# Glasgow Site Report

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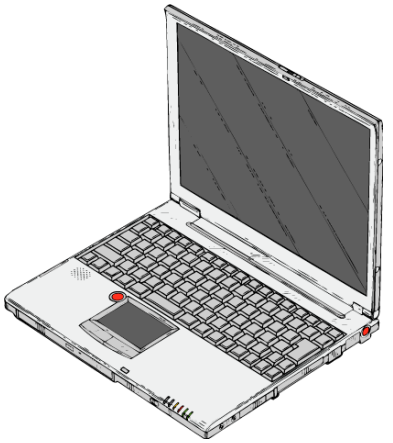
# Desktops/Laptops

- Desktops
  - Relatively unchanged for last few years
  - ~ 50 'front line' desktop/lab pcs + older pcs
  - Mix of SL5, SL4 & WinXP
  - current spec 3.0 GHz dual core cpu, 4 GB ram
  - unattended install (kickstart) for SL + cfengine configuration
  - unattended install for WinXP (+ batch script for add on)

- Laptops
  - ~ 40 laptops
  - Older laptops mix of Dells and Lenovos
  - Moved to Macbook Pros for latest purchase
  - VirtualBox for SL4/5 environment emulation



# Batch System

- Demand for both SL4 and SL5 batch systems
- Currently have:
  - 3 x 1U Intel boxes, 2 x systems per box
  - 2 x 2.50GHz Quad core processors, 16 GB ram
  - torque/maui
  - scientific linux 4 (64 bit)
- Plan to add ex Scotgrid nodes to take over SL4 batch service and upgrade new machines to SL5
- On/off usage pattern mostly unchanged - either fully loaded (30%) or nothing

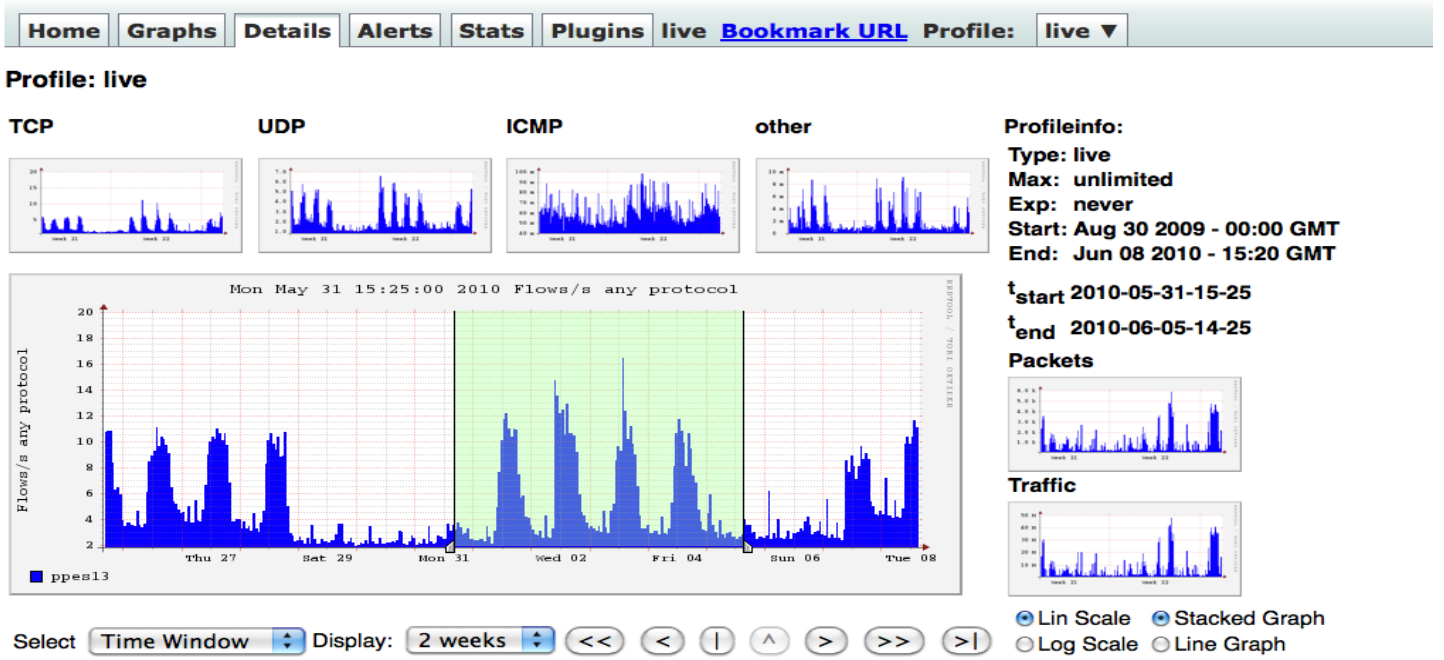
# Services

- Disc access via nfs and samba
- Backup – to disc, using dirvish, 6 month history
  - User home areas only (20 GB per user)
  - Backup machine located outside the building
- Typical user facing services:
  - local web pages and TWiki
  - printing
  - subversion repo
  - windows terminal servers

# Servers

- 2 storage machines
  - 48 x 1TB discs, raid 6 ~ 72TB usable storage
  - SL5, xfs filesystem
- Other servers mostly SL5 with some legacy SL4 system to be phased out this summer + Windows 2003 terminal and printer server boxes
- Moving away from many low spec spec servers to fewer higher spec machines running Xen virtualization
  - Each guest running one service
- Firebridge box between PPE network and outside world
  - Monitor traffic with softflowd and nfsen

# Softflowd & nfsen

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** nfdump -M /var/nfsen/profiles-data/live/ppes13  -T  -R 2010/05/31/nfcapd.201005311525:2010/06/05/nfcapd.201006051425 -n 20
nfdump filter:
any
Aggregated flows 1764768
Top 20 flows ordered by bytes:
Date flow start          Duration Proto      Src IP Addr:Port           Dst IP Addr:Port    Flags Tos  Packets     Bytes Flows
2010-06-01 02:03:26.999 4295323.617 TCP      130.209.203.16:22     ->   172.20.220.231:34151 .AP.SF    0     5.3 M     7.8 G     4
2010-06-02 10:06:26.999 4311239.075 TCP      142.90.115.206:80     ->      194.36.1.2:2331   .AP.SF    0     5.2 M     7.2 G     4
2010-06-02 10:06:25.997 4311535.098 TCP      142.90.115.205:80     ->      194.36.1.2:2316   .AP.SF    0     5.1 M     7.1 G     4
2010-06-02 02:03:30.999 4295327.870 TCP      130.209.203.16:22     ->   172.20.220.231:56950 .AP.SF    0     4.5 M     6.6 G     4
2010-06-02 10:56:35.998 4306150.627 TCP      142.90.115.203:80     ->      194.36.1.2:2325   .AP.SF    0     3.8 M     5.2 G     3
2010-06-04 02:04:34.999 4295149.227 TCP      130.209.203.16:22     ->   172.20.220.231:59648 .AP.SF    0     3.2 M     4.7 G     3
2010-06-05 02:09:18.999 4295145.603 TCP      130.209.203.16:22     ->   172.20.220.231:39763 .AP.SF    0     3.1 M     4.6 G     3
2010-06-02 11:43:07.995 4308996.499 TCP      142.90.115.204:80     ->      194.36.1.2:2338   .AP.SF    0     3.0 M     4.2 G     3
2010-06-03 15:06:01.712 4296338.899 TCP       172.20.19.104:445    ->   130.209.203.62:49169 .AP.S.    0     1.6 M     2.4 G     3
2010-06-03 14:21:33.997 4294968.004 TCP      130.209.16.58:445     ->   130.209.203.61:49169 .AP.S.    0     1.6 M     2.4 G     2
2010-06-01 12:00:33.999 4294156.721 TCP       84.53.138.65:80      ->      194.36.1.2:49622  .AP.S.    0     1.4 M     2.0 G     1
2010-06-03 02:10:43.909 4293005.283 TCP      130.209.203.16:22     ->   172.20.220.231:34650 .AP.SF    0  1021632     1.4 G     1
2010-06-04 16:24:47.834 4287297.476 TCP       84.53.133.143:80     ->    194.36.1.119:2058   .AP.S.    0   845431   766.0 M     1
2010-06-02 16:18:41.936 4286526.651 TCP      95.140.226.137:1935   ->     194.36.1.120:4097  .AP.S.    0   513630   691.6 M     1
2010-06-01 11:21:53.133 4294489.725 TCP      131.169.98.135:23523  ->    194.36.1.217:52396  .AP.SF    0   487139   659.7 M     1
2010-06-01 11:21:42.965 4294500.854 TCP      131.169.98.46:20990   ->    194.36.1.217:54944  .AP.SF    0   476236   644.9 M     1
2010-06-02 14:04:33.530 4293731.201 TCP        194.36.1.2:37796    ->   130.246.44.150:22    .AP.SF    0   524603   623.7 M     1
2010-05-31 15:52:34.977 4633540.537 UDP       194.80.134.6:46015   ->      194.36.1.2:46015  ......    0     1.7 M   592.6 M     7
2010-06-01 11:30:49.348 4294842.990 TCP     128.142.222.136:20383  ->     194.36.1.217:59727  .AP.SF    0   403668   546.6 M     1
2010-06-01 11:31:14.615 4294816.593 TCP      128.142.211.5:20383   ->     194.36.1.217:49360  .AP.SF    0   387394   524.6 M     1

Summary: total flows: 2428466, total bytes: 373.9 G, total packets: 400.2 M, avg bps: 679406, avg pps: 88, avg bpp: 956
Time window: 2010-05-31 14:20:17 - 2010-07-25 07:25:37
Total flows processed: 2428466, Records skipped: 0, Bytes read: 126348140
Sys: 2.327s flows/second: 1043314.6   Wall: 3.518s flows/second: 690216.3
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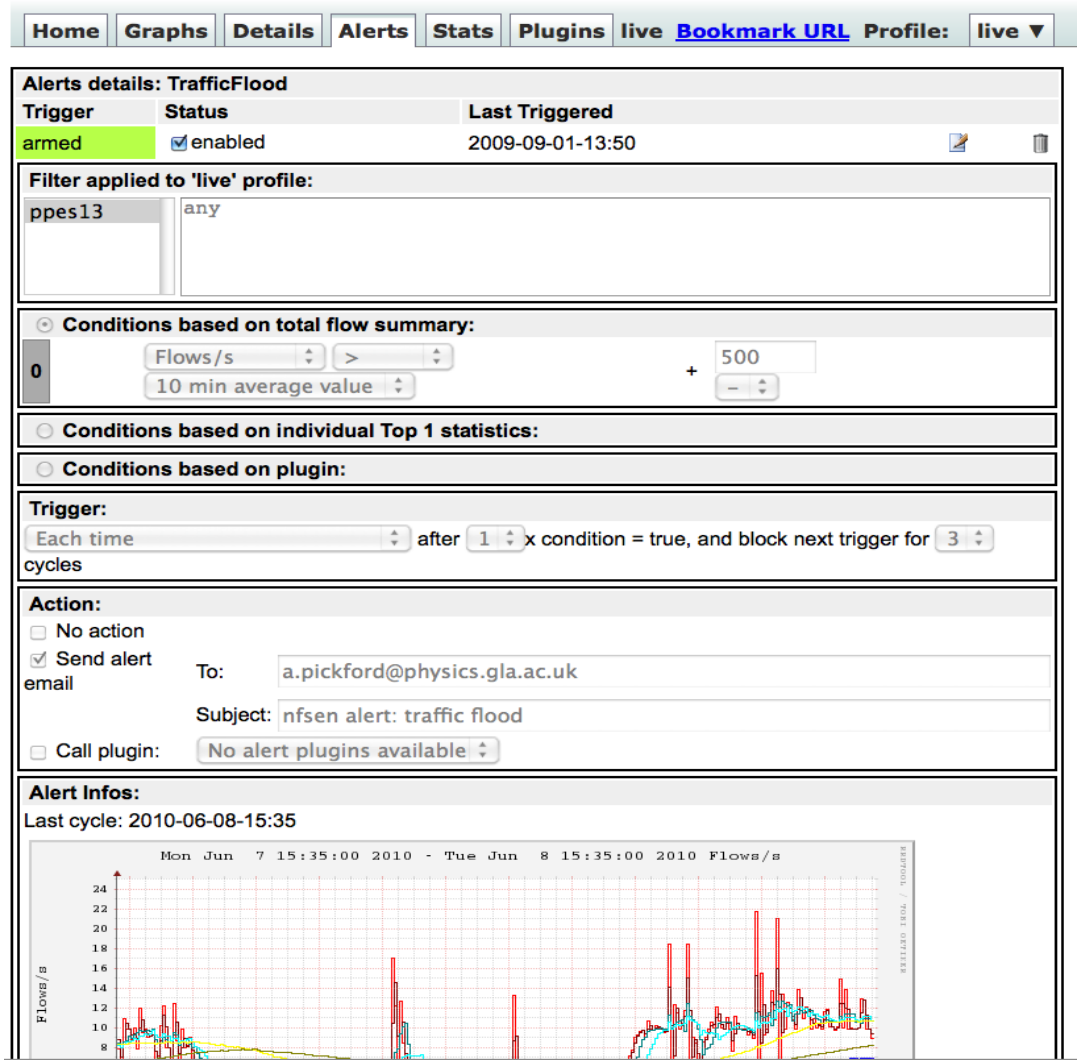
# Twiki Server

- Twiki server hacked in August 2009
  - Used mangled twiki search to execute arbitrary code
  - Tried several kernel exploits to (successfully) get root privilege
  - Started using twiki server in a denial of service attack
  - A lesson in always keeping outward facing services fully patched
  - Added an nfsen alert to pick up excess network traffic

# Nfsen alerts



# Future

- Ditch nfs
  - Just not secure
  - Move to afs
- Servers
  - Finnish move to SL5
  - More virtualization
- Batch system
  - Add SL5 batch system