



NIX.CZ / NIX.SK and project FENIX

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CEE Peering Days
Ljubljana, 22.3.2017



NIX.CZ

Who we are

- Open non-profit organization
- Founded in 1996
- Neutral peering platforms
- Czech Republic and Slovakia
- Euro-IX member



Who we are



NIX.CZ

Current status

- 146 networks
- 6 PoPs in 5 data centers in Prague
- 505 Gbps peak traffic
- 1GE, 10GE, 100GE + partner program
- Peering and private VLAN
- IPTV multicast exchange

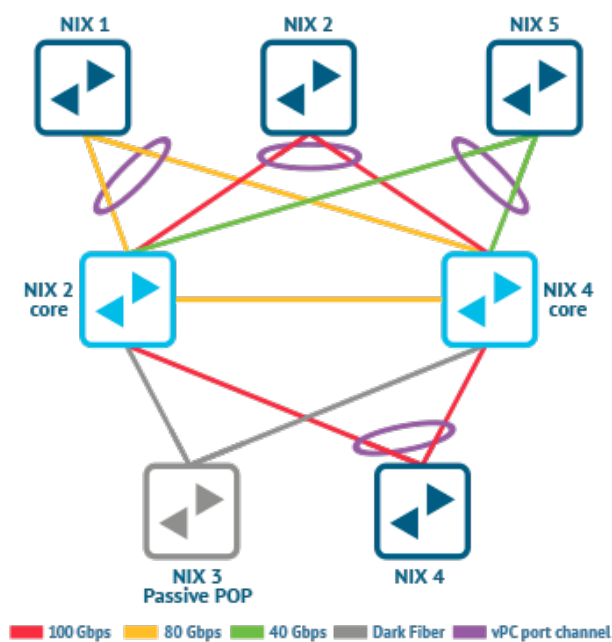


Network upgrade

- Only Cisco Nexus 7700
- Migration from C6500 and N7000
- Line cards with 12x 100GE ports
- Network simplification
- Own optical infrastructure



Network upgrade



NIX.SK introduction

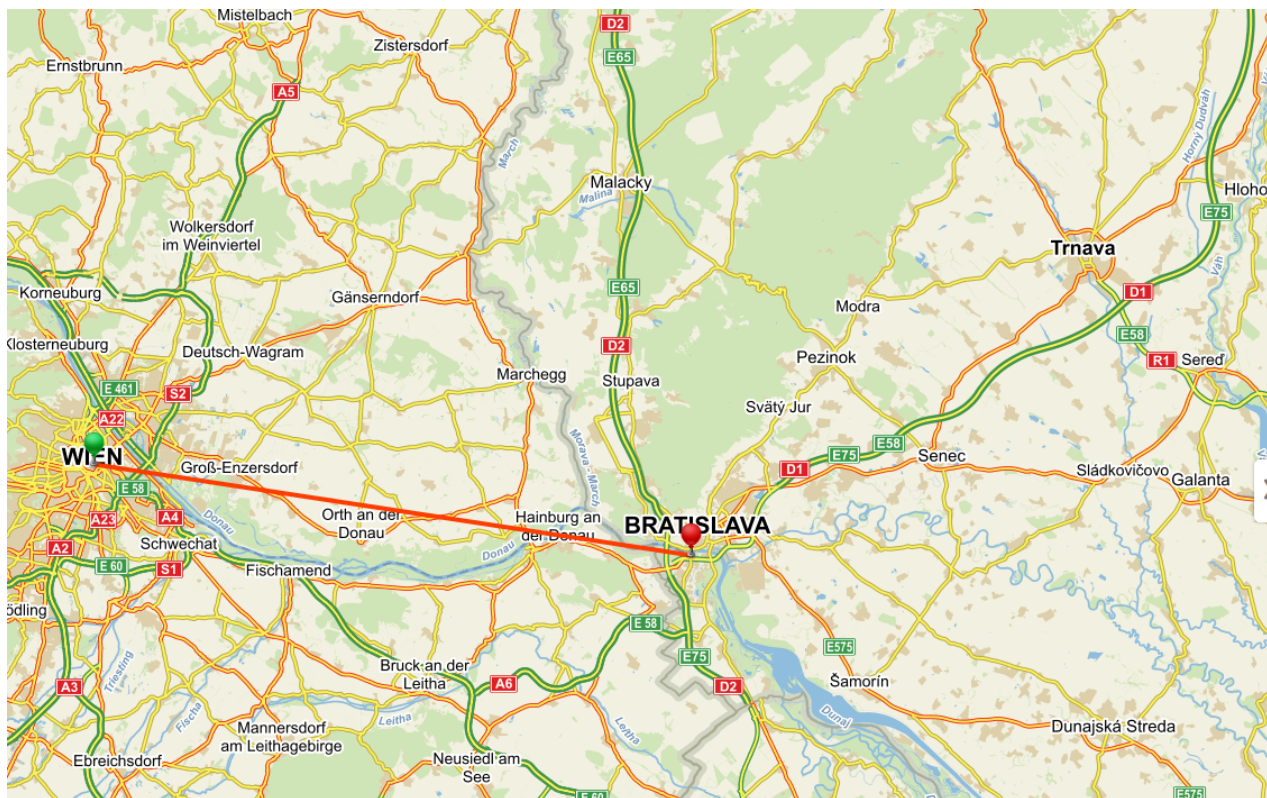
- Neutral IXP in Bratislava
- Operated by NIX.CZ
- Not interconnected with Prague
- Peering and private VLAN
- IPTV multicast exchange



Current status

- 35 networks
- 1st public DNS root server in SK
- 2 sites in Bratislava
- 1GE, 10GE, 100GE + partner program





Úsek	Vzdálenost	Součet	Azimut
1.	54,80 km	54,80 km	99°

Celková délka trasy
54,80 km

192 m n.m. 125 m n.m.

20 km 40 km 55 km

Stoupání: 1 530 m Klesání: 1 588 m

[✖ Smazat měření](#)

[Do batůžku](#)

[Sdílet](#)

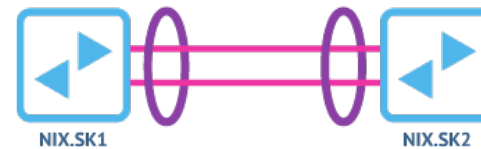
[Exportovat](#)



NIX.SK

Network topology

- 2 Cisco Nexus 7000
- 2 route servers
- Ready for new networks
- Ready for housing TLD DNS



NIX•SK

FENIX introduction

- Reaction to DOS attacks in 3/2013
 - 4 days long
- Multiple CZ targets
 - media, banks, cell phone operators, Seznam.cz (CZ “Google”)
- Source of attacks out of CZ
 - Nothing from CZ
 - Through upstream and NIX.CZ
 - No response source



FENIX

FENIX introduction

- Club of “trustworthy” companies
 - Technical tool “Secure VLAN”
- Czech eyeballs can connect to local content
 - home banking, media, email ...
- Faster than regulations
- High joining criteria
- Island mode
 - last resort



FENIX

FENIX introduction

- 6 founding companies – January 2014
 - Active 24, CESNET (NREN), CZ.NIC, Dial Telecom, O2 Czech Republic (incumbent operator), Seznam.cz
- NIX.CZ supervisor over the rules



FENIX

Organizational rules

- End user terms and conditions
 - spam, attacks
- 24x7 technical conditions
 - no IVR
- CSIRT team
 - listed by Trusted Introducer, Terena
- Active participation
- Recommendation from 2 members, no veto



Technical rules

- BCP-38/SACoo4 – granularity /24 (/48)
- RTBH filtering using RS
- IPv6, DNSSEC
- Full redundancy on NIX.CZ
- Network monitoring (MRTG, NetFlow, ...)
- Control plane policy RFC6192
- DNS, NTP, SNMP amplification protection
- Security incident time <30min
- BGP – TCP MD5
- ...



Current status

- 13 members
- 1 new application
- 5 candidates
- Cooperation with CSIRT.CZ
- Regular meetings of members



Members



FENIX

NIX.CZ mascot



NIX.CZ

NIX.CZ mascot



NIX.CZ

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Thank you for your attention

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