

dCache for Photon Science

Outline:

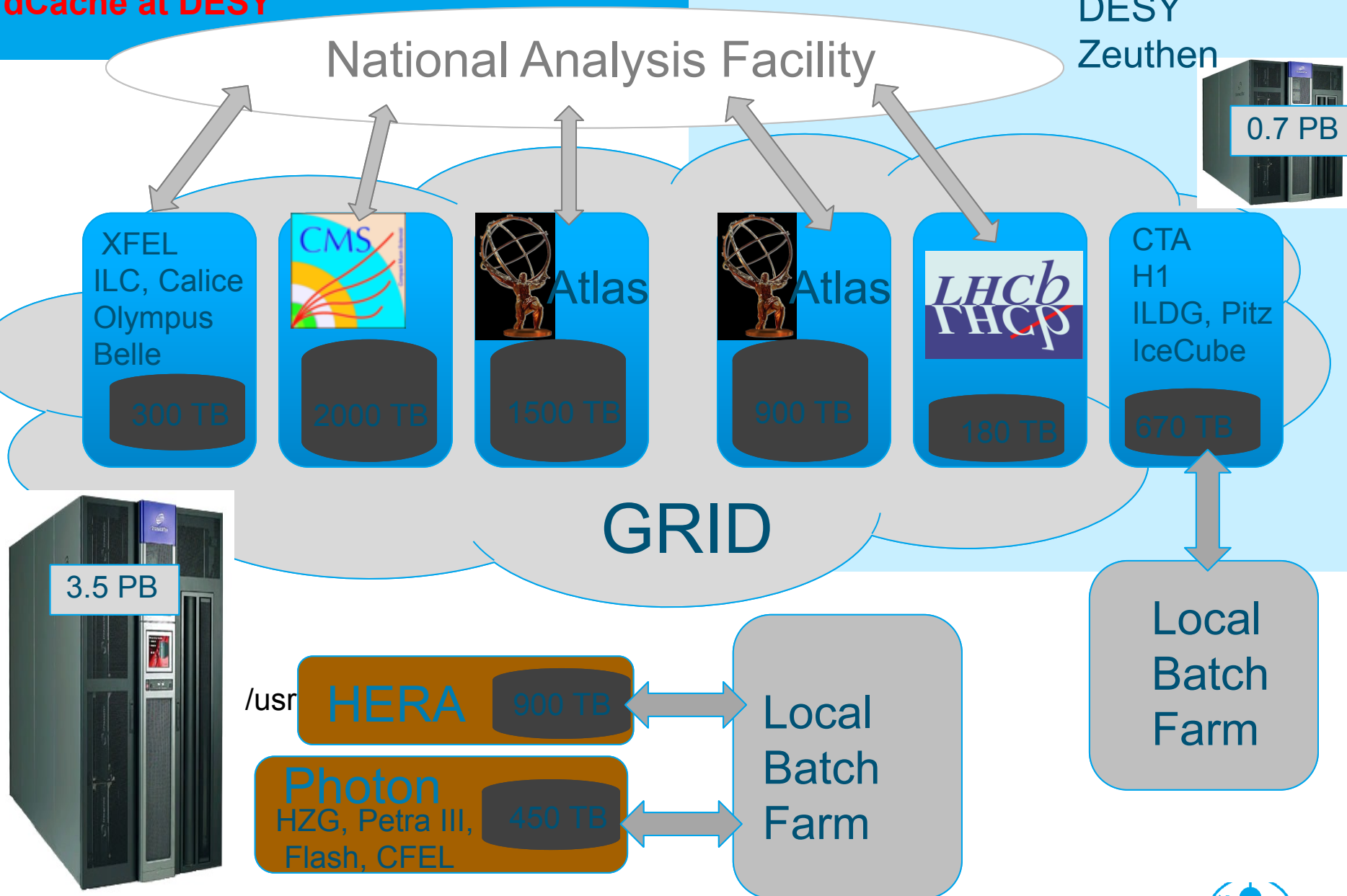
Overview and Resources

Photon dCache

Monitoring

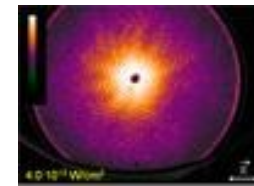
Summary

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DESY IT
6th dCache Workshop



Data Sources

- Flash FEL
- PetralIII Synchrotron radiation
- Doris Synchrotron radiation
- XFEL components
- Accelerator simulation
- External (LCLS, ESRF,



Data volume: GB to PB

Requests

- ACLs for NFS4.1
- Container for small files

Photon scientists work in small groups.
Experiments often record small size images.

Photon dCache

NFS4.1
clients
SL6.2
idmapping

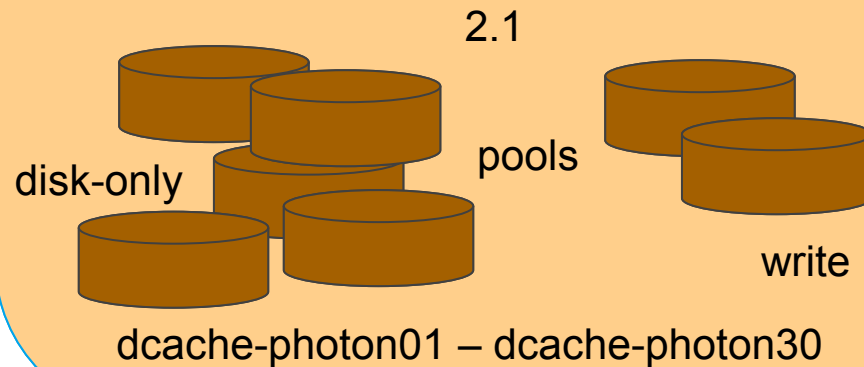
10+ WGS
different
photon
sources
and
accelerator
physics

dcache-dir-photon
NFS4.1 server
pnfsManager
PoolManager,gPlazma

dcache-door-
photon01
NFS3 server
dcap

dcache-se-photon
admin, statistics,
http

dcache-door-
photon02
gridftp



dcap
clients



Monitoring

> Why

- 5 instances with ~400 pool nodes
- History
- Repeat any time
- Run tests at different frequencies
- Compare to last result

> How

cron and scripts with input from admin interface,
postgres DB, web page



Monitoring

Firefox ▾

DESY User - Deutsches Elektr... × DCACHE CHECK × 6th International dCache Wor... × +

http://dcache-monitor1.desy.de/cgi-bin/dcache-check.pl

	all_pools	write_pools	read_only_pools	migration_runs	reach_pool	last_ping_to_pool	disabled_pools	not_enabled	flush_status	flush_warning	long_active	files_in
HERA	15:19, run	14:29, run	15:09, run	10:09, run	14:49, run	14:45, run	15:15, run	14:35, run	14:39, run	14:35, run	14:34, run	14:59, run
DESY	15:15, run	14:25, run	15:05, run	10:05, run	14:45, run	14:41, run	15:11, run	14:31, run	14:35, run	14:31, run	14:30, run	14:55, run
ATLAS	15:17, run	14:27, run	15:07, run	10:07, run	14:47, run	14:43, run	15:13, run	14:33, run	14:37, run	14:33, run	14:32, run	14:57, run
CMS	15:16, run	14:26, run	15:06, run	10:06, run	14:46, run	14:42, run	15:12, run	14:32, run	14:36, run	14:32, run	14:31, run	14:56, run
PHOTON	15:20, run	14:30, run	15:10, run	10:10, run	14:50, run	14:45, run	15:16, run	14:36, run	14:40, run	14:36, run	14:35, run	15:00, run

A pie chart showing the distribution of dCache pools across experiments. The largest slice is CMS (orange), followed by PHOTON (green), ATLAS (red), HERA (yellow), and DESY (blue).

Pools list	dCache Version	Space used by dCache	Pledges-2012(+local)(TB)	Pools without PoolGroups
HERA (365)	2.2.0	945 TiB (1039TB)	0	0
DESY (143)	production-1.9.12-12	290 TiB (318TB)	0	0
ATLAS (300)	production-1.9.12-12	1546 TiB (1699TB)	750(+375)	0
CMS (377)	production-1.9.12-13	2098 TiB (2306TB)	1300(+750)	0
PHOTON (130)	2.1-SNAPSHOT	431 TiB (473TB)	0	0
		5310 TiB (5838 TB)		



Summary

- dCache operations team monitoring
- Data management for photon science
- dCache NFS4.1 server in production

