

# ATLAS DDM: The Scale

The ATLAS DDM System has demonstrated very large scale data management

Total:

- 1B file replicas
- 230 PB on 130 sites

Transfers:

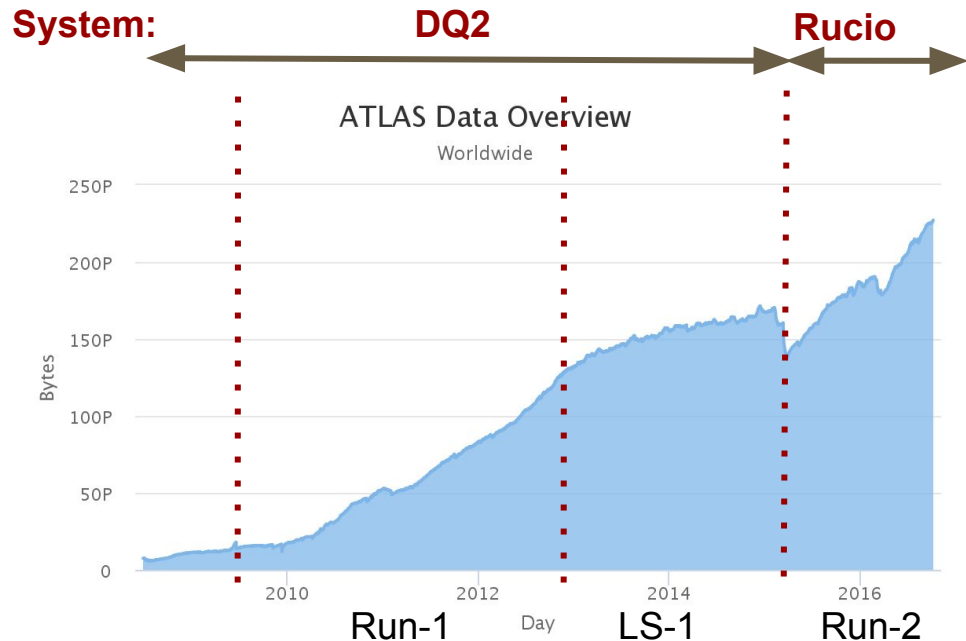
- 40M files/Month
- 40 PB/Month

Download:

- 150 M files/Month
- 50 PB/Month

Deletion:

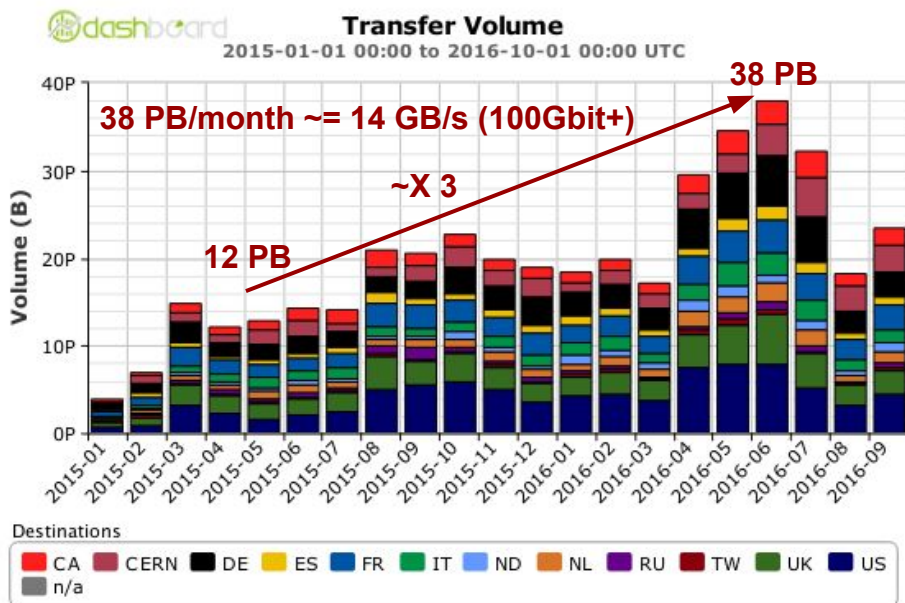
- 100M files/Month
- 40 PB /Month



# Network Evolution

- We'll be more and more reliant on our foundation of the network
- It's coherent with our approach to use it more and more
  - E.g., remote i/o
- By 2020, 800 Gbps waves should be possible but not from everywhere..
- Cf. Using machine learning algorithms to forecast network and system load metrics for ATLAS Distributed Computing

## Network Use in ATLAS



# Summary

- DDM is in good shape
  - It has been operating robustly, stably and effectively since beginning of 2016
  - We are safe with Run-2 data taking
  - ATLAS is using all the available resources at full scale
  - We need to keep an eye on disk spaces
- The target keeps moving with challenging development work ahead
- Evolution or Revolution for Run-4?
  - We need to gain one order of magnitude in computing capability !
- R&D planning
  - We will do it collaboratively with others (WLCG, HEP Software Foundation, community white paper, cross experiment working groups)