

Bnix **25**
years

Technical Update

Bnix Webinar 24/9/20

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TOPICS & Agenda

- Operational Update
- The Path Travelled
- Design for the Future





Operational Update

2 very similar incidents in 1,5 months

Did we just get a tan?





Operational Update

Incident 24th of July

Incident reported by Belnet customers with VPN issue

Drawn-out troubleshooting & reboot of linecard

Vendor support to establish RCA

HW issue -> HW replaced

Case Closed





Operational Update

Incident 8th of September

Incident reoccured, lasted 1 hour

Troubleshooting process was very swift

Noted: Early informational warnings in logs on 7/9

Case NOT Closed





Operational Update

Incident 8th of September: immediate action

Monitoring check, enough bw available

Removed high impact link from affected HW

Adapt saturation monitoring

Addition of new alarms based on logs

Migration of the high impact link to non-affected hardware

RCA with vendor follow up





Operational Update





Operational Update

Current situation

Risk no longer present

Capacity restored

Protected against future occurrences

What could we have done better?

Initial Communication!





The Path Travelled

1995: 1 Router, 1 PoP

2001: 3 PoPs with Catalyst 6509 with Supervisor

2003: Bnix backbone 10 Gbps

2004: Participants interfaces 10 Gbps

2009: Closing Belnet HQ PoP

2010: 3 PoPs and migration to Force10 E1200i

2016: migration to Juniper EX9200 and Bnix backbone to 100 Gbps, currently at 3 x 100Gbps





The Path Travelled

Changes in:

- Approach and Focus
- Volume
- Services
- Pricing





The Path Travelled

No changes in:

- Customer orientation
- Enthusiasm for our service and our participants
- Technical pride
- Our neutral position





The Path Travelled

Big changes in technical domain, one example





The Path Travelled

Big changes in technical domain, one example





The Path Travelled

Big changes in technical domain, one example



SFP+



SFP



XFP





The Path Travelled

Big changes in technical domain, one example



CFP

CFP2

CFP4





The Path Travelled

Big changes in technical domain, one example





Design 4 the Future

Disclaimer: This section subject to change

Triggers:

- Age of the solution, architecture and technology
- Limited flexibility in extension and service differentiation





Design 4 the Future

Principles:

- Flexibility
Easy extension to other sites
- Sustainability
Technology allows for different ways of offering services
- Scalability
Built for the speeds of the near future (>100Gbps)
- Port Density
Higher speed interfaces still take a lot of physical space



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Thank you

