



Open Source Networking

Wikia Inc / O'Reilly Radar
<http://radar.oreilly.com/>

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THE LEADING BUSINESS TECHNOLOGY EVENT

Linksys WRT54GL



INTEROP

Linksys WRT54GL

- Wireless
- 5 port vlan capable switch
- Programmable CPU
- Basic home networking

OpenWRT

- Linux for embedded devices
- Networked devices
- Flash the Linksys with it
- <http://openwrt.org/>

OpenWRT

- DHCP
- VLAN
- Bridging
- PPPoE (PPPoA)

OpenWRT

- QoS
- OSPF
- BGP
- NIDS
- SSL Tunnel
- OpenVPN

There is more

- IPSec
- LDAP Server
- VOIP (Asterisk)
- Radius
- Tor

TCPDUMP

Open source

- Drastically enhances functionality
- Flexibility
- Extensibility
- \$50 of hardware

Wikia Inc

- Host wikis
 - Second largest wiki in the world
 - World of Warcraft wiki
 - 7000 other on wide range of topics
 - All under Free Content Licenses
- Open source search project
 - Crawl the web and give it away

Core principles

- Commodity solutions
- Open source everything
- Multiple redundant datacenters
 - Anycast
- No single points of failure
- Aim of 99.9% availability

Standardized racks

- Virtualized
 - For power saving
- 3 Classes of hardware
 - Web/App servers
 - DB servers
 - File servers

Linux loadbalancers

- Linux Virtual Server
- Direct Server Response
- Full High Availability with transparent failover
- Super simple

Advantages

- Cheap
- Standard hardware
- Simple
 - No app logic in the biggest potential bottleneck
- Runs on two virtualized images on two different pieces of hardware

Virtualized images

- Each datacenter has 2 network boxes
 - 8 cores low voltage 16 GB of RAM
- Dedicated cores for
 - L4 loadbalancing
 - L7 loadbalancing (squid, varnish)
 - Network monitoring

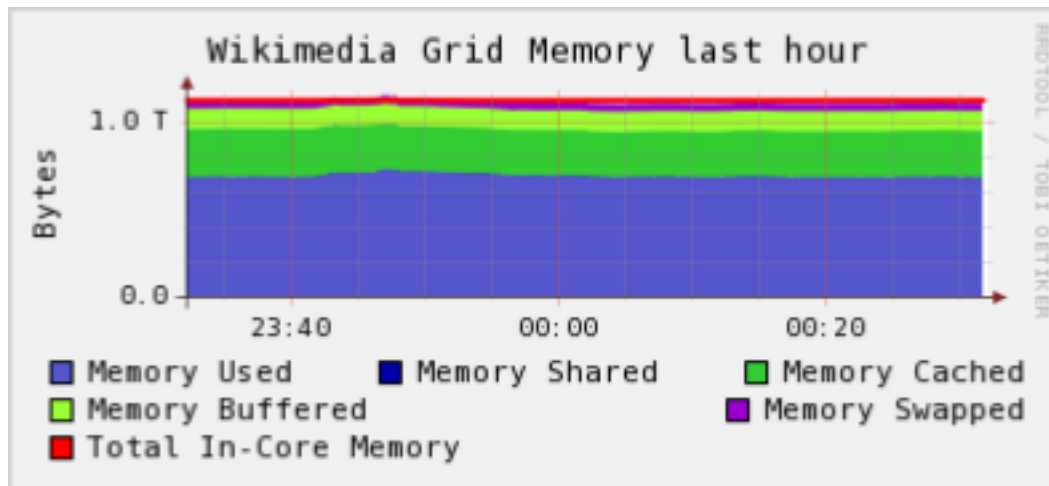
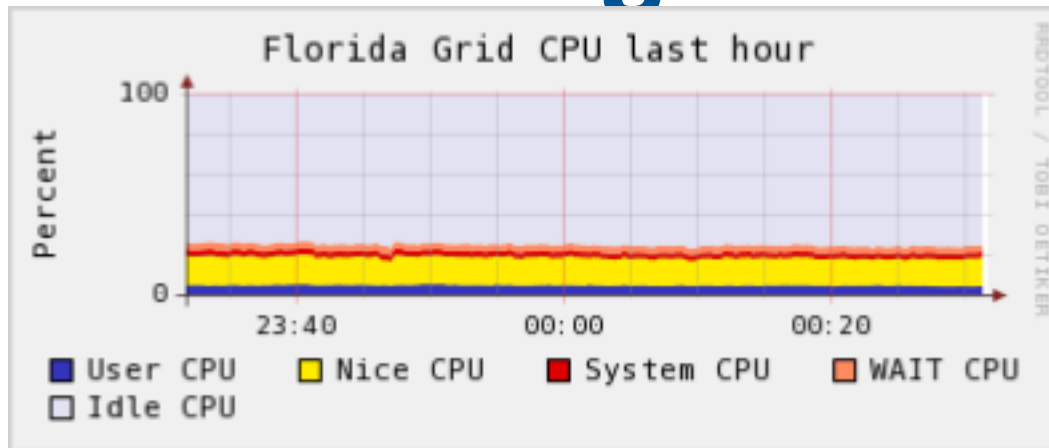
Hunt for power

- Single CPU bad
- Multi core good
- Blades better

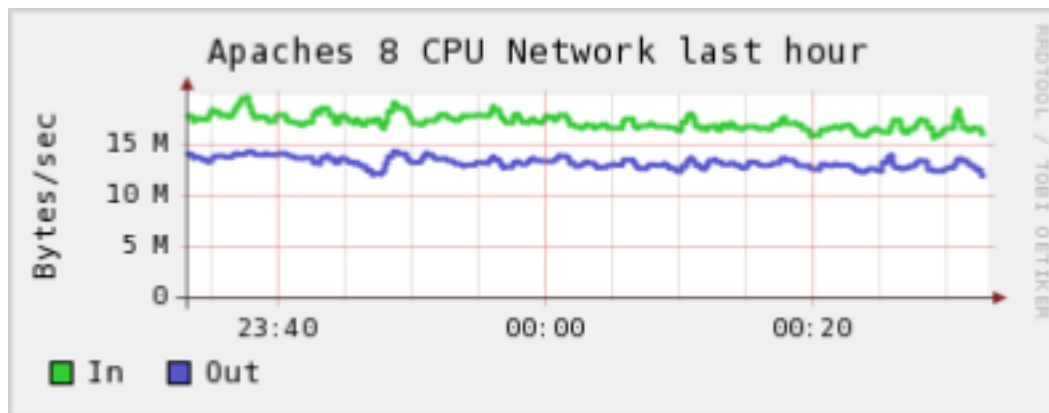
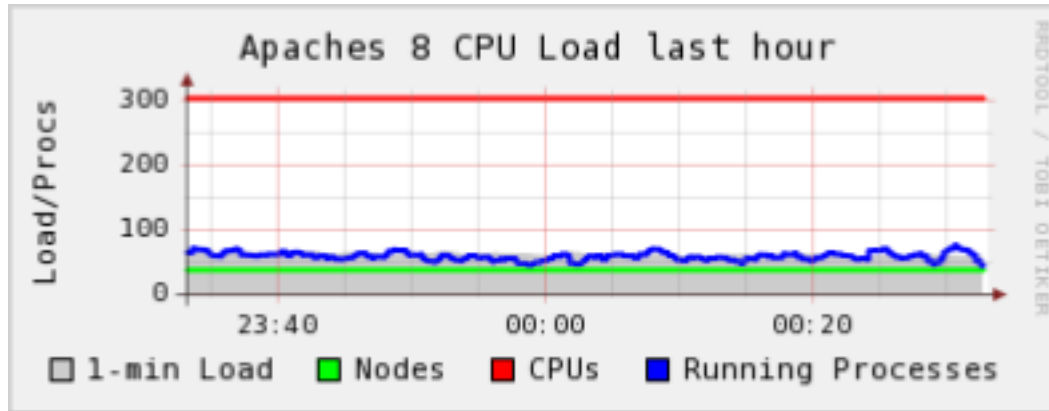
Our routers

- Vyatta
- Installed in pairs
- Non virtualized because of latency under heavy load
- Still our standard class of hardware
 - If they break, we have spares
- Can run as blades
 - 0.7 amps

Ganglia



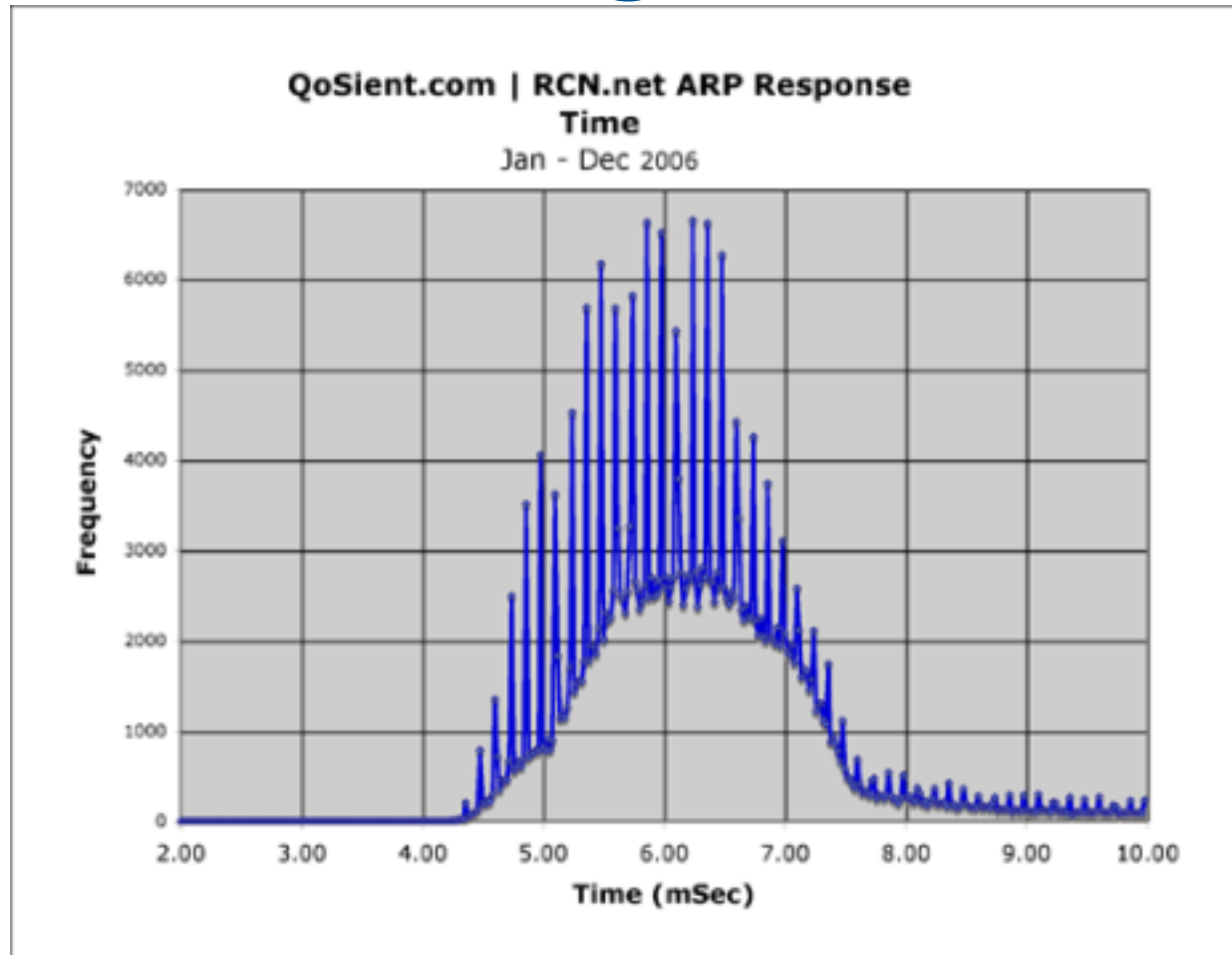
Ganglia

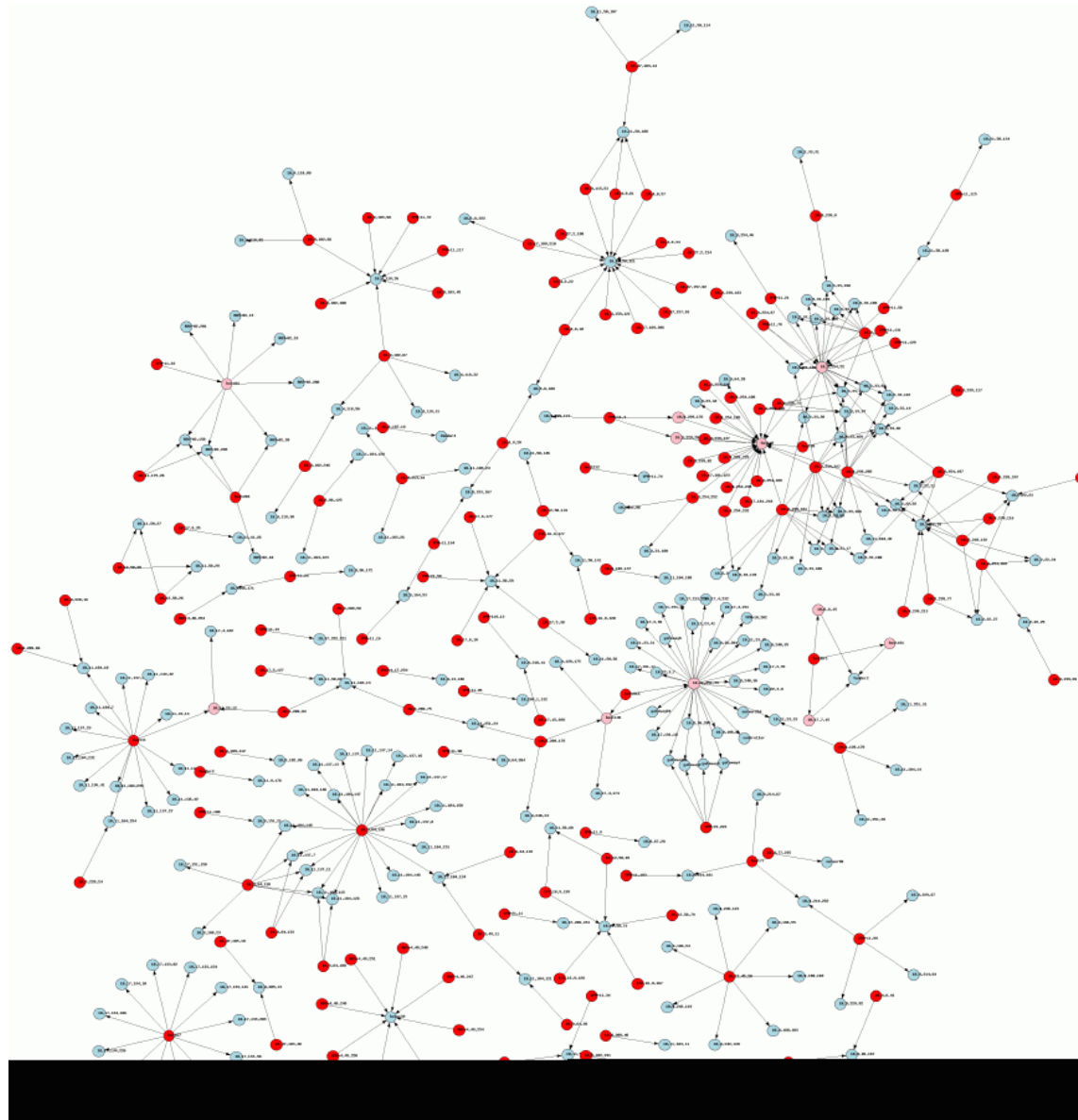


Argus

- Network Monitor
- Stream analysis
- Used on all hosts

Argus





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Our routers

- Ganglia installed
- Argus installed
- Don't tell our vendor

Benefits

- Fits into our standard model
 - Hardware
 - Software
- All operation engineers can monitor them
- Most can troubleshoot the less complex issues
- Still need a wizard for BGP



Thank you

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Links

- <http://ganglia.sourceforge.net/>
- <http://qosient.com/argus/>
- <http://www.linuxvirtualserver.org/>
- <http://www.vyatta.org/>
- <http://openwrt.org/>