# Cloud Status & News Jan 2013

- Happy new year to everybody!

- Traditional smooth and stable running in Dec and Xmas break

- Performance & Stability
  - PSNC & GoeGrid excluded from ANALY_, need to review status
  - other sites mostly fine

- ATLAS T1/2/3 Jamboree 10/11 Dec 12
  - many changes planned / under discussion
  - → slides at the end

WallClock HEPSPEC06 Hours
30 Days from 2012-12-01 to 2013-01-01

http://cern.ch/go/n6vg
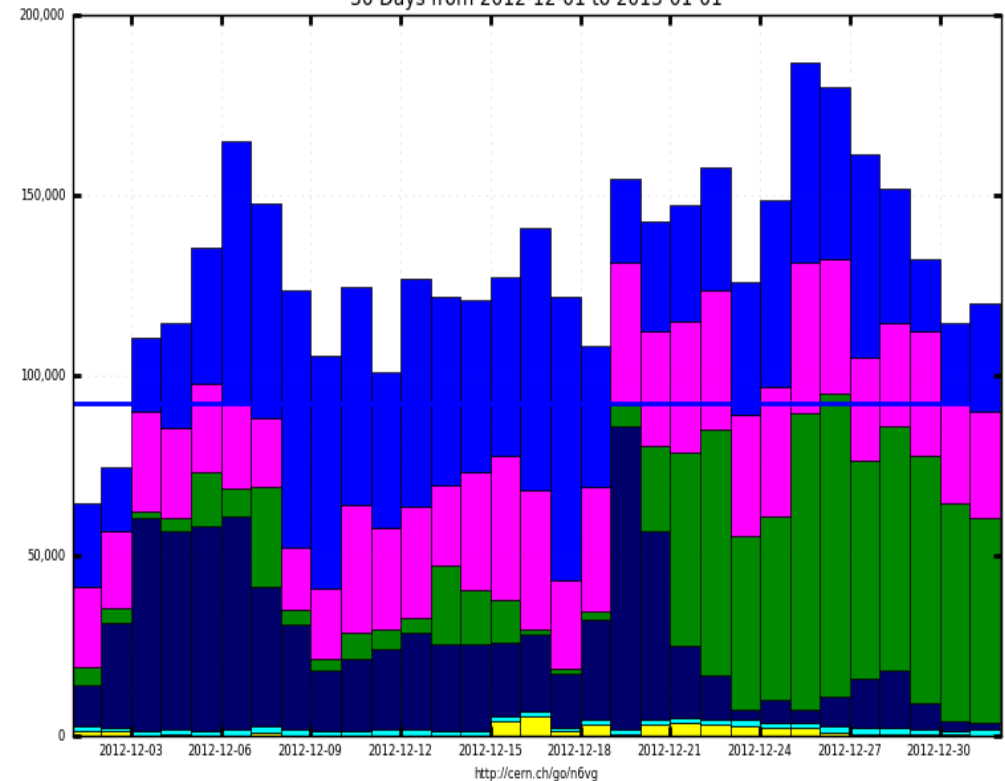
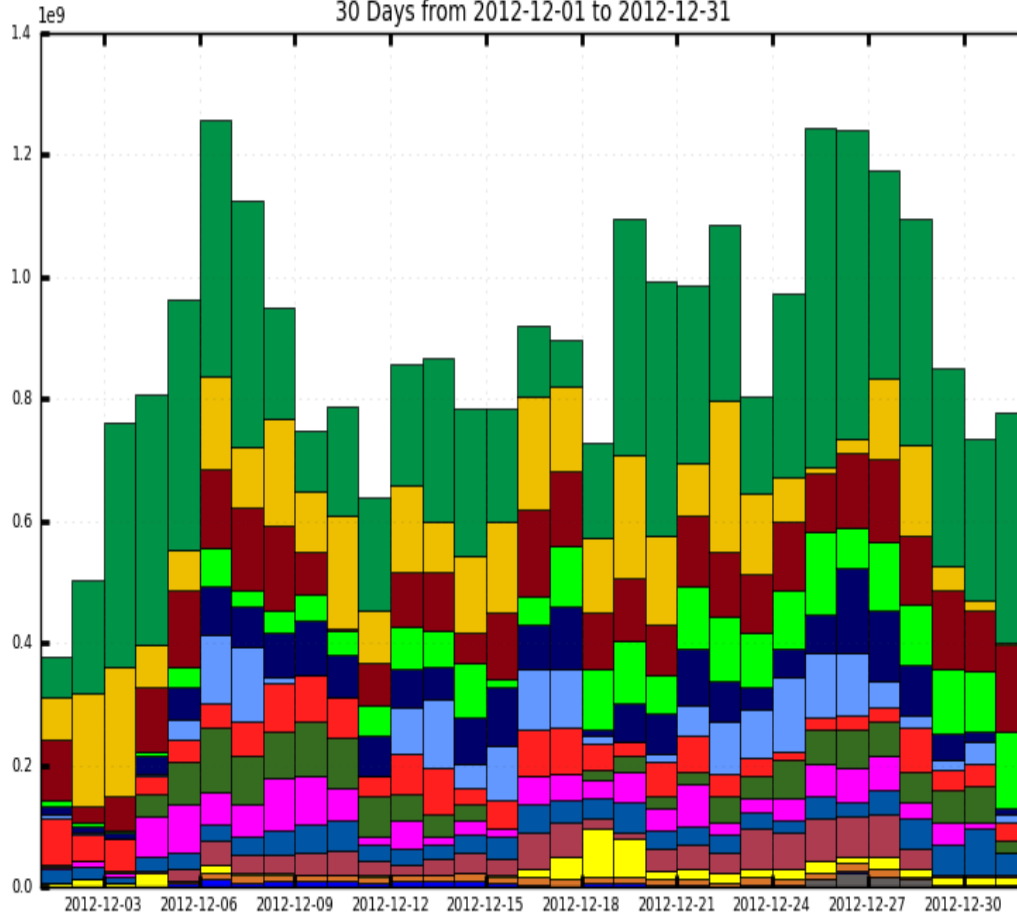MC Simulation · User Analysis · Group Production · MC Reconstruction · Others · Data Processing

Maximum: 186,771 , Minimum: 64,707 , Average: 130,908 , Current: 119,857

Production iobs DE cloud Dec 2012
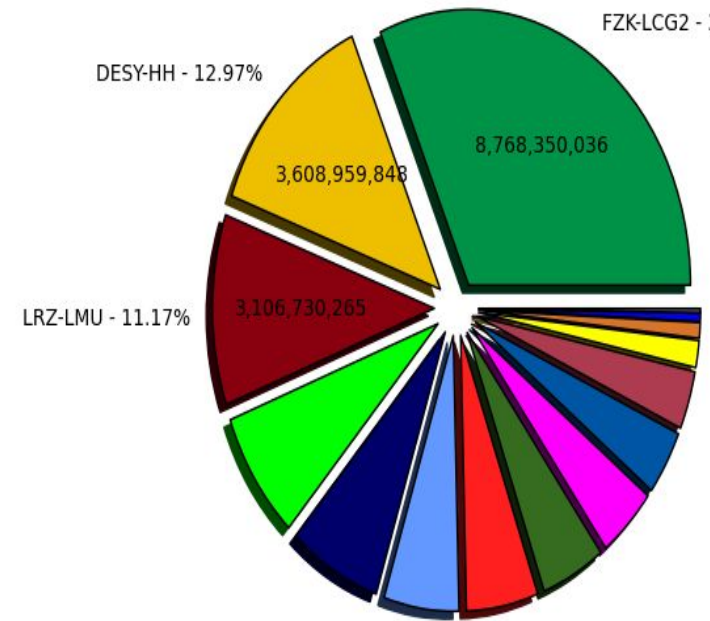

Wall Clock consumption All Jobs in seconds
30 Days from 2012-12-01 to 2012-12-31

Wall Clock consumption All Jobs in seconds (Sum: 27,815,429,482)

FZK-LCG2 - 31.52%
8,768,350,036

DESY-HH - 12.97%
3,608,959,848

LRZ-LMU - 11.17%
3,106,730,265

FZK-LCG2 - 31.52% (8,768,350,036)	DESY-HH - 12.97% (3,608,959,848)	LRZ-LMU - 11.17% (3,106,730,265)
WUPPERTALPROD - 7.58% (2,109,232,829)	PRAGUELCG2 - 6.70% (1,864,501,613)	GOEGRID - 5.46% (1,518,600,427)
CSCS-LCG2 - 5.23% (1,455,743,051)	MPPMU - 4.65% (1,292,255,976)	UNI-FREIBURG - 4.28% (1,189,447,274)
DESY-ZN - 3.81% (1,058,741,660)	CYFRONET-LCG2 - 3.42% (950,222,903)	UNI-DORTMUND - 1.58% (439,725,290)
HEPHY-UIBK - 0.92% (254,664,145)	TUDRESDEN-ZIH - 0.47% (130,160,928)	PSNC - 0.24% (68,093,237)

FZK-LCG2   DESY-HH   LRZ-LMU   WUPPERTALPROD   PRAGUELCG2
GOEGRID   CSCS-LCG2   MPPMU   UNI-FREIBURG   DESY-ZN
CYFRONET-LCG2   UNI-DORTMUND   HEPHY-UIBK   TUDRESDEN-ZIH   PSNC

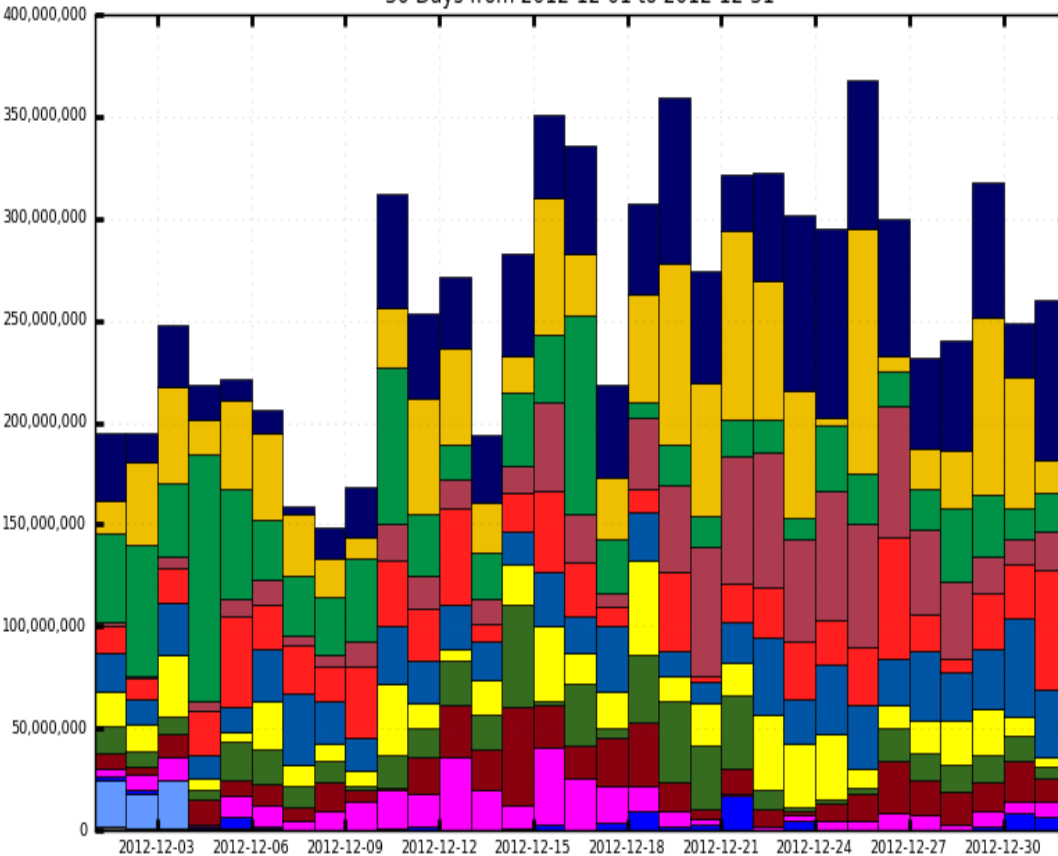Maximum: 1,256,449,271 , Minimum: 378,474,308 , Average: 897,271,918 , Current: 778,616,410

close to 2012 average (~30B/month)

Analysis jobs DE cloud Nov 2012

Wall Clock consumption All Jobs in seconds
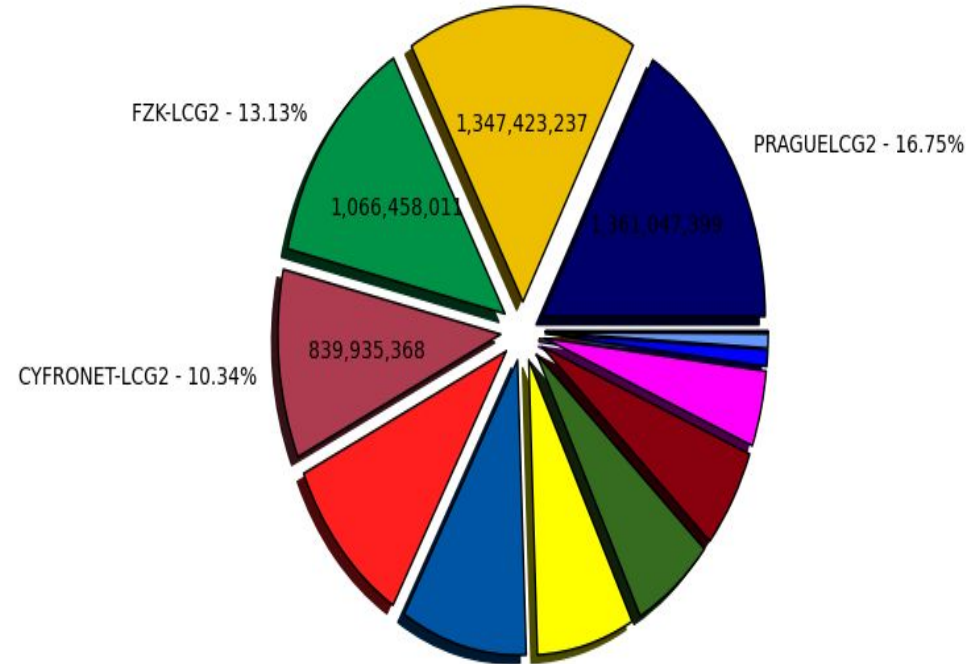30 Days from 2012-12-01 to 2012-12-31

Maximum: 367,966,730 , Minimum: 148,606,431 , Average: 262,052,151 , Current: 260,361,523

Legend (left chart): PRAGUELCG2, DESY-HH, FZK-LCG2, CYFRONET-LCG2, CSCS-LCG2, DESY-ZN, UNI-FREIBURG, MPPMU, LRZ-LMU, WUPPERTALPROD, TUDRESDEN-ZIH, GOEGRID, PSNC, HEPHY-UIBK

Wall Clock consumption All Jobs in seconds (Sum: 8,123,616,701)

DESY-HH - 16.59% — 1,347,423,237
PRAGUELCG2 - 16.75% — 1,361,047,399
FZK-LCG2 - 13.13% — 1,066,458,011
CYFRONET-LCG2 - 10.34% — 839,935,368

- PRAGUELCG2 - 16.75% (1,361,047,399)
- DESY-HH - 16.59% (1,347,423,237)
- FZK-LCG2 - 13.13% (1,066,458,011)
- CYFRONET-LCG2 - 10.34% (839,935,368)
- CSCS-LCG2 - 9.70% (787,747,579)
- DESY-ZN - 9.12% (740,576,800)
- UNI-FREIBURG - 7.06% (573,518,338)
- MPPMU - 5.87% (476,831,662)
- LRZ-LMU - 5.52% (448,777,874)
- WUPPERTALPROD - 4.16% (337,583,604)
- TUDRESDEN-ZIH - 0.91% (73,823,793)
- GOEGRID - 0.78% (63,200,469)
- PSNC - 0.08% (6,587,641)
- HEPHY-UIBK - 0.00% (104,926)

close to 2012 average 7,500,000,000

DE site availability Dec 12

Historic view for "panda_queues_all" from 00:00 01.12.2012 to 00:00 31.12.2012

Show 100 entries

PANDA queue	SITE Name	TIER	CLOUD	History plot time bin = 60 hours	offline		brokeroff		online	
					%	count	%	count	%	count
ANALY_CSCS	CSCS-LCG2	T2D	DE		0	0	0	0	98.17	15
ANALY_CYF	CYFRONET-LCG2	T2	DE		0	0	0	0	97.43	18
ANALY_DESY-HH	DESY-HH	T2D	DE		0	0	0	0	91.52	12
ANALY_DESY-HH_XD	DESY-HH	T2D	DE		0	0	0	0	0	0
ANALY_DESY-ZN	DESY-ZN	T2D	DE		0	0	0	0	98.94	7
ANALY_DRESDEN	TUDresden-ZIH	T3	DE		0	0	0	0	63.04	36
ANALY_FREIBURG	UNI-FREIBURG	T2D	DE		0	0	0	0	99.49	5
ANALY_FZK	FZK-LCG2	T1	DE		1.04	2	0	0	98.06	9
ANALY_FZU	praguelcg2	T2	DE		0	0	0	0	97.36	11
ANALY_GOEGRID	GoeGrid	T2D	DE		0	0	0	0	5.65	6
ANALY_HEPHY-UIBK	HEPHY-UIBK	T2	DE		0	0	99.63	4	0	0
ANALY_LRZ	LRZ-LMU	T2D	DE		0.93	1	0.56	1	91.94	13
ANALY_LRZ11	LRZ-LMU	T2D	DE		0	0	0	0	0	0
ANALY_MPPMU	MPPMU	T2D	DE		0	0	0	0	94.7	9
ANALY_PSNC	PSNC	T2	DE		0	0	0	0	4.14	7
ANALY_wuppertalprod	wuppertalprod	T2D	DE		0	0	0	0	95.43	7

- Sites PSNC & GOEGRID manually set to test mode by cloud squad due to reoccuring problems / instabilities
  - will be put back when HC tests run stable
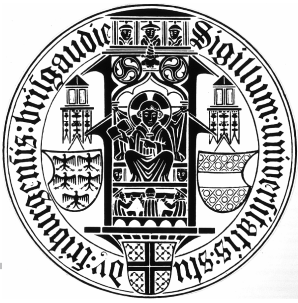- Other DE analysis T2 sites well above 90% online

Tier2 report GangaRobot Dec 2012 (table)

```
input file project: data      01.12.2012 - 31.12.2012
-----------------------------------------------|-------------------------|-------------------
                                               |              finished jobs
SITE              failed   finished  efficiency |  runtime(end-start)  |      cpu time
                                               |  min    mean    max  |  min    mean    max
-----------------------------------------------|-------------------------|-------------------
ANALY_CSCS          209     5117       0.961  |  123    160    4390  |   32     68    114
ANALY_CYF           184     5746       0.969  |  189    309    6059  |   51     68    134
ANALY_DESY-HH       113     5495       0.980  |  124    504  12728  |   38     91    483
ANALY_DESY-ZN        42     6383       0.993  |   79    165    1101  |   34     49    102
ANALY_FREIBURG       43     6770       0.994  |  123    210  12950  |   41     63    427
ANALY_FZK            44     5522       0.992  |  123    303  14661  |   35     74    106
ANALY_FZU           100     7057       0.986  |  126    286    5693  |   43     70    119
ANALY_GOEGRID       505     3026   !-> 0.857  |  128    240  12180  |   36     53     72
ANALY_HEPHY-UIBK     58     5332       0.989  |  191    341  11805  |   58     71     80
ANALY_LRZ           121     5992       0.980  |  124    301    6111  |   48     79    121
ANALY_MPPMU         282     6124       0.956  |  102    189    4952  |   43     58     79
ANALY_wuppertalprod  82     5396       0.985  |  124    346  14963  |   41     67    115
-----------------------------------------------|-------------------------|-------------------

input file project: mc        01.12.2012 - 31.12.2012
-----------------------------------------------|-------------------------|-------------------
                                               |              finished jobs
SITE              failed   finished  efficiency |  runtime(end-start)  |      cpu time
                                               |  min    mean    max  |  min    mean    max
-----------------------------------------------|-------------------------|-------------------
ANALY_CSCS          204     5666       0.965  |  184    410    1959  |  102    245    465
ANALY_CYF           202     4280       0.955  |  313   1080    6118  |  124    208    454
ANALY_DESY-HH       151     4989       0.971  |  185    812  17887  |  107    330    748
ANALY_DESY-ZN        35     7267       0.995  |  184    348    5310  |  101    170    374
ANALY_FREIBURG       49     7315       0.993  |  185    410    9160  |  125    216   2316
ANALY_FZK            65     5714       0.989  |  185    541  14212  |  109    257    500
ANALY_FZU            98     7218       0.987  |  189    544    6765  |  122    253    510
ANALY_GOEGRID       496     3428   !-> 0.874  |  190    412    6152  |  107    179    337
ANALY_HEPHY-UIBK     52     5391       0.990  |  314    617  12965  |  155    227    285
ANALY_LRZ           151     6272       0.976  |  247    517    6701  |  123    247    430
ANALY_MPPMU         323     6626       0.954  |  185    383    5313  |  128    197    312
ANALY_wuppertalprod  78     5576       0.986  |  185    601  10076  |  122    234    973
```
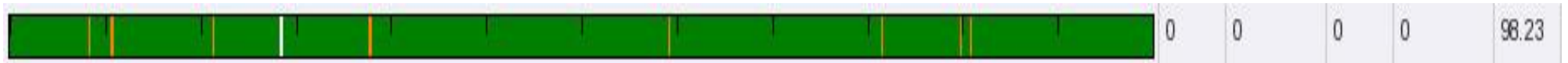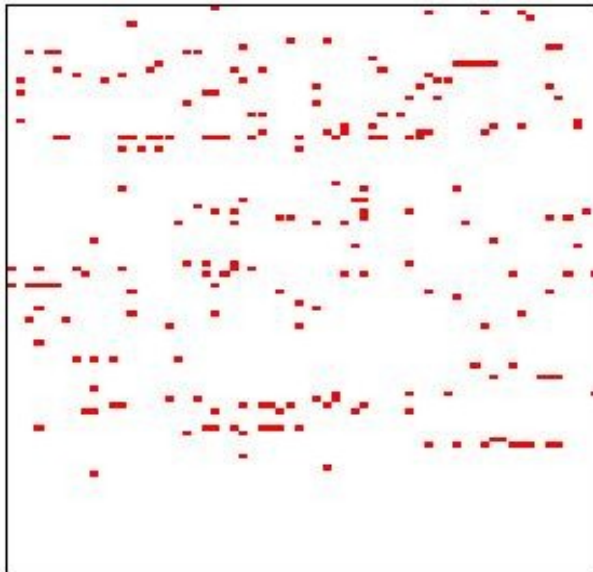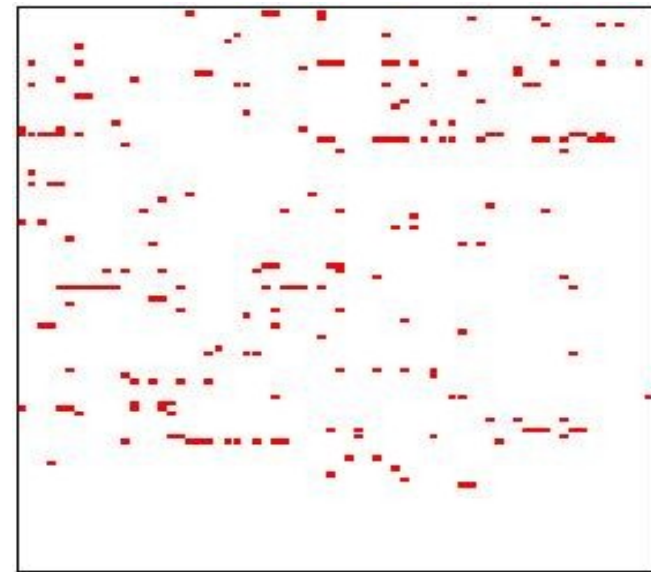
ANALY_CSCS

CSCS

data
209/5326

5326

1

mc
204/5870

5870

1

no child procs (LSF batch problem), other mixed problems

Federated data acces

- Federated data access via xrootd (FAX)

    - lot of activity in Dec, IT cloud fully joined

    - full-dress-rehearsal tests planned for mid/end Jan

        - preparations ongoing

    - still little progress in DE cloud

        - LRZ, RZG, Wup, Prague currently active

        - Desy Gridlab

        - in progress at GridKa

    - FAX service will presumably become ATLAS requirement

        - rather join sooner than later

        - Wiki page for setup of xrootd as proxy service

            - https://twiki.cern.ch/twiki/bin/viewauth/Atlas/FAXDECloud

- Federation via http/Webdav as well but independent

    - see https://twiki.cern.ch/twiki/bin/view/Atlas/WebDavDataAccess

What is FAX?

Description (from the FAX Twiki):

The Federated ATLAS Xrootd (FAX) system is a storage federation aims at bringing Tier1, Tier2 and Tier3 storage together as if it is a giant single storage system, so that users do not have to think of there is the data and how to access the data. A client software like **ROOT** or **xrdcp** will interact with FAX behind the sight and will reach the data whereever it is in the federation.

Goals (from <u>Rob Gardner's talk </u>at Lyon mtg. 2012):

- Common ATLAS namespace across all storage sites, accessible from anywhere;

- Easy to use, homogeneous access to data

- Use as failover for existing systems

- Gain access to more CPUs using WAN direct read access

- Use as caching mechanism at sites to reduce local data management tasks

Regional redirectors
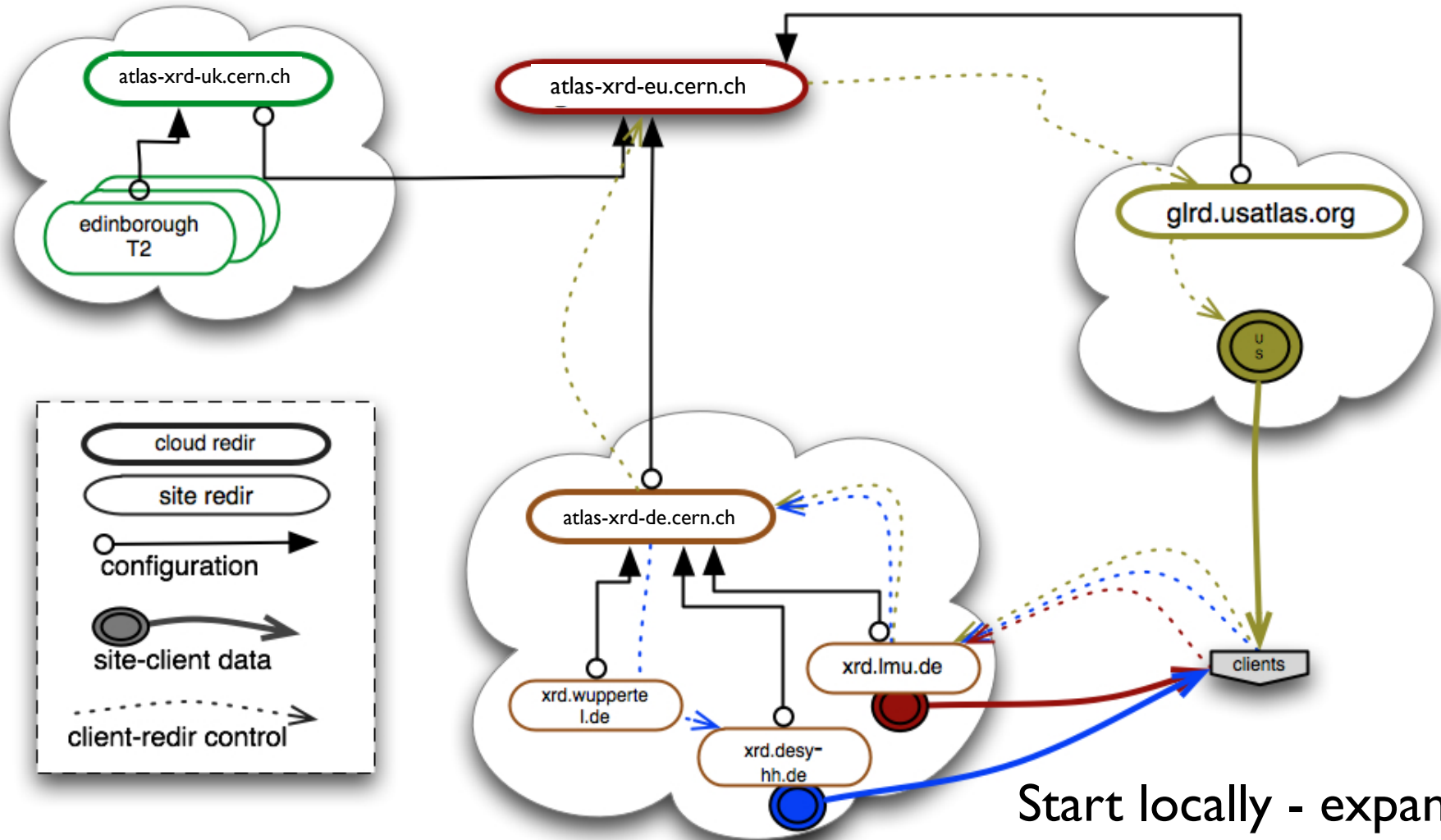
Start locally - expand search as needed

T1/2/3 Jamboree Issues

- https://indico.cern.ch/conferenceDisplay.py?confId=196649

- DDM plans:

  - Migration DQ2 → Rucio DDM system to start 2013
    - radical namespace change - 2 level subdir created from filename-hash
      - requires renaming campaign - start early 2013 w/ test sites via WebDav
    - with Rucio SpaceToken not really useful any more - single copy per file on site
    - LocalGroupDisk: not clear how to use in future
  - further changes
    - end of LFC by 2014
    - drop SRM for disk-only sites, only needed for tape recall

- Middleware requirements:

  - enforce CVMFS by end of Apr 13 (WLCG reqt??)

  - Squid considered critical service

  - glexec not much progress and not pushed by ATLAS

T1/2/3 Jamboree Issues - 2

- ## Os & Env
  - SL6: ok for binary prod but not quite ready for analysis (compilation)
  - /etc/machinefeatures foreseen to communicate node specific features
    - to be used by multicore jobs
- ## perfSonar deployment on all sites requested
  - requires 2 phys nodes in same sub-net as storage pools
  - in DE cloud so far only GridKa, Desy-HH, LRZ (AFAIK)
- ## Storage access requirements for Sites:
  - xrootd access (straighforward for dCache and recent DPM versions)
  - Federated access: FAX redirector & http/webdav