



ATLAS Distributed Data Management (DDM project and DDM operations)

US ATLAS Tier2/Tier3 Workshop

Indiana University

20 June 2007

Alexei Klimentov /BNL

Outline

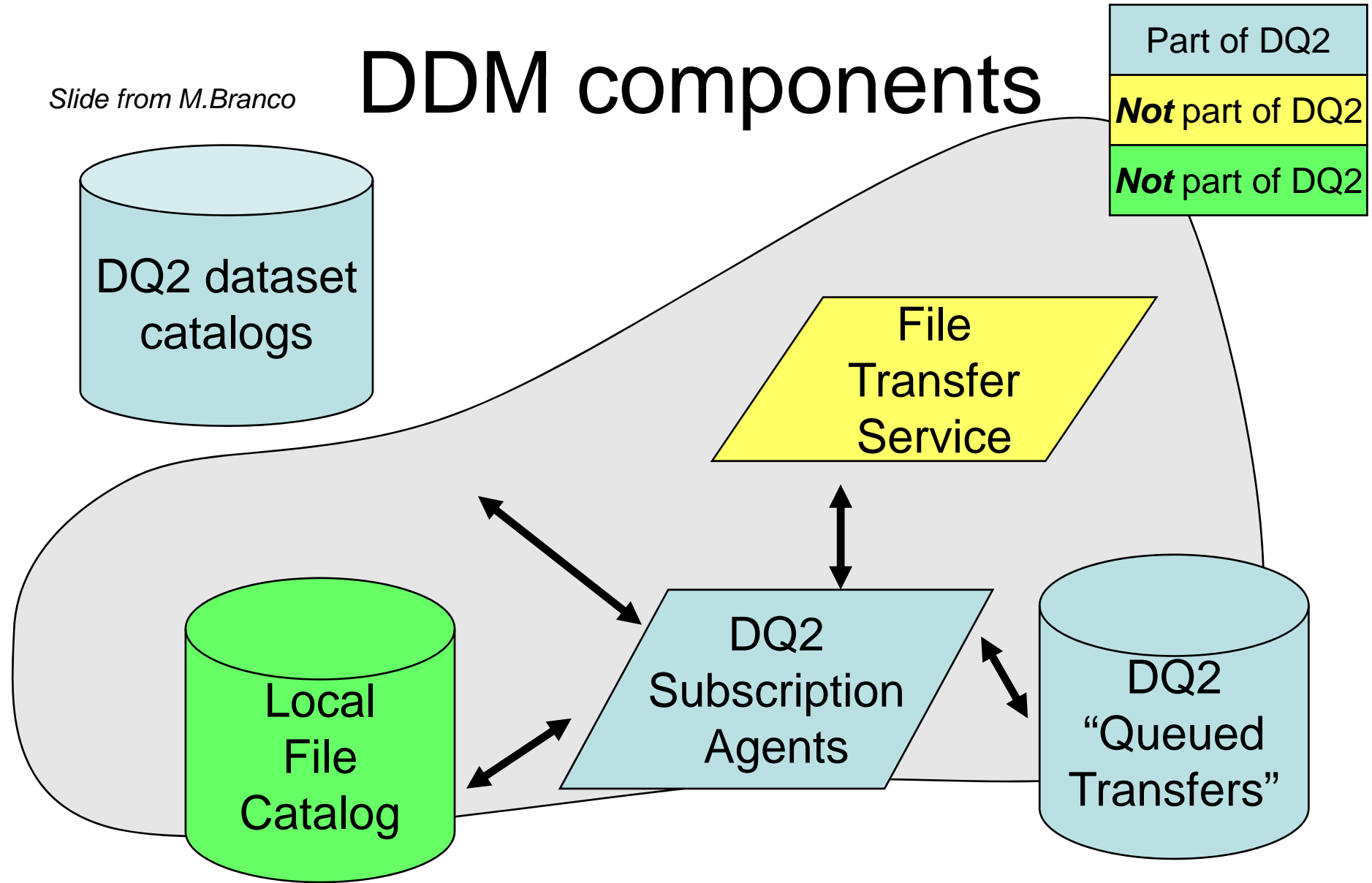
- DDM/DQ2 project
 - DDM and DQ2
 - DQ2 concepts
 - Central and site services
 - DQ2 datasets
- DDM deployment and operations model
- Datasets
 - Naming convention, nomenclature and datasets type
 - Central data subscription and replication to Tiers
 - Analysis Object data (AOD)
 - Validation samples
 - Database releases
 - Streaming test and RDO consolidation
 - End-user and DQ2 client tools
 - Data replication and subscription by Users
 - Data Transfer Request I/F
- ARDA Monitoring

ATLAS Data Management Software - Don Quijote

- The second generation of ATLAS DDM system (DQ2)
 - DQ2 developers M.Branco, D.Cameron, P.Salgado, M.Lassnig, V.Garonne,...
 - Initial idea and architecture were proposed by M.Branco and T.Wenaus
- DQ2 is built on top of Grid data transfer tools
 - Moved to *dataset* based approach
 - Datasets : an aggregation of files plus associated DDM metadata
 - Datasets is a unit of storage and replication
 - Automatic data transfer mechanisms using distributed site services
 - Subscription system
 - Notification system
 - Production version DQ2 0.2 (before Jun 18), now in transition to 0.3
- Technicalities :
 - Global services
 - dataset repository
 - dataset location catalog
 - logical file names only, no global physical file catalog
 - Local Site services
 - File Catalog specific per Grid/site/tier. It provides logical to physical file name mapping. Implementations of this catalog are Grid specific.

DDM components

Slide from M.Branco



DQ2 Concepts

- ‘Dataset’:
 - an aggregation of data (spanning more than one physical file!), which are processed together and serve collectively as input or output of a computation or data acquisition process.
 - Flexible definition:
 - ... can be used for grouping related data (e.g. RAW from a run with a given luminosity)
 - ... can be used for data movement purposes
- ‘File’:
 - constituent of a dataset
 - Identified by Logical File Name (LFN) and GUID

M.Branco. DDM WS at BNL. Sep 2006

DQ2 Concepts

- ‘Site’
 - A computing site providing storage facilities for ATLAS
 - ... which may be a federated site
- ‘Subscription’
 - Mechanism to request updates of a dataset to be delivered to a site

More than just s/w development

- DQ2 forced the introduction of many concepts, defined in the Computing Model, onto the middleware:
 - ATLAS Association between Tier-1/Tier-2s
 - Distinction between temporary (e.g. disk) and archival (e.g. tape) areas
 - Datasets as the unit of data handling
- Often, existing Grid middleware was not originally designed to have these concepts:
 - DQ2 has a Tiers of ATLAS file, containing the ‘association’ between Tier-1s and Tier-2 sites
- DQ2 has been the product of a joint collaboration between CERN-based ATLAS Computing Group and US ATLAS

M.Branco. DDM WS at BNL. Sep 2006

DQ2 Technicalities

Catalogs

- Currently, single instance of dataset catalogs
 - Architecture foresees **multiple regional, independent catalog instances**
- Dataset repository catalog:
 - What datasets exist in the system?
- Dataset content catalog
 - What are the constituents (files) of a dataset (version)?
- *Dataset hierarchy catalog*
 - *Not implemented (yet): hierarchical organization between datasets*
- Dataset selection catalog
 - What are the datasets that match this user query? (not within DQ2)
- Dataset location catalog
 - Where is this data located?
- Dataset subscription catalog:
 - Keeps track of all requests for datasets to be resident at a site

Interacting with the Catalogs

- Create a new dataset, adding content and subscribing it to a site:
 - User interacts with DQ2 client API
 - Internally, DQ2 client API will:
 - Create a dataset unique ID (DUID)
 - Create a dataset version unique ID (VUID)
 - Whenever a dataset is created, the first version is also automatically created
 - Add DUID and VUID along with dataset name (and native dataset metadata) to the *repository catalog*
 - Add constituents (files) to the *content catalog*
 - Add either the DUID or VUID to the *subscription catalog*
 - Depending whether the user subscribed to a particular dataset version (VUID) or to the latest dataset version (DUID)

Dataset States

- A dataset can be:
 - Open
 - The latest version (latest *VUID*) is open so new files may be added to it
 - Closed
 - The latest version (latest *VUID*) is closed, no new files may be added to it
 - But... a new version may be added to the dataset (creating a new *VUID*)
 - Frozen
 - The latest version (latest *VUID*) is closed, no new files may be added to it
 - Additionally, no new version may be added to the dataset (the *DUID* is now immutable)
 - Deleted (new state starting from DQ2 0.3)
 - To keep datasets names unique.

Site Services

- Site services:
 - **Cataloguing** of data at the site
 - Movement of datasets to each site
 - Scheduled transfers by **subscribing a site to a dataset**
 - (always attempting to transfer entire dataset)
 - *Removal of old data at the site (not implemented yet in DQ2)*
 - *(see slides about 'aborted' datasets)*
 - Implementation allows for more flexible deployment model
 - (a single installation serving multiple sites, etc)

M.Branco.& P.Salgado DDM WS at CERN Nov 2006

Overview of a subscription workflow

- A subscription request is inserted by a user or program in the central catalogs
- Site services pull all subscription requests to the storage they are serving
- The subscription request is queued (with a 'fair' share) in the site services
- Site services then:
 - Find all missing files, resolve their source replicas by contacting remote catalogs, according to a subscription policy (*next slide*)
 - Partition request according to 'network' channels and submit them (typically to gLite FTS)
 - Allowing storage usage to be managed
 - Managing FTS queue of transfers
 - Retrying failed transfers
 - Register files onto site's local catalog

Subscription policies

- Users may configure the exact behavior of a subscription:
 - The sites to use as sources...
 - Known sources (user specifies list of sites to search for replicas)
 - Close sites ('geographically close sites')
 - Complete sources
 - DQ2 uses the location catalog list of complete dataset replicas as possible sources
 - Incomplete sources
 - DQ2 uses the location catalog list of incomplete dataset replicas as possible sources
 - Whether to wait for replicas to appear on any of the source sites or not...
 - keep retrying to find replicas if these are not immediately found

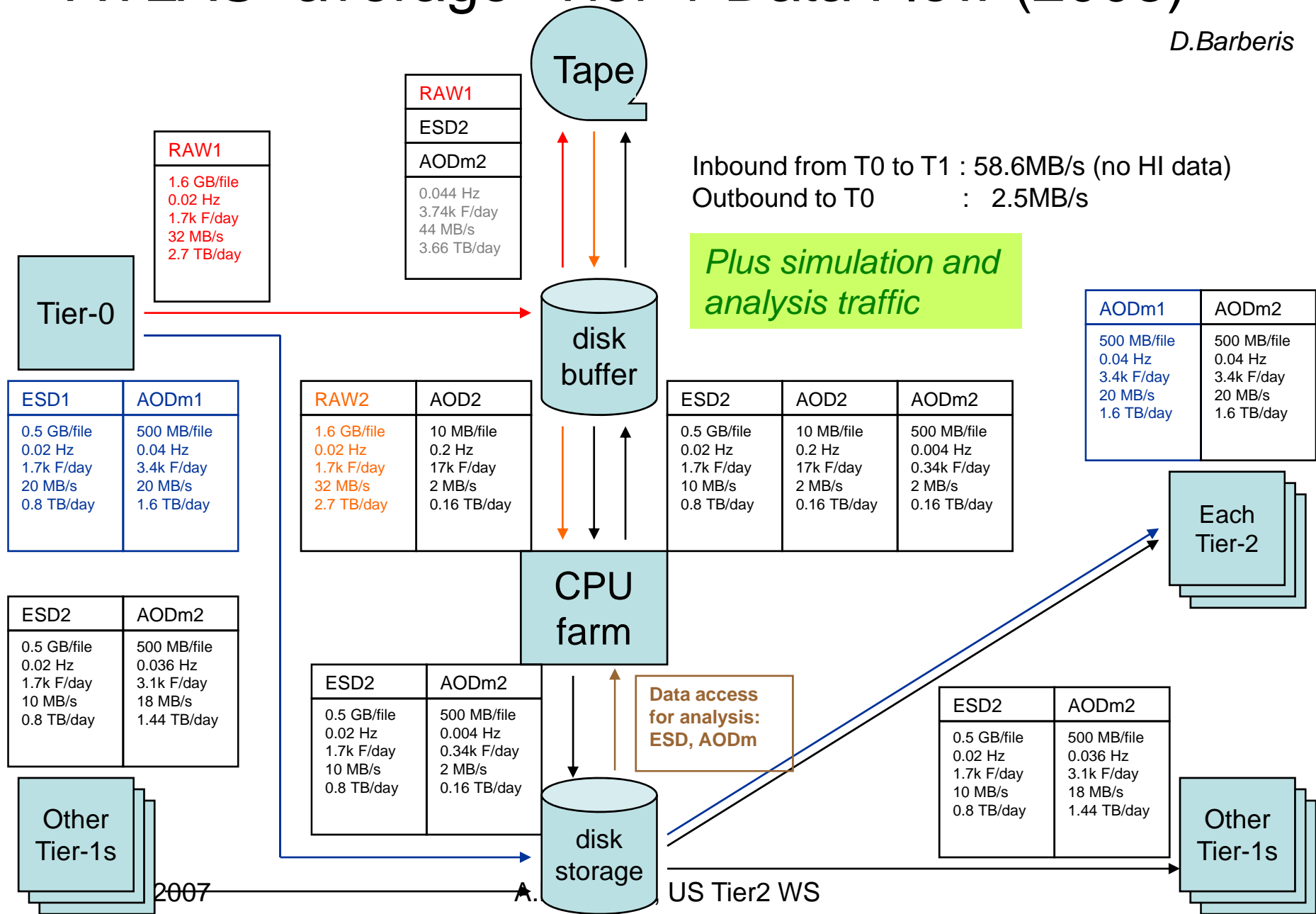
M.Branco.& P.Salgado DDM WS at CERN Nov 2006



DDM Operations

ATLAS “average” Tier-1 Data Flow (2008)

D.Barberis



ATLAS Distributed Data Management Operations is described in note (ATL-SOFT-PUB-2006-006)

ATLAS Distributed Data Management Operations

D.Barberis, J.Chudoba, S.Jezequel, J.Kennedy, A.Klimentov, D.Liko, P.Nevski, A.Olszewski, L.Perini, G.Poulard

The note addresses :

DDM day-by-day operations

Operations team organization and responsibilities

Manpower and funding issues

Roles and responsibilities of Tier-1s and Tier-2s coordinators

https://twiki.cern.ch/twiki/bin/viewfile/Atlas/DDMOperations?rev=2;filename=DDMops_Note.pdf

Deployment and Operations Model

- Dataset catalogues
 - Single instance at CERN, serving complete ATLAS
 - No regional catalogues deployed
- Clouds and Tiers
 - LCG
 - DQ2 0.2 : *VO box* and LFC are located at Tier-1 and serve the whole cloud
 - DQ2 0.3 : *VO boxes* are located at CERN, LFCs are located at Tier-1s
 - 1 LFC instance per cloud
 - US ATLAS operates all DQ2 instances at the site-level, with ‘expert’ support at BNL
 - Each Tier 1/2 has *VO box* and LRC
 - New Operations model (TBD)
 - NordicGrid
 - Using LRC as file catalog (1 instance per cloud)
 - 1 DQ2 *VO box* per cloud

VO box – Virtual Organization Box, dedicated computer(s) on site to run ATLAS specific services

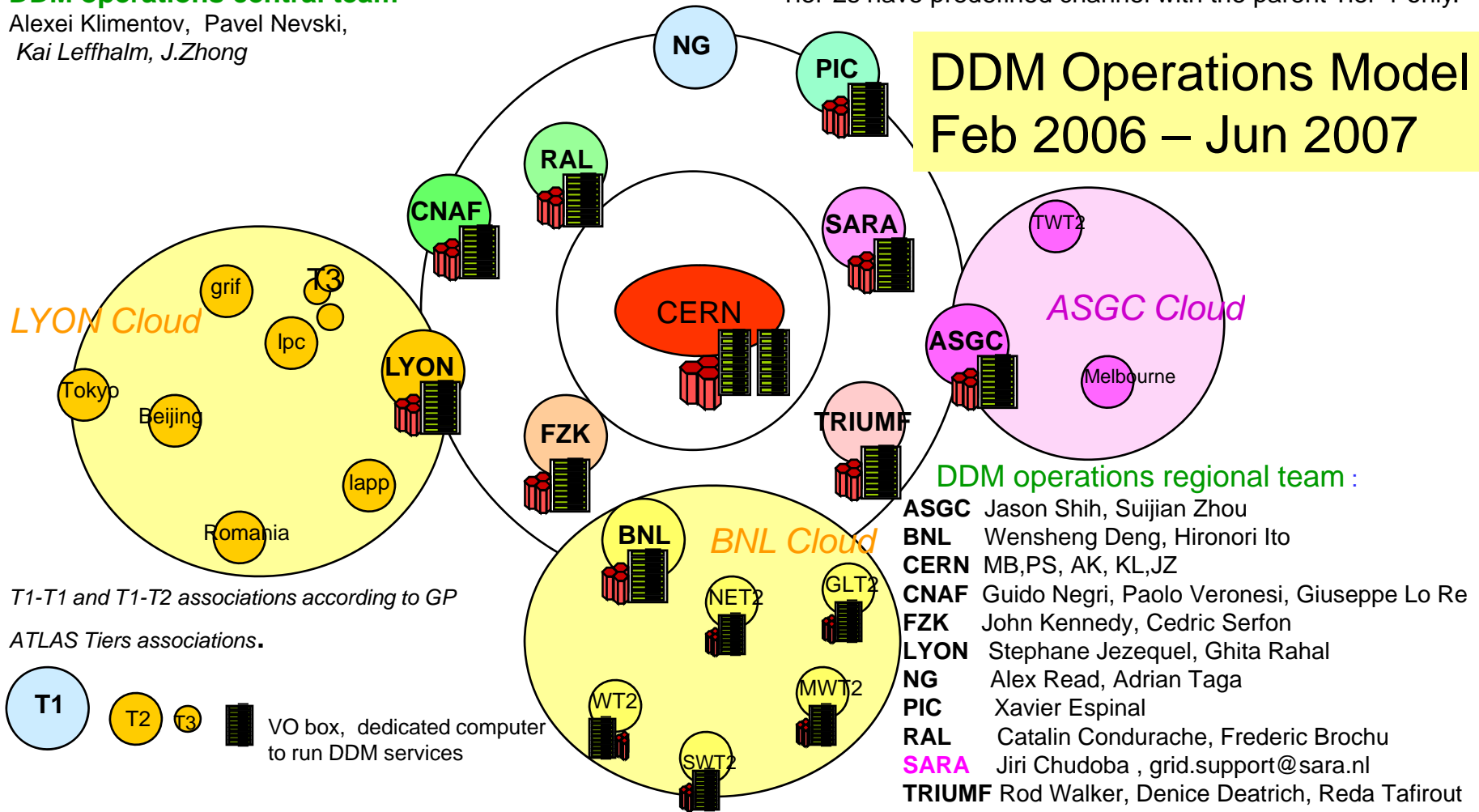
DDM Deployment and Operations Model (DQ2 0.2)

- ✓ All Tier-1s have predefined (software) channel with CERN and with each other.
- ✓ Tier-2s are associated with one Tier-1 and form the cloud
- ✓ Tier-2s have predefined channel with the parent Tier-1 only.

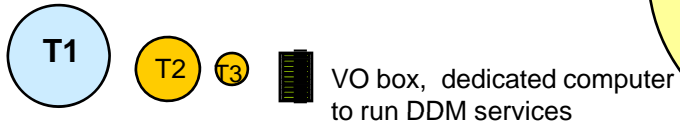
DDM operations central team

Alexei Klimentov, Pavel Nevski,
Kai Leffhalm, J.Zhong

DDM Operations Model
Feb 2006 – Jun 2007



T1-T1 and T1-T2 associations according to GP
ATLAS Tiers associations.

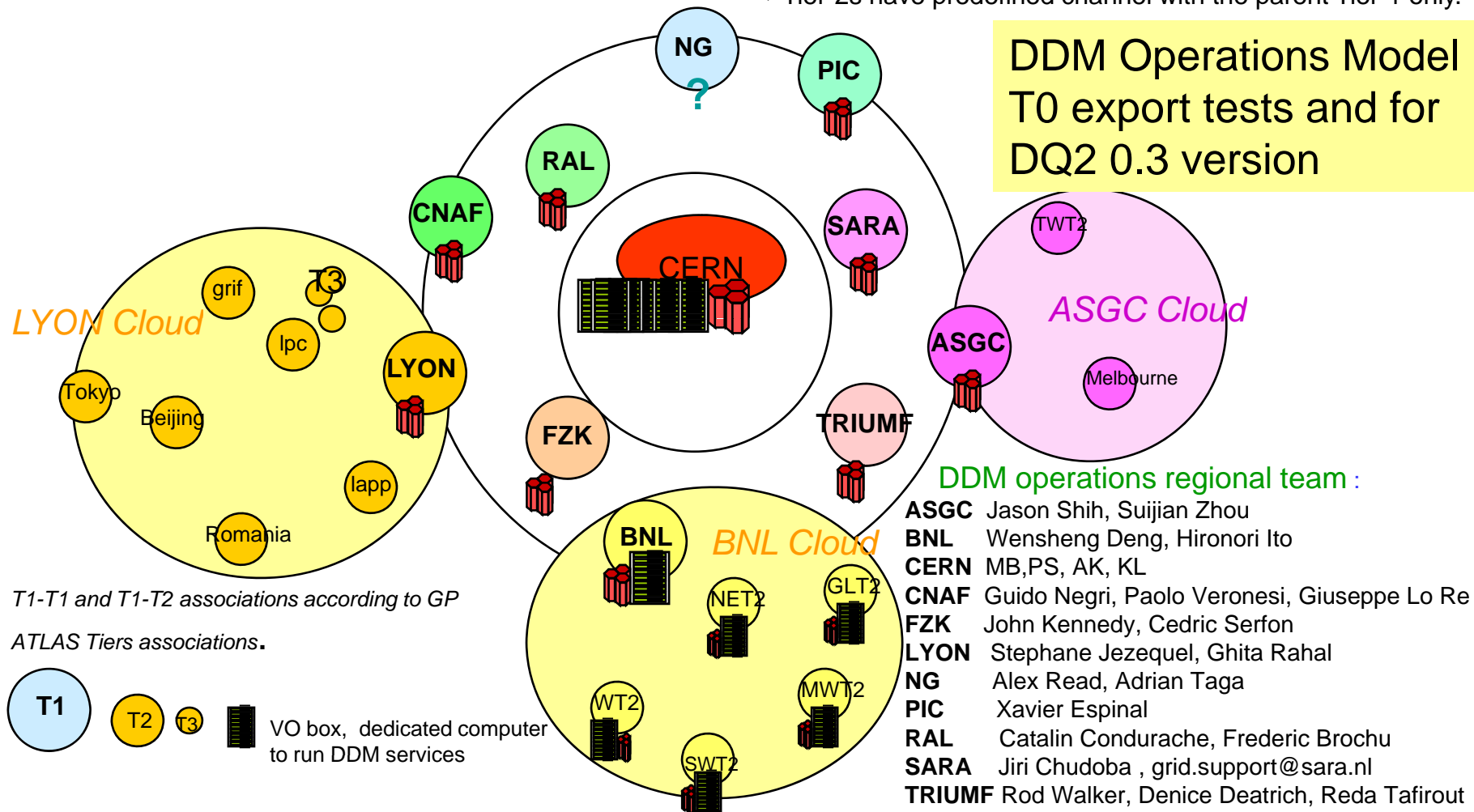


DDM Deployment and Operations Model (DQ2 0.3)

DDM operations central team

Alexei Klimentov, Pavel Nevski, Kai Leffhalm

- ✓ All Tier-1s have predefined (software) channel with CERN and with each other.
- ✓ Tier-2s are associated with one Tier-1 and form the cloud
- ✓ Tier-2s have predefined channel with the parent Tier-1 only.



T1-T1 and T1-T2 associations according to GP

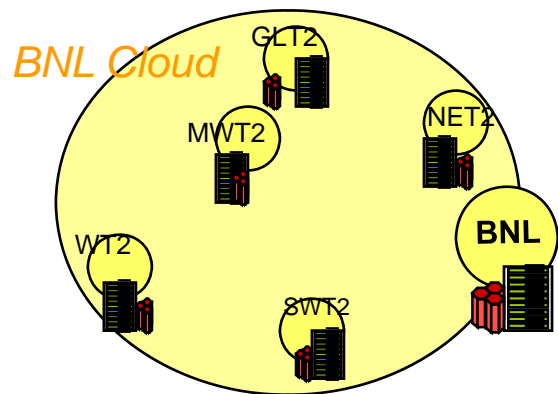
ATLAS Tiers associations.

Jun 2007

A.Klimentov, US Tier2 WS

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Regional DDM Deployment and Operations Model

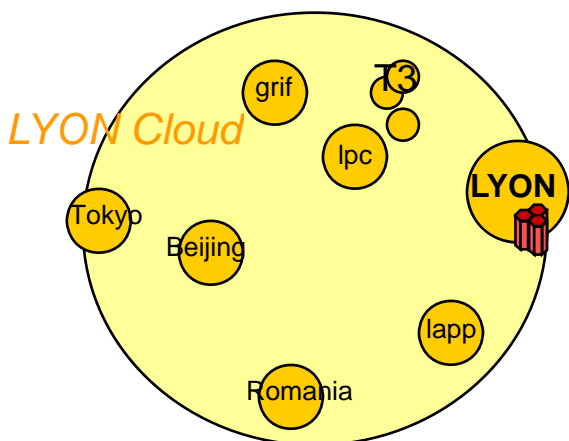


DDM services on sites

CERN : Central services and central DB

T1Cloud :

- dedicated machine (VO box, before 0.3)*
- site services DB
- local file catalog (LFC)
- (one instance per cloud)



BNLCloud : all sites (Tier-1 and Tier-2) have VO box and local file catalog (LFC)

Tier-3s :

French Model :

1. Tier-3s are described in ToA
2. For DDM Tier-3s looks the same as Tier-2s

Russian Model :

1. T2 Federation of Russian Institutes
2. For DDM each Institute/University looks the same as Tier-2

T1-T1 and T1-T2 associations according to GP

ATLAS Tiers associations.



US Tier-3s DDM Operations Model (*proposal*)

- Tier-3s File Catalog
 - Hosted at BNL
 - 1 Instance for all Tier-3s
- No *VO(*) box* at Tier-3, dedicated VO box(es) at BNL
- Dedicated *FTS (*)* channel to BNL
- Data subscription and replication by predefined requests preferably under control of Tier-1 (BNL)

(*) *FTS* – File Transfer Services. *FTS channel* is a SW channel



ATLAS Datasets

Datasets Naming Convention

- *Dataset* is a set of data produced (taken) under the same logical conditions. It is a minimal portion of data movable across the GRID by DQ2 and is expected to consist of uniform files suitable with the same application.

(f.e. dataset cannot have raw and reconstructed data)

The current convention

Project.NNNNNN.PhRef.ProductionStep.Format.Version

- The dataset name has a predefined number of fields which all should be present and non-empty. The fields can be of arbitrary length, but the total name length must not exceed 80 characters. Only [a-z,A-Z,0-9,_.] characters are allowed in a dataset name. The dot character is only used to separate fields. Internally, no distinction is made between lowercase and uppercase letters in the DS name. A field name cannot start with underscore.
- MC Datasets fields definition
 - **Project** - ATLAS project (csc11,streamtest, etc)
 - **NNNNNN** – Monte Carlo dataset number (6 digits with leading zeros, DSN + physics ref = unique combination)
 - **PhRef** - short (!!) physics reference
 - **ProductionStep** - production step (simul, recon, digit)
 - **Format** - data format (AOD, ESD, HITS, RDO, NTUP, etc)
 - **Version** – ATLAS release in the form **vMMmmpptt** (f.e. 12.06.01 will be v12000601)

Data Quality Datasets

- This is for the moment pure hypothesis, we cannot define a convention until we know what they are planning.
- One can assume that most of the fields will still be valid – but not runNumber, as probably multi- run. Don't mix different data types, don't mix different SWVersion etc.
- Might look like:

`Project.period.stream.ESD.pass.SWVersion`

(where period is something like “2010_Q3”)

Also *period* can be used as a first field in dataset name

- But at the moment we need more information on how the Data Quality group will work

Slide from Solveig Albrand

User/Group private analysis datasets

- Let each user define his own space – framed by the general ATLAS convention..
- Deal with homonyms – use VOMS nickname for users, and VOMS physics group names for groups?
- Keep universal rules for length, characters etc. (of course)
- Might look like:

userName.myDataset.AOD.SWVersion
groupName.ourDataset.AOD.SWVersion

Slide from Solveig Albrand

“Private/local system” datasets

- Example from Panda:
 - Panda splits datasets on pieces adding suffix '_disNN', '_subNN'
 - The lifetime of these datasets is limited by lifetime for production tasks
- So – perhaps we should add a rule that the dataset name should only be altered within a sub-system by the addition of a suffix? The aim is that it stays identifiable to the outside world.

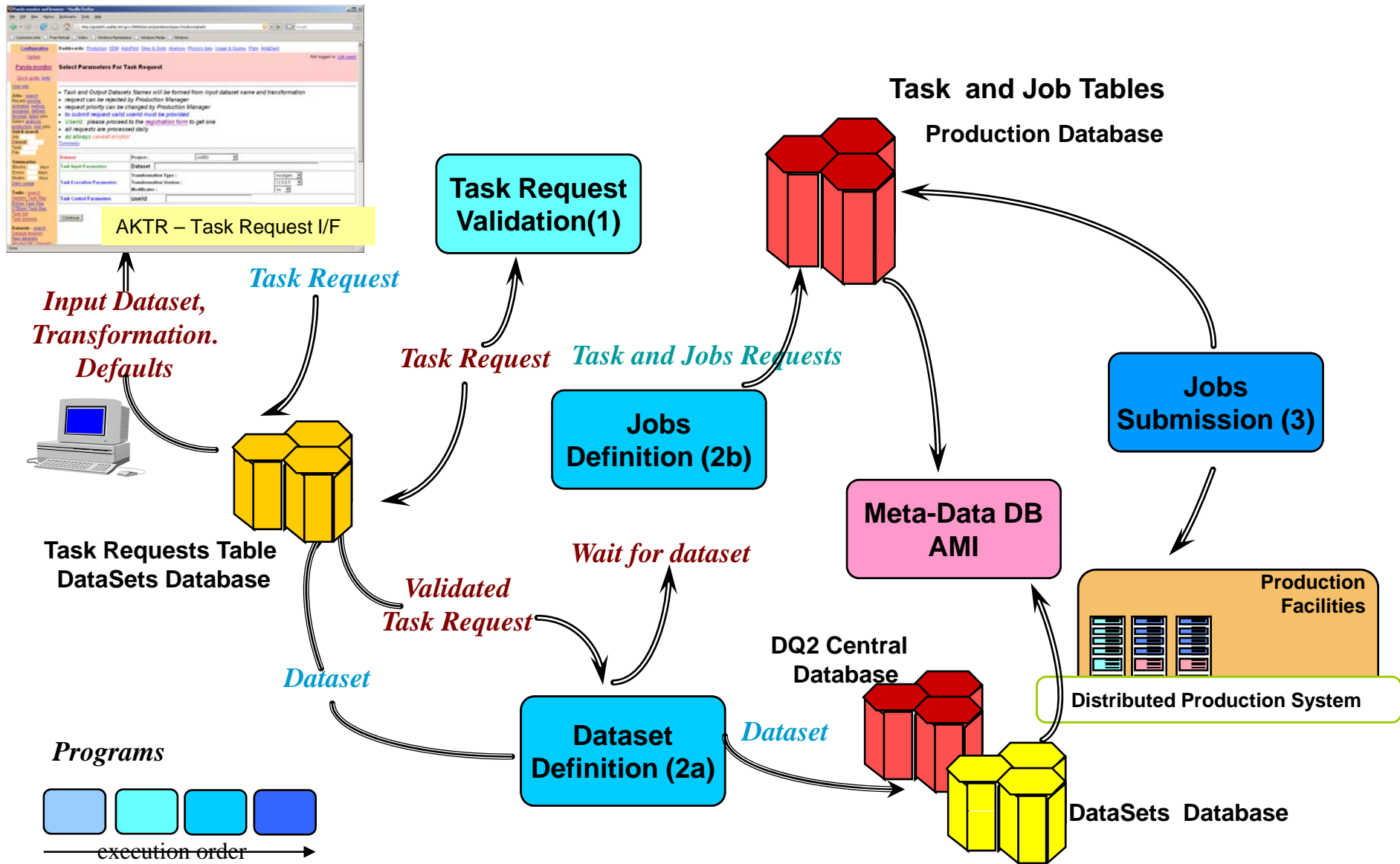
Slide from Solveig Albrand

Collections

- Even more hazy.
- Obviously we need to know it is an event collection type of dataset.
- “Implicit” collections should follow as far as possible the primary dataset nomenclature because they should be produced at the end of the “automatic” production.
- “Explicit” collections are probably more like user analysis file datasets

Slide from Solveig Albrand

ATLAS task and dataset registration



Tasks/Datasets In Action

Task browser

[Click for help](#)

Current selection: STATUS=running&GRID=osg

Physics type	Events
A3_Ztautau_tightfilter	20000
AlpgeJimmyW4jet	80000
Bs_Jpsi_mu6mu3_phi_KplusKminus	10000
Electron_Pt_25	20000
Electrons_e100	40000
FJ1_fwjets_e200	20000
FJ2_pythia_jetjet	100000
Gmm_500_pythia_photos	250000
H3_120_gamgam	10000
J1_pythia_jetjet	150000
J2_Pt_35_70	20000
J2_pythia_jetjet	150000
J3_Pt_70_140	20000
J3_pythia_jetjet	150000
J4_pythia_jetjet	150000
J5_Pt_280_560	20000
J5_pythia_jetjet	150000
J6_Pt_560_1120	30000
J6_pythia_jetjet	50000
J7_pythia_jetjet	30000
J8_pythia_jetjet	30000
JF17_pythia_jet_filter	3000000
JF17_pythia_loosejet_filter	1800000
LRSM_WR_1800_300	60000
M1_minbias	20000
McAtNloWenu	45000
McAtNloWmunu	60000
P5P_Single211	40000
P7P_Single211	20000
Photon_Pt_60	20000
Photons_e100	40000
PythiaH120gamgam	240000
PythiaH130zz4l	200000

Task browser

[Click for help](#)

Current selection: STATUS=running&GRID=osg [Clear selection](#)

[Click to show and select physics types](#)

Releases: [v11000301](#) (46) [v11000302](#) (77) [v11000303](#) (61) [v11000304](#) (12) [v11000305](#) (37) [v11000306](#) (9) [v11000307](#) (6) [v11000308](#) (33) [v11000401](#) (1)
 Stages: [digit](#) (99) [evgen](#) (74) [merge](#) (18) [reco](#) (24) [recon](#) (67)
 Outputs: [AOD](#) (106) [CBNT](#) (97) [ESD](#) (88) [EVNT](#) (74) [HIST](#) (9) [HITS](#) (102) [RDO](#) (102) [TAG](#) (18)
 Grids: [osg](#) (28) [anvgird](#) (1) [nordic](#) (52) [osg](#) (81) [lcg-cg](#) (120)
 Status: [aborted](#) (12) [done](#) (115) [finished](#) (13) [rejected](#) (1) [running](#) (108) [submitted](#) (33)

Total selected events=2160000 jobs=21095 jobs done=16645

Task name	Task ID	Status	Grid	Total jobs	Done jobs	Events	Input files	Release	Formats
mc11.007204.singlepart_mu4.recon.v11000302	694	running	osg	2200	1498	220000	2200	11.0.3	ESD.AOD.CBNT
mc11.007430.singlepart_singlepi_pt2.digit.v11000308	667	running	osg	500	331	100000	20	11.0.3	RDO.HITS
mc11.007200.singlepart_mu2.recon.v11000303	570	running	osg	500	464	50000	500	11.0.3	ESD.AOD.CBNT
mc11.007200.singlepart_mu2.digit.v11000303									IDO.HITS
mc11.007222.singlepart_mu26.recon.v11000303									:SD.AOD.CBNT
mc11.007216.singlepart_mu18.recon.v11000303									:SD.AOD.CBNT
mc11.007211.singlepart_mu10.recon.v11000303									:SD.AOD.CBNT
mc11.007207.singlepart_mu6.recon.v11000303									:SD.AOD.CBNT
mc11.007216.singlepart_mu18.digit.v11000302									IDO.HITS
mc11.007207.singlepart_mu6.digit.v11000302									IDO.HITS
mc11.005001.pythia_minbias.recon.v11000304									:SD.AOD.CBNT
mc11.005001.pythia_minbias.digit.v11000304									IDO.HITS
mc11.005800.JF17_pythia_loosejet_filter.recon									:SD.AOD.CBNT
mc11.005800.JF17_pythia_loosejet_filter.digit									IDO.HITS
mc11.005055.PythiaPhotonJet1.recon.v11000303									:SD.AOD.CBNT
mc11.005056.PythiaPhotonJet2.recon.v11000303									:SD.AOD.CBNT
mc11.005056.PythiaPhotonJet3.recon.v11000303									IDO.HITS

Task mc11.007216.singlepart_mu18.recon.v11000303

Datasets for task mc11.007216.singlepart_mu18.recon.v11000303

- [mc11.007216.singlepart_mu18.recon.ESD.v11000303](#)
- [mc11.007216.singlepart_mu18.recon.AOD.v11000303](#)
- [mc11.007216.singlepart_mu18.recon.CBNT.v11000303](#)

Parameters for task mc11.007216.singlepart_mu18.recon.v11000303

Task ID	562
Project	mc11
Input dataset	mc11.007216.singlepart_mu18.digit.v11000302
Task name	mc11.007216.singlepart_mu18.recon.v11000303
Formats	ESD.AOD.CBNT
Transformation	csc.reco.trf
Trf Version	11.0.3.3
Release	11.0.3
Owner	i_hinchliffe@lbl.gov
CPU/event	100
Memory usage	600
First inputfile number	1
Input files	2200
Events	220000
Events/file	100
Grid	osg

Jobs - [search](#)
[running](#), [activated](#),
[waiting](#), [assigned](#),
[defined](#), [finished](#),
[failed](#)
[Analysis jobs](#)
[Old archive](#)

Quick search

PandaID
 Dataset
 Task

Summaries

Blocks: days
 Errors: days
 Nodes: days

Tasks - search

[Generic Task Reg](#)
[EvGen Task Reg](#)
[CTBsim Task Reg](#)
[Full task list](#)
[Task browser](#)

Datasets - search

[In, out, dispatch, all](#)
[Subscriptions](#)

Sites

[Site specs](#)
[BNL BU OU UC](#)
[UTA LCG NG All](#)

System statistics

Logging monitor

Tasks define production tasks and record their associated metadata

Task Query Form

- Text fields don't require the exact matching
- Queries in *italic* not implemented yet

MC Task

Project :

Input Dataset :

Transformation :

Transformation Version :

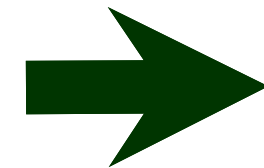
Grid Flavour :

Requested By :

Output Task Name :

Priority :

Status :



Datasets define and organize the task inputs and outputs

Datasets Replication

- Centralized
 - AODs/NTUPs datasets distribution (also TAG and HPTV in the near future)
 - Database releases
 - Validation samples
 - Streaming test datasets
- Individual or Group or Cloud
 - via DDM data transfer I/F
 - using dq2_get and dq2_cr
 - using DQ2 client

AOD/NTUP Replication Policy

- ATLAS wide (*)
 - AOD and NTUP datasets are replicated to ALL Tier-1s. Tier-2s decide what fraction of data they want to copy.
 - Each Tier-2 defines or list of patterns or ‘%%’ of data (f.e. if 2 Tier-2s want to share the complete copy, each will define 50%)
- US ATLAS (**)
 - Each Tier-2 has a complete copy of AODs
 - Each Tier-3 defines list of patterns
 - Tier-3 patterns list will need an approval
- AOD replication status is available

<http://panda.atlascomp.org/?mode=listAODReplications>

(*) *because of disk storage problem on many LCG sites, files size and DDM/DQ2 overhead for file transfer, we don't follow ATLAS computing model for TAG and HPNTV datasets replication. The policy is defined by Physics Coordinator.*

(**) *Currently : AGLT2 – 100%, SLACXRD – 30%, UTA – 10%*

P. McGuigan

Atlas AODs/NTUPS delivered in BNL CLOUD

Data generated at 04:01 Jun-16, 2007
Data Generation took 1235 seconds
Dataset List was retrieved at 03:43 Jun-16, 2007

Number of datasets by category:

AOD: 1833
NTUP: 1427

Sites with LRC problems (could not connect):

MWT2_UC
MWT2_IU
SLAC

Summary by category

Category	BNL Files (GB)	AGLT2 Files (GB)	BU Files (GB)	SLACXRD Files (GB)	UTA Files (GB)	UTA_SWT2 Files (GB)
AOD	291,648 (18,184)	31,604 (1,618)	4,630 (399)	43,929 (3,732)	75,749 (4,332)	2,700 (186)
NTUP	289,238 (5,812)	30,580 (581)	2,643 (68)	38,240 (828)	76,377 (1,482)	1,637 (33)
Totals	580,886 (23,997)	62,184 (2,199)	7,273 (468)	82,169 (4,561)	152,126 (5,814)	4,337 (219)

Details for AOD

DS Name	BNL	AGLT2	BU	SLACXRD	UTA	UTA_SWT2
	Files	Files	Files	Files	Files	Files

Done	BNL	AGLT2	BU	SLACXRD	UTA	UTA_SWT2
replicas, subscriptions(req. %)	224/67(20)	112/33(10)	168/50(15)	450/133(40)	168/50(15)	
replicas, subscriptions(req. %)	63/0(5)	51/1(1)	165/12(10)	97/0(1)	31/4(2)	178/0(10)
replicas, subscriptions(req. %)	401/43(25)	1566/210(100)	405/39(25)	391/53(25)	400/44(25)	
replicas, subscriptions(req. %)	159/1(R)	302/3(R)	222/3(R)	125/0(R)		
replicas, subscriptions(req. %)	98/1(R)					
replicas, subscriptions(req. %)	29/4(25)	59/8(50)	29/4(25)			
replicas, subscriptions(req. %)	952/113(60)	18/68(40)				
replicas, subscriptions(req. %)	102/253(20)	131/318(20)	100/353(20)	131/277(20)	113/327(20)	
replicas, subscriptions(req. %)	1450/328(100)	284/15(0)	331/0(50)	331/0(50)	471/81(30)	1/176(10)

US ATLAS Tiers Data Replication Status

AOD datasets replication status (Tue Jun 19 2007)

- Datasets are automatically subscribed to Tier-1s and complete replicas. Tier-2s are subscribed from Tier-1 in
- Green - site has a complete dataset replicas (dat
- Orange - if site has an incomplete dataset replica
- Red - Site has 0 files
- Magenta - Site not subscribed or subscription is no

Total Datasets : 3222, AOD&NTUP datasets

Sites :	1	2
Complete Replicas on sites	1115	184

Last Datasets Subscription : Mon Jun 18 14:56:44 2007

ATLAS AODs on sites : ASGC CERN BNL

T2 subscription requests (AOD) within clouds : Last D

CANADA	ALBERTA	MONTREAL	SF
replicas, subscriptions(req. %)	224/67(20)	112/33(10)	168/50(15)
replicas, subscriptions(req. %)	63/0(5)	51/1(1)	165/12(10)
replicas, subscriptions(req. %)	401/43(25)	1566/210(100)	405/39(25)
replicas, subscriptions(req. %)	159/1(R)	302/3(R)	222/3(R)
replicas, subscriptions(req. %)	98/1(R)		
replicas, subscriptions(req. %)	29/4(25)	59/8(50)	29/4(25)
replicas, subscriptions(req. %)	952/113(60)	18/68(40)	
replicas, subscriptions(req. %)	102/253(20)	131/318(20)	100/353(20)
replicas, subscriptions(req. %)	1450/328(100)	284/15(0)	331/0(50)

ARDA Monitoring DQ2 Dataset Browser

Panda monitor and browser - Windows Internet Explorer

http://gridui02.usatlas.bnl.gov:25880/server/pandamon/query?mode=listAODReplica

how to place screen c

717 blocked

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Transferred data for BNL Cloud - Windows Internet Explorer

http://gl03.swt2.uta.edu:8000/bnl_cloud.html

how to place screen c

717 blocked

Search Web

Atlas AODs/NTUPS delivered in BNL CLOUD

Data generated at 04:01 Jun-16, 2007

Data Generation took 1235 seconds

Dataset List was retrieved at 03:43 Jun-16, 2007

Number of datasets by category:

AOD: 1833

NTUP: 1427

Sites with LRC problems (could not connect):

MWT2_UC

MWT2_IU

SLAC

Summary by category

Category	BNL	AGLT2	BU	SLACXRD	UTA	UTA_SWT2
	Files (GB)	Files (GB)	Files (GB)	Files (GB)	Files (GB)	Files (GB)
AOD	291,648 (18,184)	31,604 (1,618)	4,630 (399)	43,929 (3,732)	75,749 (4,332)	2,700 (186)
NTUP	289,238 (5,812)	30,580 (581)	2,643 (68)	38,240 (828)	76,377 (1,482)	1,637 (33)
Totals	580,886 (23,997)	62,184 (2,199)	7,273 (468)	82,169 (4,561)	152,126 (5,814)	4,337 (219)

Details for AOD

DS Name	BNL	AGLT2	BU	SLACXRD	UTA	UTA_SWT2
	Files	Files	Files	Files	Files	Files

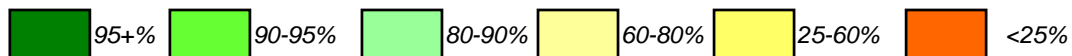
Done	BNL	AGLT2	BU	SLACXRD	UTA	UTA_SWT2
replicas, subscriptions(req. %)	224/67(20)	112/33(10)	168/50(15)	450/133(40)	168/50(15)	
replicas, subscriptions(req. %)	63/0(5)	51/1(1)	165/12(10)	97/0(1)	31/4(2)	178/0(10)
replicas, subscriptions(req. %)	401/43(25)	1566/210(100)	405/39(25)	391/53(25)	400/44(25)	
replicas, subscriptions(req. %)	159/1(R)	302/3(R)	222/3(R)	125/0(R)		
replicas, subscriptions(req. %)	98/1(R)					
replicas, subscriptions(req. %)	29/4(25)	59/8(50)	29/4(25)			
replicas, subscriptions(req. %)	952/113(60)	18/68(40)				
replicas, subscriptions(req. %)	102/253(20)	131/318(20)	100/353(20)	131/277(20)	113/327(20)	
replicas, subscriptions(req. %)	1450/328(100)	284/15(0)	331/0(50)	331/0(50)	471/81(30)	1/176(10)

US ATLAS Tiers Data Replication Status

AOD and NTUP Replication Status (Tier-1s)

- *Data replication period Feb-Jun 2007, DQ2 0.2*
- *Total data volume : 3200+ datasets, 570+Kfiles, 23+TB*

to \ from	ASGC	BNL	CERN	CNAF	FZK	LYON	NG	PIC	RAL	SARA	TRIUMF	%
ASGC	Grey	Yellow	Dark Green	Yellow	Light Green	Dark Green	Dark Green	Yellow	Orange	Yellow	Dark Green	80
BNL	Dark Green	Grey	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green	Yellow	Yellow	Yellow	Dark Green	92
CERN	Light Green	Yellow	Grey	Orange	Yellow	Yellow	Yellow	Yellow	Orange	Yellow	Light Green	45
CNAF	Light Green	Orange	Light Green	Grey	Orange	Orange	Yellow	Orange	Orange	Yellow	Light Green	21
FZK	Light Green	Light Green	Dark Green	Yellow	Grey	Dark Green	Light Green	Yellow	Yellow	Yellow	Light Green	84
LYON	Dark Green	Light Green	Dark Green	Yellow	Dark Green	Grey	Dark Green	Yellow	Yellow	Light Green	Dark Green	85
NG	Light Green	Light Green	Light Green	Light Green	Light Green	Dark Green	Grey	Yellow	Orange	Yellow	Yellow	82
PIC	Orange	Orange	Orange	Orange	Orange	Orange	Orange	Grey	Orange	Orange	Orange	X
RAL	Yellow	Orange	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Grey	Yellow	Orange	25
NIKHEF	Light Green	Orange	Light Green	Yellow	Yellow	Yellow	Yellow	Yellow	Orange	Grey	Light Green	36
TRIUMF	Dark Green	Orange	Light Green	Yellow	Yellow	Yellow	Light Green	Yellow	Orange	Yellow	Grey	36



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DQ2 dataset browser

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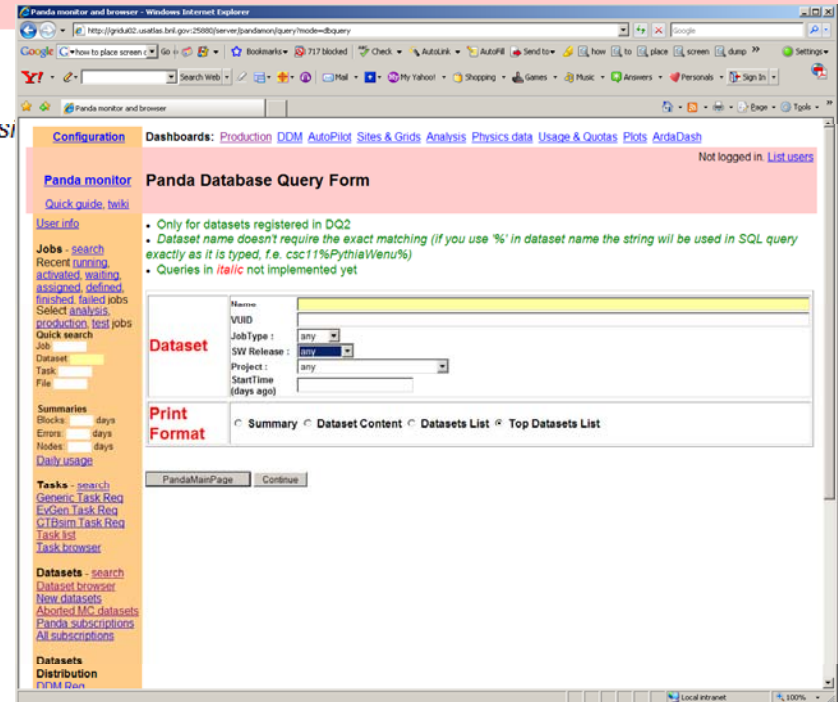
Dataset lists last updated 407 min ago

Select a project: Go

Or (the old way) select a dataset category *Counts are totals, excluding conditions*

Category	Count	Description
All	150419	All datasets
T0	0	Tier 0 test
conditions	29	Datasets for conditions data files
csc	4389	Computing system commissioning production
ctb	88	Combined testbeam production
dc2	6	Data Challenge 2 production
destination	42340	Panda destination sub-blocks
dispatch	25708	Panda dispatch blocks
larg	53	LAr commissioning
mc	4308	MC validation production
other	40934	Everything else
rome	210	Rome physics workshop production
testpanda	1315	Panda test datasets
tile	52	Tilecal commissioning
user	21144	User datasets
validation	642	Validation samples (testIdeal* etc)

More about datasets status and availability



Choose a site if you want to restrict dataset listings to site-resident datasets

CANADA	CERN	FRANCE	GERMANY	ITALY	NL	SPAIN	TAIWAN	UK	US
ALBERTA	CERNCAF	BEIJING	CSCS	CNAF	IHEP	IFAE	ASGC	RAL	BN
MONTREAL	CERNINTEGRATIONTEST1	CPPM	CYE	CNAFDISK	ITEP	IFIC	ASGCDISK	RALDISK	BN
SFU	CERNPROD	LAL	DESY-HH	CNAFTAPE	JINR	IFICDISK	ASGCTAPE	RALTAPE	BN
TORON	TIER0DISK	LAPP	DESY-ZN	LNF	NIKHEF	IFICTAPE	AU-	UKTIER2S	BN
TRIUMF	TIER0TAPE	LPC	FZK	MILANO	PNPI	PIC	UNIMELB	EDINBURGH	BN
TRIUMFDISK		LPNHE	FZKDISK	NAPOLI	SARA	PICDISK	TW-FTT	GLASGOW	BN
TRIUMFTAPE		LYON	FZKTAPE	ROMA1	SARADISK	PICTAPE		MANC	BN
UVIC		LYONDISK	FZU		SARATAPE	UAM		LANCS	BU
		LYONTAPE	LRZ		SINP			LIV	BU

Dashboards: [Production](#) [DDM](#) [AutoPilot](#)

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Aborted Datasets

Tasks are aborted, or data is obsolete
the list is defined by Physics Coordinator
Data deletion is sites responsibility
DDM operations deletes datasets from central catalog
and maintains the list of deleted tasks/datasets

List of the datasets is generated using

[h](#)
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- **log datasets** are not listed, but they will be deleted. Datasets of empty and test tasks are not listed
- **Timestamp** indicates time when dataset/task info was updated
- **Status :**
- **aborted/failed** - task is aborted/failed and dataset will be deleted w/o notification
- **deleted** - dataset is deleted from DQ2 catalog
- **toBeErased** - dataset will be deleted soon
- **waitErased** - dataset will be deleted after timestamp + 1 week (sites notified)

It is sites responsibilities to delete files from SE, Files Catalog entries and stop subscriptions. The recommended procedure for [sites](#), for LCG sites (TBD)

Only recent 500 datasets are listed. The whole list is [here](#)

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Dataset	Task ID	Status	Timestamp
trig1_misal1_csc11.005862.A10_Atautau_filter.recon.ESD.v12000601_tid0010494	10494	waitErased	Jun 15 16:16:28
trig1_misal1_csc11.005862.A10_Atautau_filter.recon.AOD.v12000601_tid0010494	10494	waitErased	Jun 15 16:16:28
trig1_misal1_csc11.005862.A10_Atautau_filter.recon.NTUP.v12000601_tid0010494	10494	waitErased	Jun 15 16:16:28
misal1_csc11.005862.A10_Atautau_filter.digit.RDO.v12003103_tid0010493	10493	waitErased	Jun 15 16:16:28
misal1_csc11.005862.A10_Atautau_filter.simul.HITS.v12003103_tid0010493	10493	waitErased	Jun 15 16:16:28
trig1_misal1_mc12.006346.A10_600_Atautau_filter.recon.ESD.v12000604_tid0010439	10439	waitErased	Jun 15 16:16:28
trig1_misal1_mc12.006346.A10_600_Atautau_filter.recon.AOD.v12000604_tid0010439	10439	waitErased	Jun 15 16:16:28
trig1_misal1_mc12.006346.A10_600_Atautau_filter.recon.NTUP.v12000604_tid0010439	10439	waitErased	Jun 15 16:16:28
misal1_mc12.008097.PythiaPhotonJet3_FIXED.digit.RDO.v12003103_tid0010368	10368	waitErased	Jun 15 16:16:28
misal1_mc12.008097.PythiaPhotonJet3_FIXED.simul.HITS.v12003103_tid0010368	10368	waitErased	Jun 15 16:16:28
mc12.007263.singlepart_mu_p5.evgen.EVNT.v12000604_tid0010365	10365	waitErased	Jun 15 16:16:28

Panda monitor and browser - Windows Internet Explorer

http://gridui02.usatlas.bnl.gov:25880/server/pandamon/query?mode=listRDOreplications

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Google C screen dump into PPT Go Bookmarks 717 blocked Check AutoLink AutoFill Send to how to place screen dump Settings

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Panda monitor and browser

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Panda monitor **RDO Datasets Replication Status**

[Quick guide, twiki](#)

User info **RDO datasets replication status** (Mon Jun 18 11:58:21 2007 CET)

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Datasets Distribution

- **Datasets are automatically subscribed to CERNPROD**
- **Green** - site has a complete dataset replicas (data transfer is done)
- **Cyan** - 90% files (or more are replicated).
- **Orange** - if site has an incomplete dataset replicas. It also means that subscription is processed
- **Red** - Dataset has 0 files
- **Magenta** - CERNPROD is the only registered location, but there are no files at CERN

[Comments](#)

misal1%.*.RDO.v120031%_tid%

5001 5002 5009

5010 5011 5012 5013 5014 5015 5016 5017

5030 5031 5032 5033 5034 5035 5036 5037

5100 5101 5103 5117 5118

5144 5145

5200 5204

5802 5805

8078

8095 8096 8097 8098 8099

Total Datasets : 73 . Files : 524K/430K (53.855 TB)

Last Checked : Mon Jun 18 02:52:51 2007, Last Transfer : Mon Jun 18 02:40:26 2007

RDO consolidation : 73 524K/430K 53.855TB.

Dataset	Files	Copied	GBs	From
misal1_csc11.005002.pythia_diffractione.digit.RDO.v12003108_tid005902	1971	608	53	ASGCDISK,AU-UNIMELB,TW-IPAS-T2
misal1_mc12.005802.JF17_pythia_jet_filter.digit.RDO.v12003105_tid005481	28429	14329	1810	BNLPANDA
misal1_mc12.005802.JF17_pythia_jet_filter.digit.RDO.v12003105_tid005015	15630	18662	2356	BEIJING,CPPM,LAL,LAPP,LPC,LPNHE,LYON
misal1_csc11.005117.JimmyZeeLowM_onelep.digit.RDO.v12003105_tid004947	3993	3919	508	BEIJING,LPNHE,LYONDISK,SACLAY,TOKYO
misal1_mc12.008078.PythiaPhotonJet6_FIXED.digit.RDO.v12003108_tid004847	3982	3383	434	IFAE,IFICDISK,PICDISK,PICTAPE,UAM
misal1_mc12.005204.TTbar_FullHad_McAtNlo_Jimmy.digit.RDO.v12003108_tid004787	2016	2016	300	BNLPANDA
misal1_mc12.005200.T1_McAtNlo_Jimmy.digit.RDO.v12003108_tid004783	12259	12188	1754	BNLPANDA,LYONTAPE

List of patterns is defined by Physics Coordinator

Done

Local intranet 100%

Panda monitor and browser - Windows Internet Explorer

http://gridui02.usatlas.bnl.gov:25880/server/pandamon/query?mode=listDBRelease

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Database release replication status

- **Green** - site has a complete dataset replicas (data transfer is done)
- **Orange** - if site has an incomplete dataset replicas. It also means that subscription is processed
- **Red** - the subscription is not processed

[Comments](#)

Dataset	CANADA	CERN	FRANCE	FZK	ITALY	NDGF	NL	SPAIN	ASGC	UK	USA
ddo.000001.Atlas.Ideal.DBRelease.v040001 (Subscription Time : Sun Jun 10 11:34:42 2007)	TRIUMF ALBERTA MONTREAL SFU TORON UVIC	CERNCAF	BEIJING CPPM LAL LAPP LPC LPNHE LYON NIPNE_02 NIPNE_07 SACLAY TOKYO	FZK CSCS CYF DESY-HH DESY-ZN FZU LRZ UNI- FREIBURG WUP	CNAF LNF MILANO NAPOLI ROMA1	NDGFT1	IHEP JINR PNPI SARA SINP ITEP NIKHEF	PIC IFAE IFIC UAM	ASGC AU- UNIMELB TW-FTT	RAL EDINBURGH GLASGOW MANC LANCS LIV RALPP OXF CAM BHAM ICL LESC RHUL BRUN QMUL UCLCC UCLHEP DUR	BNL BU IU MWT2_IU OU OUHEP SLAC SLACXR UC UC_TP UTA WISC BU_1 IU_BC MWT2_UC SMU UC_VOB UMICH
ddo.000001.Atlas.Ideal.DBRelease.v030301 (Subscription Time : Mon Apr 23 05:55:25 2007)	ALBERTA MONTREAL SFU TORON TRIUMF UVIC	CERNCAF	BEIJING CPPM LAL LAPP LPC LPNHE LYON NIPNE_02 NIPNE_07 SACLAY TOKYO	CYF DESY-HH DESY-ZN FZK LRZ WUP CSCS FZU UNI- FREIBURG	CNAF LNF MILANO NAPOLI ROMA1	NDGFT1	IHEP JINR PNPI SARA SINP ITEP NIKHEF	IFAE IFIC PIC UAM	ASGC AU- UNIMELB TW-FTT	RAL EDINBURGH GLASGOW MANC LANCS LIV RALPP OXF CAM BHAM ICL LESC RHUL BRUN QMUL UCLCC UCLHEP DUR	BNL BU BU_TEST IU MWT2_IU MWT2_UC OU OUHEP SLAC SLACXR UC UC_TP UC_VOB UTA UTA_SWT2 WISC BU_1 IU_BC SMU UMICH
ddo.000001.Atlas.Ideal.DBRelease.v030101 (Subscription Time : Mon Feb 5 19:08:35 2007)	ALBERTA MONTREAL TORON TRIUMF SFU UVIC	CERNCAF	BEIJING CPPM LAL LAPP LPC LPNHE LYON NIPNE_02 NIPNE_07 SACLAY TOKYO	CSCS CYF DESY-HH DESY-ZN FZK FZU UNI- FREIBURG WUP LRZ	CNAF LNF MILANO NAPOLI ROMA1	NDGFT1	ITEP JINR PNPI SARA IHEP SINP NIKHEF	IFAE IFIC PIC UAM	ASGC AU- UNIMELB TW-FTT	RAL EDINBURGH GLASGOW MANC LANCS LIV OXF CAM BHAM RHUL BRUN QMUL UCLHEP DUR ICL LESC UCLCC	BNL BU BU_TEST IU MWT2_IU MWT2_UC OU OUHEP SLAC SLACXR UC UC_TP UC_VOB UTA UTA_SWT2 UTA_TEST1 LESC WISC BU_1 IU_BC SMU

Local intranet 100%

DB releases are distributed to all Tier-1s, Tier-2s and Tier-3s requested by DB Deployment Coordinator

List of datasets is defined by Validation Coordinator

Not logged in. [List users](#)

Validation Samples Replication Status

Validation Samples Datasets (Mon Jun 18 13:16:29 2007 CET)

- **Green** - site has a complete dataset replicas (data transfer is done)
- **Orange** - if site has an incomplete dataset replicas. It also means that subscription is processed
- **Red** - Site has 0 files
- **Magenta** - Site not subscribed or subscription is not processed

[Comments](#)

Request Time	Last Subscription Time	LFC Check Time	Last FileTransfer
May 30 12:01:51	Jun 8 11:41:27	Jun 16 12:32:19	Jun 16 11:43:29

Dataset	Subscription Source(s)	Files	Replicas
misal1_mc12.006354.AcerMCggTotttt.digit.RDO.v12000604_tid009571 (Subscription Time : Fri Jun 8 11:41:27 2007)	LAL LPNHE LYON SACLAY TOKYO	299	BNL CERNPROD
misal1_mc12.006354.AcerMCggTotttt.simul.HITS.v12000604_tid009571 (Subscription Time : Fri Jun 8 11:41:27 2007)	LAL LPNHE LYON LYON SACLAY TOKYO	299	RNI CERNPROD
misal1_mc12.006366.AlpGen_Jimmy_wbb_Lnubb.digit.RDO.v12000604_tid009569 (Subscription Time : Fri Jun 8 11:41:27 2007)	LPNHE LYON SACLAY TOKYO	299	BNL CERNPROD
misal1_mc12.006366.AlpGen_Jimmy_wbb_Lnubb.simul.HITS.v12000604_tid009569 (Subscription Time : Fri Jun 8 11:41:27 2007)	LPNHE LYON LYON SACLAY TOKYO	299	BNL CERNPROD
misal1_mc12.008801.Hijing_PbPb_5p5TeV_MinBias.digit.RDO.v12000605_tid009547 (Subscription Time : Wed May 30 12:06:32 2007)	BNL BNLPANDA CYF	36	CERNPROD LYON
misal1_mc12.008801.Hijing_PbPb_5p5TeV_MinBias.simul.HITS.v12000605_tid009547 (Subscription Time : Wed May 30 12:06:32 2007)	BNL BNLPANDA CYF	36	CERNPROD LYON
tria1 misal1 csc11.005016.J7 pvthia ietiet.recon.ESD.v12000604 tid009527	BNL BNLPANDA CYF	36	CERNPROD LYON

Datasets subscription and replication by User



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Panda monitor **Select Parameters For Subscription Request**

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- **Dataset pattern** : Preferably PhysicsShort (Icase sensitive!). Wild cards (*) are allowed (f.e. *Atautau*). Don't add dataset format to the pattern (PhysicsShort is the 3rd field in dataset name)
- **Validity** : *OneTimeCopy* only existing datasets are subscribed, and subscription is done only once *Periodic* the request is checked periodically and datasets matched to the pattern are subscribed. DQ2 option --wait-for-sources is used for both modes
- **Userid** : If you are not registered yet, please proceed to the [registration form](#) to get one
- **Destination Tier** : as in ToA (Consult [Tiers Of Atlas](#) for details). Usually Tier-2s are subscribed from the parent Tier-1, if dataset is missing on parent Tier-1, then Tier-1 is subscribed to it as well.
- **to submit request valid userid must be provided**
- **Approval process** : before subscription is started the request must be approved by Regional DDM Operations. In case of data transfer to Tier-2 the corresponding Tier-1 authorities are contacted to check available disk space and data transfer policy. Data transfer request for data volume 500+GB must be approved by Physics Coordinator
 - request can be rejected by Regional DDM Operations
 - request priority can be changed by Regional DDM Operations
 - all requests are processed daily
- **New Request** can be added by cloning the existing request. Click [Req list](#), select request you want to clone, edit it and click [AddRequest](#)
- **Transfer Volume** : fraction of dataset (in percent) to be replicated. The particular files within the dataset are selected randomly. The Transfer Volume can be changed only if Validity is 'OneTimeCopy'.
- **as always caveat emptor**

[Comments](#)

Subscription Parameters	Dataset Pattern	<input type="text"/>
	Software Version :	12.0.6.5
	Format :	AOD
	Destination (as in TiersOfAtlas)	<input type="text"/> (f.e. MILANO, AGLT2)
	Validity :	OneTimeCopy
	Priority :	Immediate
Control Parameters	userid	<input type="text"/>
	Req Type :	calibration
	Transfer Volume	100 %

A.Klimentov, C.Ciocca, S.Pirogov, A.Zaytsev

Local intranet 100%

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Datasets Replication Requests

- Only for datasets registered in DQ2
- *Dataset pattern name doesn't require the exact matching (if you use '%' in dataset name the string will be used in SQL query exactly as it is typed, f.e. %PythiaWenu%)*
- Queries in *italic* not implemented yet

Filter for patterns

Name:
 Tier:
 SW Release:

[ALL](#) [AU-UNIMELB](#) [BNLTAPE](#) [CERNPROD](#) [ITEP](#) [LNF](#) [LYONDISK](#) [MILANO](#) [MWT2_UC](#) [NAPOLI](#) [NIKHEF](#) [ROMA1](#)

Parameters of filter: Tier="BNLTAPE", Name="%", SW release="any"

Patterns	Datasets	LastRequest	Approved	Subscribed
15	15.0	Apr 23 05:02	May 3 17:20	May 3 17:20

Pattern	Release	ReqId	Destination	ReqStatus	Datasets	Timestamp
misal1_csc11.005015.J6_pythia_jetjet.digit.RDO.*	v12.0.31.1	142	BNLTAPE	done	1 [list]	May 3 17:20
misal1_csc11.005012.J3_pythia_jetjet.digit.RDO.*	v12.0.31.1	141	BNLTAPE	done	1 [list]	May 3 17:20
misal1_csc11.005011.J2_pythia_jetjet.digit.RDO.*	v12.0.31.1	140	BNLTAPE	subscribed	1 [list]	May 3 17:20
misal1_csc11.005010.J1_pythia_jetjet.digit.RDO.*	v12.0.31.3	139	BNLTAPE	transfer	1 [list]	May 3 17:20
calib1_mc12.007044.singlepart_gamma_Et500.digit.RDO.*	v12.0.31.3	138	BNLTAPE	transfer	1 [list]	May 3 17:20
calib0_mc12.007080.singlepart_gamma_E5.digit.RDO.*	v12.0.31.8	137	BNLTAPE	subscribed	1 [list]	May 3 17:20
calib0_mc12.007402.singlepart_singlelep3.digit.RDO.*	v12.0.31.3	136	BNLTAPE	subscribed	1 [list]	May 3 17:20
calib0_csc11.007086.singlepart_gamma_E1000.digit.RDO.*	v12.0.31.2	134	BNLTAPE	done	1 [list]	May 3 17:20
calib0_csc11.005010.J1_pythia_jetjet.digit.RDO.*	v12.0.31.1	133	BNLTAPE	done	1 [list]	May 3 17:20
calib0_csc11.005009.J0_pythia_jetjet.digit.RDO.*	v12.0.31.1	132	BNLTAPE	done	1 [list]	May 3 17:20

Monitor Datasets Replication Requests

[Home](#), [Wiki](#)

[Help](#), [FAQ](#), [Feedback](#), [Jobs](#), [Jobs](#), [Jobs](#), [Jobs](#)

days
days
days

[Home](#)
[Request](#)
[Request](#)
[Request](#)

[Search](#)
[User](#)
[Search](#)

DDM Request ID : 141, Parameters
(misal1_csc11.005012.J3_pythia_jetjet.digit.RDO.*,BNLTAPE)

Destination, pattern and SW Release changes have effect for 'AddRequest' ONLY

Destination	<input type="text" value="BNLTAPE"/>
Pattern	<input type="text" value="misal1_csc11.005012.J3_pythia_jetjet.digit.R"/>
SW Release	<input type="text" value="12.0.31.1"/>
E-mail :	alexei@mail.cern.ch
Request Time :	Mon Apr 23 05:02:06 2007
Validity	<input type="text" value="OneTimeCopy"/>
Request Type	<input type="text" value="streamtest"/>
Priority	<input type="text" value="0"/>
Approved by :	alexei.klimentov@cern.ch
Approved Time :	Thu May 3 17:20:38 2007
Request Status :	approved
Transfer Status :	done
Subscribed :	Thu May 3 17:20:38 2007
Total datasets :	1
Modification Time :	Mon Apr 30 03:48:33 2007
Modified by	<input type="text" value="alexei@mail.cern.ch"/>
Transfer Volume :	100

The detailed status of Datasets Replication Request



DDM monitoring

Ricardo Rocha

ARDA project CERN

OVERVIEW

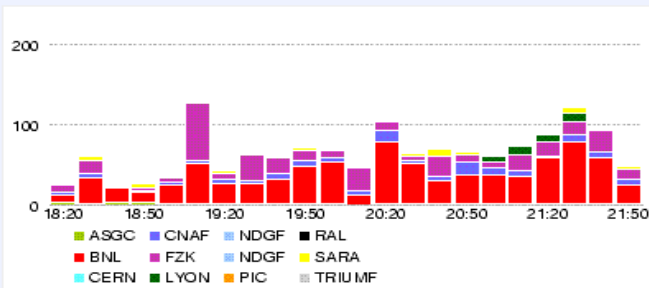
Overall Activity

[Activity in Last Hour](#)

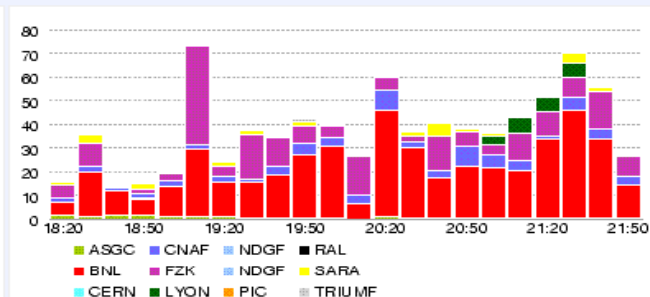
[Activity in Last 4 Hours](#)

[Activity in Last 24 Hours](#)

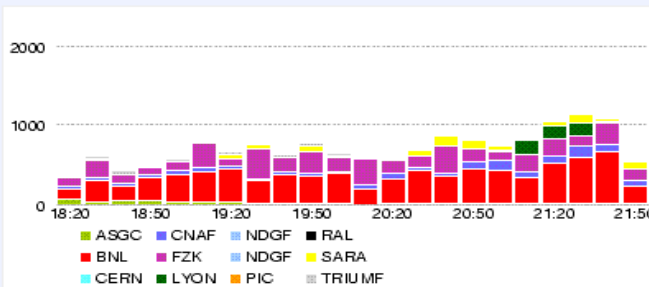
Throughput (MB/s)



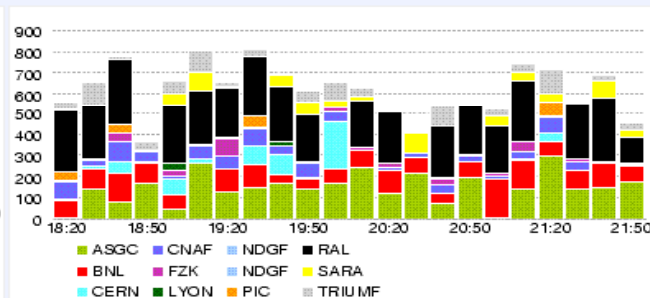
Data Transferred (GBytes)



Completed File Transfers



Total Number Errors



Activity Summary (Last 4 Hours)

Click on the cloud name to view list of sites

Cloud	Efficiency	Transfers			Errors			
		Avg Throughput	Files Done	Add DS Rep	File Transfer	Qry DS Files	Local Lkup	Rmt Lkup
ASGC	11%	1 mb/s	414	0	3342	1	0	0
BNL	81%	38 mb/s	8204	0	1847	27	0	106
CERN	2%	0 mb/s	10	0	628	0	0	0
CNAF	56%	6 mb/s	1296	0	1034	5	0	0
FZK	93%	17 mb/s	4489	0	356	2	0	0
LYON	89%	2 mb/s	546	0	62	5	0	0
NDGF	0%	0 mb/s	0	0	0	0	0	0
PIC	0%	0 mb/s	0	0	298	1	0	0
RAL	0%	0 mb/s	0	0	5037	2	0	0
SARA	60%	2 mb/s	1002	0	741	0	0	0

Distributed Data Management

- Overview
- Dataset Info
- Page Help
- User Guide
- Feedback

NDA

Expected Date Format: 'YYYY-MM-DD HH:MM:SS'

List
Events
: Errors

CANCELED INCOMPLETE From: To:
 COMPLETE QUEUED Limit:

Sites

JK
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RD

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IB

/T2
ST1
:

Click on the 'Last Update' cell of each row to see dataset details

30 to 60

Last Update	Dataset Name	State
2007-05-11 11:05:29	misal1_mc12.005800.JF17_pythia_loosejet_filter.digit.RDO.v12000601_tid008359_sub104	INCOMPLETE
2007-05-11 11:01:52	misal1_mc12.008099.PythiaPhotonJet5_FIXED.digit.RDO.v12003103_tid008015_sub97	INCOMPLETE
2007-05-11 11:00:33	trig1_misal1_mc12.008098.PythiaPhotonJet4_FIXED.recon.log.v12000604_tid008032_sub102	INCOMPLETE
2007-05-11 10:56:37	trig1_misal1_csc11.005270.PythiaWenu_pt100_fixed.recon.ESD.v12000601_tid007532_sub184	INCOMPLETE
2007-05-11 10:54:33	misal1_mc12.008099.PythiaPhotonJet5_FIXED.digit.log.v12003103_tid008015_sub60	INCOMPLETE
2007-05-11 10:53:16	misal1_mc12.005800.JF17_pythia_loosejet_filter.digit.log.v12000601_tid008359_sub9	INCOMPLETE
2007-05-11 10:53:10	misal1_mc12.005800.JF17_pythia_loosejet_filter.digit.RDO.v12000601_tid008359_sub43	INCOMPLETE
2007-05-11 10:50:57	mc12.005750.PythiaB_bb_Jpsie3e3X.evgen.EVNT.v12000604_tid008648_sub2	INCOMPLETE
2007-05-11 10:44:34	misal1_mc12.008099.PythiaPhotonJet5_FIXED.digit.log.v12003103_tid008015_sub20	INCOMPLETE
2007-05-11 10:41:28	trig1_misal1_mc12.005722.PythiaB_bbe7X.recon.ESD.v12000604_tid008207_sub17	INCOMPLETE
2007-05-11 10:31:11	misal1_mc12.005800.JF17_pythia_loosejet_filter.simul.HITS.v12000601_tid008359_sub9	INCOMPLETE
2007-05-11 10:27:06	misal1_mc12.006107.AlpgeJimmyWmunuNp0LooseCut.digit.log.v12000601_tid008513_sub5	INCOMPLETE
2007-05-11 10:16:55	trig1_misal1_csc11_V1.005016.J7_pythia_jetjet.recon.AOD.v12000601_tid007543_sub101	INCOMPLETE
2007-05-11 10:15:33	trig1_misal1_mc12.008098.PythiaPhotonJet4_FIXED.recon.ESD.v12000604_tid008032_sub103	INCOMPLETE
2007-05-11 10:13:59	trig1_misal1_mc12.008099.PythiaPhotonJet5_FIXED.recon.log.v12000604_tid008031_sub52	INCOMPLETE
2007-05-11 10:12:36	trig1_misal1_mc12.008098.PythiaPhotonJet4_FIXED.recon.AOD.v12000604_tid008032_sub103	INCOMPLETE
2007-05-11 10:05:20	misal1_mc12.005403.SU3_jimmy_susy.digit.log.v12000604_tid008551_sub4	INCOMPLETE
2007-05-11 10:04:47	misal1_mc12.008099.PythiaPhotonJet5_FIXED.digit.log.v12003103_tid008015_sub101	INCOMPLETE
2007-05-11 09:58:23	misal1_mc12.008099.PythiaPhotonJet5_FIXED.digit.log.v12003103_tid008015_sub49	INCOMPLETE
2007-05-11 09:49:42	misal1_mc12.008099.PythiaPhotonJet5_FIXED.digit.log.v12003103_tid008015_sub78	INCOMPLETE

Atlas Distributed Data Management

Overview

Dataset Info

Page Help

User Guide

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BNLPANDA

- Dataset List
- Most Recent Events
- Most Recent Errors

Expected Date Format: 'YYYY-MM-DD HH:MM:SS'

From: To: Limit:

Click on the *Last Update* cell of each row for details of file on site

All Cloud Sites

- BNLDISK
- BNLNULL
- BNLPANDA
- BNLTAPE
- BNLVALID
- AGLT2
- AGLT2_UM
- BNLTEST
- BU
- BU_1
- BU_TEST
- IU
- IU_BC
- MWT2_IU
- MWT2_UC
- OU
- OUHEP
- SLAC
- SLACXRD
- SMU
- UC
- UC_TP
- UC_VOB
- UTA
- UTA_SWT2
- UTA_TEST1
- WISC

Last Update	Logical File Name	State
2007-05-11 11:05:29	misal1_mc12.005800.JF17_pythia_loosejet_filter.digit.RDO.v12000601_tid008359_07313.pool.root.1	ASSIGNED
2007-05-11 11:05:29	misal1_mc12.005800.JF17_pythia_loosejet_filter.digit.RDO.v12000601_tid008359_07312.pool.root.1	ASSIGNED
2007-05-11 11:05:29	misal1_mc12.005800.JF17_pythia_loosejet_filter.digit.RDO.v12000601_tid008359_07362.pool.root.1	ASSIGNED
2007-05-11 11:05:29	misal1_mc12.005800.JF17_pythia_loosejet_filter.digit.RDO.v12000601_tid008359_07314.pool.root.1	ASSIGNED
2007-05-11 11:05:29	misal1_mc12.005800.JF17_pythia_loosejet_filter.digit.RDO.v12000601_tid008359_07359.pool.root.1	ASSIGNED
2007-05-11 11:05:29	misal1_mc12.005800.JF17_pythia_loosejet_filter.digit.RDO.v12000601_tid008359_07300.pool.root.1	ASSIGNED
2007-05-11 11:05:29	misal1_mc12.005800.JF17_pythia_loosejet_filter.digit.RDO.v12000601_tid008359_07376.pool.root.1	ASSIGNED
2007-05-11 11:05:29	misal1_mc12.005800.JF17_pythia_loosejet_filter.digit.RDO.v12000601_tid008359_07345.pool.root.1	ASSIGNED
2007-05-11 11:05:29	misal1_mc12.005800.JF17_pythia_loosejet_filter.digit.RDO.v12000601_tid008359_07330.pool.root.1	ASSIGNED
2007-05-11 11:05:29	misal1_mc12.005800.JF17_pythia_loosejet_filter.digit.RDO.v12000601_tid008359_07343.pool.root.1	ASSIGNED
2007-05-11 11:05:29	misal1_mc12.005800.JF17_pythia_loosejet_filter.digit.RDO.v12000601_tid008359_07361.pool.root.1	ASSIGNED
2007-05-11 11:05:29	misal1_mc12.005800.JF17_pythia_loosejet_filter.digit.RDO.v12000601_tid008359_07329.pool.root.1	ASSIGNED
2007-05-11 11:05:29	misal1_mc12.005800.JF17_pythia_loosejet_filter.digit.RDO.v12000601_tid008359_07328.pool.root.1	ASSIGNED
2007-05-11 11:05:29	misal1_mc12.005800.JF17_pythia_loosejet_filter.digit.RDO.v12000601_tid008359_07360.pool.root.1	ASSIGNED
2007-05-11 11:05:29	misal1_mc12.005800.JF17_pythia_loosejet_filter.digit.RDO.v12000601_tid008359_07315.pool.root.1	ASSIGNED
2007-05-11 11:05:29	misal1_mc12.005800.JF17_pythia_loosejet_filter.digit.RDO.v12000601_tid008359_07346.pool.root.1	ASSIGNED
2007-05-11 11:05:29	misal1_mc12.005800.JF17_pythia_loosejet_filter.digit.RDO.v12000601_tid008359_07377.pool.root.1	ASSIGNED
2007-05-11 11:05:29	misal1_mc12.005800.JF17_pythia_loosejet_filter.digit.RDO.v12000601_tid008359_07344.pool.root.1	ASSIGNED
2007-05-11 11:05:29	misal1_mc12.005800.JF17_pythia_loosejet_filter.digit.RDO.v12000601_tid008359_07299.pool.root.1	ASSIGNED
2007-05-11 11:05:29	misal1_mc12.005800.JF17_pythia_loosejet_filter.digit.RDO.v12000601_tid008359_07327.pool.root.1	ASSIGNED
2007-05-11 11:05:29	misal1_mc12.005800.JF17_pythia_loosejet_filter.digit.RDO.v12000601_tid008359_07375.pool.root.1	ASSIGNED



dq2 end-user tools

Tadashi Maeno (BNL)

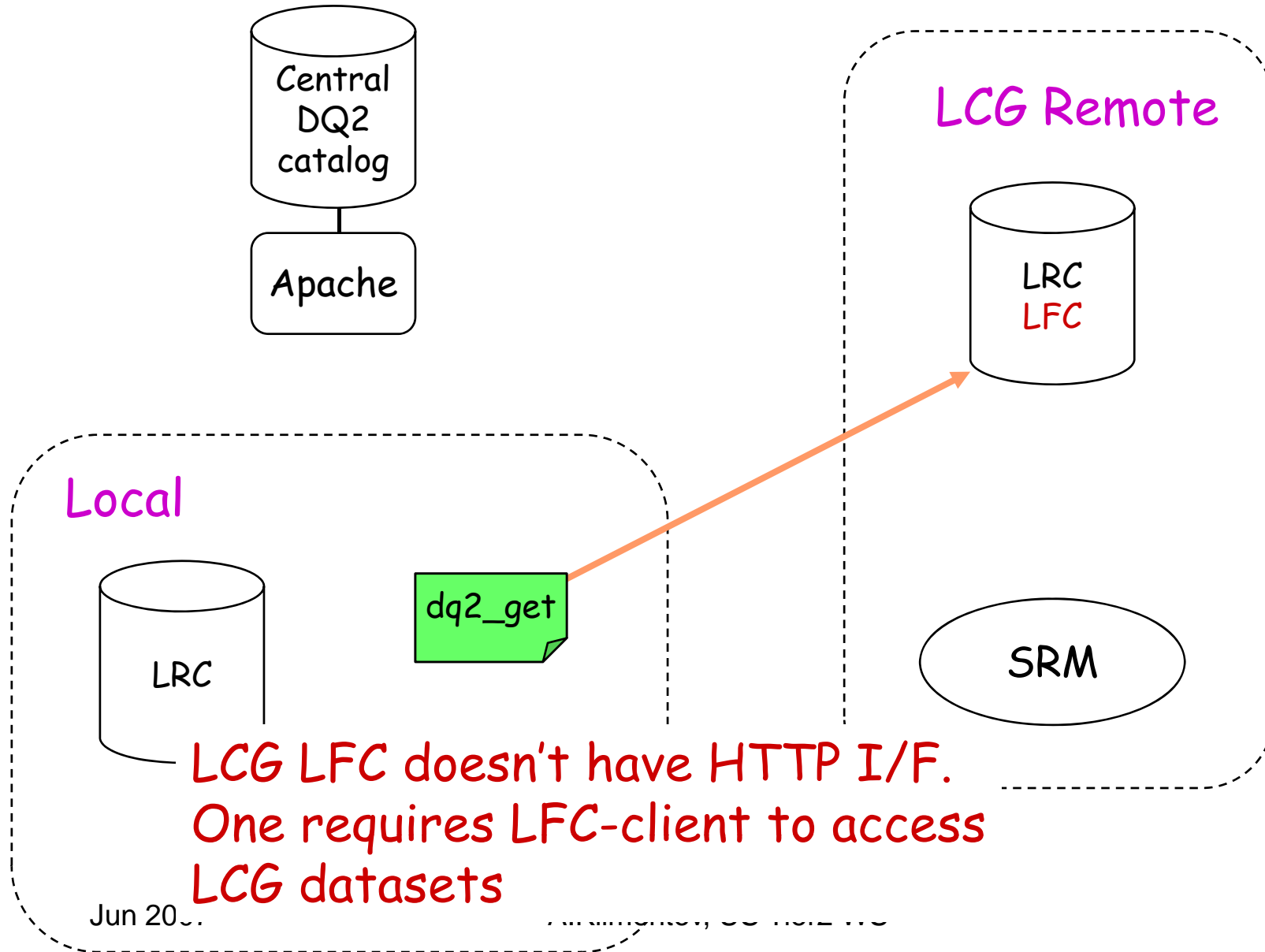
dq2 end-user tools

- Insulate flavor-specific dependences from end-users
- Provide quick accesses to DQ2 datasets for end-users
- Several tools
 - dq2_get
 - dq2_ls
 - dq2_register/dq2_put
 - dq2_cr
 - dq2_cleanup
 - dq2_sample

dq2_get

- Copy files over the grid
 - DQ2 subscriptions → asynchronous
 - dq2_get → synchronous
- Use grid tools internally
 - srmcp, globus-url-copy, lcg-cp, ...
 - Users can configure dq2_get to use appropriate tool according each site policy (e.g., firewall setting)
- Dependence on python-bindings of LFC-client which is not included in VDT
- Doesn't register files to LRC
 - Users may copy same files many times → redundant traffics

Access to LCG datasets



dq2_cr

- dq2_get + LRC registration
- dq2_cr scans LRC first, copies only missing files, and then register them in the LRC
 - Avoid duplicated transfers
- Authorized person should use it instead of end-users

dq2_ls

- dq2 provides a functionality to show files in a dataset
 - dq2-list-files-in-dataset xyz
 - However, dq2 is a central catalog client
 - No info on LRC
- dq2_ls provides info on LRC
 - E.g., which files in a dataset a site holds
 - No corresponding functionality in dq2

dq2_register/dq2_put

- Register dq2 datasets
- dq2_register
 - Copies local files to a remote site and then registers a dataset to the site
 - Works for LCG
- dq2_put
 - Registers a dataset for local files
 - Works for LCG and OSG
- Will be merged

dq2_cleanup and dq2_sample

- dq2_cleanup
 - Delete files from an LFC and an SE
 - Works for LCG
 - Requires local-installation of mysql-python (e.g., doesn't work on lxplus)
- dq2_sample
 - Create a small sample dataset from an existing dataset

User Support

- dq2-ddm-ops Savannah

<https://savannah.cern.ch/projects/dq2-ddm-ops/>

- Each site problem
→ each site damin
- dq2_* problems
→ developers

- Documentation

<https://uimon.cern.ch/twiki/bin/view/Atlas/UsingDQ2>



DQ2 client

Client

- DQ2 client API:
 - Interfaces to all dataset catalogs
 - in a secure way for any ‘write’ operations
 - Guarantees consistency between all the (“loosely coupled”) dataset catalogs
 - e.g. a dataset in the location catalog refers to the same dataset in the content catalog..
 - Consistency now being improve (for 0.3) with initial support for transactions, etc

M.Branco.& P.Salgado DDM WS at CERN Nov 2006

Dataset subscription using DQ2 client

Read : How to access CSC data using DQ2 end-user tools

<https://twiki.cern.ch/twiki/bin/view/Atlas/UsingDQ2>

I want to subscribe dataset to my Tier center using DQ2 client

My favorite physics channel : Zmumu, Data format : AOD, SW version : 12000601

(and I prefer CLI to Web Browser)

dq2-list-datasets '*PythiaZmumu.*AOD.v12000601'

trig1_misal1_csc11_V2.005145.PythiaZmumu.recon.AOD.v12000601

dq2-get-number-files trig1_misal1_csc11_V2.005145.PythiaZmumu.recon.AOD.v12000601

1962

dq2-list-dataset-replicas trig1_misal1_csc11_V2.005145.PythiaZmumu.recon.AOD.v12000601

INCOMPLETE: AGLT2,ASGCDISK,BNLPANDA,CNAFDISK,DESY-HH,FZKDISK,
LYONDISK,NDGFT1DISK,NIKHEF,RALDISK,TORON,TRIUMFDISK,WUP

COMPLETE:

dq2-register-subscription

trig1_misal1_csc11_V2.005145.PythiaZmumu.recon.AOD.v12000601 CERNCAF

dq2-list-subscription-info

trig1_misal1_csc11_V2.005145.PythiaZmumu.recon.AOD.v12000601 CERNCAF

Dataset subscription using DQ2 client (Cont.)

I subscribed dataset to my Tier center. How can I know the status

The easiest ways : check SE, use dq2_ls commands

Recommended : ARDA DDM monitoring

<http://dashb-atlas-data.cern.ch/dashboard/request.py/site>

Some subscription recommendations :

use the exact dataset location option (if you know)

–source=BNLPANDA (in previous example)

use –wait-for-sources, it helps if files or file catalog isn't available, or files are not copied yet to the 'source' of the subscription

Useful links

- DDM Operations Savannah
<https://savannah.cern.ch/projects/dq2-ddm-ops>
- DDM User's Work Book (Horst Severini, Borut Kesevan)
<https://twiki.cern.ch/twiki/bin/view/Atlas/WorkBookDDM>
- DDM operations FAQ
<https://twiki.cern.ch/twiki/bin/view/Atlas/DDMoperationFAQ>
- DDM Operations TWiKi
<https://twiki.cern.ch/twiki/bin/view/Atlas/DDMOperationsGroup>
<http://www.usatlas.bnl.gov/twiki/bin/view/Projects/ATLASDDM>
- From panda browser
 - [Datasets](#) : browser, search, replication, transfer request
- DQ2 TWiKi
<https://twiki.cern.ch/twiki/bin/view/Atlas/DistributedDataManagement>
- DQ2 end users tools and tutorial
<https://twiki.cern.ch/twiki/bin/view/Atlas/DDMEndUser>
<https://twiki.cern.ch/twiki/bin/view/Atlas/UsingDQ2>
- ARDA Monitoring
<http://dashb-atlas-data-test.cern.ch/dashboard/request.py/site>

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- Thanks to S.Albrand, D.Barberis, M.Branco, T.Maeno, R.Rocha, P.Salgado and T.Wenaus for their slides
- Thanks to Fred Luehring for his very valuable comments and suggestions concerning this talk