

AMS-IX makes the most of its connections

How one of the largest global Internet Exchanges is meeting the demand for increased bandwidth performance and network scalability while reducing network complexity and operating costs.

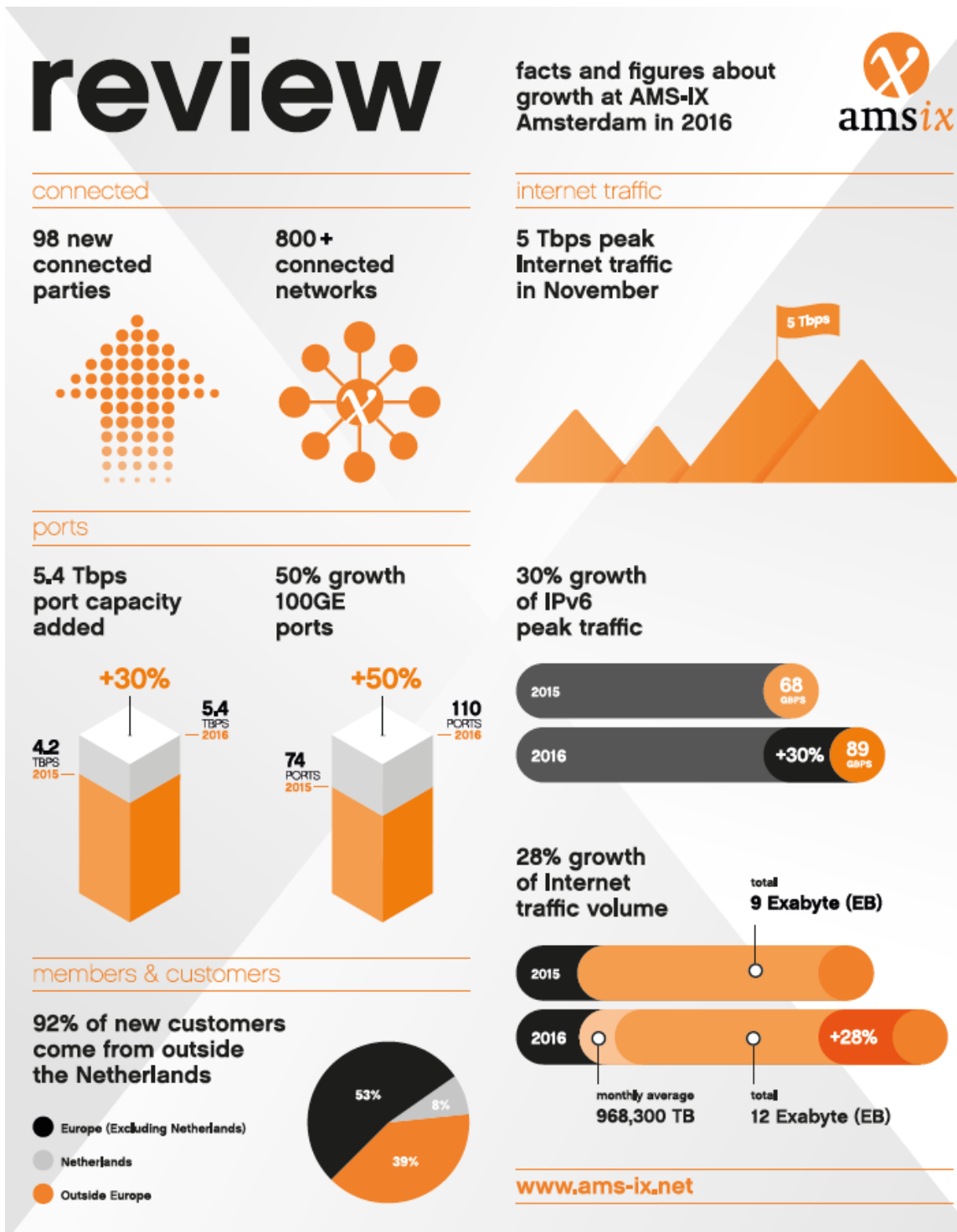
SUCCESS STORY



Established in the early 1990s as a not-for-profit organization, AMS-IX (Amsterdam Internet Exchange) is a neutral and independent Internet Exchange based in Amsterdam, the Netherlands. It currently interconnects 900+ networks and operates seven Internet Exchanges worldwide. AMS-IX offers professional IP exchange services, also called peering services. These enable networks to offer stable, fast and cost-effective Internet services to end-users and business customers.

In addition to fixed data and traditional ISPs, AMS-IX serves a very diverse and unique mix of Internet companies including international carriers, mobile operators, content providers, hosting and cloud companies, application providers, TV broadcasters, gaming companies and other related businesses - all unified in one community: AMS-IX.

AMS-IX also hosts the first mobile peering points worldwide: the Global GPRS Roaming Exchange (GRX), the Mobile Data Exchange (MDX), and the first inter-connection of IPX networks (Inter-IPX).



Project Background

AMS-IX in Amsterdam is a distributed internet exchange, currently present at 13 independent colocation facilities in the greater Amsterdam area. Each site is equipped with one or more access devices to enable connections to the AMS-IX core infrastructure. Networks connect with ports of either 1 GE (Gigabit Ethernet), 10 GE, 100 GE or multiples of these on the access devices. The core of the network was built around Brocade Networks MLX-32 switching systems.

However, in September 2016 it was decided to replace the core switches in the AMS-IX network in Amsterdam with the new Brocade SLX9850 Switch. Several of the existing core-switches had reached their limit of 64 x 100GBE interfaces used for interconnection to edge-switches located in the various colocation data centers. Furthermore, the SLX9850 offered a 4 times higher interface for connections on a much smaller footprint.

The migration of the first four MLXe-32 Core-Switches to the SLX9850 was completed during the first quarter of 2017.

The Challenge

- Achieve a substantial reduction in network complexity between the AMS-IX Exchange and multiple colocation data center facilities
- Significantly increase the scalability of the core network
- Reduce operating costs

Apart from significantly increasing the scalability and performance of the core network with the new Brocade switch, AMS-IX also wished to substantially reduce network complexity in order to realize further cost savings. As a consequence, this had important implications for the existing fiber infrastructure, necessitating a more efficient utilization of the dark fiber infrastructure between the core and access switches.

The Cabling Infrastructure Solution

For some time AMS-IX has relied on Rosenberger OSI for providing physical layer infrastructure solutions including fiber patch cords. It was therefore an obvious decision to turn once again to Rosenberger OSI for help on how best to enhance and optimize the existing fiber network infrastructure.

Rosenberger OSI subsequently specified its OM4 industry standard PreCONNECT® OCTO cables. OCTO is developed for the 40/100GBE-SR4 parallel optic protocol and/or GFC 4x16/4x32 transmission, using 8 instead of 12 fibers of the MTP® connector.

The use of the MTP® connector made it no longer necessary to install expensive MTP® cassette modules in 19" panels. Thanks to the smaller number of fibers and the elimination of the cassettes, significant cost savings and reduced attenuation on the Parallel Optics transmission channels was possible.

The system comprises MTP® trunks (male), patch cords (female), and type B adapters for Multimode and type A adapters for Singlemode in SMAP-G2 panels.



Business Benefits

- A quadrupling of the available number of 100GE interfaces
- A future-proofed, scalable network infrastructure which can keep pace with growing bandwidth requirements and network traffic
- The fit for purpose cabling solution optimizes ROI in the new high speed switching technology
- The plug & play cabling solution facilitated migration by allowing the network to be used immediately without restriction following the integration of new components
- A significant reduction in overall operating costs through greater efficiencies in utilization of space, power consumption and dark fiber infrastructure

“The undertaking of this important project is in line with our usual high standards and requirements. We have prepared the AMS-IX infrastructure for the future, not only to support our continued growth, but also to meet the ongoing demand for more bandwidth in order to manage growing data traffic through the deployment of state-of-the-art high speed optical networking solutions including 100GE. At the same time we are able to conduct our operations more efficiently and cost-effectively.”

Henk Steenman, CTO of AMS-IX

Summary

The migration of the initial four Brocade MLX32-e Switches to the new Brocade SLX 9850 Switch presented no problems. Within the first three weeks of service the new infrastructure had successfully processed 1.6 Tbps of traffic. Rosenberger OSI's standards-based plug and play cabling solution played an important part in facilitating the smooth migration path, achieved in only three months.

AMS-IX and the multiple colocation facilities based in Amsterdam have quickly been able to take advantage of the upgraded and enhanced infrastructure, in the sure knowledge it will keep pace with the ever growing demands of carriers and internet service providers in the years to come.

About AMS-IX

AMS-IX (Amsterdam Internet Exchange) was founded in the early 90s as non-profit, neutral, and independent internet exchange in Amsterdam. Nowadays, AMS-IX processes over 5 Terabits of internet traffic per second during peak hours, and over 800 IP-networks are connected to their platform, making it one of the largest Internet Exchanges in the world.

The AMS-IX platform offers IP interconnection- and peering services of guaranteed high quality for all types of IP traffic, whether this be traditional data, Voice-over-IP, mobile traffic, or video. These networks can provide their end-users (consumers as well as businesses) with stable, fast, and cost-efficient internet services through peering.

AMS-IX also manages the world's first mobile peering points: the Global Roaming Exchange (GRX), the Mobile Data Exchange (MDX), and the IPX connection point. Additionally, AMS-IX manages another three Internet Exchanges abroad: AMS-IX Hong Kong, AMS-IX India, and AMS-IX Caribbean located in Curaçao. AMS-IX's subsidiary AMS-IX USA Inc. manages AMS-IX Bay Area, AMS-IX Chicago and AMS-IX New York in the United States.

www.ams-ix.net.



About Rosenberger OSI:

Since 1991, Rosenberger Optical Solutions & Infrastructure (Rosenberger OSI) has been an expert in innovative fiber optic cabling infrastructure and service solutions for Datacom, Telecom and Industrial.

The products and services can be found wherever largest amounts of data have to be transferred quickly and securely. In addition to the development and production of a broad portfolio of fiber optic and copper cabling systems, Rosenberger OSI also offers a variety of services such as planning, installation and maintenance of cabling infrastructure. Rosenberger OSI employs about 600 people in Europe and has been a part of the globally operating Rosenberger Group since 1998, a worldwide leading provider of high-frequency-, high-voltage-, and fiber-optic-connection solutions headquartered in Germany.

For further information, please visit: www.rosenberger.com/osi

Rosenberger

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