PSS Physics Services Support

CERN IT Department

FTS usage in ALICE

FTS Workshop Amsterdam

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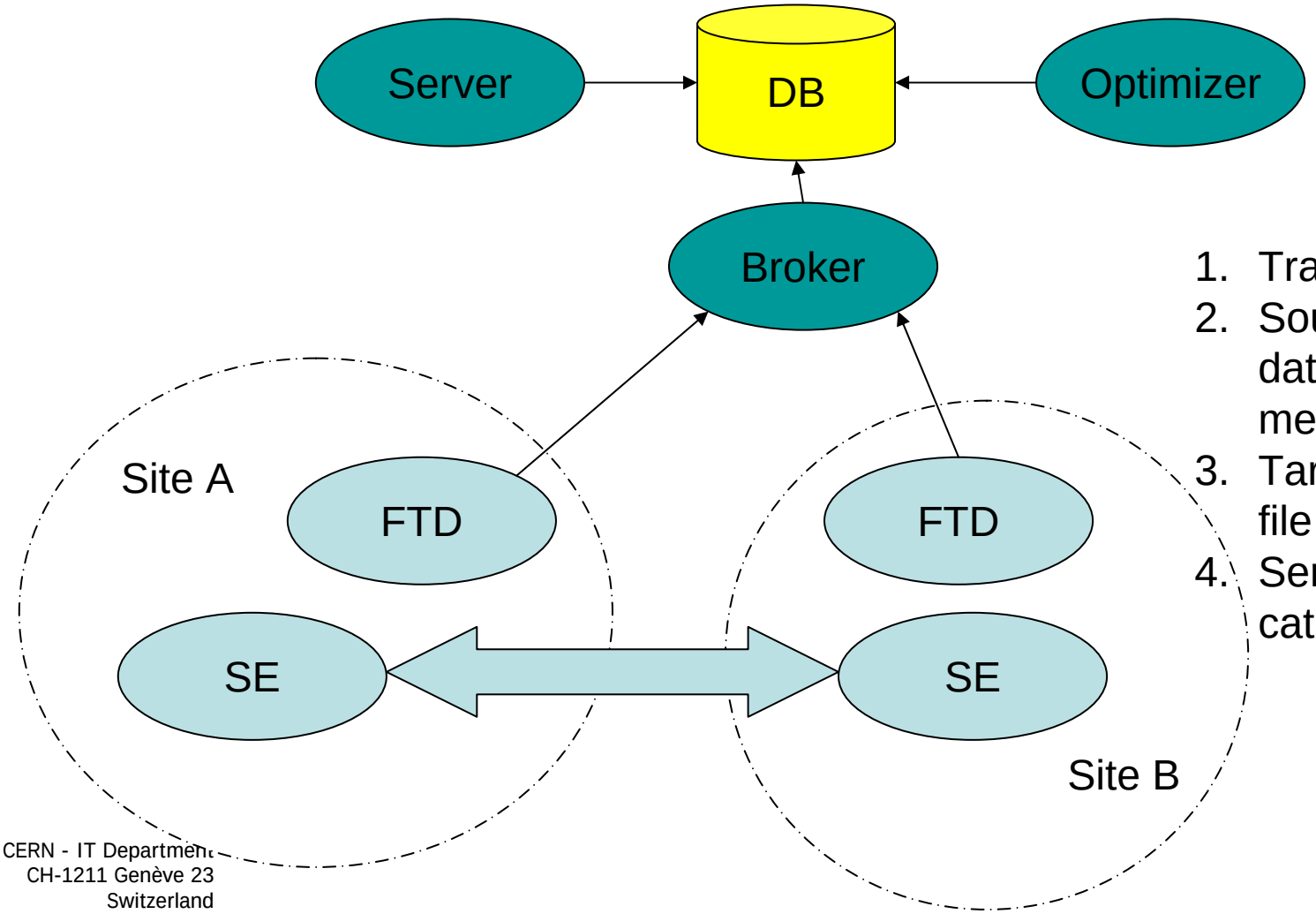
Overview

- ALICE data model
  - FTD/FTS
- PDC06
  - Results
- Conclusions

Data Management

- Two types of access to data
  - Scheduled
    - Known in advance the destination
      - (the source might be unknown)
    - Transfers between defined SE
    - File Transfer Daemon FTD
  - Interactive:
    - Get the data in your laptop
    - Get the files while the job is running
      - No time to wait
    - xrootd

Scheduled file Transfers



1. Transfer Scheduled
2. Source FTD makes data and transfer methods available
3. Target transfers the file
4. Server updates the catalogue

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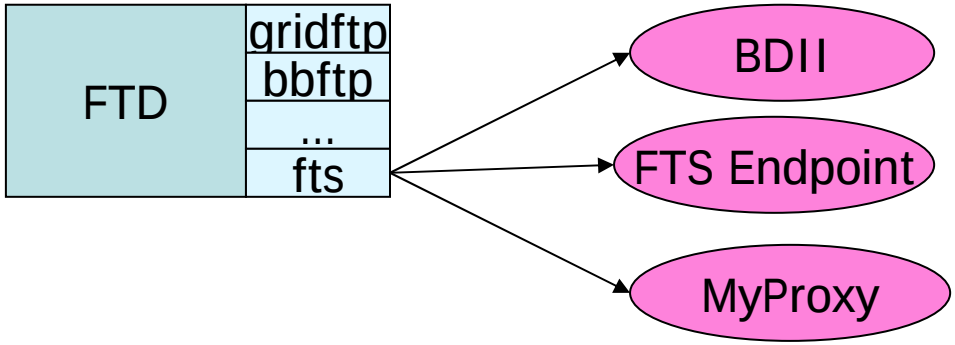
FTD-FTS plugin

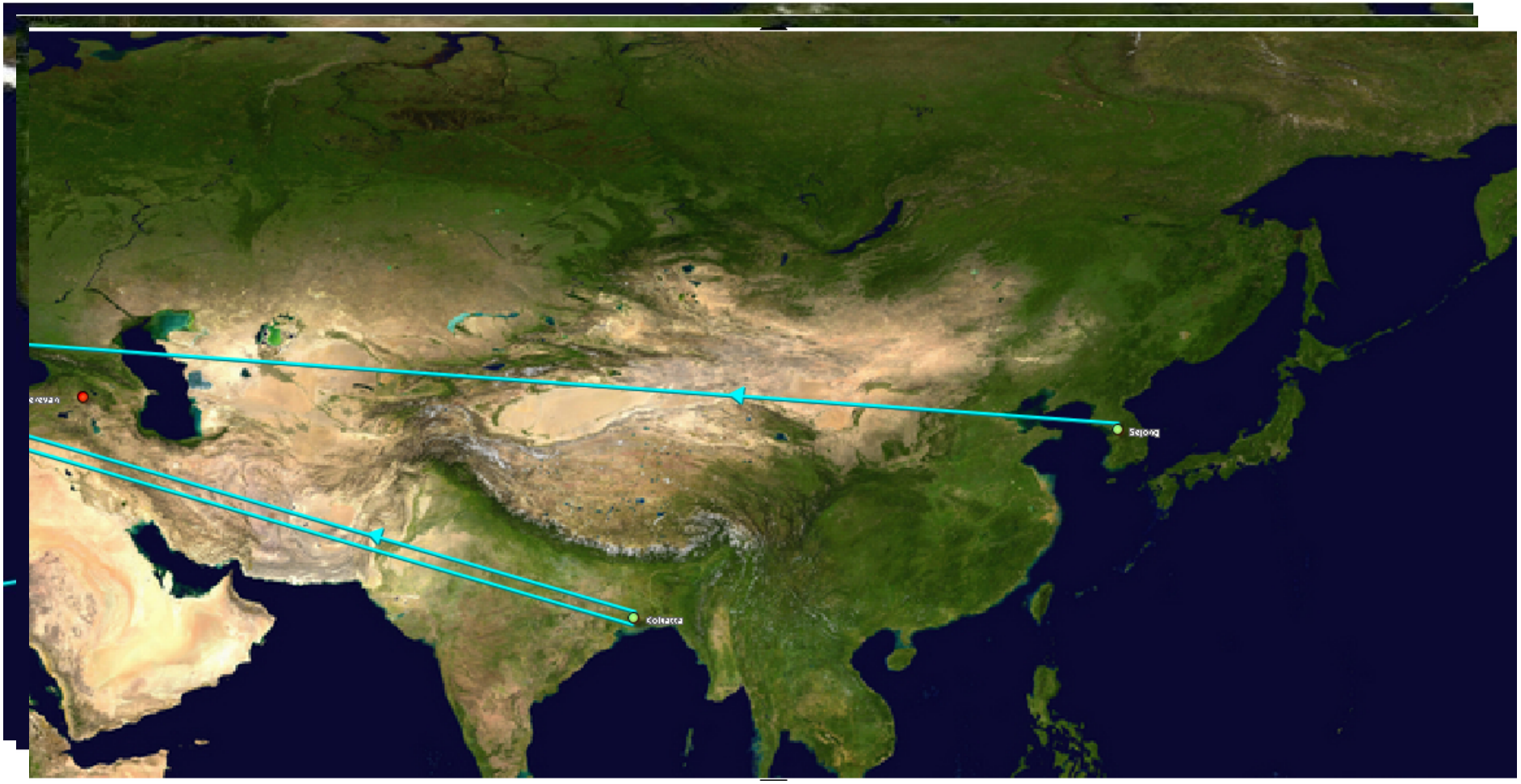
- At startup, give myproxy password
- We give to the plugin source and destination srm
- The plugin gets the FTS endpoint and myproxy from the BDII
- The plugin doesn't do channel management



PDC06

- Production of MC events for detector and software performance studies
- Verification of the ALICE distributed computing model
  - Integration and debugging of the GRID components into a stable system
    - LCG Resource broker, LCG file catalogue, File transfer system, Vo-boxes
    - AliEn central services – catalogue, job submission and control, task queue, monitoring
  - Distributed calibration and alignment framework
  - Full data chain
    - RAW data from DAQ, registration in the AliEn FC, first pass reconstruction at T0, replication at T1
  - Computing resources
    - verification of scalability and stability of the on-site services and building of expert support
  - End-user analysis on the GRID

40 Sites (LCG, native…)



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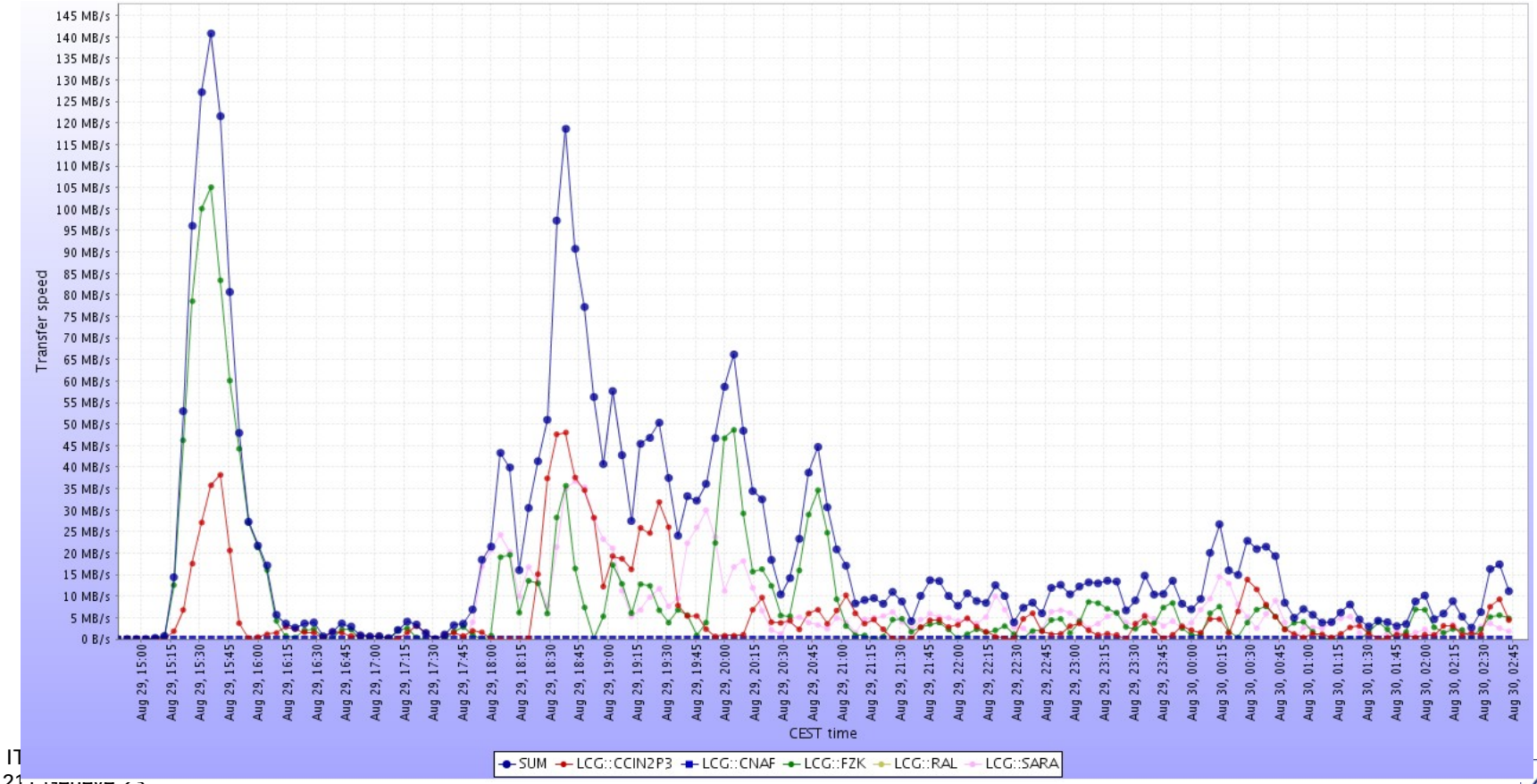
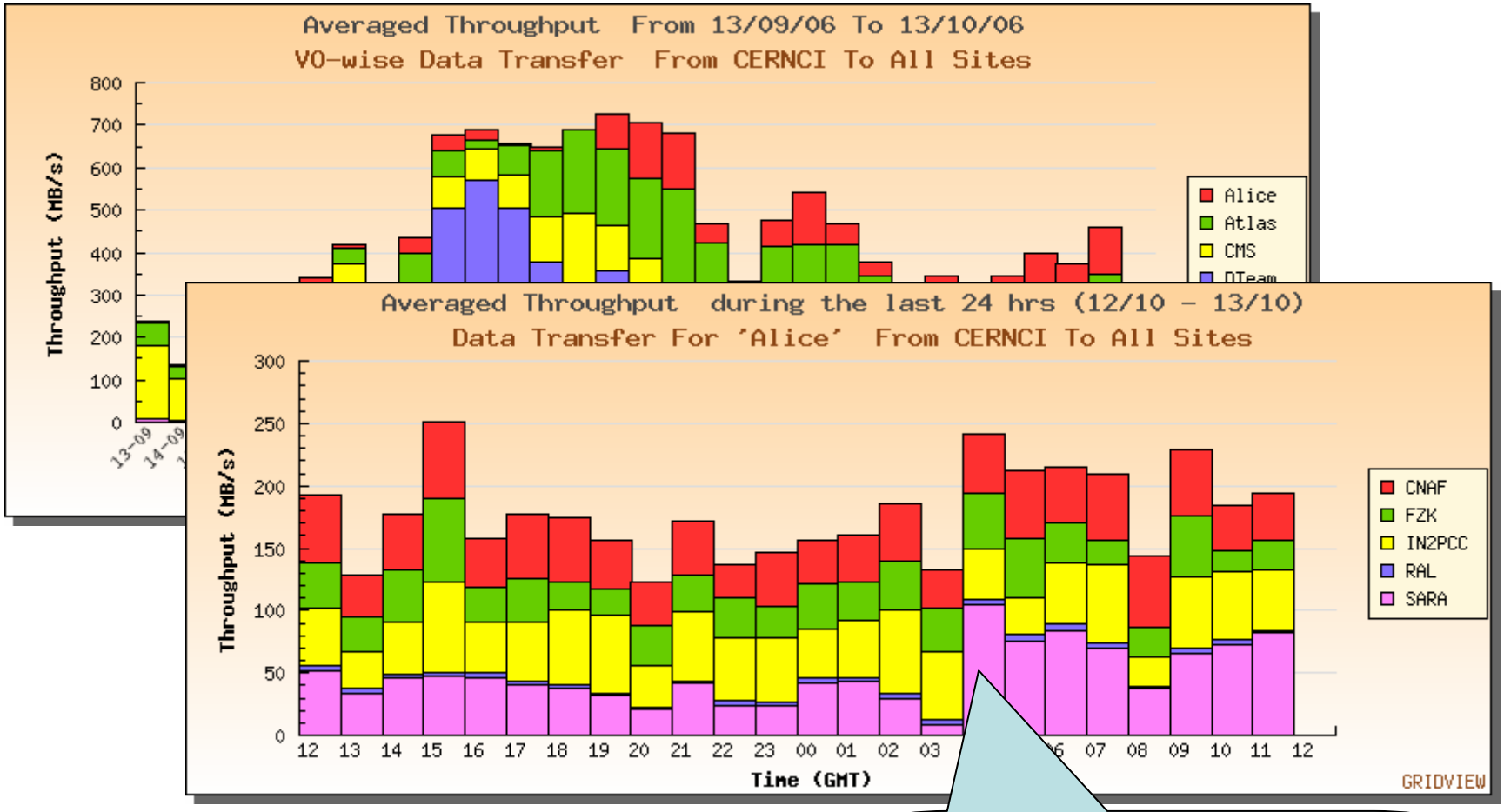
Data movement (FTS)

- Replication of data from CERN to the T1s
  - Test of LCG File Transfer Service
  - Goal is 300 MB/sec – exercise is still ongoing



FTS transfers



This includes also failed transfers

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FTD-FTS

FTS Efficiency

Click on any Site, and you will have a breakdown according to the errors trasnfering files to that site

This table presents the transfers that have been done from CERN to the ALICE T1

http://dboard-gr.cern.ch/dashboard/data/fts

Transfers done on: Thu 12 Oct 2006

Site (click on any site)	Successful transfers	Failed transfers	Efficiency
ALICE::LCG::SARA	0	2479	0.00 %

Error message	Counter
The file has size _size_ and should have _size_	1634
The FTS transfer _transferid_ failed (Failed on SRM put: Cannot Contact SRM Service. Error in srm__ping: SOAP-ENV:Client - CGSI-gSOAP: Error reading token data: Success)	510
The FTS transfer _transferid_ failed (Failed on SRM get: Failed SRM get on httpg://castorgridsc.cern.ch:8443/srm/managerv1	319
The FTS transfer _transferid_ failed (Failed on SRM put: Failed SRM put on httpg://srm.grid.sara.nl:8443/srm/managerv1	13
The FTS transfer _transferid_ failed (Failed on SRM put: Cannot Contact SRM Service. Error in srm__ping: SOAP-ENV:Client - CGSI-gSOAP: Could not open connection	2
The FTS transfer _transferid_ failed (Failed on SRM put: Cannot Contact SRM Service. Error in srm__ping: SOAP-ENV:Client - CGSI-gSOAP: Error reading token data: Connection reset by peer)	1

ALICE::LCG::RAL	120	166	41.96 %

Error message	Counter
The FTS transfer _transferid_ failed (Transfer failed. ERROR the server sent an error response: 451 451 Local resource failure: malloc: Cannot allocate memory.)	117
The FTS transfer _transferid_ failed (Transfer failed. ERROR the server sent an error response: 425 425 Cannot open port: java.lang.Exception: Pool request timed out : csfnfs62_1)	48
The FTS transfer _transferid_ failed (Failed on SRM put: Failed SRM put on httpg://dcache-tape.gridpp.rl.ac.uk:8443/srm/managerv1	1

ALICE::LCG::FZK	1774	392	81.90 %

Error message	Counter
The FTS transfer _transferid_ failed (Failed on SRM get: Failed SRM get on httpg://castorgridsc.cern.ch:8443/srm/managerv1	335
contacting the Broker/Transfer	53
The file has size _size_ and should have _size_	2
syntax error at line 1, column 0, byte 0 at /grid/fzk.de/mounts/nfs/software/alice/lcg2/alien2/lib/perl5/site_perl/5.8.7/i686-linux/XML/Parser.pm line 187 500 Can't connect to aliendb1.cern.ch:8095 (connect: timeout)	1
The FTS transfer _transferid_ failed (Failed on SRM put: Failed SRM put on httpg://gridka-dcache.fzk.de:8443/srm/managerv1	1

ALICE::LCG::CNAF	2030	366	84.72 %
ALICE::LCG::CCIN2P3	2171	343	86.36 %

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Issues

- Still far from our 300 MB/s target
- Point to point transfers
  - We don't want to care about channels
- Load on the vobox
  - VO-box shared with other experiment (SARA)
- No timeout in glite-transfer-… commands
- Security model
- No callbacks
  - Keep doing the pulling?
- FTS/xrootd interface
  - Or xrootd/srm?
- Lots of sources of instability
  - Networking problems, site storage problems, Problems with the VOBoxes, FTS central services outages, gridftp bugs
- GGUS vs direct contact

Conclusions

- We have implemented an ALICE/FTS plugin
  - Lookup of fts endpoint and myproxy server in the BDII
  - We take care of submitting transfers and updating our catalog
- Using the FTS to transfer from CERN to CCIN2P3, CNAF, FZK, RAL & SARA
- FTS is working, but there are still many operational problems that lead to general system instability
- Challenge still ongoing
  - Still far from our objective of sustained 300 MB/s
  - Start testing T2-T1 transfers in the coming weeks

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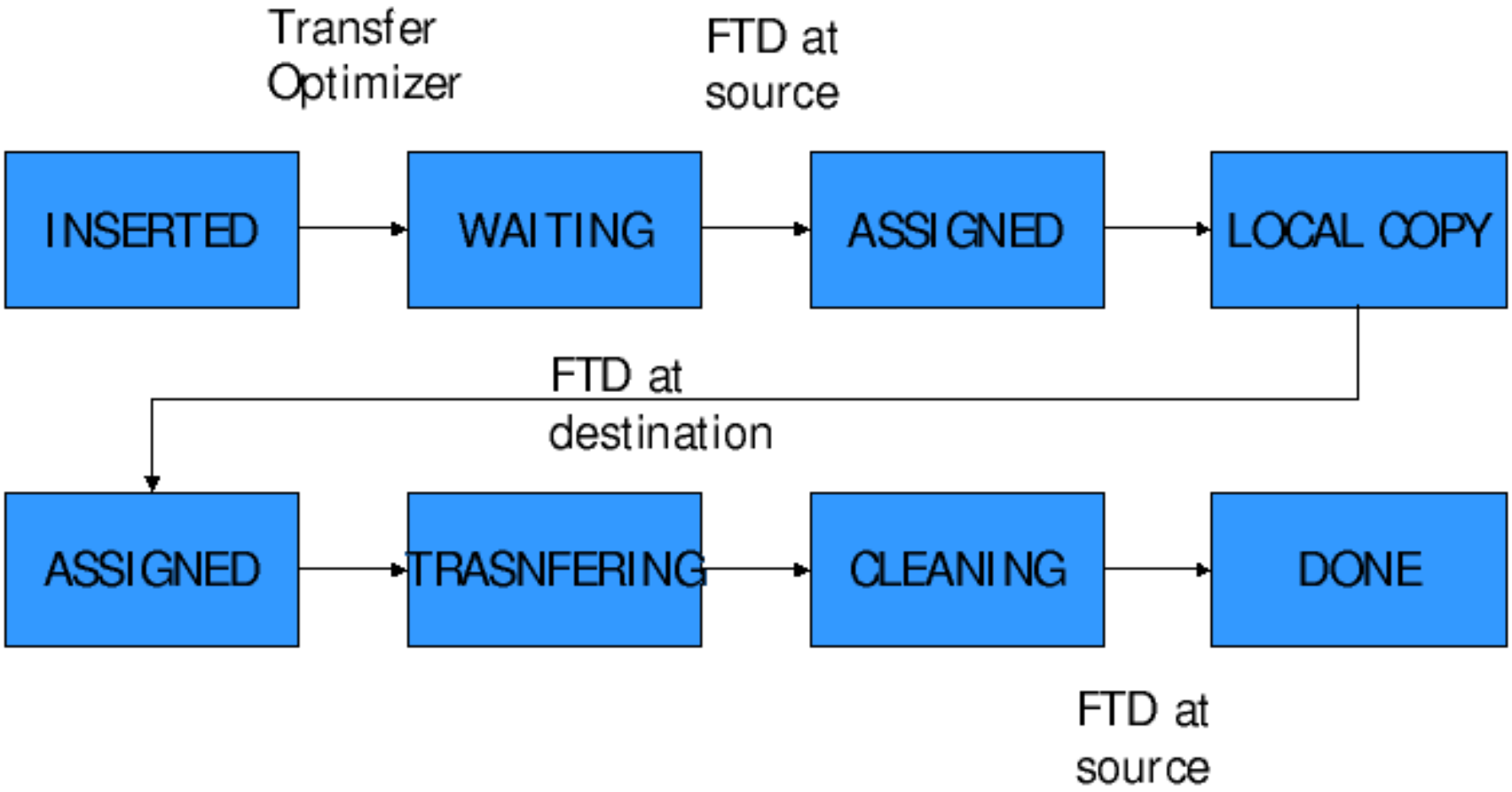
FTD transfer status



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