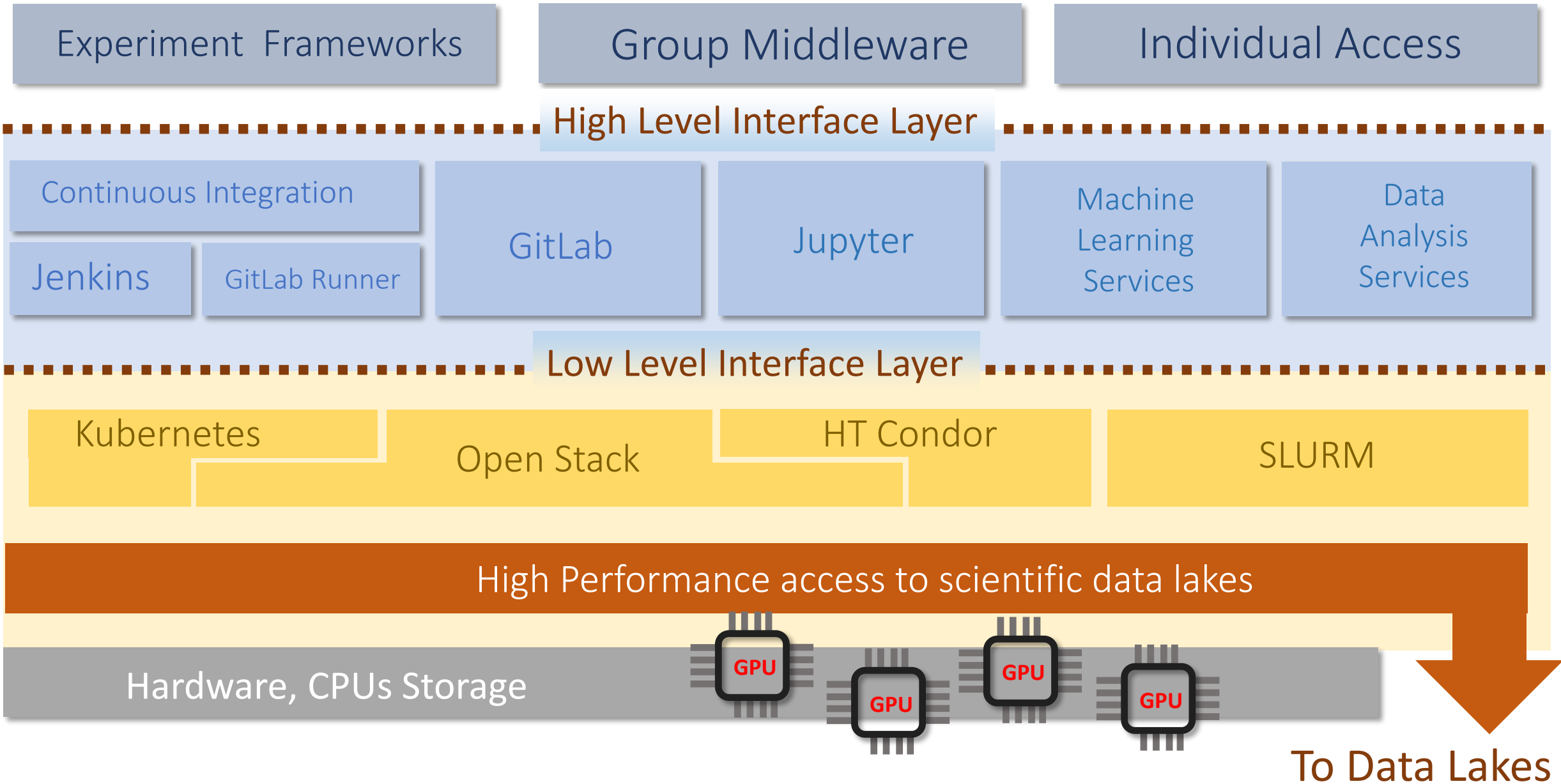


Data Analysis Procedures and Services



Access
Layer

PaN Portal

EOSC Portal

CLI Access

Common ExPaNDS/PaNOSC API and Interface Layer

High Level Facility Interfaces

Remote
Desktop

Jupyter
Notebooks

Catalogue
Services

Data
Analysis
Services

Processing Interface Layer

Kubernetes

Open Stack

HT Condor

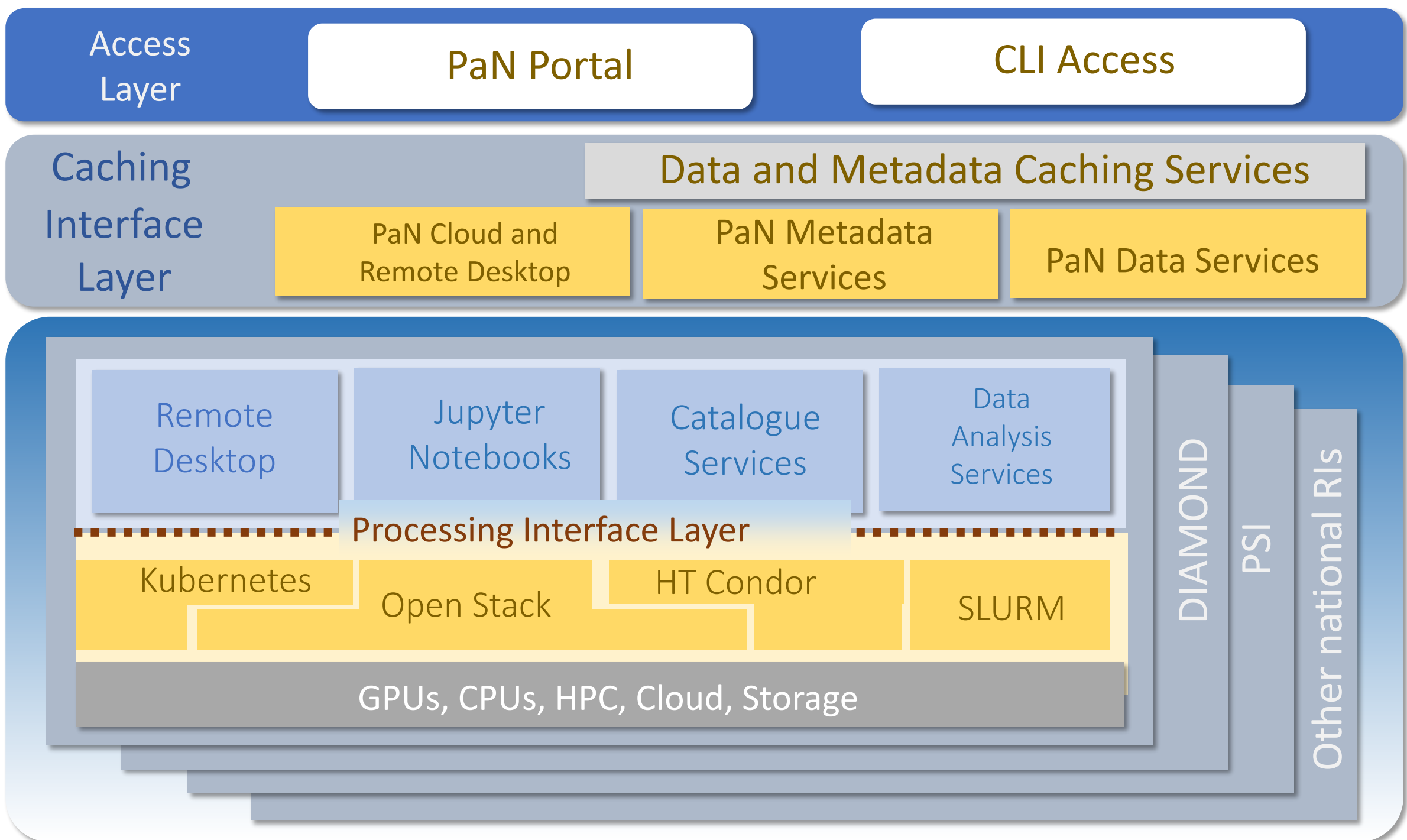
SLURM

GPUs, CPUs, HPC, Cloud, Storage

DIAMOND

PSI

Other national RIs



PaN Community



Access
Layer

PaN Portal

CLI Access

Caching

Data and Metadata Caching Services

Interface
Layer

PaN Cloud and
Remote Desktop

PaN Metadata
Catalogues

PaN Data Services

PaN Communities



Other Scientific Communities



Access
Layer

PaN Portal

EOSC Portal

3rd Party Portals

Caching

Data and Metadata Caching Services

Interface
Layer

PaN Cloud and
Remote Desktop

PaN Metadata
Catalogues

PaN Data Services

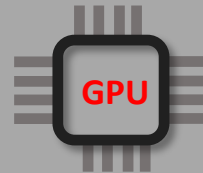
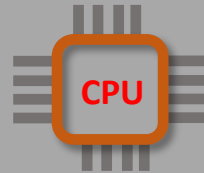
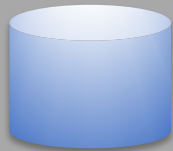


Kubernetes

Open Stack, Kubernetes,

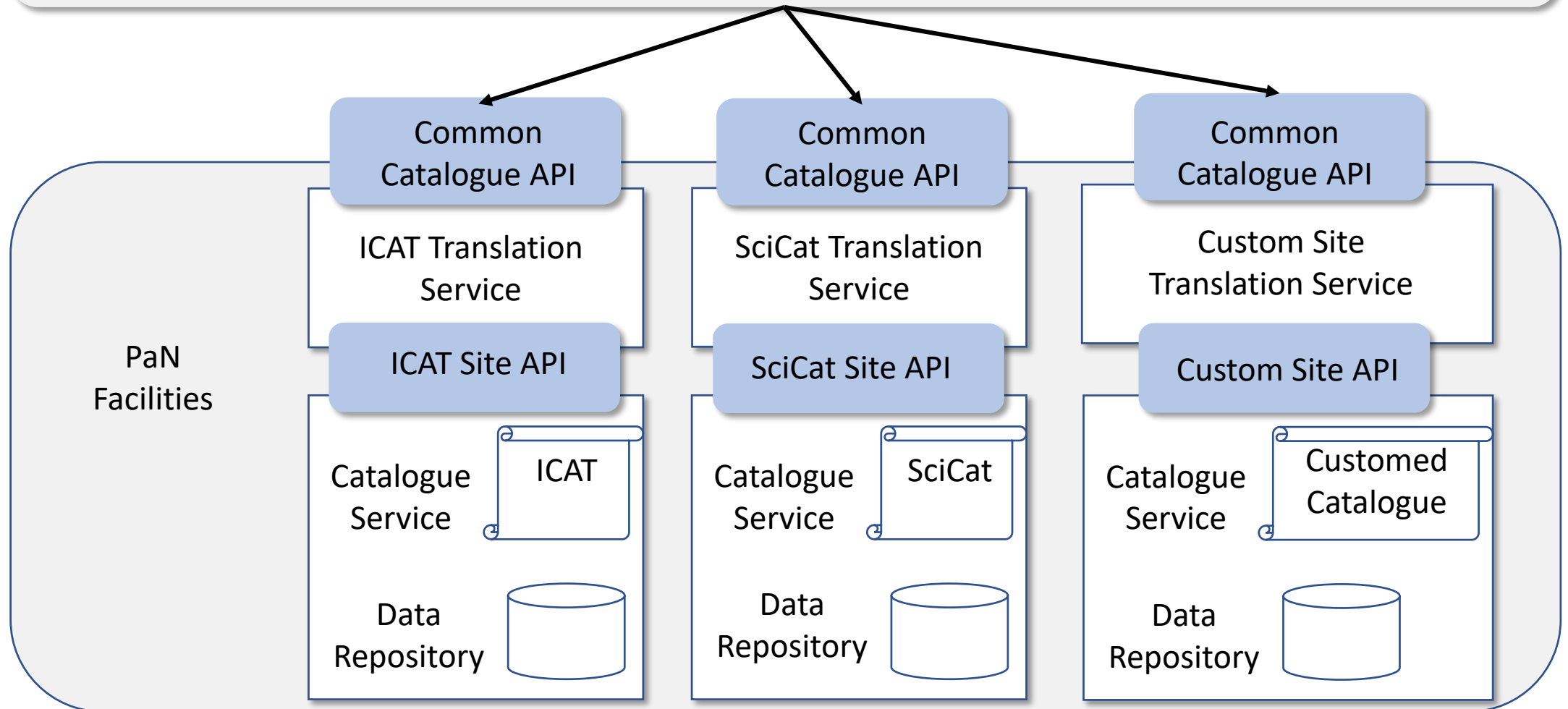
National
RI

HPC, GP-GPUs , Data Storage



Common
PaN Portal
or 3rd Party

Portal Data Services



Common
PaN Portal
or 3rd Party

Portal Data Services

PaN search API

Aggregation

PaN federated search API service

PaN search API

PaN search API

PaN search API

ICAT search API
service

SciCat search API
service

Custom Site search
API service

ICAT Site API

SciCat Site API

Custom Site API

PaN
Facilities

Catalogue
Service

ICAT

Data
Repository

Catalogue
Service

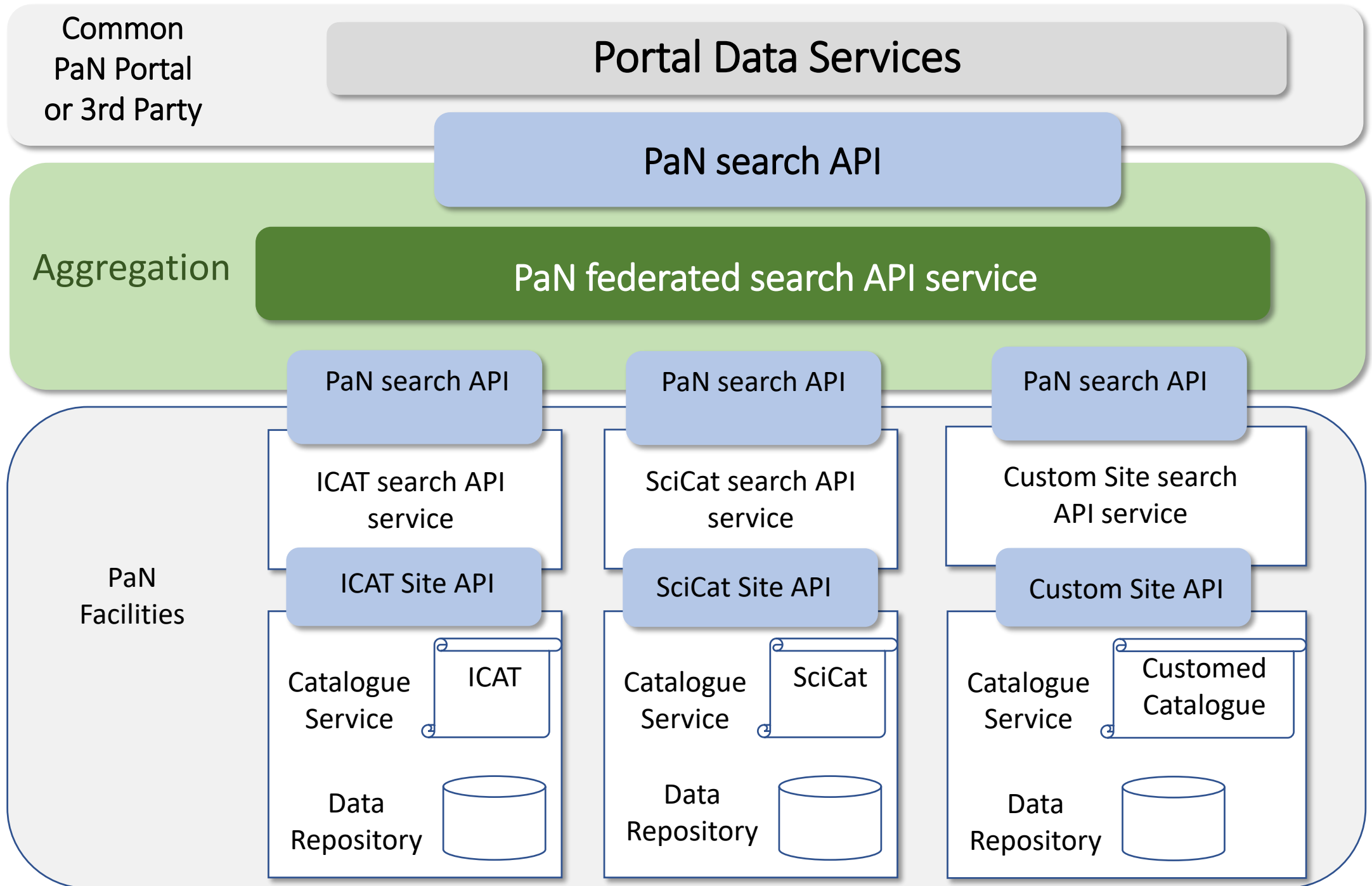
SciCat

Data
Repository

Catalogue
Service

Customised
Catalogue

Data
Repository



EOSC services

B2FIND, openAIRE

OAI-PMH

OAI-PMH

OAI-PMH

ICAT OAI-PMH
service

SciCat OAI-PMH
service

Custom Site OAI-PMH
service

ICAT Site API

SciCat Site API

Custom Site API

PaN
Facilities

Catalogue
Service

ICAT

Catalogue
Service

SciCat

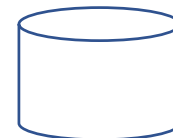
Catalogue
Service

Customised
Catalogue

Data
Repository



Data
Repository

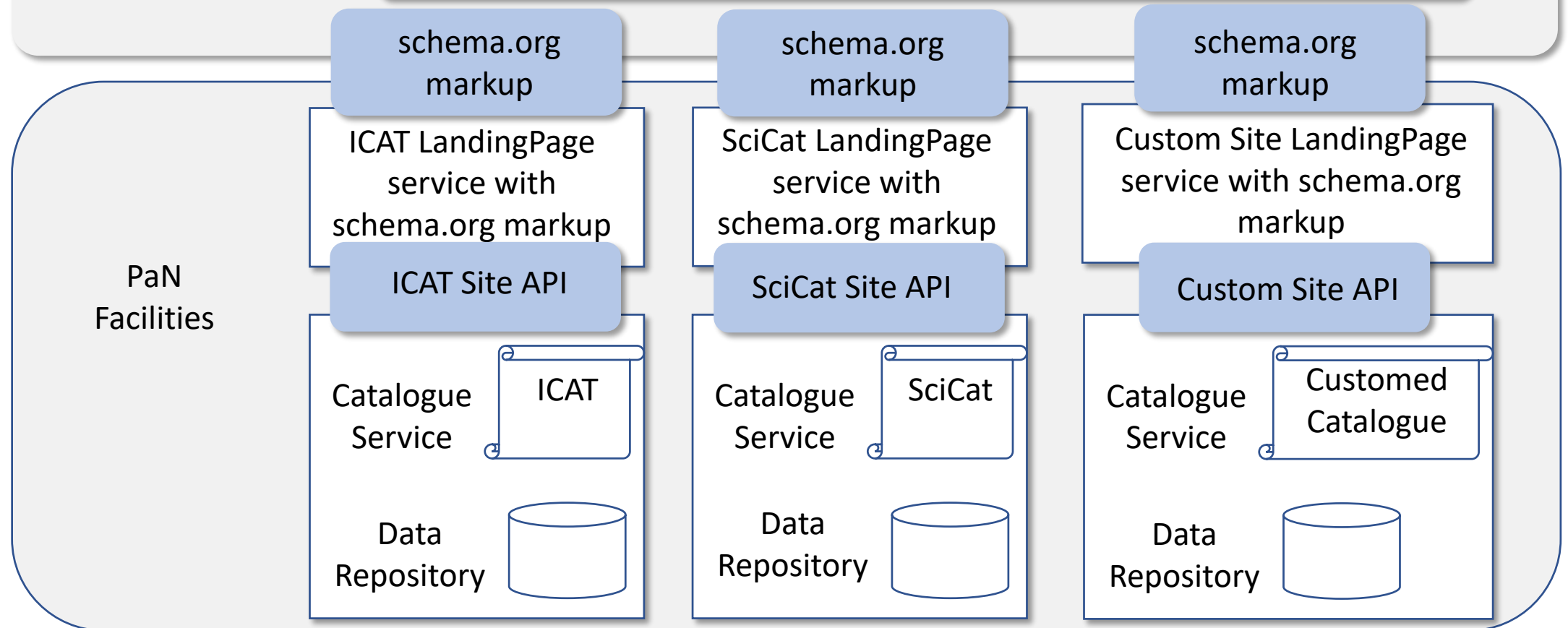


Data
Repository



Google

Google Dataset Search



Common
PaN Portal
or 3rd Party

B2FIND, openAIRE

OAI-PMH API

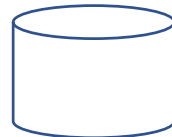
ICAT OAI-PMH
service

ICAT Site API

Catalogue
Service

ICAT

Data
Repository



OAI-PMH API

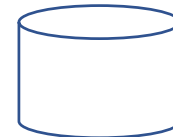
SciCat OAI-PMH
service

SciCat Site API

Catalogue
Service

SciCat

Data
Repository



OAI-PMH API

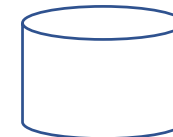
Custom Site OAI-PMH
service

Custom Site API

Catalogue
Service

Customed
Catalogue

Data
Repository



PaN
Facilities

Common
PaN Portal
or 3rd Party

Portal Data Services

Common Catalogue API

ExPaNDS/
PaNOSC

Aggregation Services

Federated Services

Common
Catalogue API

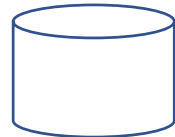
ICAT Translation
Service

ICAT Site API

Catalogue
Service

ICAT

Data
Repository



Common
Catalogue API

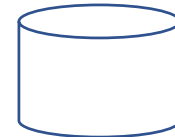
SciCat Translation
Service

SciCat Site API

Catalogue
Service

SciCat

Data
Repository



Common
Catalogue API

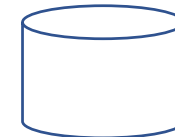
Custom Site
Translation Service

Custom Site API

Catalogue
Service

Customized
Catalogue

Data
Repository



PaN
Facilities

Common
PaN Portal
or 3rd Party

Portal Compute Services

Common Compute API

ExPaNDS
Compute
Abstraction

Translation Services

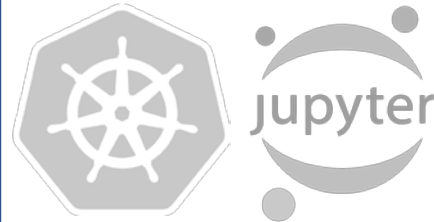
OpenStack
Site API

Kubernetes
API

Remote Desktop

PaN
Facilities

Cloud Service
Provider



Notebook
Images

HPC



Data (Lake) Infrastructure

Compute
Infrastructure

Content Delivering and Caching Services

Distributed Storage

Mass Storage

Cheap
Storage

Fast
Storage



Persistent
Storage

Unlimited
Space

Volatile
Storage

Asynchronous Data
Transfer Services

Storage
Orchestration

