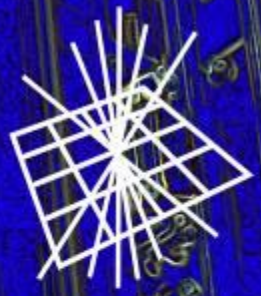


GridPP

UK Computing for Particle Physics

End User Analysis Support: A Site's Perspective

Mike Kenyon

WLCG Workshop – Imperial College, London

07-07-10

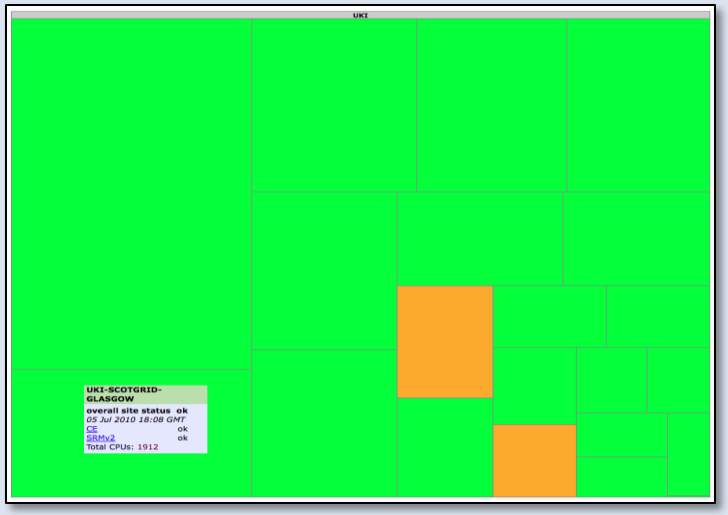
University of Glasgow

Outline

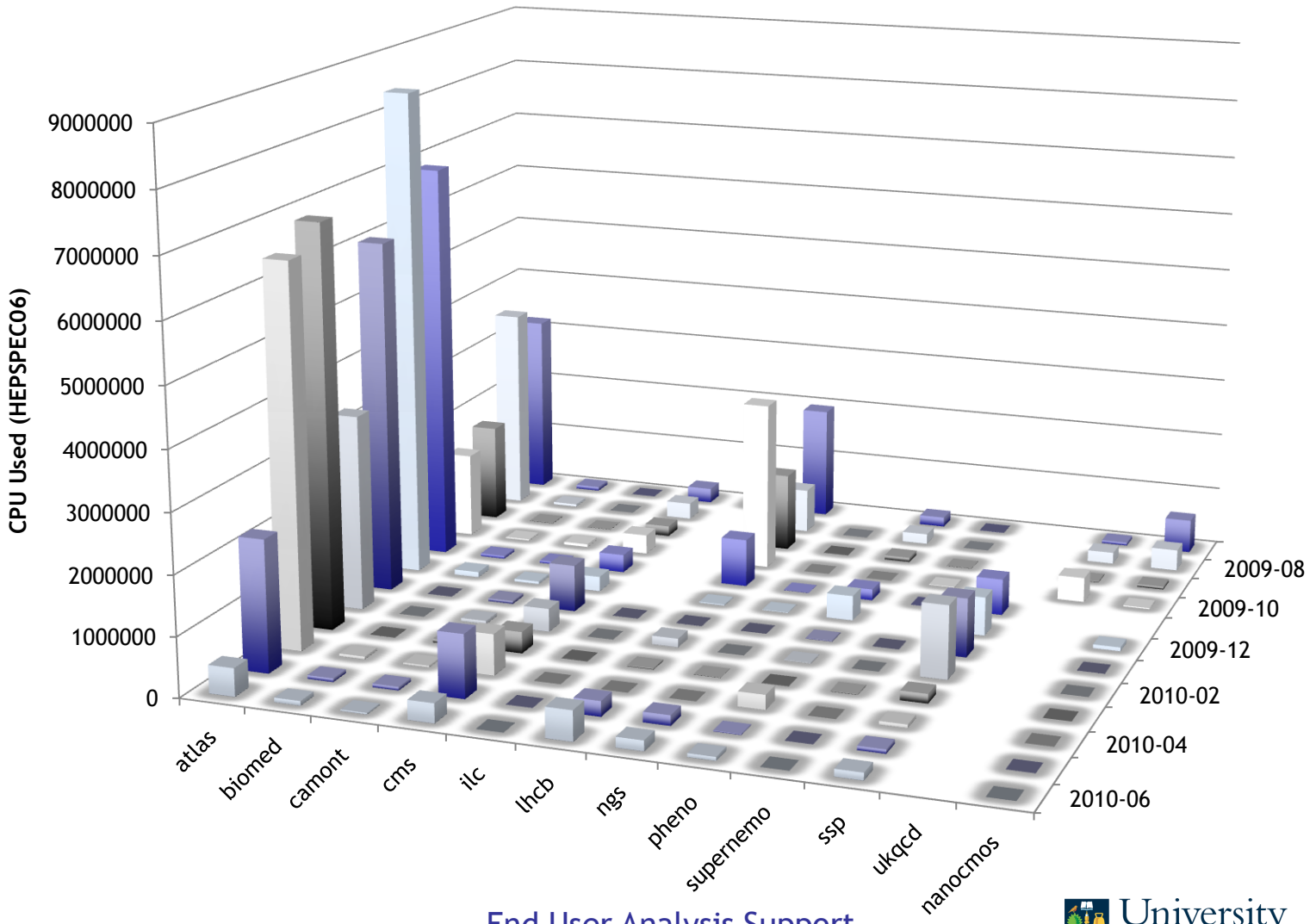
- Context: Where do we fit into the Grand Scheme?
- Supporting our users: how we do this.
  - Site availability monitoring.
  - Documentation & communication.
  - Common suport requests.
- “Our” observations/experiences of the VO support mechanisms.
  - GGUS.
  - The Ganga Blacklist.
- General observations.

UKI-SCOTGRID-GLASGOW

- Admin team
  - 2 x Technical coordinators.
  - 1 x Systems manager.
  - 2 x GridPP UK Tier-2 data-management system managers (!)
  - 0.5 x User support/grid tool developer.
- Hardware (by end of 2010)
  - 2100 job slots (~20,000 HEPSPEC06).
  - 1.4 PB of storage.
- Local users
  - ~20 cluster users.
- Grid users
  - 400 unique DNs in 2010.
  - /CN=graeme stewart by far the biggest user!



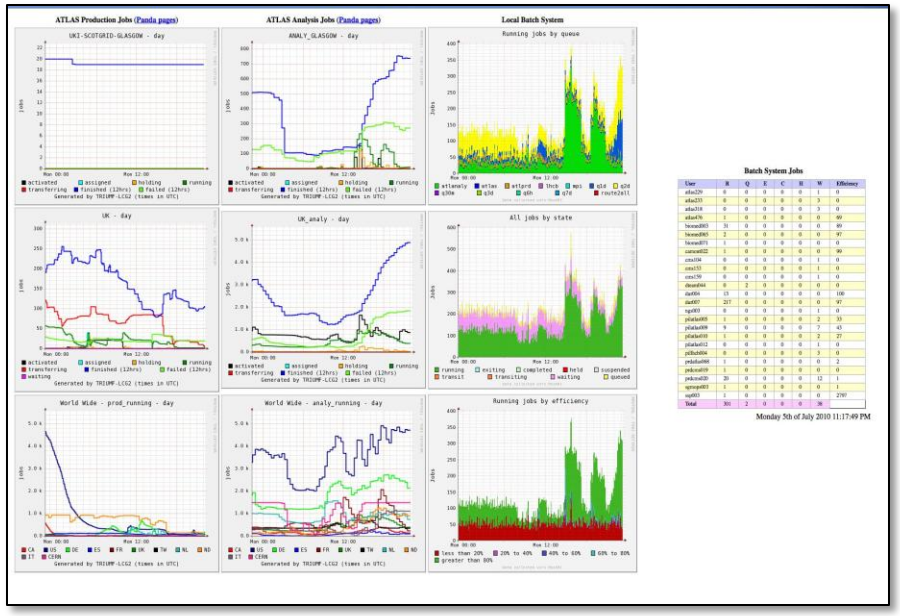
Cluster Workload By VO



Keeping Ahead Of The Game

- How do we, as admins proactively support the users?
  - Monitoring
    - SAM (future? Active MQ)
    - Experiment dashboards
    - Panglia (PanDA + ganglia)

The Glasgow Dashboards



Keeping Ahead Of The Game

- How do we, as admins proactively support the users?
  - Monitoring
    - SAM (future? Active MQ)
    - Experiment dashboards
    - Panglia (PanDA + ganglia)

    } The Glasgow Dashboards
- However
  - Though ATLAS (CMS to some extent) are covered, we have a lack of job-status information for most other VOs.
  - E.g. Undetected LHCb upload problem at some UK sites for months.
    - Sites had no idea until the VO notified us.
    - Diagnosis was hampered by lack of access to failed job logs.
  - Biomed/Camont etc: We'd have no idea if all their jobs were failing on the cluster!

Keeping Ahead Of The Game

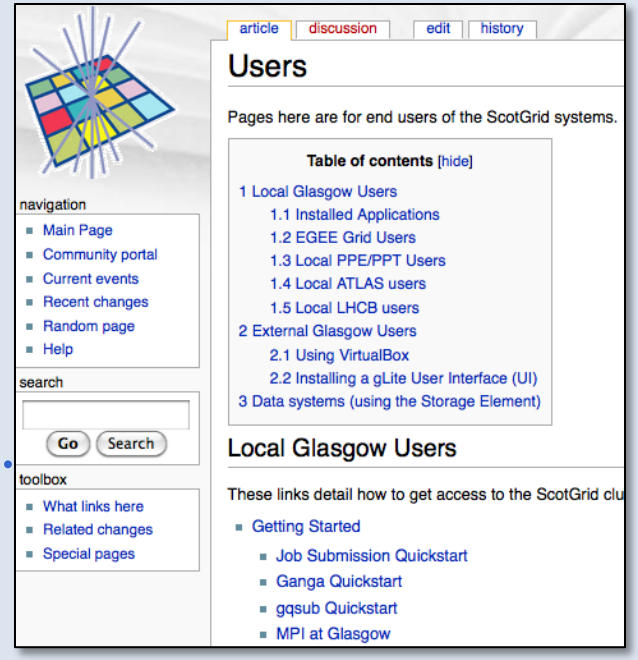
- Questions:
  - What is the post-SAM future? Migrate to WLCG-Nagios.
    - How long will the SAM tests be around?
    - Will WLCG-Nagios replicate SAM tests?
    - Will the UK's Steve Lloyd pages be updated?
  - Could it be extended to non-WLCG VOs?
  - Can admins have single "go-to" page with pointers to all the *critical* monitoring interfaces?

Common User Support Issues

- Most common support requests/complaints:
  - Why won't my job run? It did last week.
    - If the job ran locally, we have more resources to investigate.
    - ATLAS: we can use the PanDA monitor.
      - Otherwise, we direct user to DAST (which we monitor for tips).
    - LHCb: DIRAC job monitoring locked down to the user?
  - Is ATHENA release X.Y.Z installed?
    - ATLAS INFN software pages.
    - Other VOs – software tags.
  - How can I "download" several 100GB of data to run over?
    - Why do you want to do that? (-> DATRI)
  - How do I do <something> with Ganga?
  - Why has feature X changed/disappeared/"broken" in Ganga?

Documentation & Communication

- We maintain a comprehensive, Glasgow-centric and multi-VO WIKI.
  - Aims to be a single hub for users.
    - But I also maintain an extensive list of VO FAQs, HowTo, Tutorials etc.
  - We try to keep contents as current & accurate as possible.
  - Encourage users to contribute.
- Keep users informed of upgrades/ changes/service status.
  - There's a balance. E.g. Ganga bugfix releases now installed silently. (Manage the perception of a "broken" Grid).



GridPP Admin Feedback

- Polled the GridPP admin community in advance of today.
  - SITE #1: Only feels “fully connected” with one VO: ATLAS
  - SITE #1: Doesn’t know whether WMS-submitted jobs are failing.
  - SITE #1: Camont/Biomed: how do I check jobs/contact users?
  - SITE #2: “The Thursday ATLAS meetings are informative - and a good way of raising issues. Graeme does a good job of representing the ATLAS position to us.”
  - SITE #2: “…rather than solving problems with the grid middleware, the VOs bodge around them…pilot jobs are a bodge around inadequacies in the monitoring of worker nodes and primarily the CE software.”
  - SITE #3: “Not at all” aware of the communication/support channels within VOs.
  - SITE #3: “Every PhD student that starts complains of difficulties in starting working with the Grid.”

GridPP Admin Feedback

- SITE #4: dteam meeting provides a regular source of information for all the VOs and the opportunity to ask questions direct to VOs.
- SITE #4: If our site is not running jobs correctly - or banned for some reason - it would be good to get this pushed to the site at the earliest instance.
- SITE #4: …unclear who to contact in specific cases (e.g software installation/compatibility) so a “who to contact in case of…” contact list.
- SITE #4: “VO-side information (grid submission and monitoring portals) are either not well advertised or are restricted.”

Supporting Smaller VOs

- Not strictly WLCG, but they consume our/your resources.
- Users are not necessarily Unix-aware, certificate-aware, Grid-aware, middleware-aware!
- Cases in point at Glasgow.
  - vo.ssp.ac.uk: 1 local user running MPI Castep jobs.
  - vo.optics.ac.uk: 1 local user running Lumerical jobs.
- glite-wms-job-submit is too heavy weight for these users, who generally want direct submission to a cluster.
  - gqsub: Wrappers around the glite-wms-* commands.
    - Support for running across the Grid & Myproxy support.
  - Grid-run-castep: Creates JDL for MPI job and submits to Cluster.
- Remote VOs are harder to contact and service monitoring minimal/non-existent.

GGUS

- "GGUS tickets to VOs don't seem to work very well".
  - 3rd Dec 2009. Site announces via EGEE Broadcast and then GGUS #53843 that an SE was to be decommissioned:
    - "I have attached a list of SURLs of affected files. Please can you replicate the files elsewhere (or even better delete them if no longer required) and let me know you have done so."
    - Changed concerned VO to: CMS & Assigned to VO support
  - 15th April 2010. TPM asks VO: "Did anyone delete those SURLs?"
  - 6th May 2010. TPM asks VO: "What is the status of this ticket?"
  - 21st May 2010. TPM tells VO: "Please remove those SURLs".
  - 21st May 2010. Steve Traylen: "Passing to CMS first to see if they care."
- Biomed (#56679): Banned user spamming site.
- ATLAS (#54912): Not only the VOs that are unresponsive.

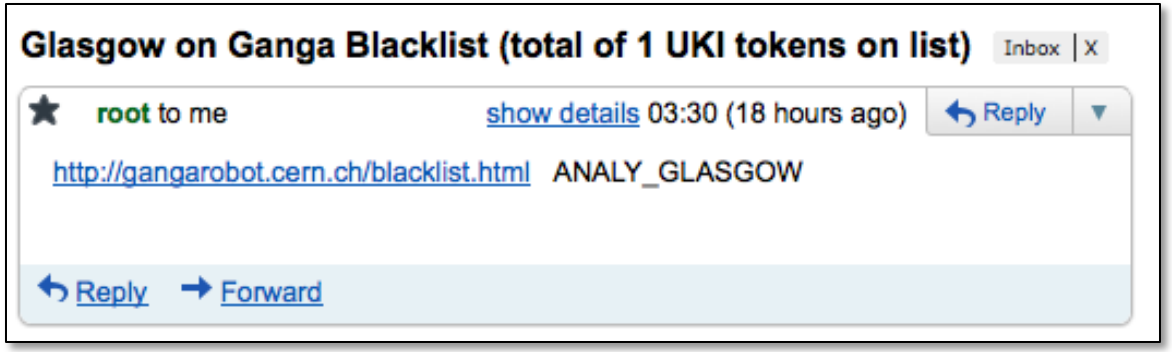
The Ganga Blacklist

The Ganga blacklist.

- We're blacklisted?? Why? How? When?
- First indication often comes from local user who can't submit to site.
- I believe developments are planned, but, let me illustrate what seems to be a common experience for admins…

The GANGA Blacklist

- Chase the error…



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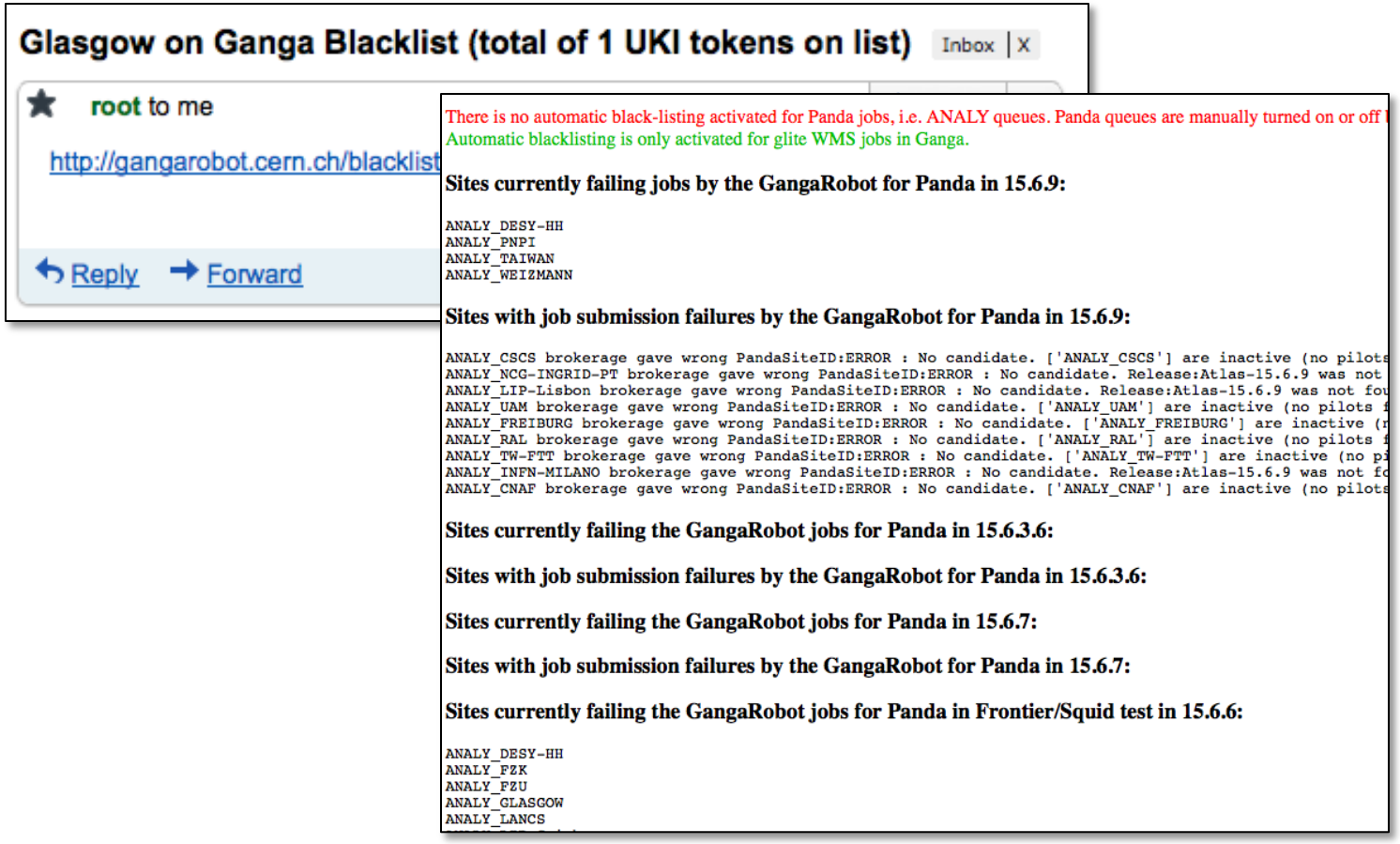

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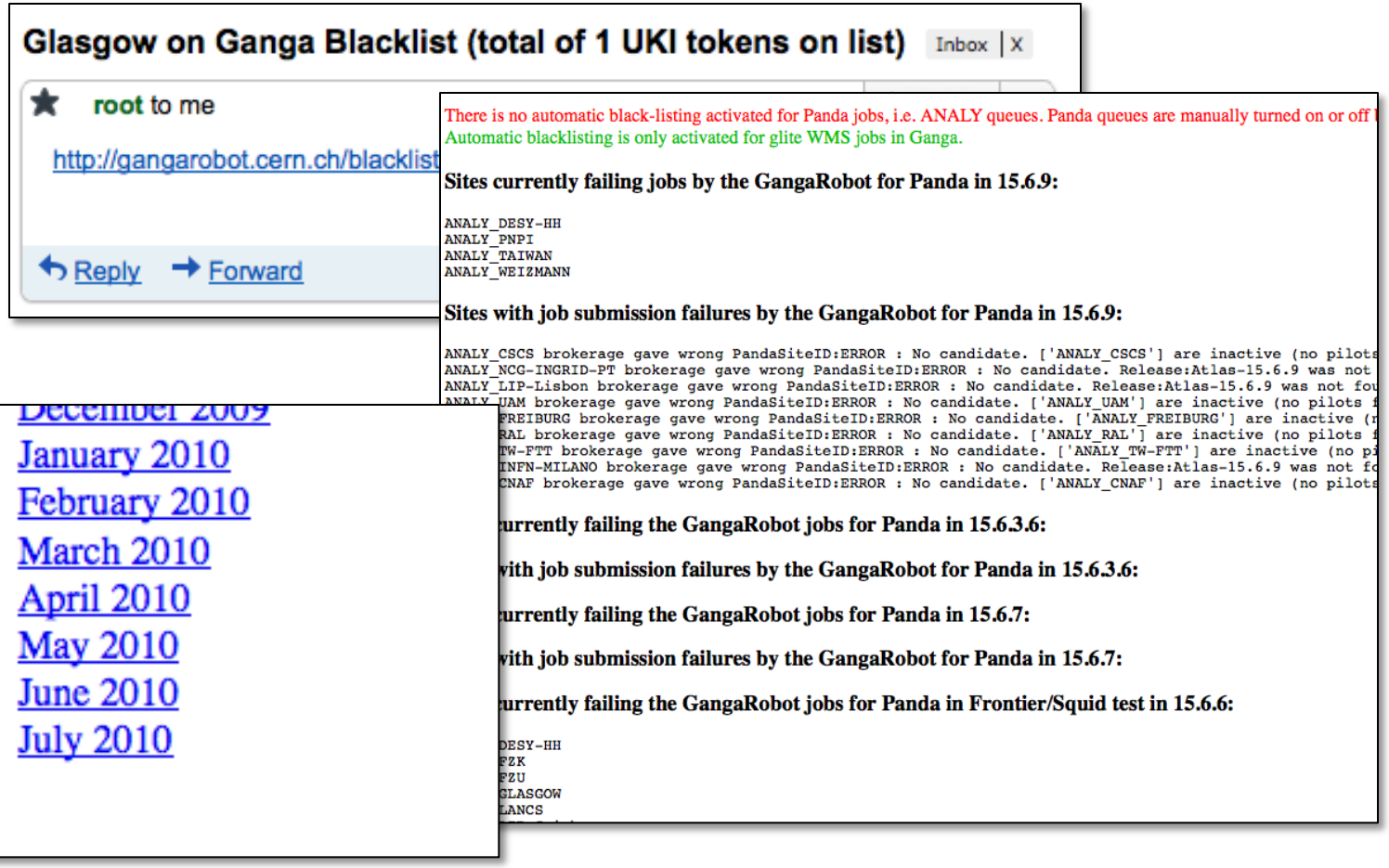

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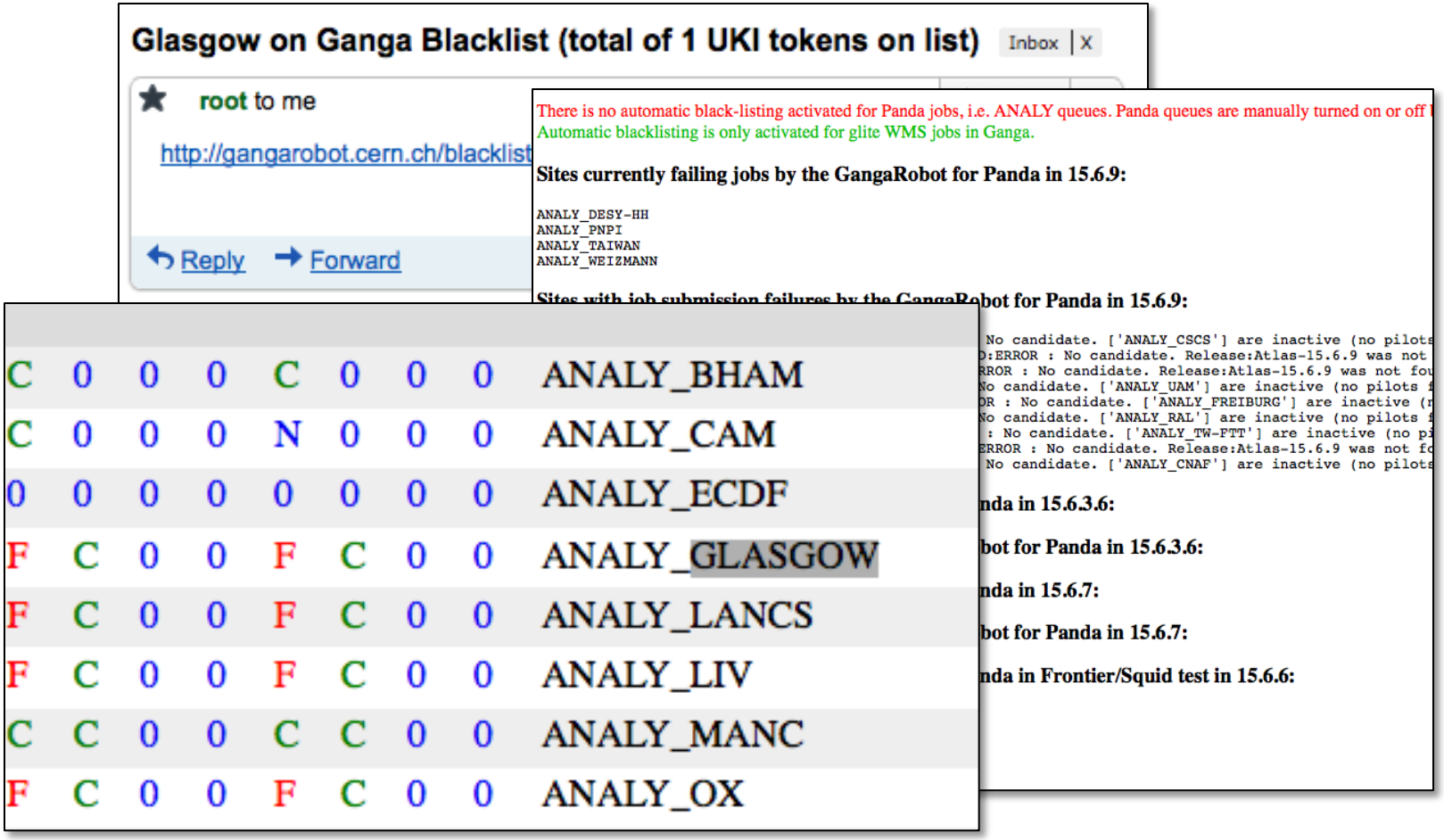

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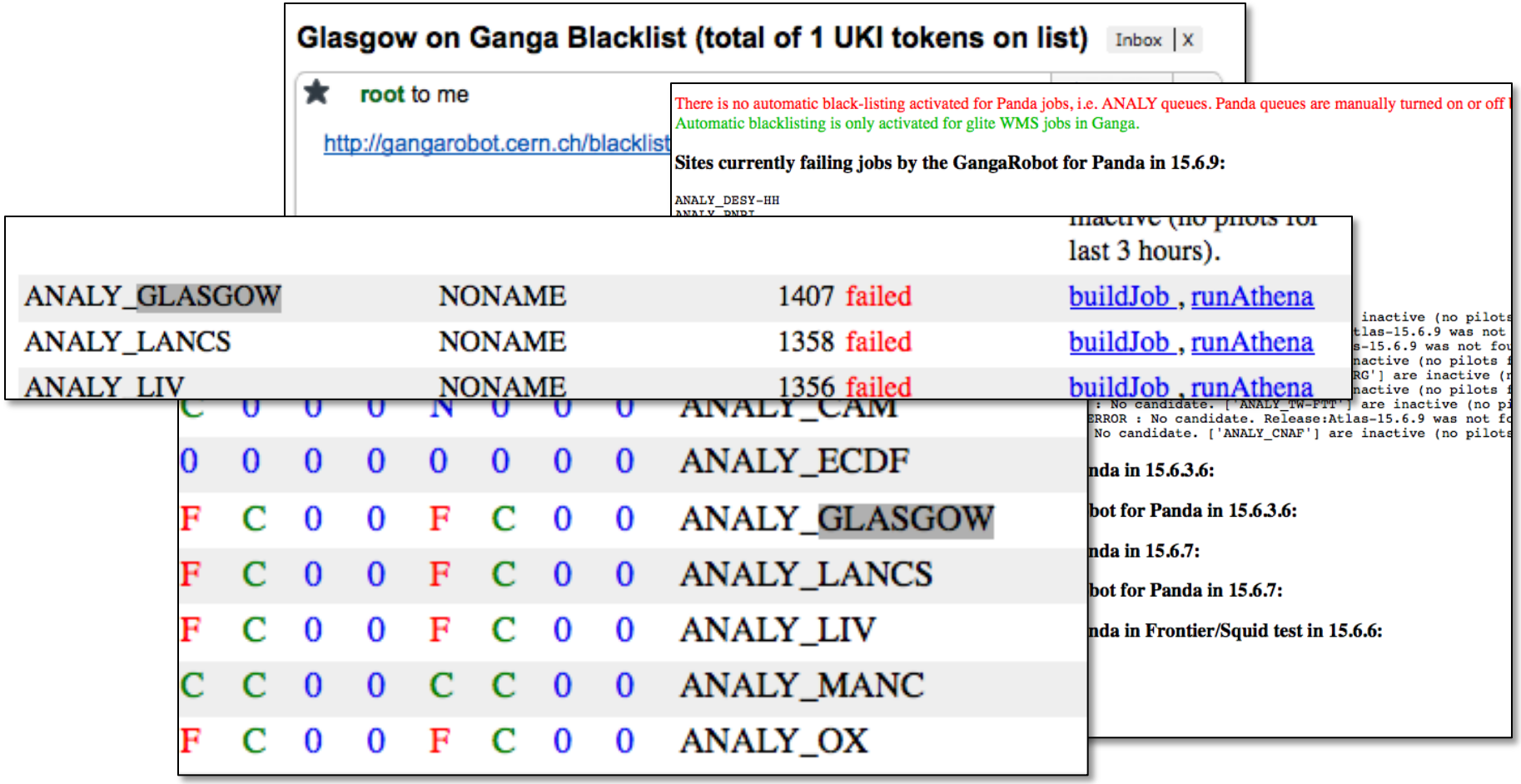

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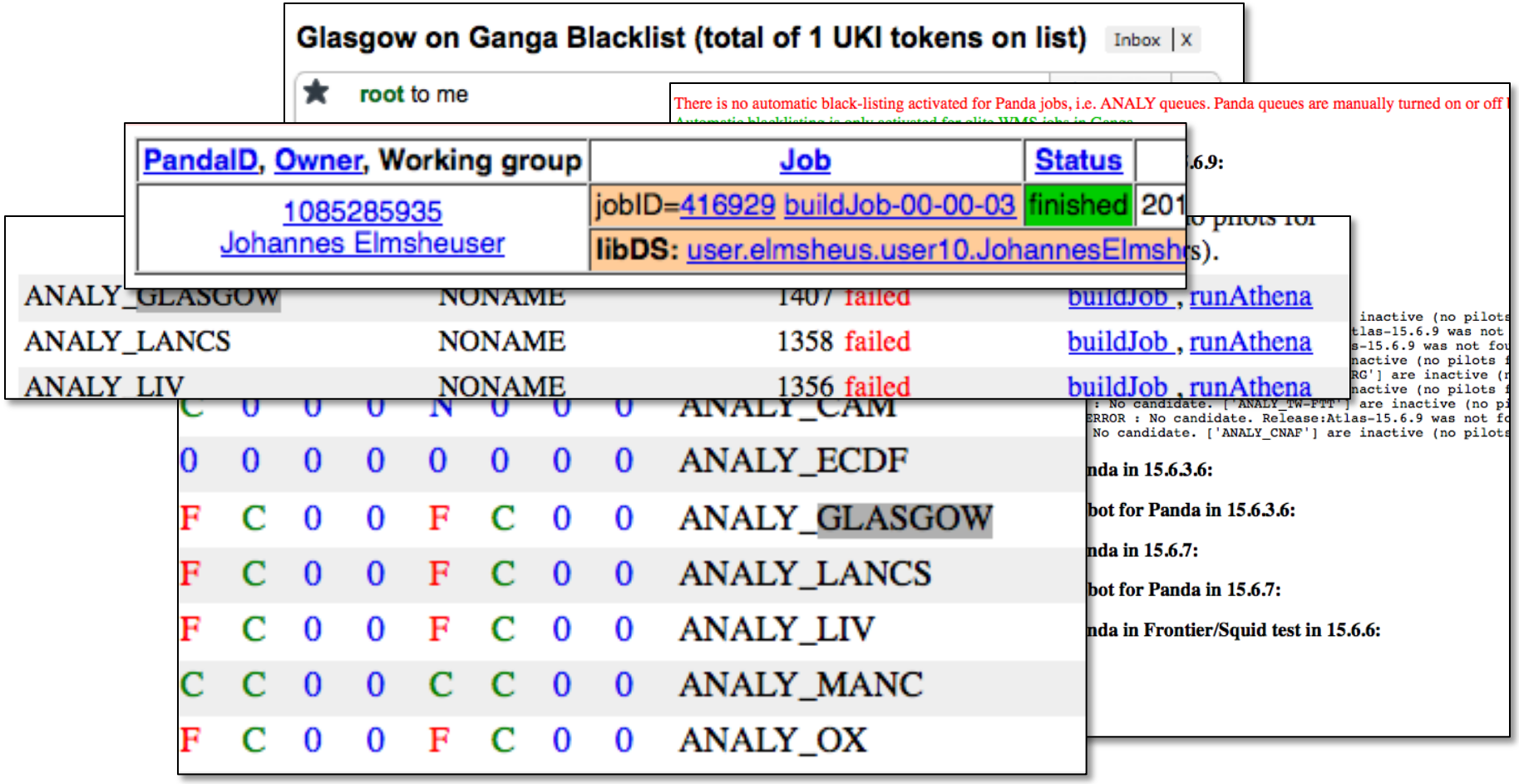

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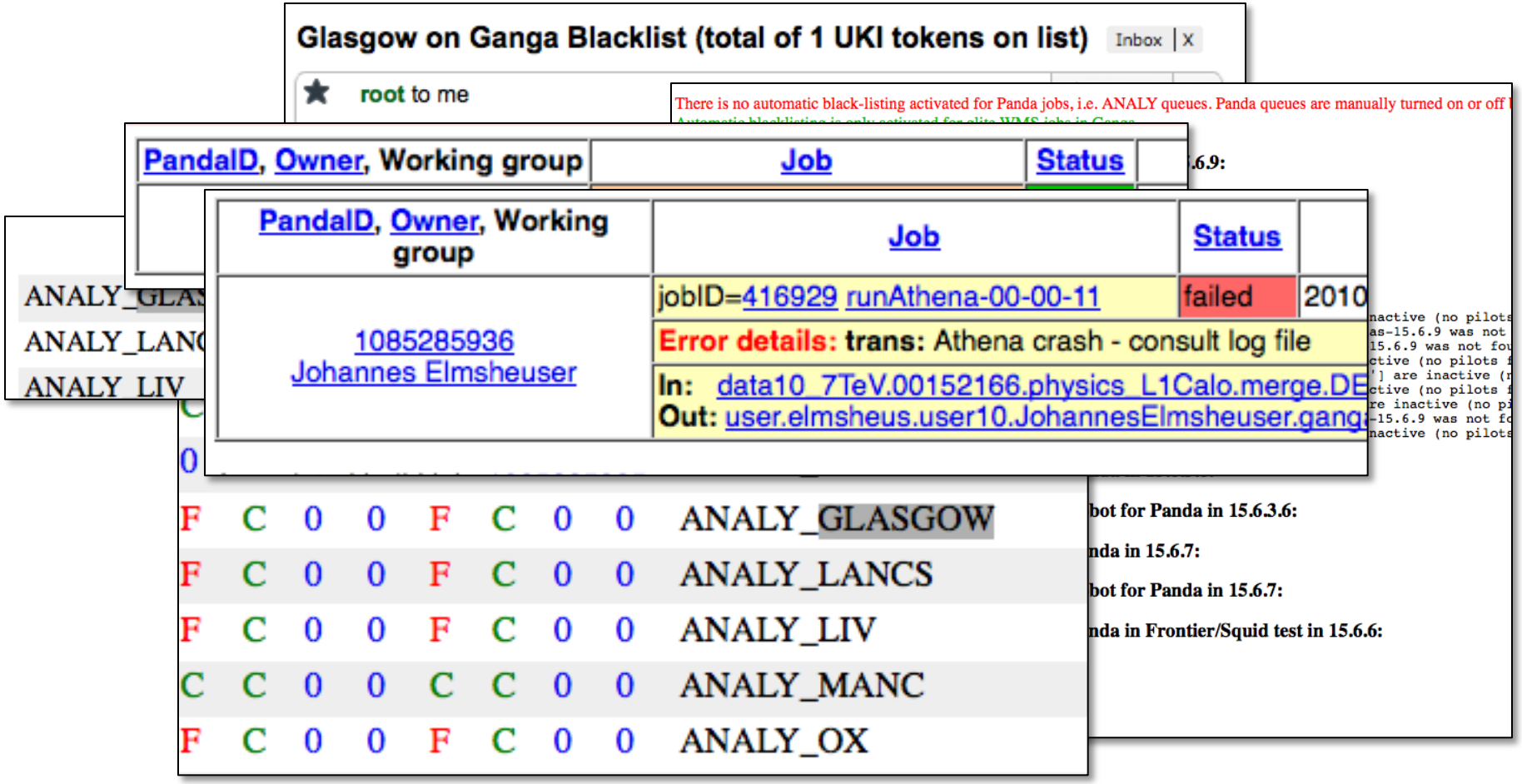

The GANGA Blacklist

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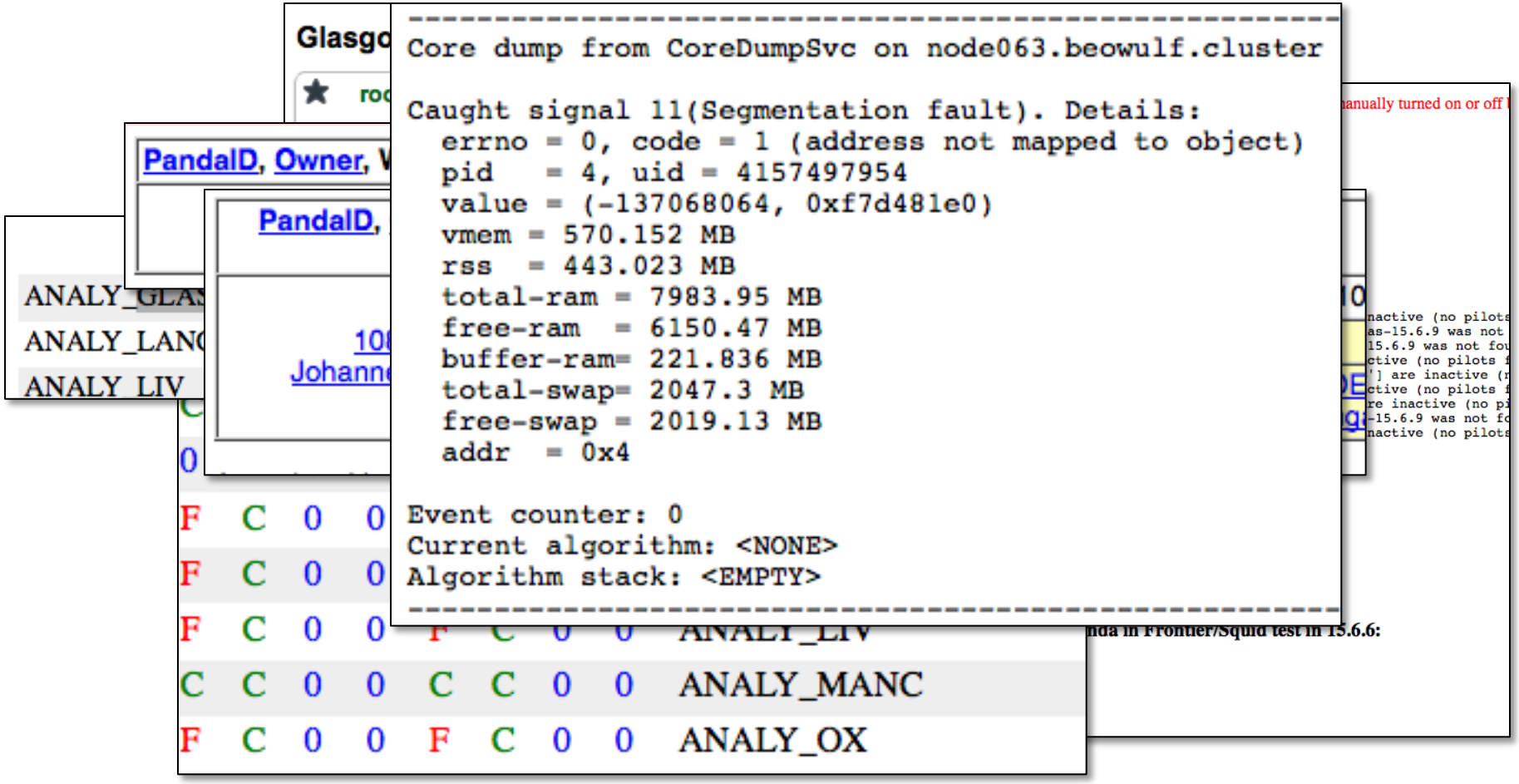
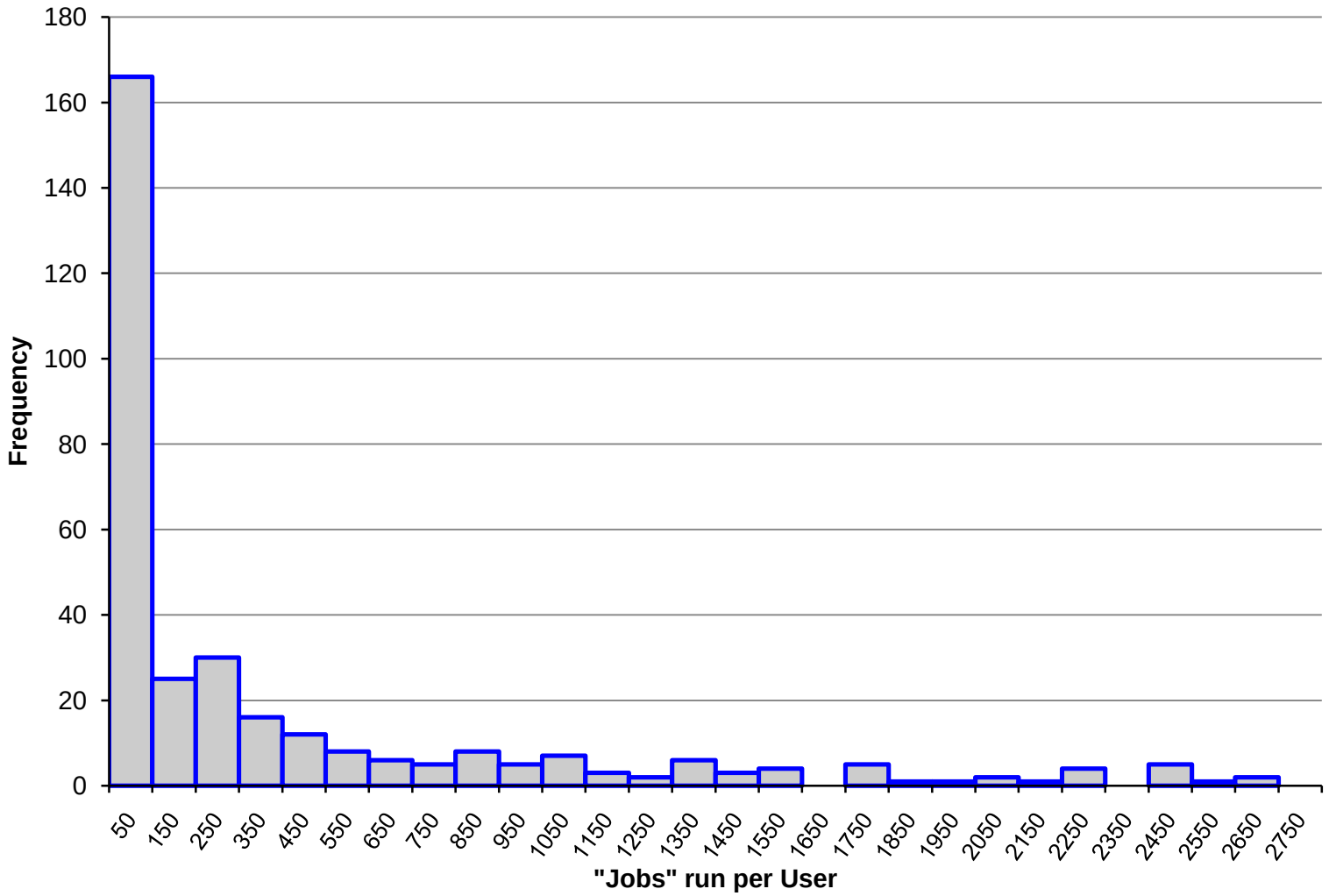


The GANGA Blacklist Wishlist

- As a site, we'd like to see…
  - Notification of when we're blacklisted.
  - "Issue" tracking (eLog/Savannah/GGUS).
    - Site admin only has to look at the ticket to understand why they're listed.
  - Quicker removal from blacklist. I believe the current value is 24 hours?
  - A Twiki page explaining what is/is not important (PanDA queues aren't blacklisted by Ganga).
  - Escalation procedures.
    - I usually mail Dan/Johannes. Not scalable.

Final Observations

- The larger VOs have the resources to lead the way and help the admins help the smaller VOs.
  - The Ganga Hypernews forum is not open to non-LHC (ATLAS) VO members.
    - We have a couple of local communities who regularly used Ganga (Mice & NanoCMOS).
  - Larger VOs could produce "generic" advice applicable to smaller VOs.
    - It would be nice to tell users of the Standard Way of doing X.
- ATLAS/LHCb: Analysis jobs on demand to test site?
- LHCb
  - Dirac monitoring pages restricted?
  - We can't trace your users jobs (compare with PanDA).
  - Can admins have VO membership for testing submission & helping your users, please?

Reserve Slides

"Jobs" Run Per DN In 2010