Open Source Routing

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http://opensourcerouting.org/

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No stable L3 code base

Innovative Capabilities

Openflow

Software defined networking (SDN)

All need some form of stable L3 code base

Project X

Content Centric Networking

Lower Cost Alternatives

= COTs + OSS (Openflow, etc)
+ ?stable L3 code base?

Open Source Routing

What about Quagga?

- Not regarded as a stable platform for research or production
- Highly fractured - most widely branched
- BUT… it’s the most widely utilized non-vendor L3 source code

OSR Goals for Quagga.net

- Provide appropriate level of test and development resources to facilitate the community in establishing a feature rich and stable code base.
- Provide 24x7 customer support for Quagga users

Open Source Routing

OSR Goals for new HW +SW

- Develop solutions utilizing new HW + various SW components including Quagga
- Existing projects
  - OpenLSR (with google) – in prototype mode
  - OpenCPE (with Comcast, TWC) - defining
  - OpenTOR (with a specific mercantile chip vendor) – initial discussions
- For selected solutions
- Configure, validate/qualify – OSRF Qualified
- 24x7 support
  - Verified and coordinated code releases & bug fixes
  - Customer support

OSR Capabilities

Dedicated experienced software engineering staff

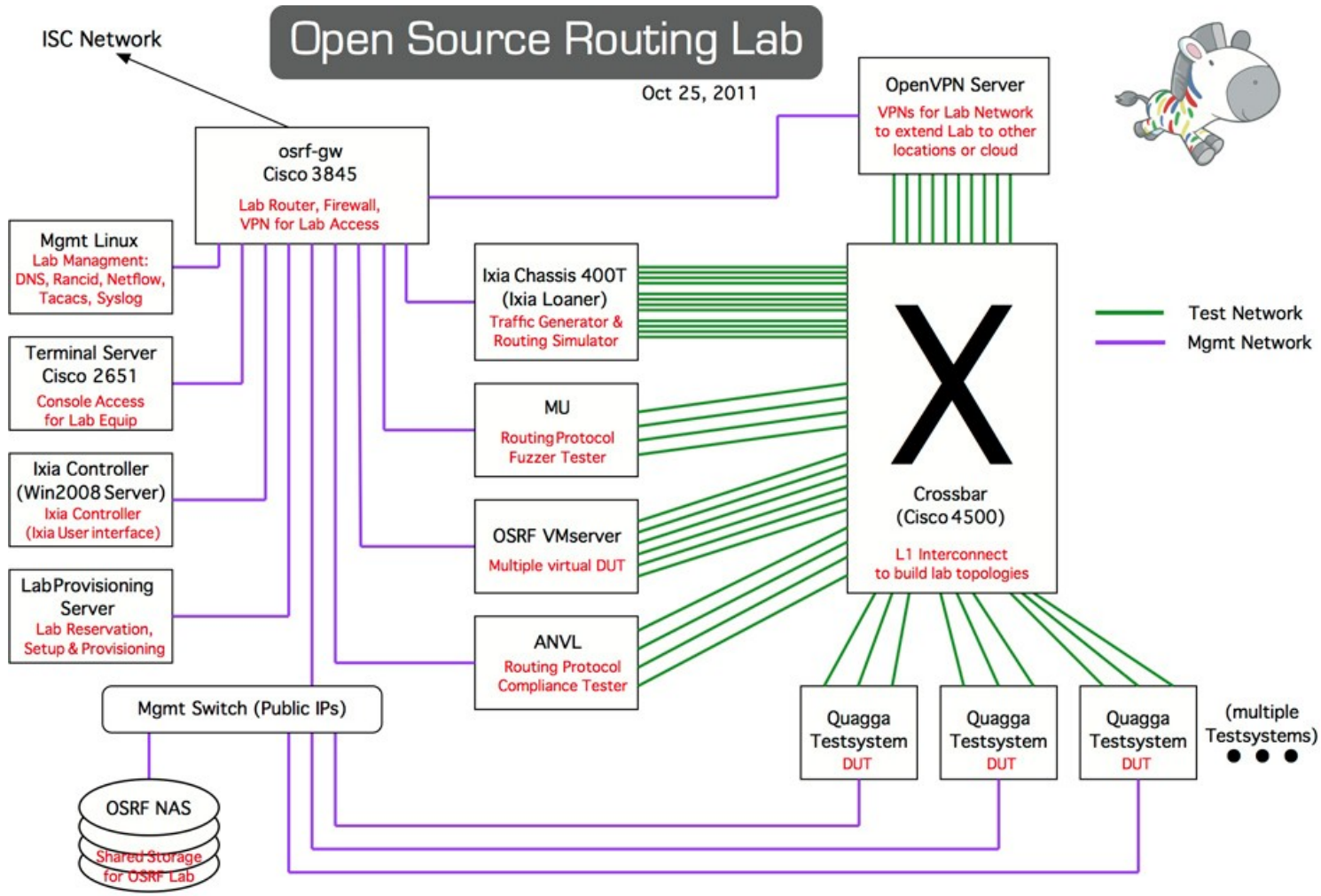
Program Management – release management
Test Engineers - building, automating, running tests, and analyzing bugs
Dedicated Coders – fixing bugs, and developing new features
Support engineers – answering calls, diagnosing issues, etc

ISC facilities

Automated Test Bed
“Agile” Test Driven Development.
Other administrative support

New test bed

http://confluence.isc.org/display/osr/Test+lab+setup



NAS will be FreeNAS, using RAID5 ZFS. Additional off-site backup is on regular (daily?) base to another ISC storage outside the lab

Testing status

http://confluence.isc.org/display/osr/Testing+Efforts

Feature	Compliance	Functional	Performance/Scale	Resilence
BGPv4/v6	Ixia/ANVL	Tests developed	Tests developed	MU
OSPFv2	Ixia/ANVL	Being developed	Being developed	MU
OSPFv3	Ixia/ANVL	Being developed	Being developed	MU
ISIS	Ixia/ANVL	Tests developed	Tests developed	MU
RIP/RIPng	Ixia/ANVL	Being developed	Being developed	MU

Existing Sponsors

Google

Mu Dynamics

More are welcome…

Open Source Routing

Open Source CPE

Open Source Routing

Open Source CPE

- ISC has been talking to its major constituents about new areas of opportunity
- The Topic of *“poor CPE Software is holding back the Evolution of the Internet”* is one of several themes we have heard…
- Over the next 3 months ISC is in process of evaluating the needs and opportunities in this space:

  …We would like to talk to interested parties.

High-Level Feature Set

1) Full IPv6 Support. Enable IPv6 rollout.
2) Fix Bufferbloat and DNSSEC issues.
3) More robust security features.
4) Support for large scale SP provisioning.
5) Remote management from Smart Devices.
6) Infrastructure for Home-networking / Internet-of-Things in the home.
7) Standard IPv4 Gateway, NAT, Firewall feature sets.
8) Broad chipset support for the ODM marketplace.

Proposed Approach

1) Full Open Source Model for the code.
2) Typical ISC Support Model.
3) ISC will work with ISPs / SPs on feature requirements and ODMs & Silicon Vendors on porting and driver support.
4) Channel can be either via ODMs, ISPs or upgrading supported HW.
5) ISC is looking to pre-fund commitment to the program. We are actively engaged in recruiting lead sponsors.

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