



# ATLAS Grid ジョブ管理と AGIS

## ATLAS ソフトウェア講習会 2016

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# Overview

- ATLAS Grid ジョブ管理
  - WLCG の基本構造
  - ATLAS ジョブとデータ
  - おまけ：ジョブ実行前のデータレプリケーション
  - PanDA クライアント
  - イベント・サービス
  - PanDA クライアント CLI
- ATLAS の計算資源情報（AGIS）
  - ATLAS の計算資源情報
  - PanDA ジョブ・キュー
  - Rucio ストレージ・エンド・ポイント
- リンクと参考文献

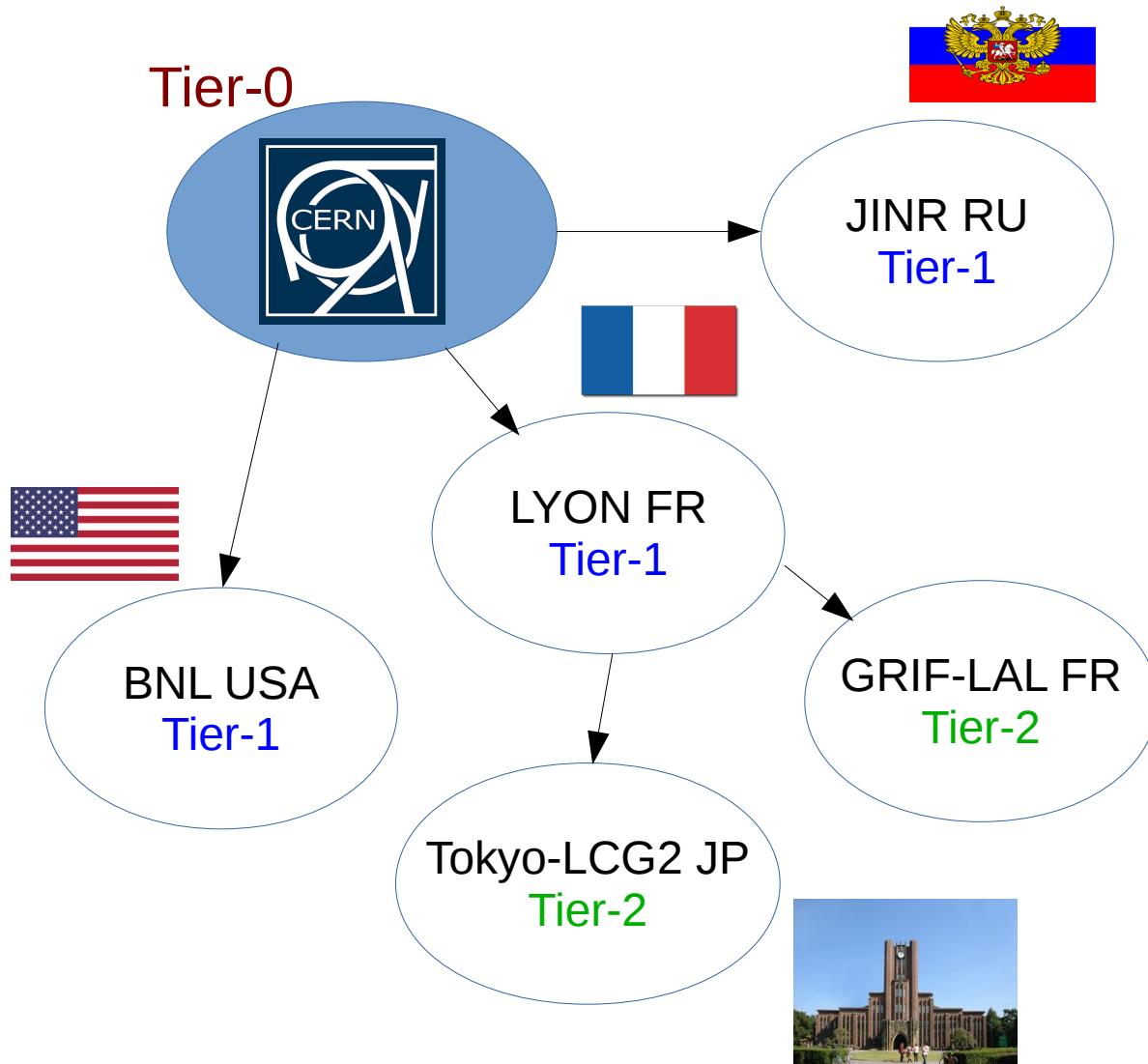
# ATLAS Grid ジョブ管理



**WLCG**  
Worldwide LHC Computing Grid

# WLCG の基本構造

- LHC Tier 構造



**WLCG**  
Worldwide LHC Computing Grid

**Tier-0:** RAW データ、テープ  
ドライブ、プレプロセッシング、  
リコンストラクション

**Tier-1:** 国レベル。テープド  
ライブ有。巨大計算資源と  
ディスク。

**Tier-2:** 大学や研究機関レベ  
ルのサイト。

注) 階層構造自体は現在フ  
レキシブルになりつつあ  
り。データ転送等は各サイ  
ト間のエンドポイント同士  
で要求可能。

# ATLAS ジョブとデータ



**WLCG**  
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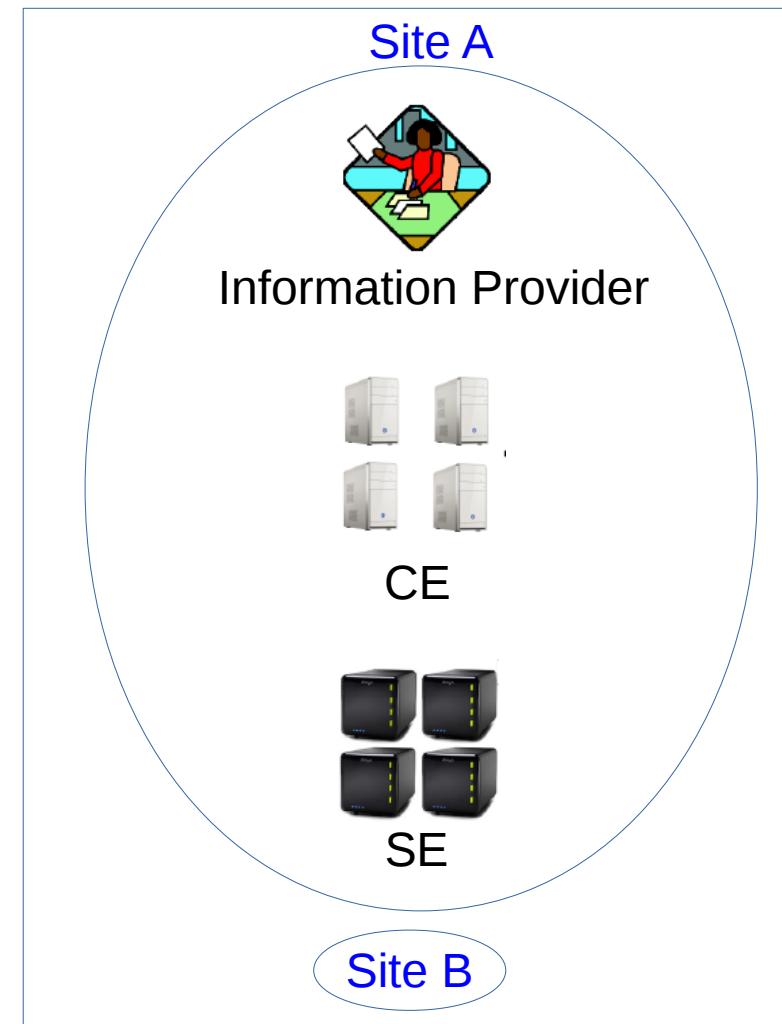
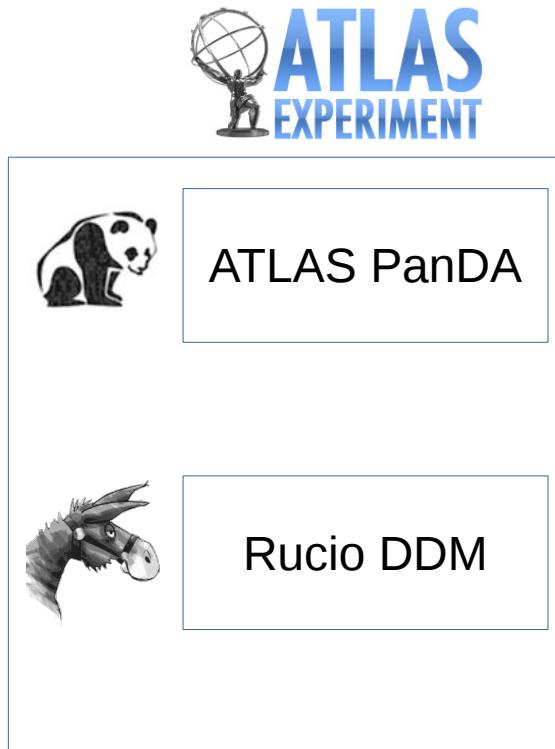
- あくまで概略



UI



CA

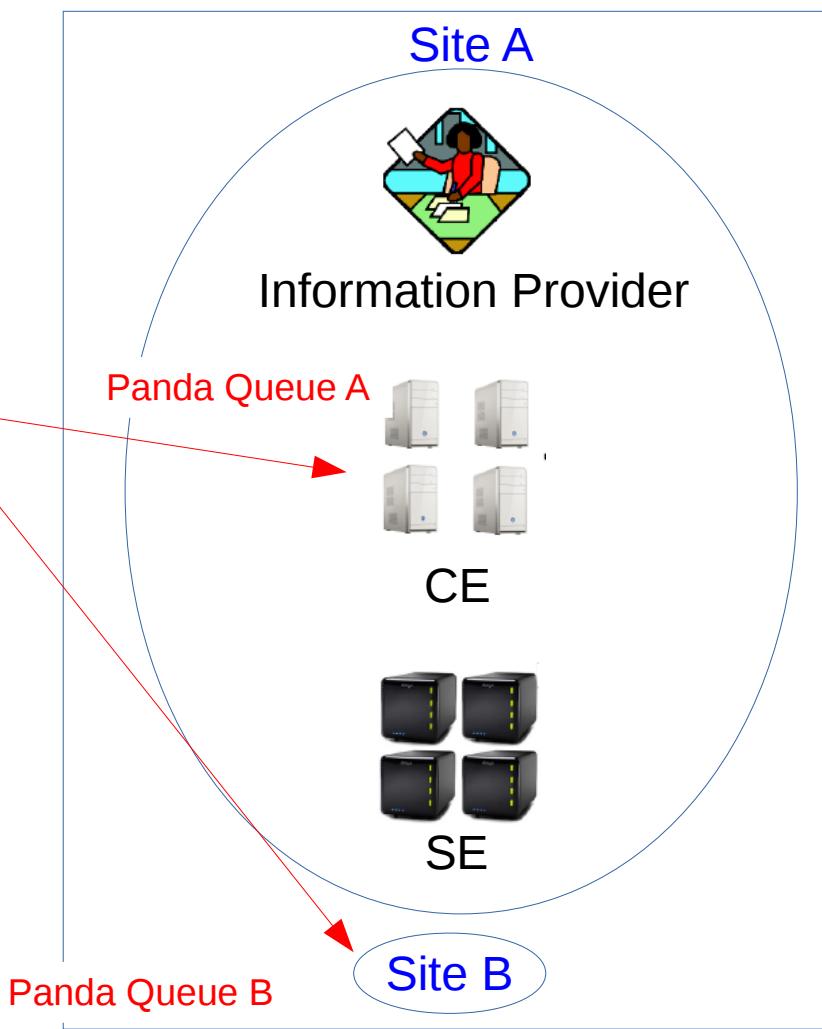


# ATLAS ジョブとデータ



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- あくまで概略

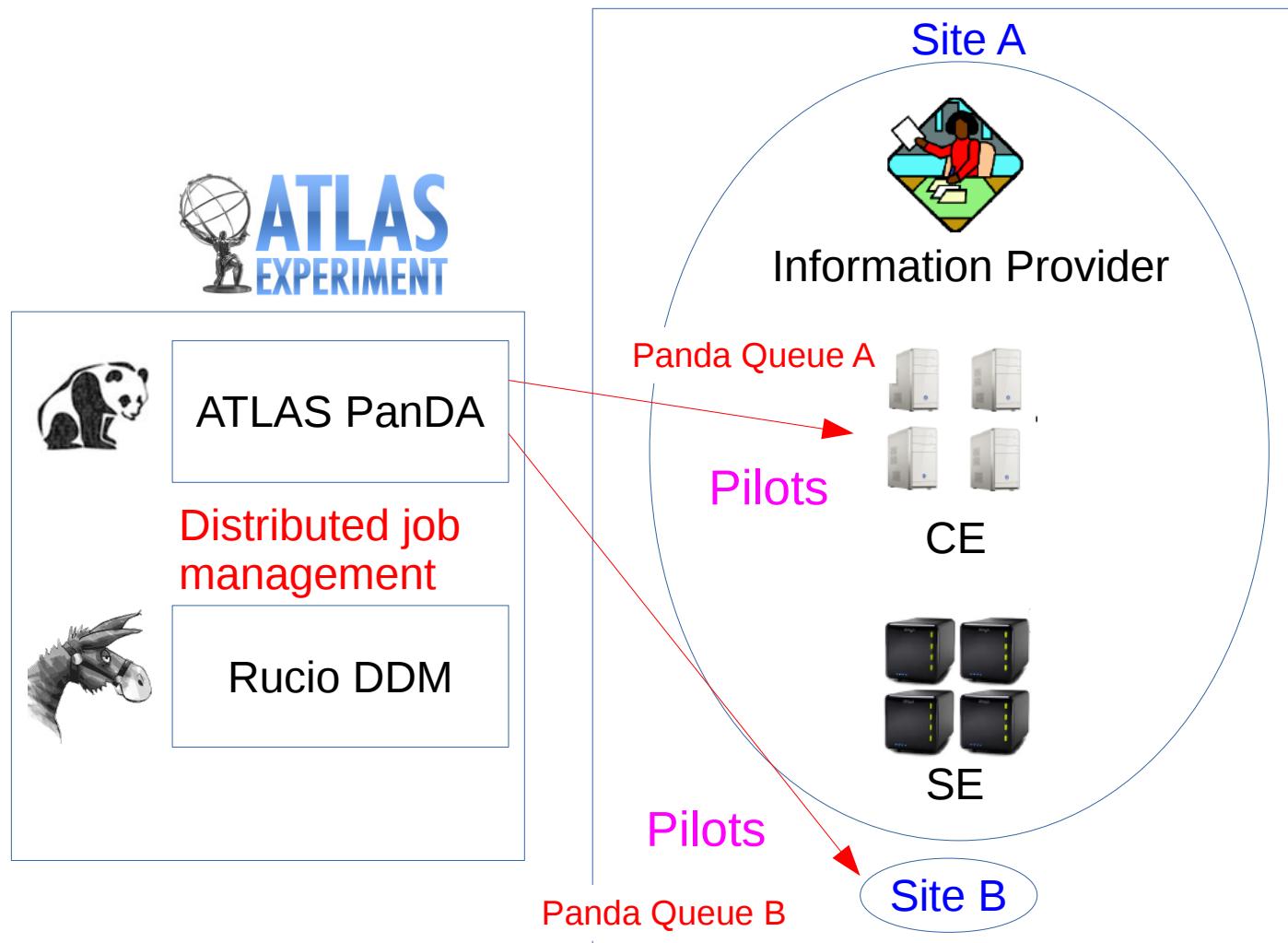


# ATLAS ジョブとデータ



**WLCG**  
Worldwide LHC Computing Grid

- あくまで概略

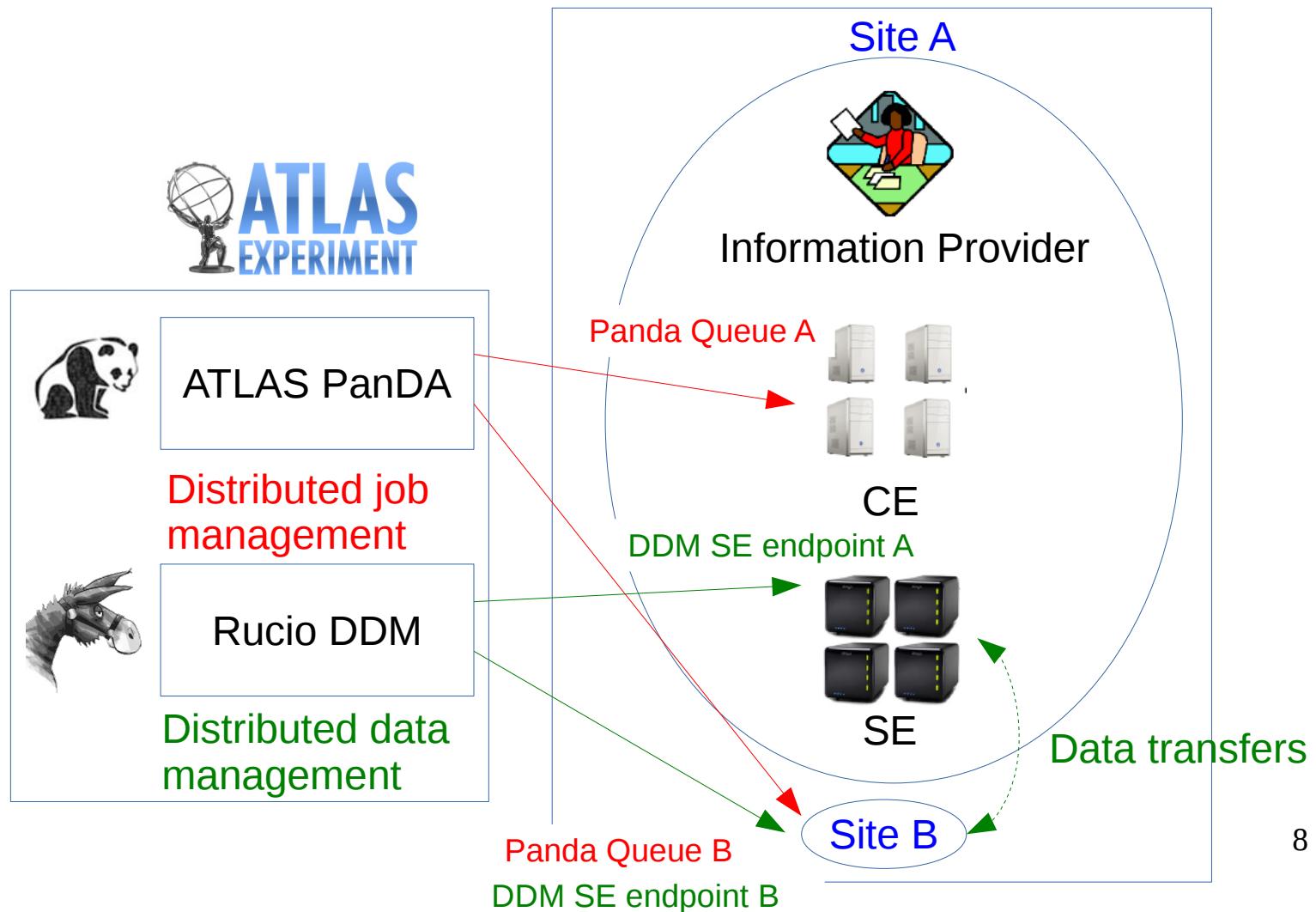


# ATLAS ジョブとデータ



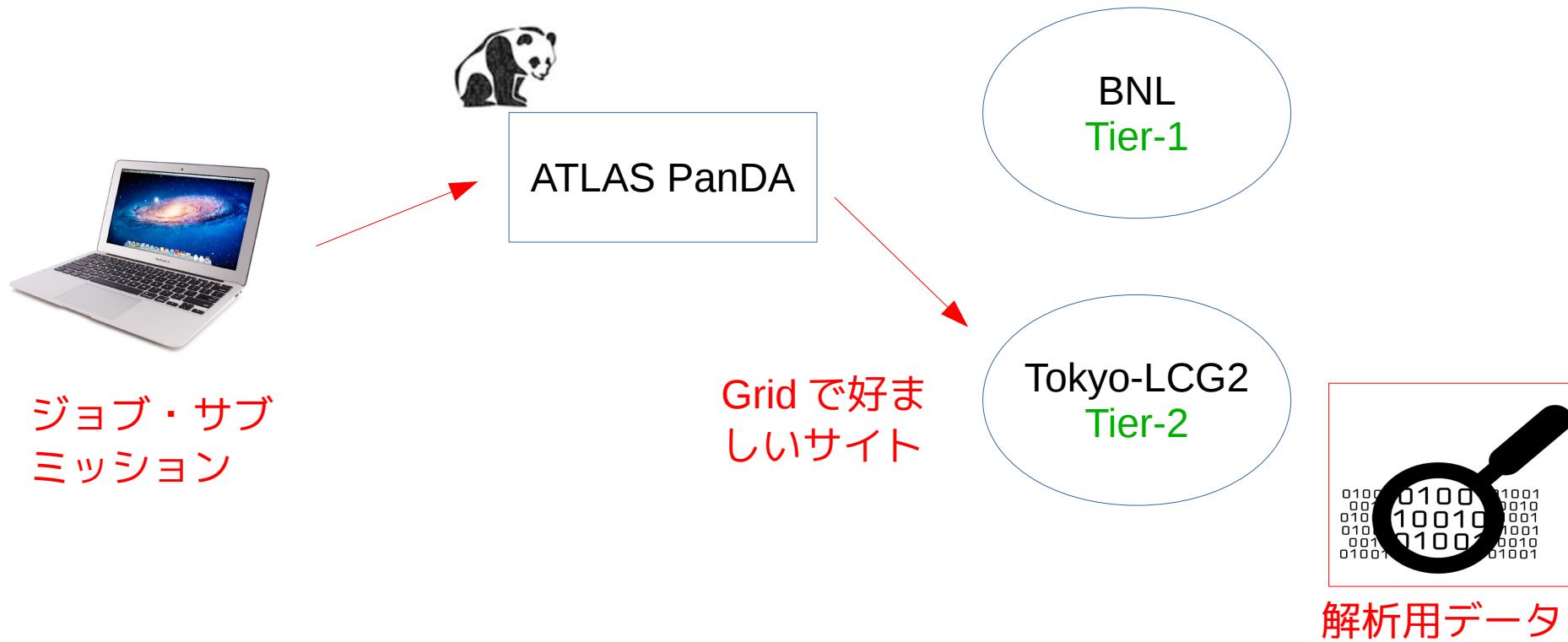
WLCG  
Worldwide LHC Computing Grid

- あくまで概略



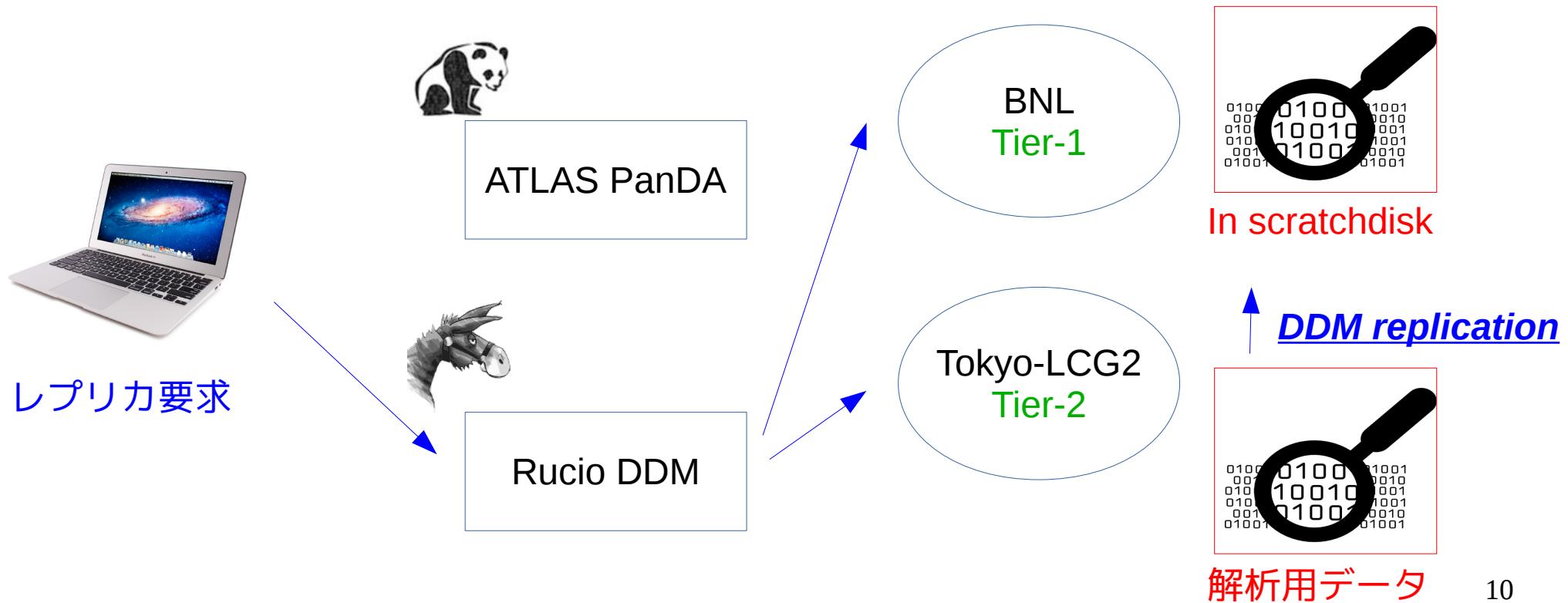
## おまけ：ジョブ実行前のデータレプリケーション

- データエラー やクラッシュ 等理解不能な状況にはまって抜け出せない場合に試す価値あり
  - 大量のデータ処理を行うジョブにありがち



## おまけ：ジョブ実行前のデータレプリケーション

- レプリケーションを作ったあとにジョブ実行
  - 理由: Grid ジョブはデータロケーションを好む。  
ローカルなデータアクセスは圧倒的に速い



# PanDA クライアント

プロダクション・ジョブ



**BigPanDA**

**DEFT**

モニタリング

<http://bigpanda.cern.ch/>

タスクの定義

Data base engine

動的ジョブ割り当てと  
タスク実行

Workload  
management

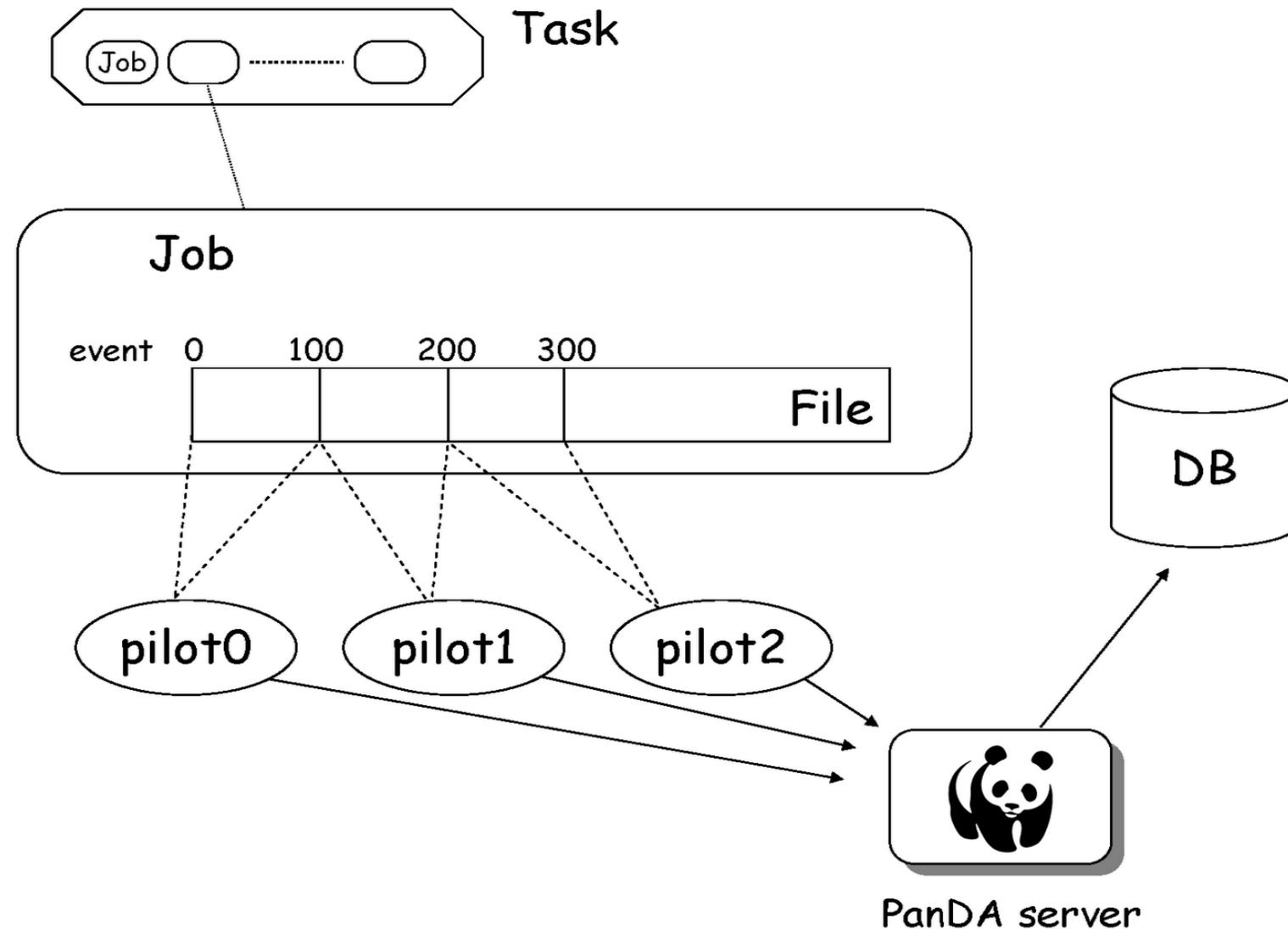
**JEDI**

**PanDA**



Grid

# イベント・サービス



# PanDA クライアント CLI

- “Hello world” ジョブ

```
## PanDA client
SetupATLAS
lsetup panda

## Make a Python script
cat hello_world.py

#!/usr/bin/python
print "Hello world!"

chmod 755 hello_world.py
./hello_world.py

Hello world!

## Submitting a prun job
prun --outDS user.$USER.pruntest.$$ --exec hello_world.py

INFO : gathering files under /home/gen/tmp/for_new_comer
INFO : upload source files
INFO : submit
INFO : succeeded. new jediTaskID=5107461

## Submitting 5 prun jobs
prun --outDS user.$USER.pruntest.$$ --exec hello_world.py -nJobs=5
```

# BigPanda Monitoring

- Next generation monitoring tool developed within the BigPanDA project
- Drop down menu with access to numerous views of job monitoring data
- Tool heavily used by ADC experts and shifters to track production activities
- Here we are more interested in monitoring our own jobs

ATLAS PanDA    Dash ▾    Tasks ▾    Jobs ▾    Errors ▾    **Users ▾**    Sites ▾    Incidents ▾    Search

ATLAS PanDA monitor home

Global concurrent running job core counts, all sites, all job types, by cloud, last 1, 7, 30 days

Slots of Running Jobs  
24 Hours from 2015-01-11 17:00 to 2015-01-12 17:39 UTC  
Slots of Running Jobs  
7 Days from 2015-01-05 to 2015-01-12  
Slots of Running Jobs  
30 Days from 2014-12-17 to 2015-01-12

Prodsys    Services ▾    VO ▾    Help ▾

aipanda054 @ 13:43, cache 3'

➤ <http://bigpanda.cern.ch>

All jobs by cloud (e.g. ES, UK, IT) running in last 1,7,30 days

Global concurrent running job core counts, all sites, all job types, by activity, last 1, 7, 30 days

Slots of Running Jobs  
24 Hours from 2015-01-11 17:00 to 2015-01-12 17:39 UTC  
Slots of Running Jobs  
7 Days from 2015-01-05 to 2015-01-12  
Slots of Running Jobs  
30 Days from 2014-12-17 to 2015-01-12

All jobs by type (e.g. simulation, reconstruction, analysis) running in last 1,7,30 days

# BigPanda Search Options

Search	
PanDA job ID or name	<input type="text"/> Submit
Batch ID	<input type="text"/> Submit
Task ID	<input type="text"/> Submit
Task name	<input type="text"/> Submit
Request ID	<input type="text"/> Submit
Tasks for Request IDs	from <input type="text"/> to <input type="text"/> Submit
Jobs for Request IDs	from <input type="text"/> to <input type="text"/> Submit
Tasks for campaign	<input type="text"/> Submit
Tasks for project	<input type="text"/> Submit
Tasks for tag	<input type="text"/> Submit
Tasks for stream	<input type="text"/> Submit
Site	<input type="text"/> Submit
User	<input type="text"/> Submit
Dataset	<input type="text"/> Submit
File	<input type="text"/> Submit

- Search boxes available on BigPanda front page to get specific information on tasks, jobs and user activities
- The range of displayed information can be changed by modifying or adding the URL parameters

Enter our example  
job Task ID here

The load on the Panda  
DB will increase with  
high N

```
&limit=N  
&display_limit=N  
&hours=N  
&days=N  
&earlierthan=Nhours  
&earlierthandays=Ndays  
&date_from=2014-10-01  
&date_to=2014-10-03
```

## Example URL Modifiers

- Advanced usage: monitoring data can retrieved in *json* format to be enable results to be processed programmatically
  - <http://bigpanda.cern.ch/help/>

# User View

- The user view displays your recent activities
- Useful starting point to check your jobs
- Links on this page lead to more information on an individual tasks and associated jobs

ATLAS PanDA   Dash   Tasks   Jobs   Errors   Users   Sites   Incidents   Search

PanDA user **andrew washbrook**, last 72 hours, limit 5000 per table. Params: limit=5000 user=washbrook

User page for **andrew washbrook**   Please read (and keep an eye on) the [help section below](#) to familiarize yourself with using the monitor in JEDI based analysis.

Stats from the user DB (updated every few hours)

User	Jobs in last week	Latest job in the DB stats	Personal CPU-hrs - 1 day	Personal CPU-hrs - 7 days	Group CPU-hrs - 1 day	Group CPU-hrs - 7 days
andrew washbrook	87	2013-10-12 19:33	0.0	0.0	0.0	0.0

Jump to recent [tasks](#) [jobsets](#) [jobs](#)

Task attribute summary, 1 tasks

corecount (1)	1 (1)
processingtype (1)	panda-client-0.5.42-jedi-run (1)
reqid (1)	3 (1)
status (1)	done (1)
taskpriority (1)	1000 (1)
tasktype (1)	analy (1)
transpath (1)	runGen-00-00-02 (1)
username (1)	andrew washbrook (1)

Grid resources used

Task Summary

Replace with your username

➤ <http://bigpanda.cern.ch/user/?user=washbrook>

1 tasks, sorted by jeditaskid [Show in task list page](#)

ID Parent	Jobset	Task name TaskType/ProcessingType	Campaign	Group	User	Task status Logged status	Input files finish% fail% Nfinish Nfail	Modified	State changed	Priority
4617520	3	user.wash.pruntest/ anal/panda-client-0.5.42-jedi-run	andrew washbrook			done	100% 1	2015-01-09 10:15	01-09 10:15	1000

Task Details

Recent jobsets   Note that with JEDI you should pay more attention to tasks than jobsets! See the help section below.

Jobset ID	nJobs	Modification times	Priorities	defined	waiting	assigned	activated	sent	starting	running	holding	transferring	finished	failed	cancelled
1	2	2015-01-06 14:28 to 01-06 14:36	1000 to 2000	0	0	0	0	0	0	0	0	0	2	0	0

# Example Job Monitoring

- <http://bigpanda.cern.ch/task/4617520/>

Task 4617520: user.wash.pruntest/													
Task ID	Jobset	Type	WorkingGroup	User	Task status	Ninputfiles	finished	failed	Created	Modified	Cores	Priority	Parent
4617520	3	analy		andrew washbrook	done	1	1 (100%)		2015-01-06 14:22	01-09 10:15	1	1000	

View:	<a href="#">job list (access to job details and logs)</a>	<a href="#">child tasks</a>	<a href="#">prodsys task page</a>	<a href="#">brokerage logger</a>	<a href="#">JEDI action logger</a>	<a href="#">error summary</a>
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- <http://bigpanda.cern.ch/job?pandaid=2351340829>

Where the job was run

PandaID	Owner	Request Task ID	Status	Created	Time to start d:h:m:s	Duration d:h:m:s	Modified	Cloud Site	Priority
2351340829	andrew washbrook	1 4617520	finished	2015-01-06 14:23	0:0:05:05	0:0:01:13	01-06 14:36	IT ANALY_INFN-FRASCATI	1000
Job name: user.wash.pruntest/ type: panda-client-0.5.42-jedi-run transformation: runGen-00-00-02									
Datasets: Out: user.wash.pruntest.log.14345588									

<a href="#">Job information</a>	<a href="#">logfiles</a>	<a href="#">pilot job stdout, stderr, batch log</a>	<a href="#">logger records</a>	<a href="#">child jobs</a>
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<a href="#">Jobset 1</a>
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# Job Log Files

- [http://bigpanda.cern.ch/filebrowser/?guid=b2c3305e-5581-4062-9676-92205d72018a&lfn=user.wash.prntest.log.4617520.000001.log.tgz&site=ANALY\\_INFN-FRASCATI&scope=user.wash](http://bigpanda.cern.ch/filebrowser/?guid=b2c3305e-5581-4062-9676-92205d72018a&lfn=user.wash.prntest.log.4617520.000001.log.tgz&site=ANALY_INFN-FRASCATI&scope=user.wash)
- Globally Unique Identifier
- Logical File Name

## File listing

Modification time	Size [B]	File
Tue Jan 6 14:28:57 2015	0	<a href="#">athena_stderr.txt</a>
Tue Jan 6 14:28:57 2015	23820	<a href="#">athena_stdout.txt</a>
Tue Jan 6 14:28:57 2015	730	<a href="#">job_setup.sh</a>
Tue Jan 6 14:28:52 2015	188	<a href="#">matched_replicas.json</a>
Tue Jan 6 14:28:57 2015	527	<a href="#">metadata-2351340829.xml</a>
Tue Jan 6 14:28:49 2015	1391	<a href="#">pandaJobData.out</a>
Tue Jan 6 14:28:57 2015	0	<a href="#">pandatracerlog.txt</a>
Tue Jan 6 14:28:49 2015	0	<a href="#">pilot.stderr</a>
Tue Jan 6 14:28:50 2015	77	<a href="#">PILOT_INITDIR</a>
Tue Jan 6 14:28:57 2015	97	<a href="#">Pilot_VmPeak.txt</a>
Tue Jan 6 14:28:51 2015	280	<a href="#">pilotlog.out</a>
Tue Jan 6 14:29:52 2015	83922	<a href="#">pilotlog.txt</a>

- From an individual job view you can get access to log files for further diagnosis

Output and error of job payload

Pilot logs show the staging of the job at the site

# Task Monitoring

- The new task is visible from my user view page in a *registered* state

2 tasks, sorted by jeditaskid <a href="#">Show in task list page</a>										
ID Parent	Jobset	Task name TaskType/ProcessingType Campaign Group User <small>Logged status</small>				Task status Nfiles	Input files finish% fail% Nfinish Nfail	Modified	State changed	Priority
		user.wash.tutorial.dpd/ anal/panda-client-0.5.42-jedi-athena	andrew washbrook	registered 29	done 1	100% 1				
4635475	6	user.wash.tutorial.dpd/ anal/panda-client-0.5.42-jedi-athena	andrew washbrook	registered 29	done 1	100% 1	2015-01-09 15:47	01-09 15:47	1000	
4617520	5	user.wash.pruntest/ anal/panda-client-0.5.42-jedi-run	andrew washbrook	done 1	100% 1	2015-01-09 14:44	01-09 14:44	1000		

Task 4635475: user.wash.tutorial.dpd/										
Task ID	Jobset	Type	WorkingGroup	User	Task status	Detailed JEDI status	Ninputfiles   finished   failed	Created	Modified	
4635475	6	analy		andrew washbrook	submitting	scouting	29   0 (0%)	2015-01-09 15:47	01-09 15:48	

States of jobs in this task (merge jobs excluded) <a href="#">Show all jobs</a>															
defined	waiting	pending	assigned	throttled	activated	sent	starting	running	holding	transferring	finished	failed	cancelled	merging	
11															

[Jump to job parameters, task parameters](#)

View: [job list \(access to job details and logs\)](#) [child tasks](#) [prodsys task page](#) [brokerage logger](#) [JEDI action logger](#) [error summary](#)

**Input containers**  
data11\_7TeV.00189090.physics\_Egamma.merge.AOD.f403\_m975

**Output containers**  
user.wash.tutorial.dpd\_MyFirstD3PD/  
user.wash.tutorial.dpd.log/

➤ <http://bigpanda.cern.ch/user/?user=washbrook>

# Task Monitoring (2)

Job attribute summary Sort by count, alpha	
atlasrelease (1)	Atlas-17.2.7 (11)
attemptnr (1)	1 (10)
cloud (1)	DE (11)
computingsite (1)	ANALY_FMPhi-UNIBA (11)
destinationse (1)	ANALY_FMPhi-UNIBA (1)
homepackage (1)	AnalysisTransforms-AtlasPhysics_17.2.7.4.1 (11)
inputfileproject (1)	data11_7TeV (10)
inputfiletype (1)	AOD (10)
jeditaskid (1)	4635475 (11)
jobsetid (1)	6 (11)
jobstatus (2)	defined (10) running (1)
outputfiletype (1)	? (11)
priorityrange (3)	900:999 (6) 1000:1099 (4) 2000:2099 (1)
processingtype (1)	panda-client-0.5.42-jedi-athena (11)
prodsourcelabel (2)	panda (1) user (10)
produsername (1)	andrew washbrook (11)
reqid (1)	6 (11)
specialhandling (1)	ddm:rucio (11)
transformation (2)	buildJob-00-00-03 (1) runAthena-00-00-12 (10)

➤ <http://bigpanda.cern.ch/task/4635475/>

- Switching to the Task view we can now see one job is running at the computing site ANALY\_FMPhi-UNIBA
- Can follow individual progression of running jobs by clicking on Job Status

Job list Sort by Pandaid, ascending mod time, descending mod time, priority, attemptnr, duration											
PanDA ID Attempt#	Owner Group	Request Task ID	Transformation	Status	Created	Time to start d:h:m:s	Duration d:h:m:s	Mod	Cloud Site	Priority	
2354305514 Attempt 0	andrew washbrook	6 4635475	buildJob-00-00-03	running	2015-01-09 15:48	0:0:16	0:0:19	01-09 15:49	DE ANALY_FMPhi-UNIBA	2000	

# Task Monitoring (3)

States of jobs in this task (merge jobs excluded)					Show all jobs													
defined	waiting	pending	assigned	throttled	activated	sent	starting	running	holding	transferring	finished	failed	cancelled	merging				
								10			1							

Job attribute summary	
atlasrelease (1)	Atlas-17.2.7 (11)
attemptnr (1)	1 (10)
cloud (1)	DE (11)
computingsite (1)	ANALY_FMPHI-UNIBA (11)
destinationse (1)	ANALY_FMPHI-UNIBA (1)
homepackage (1)	AnalysisTransforms-AtlasPhysics_17.2.7.4.1 (11)
inputfileproject (1)	data11_7TeV (10)
inputfiletype (1)	AOD (10)
jeditaskid (1)	4635475 (11)
jobsetid (1)	6 (11)
jobstatus (2)	finished (1) running (10)
outputfiletype (1)	? (11)
priorityrange (3)	900:999 (4) 1000:1099 (6) 2000:2099 (1)
processingtype (1)	panda-client-0.5.42-jedi-athena (11)
prodsourcelabel (2)	panda (1) user (10)
produsername (1)	andrew washbrook (11)
reqid (1)	6 (11)
specialhandling (1)	ddm:rucio (11)
transformation (2)	buildJob-00-00-03 (1) runAthena-00-00-12 (10)

➤ <http://bigpanda.cern.ch/task/4635475/>

- Checking some time later there are 10 jobs in a *running* state with 1 job *finished*

# Task Monitoring (4)

Task 4635475: user.wash.tutorial.dpd/														
Task ID	Jobset	Type	WorkingGroup	User	Task status	Ninputfiles	finished	failed	Created	Modified	Cores	Priority	Parent	
4635475	6	analy		andrew washbrook	done	29	29 (100%)		2015-01-09 15:47	01-09 17:49	1	1000		

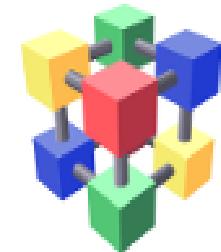
States of jobs in this task (merge jobs excluded) <a href="#">Show all jobs</a>														
defined	waiting	pending	assigned	throttled	activated	sent	starting	running	holding	transferring	finished	failed	cancelled	merging
											15			

Job attribute summary Sort by count, alpha	
atlasrelease (1)	Atlas-17.2.7 (15)
attemptnr (2)	1 (10) 2 (3)
cloud (2)	DE (11) UK (4)
computingsite (2)	ANALY_FMPHI-UNIBA (11) ANALY_SHEF_SL6 (4)
destinationse (2)	ANALY_FMPHI-UNIBA (1) ANALY_SHEF_SL6 (1)
homepackage (1)	AnalysisTransforms-AtlasPhysics_17.2.7.4.1 (15)
inputfileproject (1)	data11_7TeV (13)
inputfiletype (1)	AOD (13)
jeditaskid (1)	4635475 (15)
jobsetid (1)	6 (15)
jobstatus (1)	finished (15)
outputfiletype (1)	? (15)
priorityrange (3)	900:999 (4) 1000:1099 (9) 2000:2099 (2)
processingtype (1)	panda-client-0.5.42-jedi-athena (15)
prodsourcelabel (2)	panda (2) user (13)
produsername (1)	andrew washbrook (15)
reqid (1)	6 (15)
specialhandling (1)	ddm:rucio (15)
transformation (2)	buildJob-00-00-03 (2) runAthena-00-00-12 (13)

➤ <http://bigpanda.cern.ch/task/4635475/>

- And then later all the jobs have finished and the task status is *done*
- Note that 4 of the 15 jobs were sent to a computing site in a different cloud (UK)
- Do not expect all your jobs to run at the same computing site

# ATLAS の計算資源情報（AGIS）



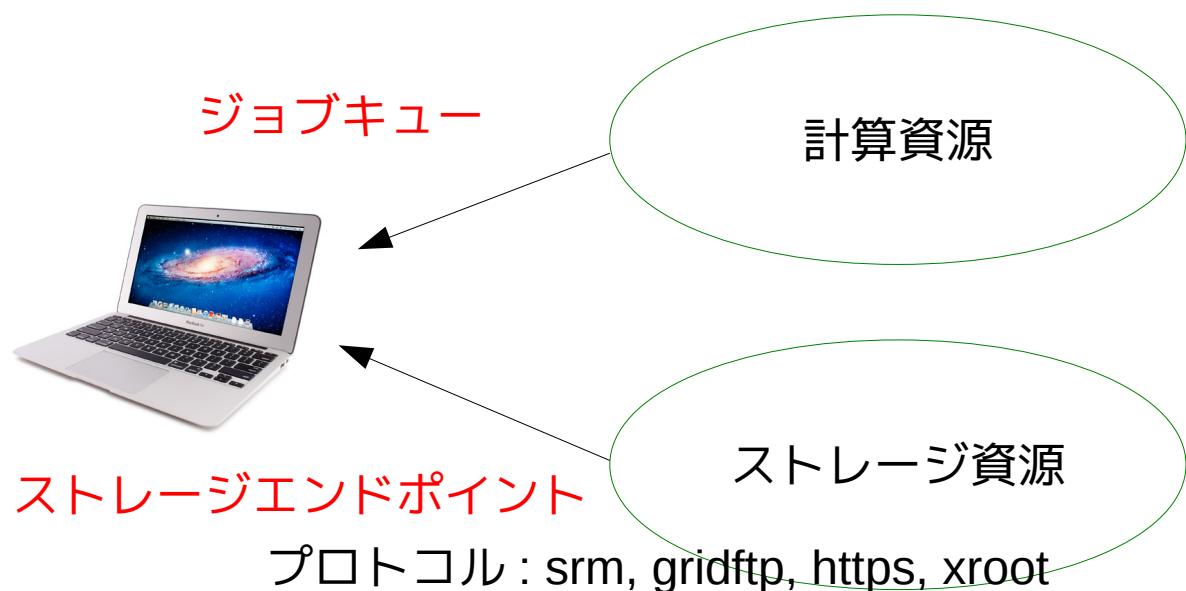
**WLCG**  
Worldwide LHC Computing Grid

# ATLAS の資源とサイト

- FZK Tier-1



Forschungszentrum Karlsruhe  
in der Helmholtz-Gemeinschaft



# ATLAS の計算資源情報

- AGIS (ATLAS Grid Information System)
  - <http://atlas-agis.cern.ch/agis/>

ATLAS Grid Information System			
RC Site	ATLASSite	DDMEndpoint	PANDA Queue
Service	Central Services	DDM Groups	Docs
<ul style="list-style-type: none"><li>▪ Define RC site</li><li>▪ Define Experiment site</li><li>▪ Define DDM endpoint</li><li>▪ <b>Define OS RSE endpoint (new implementation)</b></li><li>▪ Define PANDA site</li><li>▪ Define PANDA queue</li><li>▪ RC pledges</li><li>▪ Find DDM endpoints links</li><li>▪ Find TransferMatrix links</li></ul>	<ul style="list-style-type: none"><li>▪ <b>Define OS service</b></li><li>▪ Define LFC service</li><li>▪ Define SE service</li><li>▪ Define CE service</li><li>▪ Define Redirector service</li><li>▪ Define PerfSonar service</li><li>▪ Define Frontier service</li><li>▪ Define Squid service</li><li>▪ Define Central service</li><li>▪ <b>SE protocols (DDM/Panda activities)</b></li></ul>	<ul style="list-style-type: none"><li>▪ Crons list</li><li>▪ ADMINs list</li><li>▪ Changes log</li><li>▪ <b>Request ADMIN privileges</b></li></ul>	<ul style="list-style-type: none"><li>▪ Main TWiki</li><li>▪ TWiki WEBUI instructions</li><li>▪ API Docs</li></ul>
<b>DOWNTIMES</b>	<b>TOACACHE EXPORT</b>	<b>COMPARISON &amp; VALIDATION TOOLS</b>	
<ul style="list-style-type: none"><li>▪ Downtime calendar</li><li>▪ DDM Blacklisting data</li><li>▪ PANDA Blacklisting data</li></ul>	<ul style="list-style-type: none"><li>▪ <b>dynamic ToACache (changes are immediately propagated):</b> <a href="http://atlas-agis-api.cern.ch/request/toacache/TiersOfATLASCache.py">http://atlas-agis-api.cern.ch/request/toacache/TiersOfATLASCache.py</a></li><li>▪ <b>static ToACache:</b> <a href="http://atlas-agis-api.cern.ch/ToACache/TiersOfATLASCache.py">http://atlas-agis-api.cern.ch/ToACache/TiersOfATLASCache.py</a></li><li>▪ <b>previous caches:</b> <a href="http://atlas-agis-api.cern.ch/ToACache/cache/">http://atlas-agis-api.cern.ch/ToACache/cache/</a></li><li>▪ View/Modify ToACache ExtraData (RSE integration)<ul style="list-style-type: none"><li>▪ ToACache with Extra data</li></ul></li></ul>	<ul style="list-style-type: none"><li>▪ Consistency checker</li><li>▪ ToAComparator</li><li>▪ AGIS-BDII CE comparison</li><li>▪ AGIS-Schedconf-PF mon CE comparison</li><li>▪ AGIS-DIMGOCDB sites+services comparison</li><li>▪ AGIS-PANDA PandaResource+SWReleases comparison</li><li>▪ AGIS-Schedconfig (topology) comparison</li><li>▪ AGIS-Schedconfig JSON comparison</li><li>▪ AGIS-GSR services comparison</li></ul>	

# PanDA ジョブ・キュー

- PanDA キュー end points

ATLAS Grid Information System																		
RC Site	ATLASSite	DDMEndpoint	PANDA Queue	Service	Central Services	DDM Groups	PandaQueue combined resources					Docs	TWiki	OLD	JSON			
Show 200 entries																		
VO name	ATLAS Site	PanDA Site	Template object	PanDA Resource	PanDA Queue	state	(current) status	type	capability	CLOUD	TIER	Status	Manual	HC	Switcher	Panda Integration	CLOUD	Final
atlas			FZK			ACTIVE												
atlas	ATLAS Site	PanDA Site	Template object	PanDA Resource	PanDA Queue	state	(current) status	type	capability	CLOUD	TIER							
atlas	FZK-LCG2	FZK-LCG2	FZK-LCG2_VIRTUAL	ANALY_FZK	ANALY_FZK	ACTIVE	online	analysis	score	DE	T1							
atlas	FZK-LCG2	FZK-LCG2	FZK-LCG2_VIRTUAL	ANALY_FZK_HI	ANALY_FZK_HI	ACTIVE	online	analysis	score	DE	T1							
atlas	FZK-LCG2	FZK-LCG2	FZK-LCG2_VIRTUAL	ANALY_FZK_SHORT	ANALY_FZK_SHORT	ACTIVE	online	analysis	score	DE	T1							
atlas	FZK-LCG2	FZK-LCG2	FZK-LCG2_VIRTUAL	FZK-LCG2	FZK-LCG2-all-prod-CEs	ACTIVE	online	production	score	DE	T1							
atlas	FZK-LCG2	FZK-LCG2	FZK-LCG2_VIRTUAL	FZK-LCG2_HIMEM	FZK-LCG2_HIMEM	ACTIVE	online	production	himem	DE	T1							
atlas	FZK-LCG2	FZK-LCG2	FZK-LCG2_VIRTUAL	FZK-LCG2_MCORE	FZK-LCG2_MCORE	ACTIVE	online	production	mcore	DE	T1							
atlas	FZK-LCG2	FZK-LCG2	FZK-LCG2_VIRTUAL	FZK-LCG2_MCORE_HI	FZK-LCG2_MCORE_HI	ACTIVE	online	production	mcore	DE	T1							
atlas	FZK-LCG2	FZK-LCG2	FZK-LCG2_VIRTUAL	FZK-LCG2_MCORE_LO	FZK-LCG2_MCORE_LO	ACTIVE	online	production	mcore	DE	T1							
Showing 1 to 8 of 8 entries																		

アクティブな PanDA (job) キュー  
ANALY\_ .... = Analysis キュー

# Rucio ストレージ・エンド・ポイント

- DDM end points

**ATLAS Grid Information System**

RC Site ATLASTSite **DDMEndpoint** PANDA Queue Service Central Services DDM Groups **DDM Endpoints** Docs TWiki OLD JSON

Show 200 entries **FZK** First Previous 1 Next Last

give me url of this page hold shift + click column for Multi-column ordering

DDM Endpoint State DDM Site ATLAS Site ATLAS TIER CLOUD type Full Endpoint Token Domain LFC Name FTS Master FTS Master2 FTS Test

Master3

DDM Endpoint	State	DDM Site	ATLAS Site	ATLAS TIER	CLOUD	type	Full Endpoint	FTS Master	FTS Test
FZK-LCG2_DATADISK	ACTIVE	FZK-LCG2	FZK-LCG2	T1	DE	DATADISK	token:ATLASDATADISK:srm://atlassrm-fzk.gridka.de:8443/srm/managerv2?SFN=/pnfs/gridka.de/atlas/disk-only/atlasdatadisk/	CERNFTS3_REST   https://fts3.cern.ch:8446	CERNFTS3PILOT_REST   https://fts3-pilot.cern.ch:8446
FZK-LCG2_DATATAPE	ACTIVE	FZK-LCG2	FZK-LCG2	T1	DE	DATATAPE	token:ATLASDATATAPE:srm://atlassrm-fzk.gridka.de:8443/srm/managerv2?SFN=/pnfs/gridka.de/atlas/atlasdatatape/	CERNFTS3_REST   https://fts3.cern.ch:8446	CERNFTS3PILOT_REST   https://fts3-pilot.cern.ch:8446
FZK-LCG2_GROUPTAPE_PERF-EGAMMA	ACTIVE	FZK-LCG2	FZK-LCG2	T1	DE	GROUPTAPE	token:ATLASMCTAPE:srm://atlassrm-fzk.gridka.de:8443/srm/managerv2?SFN=/pnfs/gridka.de/atlas/atlasgrouptape/perf-egamma/	CERNFTS3_REST   https://fts3.cern.ch:8446	CERNFTS3PILOT_REST   https://fts3-pilot.cern.ch:8446
FZK-LCG2_LOCALGROUPDISK	ACTIVE	FZK-LCG2	FZK-LCG2	T1	DE	LOCALGROUPDISK	token:ATLASLOCALGROUPDISK:srm://dgridsrm-fzk.gridka.de:8443/srm/managerv2?SFN=/pnfs/gridka.de/datas/atlaslocalgroupdisk/	CERNFTS3_REST   https://fts3.cern.ch:8446	CERNFTS3PILOT_REST   https://fts3-pilot.cern.ch:8446
FZK-LCG2_LOCALGROUPTAPE	ACTIVE	FZK-LCG2	FZK-LCG2	T1	DE	LOCALGROUPTAPE	token:ATLASLOCALGROUPTAPE:srm://dgridsrm-fzk.gridka.de:8443/srm/managerv2?SFN=/pnfs/gridka.de/datas/atlaslocalgrouptape/	CERNFTS3_REST   https://fts3.cern.ch:8446	CERNFTS3PILOT_REST   https://fts3-pilot.cern.ch:8446
FZK-LCG2_MCTAPE	ACTIVE	FZK-LCG2	FZK-LCG2	T1	DE	MCTAPE	token:ATLASMCTAPE:srm://atlassrm-fzk.gridka.de:8443/srm/managerv2?SFN=/pnfs/gridka.de/atlas/atlasmctape/	CERNFTS3_REST   https://fts3.cern.ch:8446	CERNFTS3PILOT_REST   https://fts3-pilot.cern.ch:8446
FZK-LCG2_PERF-EGAMMA	ACTIVE	FZK-LCG2	FZK-LCG2	T1	DE	GROUPDISK	token:ATLASDATADISK:srm://atlassrm-fzk.gridka.de:8443/srm/managerv2?SFN=/pnfs/gridka.de/atlas/disk-only/atlasgroupdisk/perf-egamma/	CERNFTS3_REST   https://fts3.cern.ch:8446	CERNFTS3PILOT_REST   https://fts3-pilot.cern.ch:8446
FZK-LCG2_PERF-IDTRACKING	ACTIVE	FZK-LCG2	FZK-LCG2	T1	DE	GROUPDISK	token:ATLASDATADISK:srm://atlassrm-fzk.gridka.de:8443/srm/managerv2?SFN=/pnfs/gridka.de/atlas/disk-only/atlasgroupdisk/perf-idtracking/	CERNFTS3_REST   https://fts3.cern.ch:8446	CERNFTS3PILOT_REST   https://fts3-pilot.cern.ch:8446
FZK-LCG2_PERF-TAU	ACTIVE	FZK-LCG2	FZK-LCG2	T1	DE	GROUPDISK	token:ATLASDATADISK:srm://atlassrm-fzk.gridka.de:8443/srm/managerv2?SFN=/pnfs/gridka.de/atlas/disk-only/atlasgroupdisk/perf-tau/	CERNFTS3_REST   https://fts3.cern.ch:8446	CERNFTS3PILOT_REST   https://fts3-pilot.cern.ch:8446
FZK-LCG2_PPSSCRATCHDISK	ACTIVE	FZK-LCG2	FZK-LCG2	T1	DE	SPECIAL	token:ATLASPPSSCRATCHDISK:srm://ppssrm-kit.gridka.de:8443/srm/managerv2?SFN=/pnfs/gridka.de/atlas/atlasppsscratchdisk/	CERNFTS3_REST   https://fts3.cern.ch:8446	
FZK-LCG2_SCRATCHDISK	ACTIVE	FZK-LCG2	FZK-LCG2	T1	DE	SCRATCHDISK	token:ATLASSCRATCHDISK:srm://atlassrm-fzk.gridka.de:8443/srm/managerv2?SFN=/pnfs/gridka.de/atlas/disk-only/atlasscratchdisk/	CERNFTS3_REST   https://fts3.cern.ch:8446	CERNFTS3PILOT_REST   https://fts3-pilot.cern.ch:8446

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アクティブな DDM storage end points

# リンクと参考文献

- Software twiki tutorial
  - <https://twiki.cern.ch/twiki/bin/viewauth/AtlasComputing/SoftwareTutorialGettingDatasets>
- <http://iopscience.iop.org/article/10.1088/1742-6596/664/2/022007/meta>
- ATLAS-D meeting 2016 Grid/Rucio Tutorial, Gen Kawamura
- Monitoring Your Grid Jobs, Andrew Washbrook University of Edinburgh, ATLAS Software & Computing Tutorials 14th January 2015 PUC, Chile
- Software tutorial using Grid
  - <https://twiki.cern.ch/twiki/bin/viewauth/AtlasComputing/SoftwareTutorialUsingTheGrid>