



ScotGrid

Scottish Grid Service

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Numbers

- Little change
 - Glasgow cluster decaying
- Refer to last GridPP talk
- VO support increased
 - Durham now supporting every Vo they can find

Procurement

- Glasgow: signed off on new Cluster
- Edinburgh: part of joint procurement through Heriot-Watt
- Durham: nothing confirmed as yet

Glasgow

- Signed off this month
- ClusterVision selected
- Expect delivery mid-August

Bill of Materials

- 9 Opteron headnodes
 - CE, DPM Headnode, install server, etc.
- 140 Dual Opteron Worker Nodes
 - ~1MSpecInt2k total
- 10 Storage Nodes
 - 24 x 500GB Hitachi drives

Networking

- 4 x Nortel 5510 stacked switches
- 3 NAT gateways
- Implies a slight hack to provide fast access to DPM pools

Installation

- “ClusterVision OS” is an image-based set of cluster installation and management tools
- Intend to integrate with YAIM by building a ‘golden node’ and importing its configuration
- ClusterVision OS has nice features for other user groups (e.g. ‘modules’ feature for multiple versions of libs, gcc, etc.)

DPM Architecture

- Aim: prevent local SRM access going through NAT to improve performance
- Pools are dual-homed - one interface in the Worker Nodes' NAT'ed subnet
- Because of GridFTP's use of IP addresses, requires a hack in the routing tables of worker nodes

Distributed Tier 2s

T2 MoU Commitments

Service	Max. Delay		Av. Availability
	Prime Time	Other	
Analysis	2h	72h	95%
Other Srv.	12h	72h	95%

95% Availability

- 1.2 Hours down per Day
- 8.4 Hours down per Week
- 438 Hours (18.25 days) down per Year

- For each of Glasgow, Edinburgh and Durham, or for 'ScotGrid'?

Work Smarter Not Harder™

- Unless we get lots of extra help, we need to get clever.
- We have distributed Tier 2s
- What can we use them for?

Ticketing

- The criteria is “time to first response”, so respond quickly to tickets.
- Stated aim of GGUS is to be a centralised place where problems can be identified
- But time-to- $\{\text{respond, fix}\}$ as a performance metric ensures you gain no useful knowledge from your ticketing system
- Compare: aviation/railway incident reporting

Ticket Response

- One central source for all tickets against all sites?
- Helps with ticket response time
- Doesn't help with time-to-repair
- Yet Another Ticketing System

GGUS



UK/I FootPrints



ScotGrid ticket handling system



Durham



Edinburgh



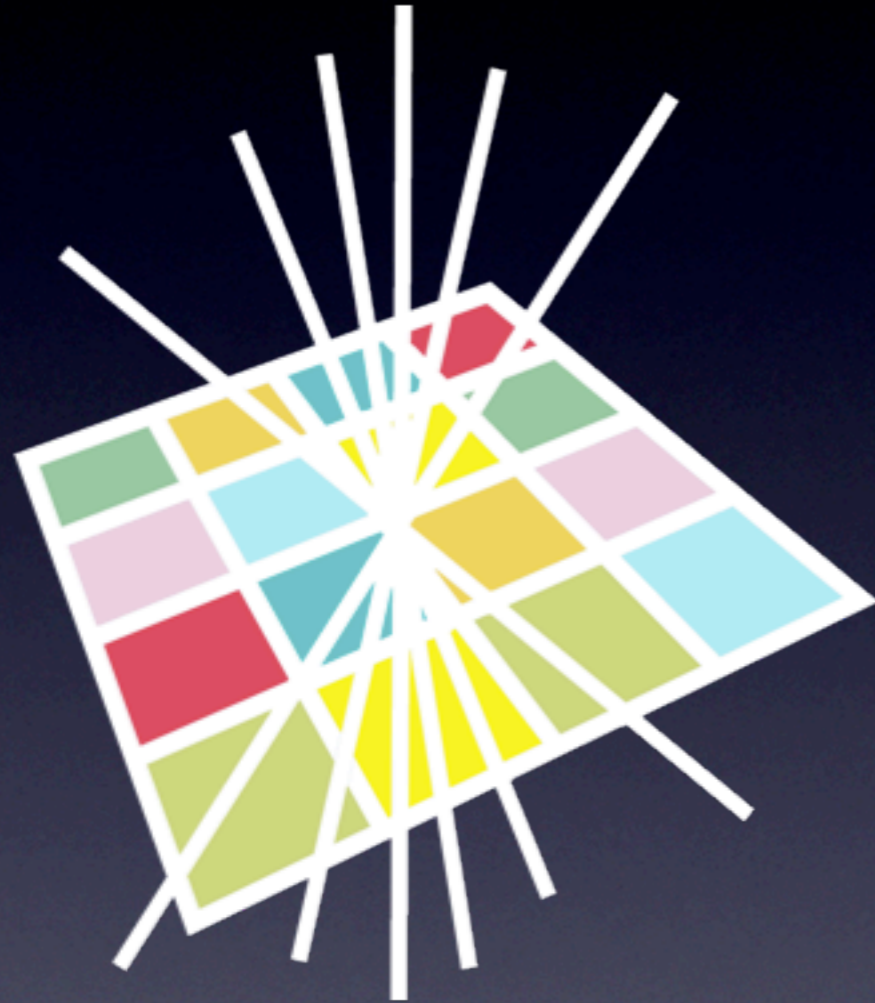
Glasgow

Shared Admin

- Provide cover by using admins at other sites
- Helps with time-to-repair
- Requires knowledge of other sites' setups (or documentation thereof)
- Compliant with site security policies?
- Impossible where clusters are shared?

Technological Solutions

- We have also looked at providing:
 - Common CE
 - Common DPM head node with distributed pools
 - Worry about a job landing at Edinburgh with data on a Glasgow pool
 - Better inter-connects might help



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