



CEE Peering Day
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Beginnings

- BIX was founded in 1996 by 12 domestic ISPs including the largest Hungarian telcos with the goal to exchange Internet traffic directly.
- There were strict rules in the BIX Charter in terms of affiliation for new members. Only registered Internet access providers were allowed to connect to BIX.
- The free peering with all other members was motivated by 50% reduced monthly fee. (Route servers were in use on BIX since 1996.)
- Facts:
 - Sole IX in Hungary
 - One PoP only (Victor Hugo street)



Period of progress

- The number of members reached 50. 10GE port service was introduced, peak traffic reached 100Gbps.
- In 2008 about 75% of domestic traffic went across BIX. The yearly traffic growth exceeded 50%. BIX was recognized as the largest IX in Central Europe based on peak traffic.

The first response to these challenges: improvement at technical level and capacity of BIX devices. Citation from our tender document:

„The most important aspect of the evaluation process is the high level of redundancy and the fail-safe operation of the BIX Center ...”

Force10 Terascale E1200i switches were selected.



Good facts about E1200i switches :

CLI output (CLI = Cisco Like Interface):

```
bix-vh-E1200i-1#sh clock
15:12:57.710 MET-DST Thu May 16 2013
bix-vh-E1200i-1#sh version
...
bix-vh-E1200i-1 uptime is 4 years, 1 week, 6 days, 17 hours, 25 minutes
```

Problems:

- port security - mac learning limit violation during connection flaps
- Dell acquisition in 2011



New BIX PoPs

- Main objective: improve overall redundancy of BIX
- The selected new locations: Dataplex, Dataneum (professional Data Centers)
- Old BIX switches (Cisco 6509s) were relocated to the new locations
- BIX PoPs are interconnected using leased DF lines. The bandwidth requirements were implemented using CWDM multiplexers (80 Gbps LAGs)



Present time

- User ports: 1G - 30, 10G - 64
- Peak traffic in the recent years: 120-150 Gbps
- Number of BIX members: 45-50
- Explanation: bilateral direct peering between large-intermediate ISPs on dedicated lines. All player remained on BIX, but with decreasing bandwidth usage.
- Number of foreign members: 11



What next?

- Foreign members are welcome
- GM decisions in April 2013:
 - 50% discount for foreign members - Condition: free peering
 - 90% discount rate of monthly fee for stand-by ports connected to a different PoP
 - BIX infrastructure upgrade: 40/100 GE modules, high-density 10GE line-rate modules
- Switch platform selection in progress: Nexus 7000, BlackDiamond X8, Brocade? Alcatel?



- Look at www.bix.hu
- Thanks for your attention
- Questions?