



The AMS-IX Portal & Autoprovisioning

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AMS-IX Organization

- AMS-IX is a non-profit, neutral and independent, professional exchange.
- The beginnings of the exchange can be traced back to the early 1990's.
- On the 29th of December 1997 AMS-IX was established as an Association in the Netherlands, operating under Dutch Law.
- Amsterdam Internet Exchange B.V., founded in 2000, is the company of which the Association is a 100% owner that acts as the operator and administrator of the exchange.
- The Association today exists of over 800 members and customers, mostly ISP's but also (mobile) telecom providers, carriers, hosting providers, ASP's and content providers



AMS-IX Platforms

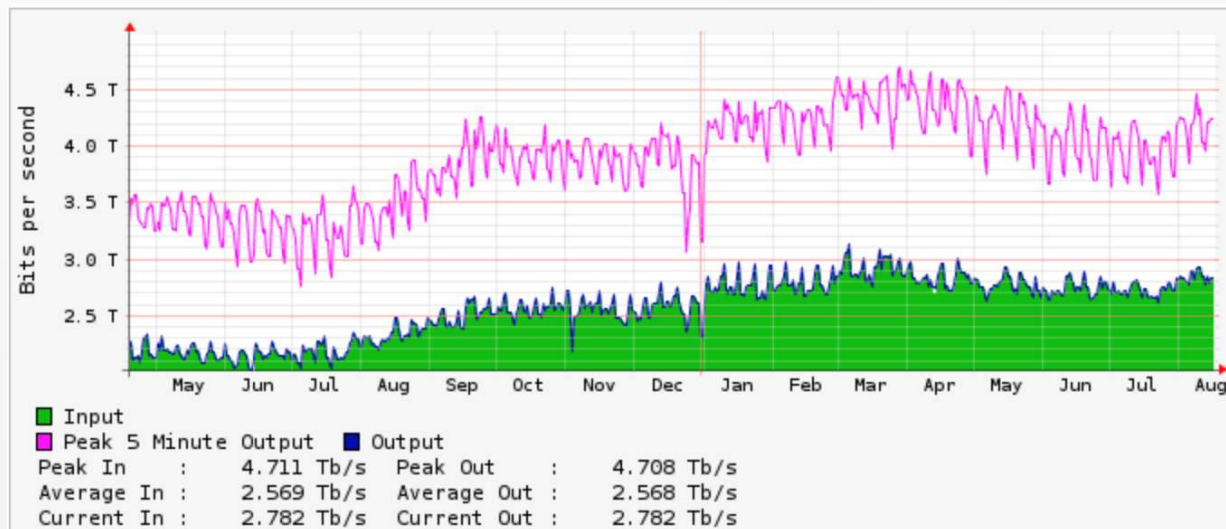
- Distributed Exchanges based on MPLS.
- Datacenters are carrier neutral co-location facilities.
 - Each POP provides same services and connectivity to all participants on the platform.
 - It doesn't matter where one connects.
- Connectivity density to the IX (and #PIs) not equally distributed over all DCs, differentiation based on:
 - Age (older DCs have more connected networks).
 - Available critical mass.
 - Other DC services.
- Larger customers connect in multiple datacenters.

AMS-IX Presence

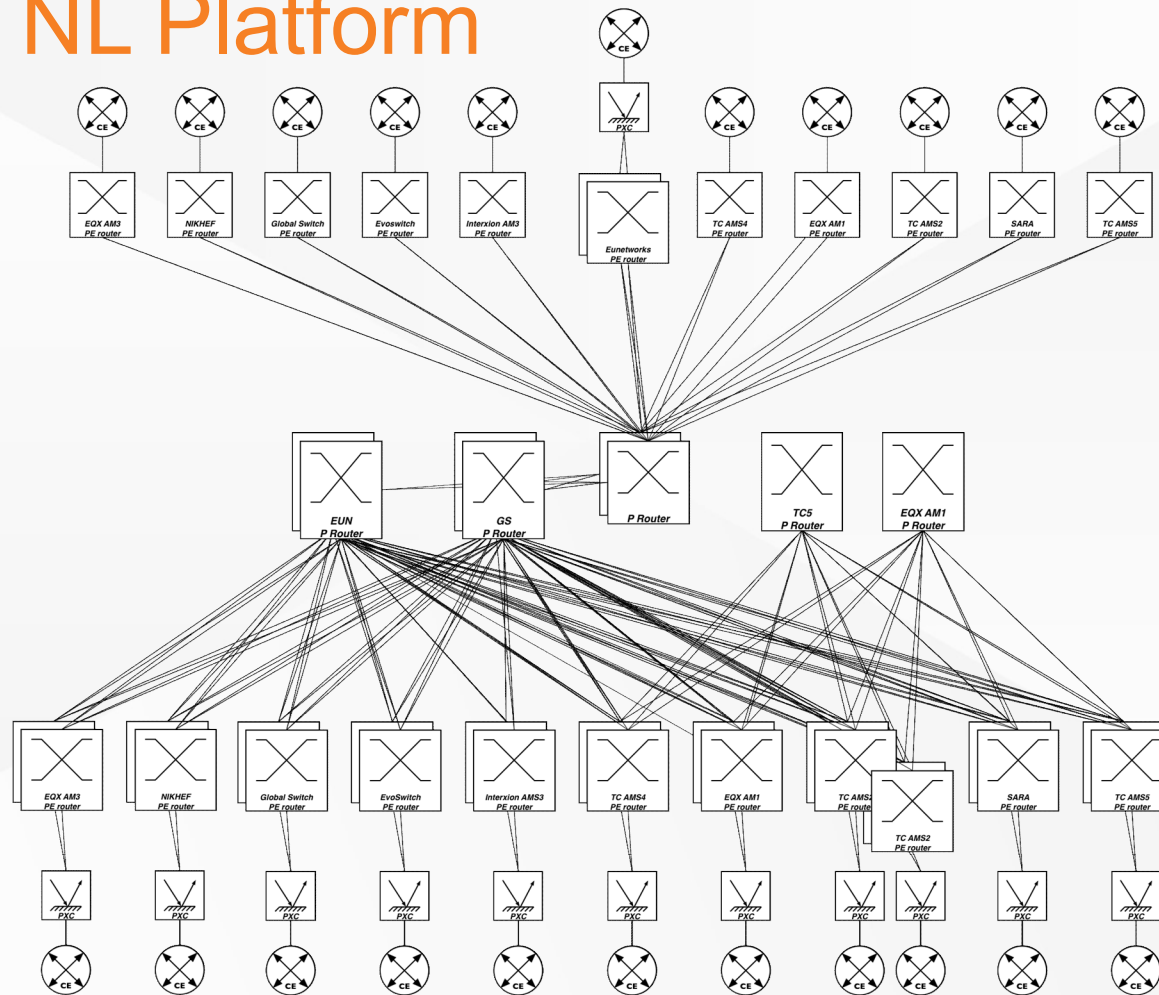


AMS-IX Network

- AMS-IX largest IXP is located in Amsterdam, NL
 - 12 data centers
 - 4.71 Tbps peak traffic



AMS-IX NL Platform





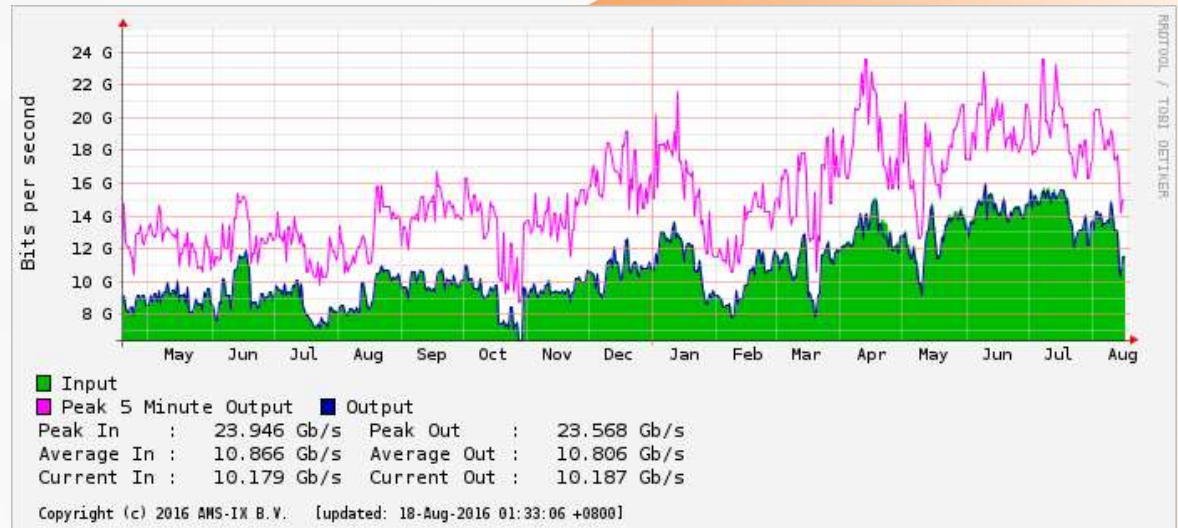
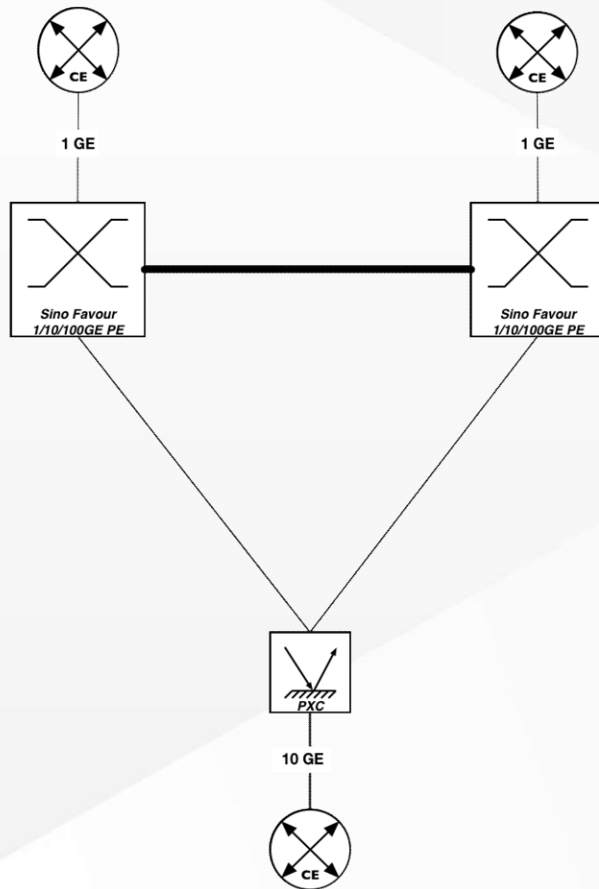
AMS-IX Network

- Smaller AMS-IX IXPs around the globe
 - Hong Kong (23.95Gbps peak)
 - Curacao (9.62Gbps peak)
- AMS-IX managed IXPs
 - New York (21.24Gbps peak)
 - Chicago (23.18Gbps peak)
 - Bay Area (12.75Gbps peak)

IXPs are not interconnected.

Every site operates as an independent Internet Exchange.

AMS-IX HK Platform



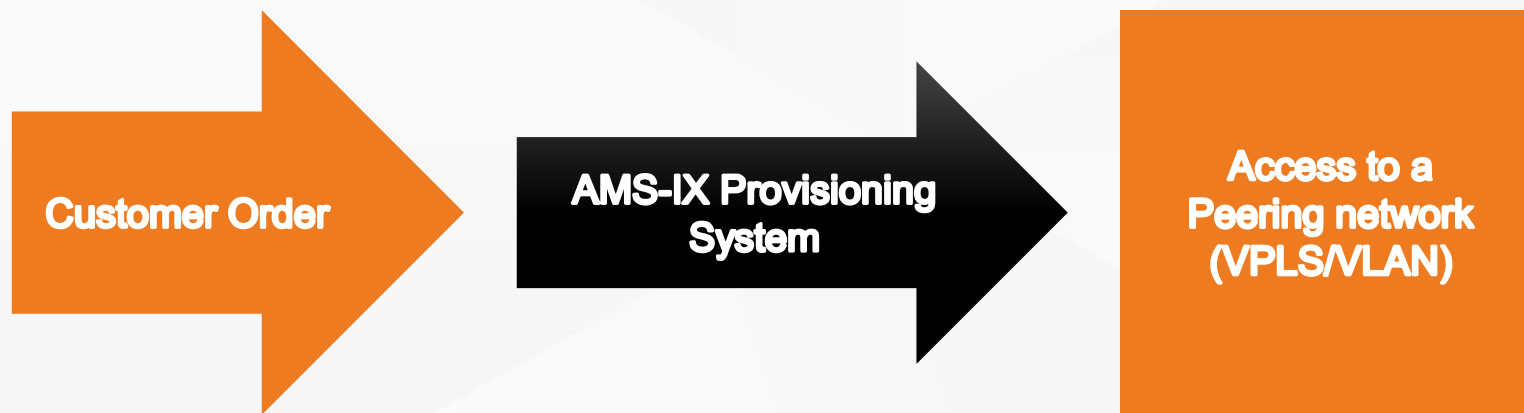


Customer Provisioning

- The (very) old days:
 - Manual labor
 - Could take hours for 1 customer
 - Unhappy engineers 😞
- The (not so) old days:
 - CLI scripts, one at a time
 - Some functions not there (e.g. testing)
 - Less unhappy but not so happy engineers 😞

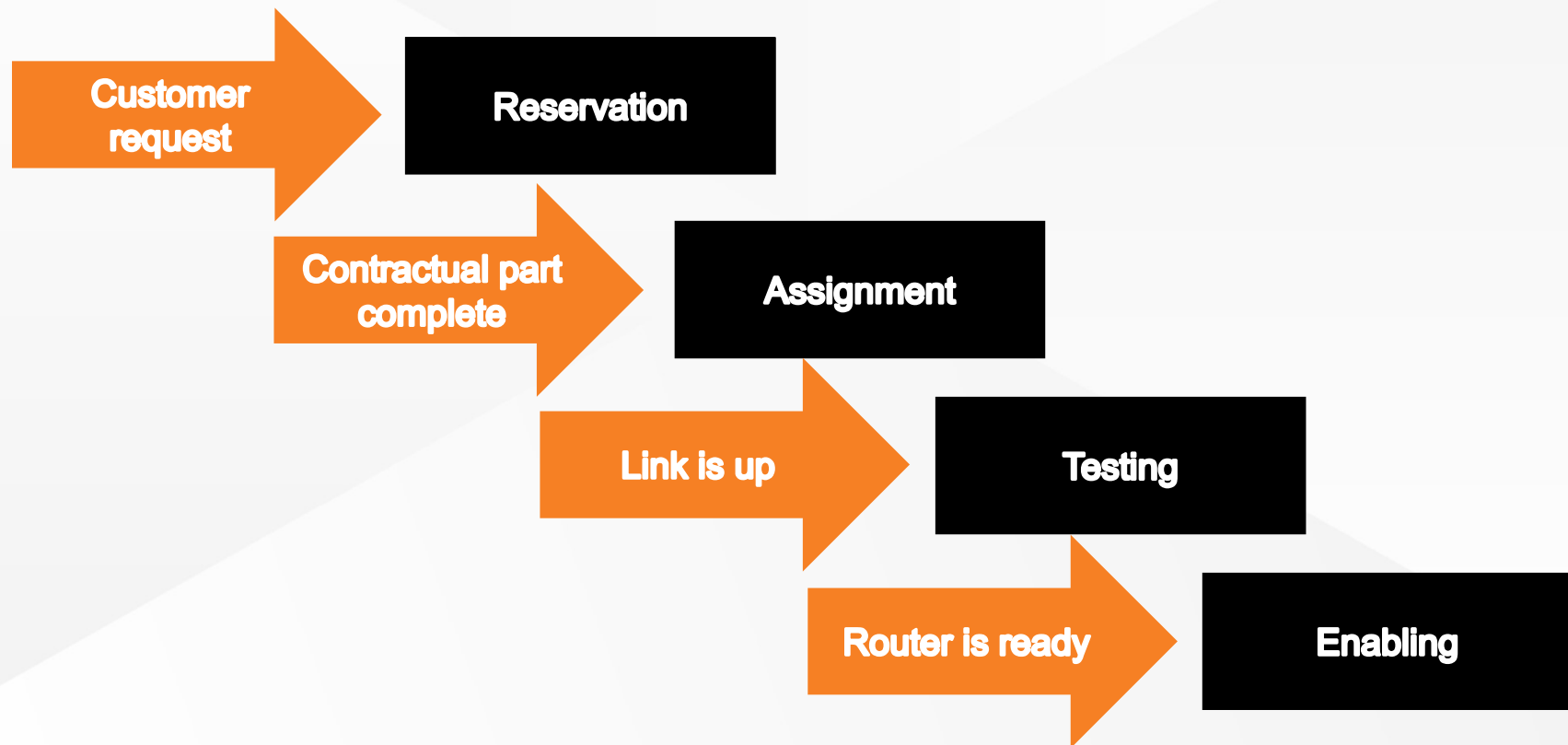
AMS-IX Autoprovision

- Provisioning a customer



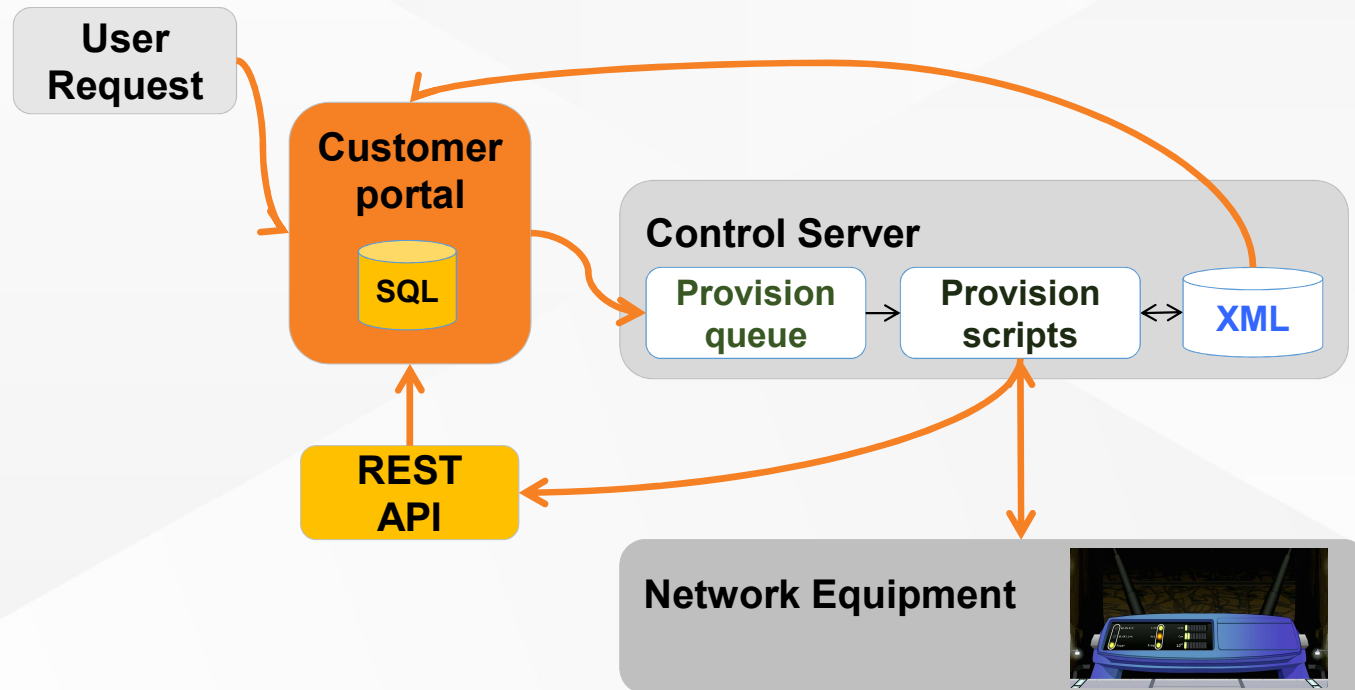
AMS-IX Autoprovision

- What's inside the black box?



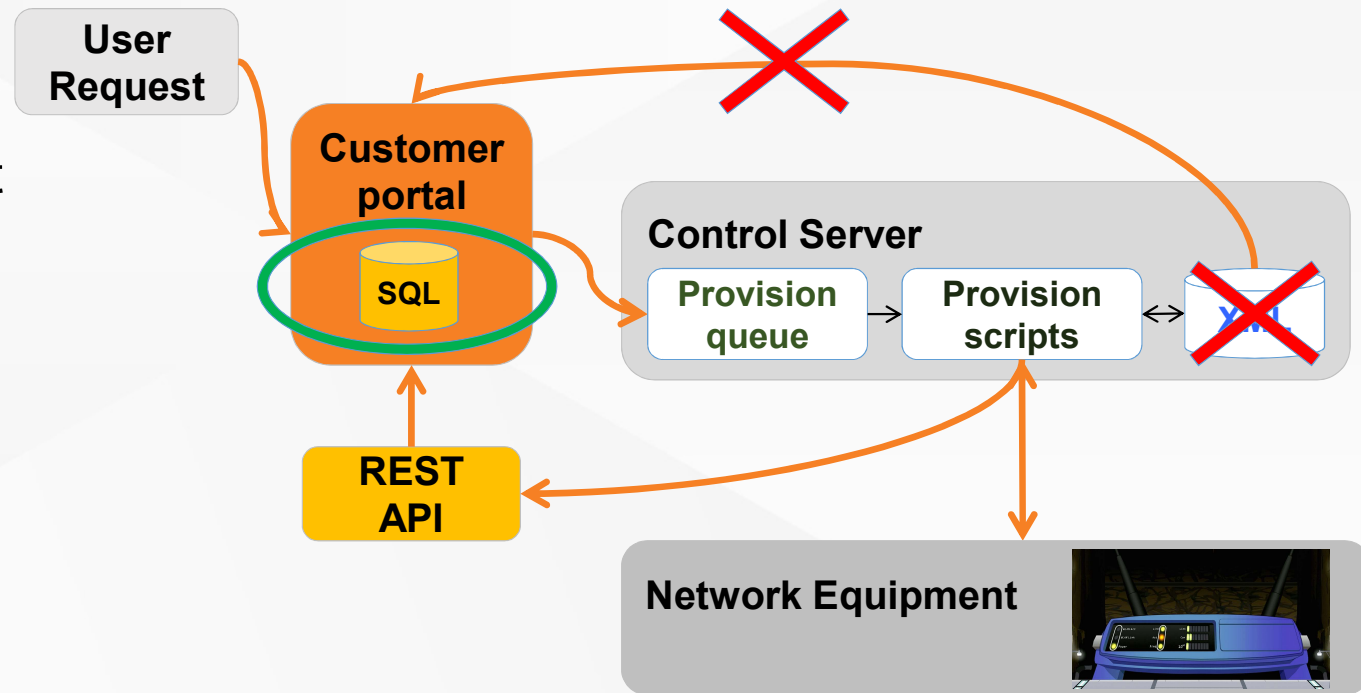
AMS-IX Autoprovision

- More details



AMS-IX Autoprovision

- Next steps:
- No XML database
- Vendor independent





AMS-IX Autoprovision

- Under the hood:
- Ruby on rails, xml & PostgreSQL database
- SNMP
 - Query port name
 - Port status
 - Port counters
 - etc.
- CLI, Perl scripts
 - Perform configuration tasks
 - A lot of checks based on “expect” scripts

AMS-IX Autoprovision Tools (1/4)



“Click of a button” via customer portal ([my.\(*.\)ams-ix.net](https://my.ams-ix.net))

Available tools:

- Perform all standard provisioning tasks (NOC & Customer Services)
 - Reserve, assign a port
 - Test a link
 - Bring it to production

AMS-IX Autoprovision Tools (2/4)



- See basic debug information (24x7 NOC, AMS-IX NOC)
 - Configured services (VLANs)
 - Switch configuration
 - Port status, optic light levels
 - Status of BGP sessions with route servers & AMS-IX routers
 - 10/100GE customers, see connected PE (primary / secondary)
 - See L2 violations & link flap logs

AMS-IX Autoprovision Tools (3/4)



- Perform basic operations (24x7 NOC, AMS-IX NOC)
 - Move customer connection from primary PE to secondary (10/100GE specific)
 - Unblock BGP sessions with route servers
 - ASN change
 - Change BGP prefix limits on route servers (WIP)
 - Move a link from production to quarantine and vice versa (WIP)
 - Disable, Enable a link (WIP)

AMS-IX Autoprovision Tools (4/4)



Tools available to the customers / resellers
(self provisioning):

- Change mac address
- Manage FQDN
- Change port from untagged to tagged (qtag id)
- Enable/disable v4/v6 BGP peering with admin ASN, Route Servers & Falcon Route Servers
- Resellers: move virtual links from one reseller link to another

AMS-IX & Megaport

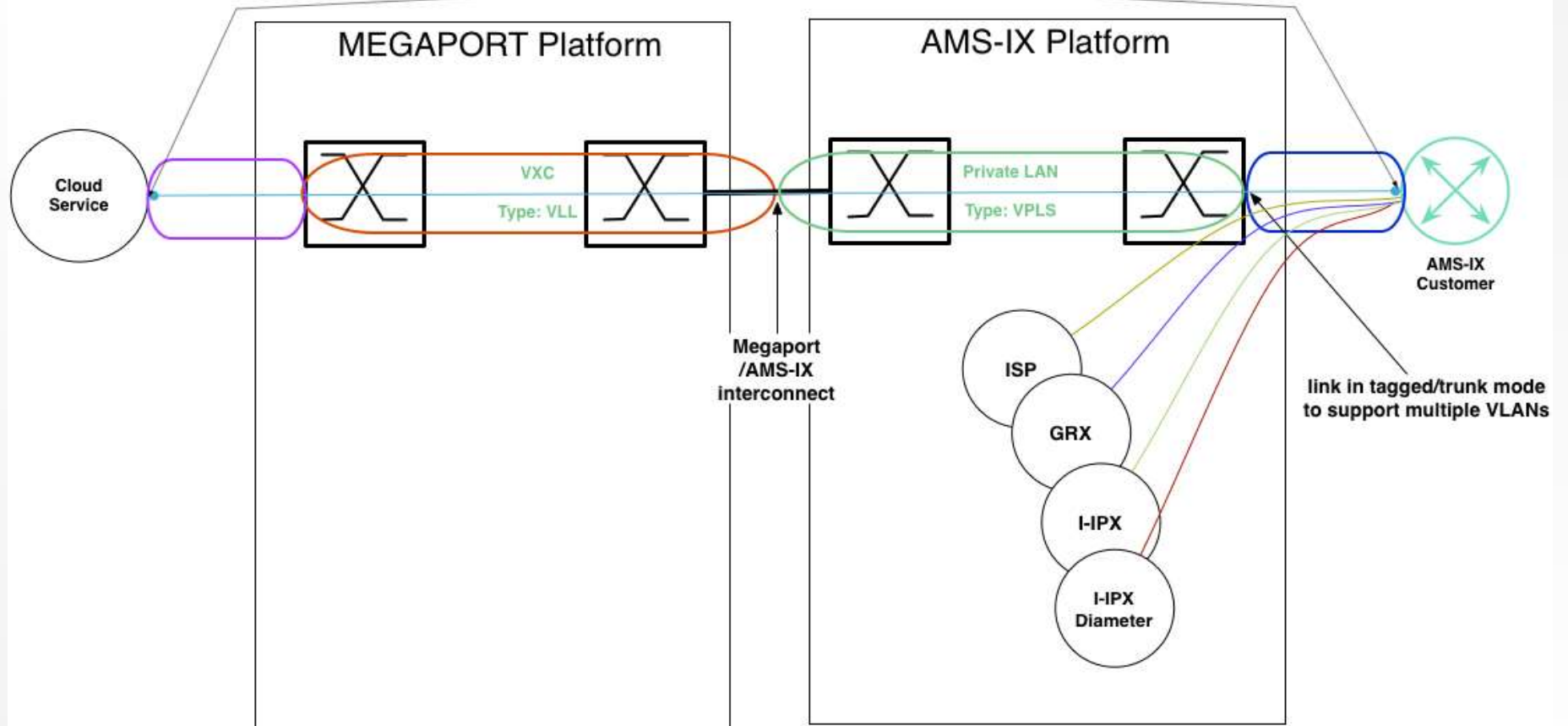


Why Megaport?

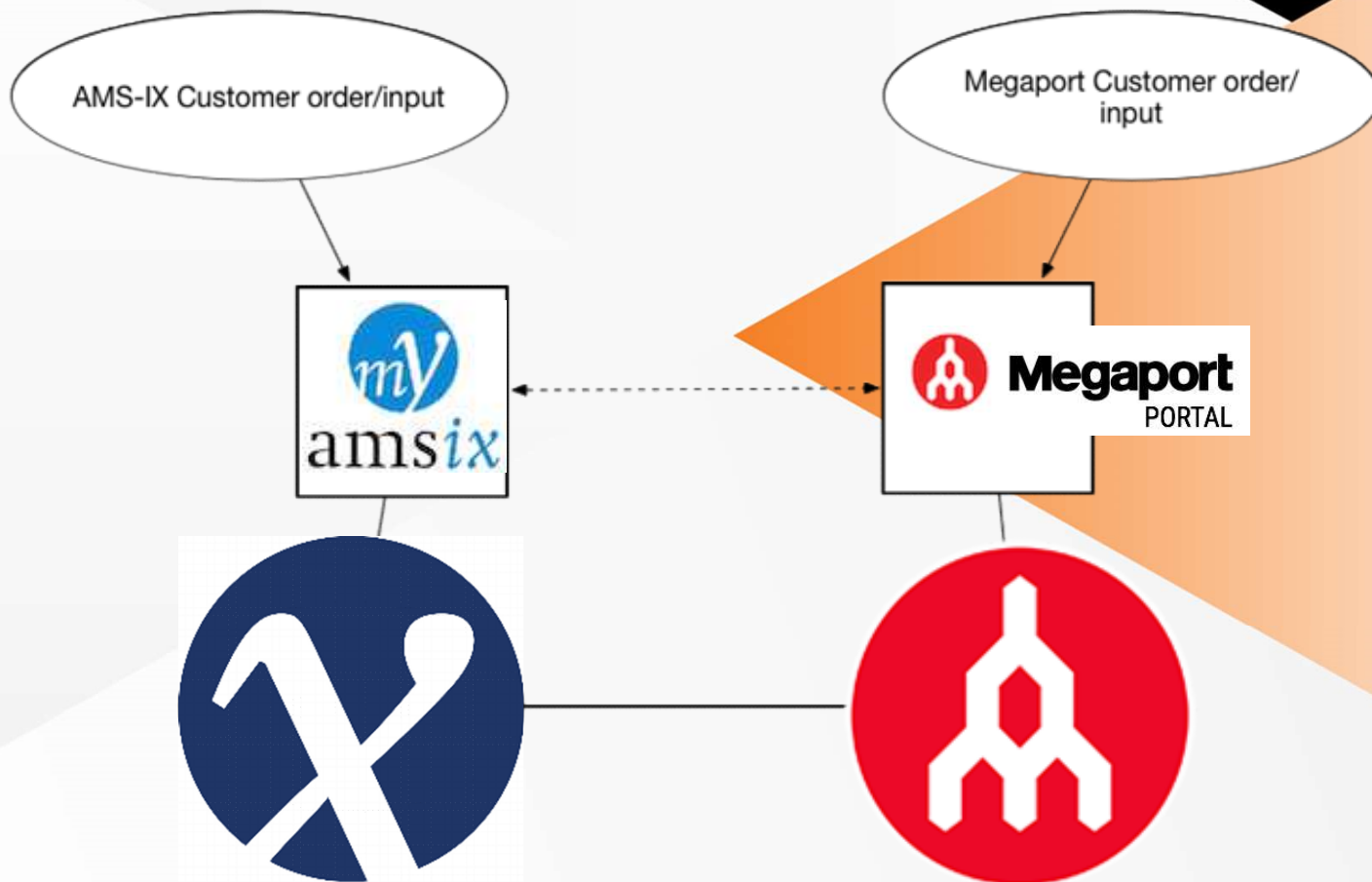


- Provide more services to customers
- Impressive automation
- Similar cultures and strategic directions
- High degree of trust between companies

Transparent Layer-2 tunnel between
AMS-IX customer and Cloud Service



Coupling the portals via API





Questions?