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600 Gbps and beyond!

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What is AMS-IX?

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The Facts...

- Internet Exchange based in Amsterdam
- 6 co-locations
- Non-profit organization
- 311 members
- 572 ports
- 626 Gbps traffic peaks

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Thanks for your attention!

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No, not yet!
So how did it start...?

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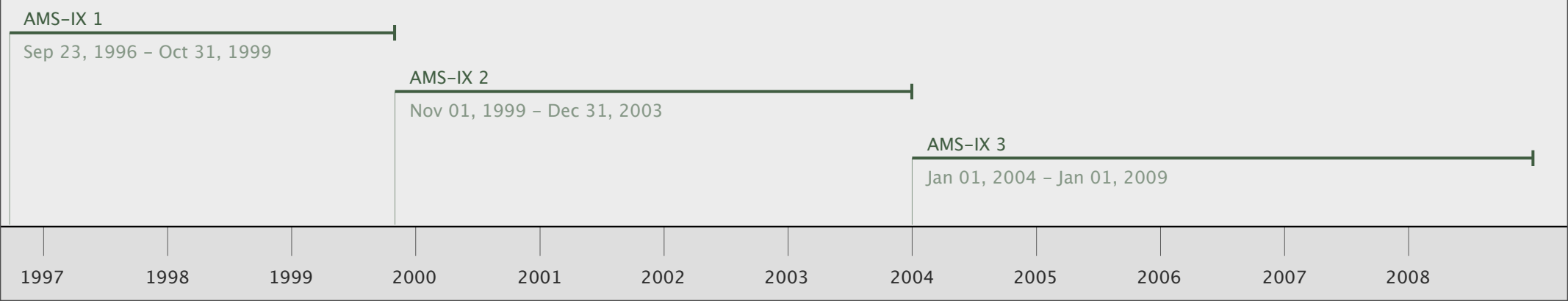
AMS-IX 0123



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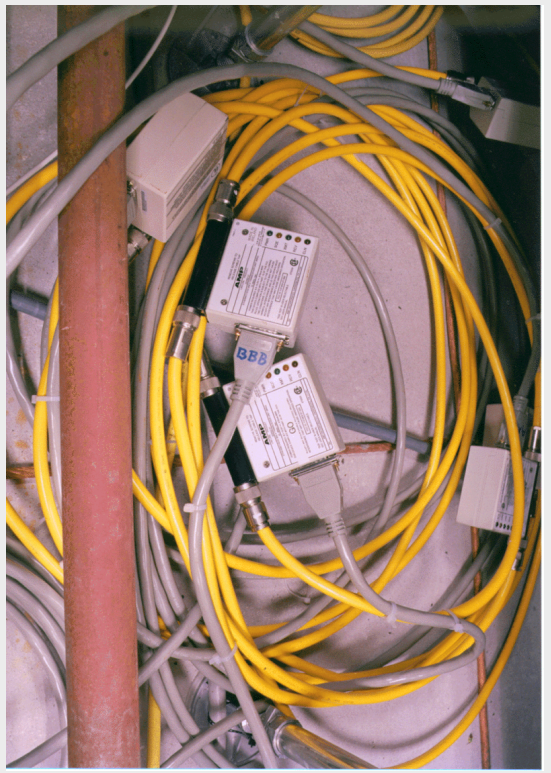
AMS-IX 0

- IBR-LAN (International Backbone Router)
- Amsterdam Science Park
- Shared Ethernet cable



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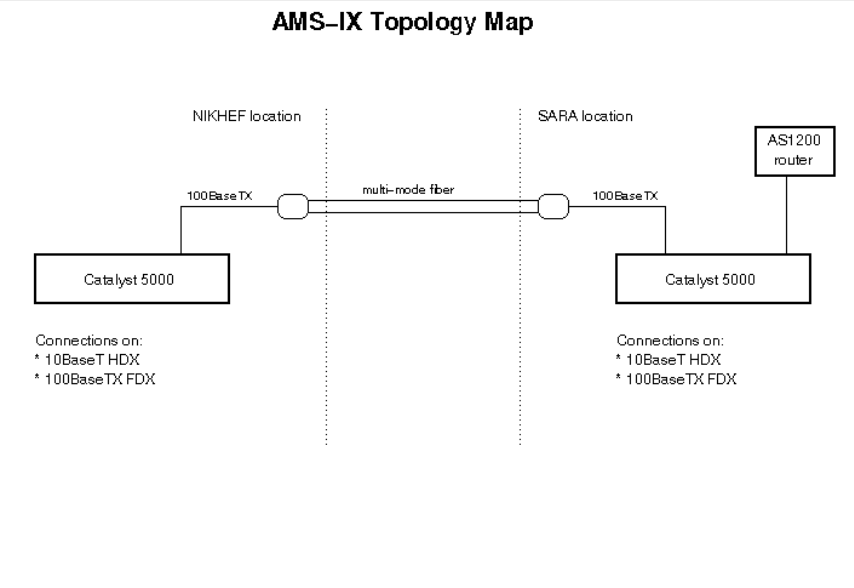
AMS-IX 1

- 2 * Cisco Catalyst 5000
- Interconnected with fast Ethernet (100BaseTX) and MMF



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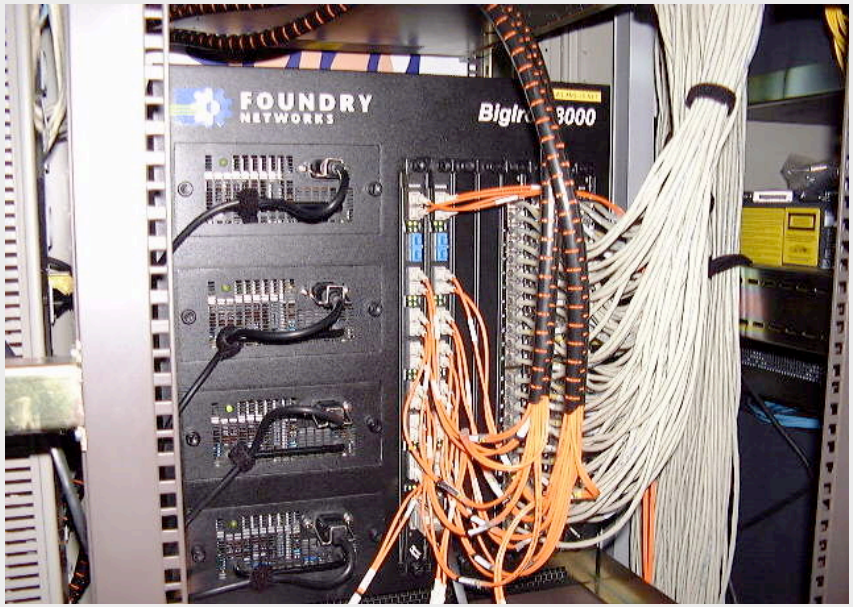
AMS-IX 2

- Cisco switches replaced by Foundry BigIron
- 1GE member connections
- New co-locations
- 10GE backbone connections



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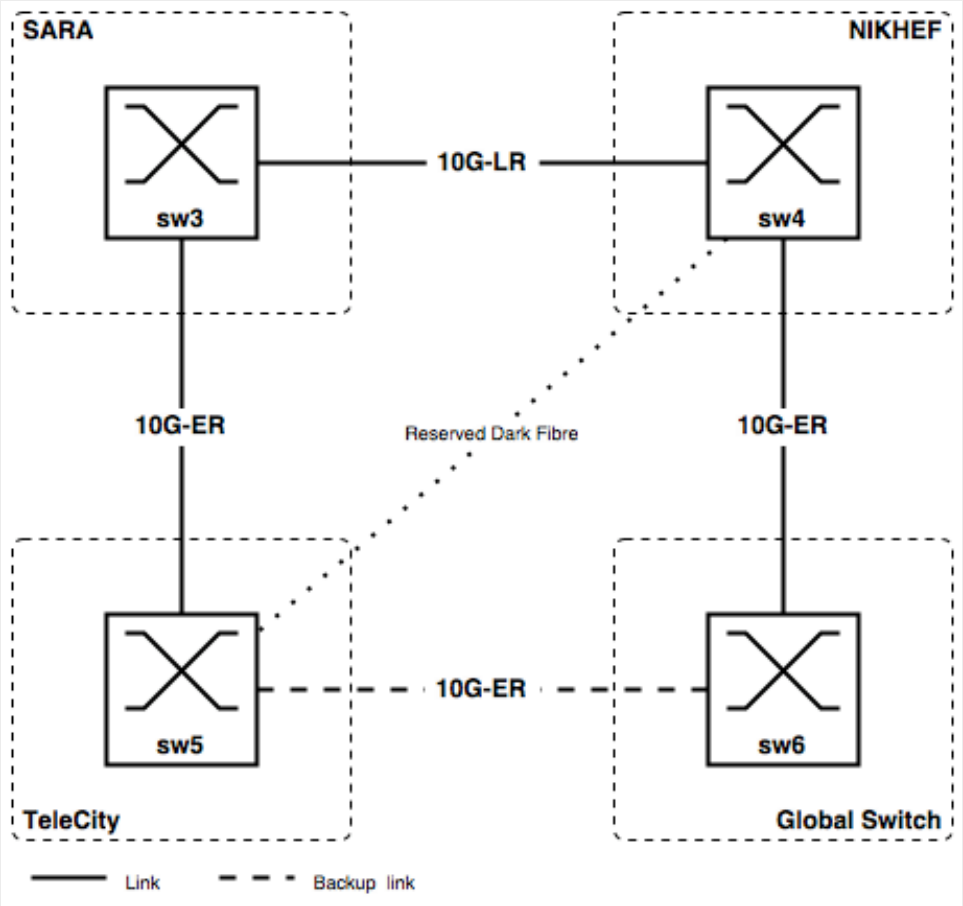
The Ring



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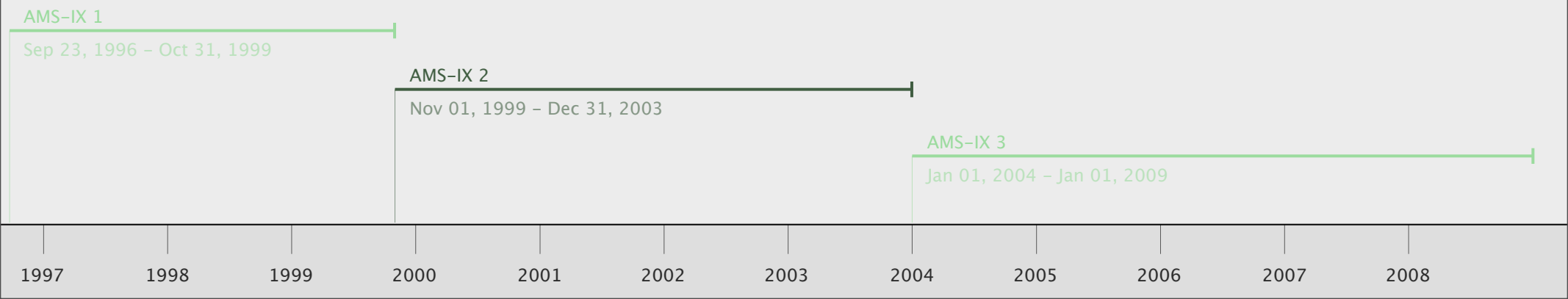
Port Security

- Locking one MAC address per port
- Dropping all other frames
- Prevents loops towards the switch platform
- Has proven to be very useful!



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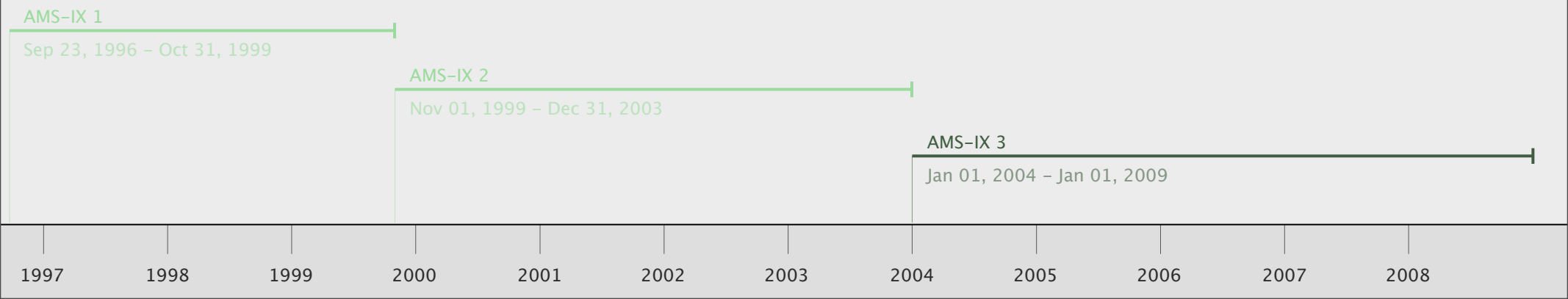
AMS-IX 3

- Drawbacks of ring structure
  - Port availability / density
- Exponentially growing traffic
- No 10GE for members possible
  - Backbone scaling issues



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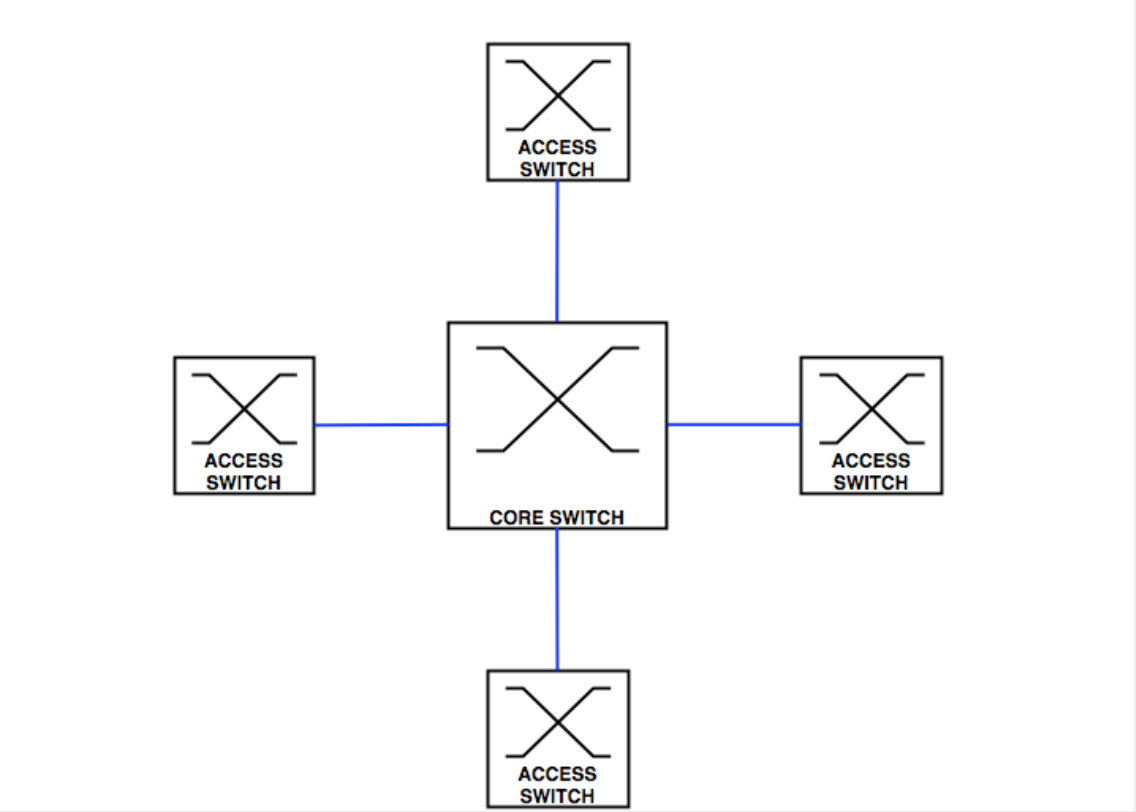
The Star



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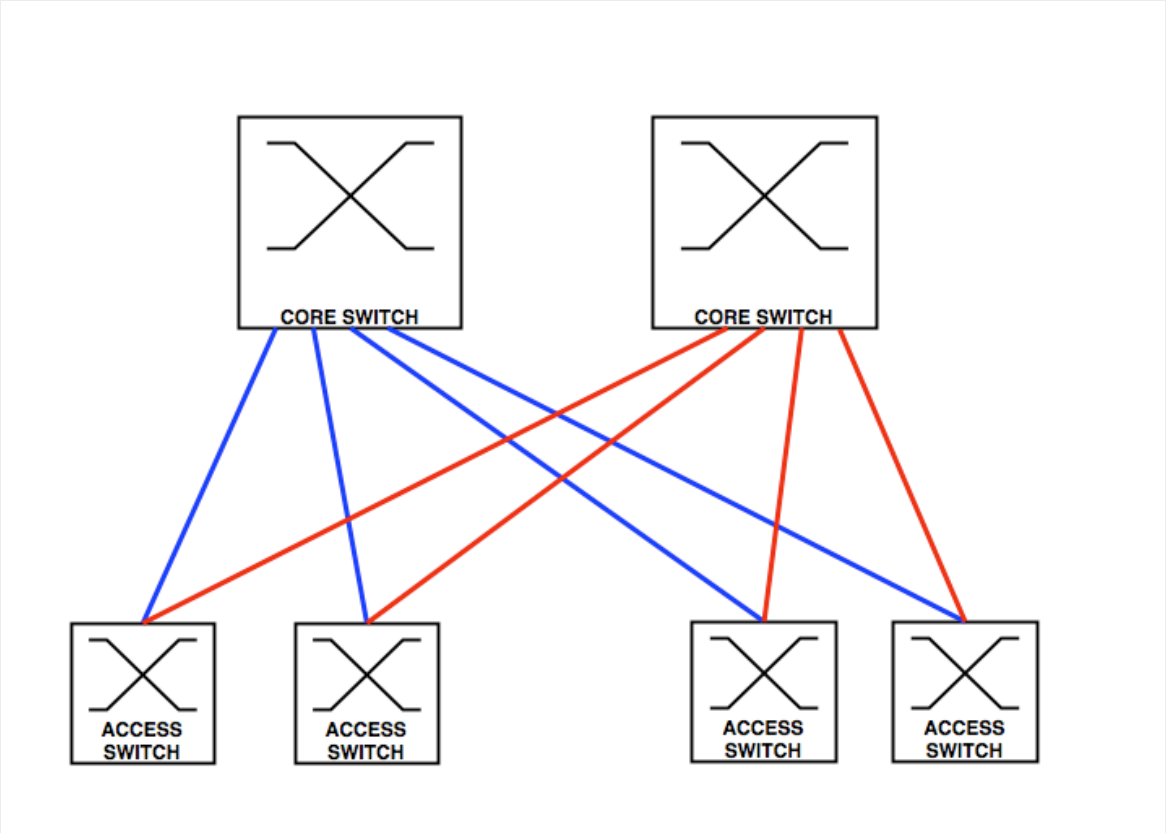
The Double Star



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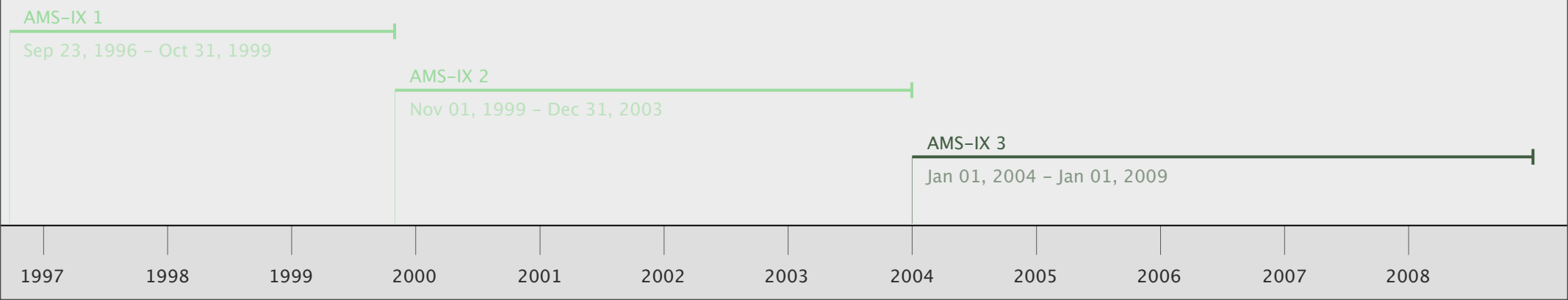
VSRP

- Foundry VSRP protocol (Virtual Switch Redundancy Protocol)
- Prevents loops in meshed networks
- Alternative to STP



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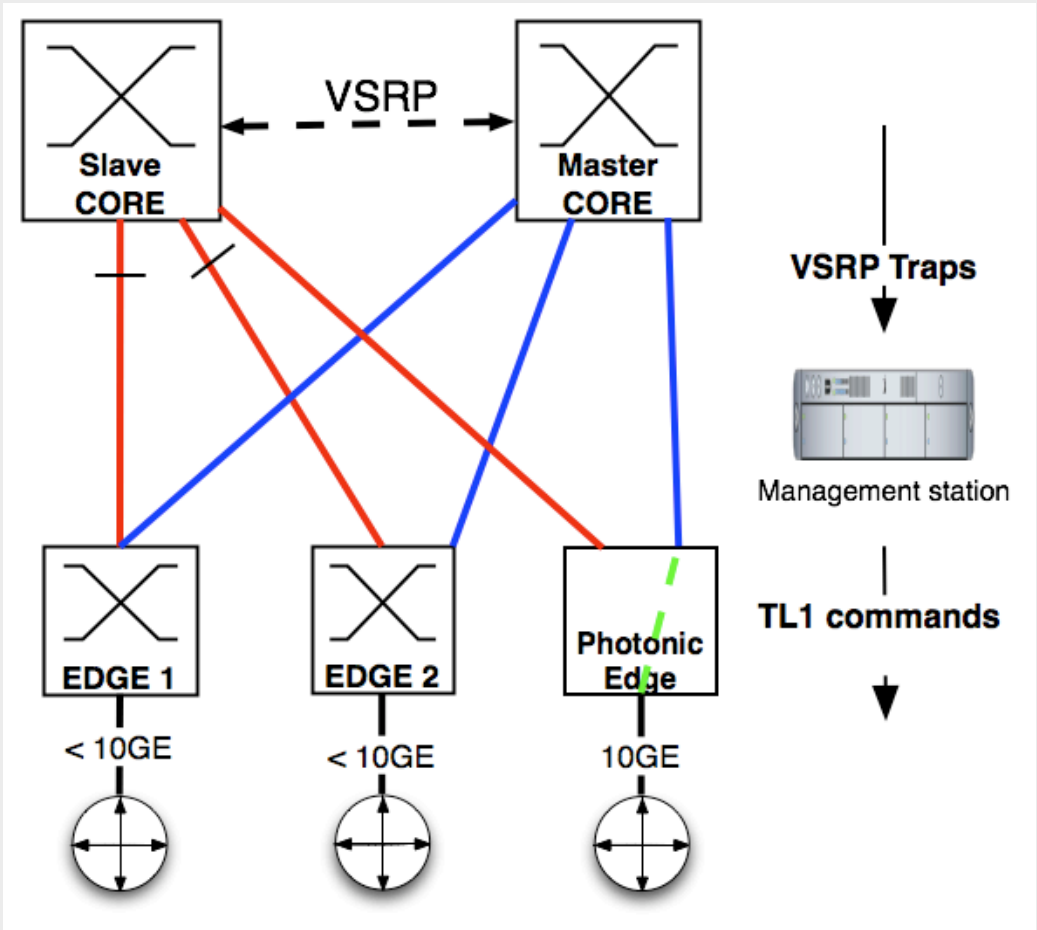
VSRP



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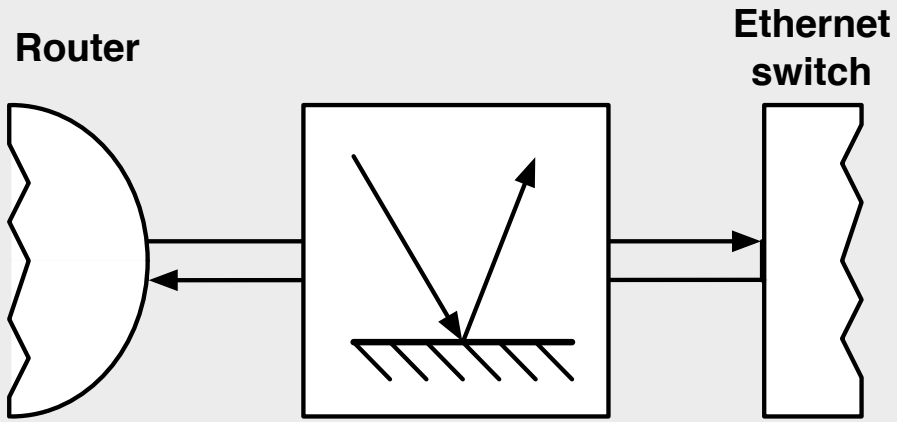
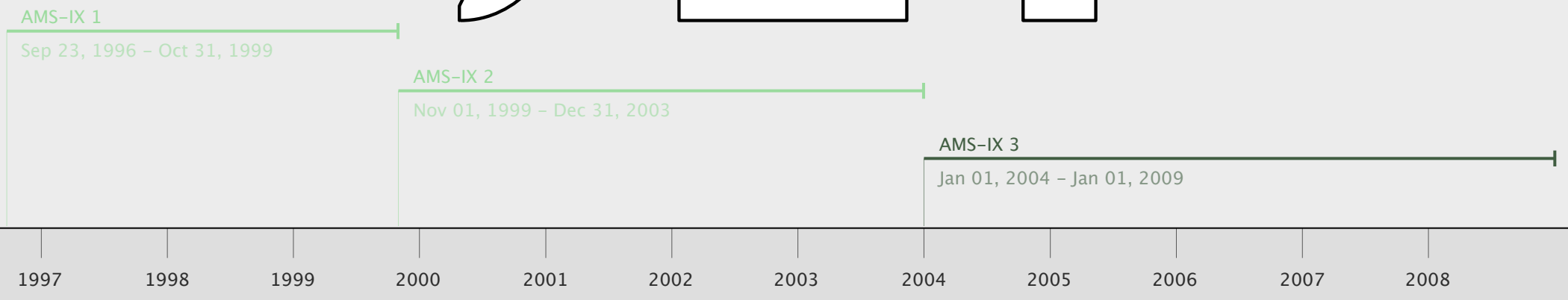
AMS-IX 3

- 10GE customer connections
- More redundancy via so called Photonic Cross Connects





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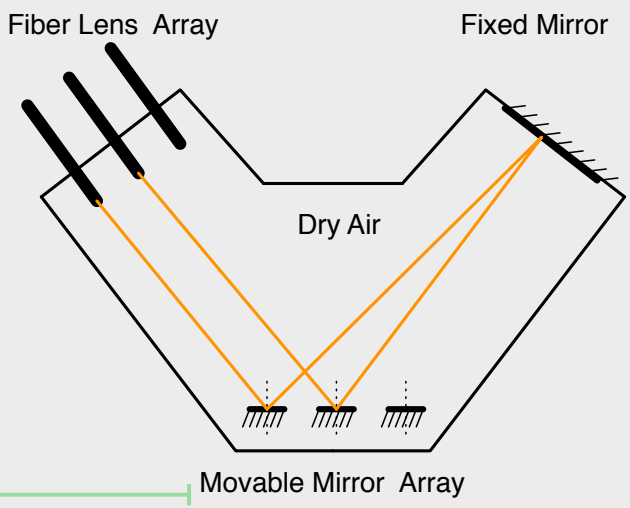
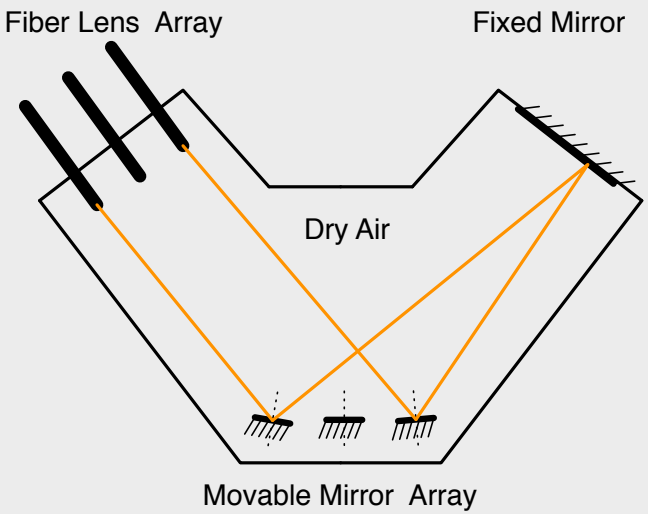
PXCs

- Glimmerglass photonic switches
- Layer 1 switch





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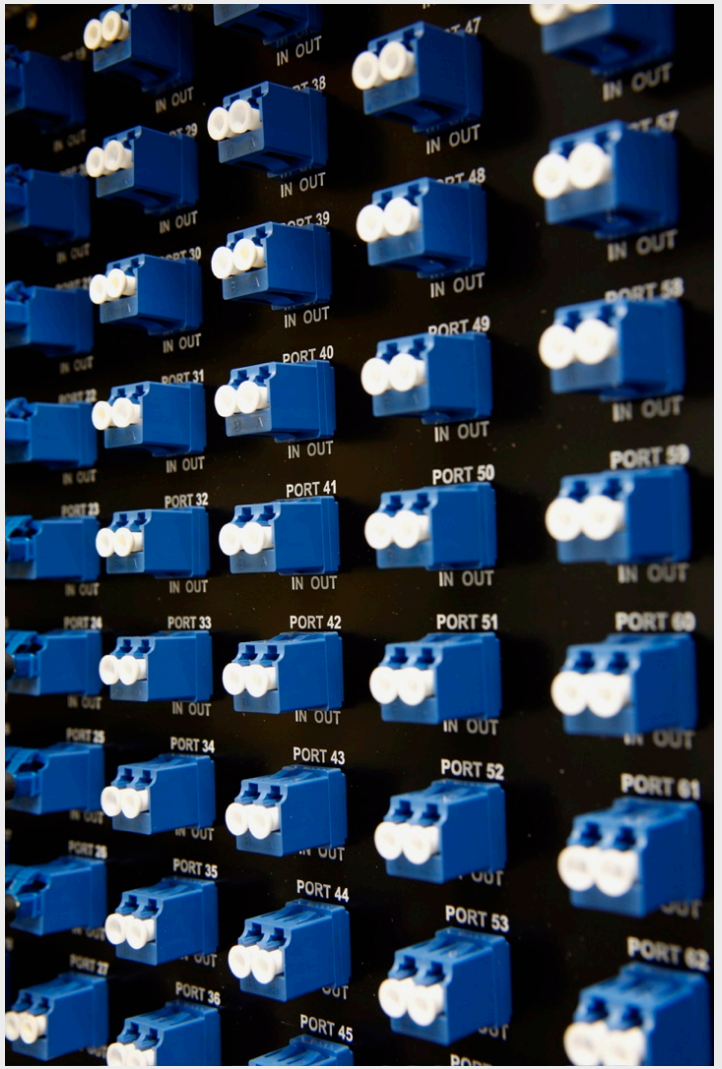

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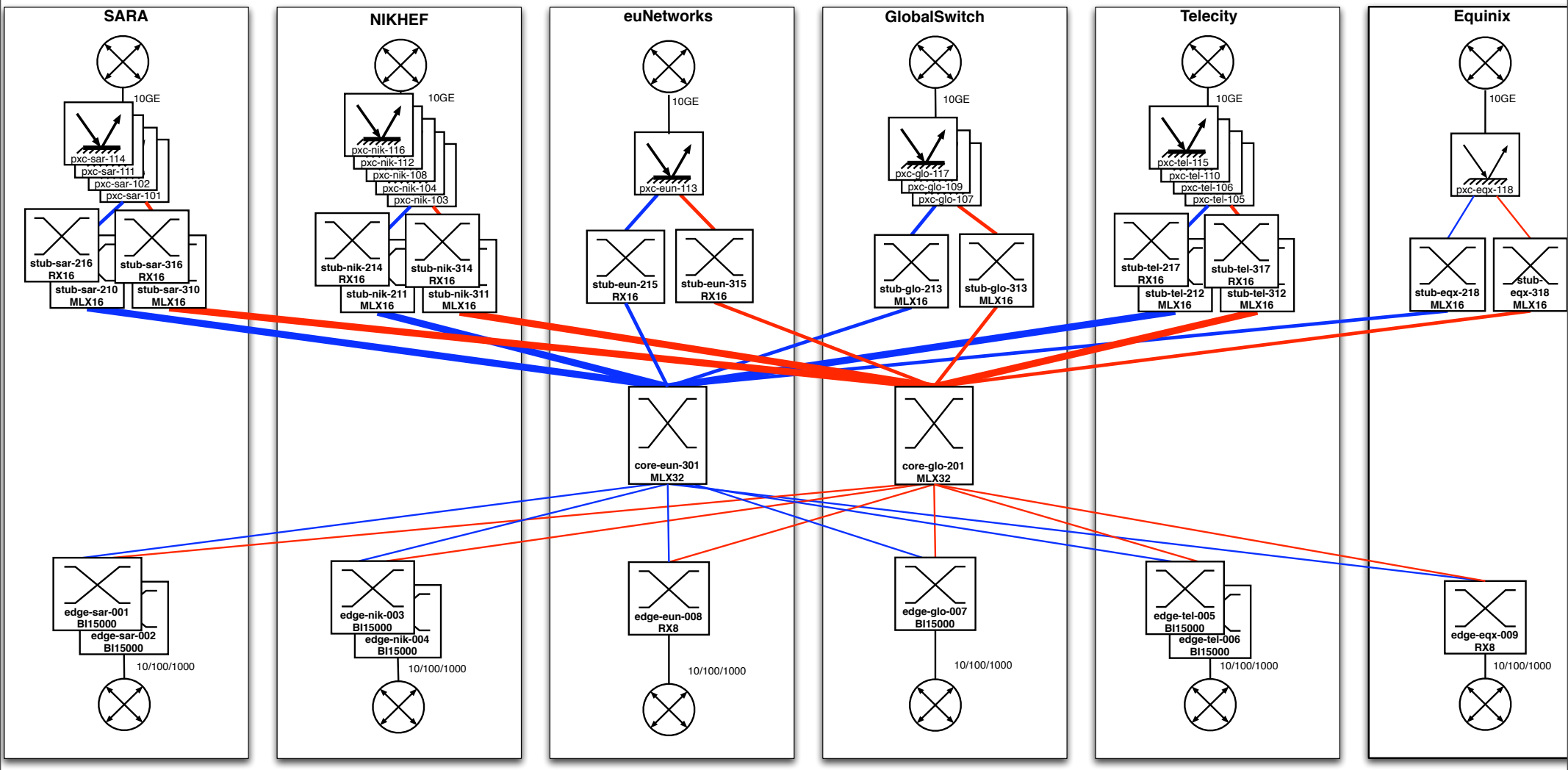
Current Topology



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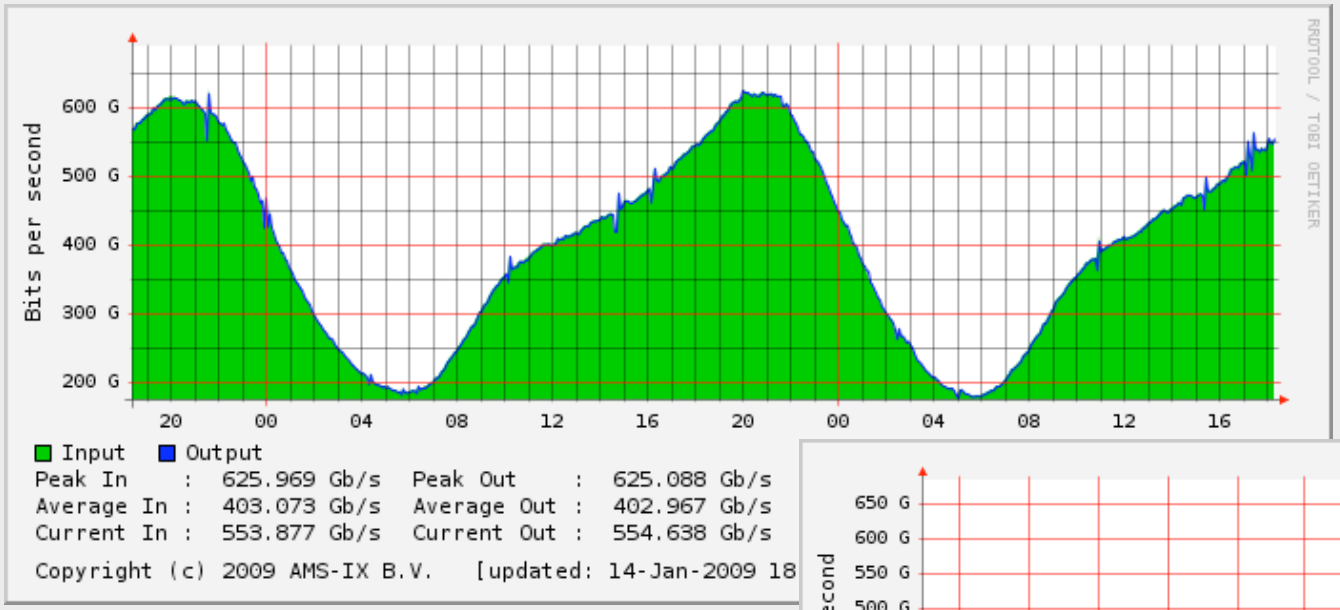
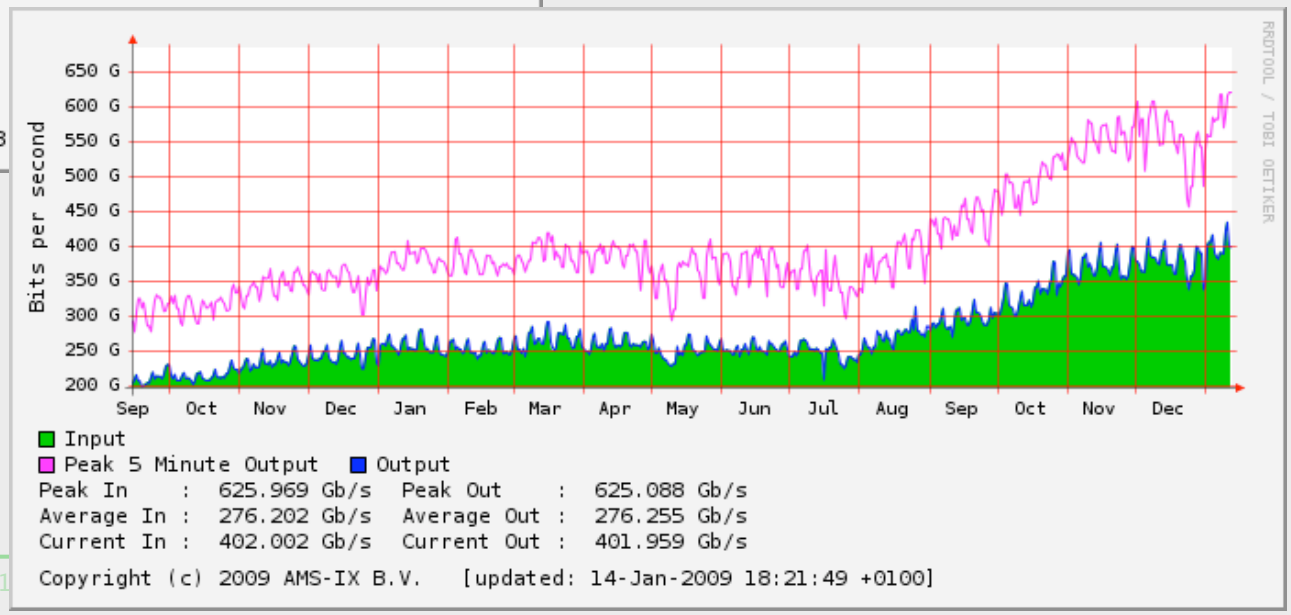
Traffic





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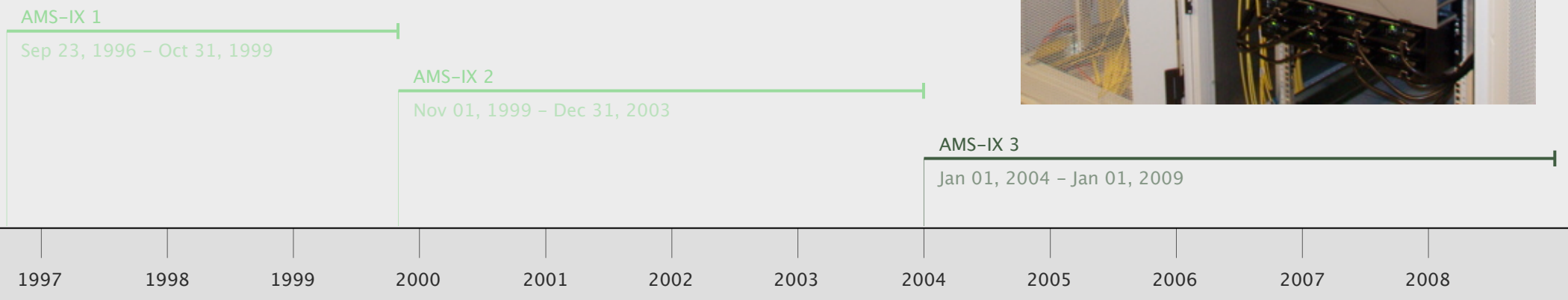
Future

- Port density and link capacity will become an issue again
- Prediction for 1Tbps in Sep 2009



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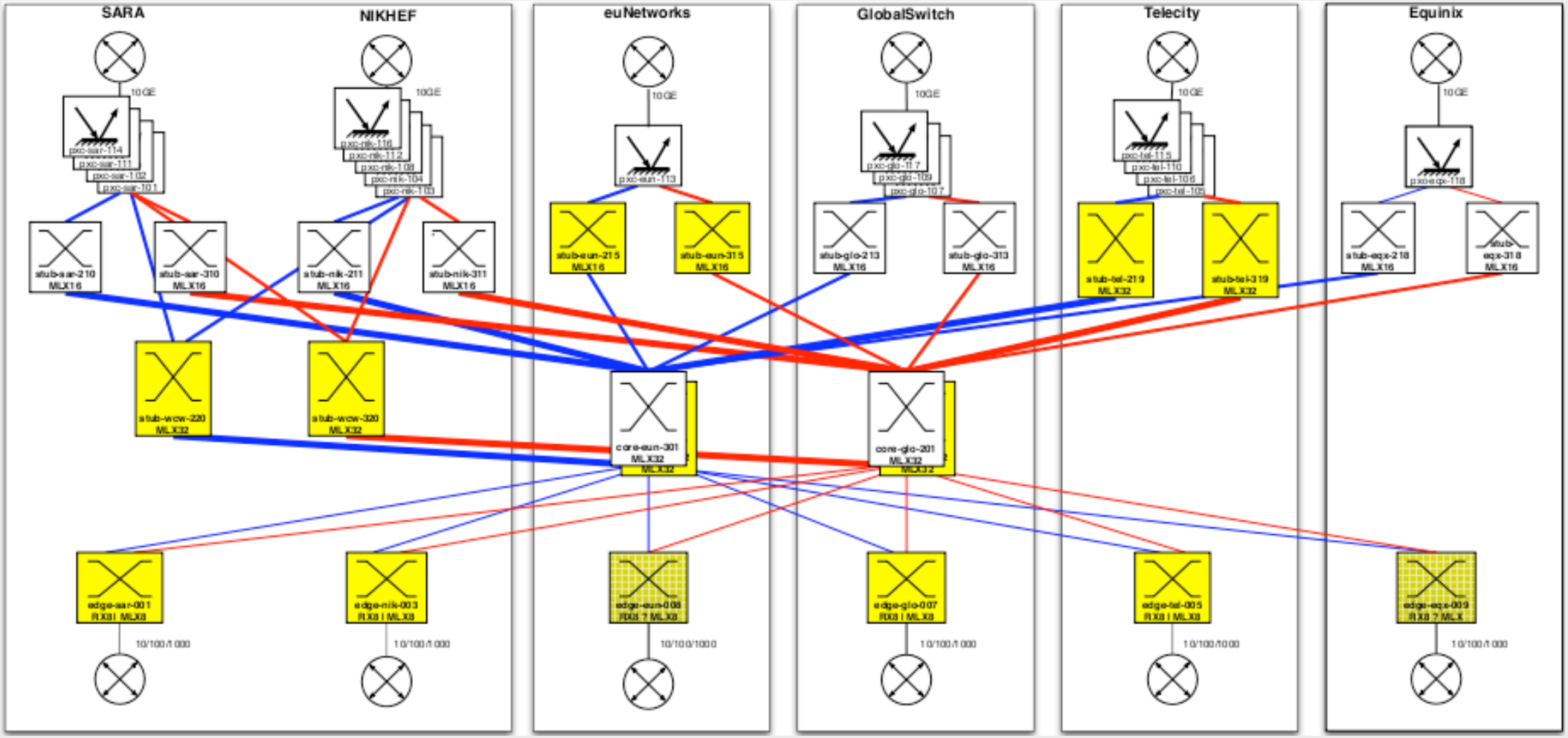
Future



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Thank you!
Questions?

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