

Glasgow Forward Look

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Scotgrid F2F June 2016

Overview

- Team
- Current Status
 - Compute
 - Storage
 - Network
- Issues/Factors
- Current services
- Forward look/projects

Team

- Gareth
- David
- Sam
- Gordon (local group + Grid)

Shared approaches + rebuilding

Compute

- 7 (8) generations

Harpertown	280
Westmere	1080
Interlagos	512
Sandybridge	896
Ivybridge	896
Haswell (XMA)	512
Haswell (HP)	672
<i>Lenovo</i>	320
TOTAL	4848 (5168)

Compute

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Storage

- 6 generations (TB)

Viglen 2008	393
ClusterVision 2010	808
DELL 2012	222
Viglen 2014	74
XMA 2015	1243
XMA 2016	523
TOTAL	3263

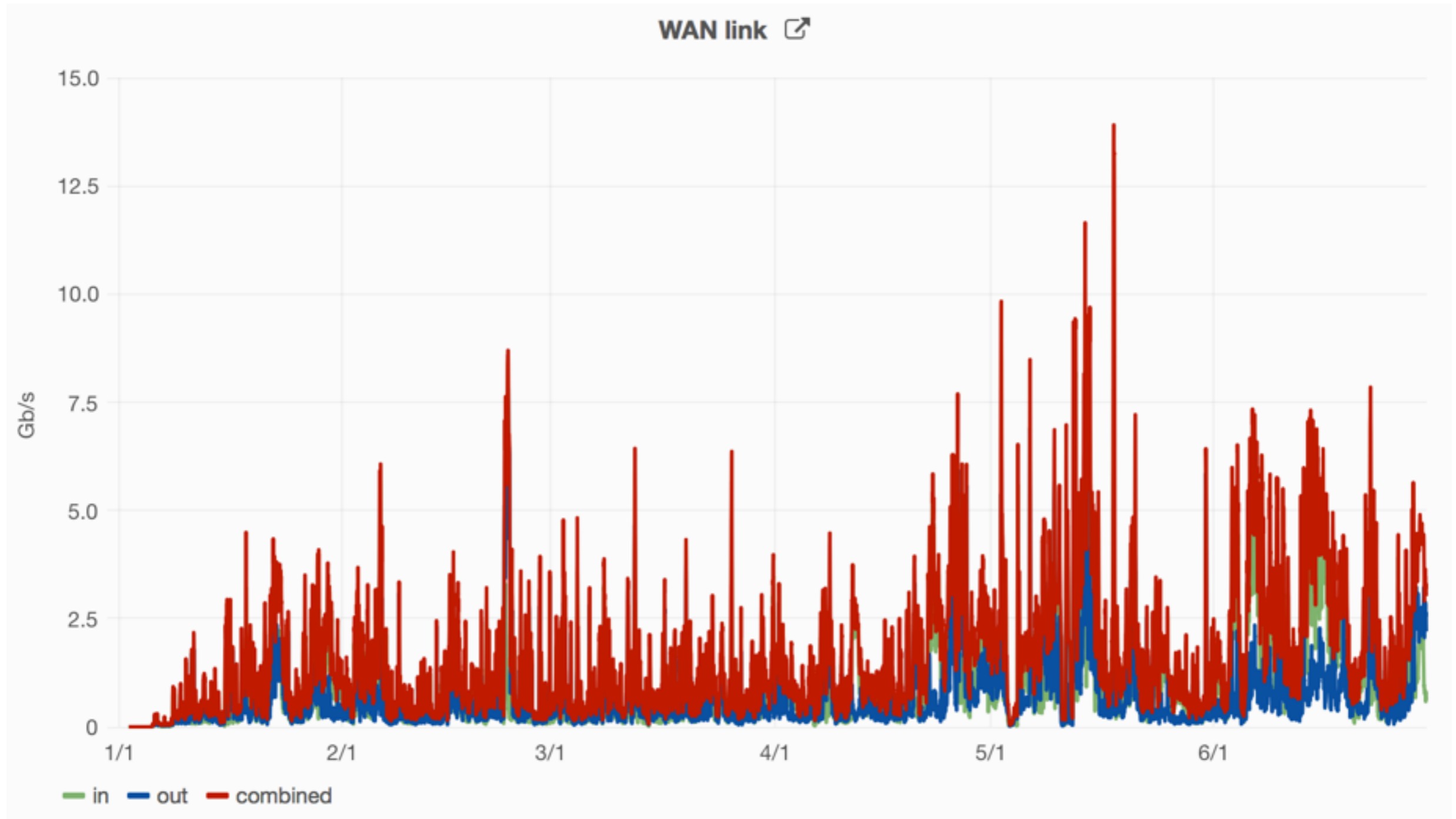
Storage

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- Extreme
 - 160 Gb/s core ring (80 Gb/s redundant)
 - 1 Gbps access stacks
 - 141: 8 switches
 - 243d: 4 switches
- IPv6: Connectivity but not bandwidth

Networking



Issues/Factors

- “Stable instability”
 - Power
 - A/C
- Heterogeneous state
 - Estate
 - Cluster management
- Planning with uncertainty

Current services

ARC

DPM

HTCondor

current

Current services

ARC

DPM

HTCondor

current

grafana3

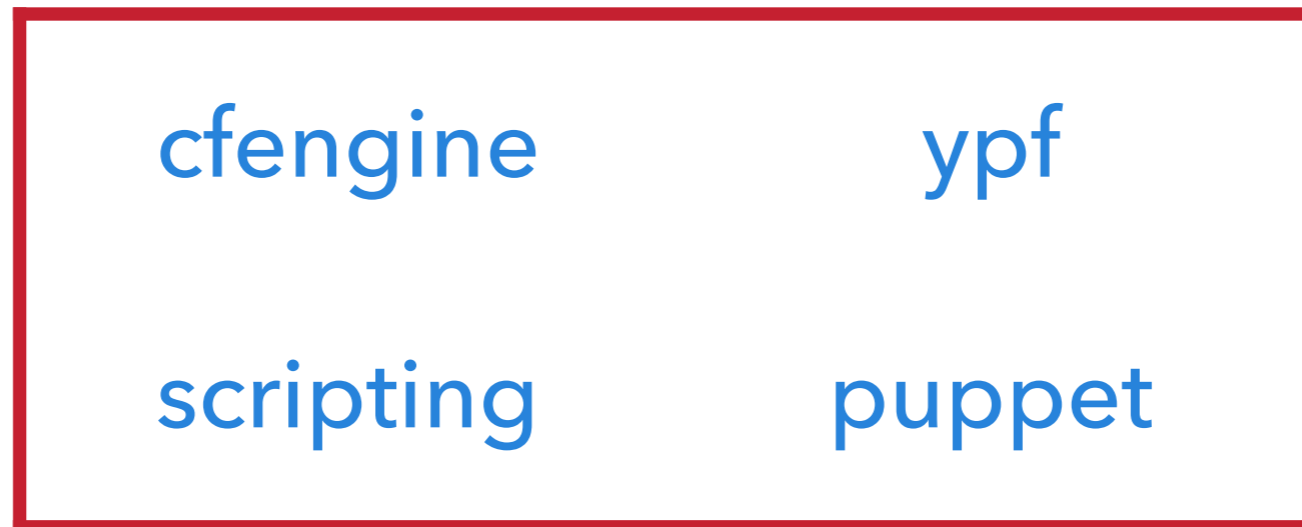
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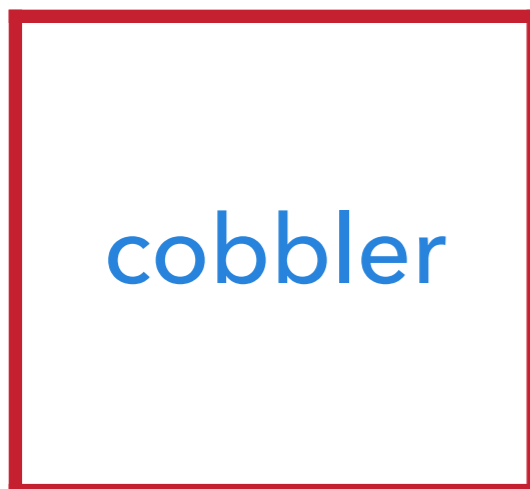
naemon

monitoring

Forward look (cluster)



current



production



current
testing



future
testing

Forward look (fabric)

- Intermediate data centre still in planning
 - Somewhat indeterminate timescale
 - Design in flux
 - Aspirational
- Cluster planning assumes the need to rebuild in a data centre

- Near term
 - Disk server migration to SL6 (substantially underway)
 - Hardware retiral
 - Installation of new hardware
 - Procurement (Insurance monies)
 - Migration planning (assuming DC)
 - Provisioning ✓
 - Cluster management -> Ansible
 - Cluster services: virtualisation, version control, accounts, elasticsearch
 - *Flexibility/focus on streamlined operations*

- Research & Development
 - Security tooling
 - Erasure coding
 - Low level metric gathering
 - DPM Toolkit
 - Storage T2D/ T2 EVO
 - CentOS 7 testing
 - Ongoing: services for local VOs