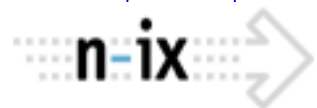


RIPE 47 - EIX-WG - N-IX update



N-IX - Nürnberg Internet eXchange
www.n-ix.net

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Agenda

- Status
- Costs
- Performance
- Current projects
- Summary



Status

- 100% uptime since start of operation
 - 10 networks connected
 - currently about 1400 prefixes available
 - all services are up and running
 - one new port about every month
 - very positive feedback from customers/peers
 - very cooperative environment
 - low costs do not mean cheap service

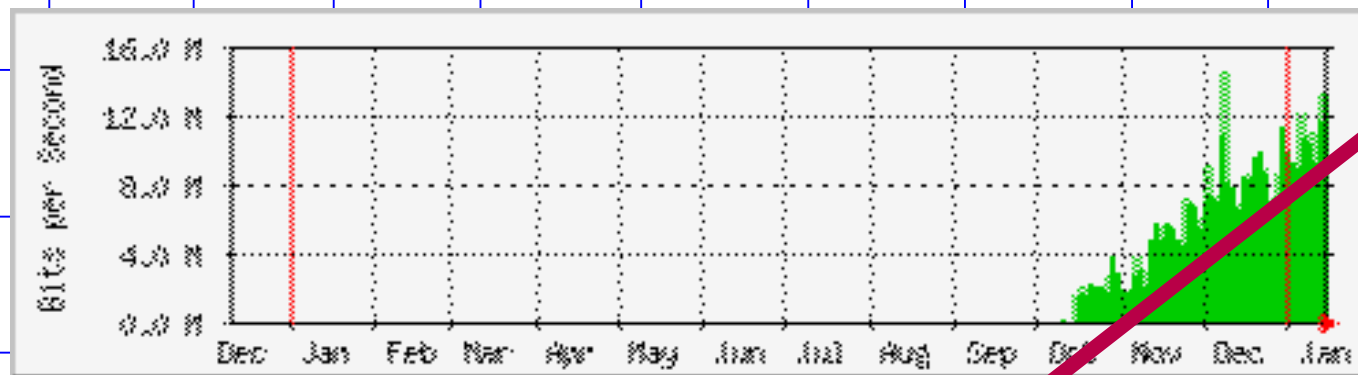


Costs

- no change since beginning
- Setup fee: 100 €
- Port: 100 €/month
- VLAN: 40 €/month (incl. SLAs)
- SX-GBIC included (Multimode short reach)
- LX, ZX or CWDM / DWDM GBICs for additional costs (Singlemode long reach)
- no membership necessary (associations are outdated)
- free choice of colocation, fibre infrastructure or other services - no obligation, no hassle

Performance

- current growth-graph (aggregated input-bitrates)



This is about 80-90% increase per month !!



current projects (1)

- 3 Root-Nameserver mirrors
 - E, L and M are the most geographically distant Root-Nameservers from Nürnberg (11E, 49N)
 - so we decided to accelerate these specific servers by mirroring their addresses and content at the N-IX
 - all peers can get the prefixes from the Route-server purely optional, there is again NO obligation
 - we try very hard NOT to “leak” the /32s into the net
 - no-export community, filters, etc.
 - the effect is measurable AND positive!



current projects (2)

- VoIP

- we have successfully installed an asterisk-based VoIP solution for the exclusive use of N-IX participants
- the ISDN service is provided by one of the peers
- each phone has a world reachable E.164 address
 - we shipped Cisco 7940s with SIP-fw in a December special
- ENUM is (of course) integrated :-)
- the base cost is 5€/month
- the service is easy and reliable

- billing is the most time consuming job



current projects (3)

- we participate in a new german association for operators of exchange points which was founded in Berlin in Dezember 2003
 - the name is DVAP e.V. - which is spelled “Dachverband der AustauschPunkte e.V.” - see www.dvap.de for details
 - main target areas will be:
 - support communication between regional IXP operators
 - political work, best practices, guidelines creation
 - point of contact for foreign network operators
 - optimization of the german network infrastructure
 - peering, interconnects, cost reduction, research network integration



current projects (4)

- N-IXGrid / clustering
 - we are writing on documents that aim at hosting-centers and other enterprises that run “idle” servers near exchange points (max. 1-2 hops away)
 - there is strong belief that aggregation of idle resources around an exchange points might lead to a setup that could be very cost effective and “massive parallel” for simulation or rendering applications
 - This will close a gap between super-clusters (€€€ or \$\$\$) and “distributed.net”-clients.



Summary

- selection of new locations is key to success
- neutral positioning of the operator paves the road
- costs are most important (for peers + operator)
- professional operation is expected
- SLAs can be agreed
- innovation never stops
- Internet might not be the only application on a central switching network
- *we have fun and invite everybody to go to Nürnberg*