

# DOMA/ACCESS

## Working Group update

Xavier Espinal (for the DOMA/ACCESS WG)

# DOMA/ACCESS: Scope and Mandate

- **Scope:**
  - Improve data access **performance** and **costs** by addressing latency, bandwidth management and data structures/access patterns
    - caching solutions (XCache, Squids,...), smart data access/clients and content delivery services and networks
- **Mandate:**
  - Provide a forum to share and aggregate knowledge on remote and local data access by the experiments' **current and future** workloads
  - Compile quantitative information: provide input to WLCG DOMA
  - Identify areas where further **R+D** is required and prioritise topics
    - Foster commonalities between experiments, storage providers and sites
    - Ensure priorities are aligned with the requirements gathered from the experiments towards the HL-LHC with a common strategic vision
  - **Track and report** about the progress in relevant and related fora

# DOMA/ACCESS: coordination (1/2)

- Need two experienced **chairs**: experiment rooted and connected to a large Tier-2 site
  - Frank Wuerthwein volunteered, search for a second one ongoing
- A secretary and co-secretary advised to ensure smooth running of the WG
- Milestones:
  - **HEPIX 2018** Barcelona: face to face meeting (exploring the possibility)
  - **WLCG+HSF Workshop** (early 2019): present first investigations about current workloads and possible direction setting for future R+D activities
  - **TDR** (2021+): R+D projects should be advanced enough to actively contribute to it

# DOMA/ACCESS: coordination (2/2)

- Mailing list:

[wlcg-doma-access \(at\) cern.ch](mailto:wlcg-doma-access@cern.ch)

- Indico:

<https://indico.cern.ch/category/10360/>

# List of ongoing activities (google doc): <https://bit.ly/2wGQ2K6>

Production Xrootd Cache across Southern California (UCSD/Caltech):

Production StashCache (Xrootd & CVMFS combo) open for all of science in OSG:

R&D on data access patterns:

SENSE: SDN for End-to-end Networked Science at the Exascale (added by hbn)

SANDIE: SDN Assisted Named Data Networking (NDN) for Data Intensive Experiments

The SANDIE System

R&D in the context Belle II -HTTP Data Federation eco-system with caching functionality using DPM Volatile Pool + Dynafed - (added by S. Pardi, D. Michelino, B. Spisso)

Production XRootD Proxy Cache in Edinburgh for ATLAS

The XDC Project

Italian XCache Deployment for CMS:

National geo distributed federation and automated setup for Dynamic showcases (INFN)

EOS Smart Caching - XrdPss + XCache prototype (part of the XDC project)

Distributed dCache deployment with caching enabled

Prototype and R&D on Coordinating Caches for Opportunistic Data Locality (KIT)

CERN UP Team Data Access related Activities

Estimating Cache hit rates based on Data Popularity data

Measurement of the impact of an xrootd based cache on throughput of the experiments' standard workloads as they have been provided for the HSF/WLCG Performance and Cost Modeling Working group

Measuring the sensitivity of arbitrary workloads on latency and bandwidth limitations

French initiative: evaluation by French computing community of performances and cost of remote access and future distributed storage services

US ATLAS Activities