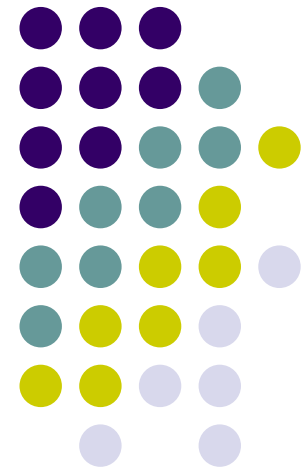


# Distribution of ATLAS Software and configuration data

*Costin Caramarcu on behalf of  
ATLAS TDAQ SysAdmins*



# Outline



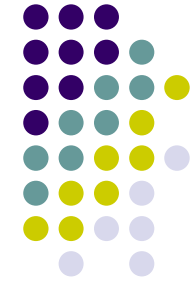
- Distribution of ATLAS Software
- Serving the configuration database and calibration coefficients



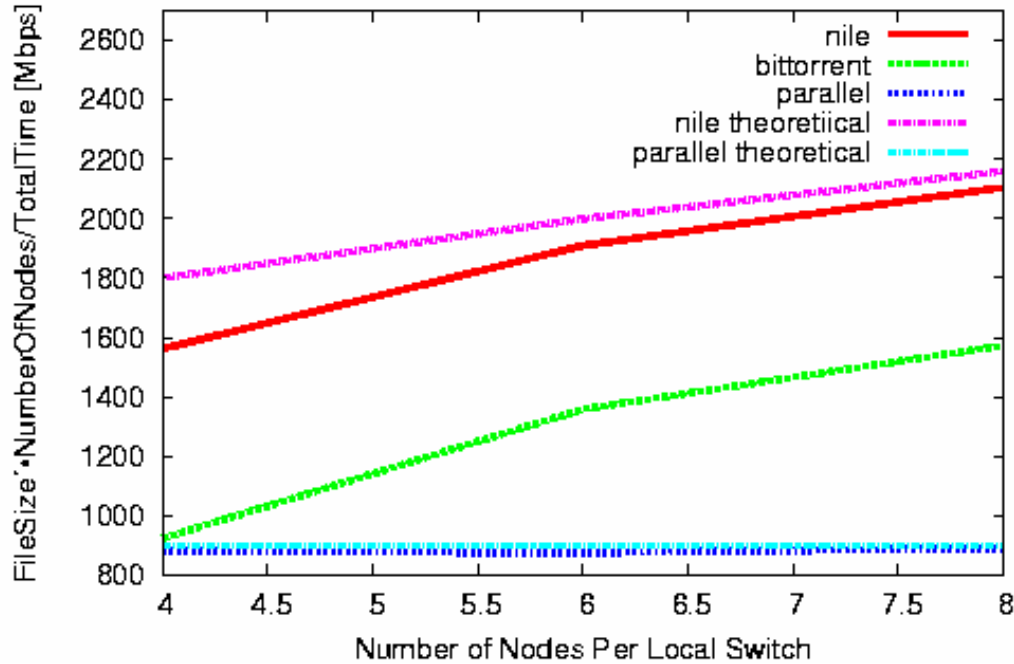
# Distribution of ATLAS Software

- Software is installed only on CFS1
  - Software: TDAQ, HLT, Offline, external (LCG, JAVA, etc.)
- We provide the following on LFSs:
  - Bins and libs from the OS (e.g. libshift for castor)
  - ATLAS software (/sw, multiple versions)
    - tdaq: 5.9G
    - offline: 18G ... etc.
  - Detector specific sw (/det)
    - level1 calo: 36G
    - muons: 2.8G
    - hadronic calo: 696M ...etc.

# Distribution of ATLAS Software

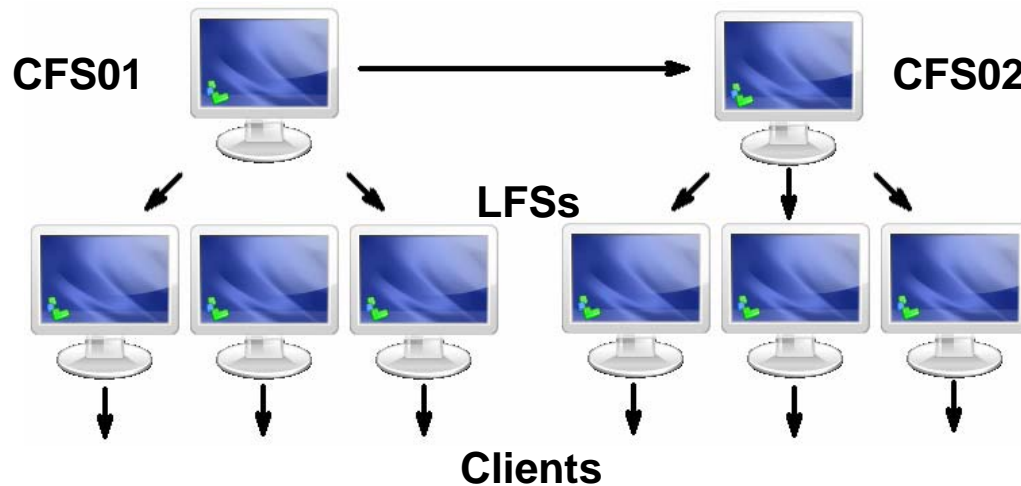


Nile vs BitTorrent Network Throughput



## Use rsync over NILE

- Parallel and hierarchical sync
- Part or whole of the sw area can be sync'd
- Advantageous over other methods like bittorrent, etc..
- Knowledge of Network topology





# Measurements

- Flat hierarchy (1 level of sync, 10 nodes):
  - 1 node syncs the other 10 nodes (Nightly sync)
    - 2 h for 78 GBytes (no changes to sync)
- Hierarchy (3 levels of sync, 12 nodes):
  - 1 node syncs 2 nodes after this finishes the 2 nodes sync the other 9 nodes
    - 4h 40m for 116 GBytes
- Advantages for hierarchy
  - Smaller CPU load on top level servers (~2h for flat, ~1.2h for hierarchy)
  - Spreading of CPU usage over the levels
  - For a larger configuration, this time should decrease



## Other uses of LFS

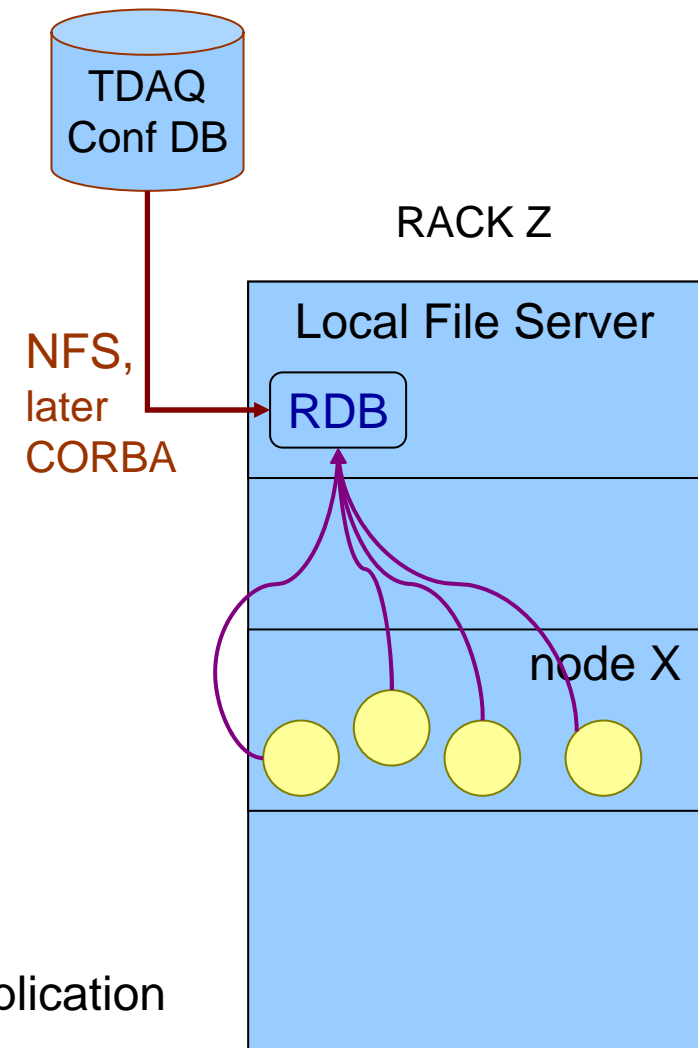
- We are running TDAQ related services on the LFSs for its own clients
  - TDAQ applications controller
  - TDAQ Information service (to gather statistics from the tdaq apps)
  - Services to serve databases
    - TDAQ configuration
    - Detector / trigger configuration

# Serving the Configuration Database



- TDAQ configuration
  - xml files to describe ATLAS online sw and hw parameters for given run
    - Information about what runs where, how and at which moment
  - required by each online application
    - accessed via Remote DB Server (RDB) on top of CORBA protocol
    - More then one application per node
  - RDB server gets data via NFS from db repository (will be replaced by CORBA)

● ← Application



# Serving the Configuration Database

- Trigger / detector config
  - systems-specific config & conditions data are stored in relational DB
    - DBProxy – cache and relay for MySQL (possibly Oracle in future)
    - Hierarchical tree of DBProxy over cluster
  - POOL files for calibration data
    - Retrieved by dedicated server from offline
    - Possibility to store data for next run on LFS and accessed via NFS by application

