

“The European IXP scene”

SANOG 10 & APNIC 24

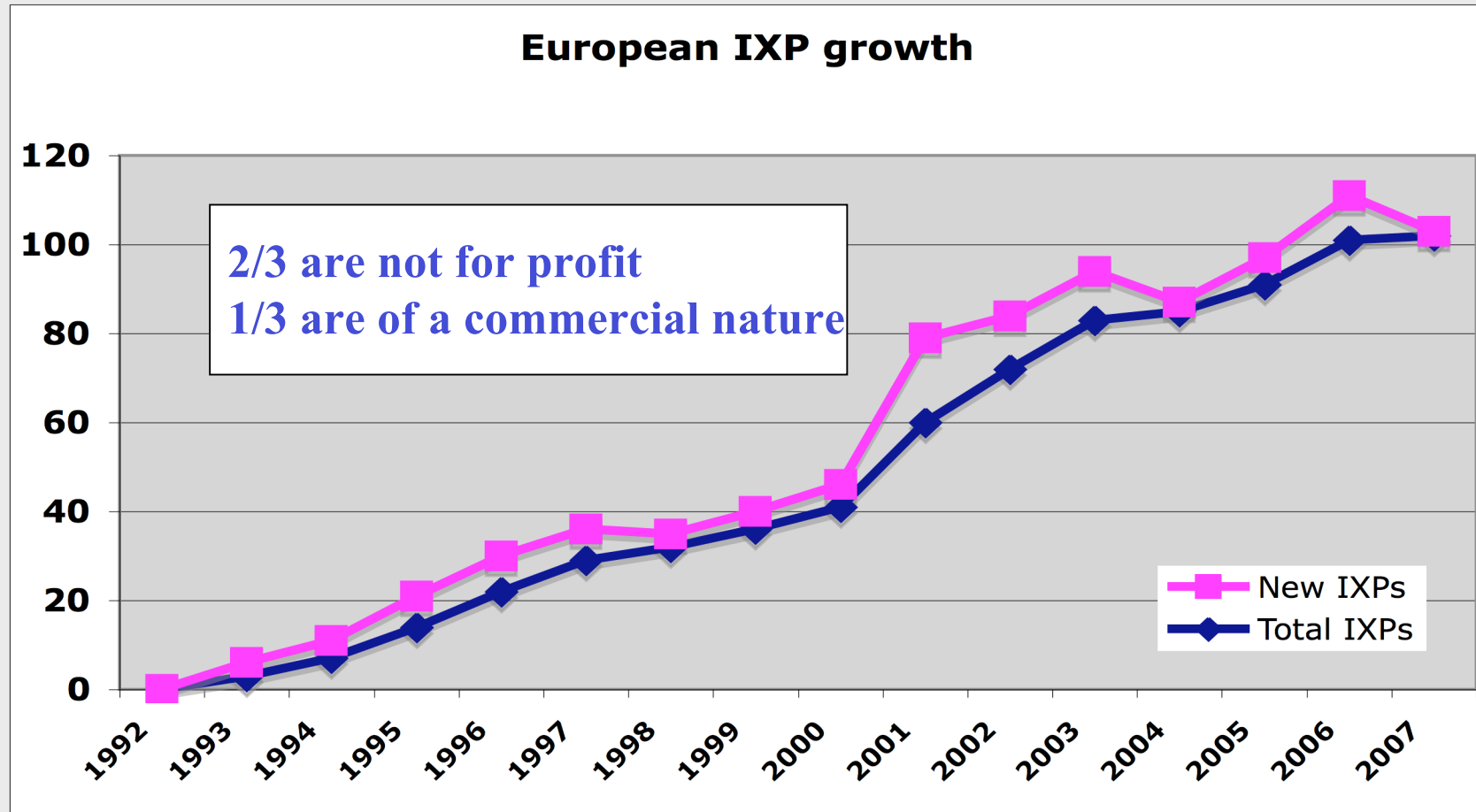
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New Delhi, India

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Growth of IXPs in Europe

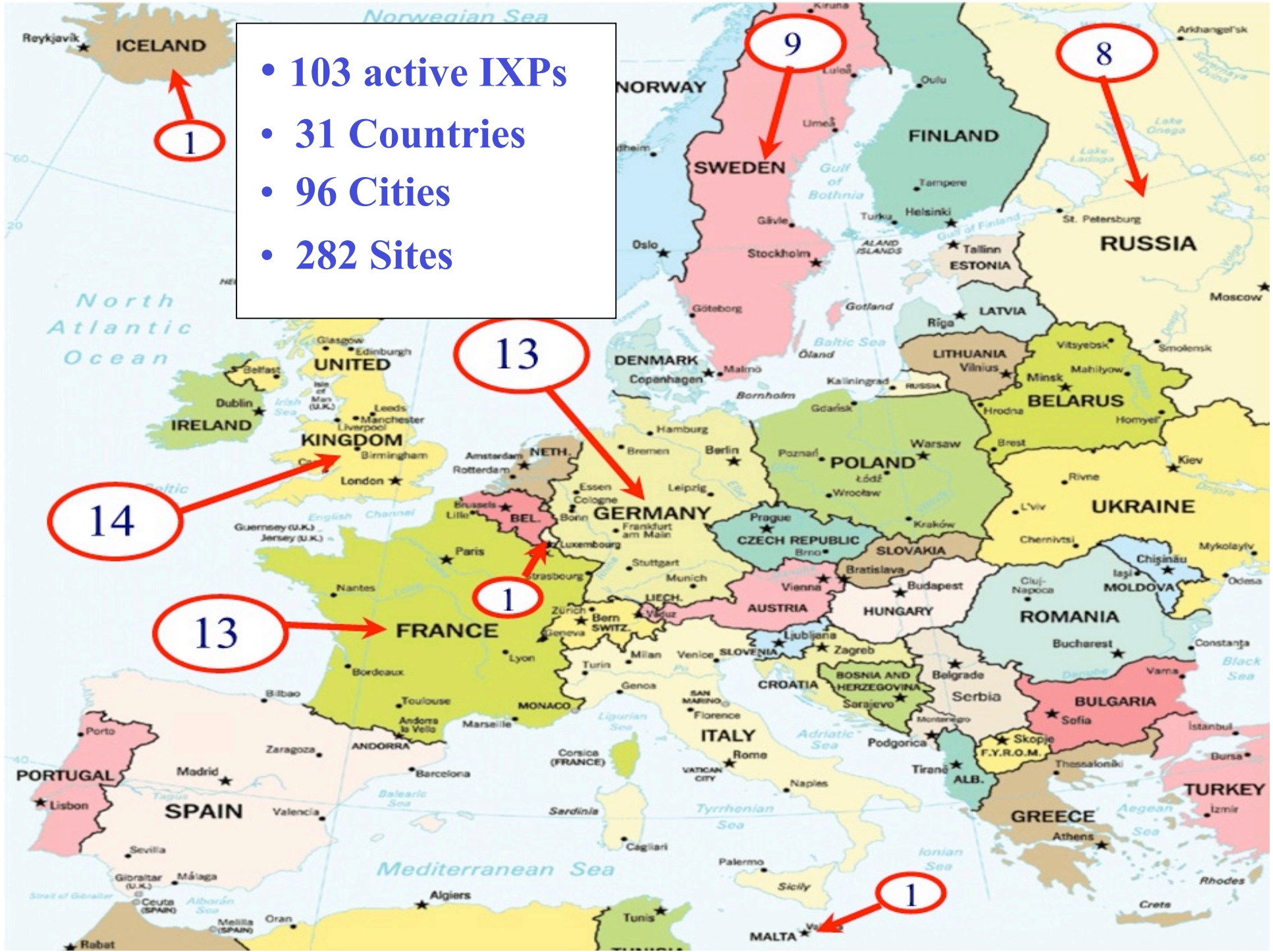


2001 +19 IXPs
2002 +12 IXPs
2003 +11 IXPs

} These 3 years saw the establishment of about 42%
of today's IXPs in Europe!!

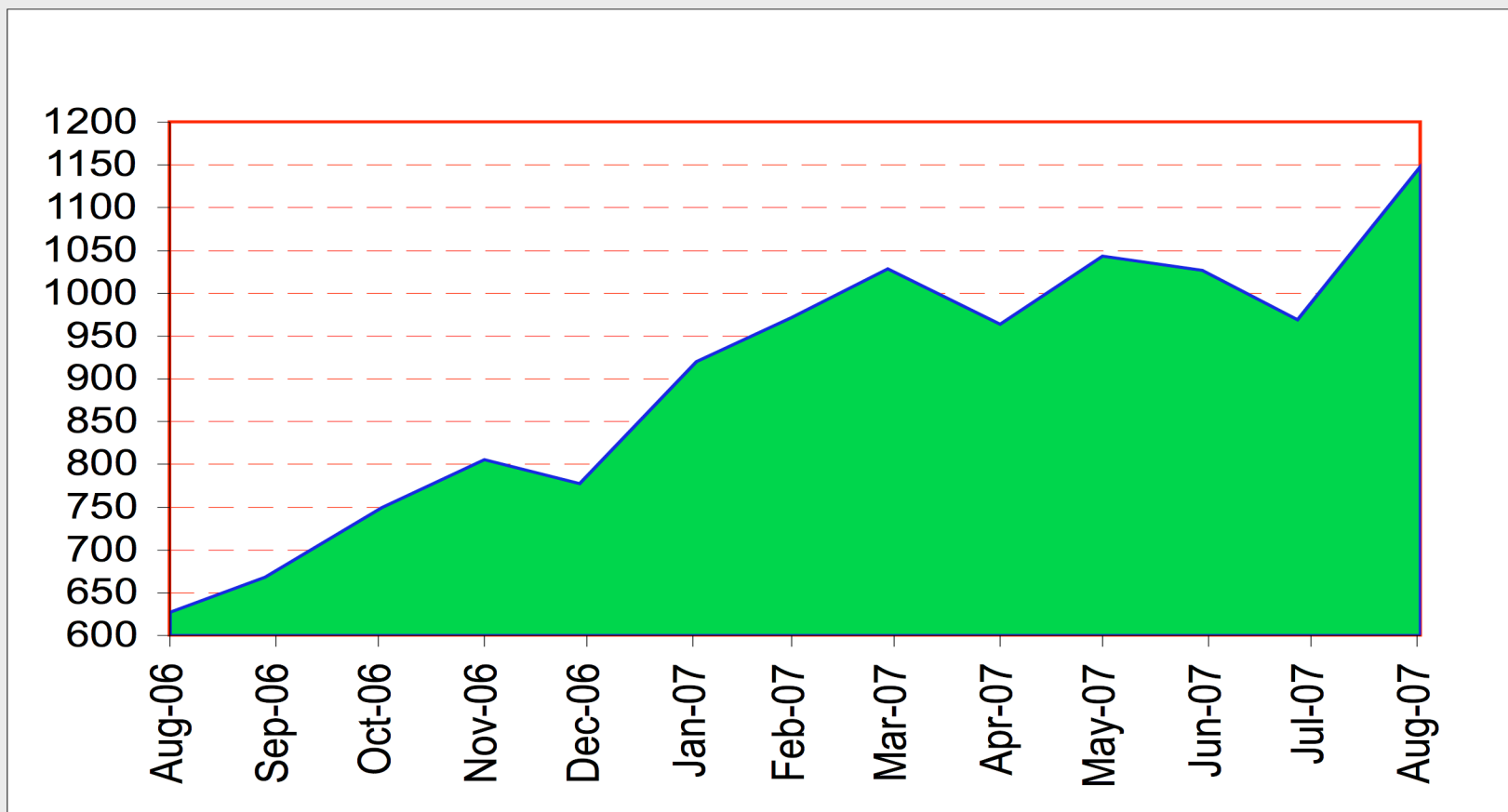
• **NOTE:** Based on 'official' establishment dates

- 103 active IXPs
- 31 Countries
- 96 Cities
- 282 Sites



European IXP peak traffic

- Combined European IXP peak traffic has risen from:
 - 626 Gbps in Aug '06 to **1.148 Tbps** in Aug '07
 - 522 Gbps or 83% increase in past 12 months



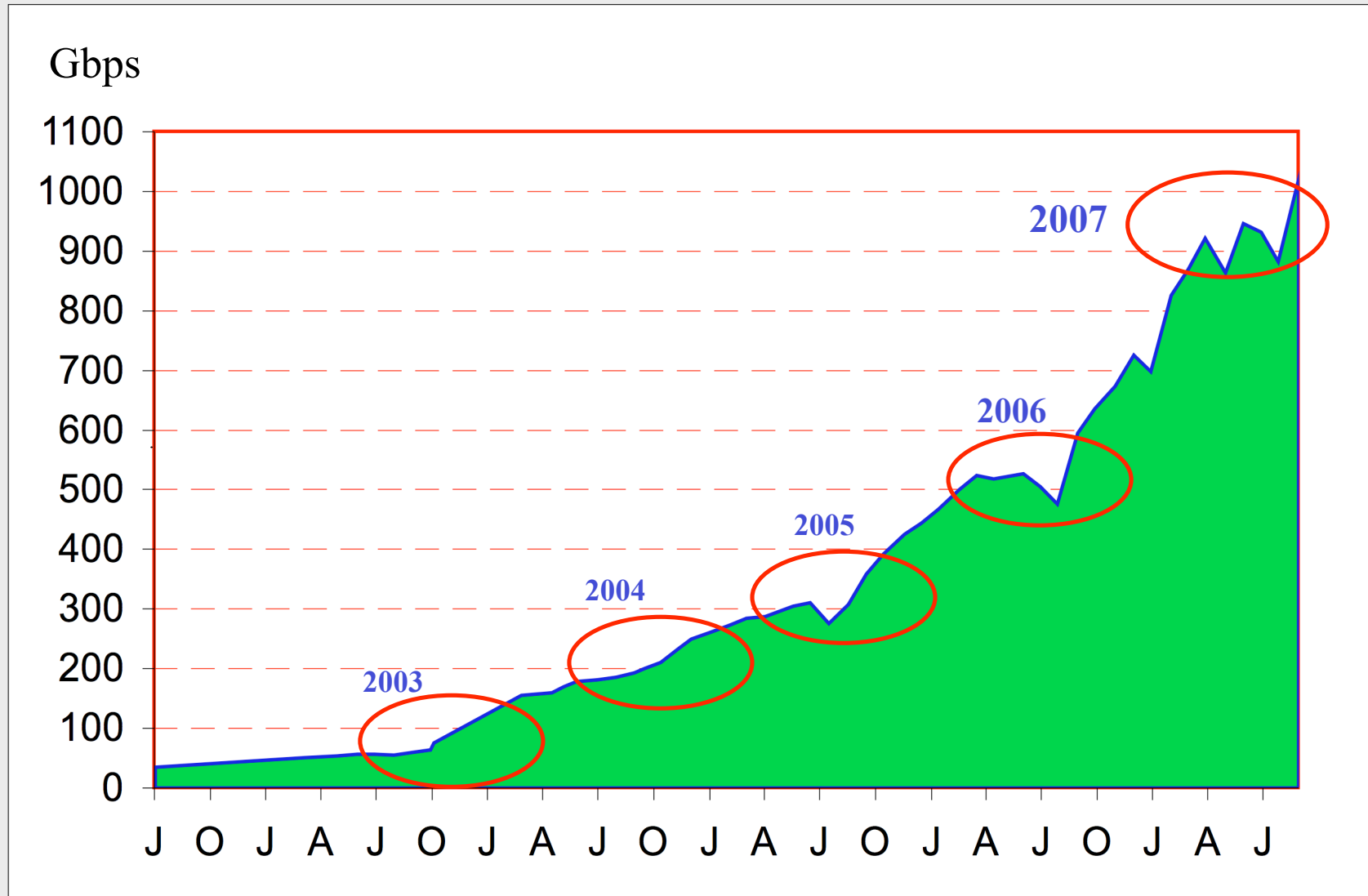
Note: These statistics were gathered on 29 August 2007. The above traffic figures do NOT include Private Interconnections at IXPs

Traffic ranking of European IXPs

Ranking	IXP	City	Gbps
1	AMS-IX	Amsterdam	295.94
2	DE-CIX	Frankfurt	172.70
3	LINX	London	149.40
4	ESPANIX	Madrid	84.00
5	Netnod	Stockholm	67.81
6	BIX	Budapest	44.60
7	PaNAP	Paris	30.55
8	PARIX	Paris	30.00
9	MIX	Milan	25.70
10	NIX.CZ	Prague	24.80
11	MSK-IX	Moscow	15.94
12	Netnod	Malmoe	15.03
13	NL-IX	Amsterdam	14.12
14	FICIX	Helsinki	13.51
15	VIX	Vienna	10.76
16	NIX	Oslo	9.60
17	BNIX	Brussels	8.40
18	UA-IX	Kiev	8.03
19	PL-IX	Warsaw	7.23
20	TOP-IX	Torino	7.20
Total Traffic of top 20 IXPs			1035.32

Note: These statistics were gathered on the 29th of August 2007 and have been based on publicly available public peering traffic only.

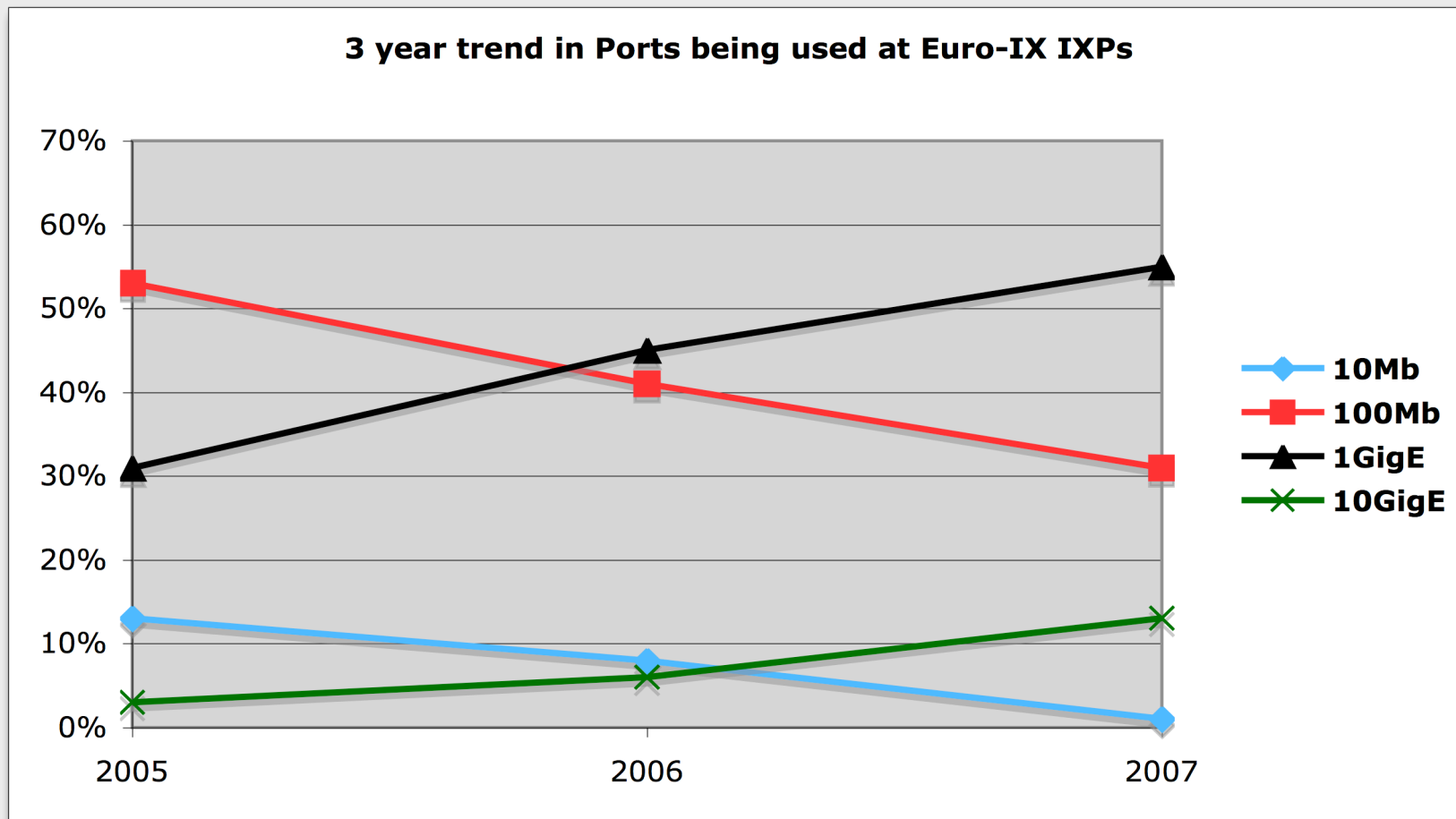
European IXP summer traffic trends



European IXP participants

- **3959 IXP participants** in Europe
 - **3470 with publicly disclosed ASNs** (some IXPs and/or their participants do not wish to publicly advertise their ASN on the IXP website)
 - **2105 unique ASNs** peering in Europe
 - **11 ASNs** peer at **12 or more** different European IXPs, **one ASN** peers at **19 IXPs!**
 - **Average** of about **39 participants per IXP**
 - **4 European IXPs** have **more than 200** active participants

Ports in use at IXPs



Note: These figures have been extracted from the *Euro-IX BMC 1, 2 & 3*

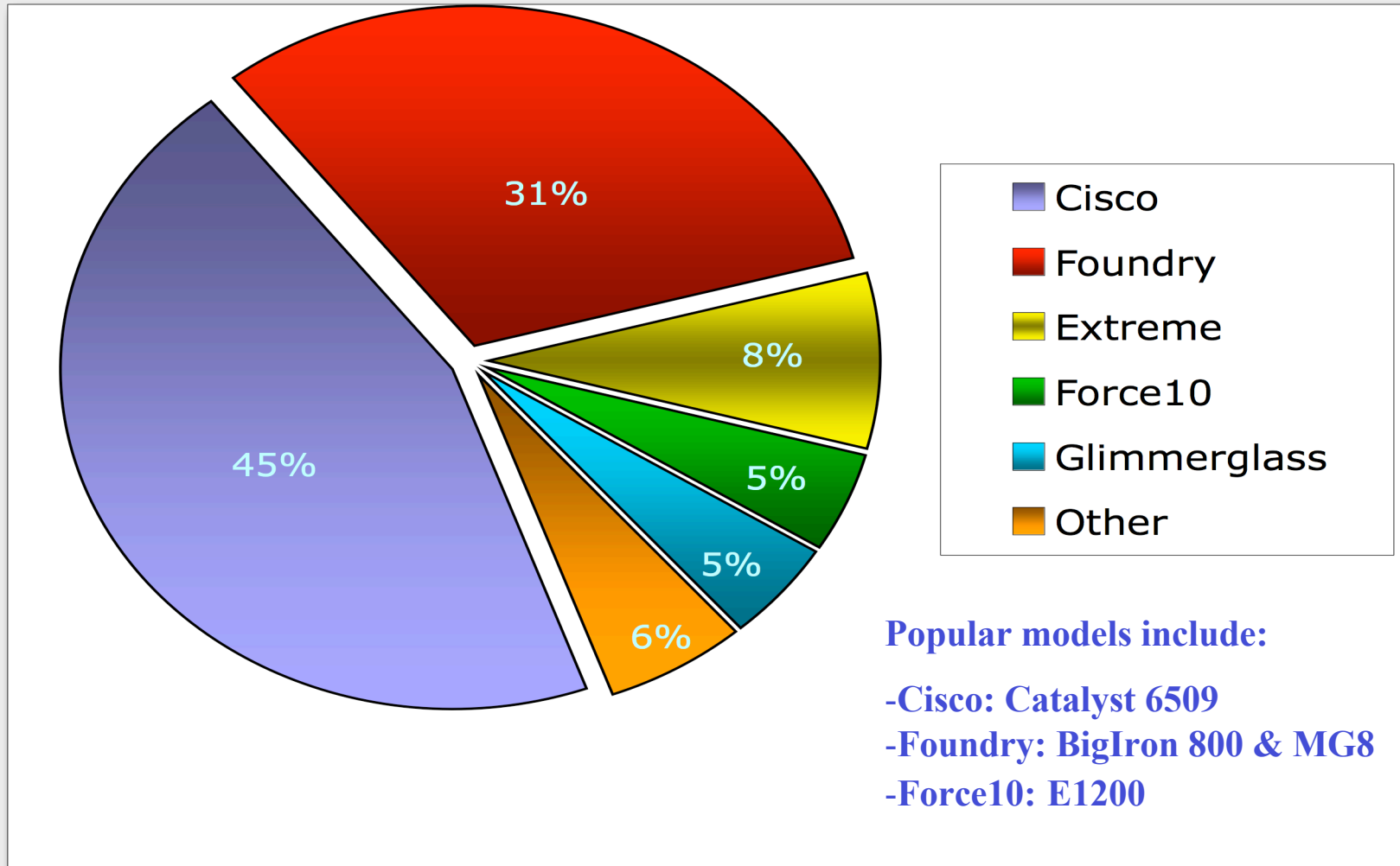
Average European IXP connection fees

		IXPs that offer or charge	Euro-IX average	
			EUR	US\$
Set-up fee	One time	65%	€ 2.155	\$2.915
Switch port	10Mbps	72%	€ 177	\$240
	100Mbps	90%	€ 412	\$560
	1Gbps	100%	€ 826	\$1.120
	10Gbps	62%	€ 2.370	\$3.200
Annual fee	Reoccurring	45%	€ 3.462	\$4.680

Note 1: The above stated port prices are on a monthly basis

Note 2: These prices were gathered from the 3rd round of the Euro-IX Benchmarking Club which closed in April 2007

Switches in use at European IXPs



Note 1: The above percentages are based on Euro-IX member IXPs.

Note 2: I estimate there to be a little over **390 Switches** in use at IXPs in Europe

Thank you !

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