

The background of the slide is a photograph of the EUMETSAT building, a modern structure with a curved facade and large glass windows. In the foreground, a row of flagpoles holds various national flags, including those of Germany, France, and the United Kingdom. The image is overlaid with a dark blue semi-transparent box containing the title and authors' names. There are also decorative white circular and curved lines overlaid on the image.

Destination Earth Procurement Plan

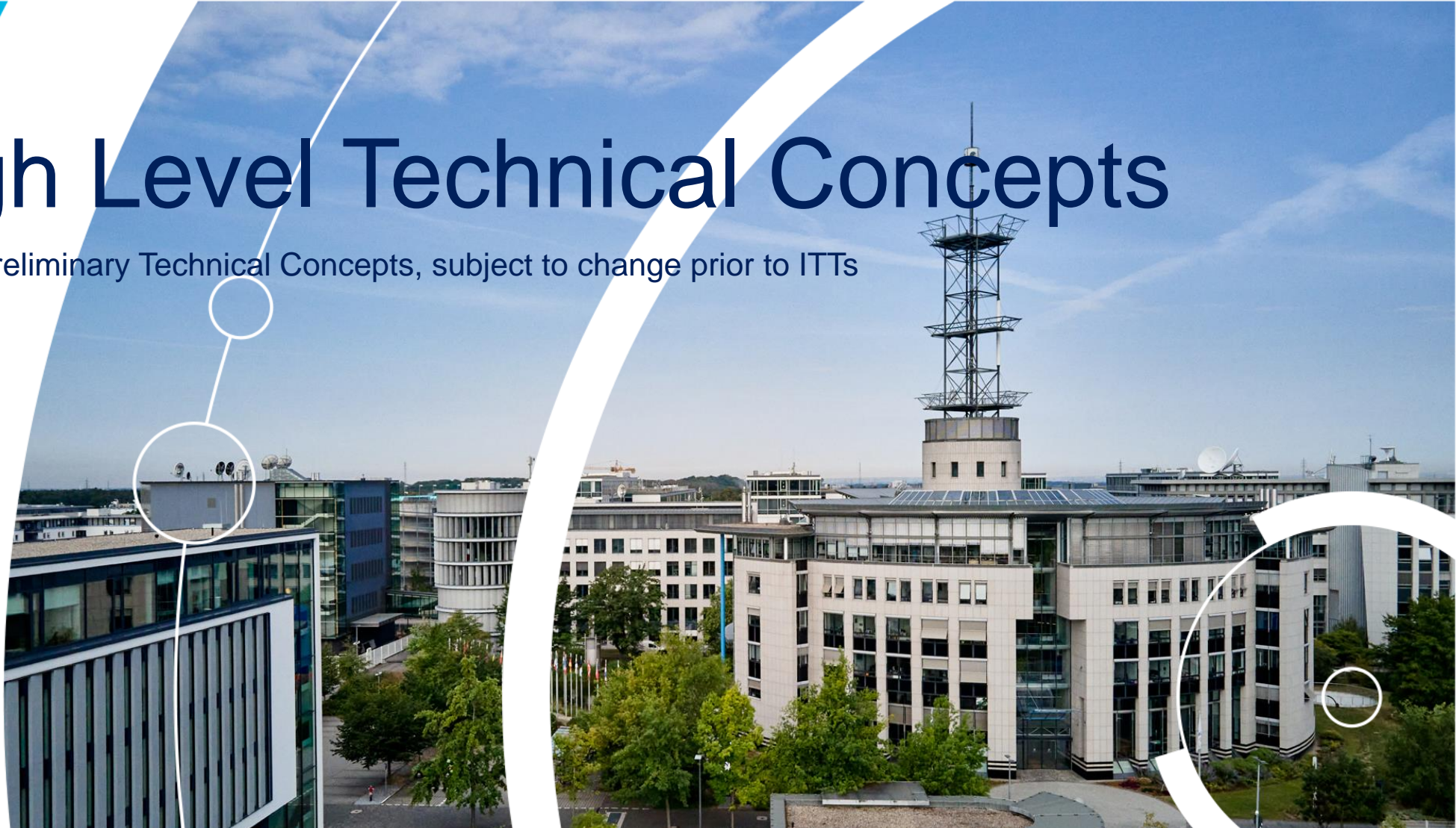
Lothar Wolf, Michael Schick, Martin Dillmann



- High Level Technical Concepts
- List of procurements

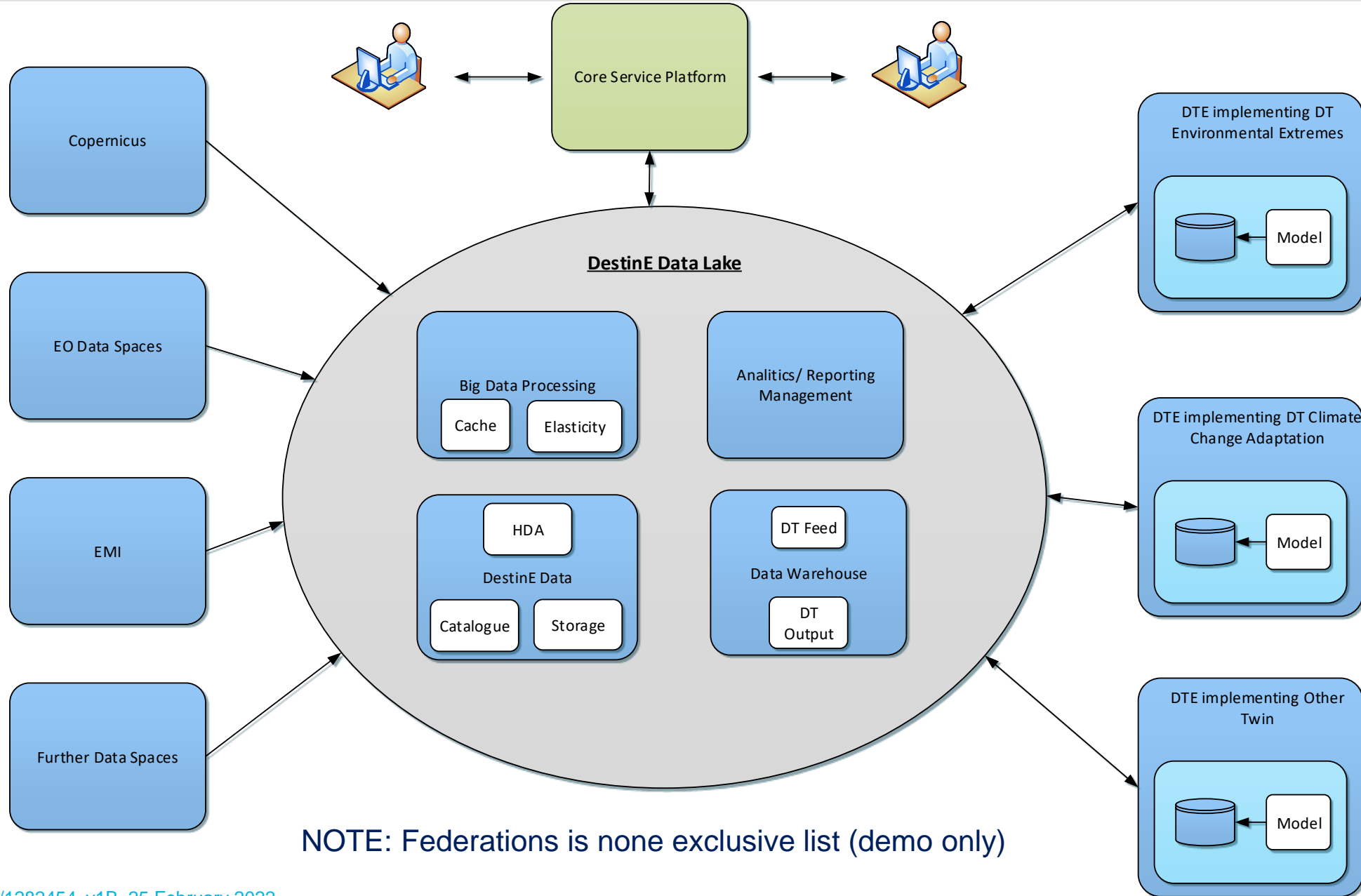
High Level Technical Concepts

NOTE: Preliminary Technical Concepts, subject to change prior to ITTs





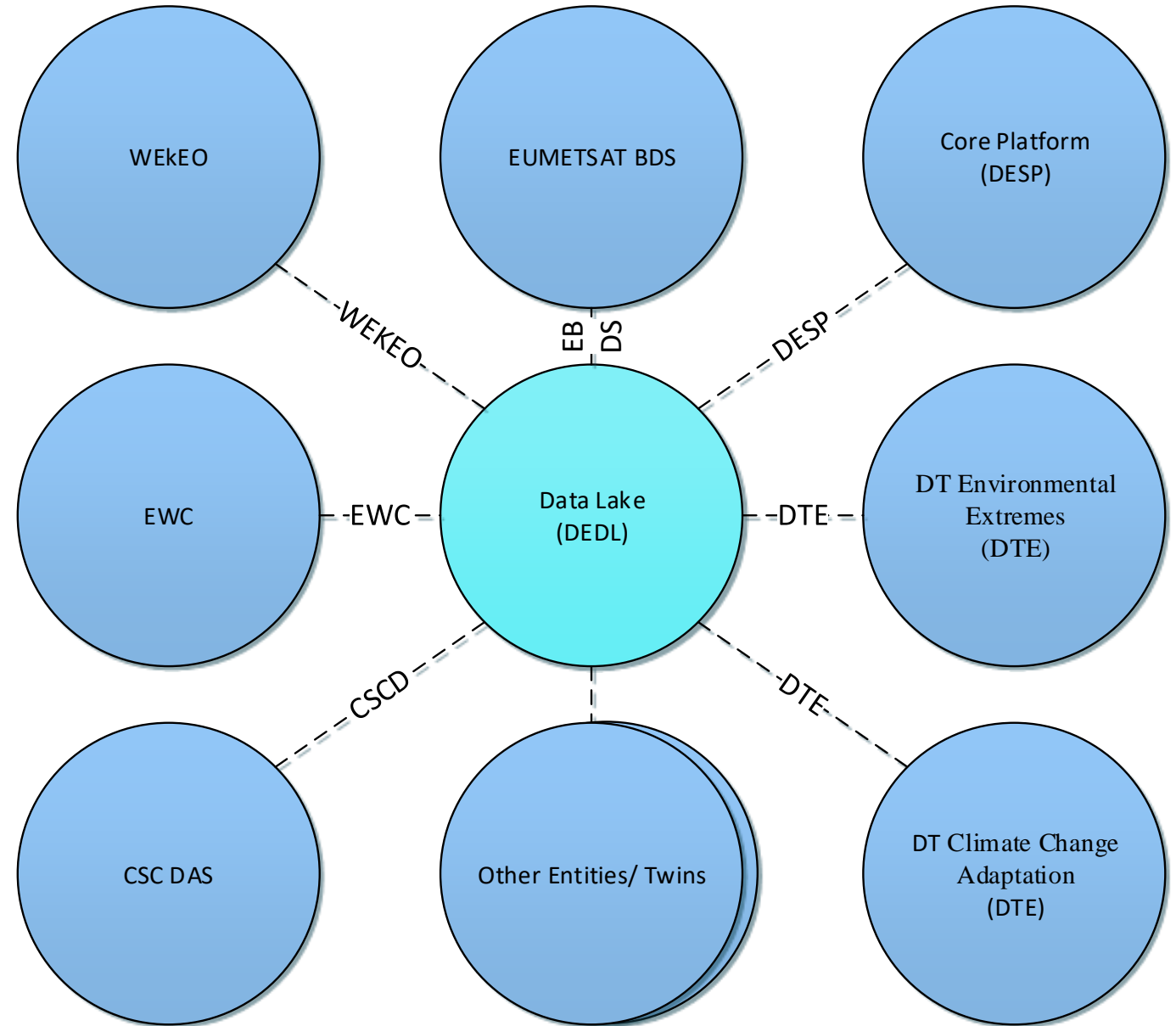
High Level Concepts – Data Lake Service View



NOTE: Federations is none exclusive list (demo only)



- Preliminary Interfaces for Phase-I (use case driven)



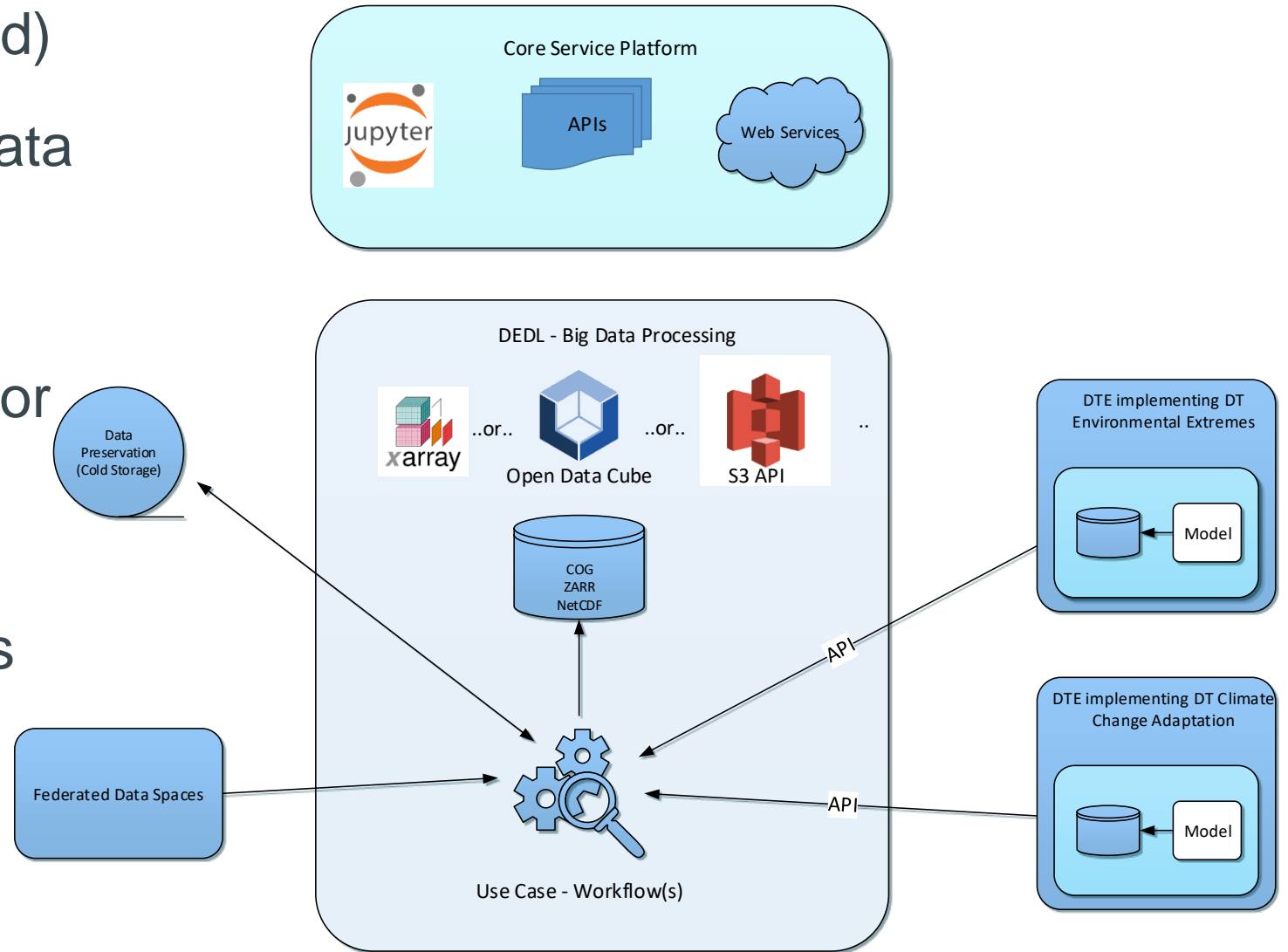
- DestinE Data
 - Catalogue, Storage & Harmonised Data Access
- Data Warehouse
 - DT data exchange
- Big Data Processing
 - Workflows execution:
 - ingestion, AI/ML, data movement, housekeeping
- Data Management
 - Configuration & Setup
- Lifecycle Management
 - Workflow setup for housekeeping & data movement
- Access Management (identity & access)
- Analytics & Reporting
 - Statistics, SLA/ SLO and KPI

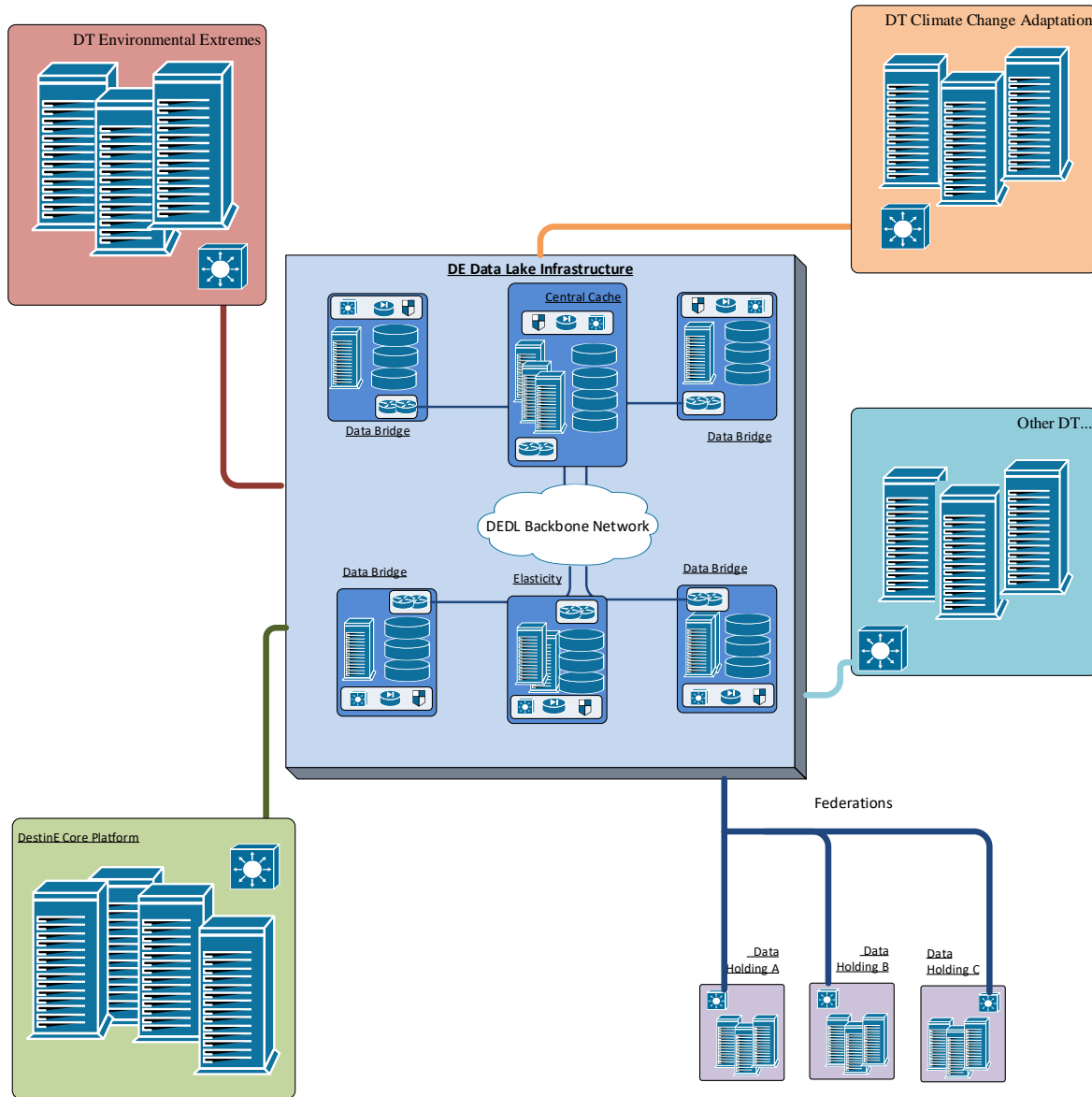




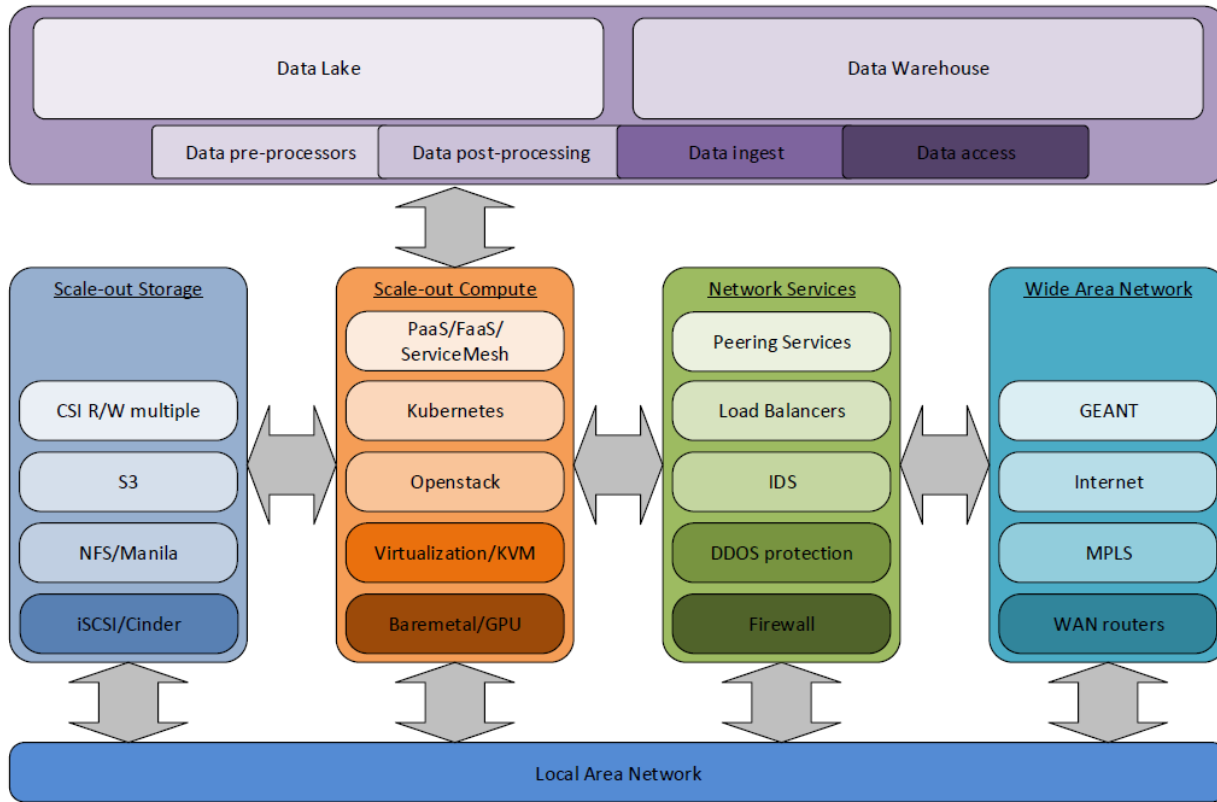
High Level Concepts – Big Data Processing Workflows

- ETL (Extract, Transform, Load) for the purpose of populating on-demand Data Cubes or Data Analytics frameworks
- Regular populating of Fresh Data rolling buffer (stream)
- On-demand Data Pre-fetch (for batch processing/ analytics)
- Execution of regular housekeeping/ purging tasks
- Execution of data movements tasks (digital twin feed, data preservation)





- DEDL – geographically distributed infrastructure
- Data Bridges installed close (LAN) to big data producers (HPC)
- DEDL may require high-speed WAN backbone for backend and/or high speed internet connectivity
- DEDL frontend shall support wide variety of high-speed network integration and security protection options



- Scale-out infrastructure
- Very demanding performance and capacity requirements on storage
- IaaS and PaaS for near-data processing
- Hybrid model is an possible option



List of procurements



- ITT 1 – DestinE System Engineering Support Service
- ITT 2 – DestinE Data Lake Service
- ITT 3 – DestinE Service Validation Support Service



Scope

- The objective of the service is the Provision of System Engineering support services (skills based service) for a duration of 2 years baseline with 3 annual service extension options subject to authorisation of the subsequent Phases of the DestinE Programme by the EC
- The work will be defined by Work Packages with specific deliverables – an overview of the expected tasks will be part of the ITT;
- An initial Work Package will be issued at kick-off;
- The provision of the service is off-site;
- Typical system engineering service support tasks include technical analysis, trade-offs, technology assessments and evaluations, technical evaluation of offers, market surveys;
- It also includes aspects of service support to the initial verification of deliveries from the ITT#2 contractor
- This procurement has already been announced as intended tender action on our procurement portal <https://eumits.eumetsat.int>

Scope

- The objective of the service is the end-to-end service development, implementation and operation of the DestinE Data Lake Service and dedicated Data Infrastructure services, provision of high value data sets and data tailoring services; design, implementation and operation of the required state of the art interconnected cloud and data federation services across entities in Europe;
- The Service provision will follow the EUM defined service development logic, being very incremental and agile, allowing most early provision of the service that then matures with each increment;
- “No-CFI” principle
- EUM will provide service architectural concepts as part of the SOW, ensuring the service solution is adequate but will give as much freedom to industry as possible on the actual infrastructure layout of the service
- The usage of open source components as much as possible is encouraged

Scope

- The objective of the service is the provision of a an independent service support to the DE Data Lake Service for integration, verification and, if needed, validation activities. Furthermore it includes a continued service quality monitoring throughout the lifetime of the DestinE data lake service;



Thank you!
Questions are welcome.