Network Monitoring at Glasgow

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Context

- Previously used Cacti; this had gone through different iterations

- Transition between networking stacks/topologies

- New solution to co-exist with then existent graphite stack

Requirements

- Reflect current network configuration

- Confidence (or at least understanding) of network bandwidth calculation

- Interest in looking at inputs to graphite (and others)

Constituent parts

- Python script

- SNMP

- Graphite/Grafana

Crosschecks

- Campus network monitoring

- Ganglia host monitoring

Setup

- At Glasgow manage switches on separate VLAN; add additional network port to monitoring box configured to that VLAN

- used snmpwalk to probe device, and determine appropriate OIDs (Object IDentifiers)

```
ifHCInOctets

ifHCOutOctets

sysUpTimeInstance
```

Process

- Define switches

- Loop through switches and record counter value for t_0 ;sleep; repeat; calculate bandwidths

- Split out specific values for known switch ports

- Package messages for graphite

Results

- Benefit in this case is specific data for our topology, extract exactly what we need:

  - WAN in/out

  - Access switch layer (1Gbps)

  - EAPS domain (core network ring)

Results
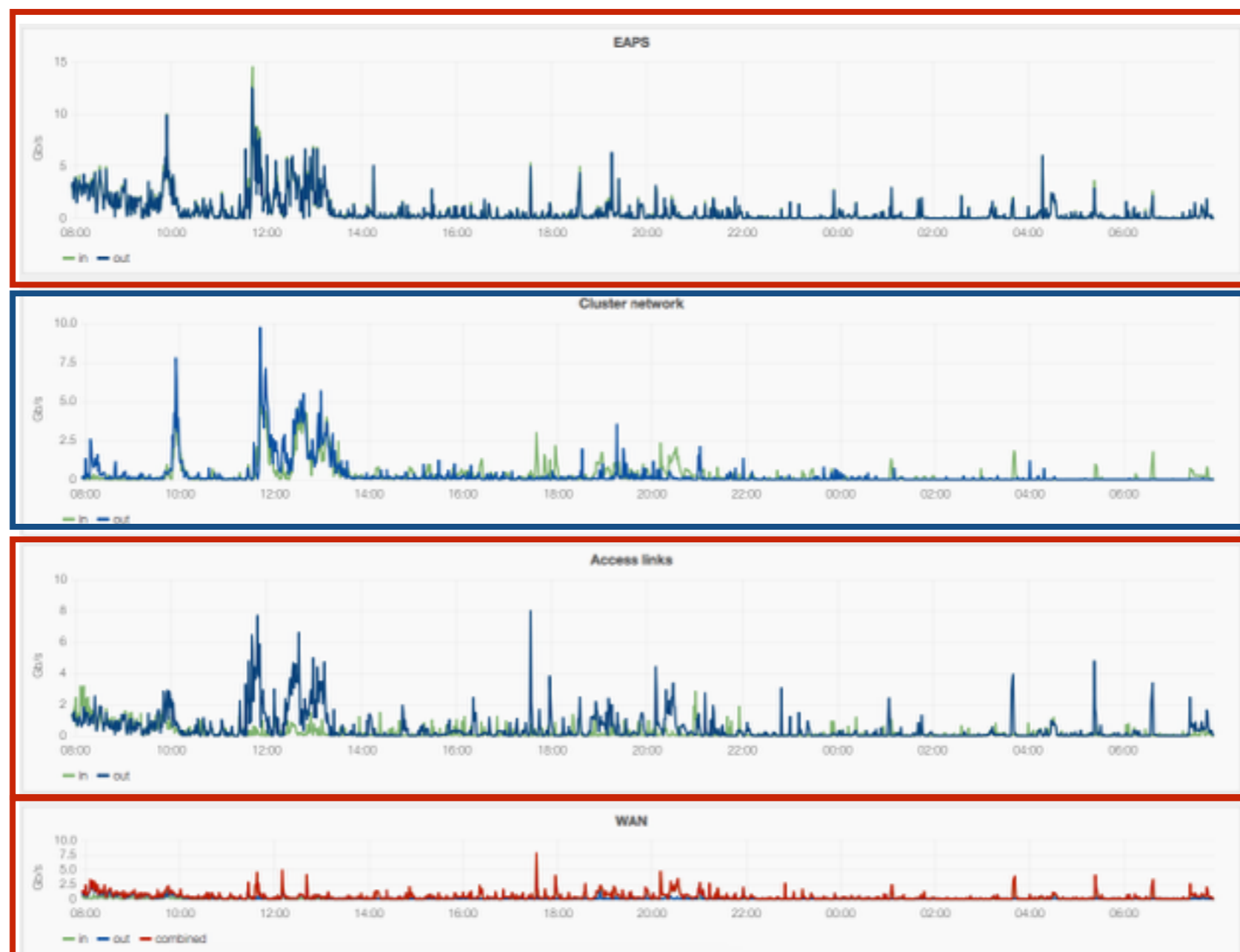
EAPS
(Core ring)

Host
networking

Access
switches

WAN

Conclusions

- Custom network script used for interest and research purposes

- Lightweight

- Match requirements to our topology

- Designed as add-on to existing monitoring stack

- Non-specific version can be made available