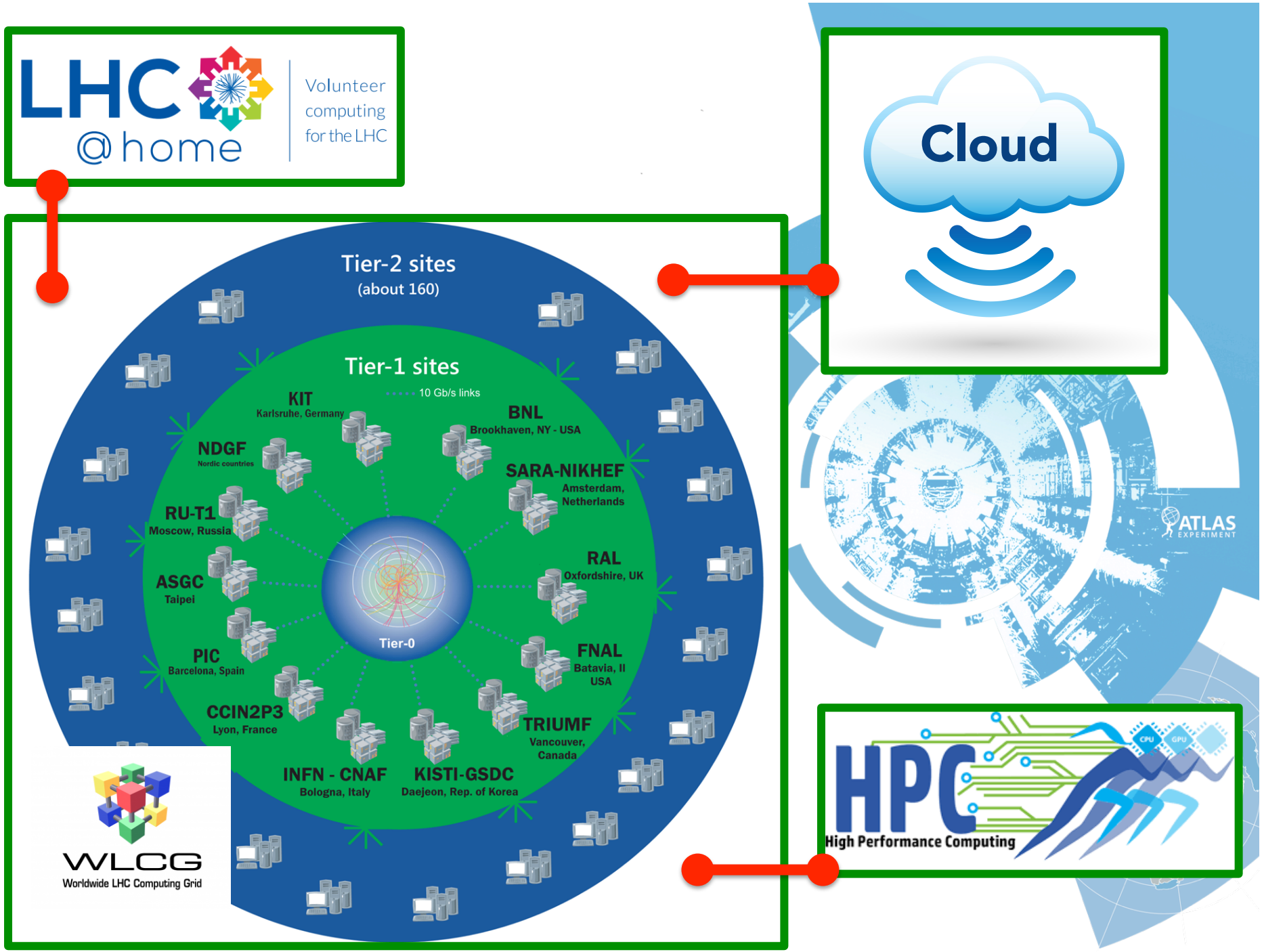

LHC @home
Volunteer computing for the LHC
Cloud
Tier-2 sites
(about 160)
Tier-1 sites
10 Gb/s links
KIT
Karlsruhe, Germany
BNL
Brookhaven, NY - USA
NDGF
Nordic countries
SARA-NIKHEF
Amsterdam, Netherlands
RU-T1
Moscow, Russia
RAL
Oxfordshire, UK
ASGC
Taipei
Tier-0
PIC
Barcelona, Spain
FNAL
Batavia, Il USA
CCIN2P3
Lyon, France
TRIUMF
Vancouver, Canada
INFN - CNAF
Bologna, Italy
KISTI-GSDC
Daejeon, Rep. of Korea
WLCG
Worldwide LHC Computing Grid
HPC
High Performance Computing
CPU
GPU
ATLAS EXPERIMENT

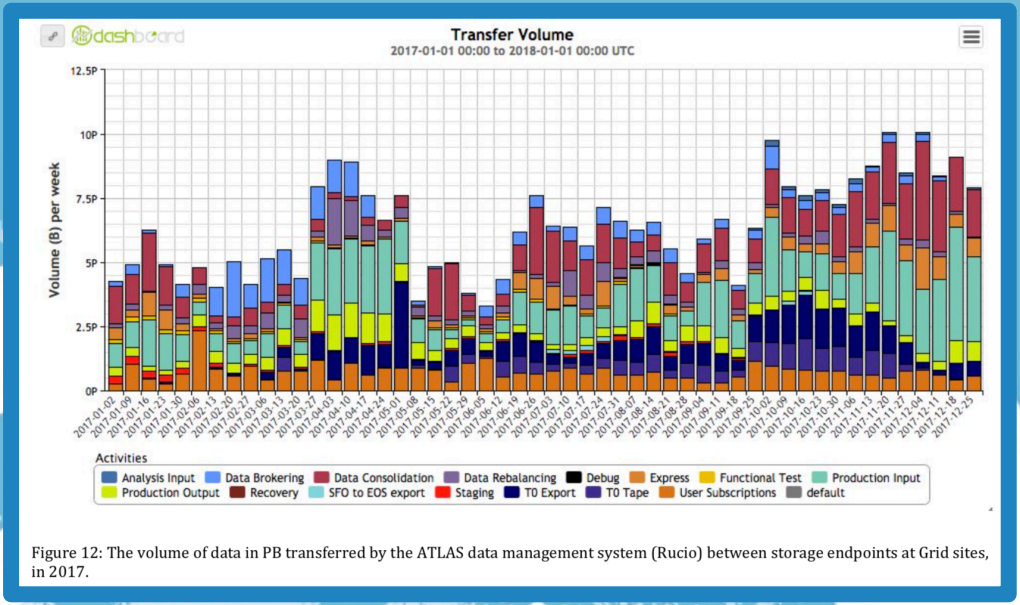


Figure 12: The volume of data in PB transferred by the ATLAS data management system (Rucio) between storage endpoints at Grid sites, in 2017.

Run 2 achievements

Every week: 1 PB moved to T0

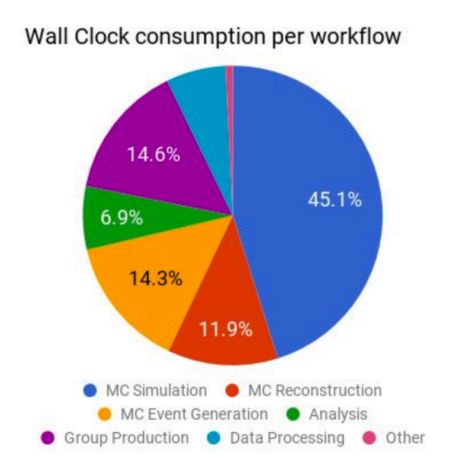
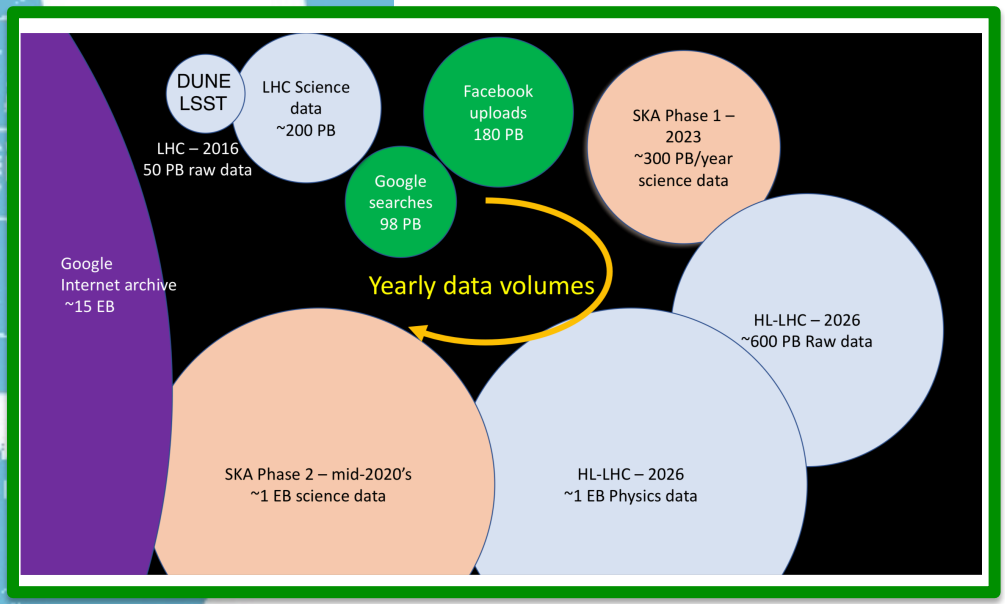
- 5 PB moved for production
- 10 to 15 PB accessed by physicists

~ 250 k tasks run in parallel worldwide.

2017 raw data = 10 PB

CPU: 280 k core
170 PB on disk,
160 PB on tape

25 % of the simulation was made on "opportunistic resources"



HL-LHC challenges