

Interactive Computing E-Infrastructure  
Public Information Event



Co-funded by  
the European Union



## Architecture Overview

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Barcelona

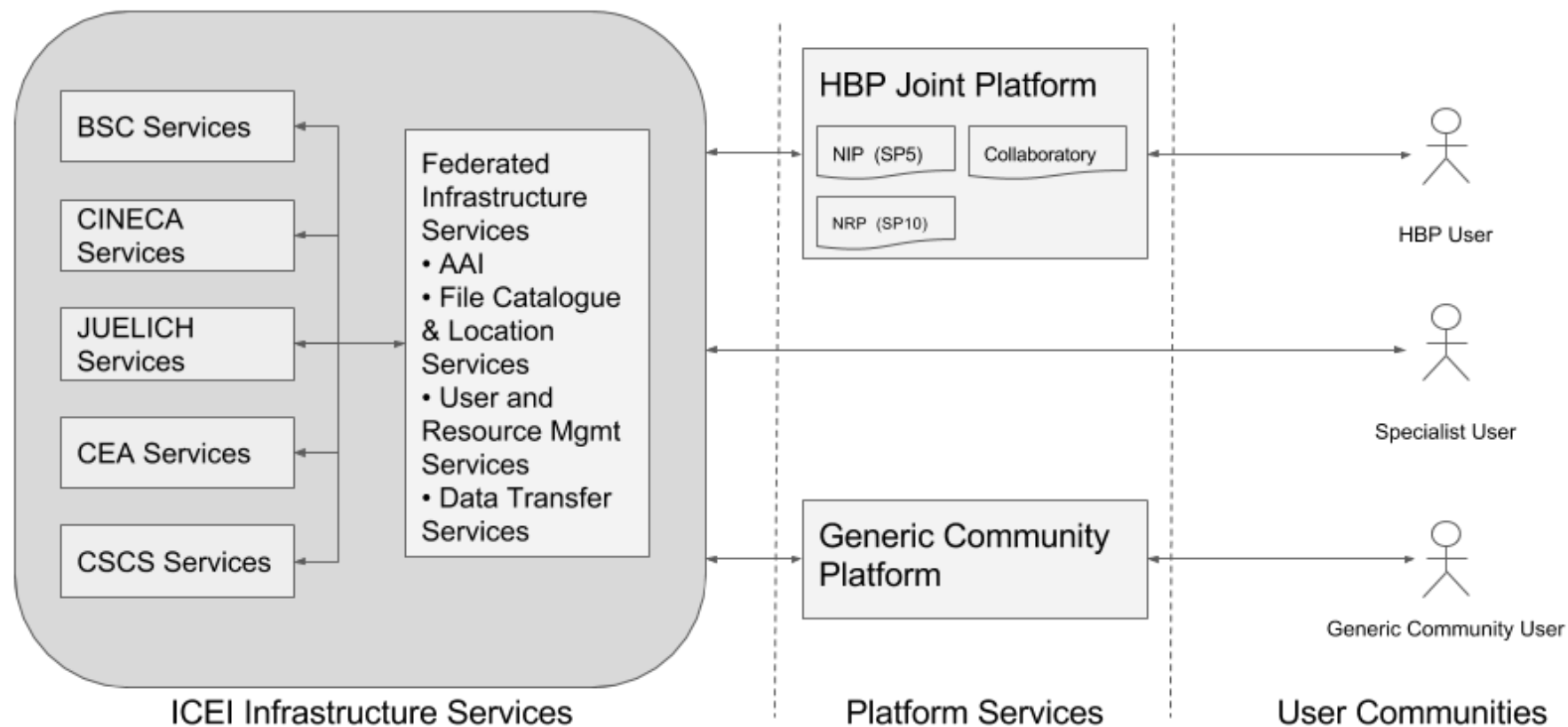
15 March 2018

# Disclaimer

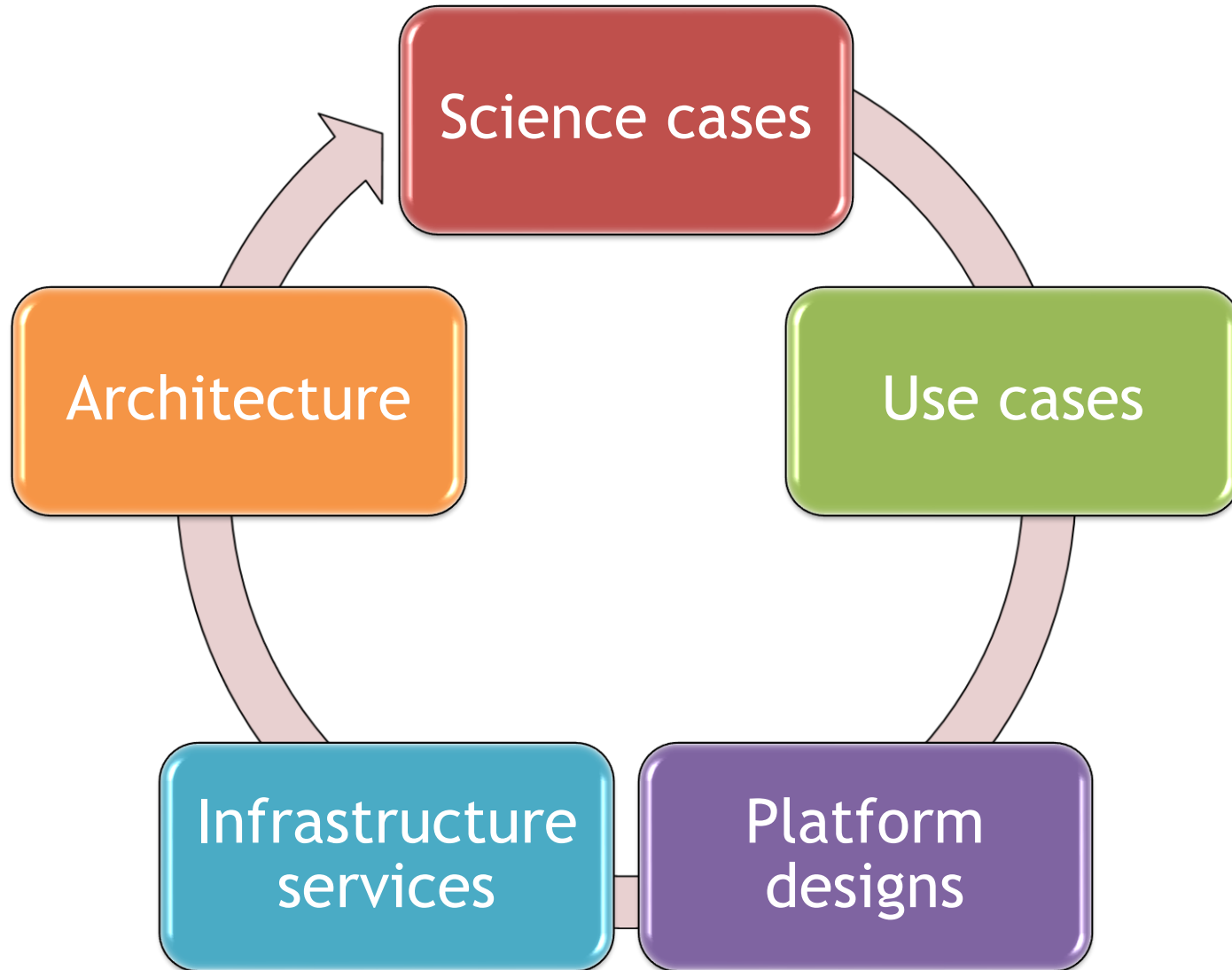
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*Neither this announcement nor the event itself signifies the beginning of a procurement procedure or constitutes a commitment by the public procurers involved in the presentation to undertake such exercise at a later stage*

# ICEI Services



# Co-design Process



# Consumable and Accountable Services

<b>Interactive Computing Services</b>	High-end servers with high-bandwidth interconnect to Scalable Computing Services and to Archival and Active Data Repositories for interactive data processing using, e.g., frameworks like Jupyter Notebook
<b>Scalable Computing Services</b>	Massively parallel HPC systems for scalable applications with possibly elastic access
<b>Virtual Machine Services</b>	Service for deploying virtual machines in a stable and controlled environment that is, e.g., suitable for deploying platform services like the Collaboratory, HBP information catalogues, image services etc.
<b>Active Data Repositories</b>	Site-local data repositories located close to computational and/or visualization resources, used for storing temporary slave replica of large data sets
<b>Archival Data Repositories</b>	Federated data store optimized for capacity, reliability and availability, used for long-term storing of large data sets that cannot be easily regenerated

# Enabling/Building Block Services

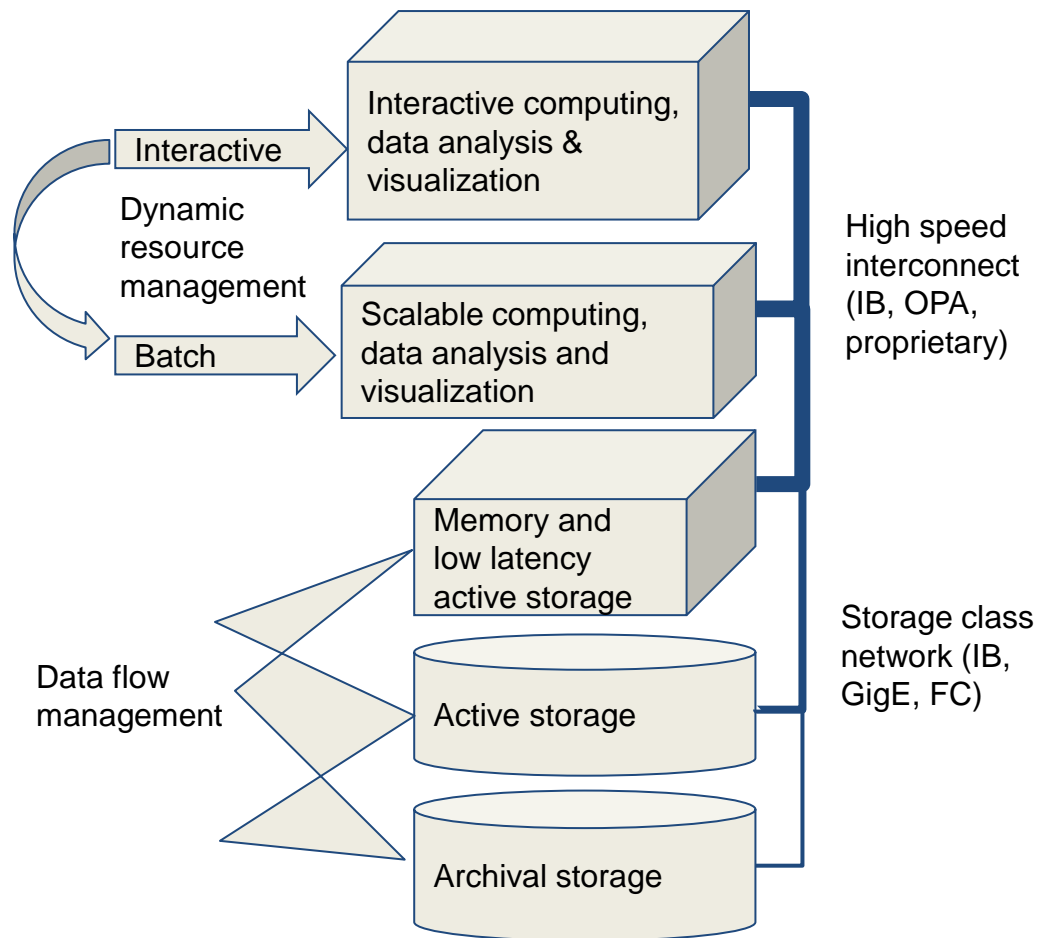
<b>Internal interconnect</b>	Site-local data centre level interconnect
<b>External interconnect</b>	Network providing connectivity between the different Fenix sites
<b>Authentication/Authorization Services</b>	Set of services needed for authentication and authorisation with all relevant Fenix services
<b>Data Mover Services</b>	Site-local service for moving data between Archival and Active Data Repositories
<b>Data Transfer Services</b>	Service for transferring data between different Archival Data Repositories (and possibly external e-Infrastructures)

# Platform & Customer Support Services

<b>Fenix User and Resource Management Service (FURMS)</b>	Service for managing Fenix Users and Fenix Communities as well as allocation and consumption of resources
<b>Monitoring Services</b>	Set of services for monitoring the state of Fenix services
<b>User Support Services</b>	Set of services to support user requests related to the use of infrastructure resources and services. TTS, Documentation, etc.

# Envisioned Architecture

<b>Consumable and Accountable Services</b>
Interactive Computing Services
Scalable Computing Services
Virtual Machine Services
Active Data Repositories
Archival Data Repositories



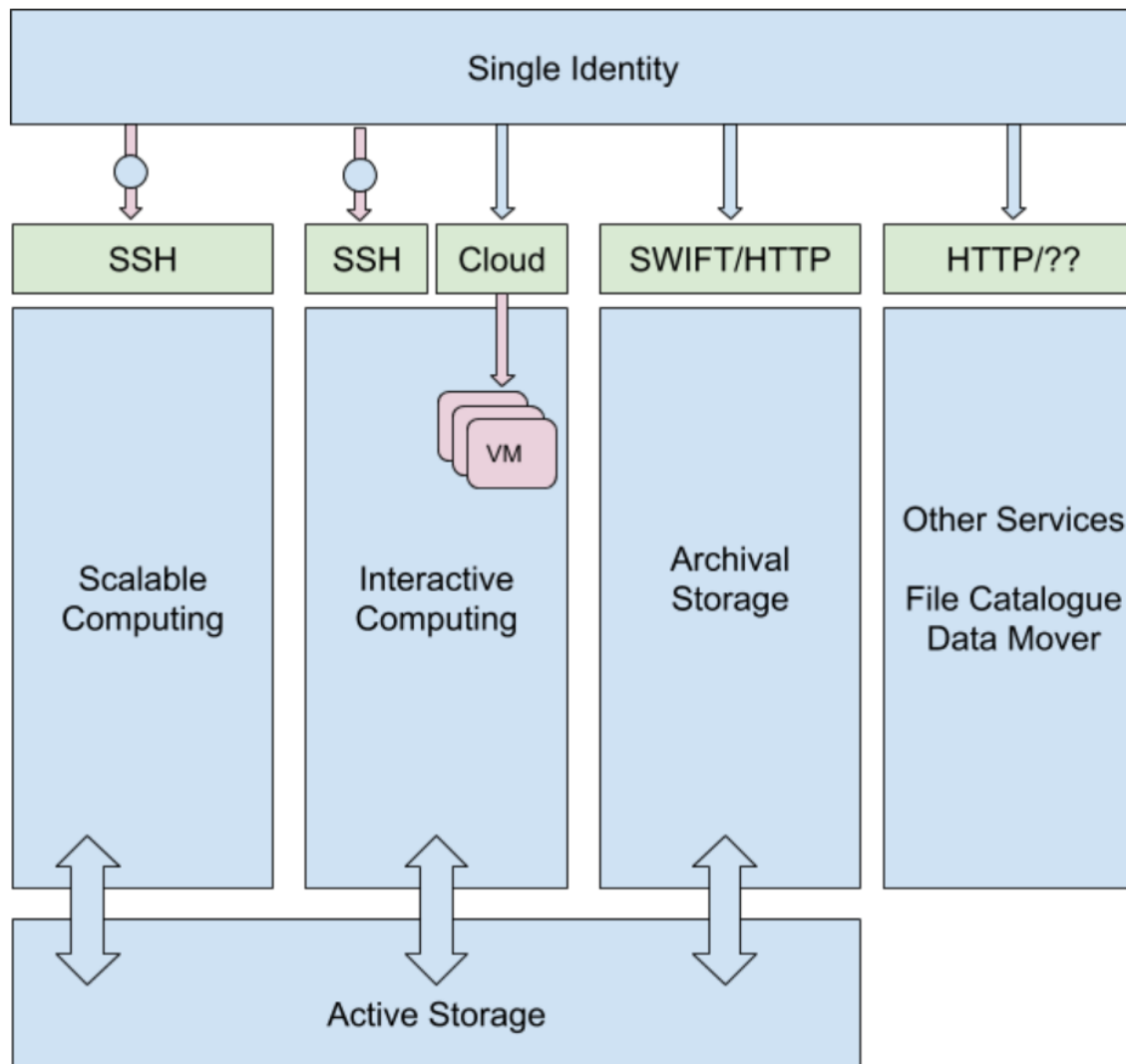
<b>Enabling Services</b>
Internal interconnect
External interconnect
Authentication/Authorization Services
Data Mover Services
Data Transfer Services





# Envisioned Federated AAI Concept

Consumable and Accountable Services
Interactive Computing Services
Scalable Computing Services
Virtual Machine Services
Active Data Repositories
Archival Data Repositories



**AAI protocols:  
OpenID, OAuth 2  
and SAML**

Enabling Services
Internal interconnect
External interconnect
Authentication/Auth orization Services
Data Mover Services
Data Transfer Services



# Envisioned Storage Architecture

Consumable and Accountable Services

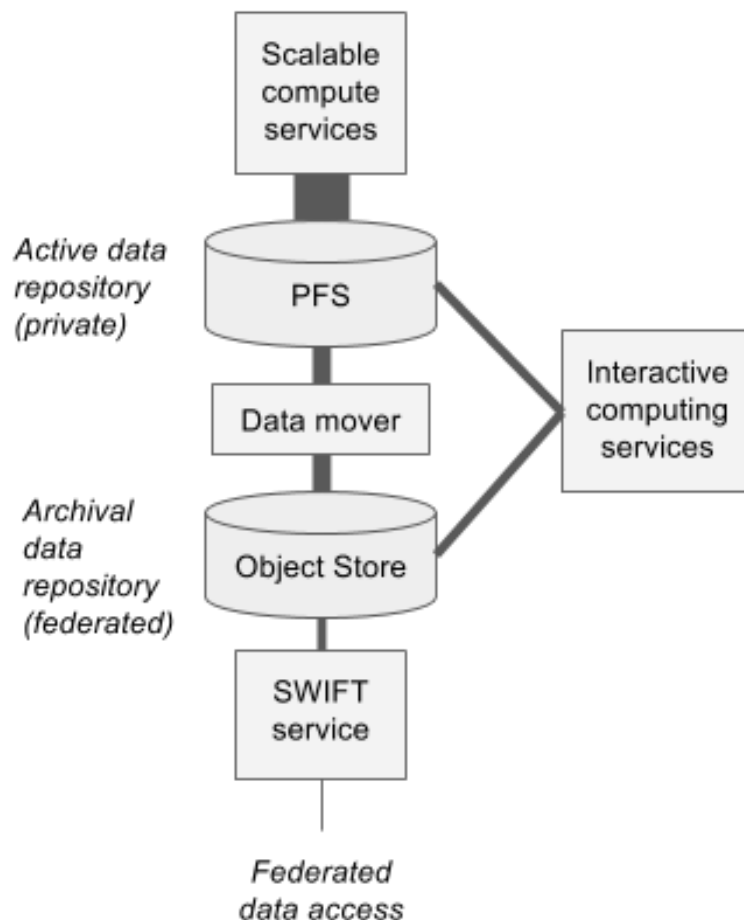
Interactive Computing Services

Scalable Computing Services

Virtual Machine Services

Active Data Repositories

Archival Data Repositories



Enabling Services

Internal interconnect

External interconnect

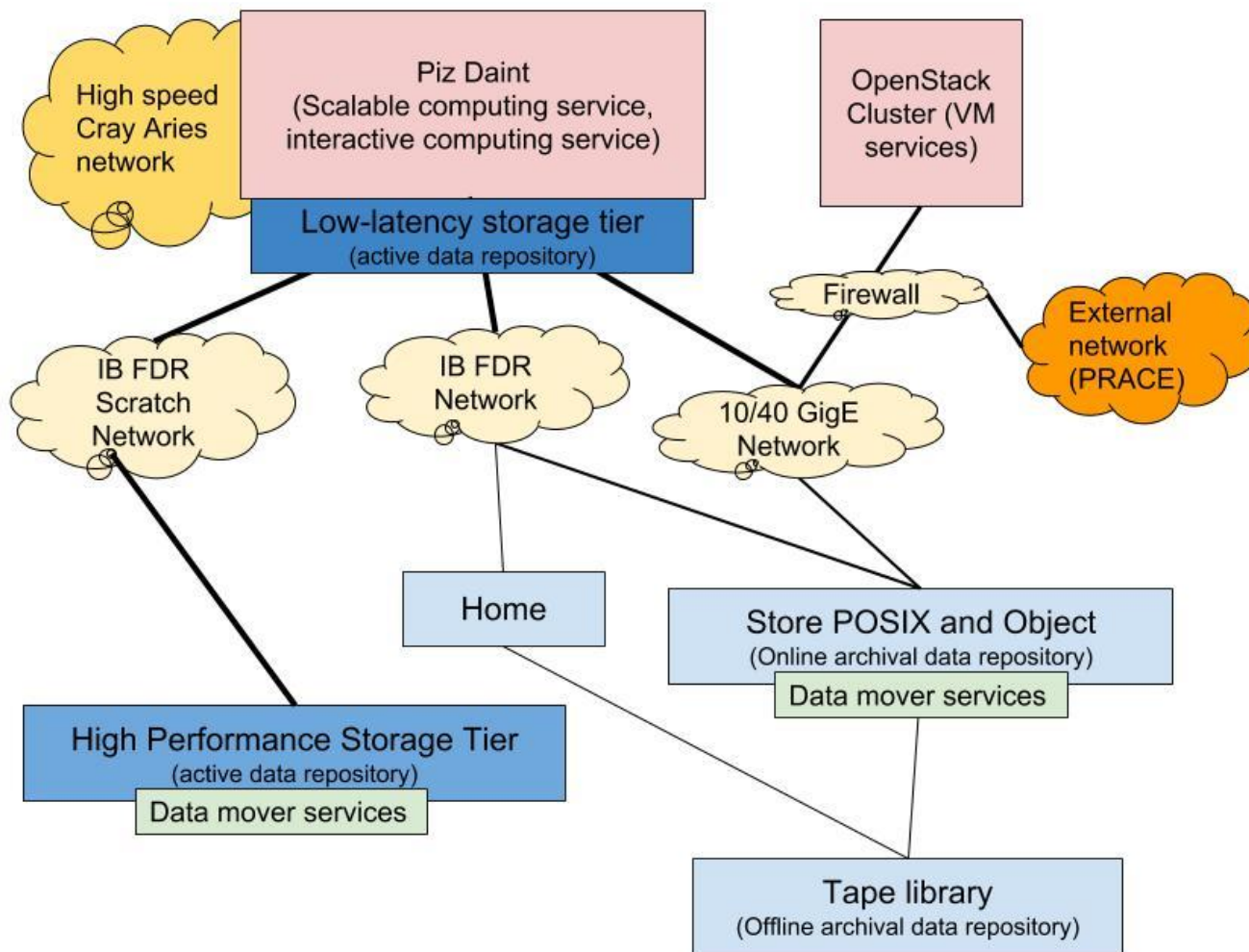
Authentication/Authorization Services

Data Mover Services

Data Transfer Services

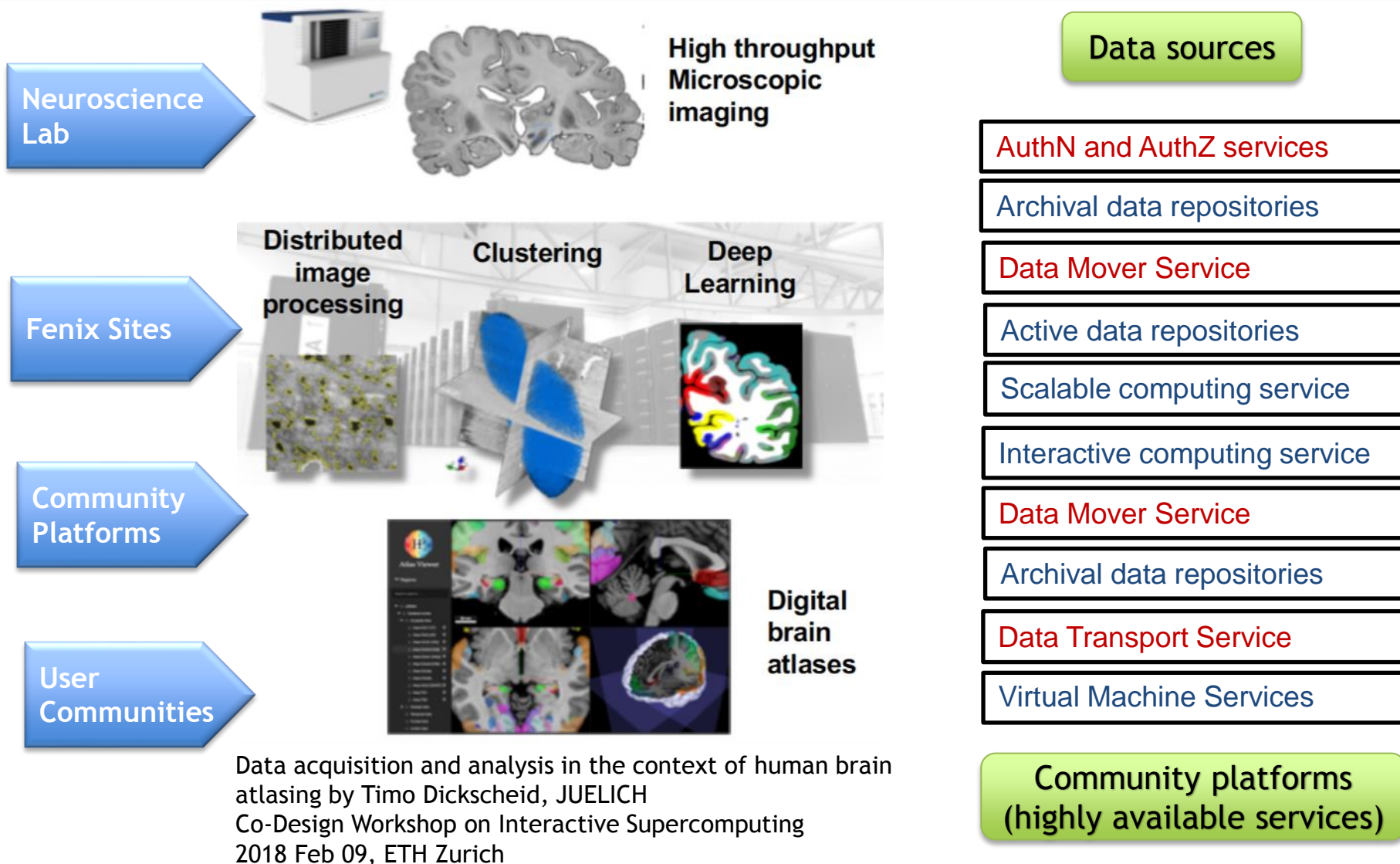
# Example of a Site-Specific Instantiation

<b>Consumable and Accountable Services</b>
Interactive Computing Services
Scalable Computing Services
Virtual Machine Services
Active Data Repositories
Archival Data Repositories



<b>Enabling Services</b>
Internal interconnect
External interconnect
Authentication/Authorization Services
Data Mover Services
Data Transfer Services

# Example of an HBP Use Case Mapping





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# Thank You

[www.Fenix-ri.eu](http://www.Fenix-ri.eu)

