

LINUX Architecture Review

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18th November 2010



A little history...

- 1998 – FDDI and Cisco Catalyst Switches
- 1999 – Move to dual site, Gig E, and clear dual vendor policy
- 2000 – Expansion to three Sites
- 2001 – FDDI support removed
- 2003 – Dual LAN Topology
- 2007 – Multiple Rings per LAN

LINX Platform Today

- 2 separate LANS
 - Brocade & Extreme Switches
 - 10 Locations around London
- Platform resilience provided by:
 - Ring protection protocols
 - MRP on Brocade LAN
 - EAPS on Extreme LAN

Review of dual LAN

- Benefits
 - Redundant hardware platforms
 - Clear dual-vendor separation
- Issues
 - Use of second LAN has been hard to encourage
 - Not every member connects to both
 - Long-lined members have a hard time connecting
 - Therefore LANs do not offer same capacity

Goals of Review

- More flexible link utilisation
 - Shortest path routing, no idle resilience
- Improve failure protection
 - Ability to isolate faulty equipment with minimal impact
- Improve scalability of network
 - Easier to add locations and equipment
- Resolving bandwidth demand with scaling, not topological changes
- Offer flexibility for future services

Alternatives

- TRILL / Rbridge
 - Only recently specified
 - No working implementations
 - On the horizon, not necessarily a core activity
- Shortest Path Bridging (802.1aq) / PBB (802.1ah)
 - Limited vendor support
 - Competition with MPLS-TP
- Staying with MRP/EAPS
 - Increasing ring complexity / “port burn”
 - Fewer options for traffic engineering

The winner is...

- VPLS
 - Fast failover
 - Optimal routing
 - Loop protection
 - Traffic engineering options
- Single underlying redundant network platform
- Two broadcast domains (2 VPLS instances)
- Improved redundancy options for members
- Use existing dark fibre and DWDM infrastructure

Proof of Concept

- Continuing through remainder of 2010 and early 2011:
 - Vendors
 - MPLS/VPLS implementations
 - Specific migration scenarios
 - Troubleshooting/support options
- Plan to complete in time for London 2012

Questions?

- LINX staff here in Rome:
 - CEO: John Souter
 - Sales: Jennifer Atherton
 - Engineering: Me