Euro-IX update

APNIC 19 - IX SIG

Kyoto Japan

by Serge Radovcic of Euro-IX

What is Euro-IX?

- Euro-IX = European Internet Exchange Association

- Formed in May 2001

- Established with three main objectives in mind:
    1. To act as a portal for organizations looking to join an IXP
    2. To educate the general community
    3. To provide a platform for IXPs to exchange information and come together to resolve common industry related issues

- As Euro-IX evolved the last of the three objectives seemed to take priority

- As of the 1st of January 2005 our membership agreed to invited IXPs from around the world to join Euro-IX

- Euro-IX is **<u>NOT</u>** an Internet Exchange Point!
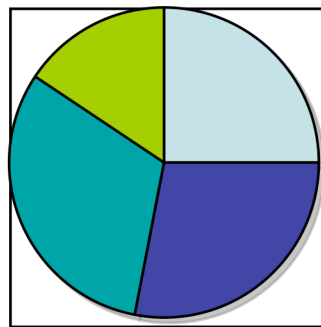
Some statistics (1)

- 34 Affiliated IXPs
- (32 European, 1 Asian and 1 American)
- 22 countries represented (on 3 continents :-)
- Total aggregated peak traffic of European member IXPs is just under 280Gpbs and rising

  (this was 155Gbps at the end of February 2004)

  – Of the publicly viewable stats this equates to about 10Gbps per IXP

  (with 2 IXPs now peaking at over 50Gbps)

- 8 European member IXPs are now offering 10GE port services

Some statistics (2)

- Total membership customer base is about 1.800 connectees with approx 1.100 unique ASNs
  - 3 ASNs are connected at more than 12 different IXPs

- Average of 155 Mbps peak traffic per customer

- Average cost for a 1GE port in Europe is:
  880 EUR / 120.000 JPY / 1.150 USD per month
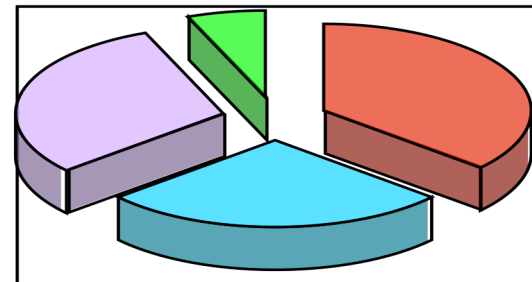 (this is exclusive of housing and transit costs)

Make up of our membership
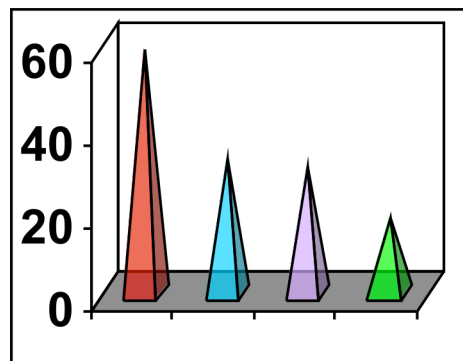
IXP Size (Traffic/Customers)

- Small
- Medium
- Large
- V Large

IXP Age (Establishment date)

- '00 - 02
- '97 - '99
- '94 - '96
- 1993

IXP Switching fabric

- Cisco
- Extreme
- Foundry
- Other

Other variants ….

- Financial models (79% Non for profit)
- Topologies
- Customer base

Euro-IX offers its members (1)

- A network/community of 34 IXPs
- Biannual meetings (Euro-IX Forums)
  - More than 30 IXPs in one room discussing IXP specific topics (both technical and organisational)
- Web portal for ISPs looking for IXPs
  - All members have the ability to keep their IXP information up to date on the Euro-IX website
- Regulatory services
  - Part time regulatory officer who directs us to and explains relevant laws that may effect IXPs

Euro-IX offers its members (2)

- Conferencing services facilities
  - Euro-IX has a dedicated server which runs conferencing software that our members are free to use for IXP related discussions
- Benchmarking club
  - Newly introduced initiative to allow members to compare certain performance aspects of their IXPs
- Mailing lists
- A number of information repositories:
  - Member developed network monitoring tools
  - Maintenance diary
  - Euro-IX Switch DB
  - Euro-IX Staff eXchange DB

IXP Switch DB

(currently 142 separate entries)

IXP	Switch Name	Vendor	Model	Software	Further info.
AIX	switch.aix.gr	Cisco	4006	7.6(1)	Details
AMS-IX	esw-sar-01	Foundry	BigIron 15000	07.6.05gT51	Details
AMS-IX	esw-nik-01	Foundry	BigIron 15000	07.6.05gT51	Details
AMS-IX	esw-tel-01	Foundry	BigIron 15000	07.6.05gT51	Details
AMS-IX	esw-glo-01	Foundry	BigIron 15000	07.6.05gT51	Details
AMS-IX	csw-nik-02	Foundry	BigIron MG8	1.1.2aT101	Details
AMS-IX	psw-tel-01	Glimmerglass	System 300	R01.04p005	Details
AMS-IX	csw-tel-02	Foundry	BigIron MG8	1.1.2aT101	Details
AMS-IX	psw-nik-01	Glimmerglass	System 300	R01.03p003	Details
BNIX	cat6509-belnet	Cisco	Catalyst 6509	IOS 12.2(17d)SXB1	Details
BNIX	cat6509-interxion	Cisco	Catalyst 6509	IOS 12.2(17d)SXB1	Details
BNIX	cat6509-level3	Cisco	Catalyst 6509	IOS 12.2(17d)SXB1	Details
CATNIX	pn-6506	Cisco	Catalyst 6506	7.4(3)	Details
CIXP	sw4003-2-cixp	Cisco	Catalyst 4003	5.1(2a)	Details
CIXP	sw5i-cixp	Extreme	Summit 5i	6.1.5	Details
CIXP	ths48-1-cixp	Extreme	Summit 48	4.1.15	Details
DE-CIX	sw003	Cisco	WS-C6509-NEB-A	8.2(1)	Details
DE-CIX	sw001	Cisco	C6509	7.2(2)	Details
DE-CIX	sw004	Cisco	WS-C6509-NEB-A	8.2(1)	Details
DE-CIX	sw005	Cisco	WS-C6509-NEB-A	8.2(1)	Details
ESPANIX	MAD1GSW1	Enterasys	MATRIX E7	5.04.11	Details
ESPANIX	MAD1GSW2	Enterasys	MATRIX E7	5.04.11	Details
GIGAPIX	gigapix-lx-1	Cisco	C3548XL	c3500XL-c3h2s-mz.120-5.WC7.bin	Details

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Staff eXchange

Member IXP details		Staff loan				Staff secondments		Test lab		Further info.
IXP	Location	E-mail assist	Phone assist	Cust check	Loan staff	Visits	Staff train	Test Lab	Available to members	Contact/ Conditions
		Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Details
		Yes	No	-	No	No	No	No	No	Details
		Yes	Yes	-	No	No	No	No	No	Details
		-	-	-	-	-	-	-	-	Details
		Yes	Yes	-	No	No	No	No	No	Details
		Yes	Yes	-	Yes	Yes	Yes	No	No	Details
		-	-	-	-	-	-	-	-	Details
		Yes	Yes	-	No	Yes	No	No	No	Details
		Yes	Yes	-	No	No	No	No	No	Details
		Yes	Yes	-	No	Yes	No	No	No	Details
		Yes	Yes	-	No	Yes	Yes	No	No	Details
		Yes	Yes	-	Yes	Yes	No	No	No	Details
		-	-	-	-	-	-	-	-	Details
		Yes	Yes	-	No	Yes	No	No	No	Details
		Yes	Yes	-	Yes	Yes	Yes	Yes	No	Details
		Yes	Yes	-	Yes	Yes	No	No	No	Details
		Yes	Yes	-	Yes	Yes	No	Yes	Yes	Details

Our membership is willing to share its knowledge!

- Shown by:
  - Number of attendants and discussions that take place at our forums
  - Amount of member entries in Euro-IX information repositories and databases
  - Responsiveness to questions on the mailing lists

- Presentations on implementation experiences
  - What went wrong and what went right!!

- Willing to answer questions from IX community

Our membership fees

- Volunteers are great, but we can't rely on them all the time.
- We do charge a membership fee
  - We have costs (Secretariat, office, meetings, website, etc.)
  - When an IXP pays a fee it then pushes them into a level of commitment to get a return on their investments.
  - Makes it easier for engineers to ask there supervisors to have permission to go to forums as part of the fee goes into running the forums :-)
- Current European membership fee is 4.000 EUR per annum
- Current Non-European fee is 2.500 EUR per annum
  - No voting rights and reduced subsidies at forums

I can't afford the fee?

- Don't let that stop you

- We have policies in place to help out those IXPs.
  - We are a non for profit association and we are not profit motivated!
  - If you make the case, Euro-IX will review your application
  - Your time in making a case shows your willingness to put in effort and the value that you would bring to Euro-IX
  - However, if we believe you can afford the fee, we will ask you to pay it!

What we might be willing to do?

- As we are an association, major initiatives need to approved by board/membership
- However some possibilities might include..…
  (inspired by a Bill Woodcock presentation at our last Forum)
  - Send training groups to other countries
  - Our network monitoring tools in other languages
  - Documentation switch configurations in other languages
  - In certain situations funding to allow other IXPs to come to Euro-IX Forums (at least meeting admission, hotel and meals)
- If any of above is of interest to you, then please approach me
- We are always willing to at least consider proposals!

Any questions?

www.euro-ix.net

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