

BNL DDM Status Report

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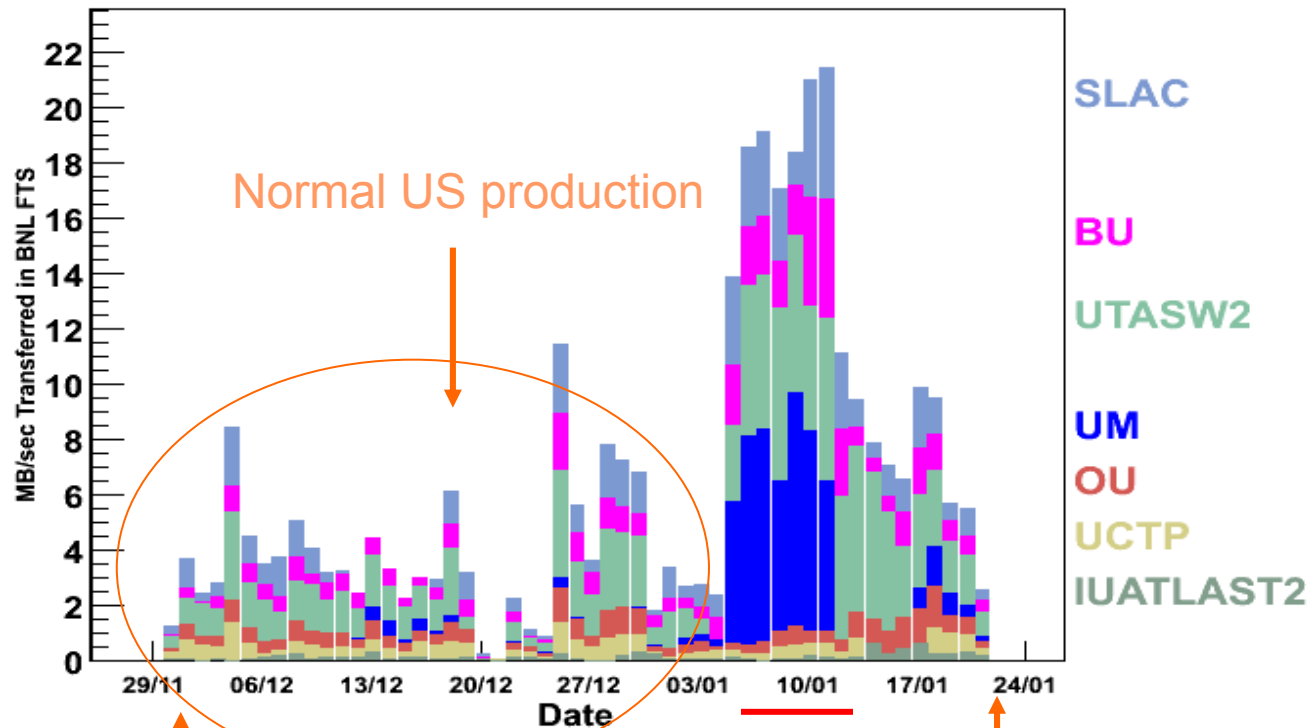
Brookhaven National Laboratory

Current Configuration

- Two production DQ2 site servers
 - dms01.usatlas.bnl.gov (0.2.11-5)
 - Red Hat Enterprise Linux WS release 3
 - lcg-vo01.usatlas.bnl.gov (0.2.12-1)
 - Scientific Linux SL release 3.0.5
 - Use MySQL 5.0.22 for queue database
- One Test DQ2 server
 - dq2test.racf.bnl.gov
- One MySQL LRC shared by all BNL DQ2
 - lrc.usatlas.bnl.gov
 - MySQL version 5.0.22
 - Supports pfname up to 512 characters
- One web interface server to access LRC.
 - dms02.usatlas.bnl.gov (Supports to pfname up to 512 characters)
- One FTS service
 - fts.usatlas.bnl.gov
- One myproxy service
 - myproxy.usatlas.bnl.gov

Current Usage

T2 ---> BNL



Dec 1, 2006

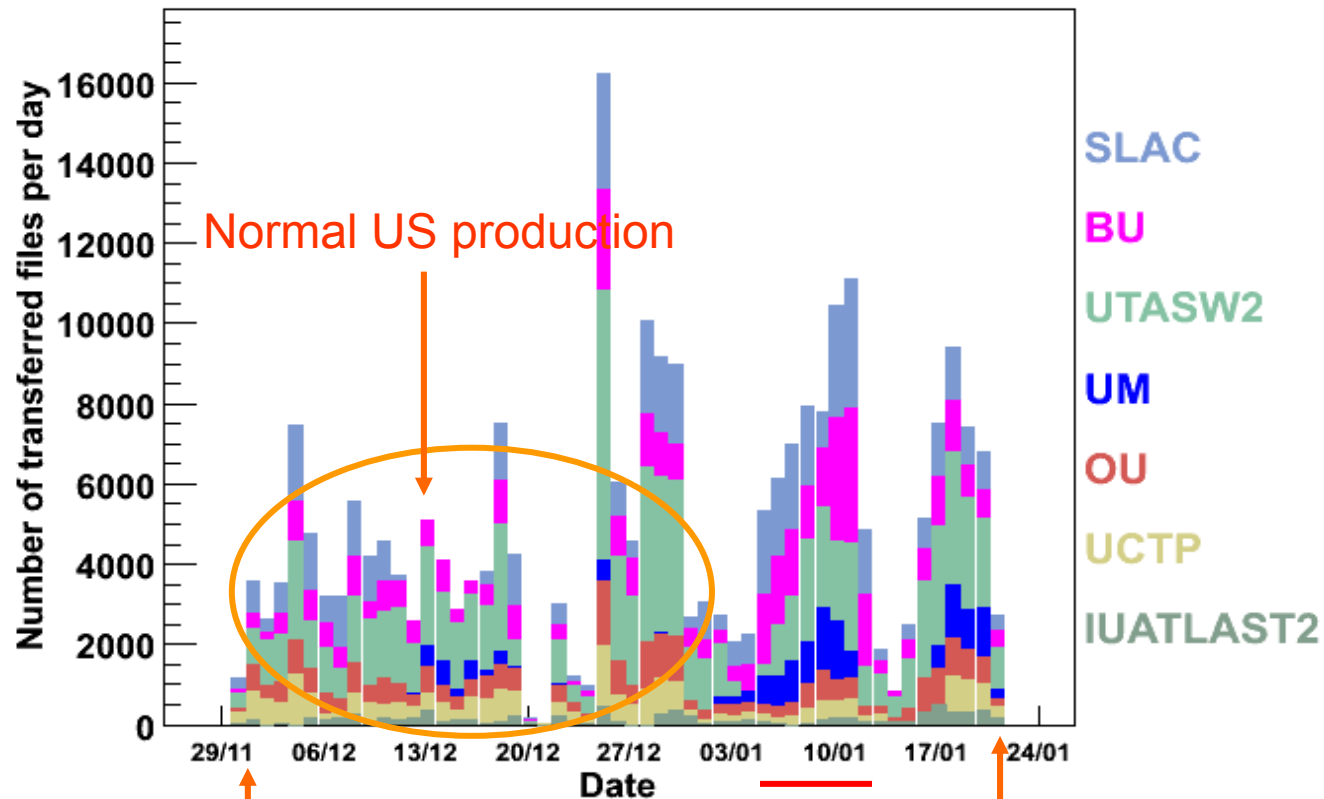
Jan 22, 2007

Load generator (not limit)

The file transfer from Tier2 to BNL (MB/sec) by US production (measured in BNL FTS.) The typical transfer is several MB/sec from Tier2s to BNL. Note: It is nowhere close to the limit of BNL facility as the load generator can produce larger transfer rate.

Current Usage continues...

T2 --- > BNL



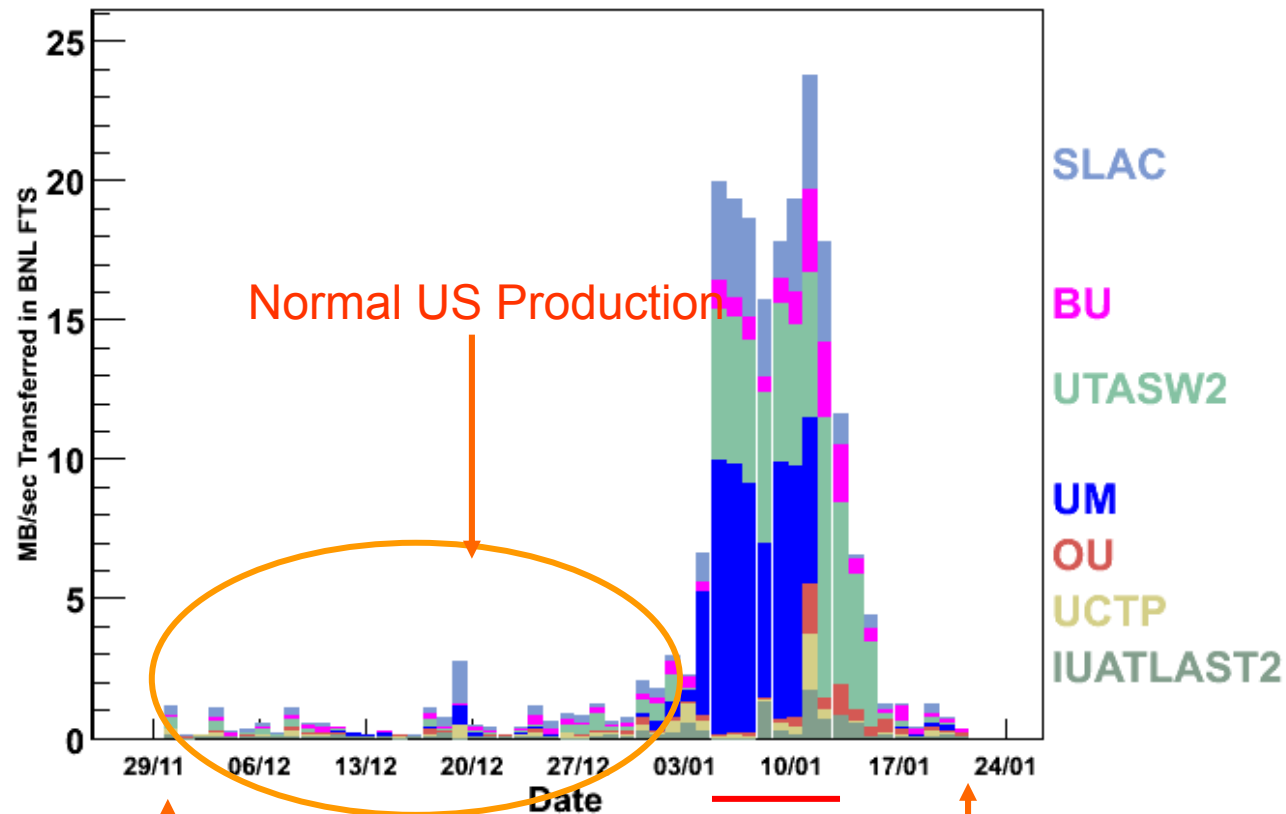
Dec 1, 2006

Jan 22, 2007
Load generator (not limit)

The number of files transferred per day from Tier2s to BNL by US production. DQ2 transfers several thousand files a day for US production.

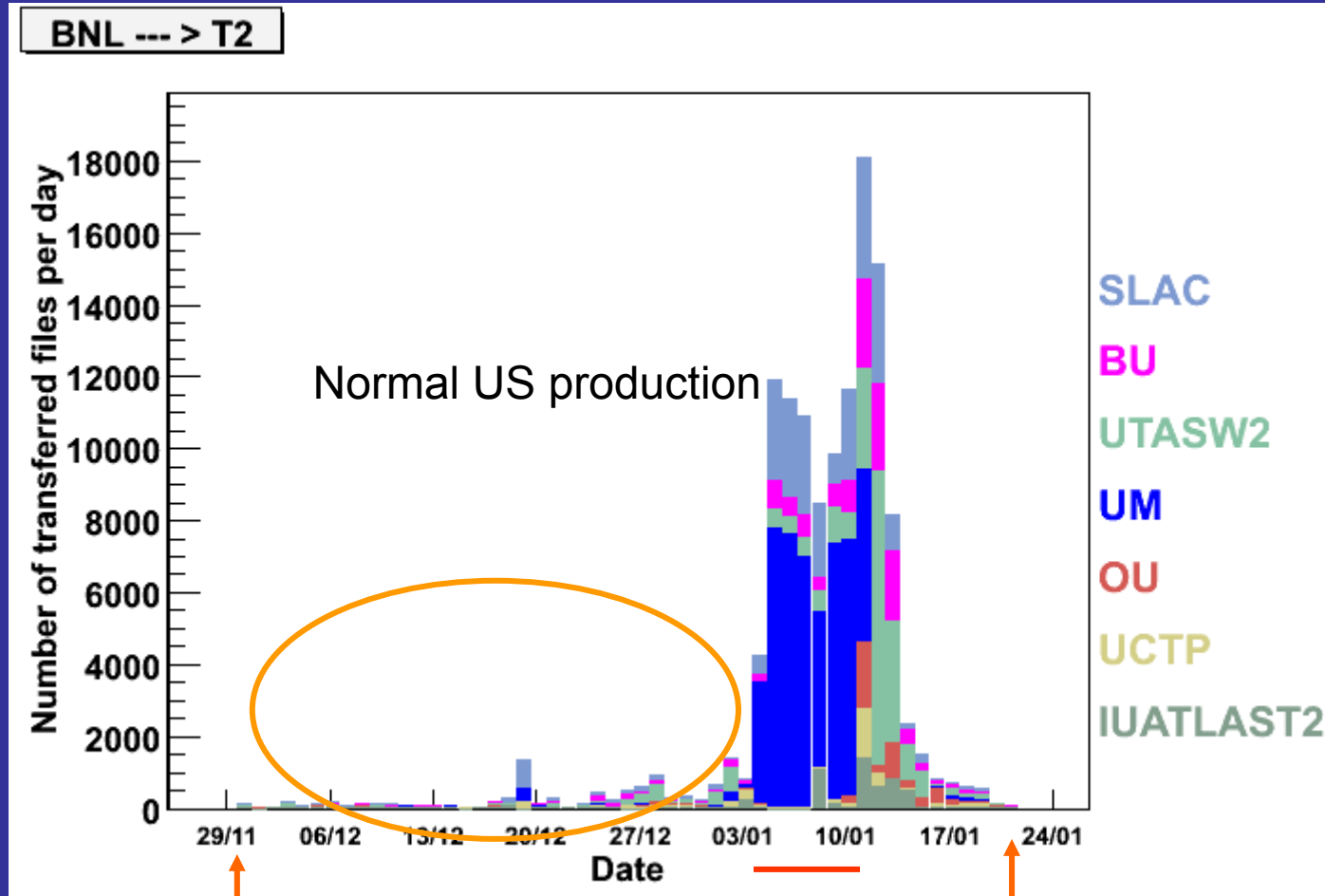
Current Usage continues...

BNL ---> T2



The file transfer rate (MB/sec) from BNL to Tier2s. The transfer rate for US production from BNL to T2 is very small.

Current Usage continues...



Very small number of files are transferred to Tier2s from BNL.

Dec 1, 2006

Load generator (not limit)

Jan 22, 2007

Known Problems

- Fetcher stops working.
 - Fetcher(0.2.11) stops working due to too many subscription. (It is fixed in the newest version of DQ2.)
 - Fetcher stops working after the problems with connecting to the central service.
- Too many agent
 - DQ2 (0.2.12) creates too many agents. (The problem seems to be disappeared after the specifying the correct http_proxy setting. Can the bad callback interfere with agents? What happens if the load is high?)
- Jobs (0.2.11) get stuck in hold_max_attempts_reached or hold_failed_submit when FTS/dCache is out of service. They are fixed in 0.2.12(?)
- Monitor callback fails due to high load in the central service. (new DQ2 dashboard page is better?)

Known Problems continue...

- DQ2 can not keep FTS busy.
 - Changed MAX_REQUESTS (0.2.11) or MAX_FILES_PENDING (0.2.12). But, it is not enough.
 - FTS_JOB_SIZE can also be changed to make FTS more efficient. But, it does not change FTS usage.
- FTS queues filled with a lot of bad transfers.
 - Changed the timeout setting to be as short as possible to terminate the bad transfers and let FTS to resubmit.
- DQ2 (0.2.11) can not overwrite a file in dCache.
 - Fixed in 0.2.12 via plug-in site configuration mechanism.
- DQ2 can not overwrite the LRC.
 - Fixed (manually) to skip inserting LRC entry if it already exists. Should be part of official DQ2?

Known Problems continues...

- pfn 256 character limit.
 - Changed LRC to above MySQL 5.0.xx to support varchar 512 as primary key.
 - Changed Web interface (POOL) to support pfn larger than 512 characters.

Site Monitoring of Transfer

- Would like to get the statistical information about the dataset subscription/completion time, t_{dataset}
 - $\langle t_{\text{dataset}} \rangle$, $\sigma_{t_{\text{dataset}}}$, etc...
- Could get this information from subscription log by measuring the time between the fetcher and `vuid_complete` callback for the dataset. But,...
 - The start time is hard to find since the fetcher for one dataset can repeat in the log if the dataset is not closed/frozen. (Looks like it is ok in DQ2 0.2.12)
 - The log file can get large (and many with log-rotate). The scanning log is not optimum way to gather the statistical information. It would be better to do the callback to the statistic info page/database?
 - The script will be made to histogram t_{dataset} of AOD dataset.

US DQ2 Upgrade

- Pacman installation of new DQ2 0.2.12 has been tested by Wensheng, Patrick and Xin. There seems to be some difficulty with BNL local setup (Redhat Enterprise 4, python, http_proxy,etc...)
- It needs to include the new LRC MySQL schema to support pfn larger than 256 characters with MySQL > 5.0.xx (Done at BNL)
- It needs to change the web interface for LRC to support pfn larger than 256 characters. (At BNL, POOL codes have been manually modified and recompiled. However, removing POOL dependence is more desirable. Patrick is working on this.)
- It remains to be seen if the new DQ2 works reliably under the heavy load of US production at BNL. (Too many agents' problem under heavy load?)