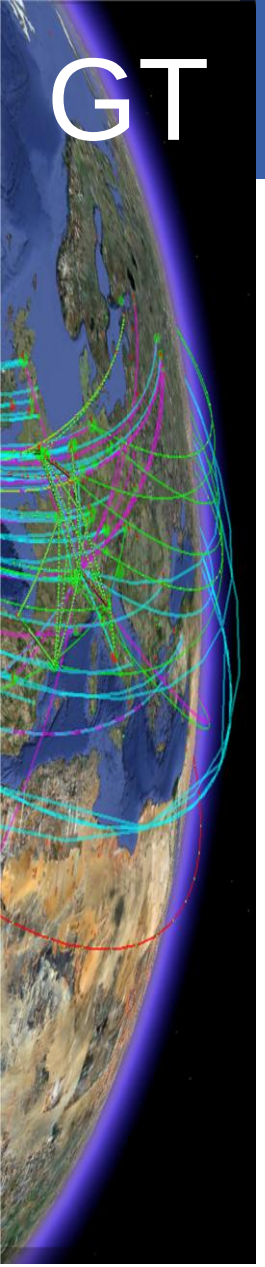

FTS3 Update

Michal Simon

for

IT-GT-DMS

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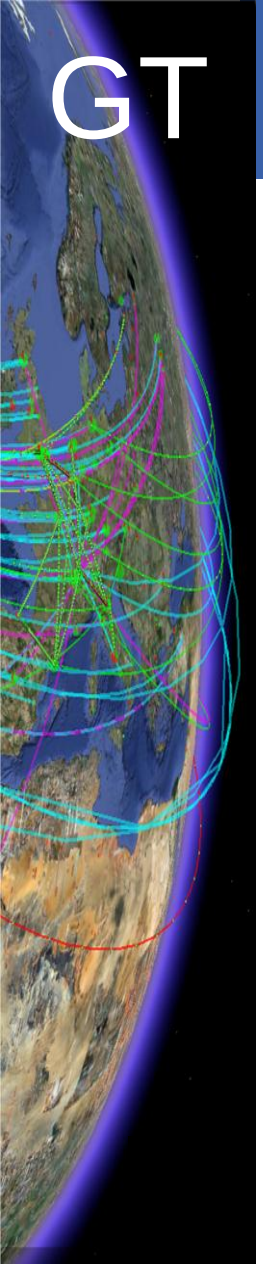

Overview

- FTS 3 Motivation
- FTS 3 Status
- Features
- Coming Next
- Summary

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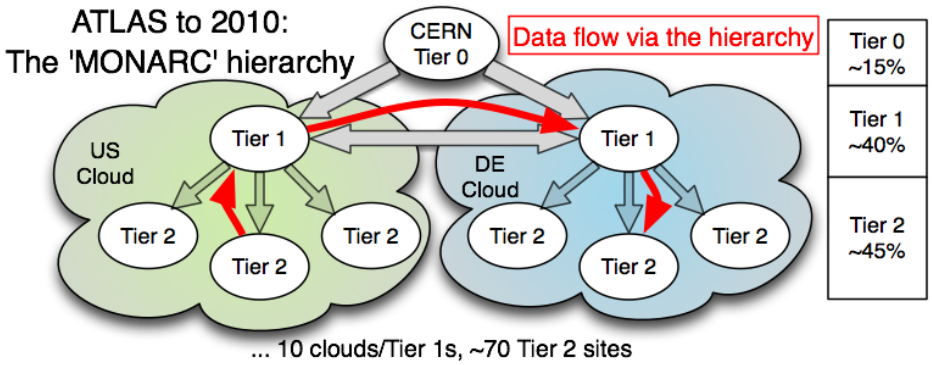
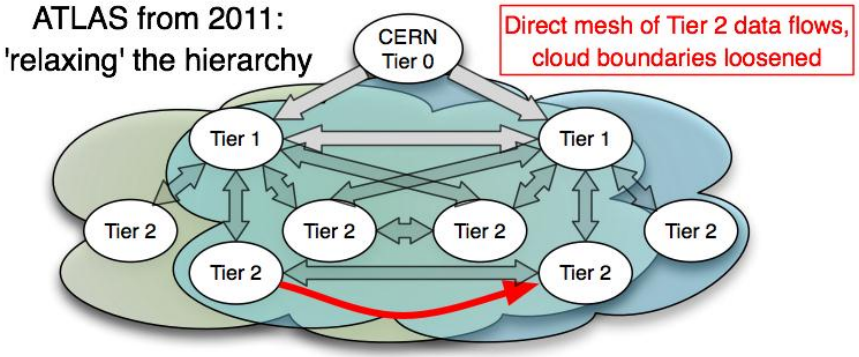
FTS3 Motivation

- Why a new FTS?
  - Deployment model: horizontal scalability
  - Evolution in computing model



hierarchy to mesh



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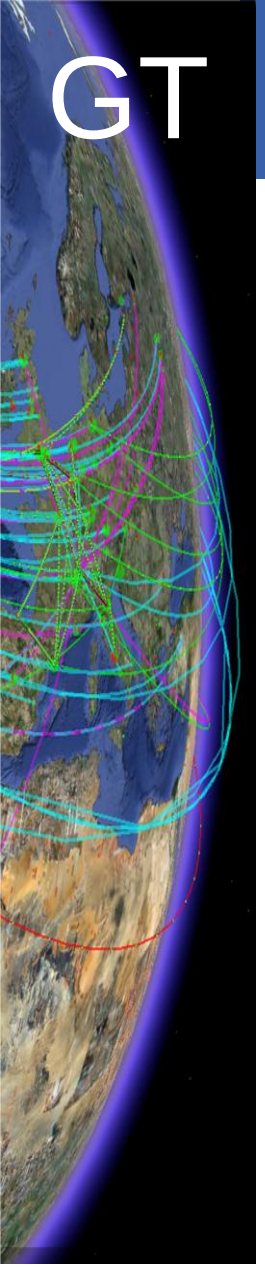
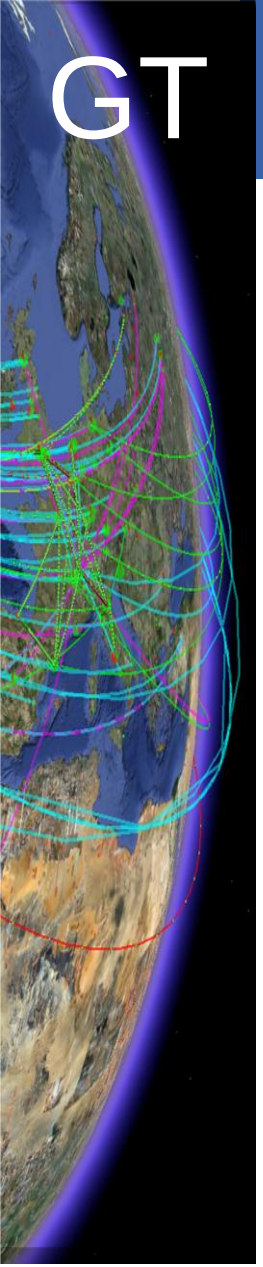


FTS 3 Status

Stable and functionally comparable to FTS 2

- Currently installed at CERN (pilot), RAL, ASGC, PIC and BNL
- Used by ATLAS (production transfers / testing RRC-KI-T1), CMS debug transfers, etc.
- Stress testing and scalability: to be discussed during the next WLCG FTS3 task force meeting
- Deployment plan: to be decided
  - (can be kept open until mid 2014)
- Heavily working in implementing new features (xroot, bulk SRM BringOnline operation, smart retry logic, multiple replicas, etc.)



Features

- Simplified Configuration (no channels!)
  - No configuration:
    - Good defaults
    - Auto-tune transfers
  - Endpoint-centric manual configuration
    - allows to define experiment specific shares
- Auto-tuner – based on recent history dynamically adjusts:
  - Number of active transfers
  - Number of streams
  - Timeout

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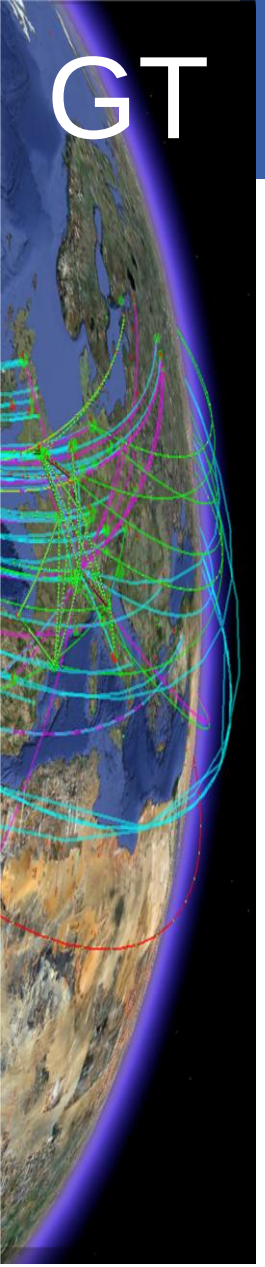
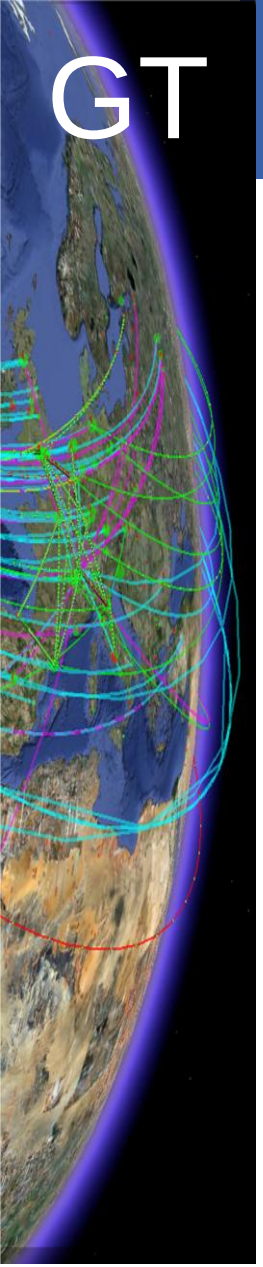


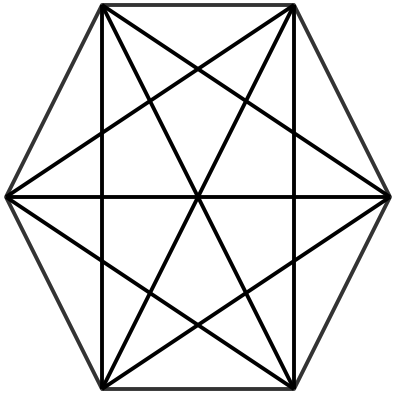
More Features

- Multiple Database back-ends (Oracle or MySQL)
- Improved User Interface
- Improved monitoring
- GridFTP / gSOAP session reuse
  - improves the “many small(ish) files” use case
- Additional protocols: xroot and http
  - Plugins are implemented
  - Infrastructure requires an upgrade
- VOMS authorization



Features: configuration

- Works out of the box (configuration is optional)
- The configuration is SE-centric and channel-less (quadratic growth vs. linear growth)



e. g. FTS 2 setup of 15 channels corresponds to FTS 3 setup of 6 SEs

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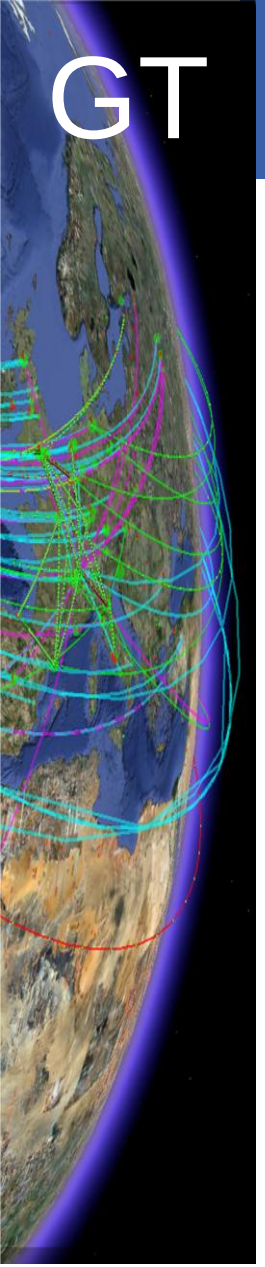
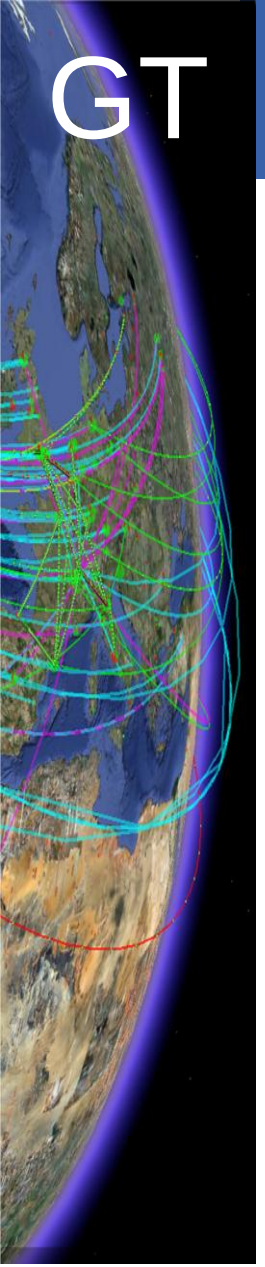


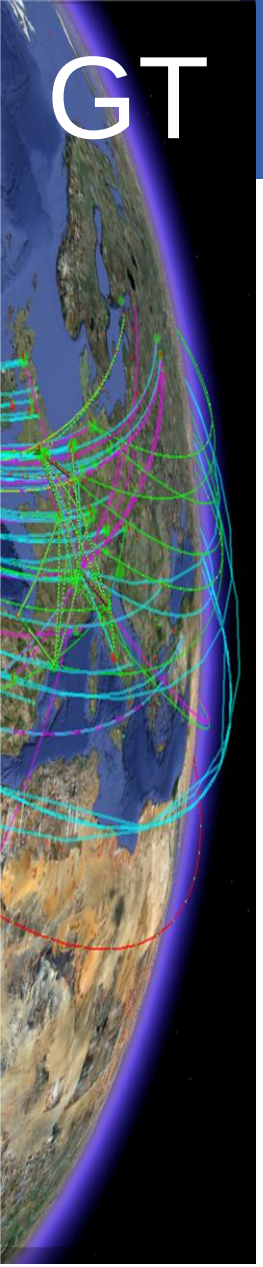
Features: Improved UI

- FTS 3 is backward compatible with glite clients
- The new FTS 3 CLI offers additional features like session reuse, allows the user to specify file size, etc.
- The CLI can be switched so all the output is JSON formatted
- Transfer related APIs are available in python
  - management via CLI and webservice



Features: Improved monitoring

- FTS 3 publishes monitoring messages similarly as FTS 2
- In the future messages will be sent for each state transition (can be used to federate FTS instances)
- Existing monitoring:
  - CERN pilot: http://fts3-pilot-mon.cern.ch/ftsmon/
  - RAL: http://lcgwww.gridpp.rl.ac.uk/fts3/
  - ASGC: http://vt-092.grid.sinica.edu.tw/fts3/ftsmon/
  - PIC: http://fts3.pic.es/fts3/ftsmon/jobs
  - WLCG transfers UI: http://dashb-wlcg-transfers.cern.ch/ui/



Coming next

- "Bulk BringOnline SRM" operation (LHCb request) – implemented, will be installed in mid-march
- Smart retry mechanism (ATLAS request)
- REST interface for transfer submission and status retrieval (ATLAS request)
- Multiple source / destination submission (ATLAS request)

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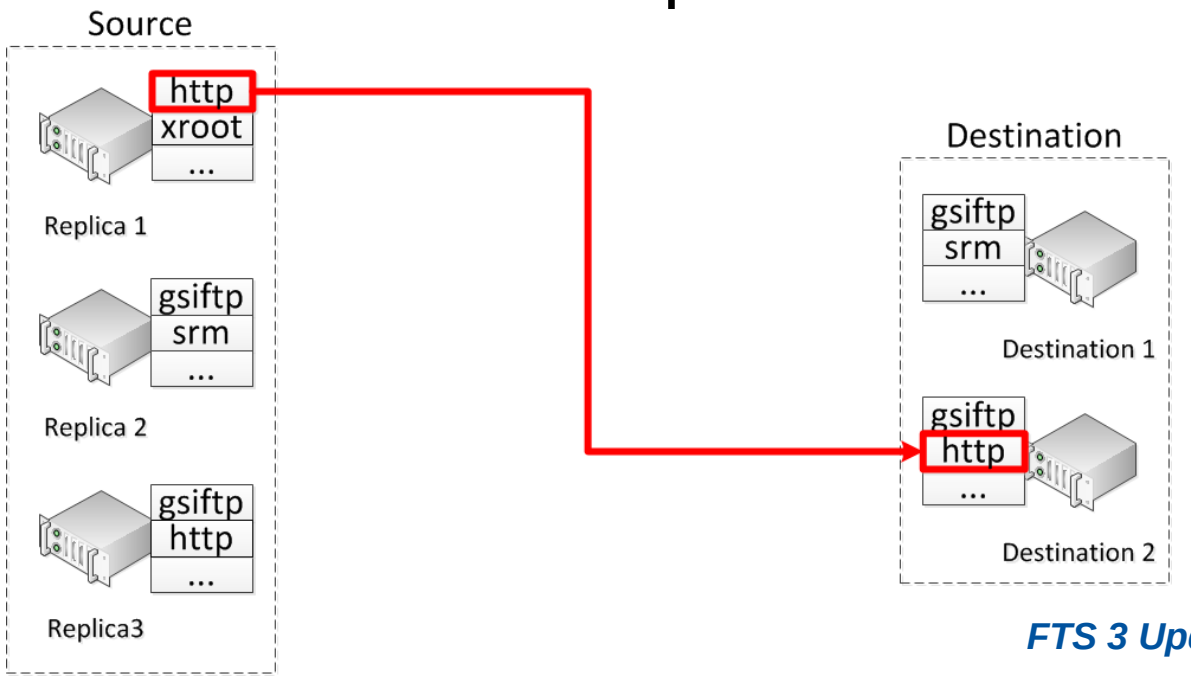
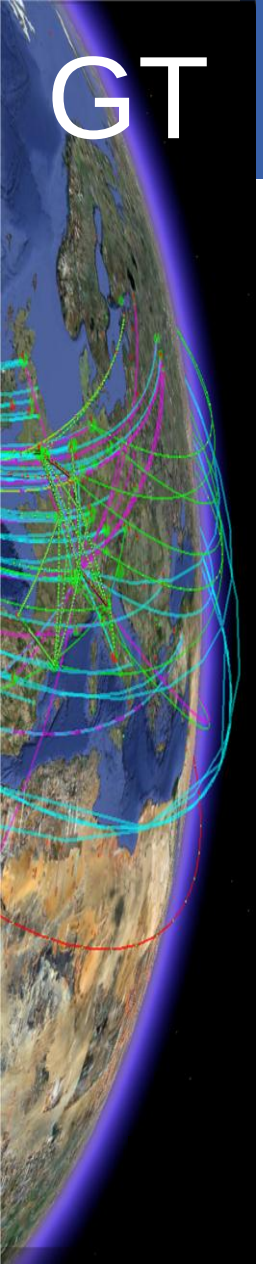
Coming next: multi - source / destination submission

- Source: alternative replicas (or protocols)
- Destination: alternative SEs (or protocols)
- FTS 3 will choose the best SEs and the best protocol to carry out the transfer job
- In case of failure other pairs will be tried





Summary: a word on the development process

- Demonstrations
  - Every 3 weeks experiments' and sites' representatives meet with developers
  - Iterative progress (co-development)
- Releases are only checkpoints
  - First checkpoint FTS 2 functionality
  - All checkpoints are production level
  - This approach will be continued

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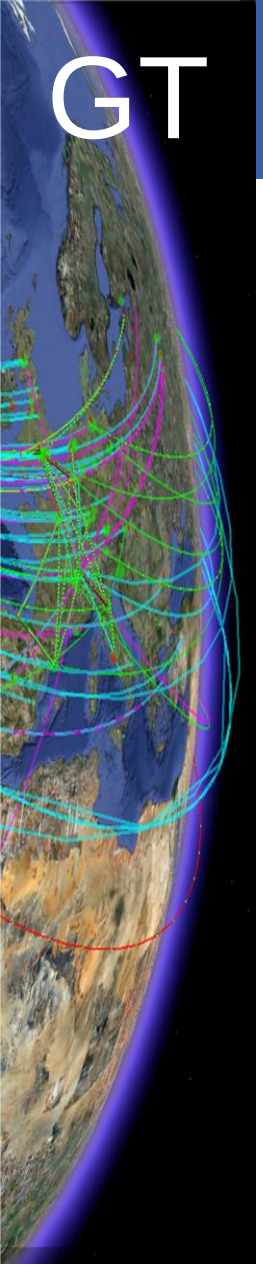

Summary

- Will be released in EMI3 update by end of March
- Will be released in EPEL by end of April
- Deployment plan: to be decided
- Wiki: https://svnweb.cern.ch/trac/fts3/wiki
- Roadmap: https://svnweb.cern.ch/trac/fts3/roadmap

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