

Data Management at the Synchrotron Radiation Facility ANKA

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ANKA – the Synchrotron Radiation Facility at KIT



Introduction

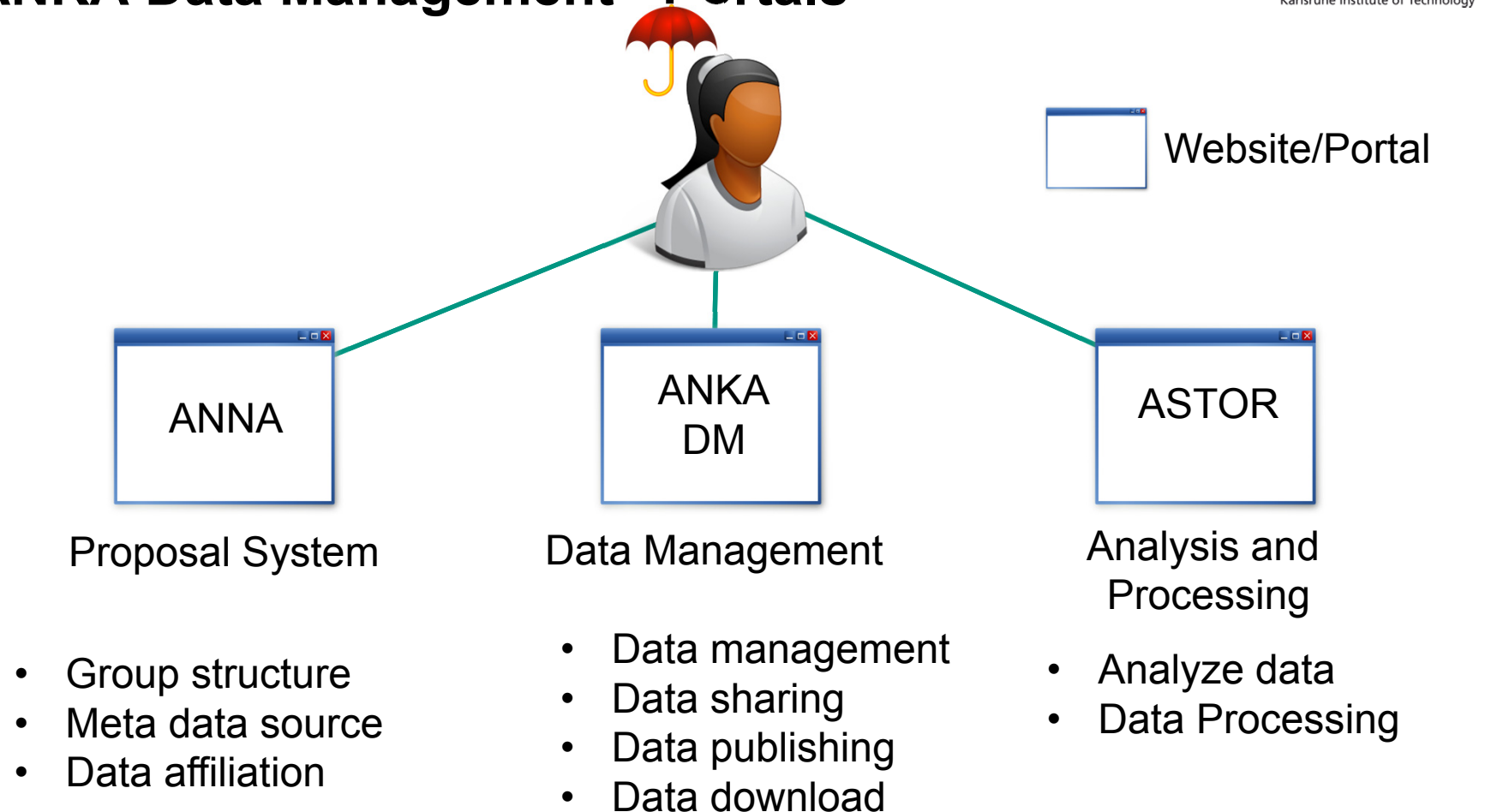
- ANKA the Synchrotron Radiation Facility at KIT
- Motivation
- Web Portals
- Authentication and Authorization Infrastructure
- The Beamline Data Management
- Outlook

Motivation

Traditional data management was based on transportable media

- Modern detectors produce more and more data
- No analysis resources at the home location
- Manual bit preservation
- Poor search ability
- Difficult to share with the global research community

ANKA Data Management - Portals



Database



PC/Cluster



ANKA Data Repository

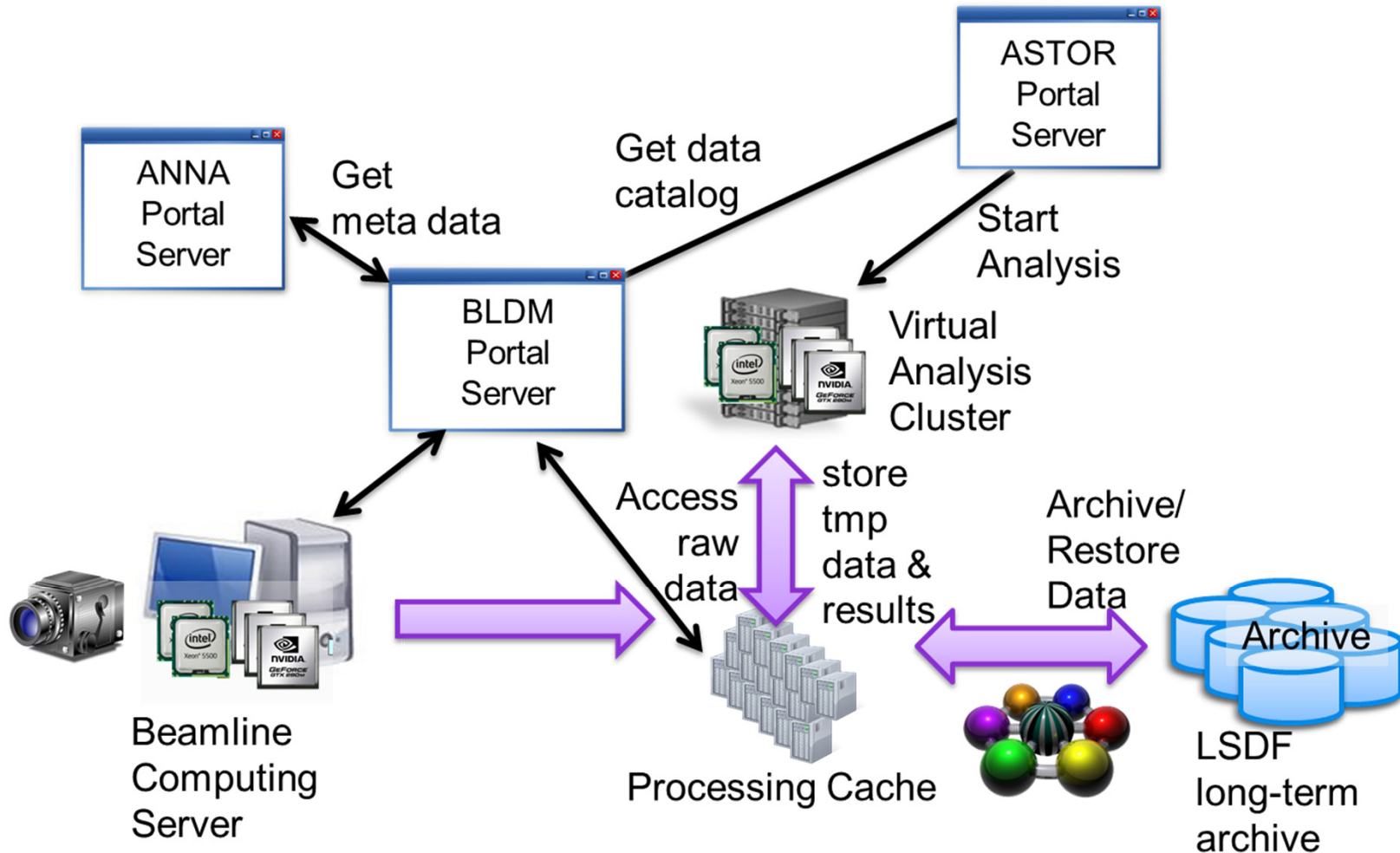


Storage

Authentication and Authorization Infrastructure

- Local and Remote Access (not everybody is traveling to ANKA)
 - Different web portals, but single sign on
 - Transfer of Information between different portals (Meta Data)
 - Access down to file system level
- Different Identity Provider (Umbrella, KIT, ANKA)
- Extendable to other IDP's like DFN

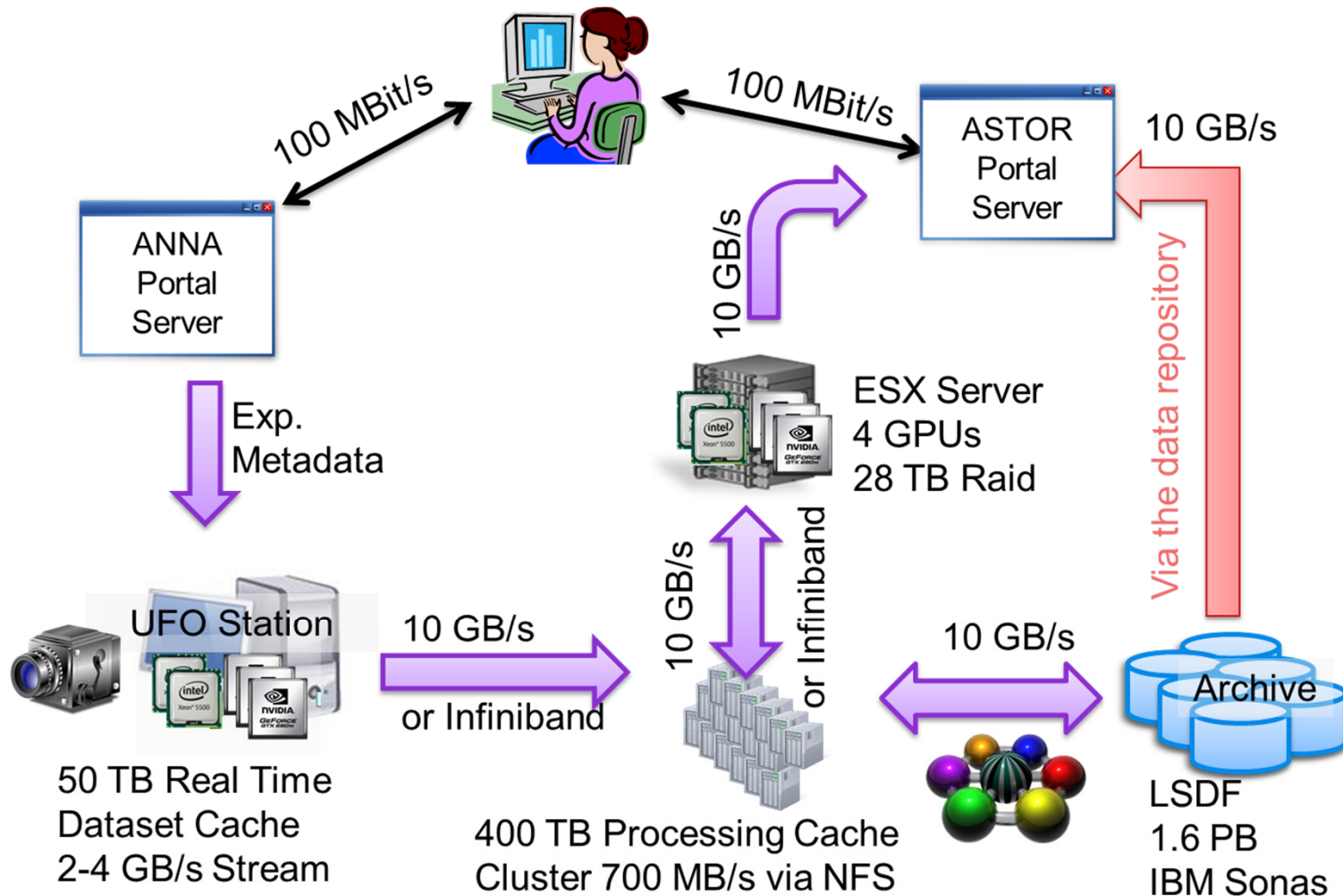
The Beamline Data Management



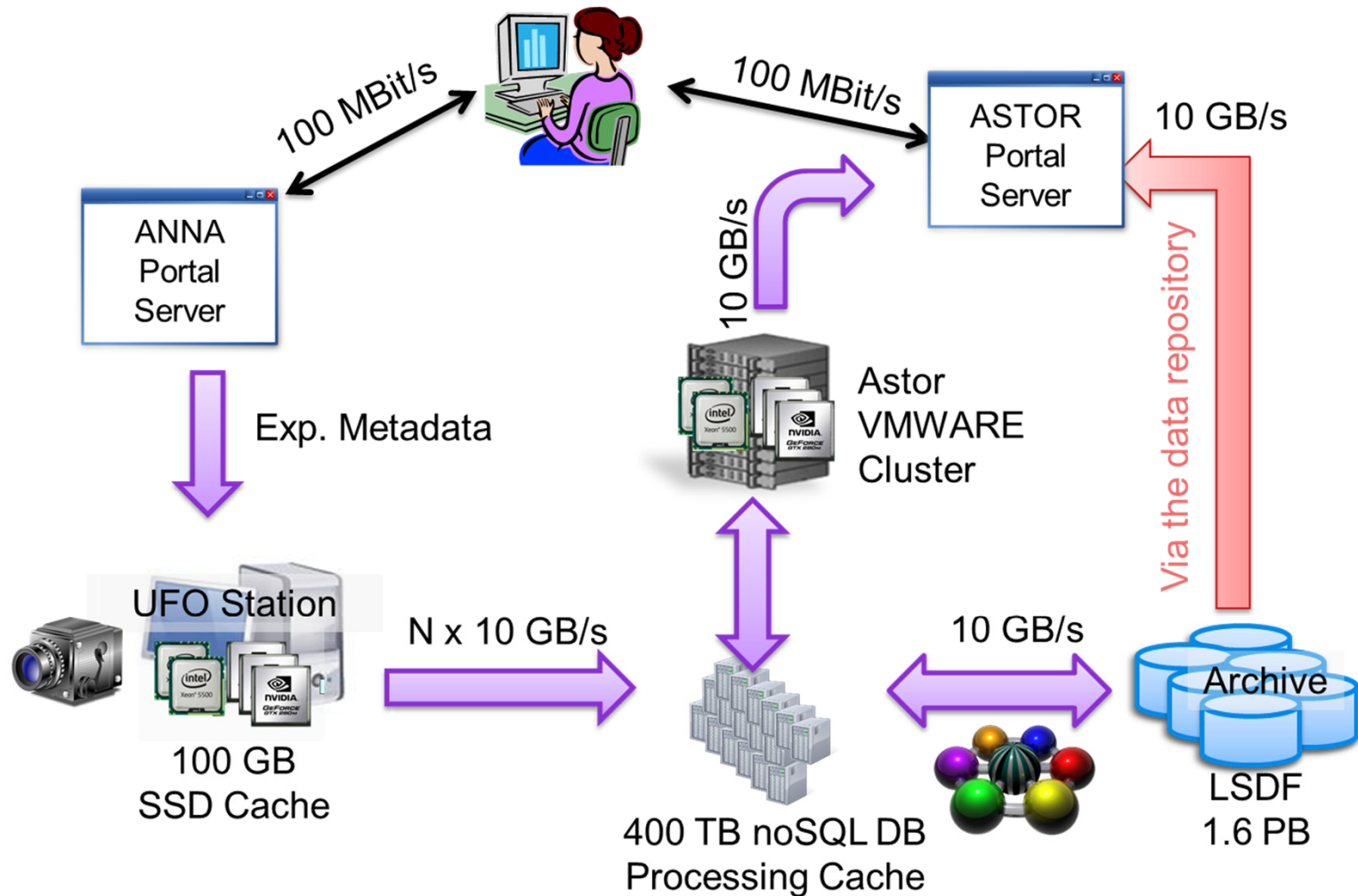
Beamline Data Management

- Integrated into TANGO Control System
- Preparing defined storage space for a dataset
- Collecting already supplied Meta Data from:
 - Proposal System
 - Logging information (vacuum level, sample conditions, WinCC OA,...)
- Changing the state of a dataset to read-only
- Triggering migration to processing and archive storage
- Creating and checking checksums
- Definition of Archive time period

File based storage



Storage in a NO SQL DB



Outlook

- Parts of the presented are in evaluation phase
- Prove of Data Analysis Service
 - OpenGL based applications (e.g. Amira) with low bandwidth internet connection (see Poster FCO202 on Friday by Victor Mauch)
- Open Questions
 - Scaling of high speed storage
 - Final portal concept (usability)
 - Business model
 - Reduce archive storage
 - Typical data preservation issues
 - Change of affiliation (who is owning the data)
 - Add new users to existing groups

BACKUP SLIDES

Astor Portal

