



euro-IX

Internet Exchange Points

2015 Report



Contents

| | |
|--|-----------|
| 1. Introduction | 3 |
| 1.1 Foreword | 3 |
| 1.2 Notes on this report | 3 |
| 1.3 Internet Exchange Point (IXP) | 3 |
| 2. About Euro-IX | 4 |
| 2.1 List of Euro-IX Standard Members in 2015 | 5 |
| 2.2 List of Euro-IX Associate Members in 2015 | 6 |
| 2.3 List of Euro-IX Remote Members (Europe) | 6 |
| 2.4 List of Euro-IX Remote Members (outside of Europe) | 6 |
| 2.5 List of Euro-IX Patrons in 2015 | 7 |
| 3. IXPs in Europe | 8 |
| 3.1 Number of operational IXPs in Europe | 8 |
| 3.2 Number of connected parties in Europe | 9 |
| 3.3 Traffic Statistics in Europe | 11 |
| 4. IXP Switching Platform Technology | 13 |
| 4.1 Switches and/or routers in use within Euro-IX Membership in Europe | 13 |
| 4.2 Route Servers in use within Euro-IX Membership in Europe | 14 |
| 5. Conclusion | 15 |

1. Introduction

1.1 Foreword

This report has been compiled by the European Internet Exchange Association (Euro-IX) to give an overview of the IXPs situation in Europe.

Notes on this report

- Not all IXPs make their traffic statistics publicly available and no attempts at estimates were made where true figures were not presented.
- All information has been gathered on a best effort basis and relies on the information that is provided by individual IXPs. Therefore all information contained in this report is only as accurate as the information that has been published by these IXPs. If you are planning to base your decision on the information contained in this report, we strongly advise to check the information against up-to-date data.
- Not all IXPs measure their peak traffic using the same periodic average. While the majority of IXPs choose to take samples every five minutes, some have chosen to take these samples more or less frequently.
- A best effort was made to list all known operational IXPs in Europe. However we may be unaware of the existence of some IXPs and thus they do not appear in the list (Appendix 1). We welcome any information about IXPs missing from this report.
- Some IXPs that were listed in the 2014 report have not been included in the 2015 one due to the fact that either no contact could be made with them to verify if they are still operational, they have no working website or we have received information that they are no longer operational.

1.2 Internet Exchange Point (IXP)

Euro-IX has accepted the industry definition of an IXP as being:

“An Internet Exchange Point (IXP) is a network facility that enables the interconnection and exchange of Internet traffic between more than two independent Autonomous Systems. An IXP provides interconnection only for Autonomous Systems. An IXP does not require the Internet traffic passing between any pair of participating Autonomous Systems to pass through any third Autonomous System, nor does it alter or otherwise interfere with such traffic.”

2. About Euro-IX

The European Internet Exchange Association (Euro-IX) was formed in May 2001 with the intention to further develop, strengthen and improve the Internet Exchange Point (IXP) community.

A number of IXPs recognised a need to combine their resources so as to coordinate technical standards across the continent, develop common procedures, as well as share and publish statistics and other information. This publishing of information would in turn give all interested parties a better insight into the world of IXPs.

Euro-IX was originally set-up as a discussion forum for European based IXPs. However as interest started to grow from other regions it seemed a natural progression for Euro-IX to expand beyond its original boundaries. Thus in January 2005, Euro-IX decided to open its doors to IXPs from outside Europe, allowing them to join the association as "Associate Members".

In 2009, the association introduced the "Remote Member" category, intended for IXPs from outside Europe that would like to affiliate themselves with Euro-IX, but do not envisage attending Euro-IX forums on a regular basis. As of 2011, the "Remote Member" category is also open to European IXPs.

By the end of 2015, Euro-IX counted 77 Members and 13 Patrons from the IXP-related equipment-vendor and colocation sectors of the community. The 77 member IXPs are from 50 countries and the affiliations are as follows:

- Standard Members: 44 IXPs from 29 countries
- Associate Members: 9 IXPs from 4 countries (Brazil, India, Japan and USA).
- Remote Members: 25 IXPs from 21 countries, including 9 IXPs from Europe (Bulgaria, Finland, Germany, Iceland, Italy, Luxembourg and Ukraine), 10 from the Af-IX region (Angola, Congo, Kenya, Mozambique, Nigeria, South Africa, Tanzania, Tunisia, Zambia), 3 IXPs from North America (Canada and United States), 2 IXPs from the APIX region (Australia and Nepal) and 1 IXP from the LAC-IX region (Curacao).

List of Euro-IX Standard Members in 2015

| | IXP Name | Country |
|----|-----------|----------------------|
| 1 | ALB-IX | Albania |
| 2 | AMS-IX | Netherlands |
| 3 | ARMIX | Armenia |
| 4 | BCIX | Germany |
| 5 | BIX | Hungary |
| 6 | BIX.BG | Bulgaria |
| 7 | BNIX | Belgium |
| 8 | CATNIX | Spain |
| 9 | CIX | Croatia |
| 10 | CIXP | Switzerland |
| 11 | DE-CIX | Germany |
| 12 | DIX | Denmark |
| 13 | ECIX | Germany |
| 14 | Equinix | Switzerland |
| 15 | FICIX | Finland |
| 16 | France-IX | France |
| 17 | GigaPix | Portugal |
| 18 | GR-IX | Greece |
| 19 | INEX | Ireland |
| 20 | InterLAN | Romania |
| 21 | IXLeeds | United Kingdom |
| 22 | KOSIX | Kosovo |
| 23 | LINX | United Kingdom |
| 24 | LONAP | United Kingdom |
| 25 | LyonIX | France |
| 26 | MIX-IT | Italy |
| 27 | MSK-IX | Russian Federation |
| 28 | NaMeX | Italy |
| 29 | Netnod | Sweden |
| 30 | NIX | Norway |
| 31 | NIX.CZ | Czech Republic |
| 32 | NL-ix | Netherlands |
| 33 | PLIX | Poland |
| 34 | SFINX | France |
| 35 | SIX | Slovenia |
| 36 | SOX | Serbia |
| 37 | SwissIX | Switzerland |
| 38 | ThinX | Poland |
| 39 | TOP-IX | Italy |
| 40 | TOUIX | France |
| 41 | TPIX | Poland |
| 42 | UAE-IX | United Arab Emirates |
| 43 | VIX | Austria |
| 44 | VSIX | Italy |

List of Euro-IX Associate Members in 2015

| | IXP Name | Country |
|---|----------------|--------------------------|
| 1 | BBIX | Japan |
| 2 | CyrusOne | United States of America |
| 4 | JPIX | Japan |
| 5 | JPNAP | Japan |
| 6 | NIXI | India |
| 7 | PTT.br (IX.br) | Brazil |
| 8 | Telx | United States of America |
| 9 | Terremark | United States of America |

List of Euro-IX Remote Members (Europe)

| | IXP Name | Country |
|---|----------------|------------|
| 1 | DE-CIX Hamburg | Germany |
| 2 | DE-CIX Munich | Germany |
| 3 | FVG-IX | Italy |
| 4 | LU-CIX | Luxembourg |
| 5 | NetIX | Bulgaria |
| 6 | RIX | Iceland |
| 7 | TIX Tuscany | Italy |
| 8 | TREX | Finland |
| 9 | UA-IX | Ukraine |

List of Euro-IX Remote Members (outside of Europe)

| | IXP Name | Country |
|----|------------------|------------------------------|
| 1 | AMS-IX Caribbean | Netherlands Antilles |
| 2 | ANGONIX | Angola |
| 4 | IXPN | Nigeria |
| 5 | JINX | South Africa |
| 6 | KINIX | Congo |
| 7 | KIXP | Kenya |
| 8 | MOZ-IX | Mozambique |
| 9 | NAPAfrica | South Africa |
| 10 | NPIX - Kathmandu | Nepal |
| 11 | OTTIX | Canada |
| 12 | TIX - Tanzania | Tanzania, United Republic of |
| 13 | TorIX | Canada |
| 14 | TunIXP | Tunisia |
| 15 | WAIX | Australia |
| 16 | ZIXP | Zambia |

List of Euro-IX Patrons in 2015

| | Organisation Name | Country |
|----|-------------------|-----------------|
| 1 | ADVA | The Netherlands |
| 2 | Alcatel-Lucent | France |
| 3 | Brocade | The Netherlands |
| 4 | BTI Systems | Canada |
| 5 | ECI | Germany |
| 6 | Extreme Networks | The Netherlands |
| 7 | FlexOptix | Germany |
| 8 | Huawei | The Netherlands |
| 9 | Interxion | The Netherlands |
| 10 | Juniper Networks | United States |
| 11 | MRV | The Netherlands |
| 12 | TelecityGroup | United Kingdom |
| 13 | Telehouse | United Kingdom |

3. IXPs in Europe

3.1 Number of operational IXPs in Europe

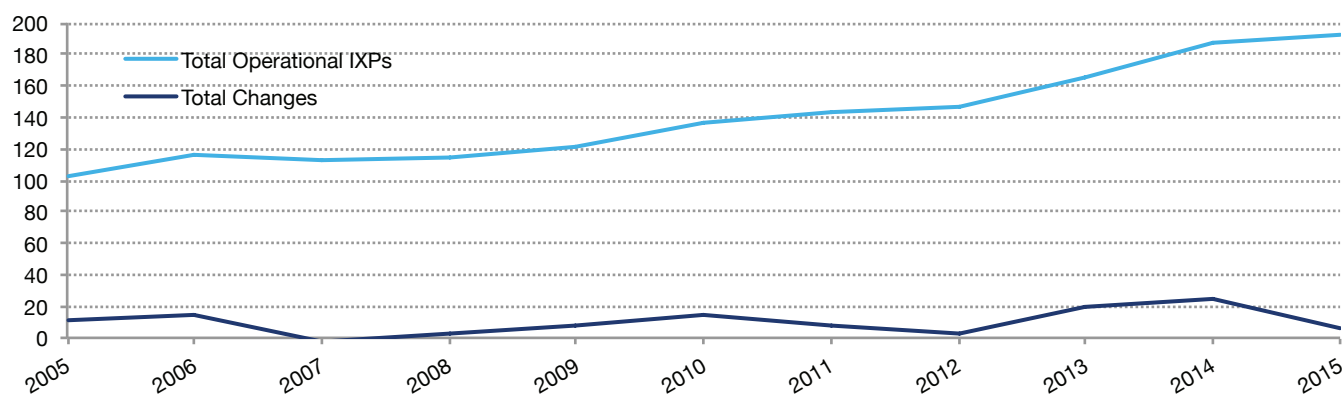
» IXP Growth in Europe over 12 years

The number of operational IXPs in Europe has increased with 89% over the past 10 years, going from 102 in 2005 to 193 in 2015. This is a 17.7% decrease from 2014.

Note: The growth of 6 IXPs in 2015 includes both newly established IXPs but also IXPs that were only identified by Euro-IX in 2015 (Source: Euro-IX IXPDB)

| YEAR | IXPS STARTED | IXPS CLOSED OR INACTIVE | GROWTH | OPERATIONAL |
|------|--------------|-------------------------|--------|-------------|
| 2005 | 11 | 0 | 11 | 102 |
| 2006 | 14 | 0 | 14 | 116 |
| 2007 | 3 | 6 | -3 | 113 |
| 2008 | 14 | 12 | 2 | 115 |
| 2009 | 12 | 5 | 7 | 122 |
| 2010 | 18 | 4 | 14 | 136 |
| 2011 | 8 | 0 | 8 | 144 |
| 2012 | 2 | 0 | 2 | 146 |
| 2013 | 22 | 2 | 20 | 166 |
| 2014 | 37 | 16 | 21 | 187 |
| 2015 | 17 | 11 | 6 | 193 |

Table 3.1.1



» Countries with the most IXPs in Europe

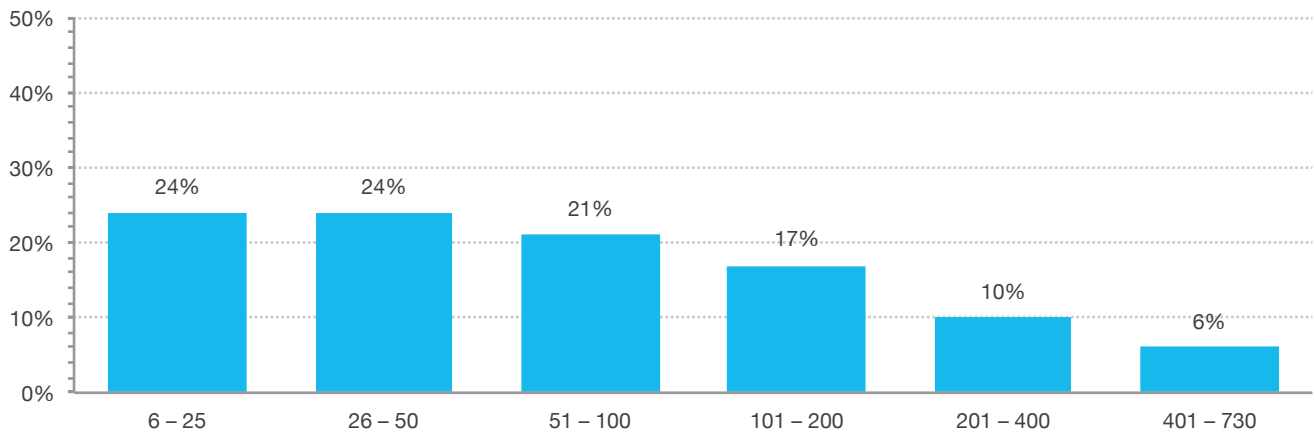
| | Country | Number of operational IXPs in 2015 |
|----|--------------------|------------------------------------|
| 1 | Russian Federation | 30 |
| 2 | Germany | 17 |
| 3 | France | 16 |
| 4 | Sweden | 13 |
| 5 | Poland | 12 |
| 6 | United Kingdom | 9 |
| 7 | Italy | 8 |
| 8 | Netherlands | 7 |
| 9 | Norway | 7 |
| 10 | Ukraine | 7 |

Table 3.1.2

3.2 Number of connected parties in Europe

» IXP Participants distribution among Euro-IX members

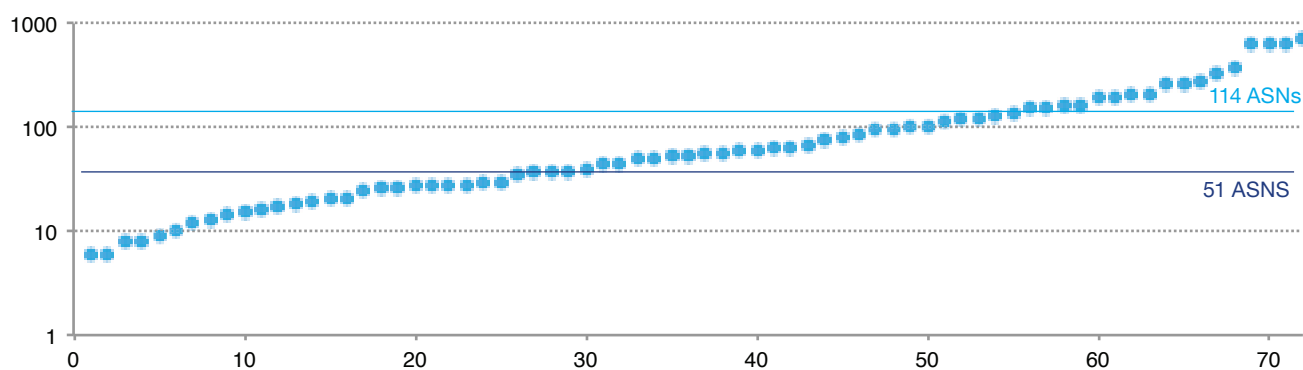
- 48% of Euro-IX members have between 6 - 50 participants.
- 21% have between 51 - 100 participants
- 17% have between 101 - 200 participants
- 10% have between 201 - 400 participants
- A 6% minority of members have between 401 - 730 participants



Graph 3.2.1

» Average number of connected ASNs per member IXP

| | Range | Average | Median |
|----------------------------|---------|---------|--------|
| number of IXP participants | 6 - 726 | 114 | 51 |



Graph 3.2.2

» Member IXPs with the most ASNs in Europe

| | IXP | Number of listed ASN |
|----|------------------|----------------------|
| 1 | AMS-IX | 726 |
| 2 | LINX | 646 |
| 3 | DE-CIX Frankfurt | 634 |
| 4 | MSK-IX | 380 |
| 5 | NL-IX | 332 |
| 6 | Equinix Paris | 283 |
| 7 | Terremark | 267 |
| 8 | France-IX Paris | 255 |
| 9 | PLIX | 204 |
| 10 | TPIX | 203 |

Table 3.2.3

3.3 Traffic Statistics in Europe

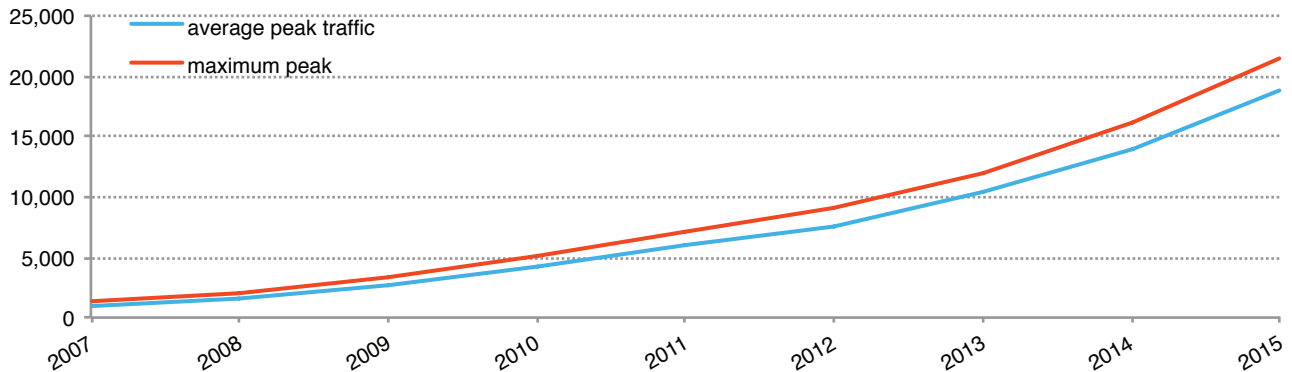
» Traffic growth over 9 years among Euro-IX membership

The average number of IXPs we collected data from went from 29 in 2007 to 55 in 2015. These include Euro-IX members and “sub-members”, i.e. other IXPs or pops operated by our members in Europe, such as IXManchester, Netnod Lulea etc.

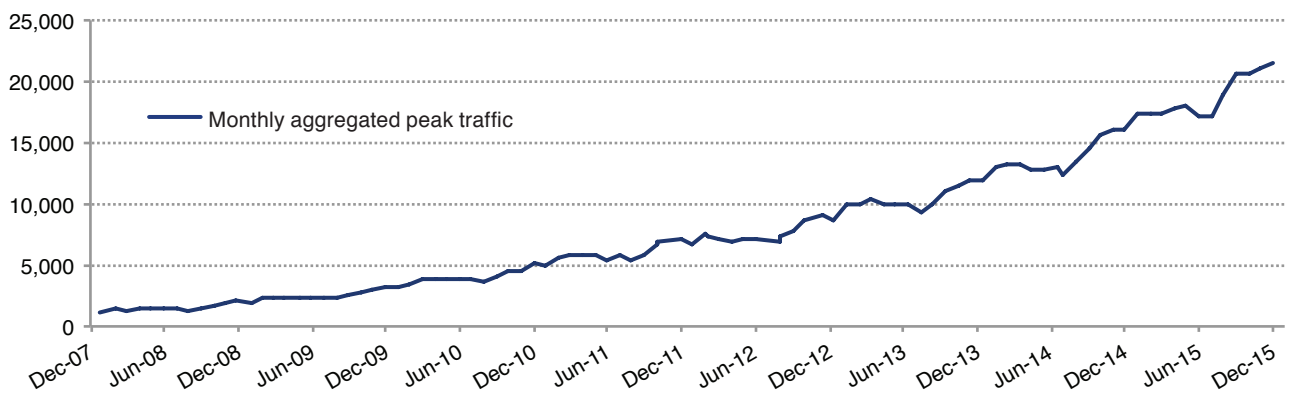
Note: the aggregated peak traffic volume is determined by collecting publicly available traffic statistics from Euro-IX Member IXPs. The Data was captured during a 12-month period, from January to December each year.

| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|--|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| Known operating IXPs in Europe | 113 | 115 | 122 | 136 | 144 | 146 | 166 | 188 | 193 |
| Number of countries in Europe with IXPs | 31 | 31 | 33 | 35 | 35 | 38 | 43 | 48 | 48 |
| Average number of IXPs we collected traffic data from in 2015 | 29 | 35 | 39 | 42 | 44 | 43 | 45 | 54 | 55 |
| Average aggregated peak traffic per year within Euro-IX membership (in Gbps) | 955 | 1,554 | 2,608 | 4,149 | 6,080 | 7,629 | 10,515 | 13,877 | 18,765 |
| Maximum aggregated peak traffic per year within the Euro-IX membership (in Gbps) | 1,275 | 2,053 | 3,288 | 5,085 | 7,072 | 9,099 | 11,903 | 16,169 | 21,469 |

Table 3.3.1



Graph 3.3.1



Graph 3.3.2

» Countries with the most traffic in Europe

| | Country | Aggregated Traffic Peaks in 2015 (in Gbps) |
|----|--------------------|--|
| 1 | Netherlands | 4,809 |
| 2 | Germany | 4,787 |
| 3 | United Kingdom | 2,699 |
| 4 | Russian Federation | 1,523 |
| 5 | Sweden | 998 |
| 6 | Poland | 714 |
| 7 | France | 496 |
| 8 | Ukraine | 346 |
| 9 | Italy | 340 |
| 10 | Czech Republic | 333 |

Table 3.3.2

» Member IXPs with the most traffic in Europe

| | IXP | Average Traffic Peak in 2015 (in Gbps) |
|----|--------------------|--|
| 1 | DE-CIX Frankfurt | 4,235 |
| 2 | AMS-IX | 3,717 |
| 3 | LINX | 2,591 |
| 4 | MSK-IX | 1,504 |
| 5 | NL-IX | 1,093 |
| 6 | Netnod - Stockholm | 962 |
| 7 | France-IX | 461 |
| 8 | PLIX | 432 |
| 9 | ECIX (all pops) | 389 |
| 10 | UA-IX | 345 |

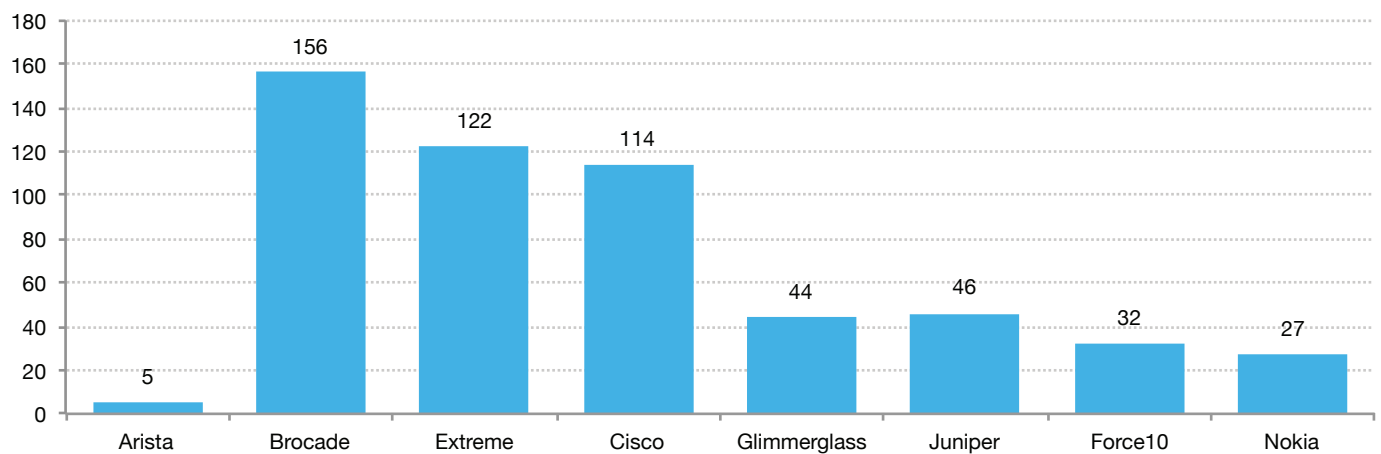
Table 3.3.3

4. IXP Switching Platform Technology

4.1 Switches and/or routers in use within Euro-IX Membership in Europe

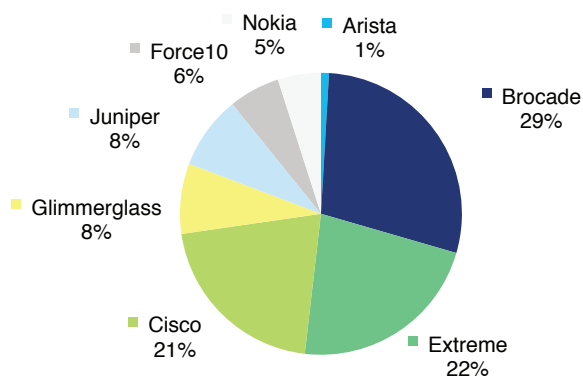
» Number of switches and/or routers in use in 2015

Data source: Euro-IX Database. This data is sent by members to Euro-IX for updates.



Graph 4.1.1

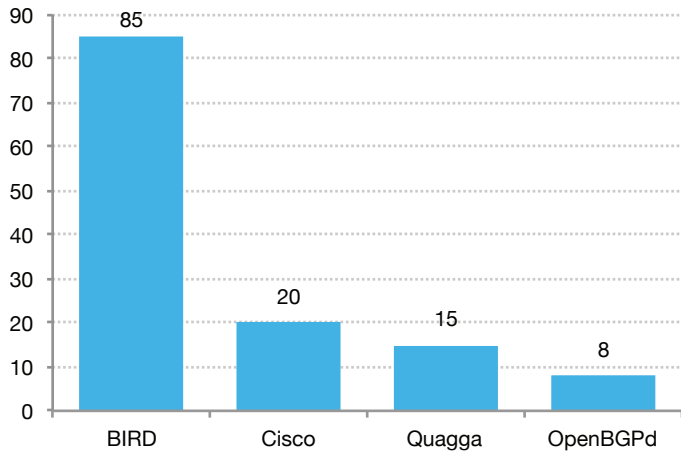
» Market Share of switch/router vendors in 2015



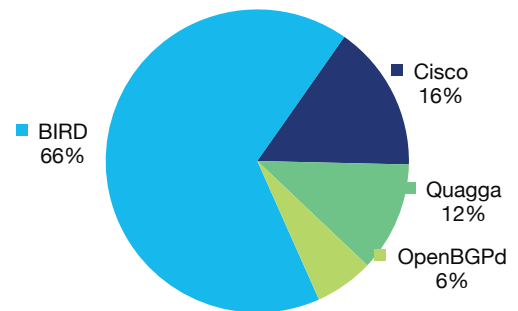
Graph 4.1.2

4.2 Route Servers in use within Euro-IX Membership in Europe

» Route Servers daemons in use in 2015

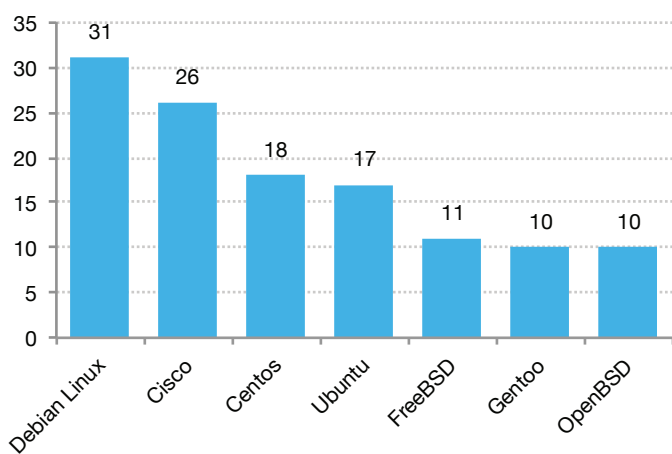


Graph 4.2.1

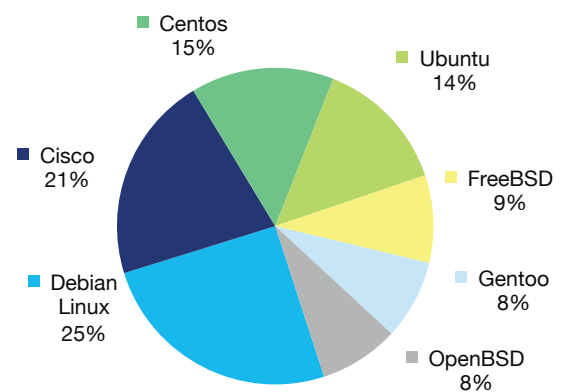


Graph 4.2.2

» Route Server operating systems in use in 2015



Graph 4.2.3



Graph 4.2.4

5. Further information

5.1 Resources

We would like to thank all affiliated Euro-IX member IXPs for committing themselves to openly exchanging information with the rest of the community via the Euro-IX website and the bi-annual Euro-IX Fora.

We additionally thank all European IXPs, and especially those that provide publically available information.

5.2 Contact

We welcome all forms of feedback and suggestions concerning this report and will do our best to answer any further requests for information.

The Euro-IX Secretariat
secretariat@euro-ix.net

Appendix 1

List of known IXPs in Europe

Note: * indicates Euro-IX Member / ** indicates Euro-IX Sub-Members (IXPs operated by our Members)

| COUNTRY | # OF IXPS | CITY | FULL NAME OF IXP | ACRONYM |
|------------------------|-----------|-------------|--|---------------------|
| Albania | 1 | | | |
| | | Tirana | Albania Internet Exchange | ALB-IX* |
| Armenia | 1 | | | |
| | | Yerevan | Armenia Internet Exchange | ARMIX* |
| Austria | 3 | | | |
| | | Graz | Grazer Internet Exchange | GraX |
| | | Klagenfurt | Alpes Adria Internet Exchange | AAIX |
| | | Vienna | Vienna Internet eXchange | VIX* |
| Bahrain | 1 | | | |
| | | Manama | Bahrain Internet Exchange | BIX - Manama |
| Belarus | 1 | | | |
| | | Minsk | Belarus National Internet Exchange Point | BYIX |
| Belgium | 1 | | | |
| | | Brussels | Belgian National Internet Exchange | BNIX* |
| Bosnia and Herzegovina | 1 | | | |
| | | Sarajevo | Bosnia Internet Exchange | BHIX |
| Bulgaria | 3 | | | |
| | | Sofia | Balkan Internet Exchange | Balkan-IX |
| | | Sofia | Bulgarian Internet Exchange | BIX.BG* |
| | | Sofia | NetIX | NetIX* |
| Croatia | 1 | | | |
| | | Zagreb | Croatian Internet eXchange | CIX* |
| Cyprus | 1 | | | |
| | | Nicosia | Cyprus Internet Exchange | CyIX |
| Czech Republic | 2 | | | |
| | | Prague | Neutral Internet eXchange of Czech Republic | NIX.CZ* |
| | | Prague | Commercial Peering Centre in Prague | Peering.cz |
| Denmark | 5 | | | |
| | | Ballerup | Danish Internet eXchange point - Ballerup | DIX - Ballerup** |
| | | Copenhagen | GlobalConnect Content-IX | Content-IX |
| | | Copenhagen | Netnod - COMIX | Netnod - COMIX** |
| | | Lyngby | Danish Internet eXchange point - Lyngby | DIX - Lyngby* |
| | | Skanderborg | Danish Internet eXchange point - Skanderborg | DIX - Skanderborg** |
| Estonia | 3 | | | |
| | | Tallinn | Tallinn Governmental Internet Exchange | RTIX |
| | | Tallinn | Tallinn Internet eXchange | TIX Tallinn |
| | | Tallinn | Tallinn Internet Exchange | TLLIX |

| | | | |
|---------|----|------------|--|
| Finland | 4 | | |
| | | Espoo | Finnish Communication and Internet Exchange |
| | | Helsinki | Finnish Communication and Internet Exchange |
| | | Oulu | Finnish Communication and Internet Exchange |
| | | Tampere | Tampere Region Exchange |
| France | 15 | | |
| | | Grenoble | Grenoble Internet Exchange Point |
| | | Lille | Lille Internet Exchange |
| | | Lyon | Lyon Global Internet Exchange |
| | | Marseille | France Internet Exchange - Marseille |
| | | Marseille | Deutscher Commercial Internet Exchange |
| | | Nice | Nice Internet eXchange |
| | | Paris | Equinix Internet Exchange - Paris |
| | | Paris | French National Internet Exchange IPv6 |
| | | Paris | France Internet Exchange |
| | | Paris | Free Internet Exchange |
| | | Paris | MIXT |
| | | Paris | Paris Internet Exchange |
| | | Paris | POUIX |
| | | Paris | Service for French Internet eXchange |
| | | Strasbourg | European Global Internet eXchange |
| | | Toulouse | GIX de la grande region Toulousaine |
| Germany | 15 | | |
| | | Berlin | Berlin Commercial Internet Exchange |
| | | Berlin | Europeen Commercial Internet Exchange - Berlin |
| | | Bremen | Bremen Internet Exchange |
| | | Dortmund | Dortmund Internet Exchange |
| | | Düsseldorf | European Commercial Internet Exchange - Dusseldorf |
| | | Düsseldorf | OpenCarrier e.G. Member IX Dusseldorf |
| | | Frankfurt | Deutscher Commercial Internet Exchange |
| | | Frankfurt | European Commercial Internet Exchange - Frankfurt |
| | | Frankfurt | Kleyer Rebstocker EXchange |
| | | Hamburg | Deutscher Commercial Internet Exchange |
| | | Hamburg | Europeen Commercial Internet Exchange - Hamburg |
| | | Munich | Deutscher Commercial Internet Exchange |
| | | Munich | Internet Exchange Point in Munich |
| | | Nurnberg | Nurnberger Internet eXchange |
| | | Stuttgart | Stuttgarter internet eXchange |
| Greece | 1 | | |
| | | Athens | Greek Internet Exchange |
| Hungary | 1 | | |
| | | Budapest | Budapest Internet eXchange |
| Iceland | 1 | | |
| | | Reykjavik | Reykjavik Internet Exchange |
| Ireland | 3 | | |
| | | Cork | Cork Neutral Internet Exchange |
| | | Dublin | Internet Neutral EXchange |
| | | Galway | eXchange West |
| Israel | 1 | | |
| | | Tel-Aviv | Israeli Internet eXchange |

| | | | |
|---------------------------------|---|------------|---|
| Italy | 7 | | |
| | | Florence | Tuscany Internet eXchange |
| | | Milan | Milan Neutral Access Point |
| | | Milan | Milan Internet eXchange |
| | | Padova | VSIX Nap del Nord Est |
| | | Rome | Nautilus Mediterranean Exchange Point |
| | | Torino | Torino Piemonte Exchange Point |
| | | Udine | Friuli Venezia Giulia Internet eXchange |
| Kazakhstan | 1 | | |
| | | Almaty | Kazakhstan Traffic Exchange |
| Kosovo | 1 | | |
| | | Prishtinë | Kosovo Internet Exchange Point |
| Latvia | 2 | | |
| | | Riga | Latvian Internet eXchange |
| | | Riga | Santa Monica Internet Local Exchange |
| Lebanon | 1 | | |
| | | Beirut | Beirut Internet Exchange |
| Liechtenstein | 1 | | |
| | | Eschen | Rheintal IX Internet Exchange |
| Lithuania | 2 | | |
| | | Vilnius | Lietuvos Interneto paslaugų tiekėjų apsikeitimo mazgu |
| | | Vilnius | Lithuania Internet Exchange |
| Luxembourg | 1 | | |
| | | Luxembourg | Luxembourg Commercial Internet Exchange |
| Macedonia | 1 | | |
| | | Skopje | Macedonian Internet Exchange |
| Malta | 1 | | |
| | | Msida | Malta Internet Exchange |
| Moldova, Republic of | 1 | | |
| | | Chisinau | Internet eXchange Moldova |
| Netherlands | 7 | | |
| | | Amsterdam | Amsterdam Internet Exchange |
| | | Emmen | Zuid Oost Drentse Internet eXchange |
| | | Enschede | Nederlands-Duitse Internet Exchange |
| | | Groningen | Groningen Internet Exchange |
| | | Leeuwarden | Friese Internet Exchange |
| | | Rotterdam | Rotterdam Internet Exchange |
| | | The Hague | Netherlands Internet Exchange |
| Norway | 7 | | |
| | | Bergen | Bergen Internet Exchange |
| | | Oslo | Free Internet eXchange Oslo |
| | | Oslo | Norwegian Internet eXchange |
| | | Oslo | Norwegian Internet eXchange |
| | | Stavanger | Stavanger Internet Exchange |
| | | Tromsø | Tromsø Internet Exchange |
| | | Trondheim | Trondheim Internet Exchange |
| Palestinian Territory, Occupied | 1 | | |
| | | Ramallah | Palestine Internet Exchange |

| | | | |
|--------------------|----|-----------------|---|
| Poland | 12 | | |
| | | Gdansk | Gdansk Internet eXchange |
| | | Katowice | E-Poludnie Internet Exchange - Katowice |
| | | Krakow | Cracow Internet Exchange |
| | | Lodz | Lodz Telecommunication Node |
| | | Lodz | Lodz Internet Exchange |
| | | Poznan | Poznan Internet Exchange |
| | | Warsaw | KIX - Poland |
| | | Warsaw | Polish Internet Exchange |
| | | Warsaw | Thinx Poland |
| | | Warsaw | Orange Polska Internet Exchange |
| | | Warsaw | Warsaw Internet eXchange |
| | | Warsaw | E-Poludnie Internet Exchange - Warszawa |
| | | | GIX Gdansk |
| | | | EPIX Katowice |
| | | | CIX KR |
| | | | IX.LODZ.PL |
| | | | LIX - Poland |
| | | | PIX |
| | | | KIX - Poland |
| | | | PLIX* |
| | | | Thinx Poland* |
| | | | TPIX* |
| | | | WIX - Poland |
| | | | EPIX Warszawa |
| Portugal | 1 | | |
| | | Lisbon | GIGAbit Portuguese Internet eXchange |
| | | | GigaPix* |
| Romania | 4 | | |
| | | Bucharest | Balcans Internet Exchange |
| | | Bucharest | InterLAN IX |
| | | Bucharest | Romanian Network for Internet eXchange |
| | | Constanta | Tomis Internet Exchange |
| | | | Balcan-IX |
| | | | InterLAN* |
| | | | RoNIX |
| | | | Tomix |
| Russian Federation | 28 | | |
| | | Chelyabinsk | Chelyabinsk Peering Point |
| | | Ekaterinburg | Ekaterinburg Internet Exchange |
| | | Ekaterinburg | Ural-IX |
| | | Kazan | Kazan Internet Exchange |
| | | Khabarovsk | DataIX - Khabarovsk |
| | | Krasnodar | South Russia IX |
| | | Krasnoyarsk | Krasnoyarsk Internet Exchange |
| | | Moscow | DataIX - Moscow |
| | | Moscow | MPIX |
| | | Moscow | Moscow Internet Exchange |
| | | Nizhny Novgorod | IX of Nizhny Novgorod |
| | | Novosibirsk | DataIX - Novosibirsk |
| | | Novosibirsk | Novosibirsk Internet eXchange |
| | | Omsk | OMSK-IX |
| | | Perm | Perm Internet Exchange |
| | | Rostov on Don | Rostov on Don Internet Exchange |
| | | Samara | Samara-IX |
| | | Saratov | Saratov Internet Exchange |
| | | St Petersburg | DataIX - St Petersburg |
| | | St. Petersburg | PIRIX Internet Exchange |
| | | St.-Petersburg | St. Petersburg Internet eXchange |
| | | Simferopol | Crimea-IX |
| | | Stavropol | Stavropol Internet eXchange |
| | | Ufa | DataIX - Ufa |
| | | Ulyanovsk | Ulyanovsk Internet Exchange |
| | | Vladivostok | Vladivostok Internet Exchange |
| | | Voronezh | Voronezh Internet Exchange |
| | | Yaroslavl | Yaroslavl Internet Exchange |
| | | | CHEL-PP |
| | | | EKT-IX** |
| | | | Ural-IX |
| | | | KZN-IX** |
| | | | DataIX - Khabarovsk |
| | | | Sea-IX |
| | | | KRS-IX |
| | | | DataIX - Moscow |
| | | | MPIX |
| | | | MSK-IX* |
| | | | IX-NN |
| | | | DataIX - Novosibirsk |
| | | | NSK-IX** |
| | | | OMSK-IX |
| | | | PERM-IX |
| | | | RND-IX** |
| | | | SMR-IX** |
| | | | SARATOV-IX |
| | | | DataIX-St Petersburg |
| | | | PIRIX |
| | | | SPB-IX** |
| | | | Crimea-IX |
| | | | STW-IX** |
| | | | DataIX - Ufa |
| | | | ULN-IX |
| | | | VLV-IX** |
| | | | VRZ-IX** |
| | | | YAR-IX |
| Serbia | 1 | | |
| | | Belgrade | Serbian Open eXchange |
| | | | SOX* |

| | | | |
|----------------------|-------------|--|-----------------------|
| Slovakia | | 3 | |
| | Bratislava | Sitel Internet eXchange | Sitelix |
| | Bratislava | Slovak Internet eXchange- Bratislava | SIX - Bratislava |
| | Bratislava | Neutral Internet eXchange of Slovakia | NIX.SK |
| | Kosice | Slovak Internet eXchange- Kosice | SIX - Kosice |
| Slovenia | | 1 | |
| | Ljubljana | Slovenian Internet Exchange | SIX* |
| Spain | | 5 | |
| | Barcelona | Catalunya Neutral Internet Exchange | CATNIX* |
| | Bilboa | Punto neutro Vasco de Internet | EuskoNIX |
| | Madrid | Espana Internet Exchange | ESPANIX |
| | Santiago | Galicia Neutral Internet eXchange | GalNIX |
| Sweden | | 12 | |
| | Boras | Boras Internet Exchange | BOR-IX |
| | Gävle | Regional Internet Exchange Gästrikland-Hälsingland | RIX-GH |
| | Gothenburg | Gothenburg Internet Exchange | GIX |
| | Gothenburg | Internet Exchange i Sverige - Gothenburg | Netnod - Gothenburg** |
| | Lulea | Internet Exchange i Sverige - Lulea | Netnod - Lulea** |
| | Malmoe | Internet eXchange point of the Oresund Region | IXOR |
| | Malmoe | Internet Exchange i Sverige - Malmoe | Netnod - Malmoe** |
| | Stockholm | Internet Exchange i Sverige - Stockholm | Netnod - Stockholm* |
| | Stockholm | SOLIX | SOLIX - Stockholm |
| | Stockholm | Stockholm Internet Exchange | STHIX* |
| | Sundsvall | Internet Exchange i Sverige - Sundsvall | Netnod - Sundsvall** |
| | Umea | NorrNod | NorrNod |
| | Uppsala | Uppsala regional Internet exchange | UppRIX |
| Switzerland | | 3 | |
| | Geneva | CERN Internet eXchange Point | CIXP* |
| | Zurich | Equinix-Switzerland | Equinix Zurich* |
| | Zurich | Swiss Internet Exchange | SwissIX* |
| Turkey | | 1 | |
| | Istanbul | Deutscher Commercial Internet Exchange | DE-CIX Istanbul |
| Ukraine | | 7 | |
| | Donetsk | Donetsk Internet Exchange | DN-IX |
| | Kharkov | Kharkov Internet Exchange | KH-IX |
| | Khmelnyskiy | Khmelnysky traffic exchange network | KM-IX |
| | Kiev | Digital Telecom Internet Exchange | DTEL-IX |
| | Kiev | Giganet | Giganet |
| | Kiev | Ukrainian Internet Exchange | UA-IX* |
| | Odessa | Odessa Traffic Exchange Network | Od-IX |
| United Arab Emirates | | 3 | |
| | Abu Dhabi | | EMIX |
| | Dubai | | UAE-IX* |
| | Dubai | | SmarthubIX |
| United Kingdom | | 10 | |
| | Cardiff | IXCardiff | IXCardiff** |
| | Edinburgh | IXScotland | IXScotland** |
| | Leeds | IXLeeds | IXLeeds* |
| | London | London Internet Exchange | LINX* |
| | London | London Network Access Point | LONAP* |
| | London | Packet Exchange | Packet Exchange |
| | London | XchangePoint | XchangePoint |

Appendix 2

- Europe
- Countries outside Europe

