

RAL Tier A

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Hardware

- 104 “noma”-like machines allocated to BaBar
 - 156+old farm shared with other experiments
 - 6 BaBar Suns (4-6 CPUs each)
- 20 TB disk for BaBar
 - Also using ~10 TB of pool disk for data transfers
 - All disk servers on Gigabit ethernet
 - Pretty good server performance
- ... as well as existing RAL facilities
 - 622 Mbit/s network to SLAC and elsewhere
 - RAL connection now 2.5 Gbit/s
 - AFS server
 - 100 TB Tape robot (->330 TB->1 PB)
 - Many years' experience running BaBar software

Problems

- **Disk** problems tracked down to a **bad batch** of drives
 - All drives are now being **replaced** by the manufacturer
 - our disks should be done in **~1 month**
 - By using spare servers, replacement shouldn't interrupt service
- Some **(inevitable) scaling problems** due to the major expansion in the system
 - Now that installation and (most) BaBar-requested features are setup, support staff can concentrate on **reliability**

Support

- Initially suffered from lack of support staff and **out-of-hours** support
 - Two new system managers now in post
 - Two more being recruited (one just for BaBar)
 - Additional staff have been able to help with problems at weekends
 - Discussing more formal arrangements



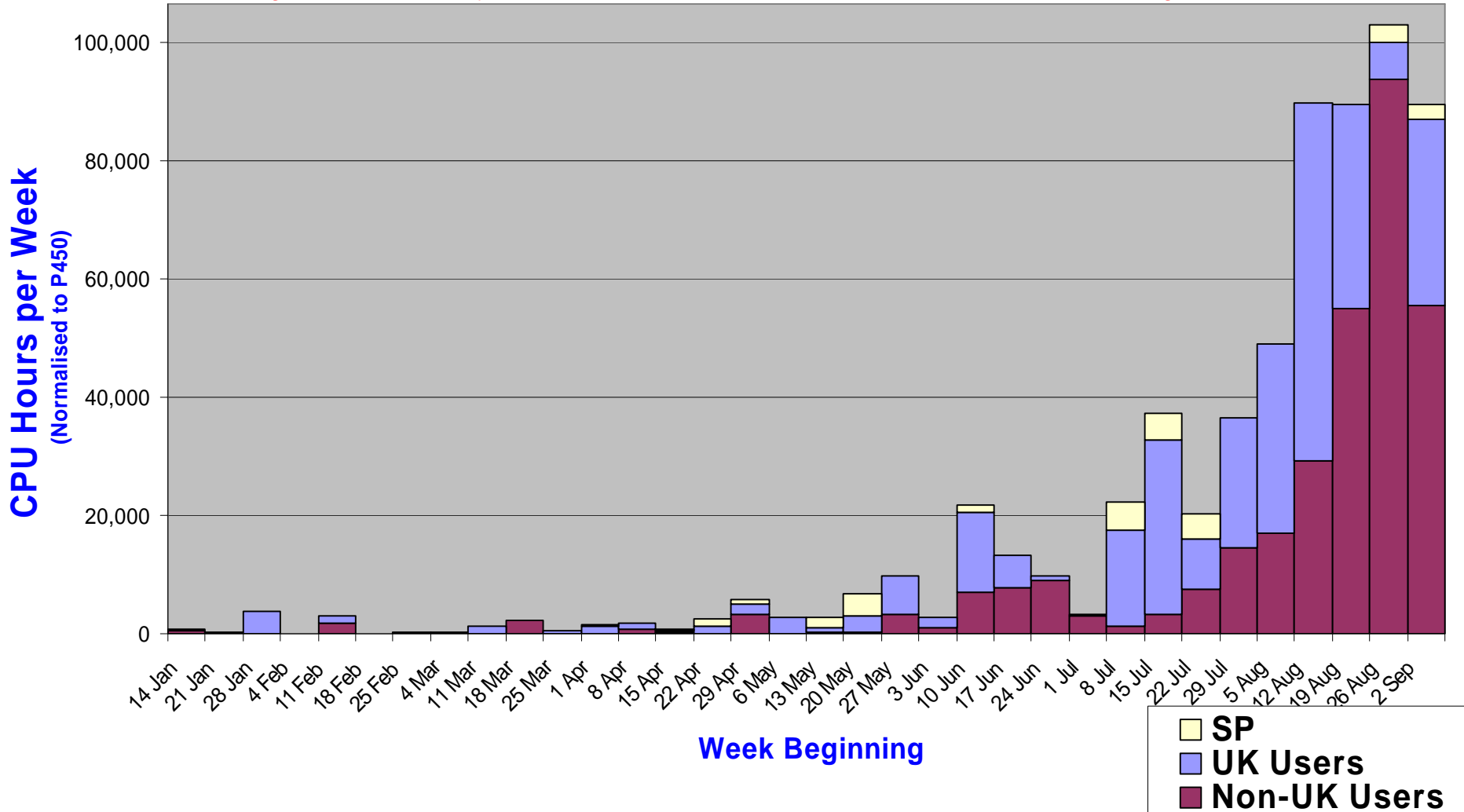
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RAL Batch CPU Use

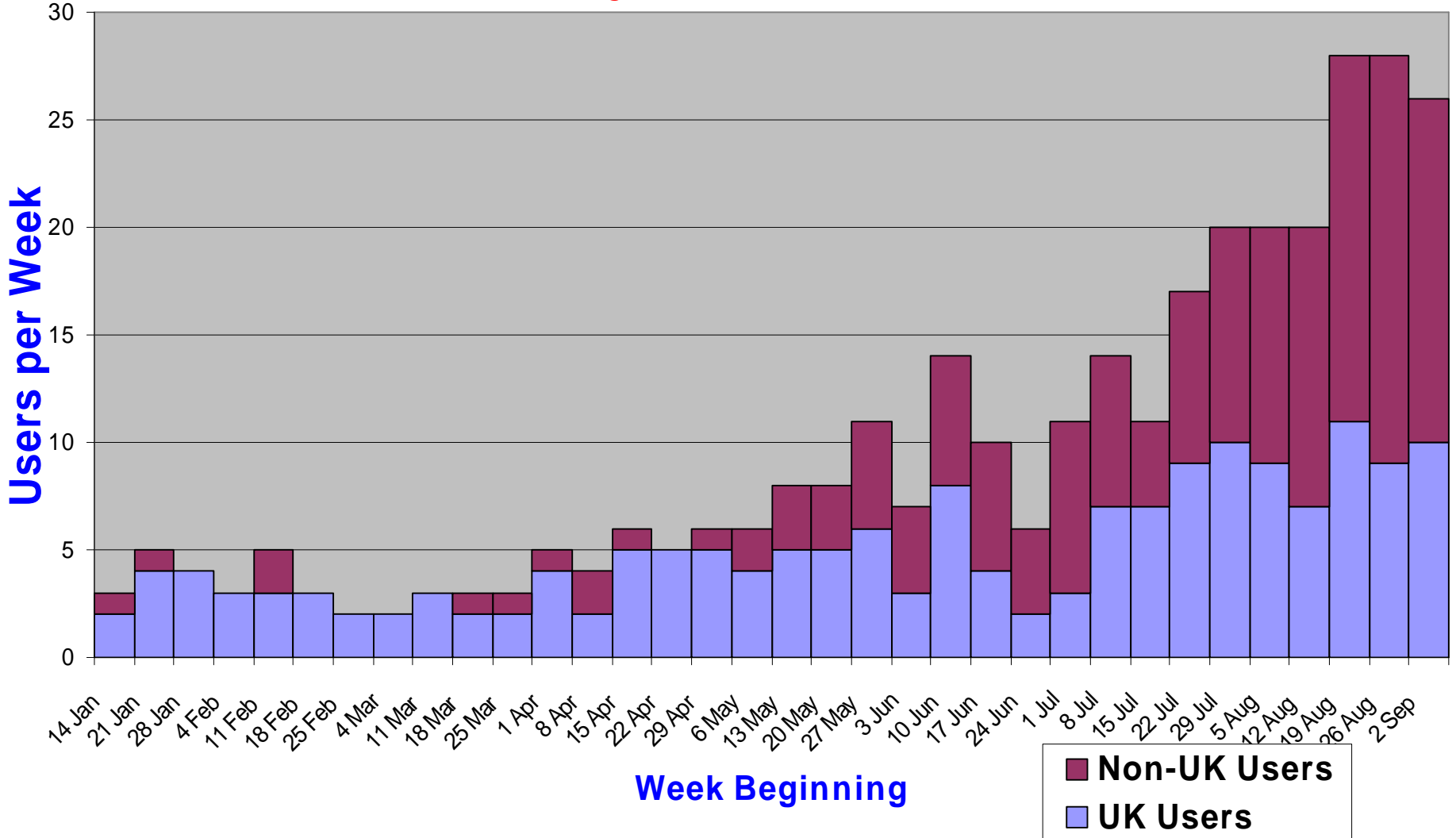
Full usage at full efficiency of BaBar CPUs = 106,624 Hours/Week; 59,733 according to MOU



RAL Batch Users

(running at least one non-trivial job each week)

A total of 113 new BaBar users registered since December



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Data at RAL

- All data in Kanga format is at RAL
 - 19 TB currently on disk
 - Series-8 + series-10 + reskimmed series-10
 - AllEvents + streams
 - data + signal+generic MC
- New data copied from SLAC within 1-2 days
- RAL is now the primary Kanga analysis site
 - See Nicole's talk for details

Changes since July

- Two new RedHat 6 **front-end** machines
 - Dedicated to BaBar use
 - Login to `babar.gridpp.rl.ac.uk`
- Trial **RedHat 7.2** service
 - One front-end and (currently) 5 batch workers
 - Once we are happy with the configuration, many/all of the rest of the batch workers will be **rapidly upgraded**
- ssh AFS **token passing** installed on front-ends
 - So, your local (eg. SLAC) token is available when you log in
- Trial Grid **Gatekeeper** available (EDG 1.2)
 - Allows job submission from the Grid
- Improved new user **registration** procedures

Plans

- Upgrade full farm to **RedHat 7.2**
 - Leave RedHat 6 front-end for use with older releases
- Upgrade Suns to **Solaris 8** and integrate into PBS queues
- Install data dedicated **import-export** machines
 - Fast (Gigabit) network connection
 - Special firewall rules to allow `scp`, `bbftp`, `bbcp`, etc.
- **AFS authentication** improvements
 - PBS token passing and renewal
 - integrated login (AFS token on login, like SLAC)

Plans

- Objectivity support
 - Works now for private federations, but no data import
- Support Grid “generic accounts”, so special RAL user registration is no longer necessary
- Procure next batch of hardware
 - Delivery probably early 2003

Summary

- Significant hardware available, and now being fully used
- Disk problems now understood and being fixed
- Improvements planned and underway to make using RAL as SLAC-like as possible (but faster, and maybe better!)
- Join us!
 - See BaBar home page -> New Accounts
 - Contact Emmanuel Olaiya (at SLAC) or me (at RAL) for help