



NIX.CZ topology migration

Petr Jiran
Technical Manager at NIX.CZ
pj@nix.cz

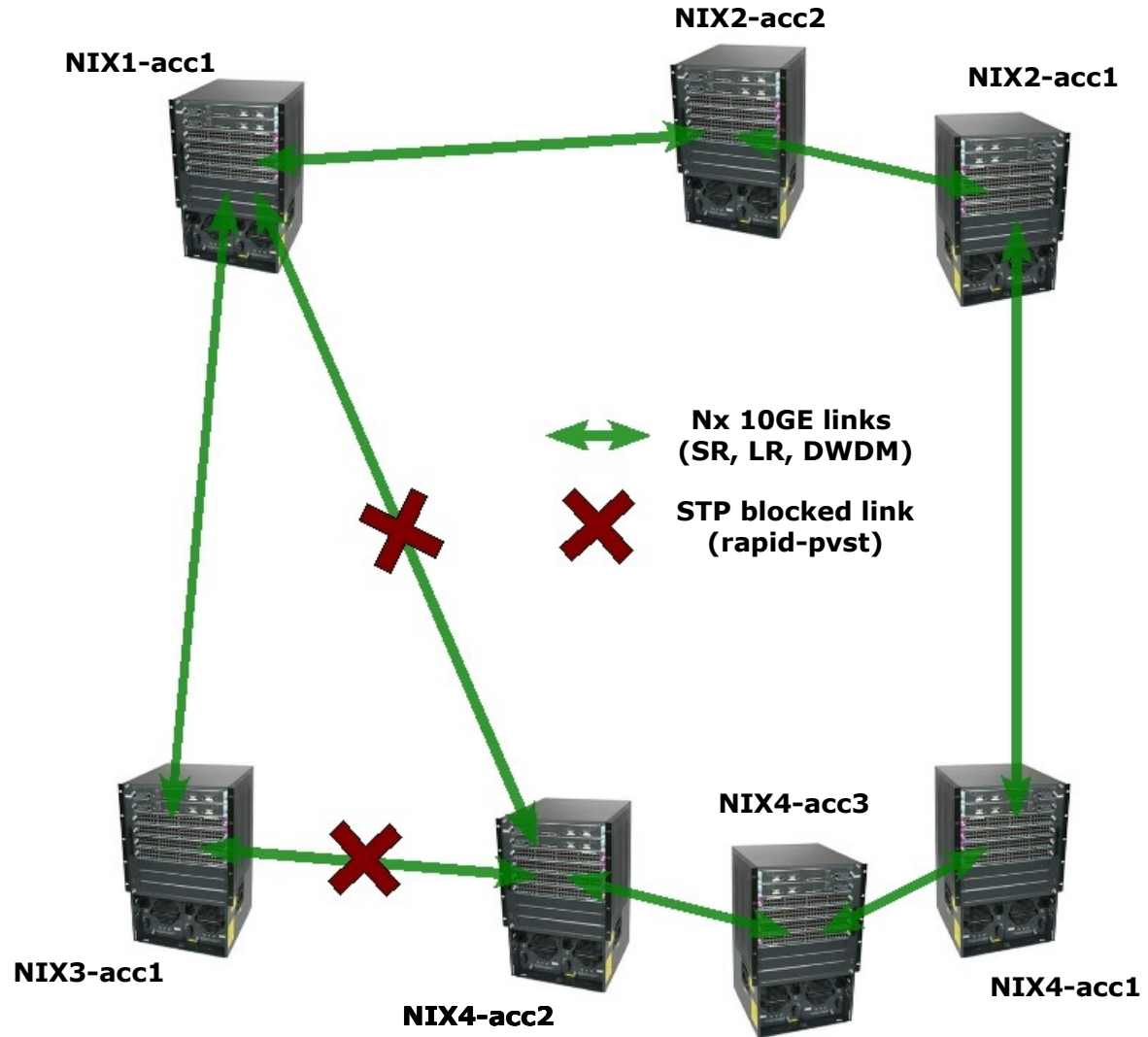
RIPE 61 EIX WG
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NIX.CZ now

- 4 locations in Prague**
- Virtualized dual-star L2 infrastructure**
- 7x Cisco 6509E - access switches**
- 2x Cisco Nexus 7010 - core switches**
- Cisco ONS 15216 - DWDM system**
- 82 members**
- 21 customers**
- 6 TLDs hosting servers**
- 164 connected ports**
- 653 Gbps connected capacity**
- 155 Gbps peak traffic**
- 351 Mbps IPv6 peak traffic**

Old ring topology



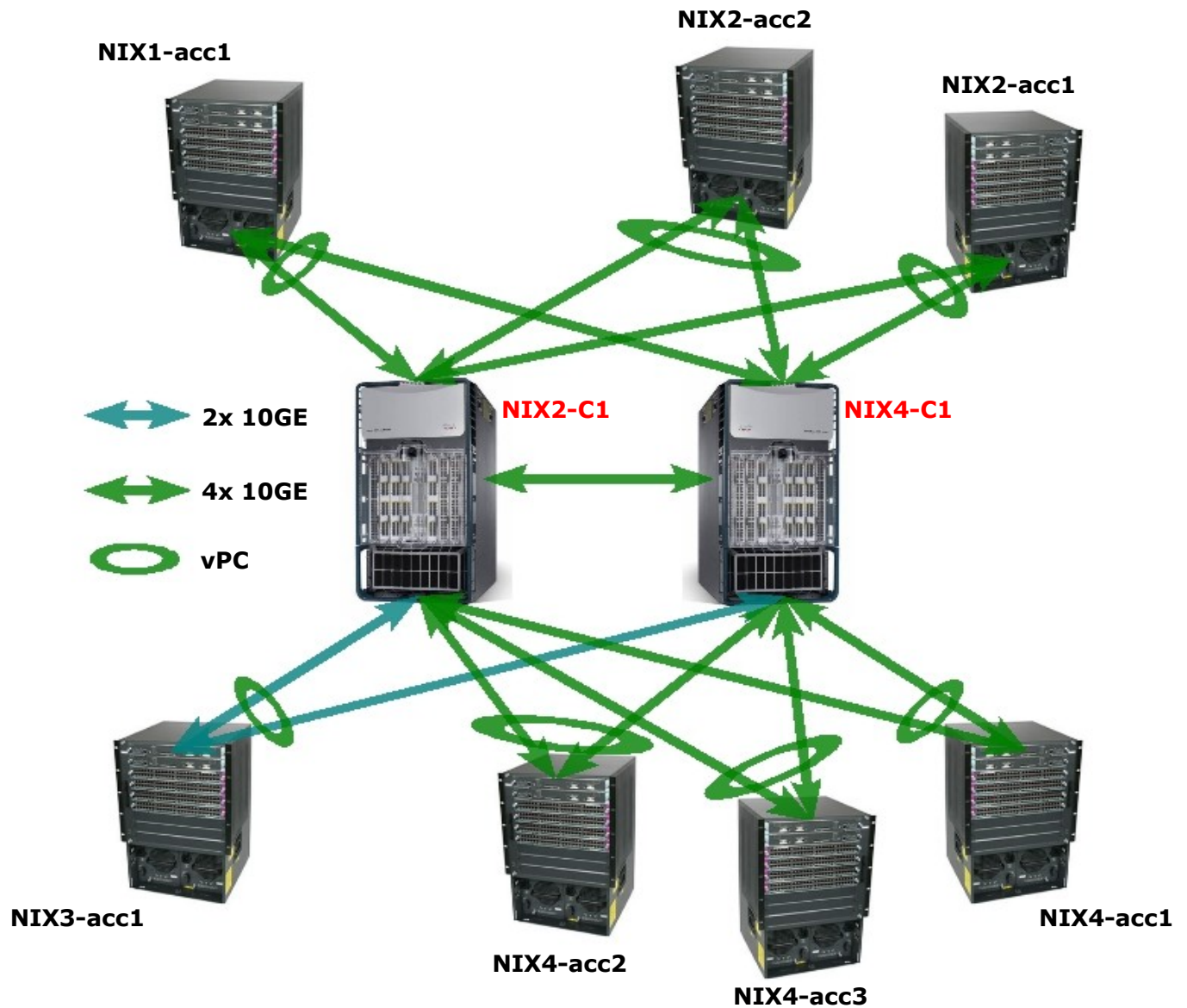
Migration motivation

- **About 42% of ports used for core links**
- **Problems with connecting new switches or locations**
- **Spanning-tree blocked lines were not used**
- **Port-channel hash distribution algorithm**

Our needs and solutions

- **Building intelligent network without some out of band management system**
- **Building active and virtualized topology with best performance**
- **Backward compatibility persists**
- **Implementing with minimum traffic outage**
- **Better expansion possibility**
- **Implementation of new core switches Nexus 7010**
- **Moving to virtualized dual-star topology (vPC)**

New topology



Upgrade procedure

- About 1/2 of a year of pre-arrangements
- Core switch tender
(Arista, Brocade, Cisco, Extreme, Force10, HP, Juniper)
- Core switch lab testings
(Brocade, Cisco, Force10 and HP)
- Housing optimization (Nexus is huge)
- 3 nights of reconfigurations and reconnections
- Traffic outage only by STP topology change
- No peer BGP session went down
- 2 HW problems with X2 and Nexus line card

Thanks all for great cooperation :-)

Future plans

- **IPv4 peering segment re-addressation from /24 to /22**
- **Network evolution for future traffic growth**
- **Routeserver development (BIRD and Quagga)**
- **New IPv4/6 feature tests (HSRP, Multicast, Mobile, ...)**
- **New hardware tests (40G / 100G interfaces)**
- **New feature tests (OTV, VPLS, TRILL, TrustSec)**

Thank you!

? Questions ?

pj@nix.cz
ipv6@nix.cz