Equinix Peering Update

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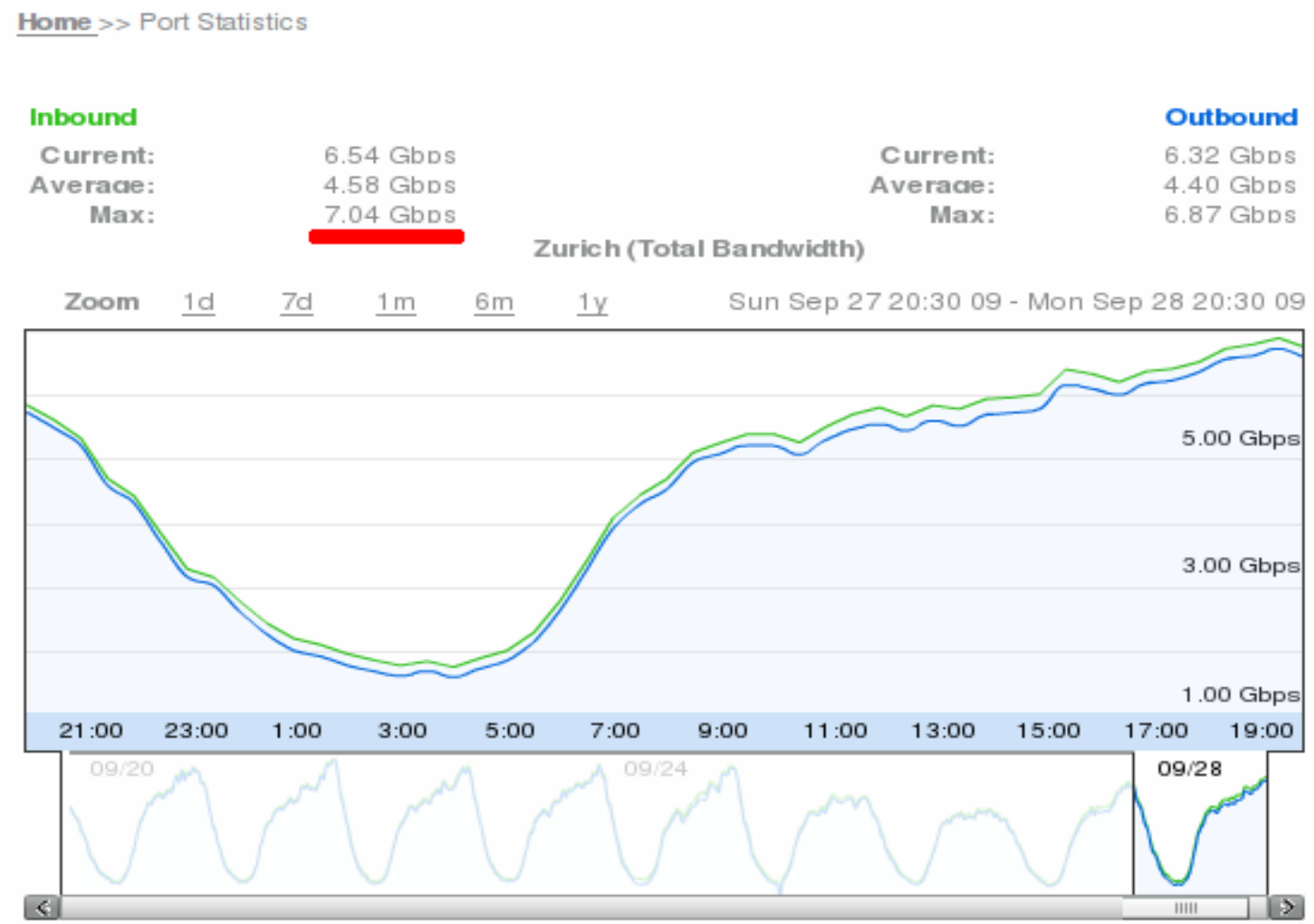
SwiNOG 19, Berne, 29 September 2009

Just to get it out of the way....



Contents

TIX - A history lesson

Equinix - Datacentres and Internet Exchanges, globally

Zurich - Traffic, ports and availability

- New developments and hardware upgrades

Stepping back in time... to 1999...

Telehouse Internet Exchange (TIX)

Telehouse Zurich founded by Andre Oppermann in 1999

Created the Telehouse Internet Exchange

First POP at the Hardbrucke Strasse datacentre

Initial hardware was a Cisco Catalyst 2924-XL switch

Upgraded to Foundry BigIron 8000 in May 2000

1gbit Ethernet peering ports made available

TIX, managed by IXEurope

Telehouse Zurich acquired by IXEurope in October 2000

TIX brand retained for the Internet Exchange

New TIX POP at Zurich2 site opened in 2001

Original POP in Zurich1 upgraded to Foundry RX8 switch

10gbit Ethernet peering ports made available

Equinix Exchange Zurich

IXEurope was acquired by Equinix in June 2007

TIX rebranded as Equinix Exchange Zurich in 2008

Sflow port statistics on the http://ix.equinix.com portal

More about future developments later....

TIX branding lives on...

In your Reverse DNS:

```
194.42.48.5     tix-2.cybernet.ch
194.42.48.6     tix.as8758.net
194.42.48.7     tix-1.cablecom.ch
194.42.48.8     tix-1.swissline.ch
194.42.48.9     tix.lie-comtel.li
194.42.48.16    tix.init7.net
194.42.48.17    tix-1.thenet.ch
194.42.48.19    tix-1.mediaways.net
```

Some members have updated their RDNS:

```
194.42.48.12    equinix-1.solnet.ch
194.42.48.15    equinix-2.solnet.ch
194.42.48.45    equinix-1g.eqx.zrh.ch.as8218.eu
194.42.48.100   equinix-zur.32-bg2.eu.equinix.net
```

To update yours, please contact:

Hotline.Zurich@eu.equinix.com

Equinix – Global datacentre provider

Suprisingly for an American company...

Europe is the centre of their world map :)

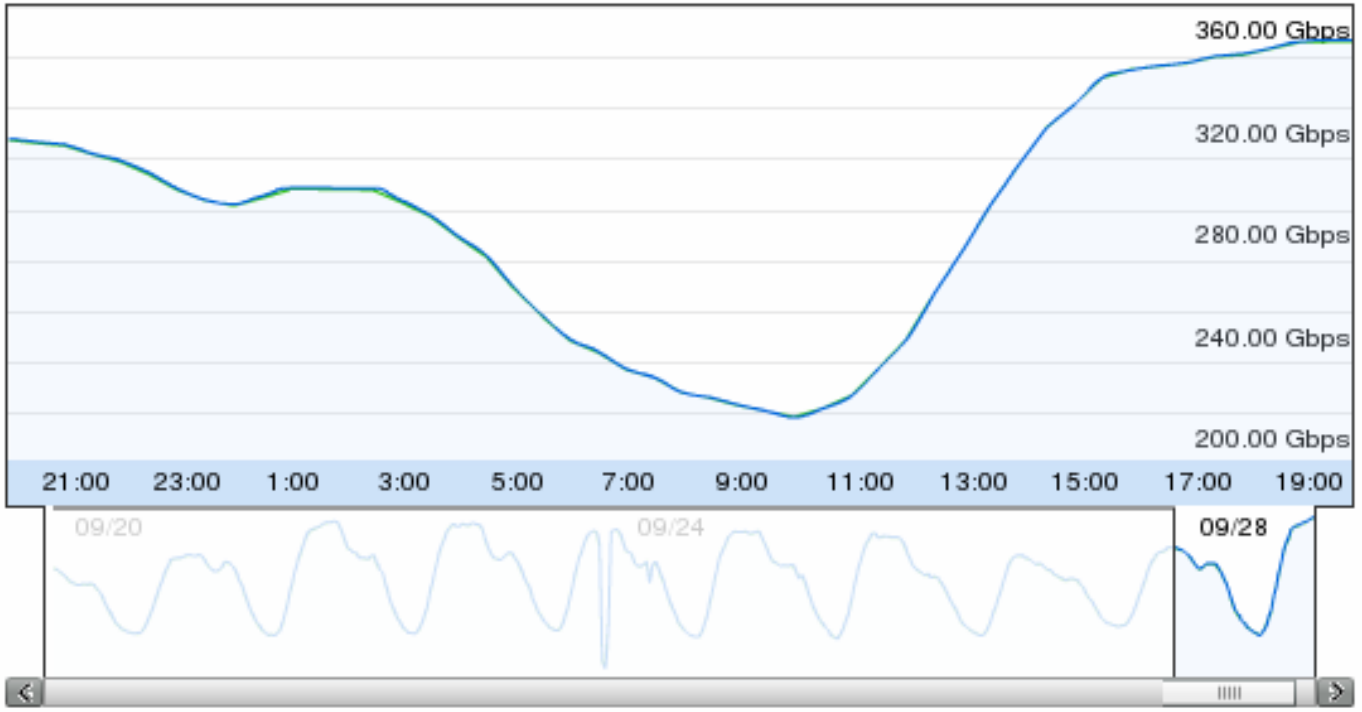
Equinix Exchange - Global traffic volumes

Home >> Port Statistics

Inbound		Outbound	
Current:	364.60 Gbps	Current:	364.49 Gbps
Average:	297.11 Gbps	Average:	297.40 Gbps
Max:	367.77 Gbps	Max:	368.30 Gbps

IX (ALL)

Zoom 1d 7d 1m 6m 1y Sun Sep 27 20:30 09 - Mon Sep 28 20:30 09



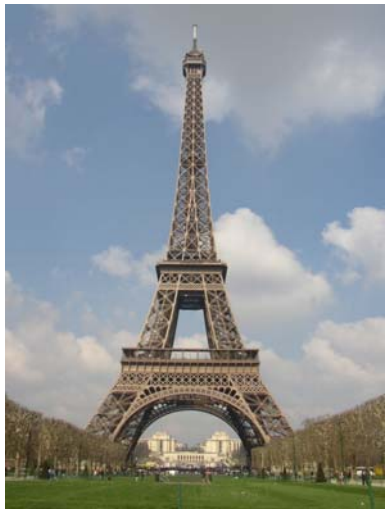
Equinix Exchange - Paris

Launched in 2008

POPs located at:

Equinix PA2/PA3 (Saint Denis)

Telehouse 2 (Voltaire)



Uses **Force10 e600i** switches with warm spares at each site

Resilient **Dark Fibre ring** using passive DWDM

~30 members connected

Equinix Exchange Zurich - Vital statistics :)

Peak traffic:	**7gbit**
Connected members:	**62**
10gbit ports:	**6**
1gbit ports	**32**
100mbit ports:	**28**

Equinix Exchange Zurich - Availability

Not much to report here..

Last major outage was in December 2005 during a power failure in Zurich

However the exchange equipment has been up longer than I've been at Equinix ...

```
csw7.zh1>sh ver | i Management uptime
Active Management uptime is 837 days 6 hours 6 minutes 57 seconds
```

```
csw7.zh2>show ver | i uptime
The system uptime is 663 days 5 hours 15 minutes 41 seconds
```

```
route-server> uptime
 0:58AM  up 815 days, 18:08, 1 user, load averages: 0.11, 0.15, 0.09
```

New and exciting stuff..

For some value of $exciting anyway....

2008: Sflow based traffic graphs in Equinix portal

2009: Latency and jitter monitoring

2010: Separation of current route-server functions into:

route-collector

MLPE (Multi Lateral Peering Exchange)

Port graphs


Home >> Port Statistics
Inbound
Current: 17.99 Mbps
Average: 23.25 Mbps
Max: 72.27 Mbps
Outbound
Current: 423.23 Mbps
Average: 387.78 Mbps
Max: 938.34 Mbps
ZH1-IX-01
Zoom 1d 7d 1m 6m 1y
Sun Sep 27 20:45 09 - Mon Sep 28 20:45 09
800.00 Mbps
600.00 Mbps
400.00 Mbps
200.00 Mbps
0
21:00 23:00 1:00 3:00 5:00 7:00 9:00 11:00 13:00 15:00 17:00 19:00
09/20
09/24
09/28

Per-peer statistics

EXPORT TO CVS

Peer Port Name	Inbound Avg	Inbound Max	Outbound Avg	Outbound Ma▼
ZH2-IX-01	5.22 Mbps	20.62 Mbps	87.42 Mbps	438.60 Mbps
ZH1-IX-01	4.31 Mbps	11.93 Mbps	71.92 Mbps	241.92 Mbps
H1-IX-01	2.01 Mbps	5.87 Mbps	34.51 Mbps	122.50 Mbps
- ZH1-IX-01	0	0	19.82 Mbps	68.09 Mbps
- ZH1-IX-01	73	21.18 Kbps	93.31 Kbps	16.88 Mbps
ZH1-IX-01	0	0	531.87 Kbps	13.42 Mbps
ZH1-IX-01	142.45 Kbps	1.66 Mbps	1.26 Mbps	11.70 Mbps
ZH2-IX-01	0	0	774.32 Kbps	10.39 Mbps
- ZH2-IX-01	0	0	83.32 Kbps	6.92 Mbps
ZH1-IX-01	4.35 Kbps	183.93 Kbps	68.88 Kbps	6.78 Mbps
- ZH1-IX-01	14.62 Kbps	204.69 Kbps	504.38 Kbps	6.30 Mbps
ZH1-IX-01	13.78 Kbps	331.61 Kbps	151.52 Kbps	5.92 Mbps
ZH1-IX-01	2.83 Kbps	331.61 Kbps	31.66 Kbps	3.64 Mbps
- ZH1-IX-01	30.90 Kbps	533.89 Kbps	395.05 Kbps	3.55 Mbps
- ZH1-IX-01	2.28 Kbps	183.28 Kbps	20.94 Kbps	3.45 Mbps
ZH1-IX-01	0	0	190.43 Kbps	3.26 Mbps

Latency and jitter monitoring

Please Select

Paris

Time Period:

- (•) Last Hour
- ( ) Last 24 Hours
- ( ) Last 7 Days
- ( ) Last 30 Days
- ( ) From: To:

Rollup:

1 min

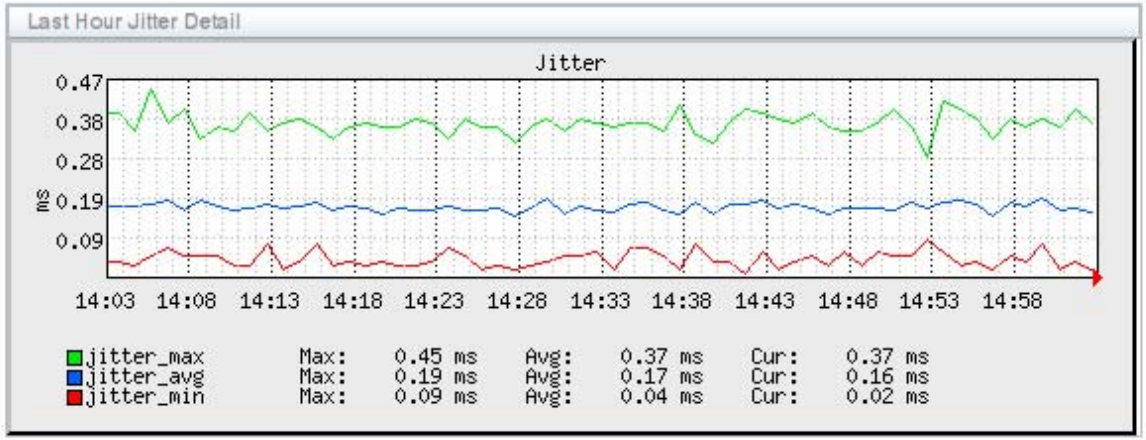
Submit

Welcome

Home >> Jitter >> Metro Perf Detail

Detail: Paris

Time Period: Last Hour



Route collector

Existing route-server operated in the same manner for 8 years

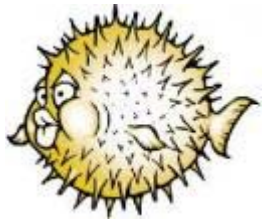
Some members have declined to peer with it

Deploying a new route-collector as per other Equinix Exchanges

For internal use only to provide Layer3 monitoring of members routers

Uses a private AS and does not redistribute **any** prefixes

Still using OpenBGPd ;)



MLPE service

Multi Lateral Peering Exchange

Pair of OpenBGPd route-servers, one at each POP

Uses a public AS and redistributes member prefixes

Strips its own AS, so requires 'no bgp enforce-first-as' command on Cisco

Free to members, but requires an additional contract... pesky lawyers!

Hardware upgrades...

We are very happy with the stability of the Foundry RX platform

Several other European Internet Exchanges have moved to the **Foundry MLX32** due to its high 10gbit density

Could the **Cisco Nexus**, **Force10 Exascale** or even **Extreme Networks BlackDiamond 20K** challenge this?

How will 40/100gbit requirements drive the marketplace?

We only have **3 10gbit ports remaining** for members in ZH1, so if you want us find out what our plans are...

Upgrade your port!

EQUINIX

Upgrade your port to 10gbit today!

I hope you are still awake..

EQUINIX

Thank you

Paul Cairney

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SwinNOG 19, Berne, 29 September 2009