

dCache project status and future

Tigran Mkrtchyan for dCache Team



Nordic e-Infrastructure
Collaboration

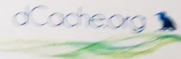


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RESEARCH FOR
GRAND CHALLENGES

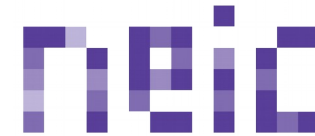
13th International dCache Workshop

Facultad de Ciencias, UAM
Module 15, Room 201 (2nd Floor)
21st May - 22nd May 2019



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RESEARCH FOR
GRAND CHALLENGES

Meet the team



- Paul Millar
- Tigran Mkrtchyan
- Marina Sahakyan



- Lea Morschel



- Olufemi Adeyemi
- Jürgen Starek



- Sibel Yasar



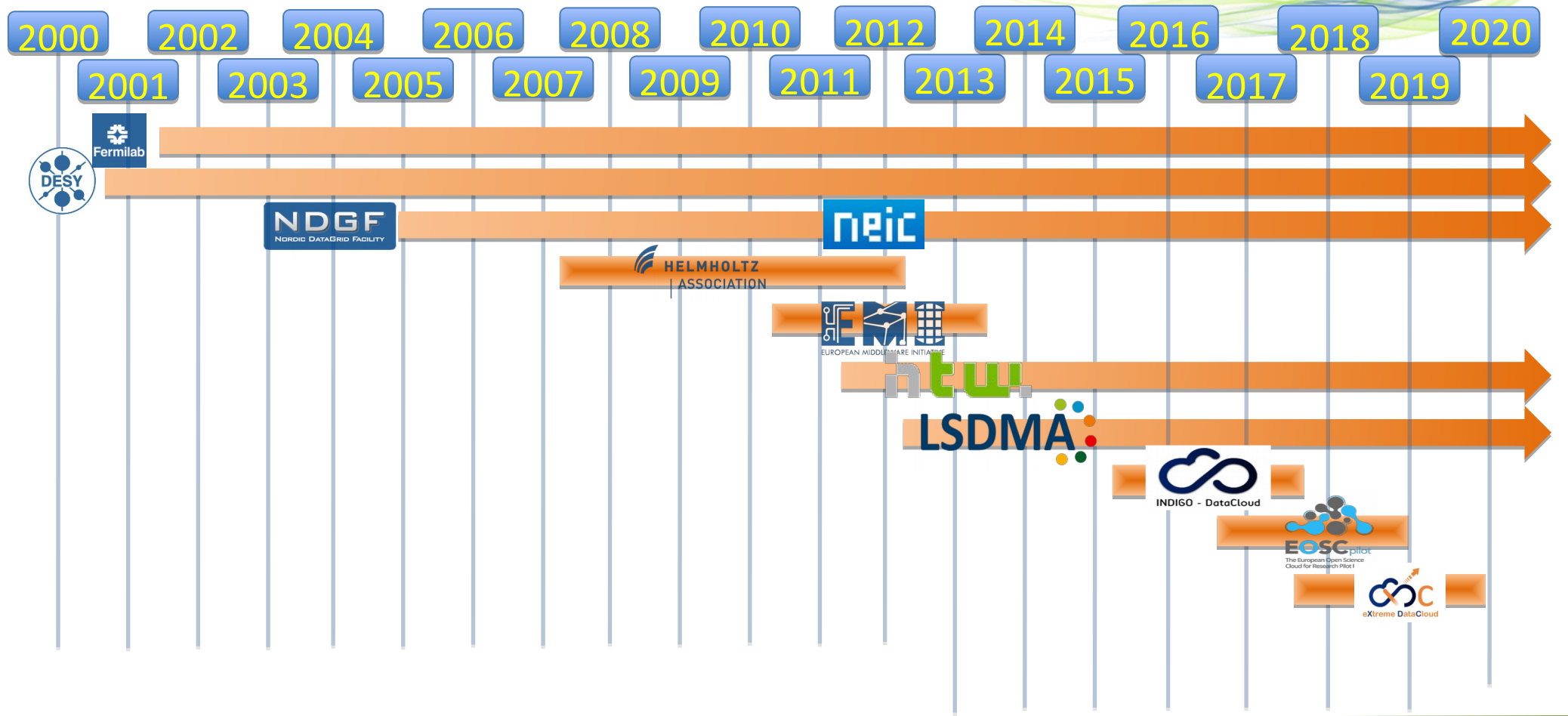
- Dmitry Litvintsev
- Albert Rossi



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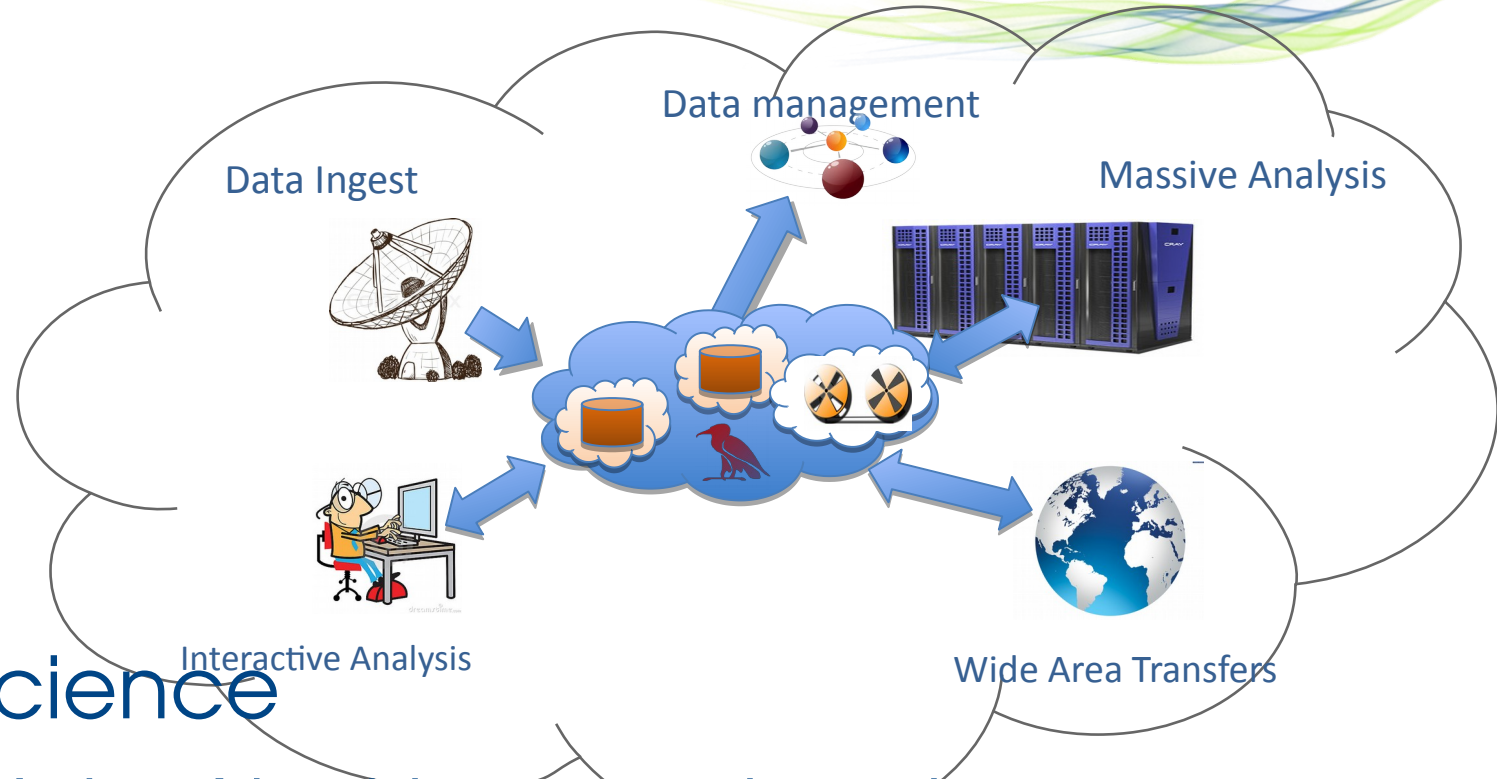
- Vincent Garonne

Project Funding



Strategic Direction

- WLCG
- DESY
 - XFEL
 - CTA
- SKA
- Long tail science
 - BioMed, Astro, Neutrino experiments



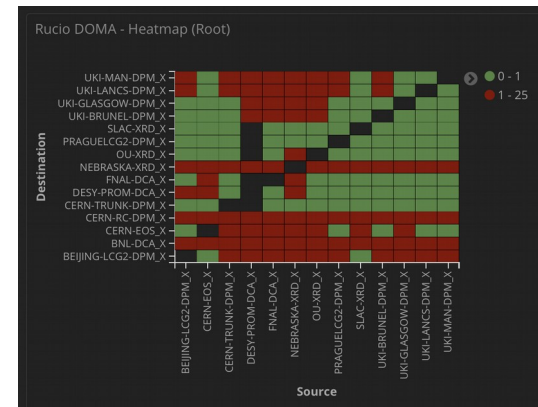
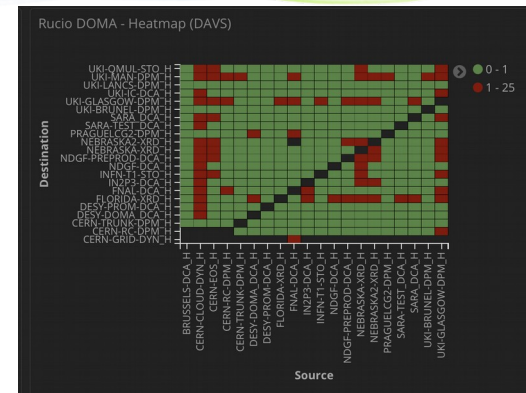
Standardization Activities

- RDA
 - Common vocabulary for QoS in storage
- SciTokens
 - OAuth2 based replaces for x509 and VOMS
- IETF
 - NFS (RPC) over TLS (easy to deploy the NFS traffic protection)

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- A man in a blue shirt is screaming with his hands on his head in front of a whiteboard filled with technical diagrams and notes. The whiteboard contains various handwritten notes and diagrams, including a complex network diagram with nodes and arrows, a diagram of a triangle with labels 'RANKED' and 'RANKED', and several lines of text such as 'Cost: Local', 'QoD: Des team', 'Site mostly up', 'RAIN-X', 'N-Rep', 'overcrash / stop', and 'daily org / report / etc'. The man's expression is one of extreme stress or frustration.

DOMA Activities (TPC)

- Aim to provide alternatives to GridFTP
 - XROOTD
 - HTTP
- Test endpoints at FNAL, NDGF and DESY



- Distributed deployments
 - DESY Hamburg + DESY Zeuthen + KIAE Moscow
 - *AGLT2 + BNL + FNAL + MWT2 + DESY-HH*
- Advanced caching deployment
 - Dataset protocol based data migration
 - Data for active analysis replicated (NFS, xrootd)
 - Cold data accessed at remote site
 - Cache warm-up
- Advanced QoS deployments
 - Disk and Tape copies on different sites

- Tape/Archive sites
 - Centers to store custodial (cold) data
- Data & Computer sites
 - Centers providing compute and **managed** storage (disk) resources
- Compute sites with cache
 - Centers providing compute resources with **unmanaged** storage (disk) resources
- Compute only sites
 - All data accessed over WAN

Main developments

- Mainline distributed deployments
 - Network topology aware internals communication
 - Disconnected read-only operation
- HA-enhancements
- Storage events
- Data protection
- Standard access protocols and AuthN/Z
- Web admin and REST-api consolidation
- QoS
- Integration into existing infrastructure
 - native cloud integration

Talk to us,
talk to each-other
&
Enjoy the workshop!