the 1st Service Survey Round
- Centers could announce their interest in services which were added to the service list after their visit in the 1st Service Survey Round

Iterations of Service Selection Process



Service Selection Criteria

Exclusion Criteria

Services not fulfilling these criteria will be excluded from service selection

Weighting Criteria

Services fulfilling these criteria will earn additional points

Information Criteria

Do not influence the evaluation of services but are rather informational

Results of Service Selection – Initial Service Portfolio for Helmholtz Cloud

Service	Service Providers
AWI Marketplace	AWI
B2Share (Invenio)	Jülich
Docker	DESY
GitLab	HZDR, KIT, Jülich, Geomar
GPU Compute Service	Jülich, HZDR
HAICORE (HAICU, HIP)	KIT, Jülich
JupyterHub	Jülich, DESY, DKFZ, HMGU
JupyterHub Notebooks on HPC	KIT
LimeSurvey	HMGU, DKFZ
Mattermost	HZDR
Nextcloud (OnlyOffice)	KIT, HZB, DESY

Service	Service Providers
Ocean and Climate Sensor Management	AWI
ODV	AWI
OpenStack	Jülich, Jülich (HDF), KIT, DKFZ
Redmine	HZDR, HMGU
Rocket.Chat	Jülich
RODARE	HZDR
ShareLaTeX	HZDR
Singularity	KIT, Jülich
Storage (HDF)	Jülich, DESY
Zammad	HZDR

HELMHOLTZ CLOUD

Helmholtz Cloud supports scientific work from all Helmholtz research domains and centres.
Browse our cloud services and enjoy seamless access with single-sign on.


Note: Helmholtz Cloud is currently in pilot phase and will go in production during 2021.

[SHOW SERVICES](#)







Cloud Portal (beta):



➤ cloud.helmholtz.de



 **HELMHOLTZ CLOUD BETA**



Team News Helpdesk About Sign in



B2Share
 B2Share
Research Data (= corresponding Metadata) Publishing service.
by:  **JÜLICH**
→ Go to service



GitLab
 GitLab
A web-based DevOps lifecycle tool that provides a Git-repository manager.
by:  **HZDR**
→ Go to service



HIFIS Helpdesk
 Zammad
HIFIS Helpdesk Ticketing System based on Zammad.
by:  **HZDR**
→ Go to service

JupyterHub
 JupyterHub
Interactive supercomputing in a browser.
by:  **JÜLICH**
→ Go to service

Mattermost
 Mattermost
A hosted chat service for everyone within Helmholtz based on Mattermost.
by:  **HZDR**
→ Go to service

OpenStack (HDF Cloud)
 OpenStack
The Service allows provisioning of user-controlled VMs with Linux OS
by:  **JÜLICH**
→ Go to service

bwSync&Share
 Nextcloud
File Sync and Share, Groupware-Functionalities: Files, Fotos, Calendar, etc..
by:  **KIT**
→ Go to service

nubes
 Nextcloud
Sync&Share based on Nextcloud with OnlyOffice and Calendar function.
by:  **HZB**
→ Go to service

Cloud Portal (beta):
➤ cloud.helmholtz.de

B2Share



B2Share

Research Data (+ corresponding Metadata) Publishing service.

by:  **JÜLICH**
HELMHOLTZ CLOUD
RESEARCH INFRASTRUCTURE

→ Go to service ⋮

GitLab



GitLab

A web-based DevOps lifecycle tool that provides a Git-repository manager.

by:  **HZDR**
HELMHOLTZ CLOUD
RESEARCH INFRASTRUCTURE

→ Go to service ⋮

HIFIS Helpdesk



Zammad

HIFIS Helpdesk Ticketing System based on Zammad.

by:  **HZDR**
HELMHOLTZ CLOUD
RESEARCH INFRASTRUCTURE

→ Go to service ⋮

JupyterHub



JupyterHub

Interactive supercomputing in a browser.

by:  **JÜLICH**
HELMHOLTZ CLOUD
RESEARCH INFRASTRUCTURE

→ Go to service ⋮

Mattermost



Mattermost

A hosted chat service for everyone within Helmholtz based on Mattermost.

by:  **HZDR**
HELMHOLTZ CLOUD
RESEARCH INFRASTRUCTURE

→ Go to service ⋮

OpenStack (HDF Cloud)



OpenStack

The Service allows provisioning of user-controlled VMs with Linux OS

by:  **JÜLICH**
HELMHOLTZ CLOUD
RESEARCH INFRASTRUCTURE

→ Go to service ⋮

bwSync&Share



Nextcloud

nubes



Nextcloud

need help with OpenStack (HDF Cloud)?

OpenStack (HDF Cloud)

Description

The Service allows provisioning of user-controlled VMs with Linux Operating systems.

User Enablement:

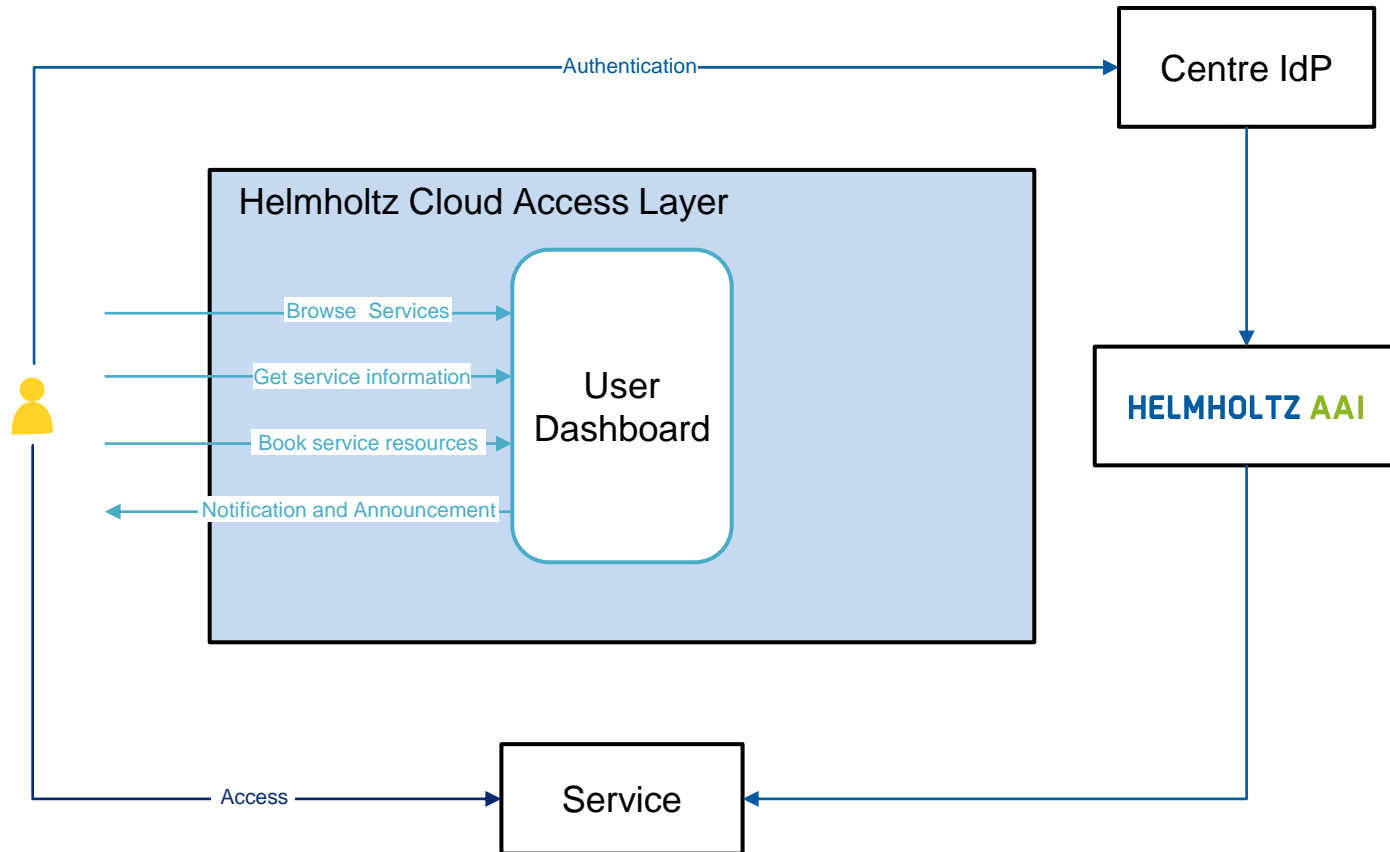
How to get access: SC HPC system users connect to HDF cloud service via JSC's JuDoor. Users are assigned to Projects in HDF cloud by email request to support team at ds-support@fz-juelich.de. This request shall contain brief information about the purpose, methods and resource demand of your project.

More detailed instructions for gaining access to this OpenStack cloud instance are [provided here](#).

Contact for user support: ds-support@fz-juelich.de

Software name	OpenStack
Endpoint	https://hdf-cloud.fz-juelich.de:5000/v3/auth/OS-FEDERATION/identity_providers/hdf/protocols/openid/websso?origin=https://hdf-cloud.fz-juelich.de/auth/websso/
Host	
name	Forschungszentrum Jülich
abbreviation	FZJ
url	http://www.fz-juelich.de/

Cloud Portal (beta):
➤ cloud.helmholtz.de



Helmholtz Cloud Access Layer

Helmholtz Cloud Portal

Frontend

User
Dashboard

Backend

User Settings

Notification
Service

User/Resource
Management

Accounting

Service
Catalogue

Service
Monitoring

Service
Orchestration

...

Helmholtz Cloud Data Management

Plony

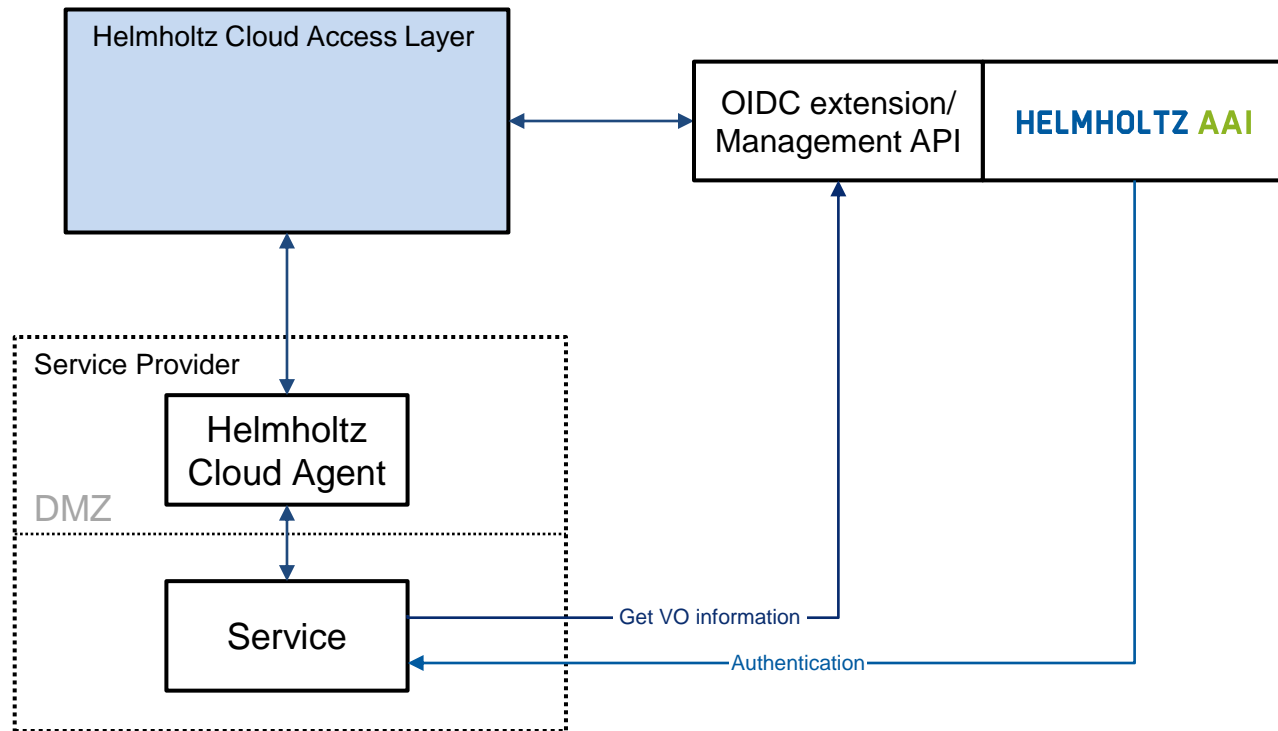
Contract DB

HIFIS
Contacts

...

Service Portfolio
Management

Security Incident
Management



VO based Sync&Share Federation
In collaboration with CS3 Community /
CS3MESH4EOSC Project

OIDC extension/
Management API

HELMHOLTZ AAI

Service

Get VO information

SERVICE INTEGRATION

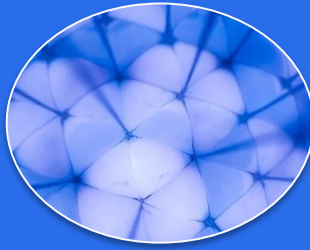
Organized in five Chapters



AAI



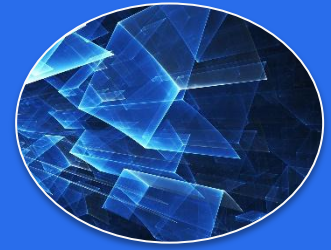
Provisioning



Deprovisioning

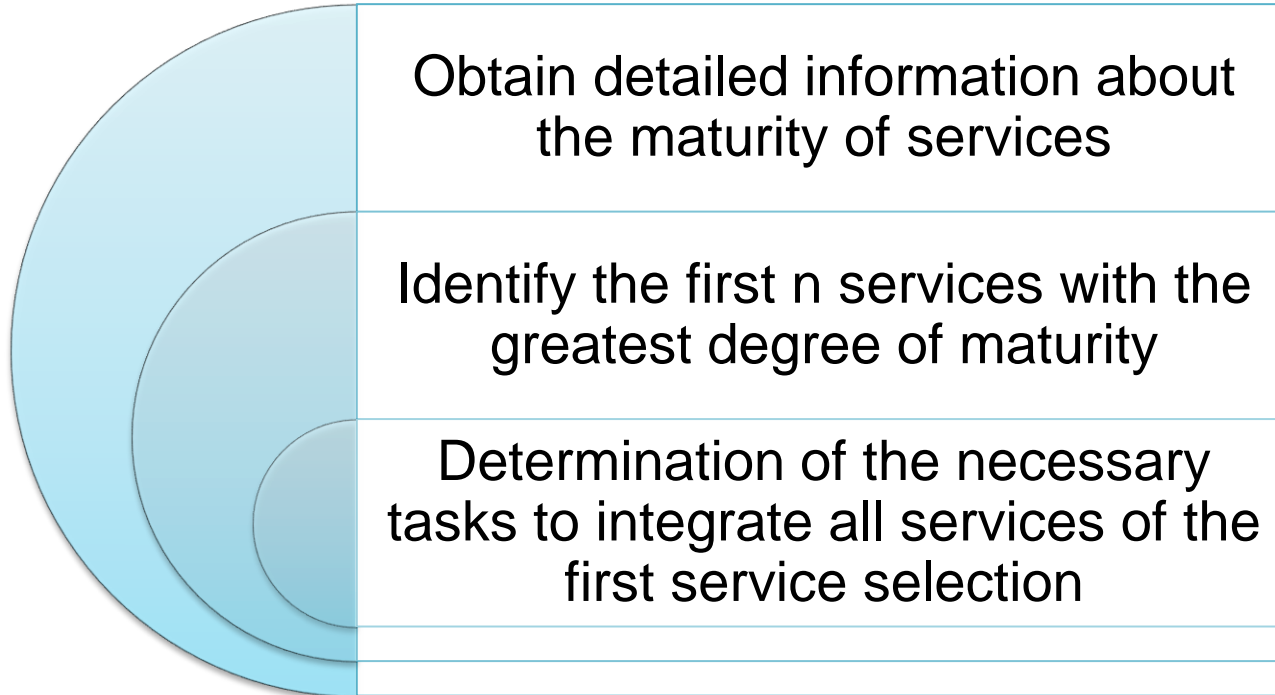


Help-Desk and
Support



Capacity

Websurvey to Providers



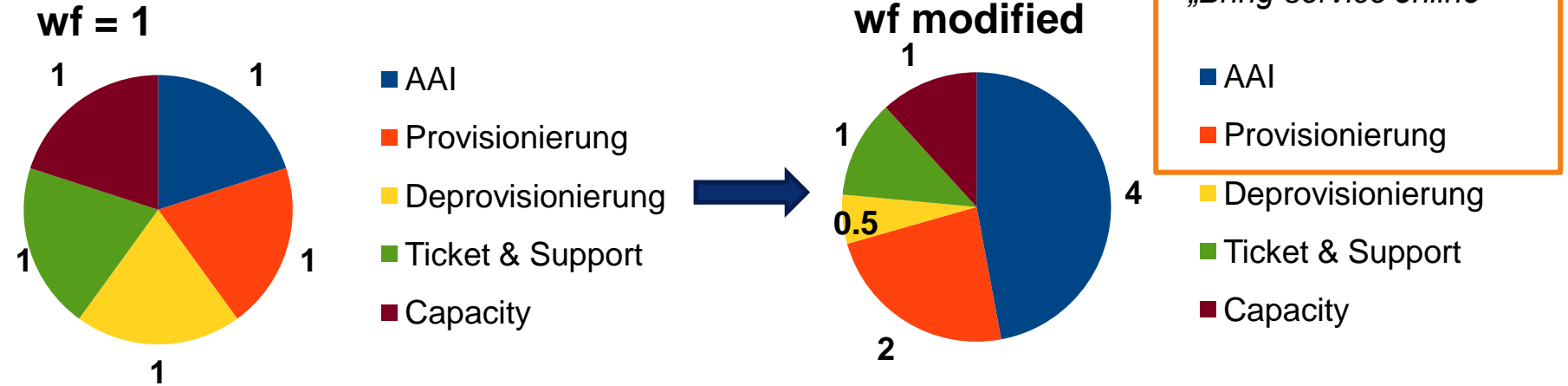
Weighing of the Maturity

- Every answer of a SPs is scored by a points system, ranging from 0 to 10:

Points	Semantic	Maturity
0	No actions	-
1	In planning, but not yet started	
2 - 3	Work has started	• Very immature
4 - 6	Work is ongoing	• Immature
7 - 9	Work nearly finished	• Nearly mature
10	Work is finished	• Mature

Weighing of the Maturity

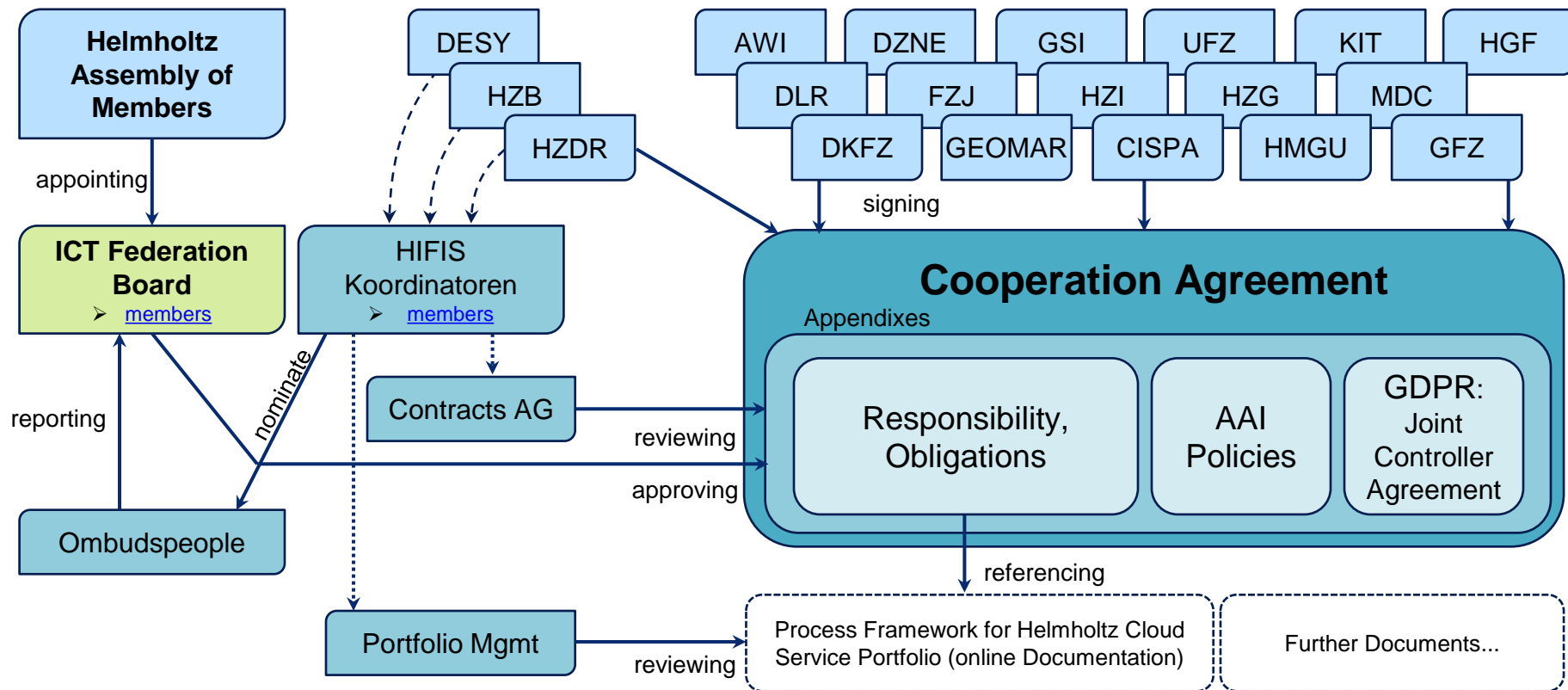
- To reflect the different importance of some chapters (e.g. integration with AAI is currently more important than handling an automatic user deprovisioning ...), we introduced a **weighting factor (wf)**



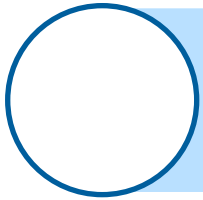
Service	SP	Maturity weighted	Listed in Cloud Portal
Rocket.Chat	FZJ	81,5	No
Zammad	HZDR	80,5	Yes
JupyterHub	FZJ	79,5	Yes
GitLab	HZDR	79	Yes
Nextcloud	DESY	78,5	No
Nextcloud	KIT	78	Yes
OpenStack HDF-Cloud	FZJ	74	Yes
Nextcloud	HZB	72,5	Yes
Docker (Kubernetes)	DESY	72,5	No
GitLab	FZJ	70,5	No
Mattermost	HZDR	70	Yes

+ B2Share (Invenio)
FZJ 55,5 Yes

DRAFT OF COOPERATION AGREEMENT



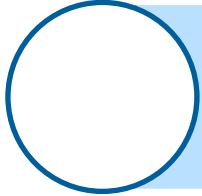
Review by the Helmholtz committees:



AK Recht

(Working group law)

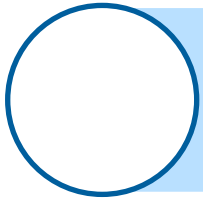
➤ Structure of the agreement



AK Datenschutz

(Working group of data protection commissioners)

> Joint Controller Agreement

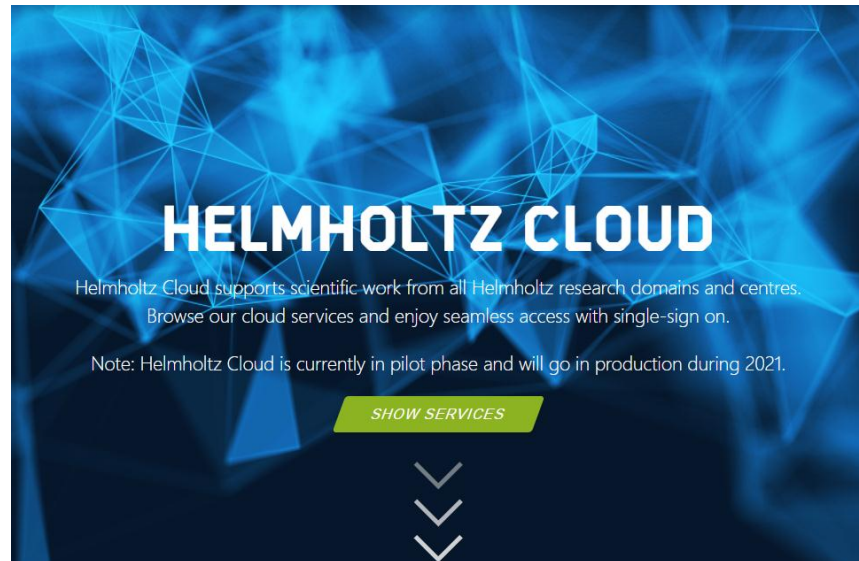


PB HGF: Personal- und Betriebsräte der Helmholtz - Gemeinschaft

(Staff and Works Councils of the Helmholtz Association)

> Additional topics according to their perspective

- **HIFIS Cloud Services**
 - <https://hifis.net/services/>
- **Helmholtz Cloud Portal**
 - <https://cloud.helmholtz.de>
- **Initial Service Selection**
 - [Detail Documentation](#)
 - [Presentation](#)
- **Service Integration**
 - [Documentation](#)
 - [Pilot Services](#)
- **HIFIS Cloud Architecture**
 - [Documentation](#)



<https://cloud.helmholtz.de>

