rezopole
DÉVELOPPEMENT DU NET
ET DES RÉSEAUX HAUT-DÉBIT

LYONIX
Le GIX NAP de Lyon – Rhône-Alpes

Introducing LyonIX

the first IXP/NAP outside Paris, managed by Rezopole.

Top-IX meeting, 8th May 2012 – Turin

Arnaud Fenioux, network administrator - afenioux@rezopole.net

I. What is LyonIX ?

- History & Development
- Partners & Members

II. What is Rezopole ?

- Core activity : managing LyonIX & other IXP
- Related activities :
  - Social events
  - Visio
  - TID (GIT in french)
  - Ytest

What is LyonIX?

Switches and Cables!

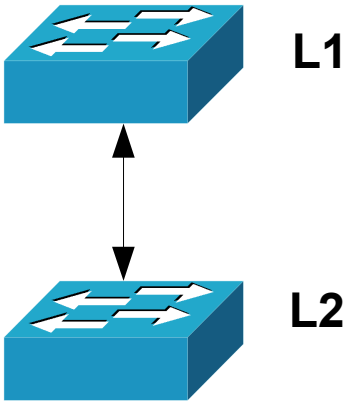
- 60 members
- 2 points of presence (LyonIX 1, LyonIX 2)
- 5 access bays

Rezopole's infrastructures & interconnections

History : 2001-2008

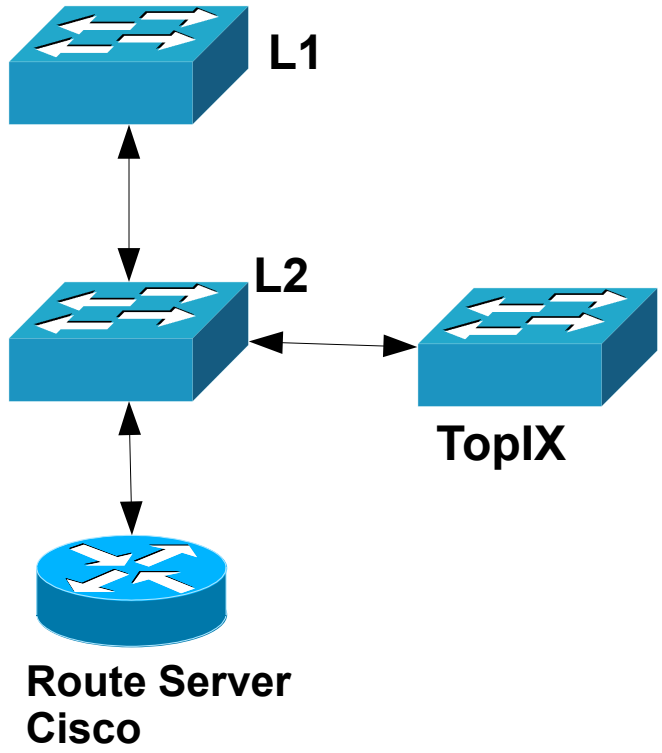
- **LyonIX 2001 - 2007:**

- **LyonIX in 2008:**
  - **Only Layer 2 (Cisco 6500)**



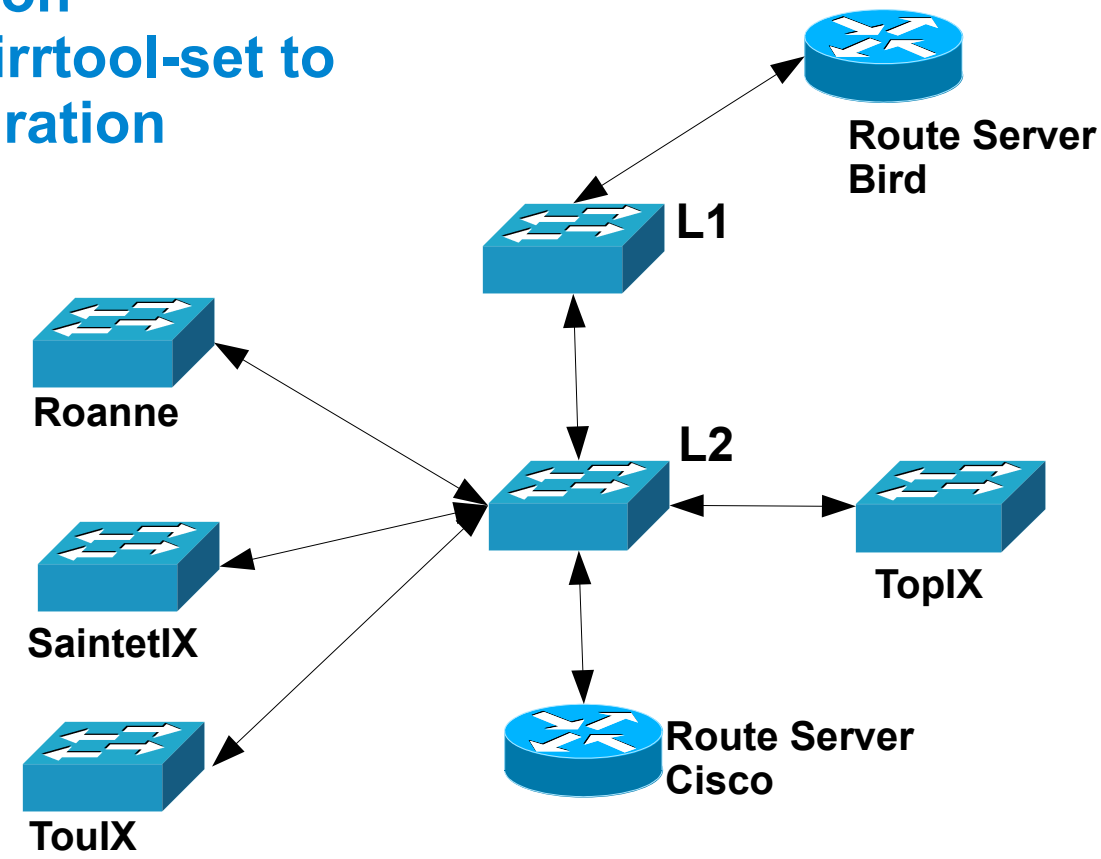
History : 2009

- LyonIX in 2009:
  - 100Mb to TopIX (Torino - Italy)
  - TopIX peers have access to LyonIX VLAN
  - LyonIX members have access to TopIX VLAN
  - 1 Cisco 2821 used as a route server
  - BGP communities are used to identify where the prefixes come from (LyonIX or TopIX)



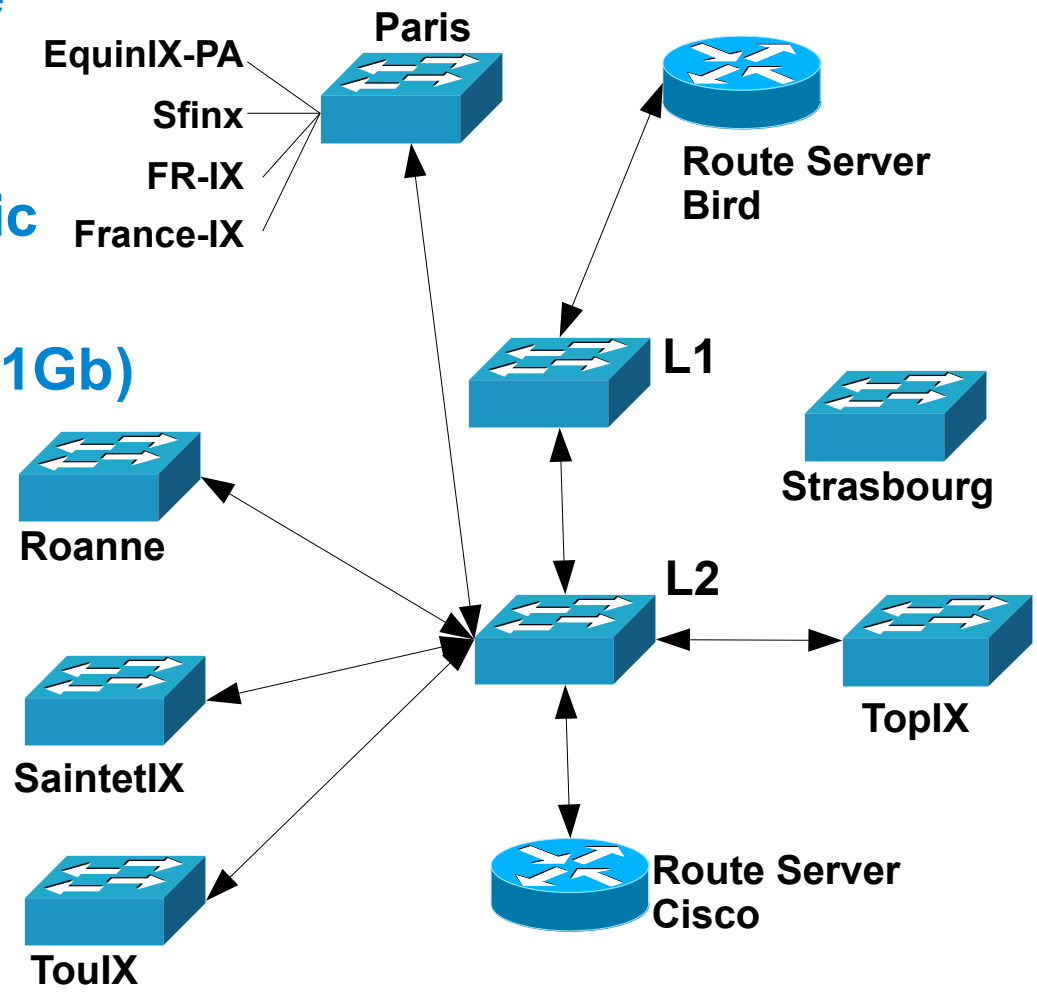
History : 2010

- LyonIX in 2010:
  - 50Mb to ToulX (Toulouse - France)
  - 1 new route server (Bird on FreeBSD) that use RIPE irrtool-set to generate its own configuration



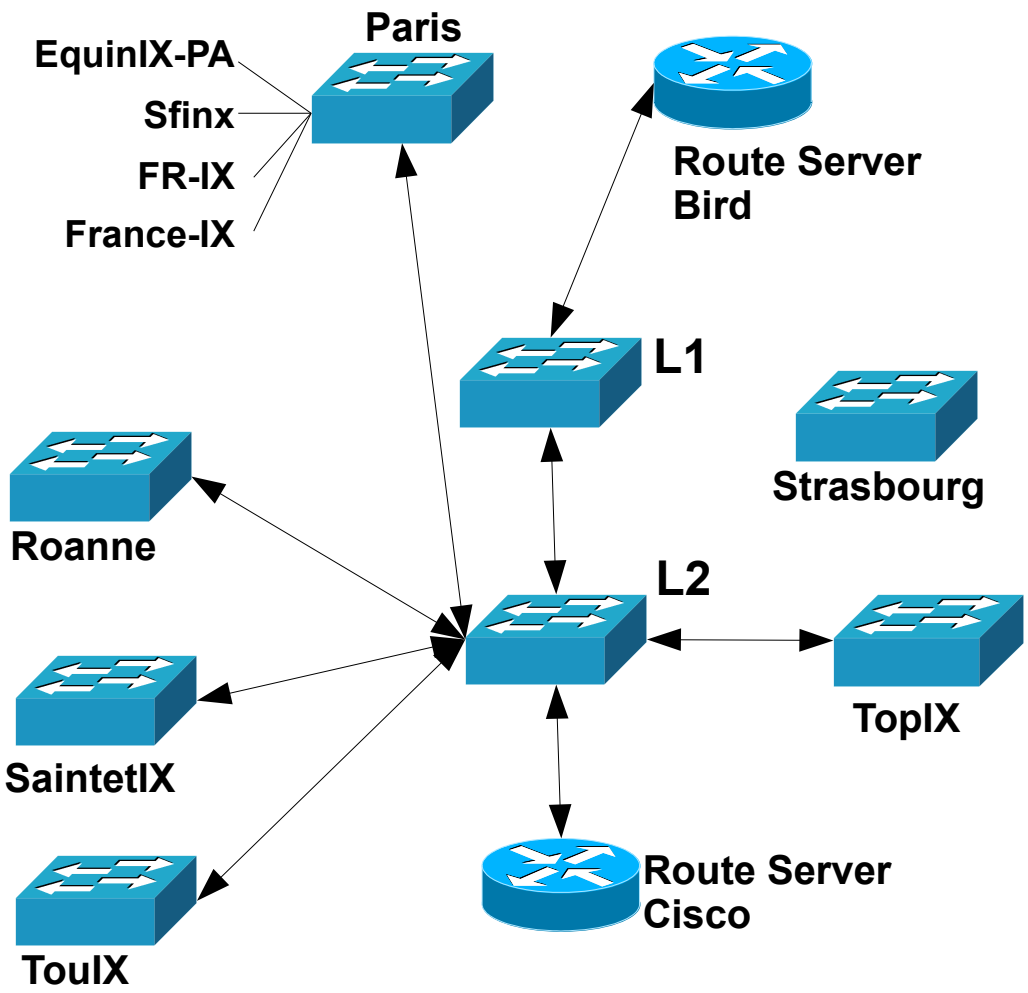
History : 2011

- LyonIX in 2011:
  - new BGP communities are created to announce or not announce prefixes to remote IX
  - New BGP community to NOT announce a prefix to a specific member
  - Upgrade of our link to TopIX (1Gb)
  - New interconnection with IXP in Paris



History : 2012

- LyonIX in 2012:
  - 1 new route-server Cisco 3845
  - Dual-vendor infrastructure (IBM - Blade networks)
  - Interconnection with new IXP in Rhone-Alpes
  - 10G between POPs & DWDM
  - And more to come!



Partnership

- **Present in TeleHouse 2 Paris and connected to**
  - **EquinIX-PA**
  - **Sfinx**
  - **France-IX**
  - **FR-IX**
- **Connected to Top-IX**

Rezopole's IXPs participants (1)

- Alsatis
- Cienum
- Cogent
- Colt
- Completel
- Ielo
- Interoute
- IPgarde
- Jaguar Network
- Lasotel
- Level3
- NeoTelecoms

Rezopole's IXPs participants (2)

Numéricable

Orange

Phibee

Renater

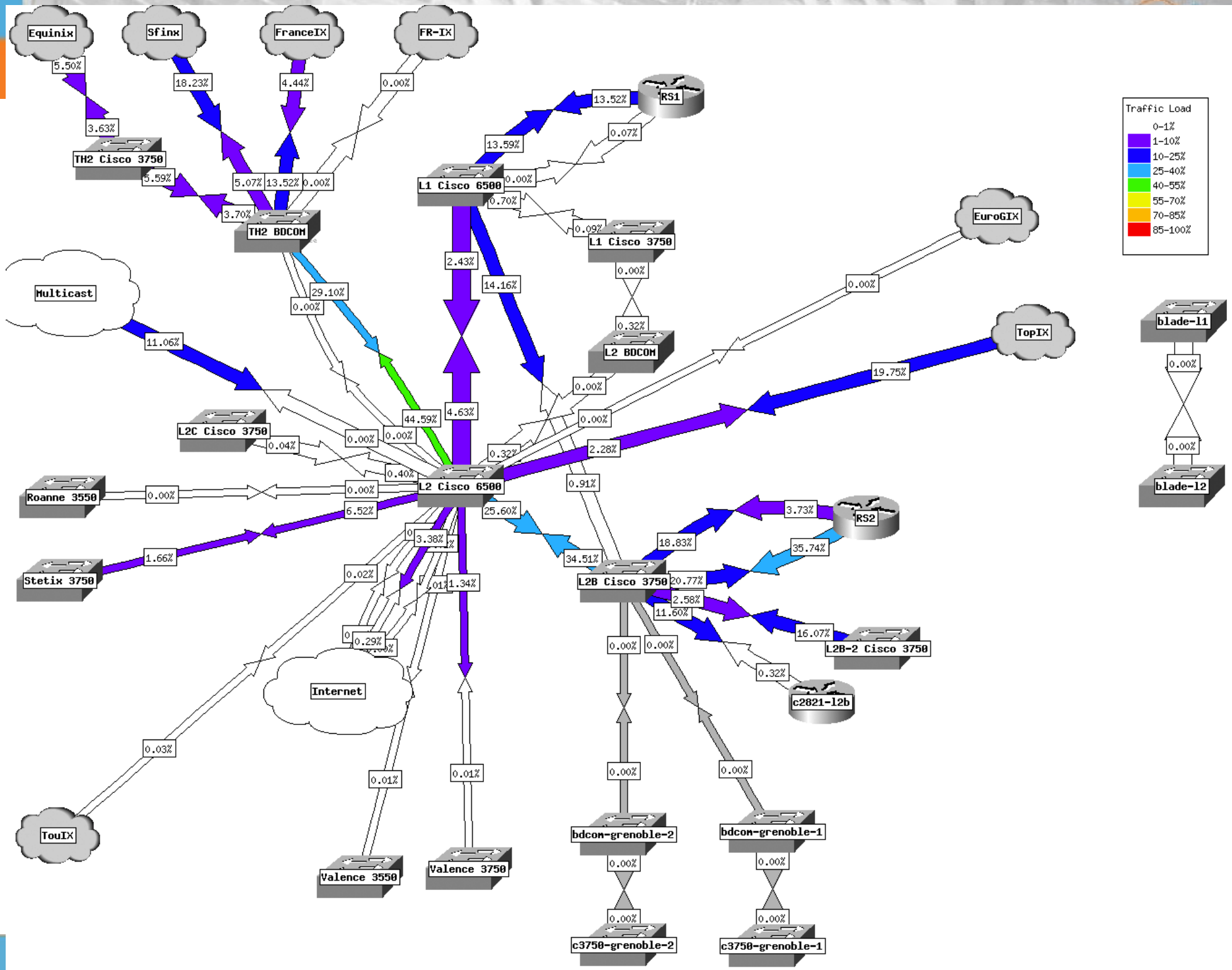
SFR

Verisign

Wimifi

Witbe

And many more !


Equinix
Sfinx
FranceIX
FR-IX
RS1
TH2 Cisco 3750
TH2 BDCOM
L1 Cisco 6500
L1 Cisco 3750
EuroGIX
Multicast
TopIX
L2 BDCOM
L2C Cisco 3750
Roanne 3550
L2 Cisco 6500
RS2
Stetix 3750
L2B Cisco 3750
L2B-2 Cisco 3750
c2821-l2b
Internet
TouIX
Valence 3550
Valence 3750
bdcom-grenoble-2
bdcom-grenoble-1
c3750-grenoble-2
c3750-grenoble-1
blade-l1
blade-l2
Traffic Load
0-1%
1-10%
10-25%
25-40%
40-55%
55-70%
70-85%
85-100%

A non-profit organization!

- 8 volunteers
- 7 employees
- 3 interns

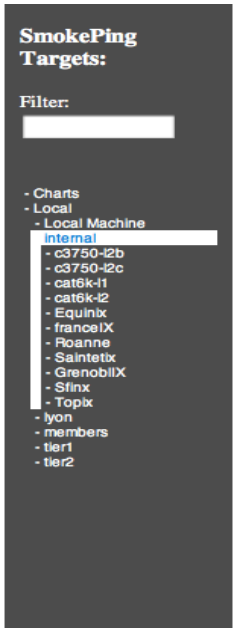
Rezopole core activity

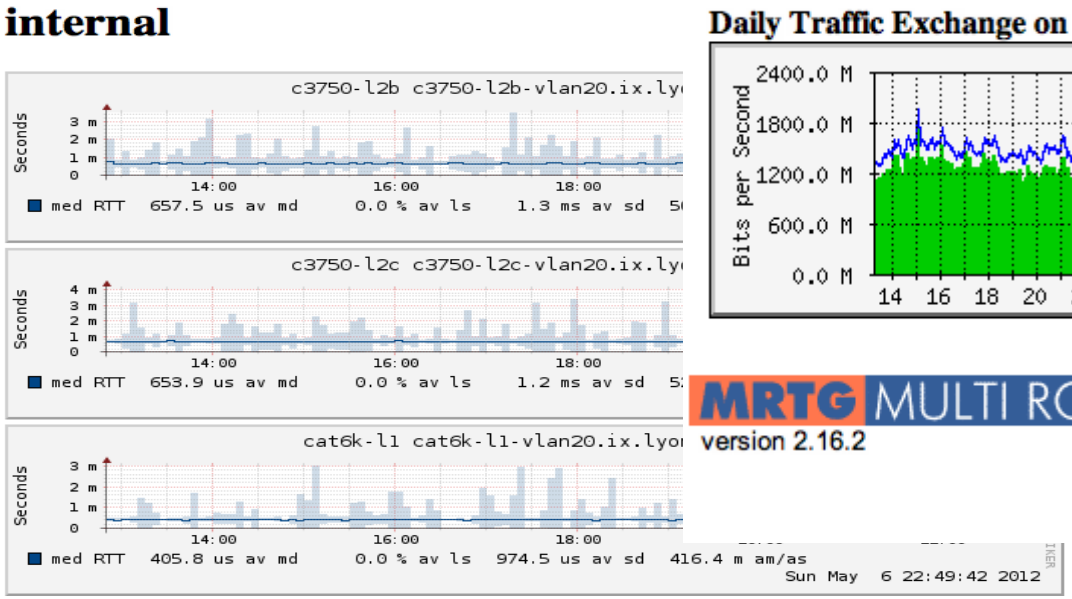
- **Managing IXP in cities of the Rhône-Alpes region**

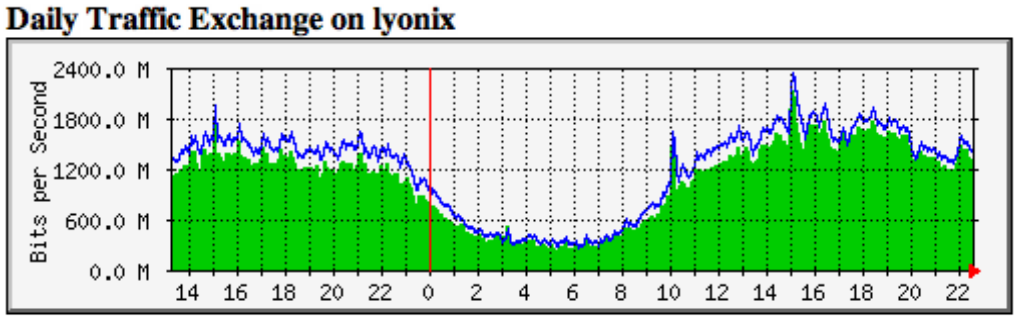
  In Lyon (LyonIX), in Saint-Etienne (SaintetIX) and under development in Grenoble, Roanne and Valence

  - To improve the local Internet network traffic
  - To make local Internet exchanges faster
- **NAP – Network Acces Point**
  - Purchase/sale of IP trafic with a great flexibility
  - Direct access to the main connected services providers and to the associated offers

Monitoring tools (1)







MRTG MULTI ROUTER TRAFFIC GRAPHER
version 2.16.2
Tobias Oetiker <tobi@oetiker.ch>
and Dave Rand <dlr@bungi.com>

Nagios

Php-Syslog-NG 2.9.1 Unstable [cdukes] 16-Jun-2006 16:00 EST
Network Syslog Monitor

Search Config Help About

Use this link to reference this query directly: **QUERY**

BACK TO SEARCH

DEBUG INFO NOTICE WA

The SQL query: SELECT * FROM logs ORDER BY seq DESC LIMIT 100

HOST	FACILITY	TIME	MESSAGE	
77.95.64.177	daemon	22:49:28		nrpe[6997]: Connection has taken too long to establish. Exiting...
77.95.64.179	daemon	22:49:23		nrpe[810]: Connection has taken too long to establish. Exiting...
77.95.64.144	local7	22:46:58		95936: 1y28w: %PORT_SECURITY-2-PSECURE_VIOLATION: Security violation occurred, caused by MAC address
77.95.64.177	daemon	22:46:39		nrpe[6901]: Connection has taken too long to establish. Exiting...
77.95.64.158	daemon	22:46:25		inetd[87]: pid 23278: exit status 1
77.95.64.158	daemon	22:46:25		telnetd[23279]: ttloop: peer died: EOF

Monitoring tools (2)

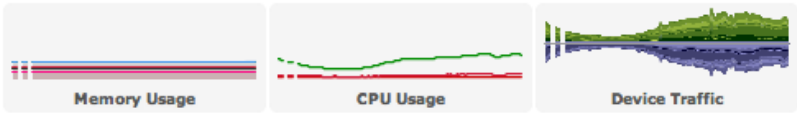
OBSERVIUM
network management and monitoring

Widescreen | Logged in as **afenioux** (Logout) via **IPv4**

Devices	82	(	80 up	2 down	0 ignored	0 disabled)
Ports	1723	(	464 up	188 down	0 ignored	969 shutdown)
Services	0	(	0 up	0 down	0 ignored	0 disabled)

Overview | Devices | Services | Locations | Ports | Health | Routing | System

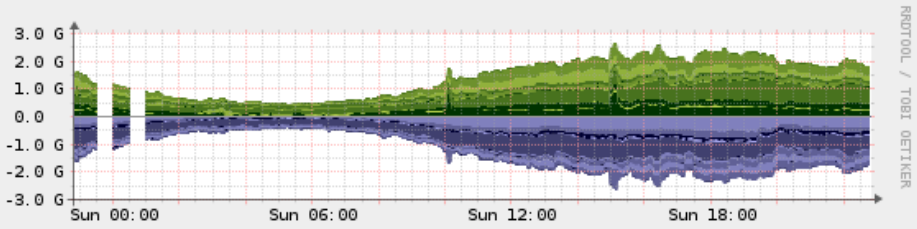
cat6k-l2.ix.lyonix.net



Overview | Graphs | Health | Ports | Map | Inventory | Logs | Settings

```
Cisco Internetwork Operating System Software IOS (tm) s72033_rp
Software (s72033_rp-ADVIPSERVICESK9_WAN-M), Version 12.2(18)SXF13,
RELEASE SOFTWARE (fc1) Technical Support:
http://www.cisco.com/techsupport Copyright (c) 1986-2008 by cisco
Systems, Inc
```

Hardware	Cisco 6506 (WS-C6506-E)
Operating System	Cisco IOS 12.2(18)SXF13 (ADVIPSERVICESK9_WAN)
Uptime	263 days, 11h 18m 42s



113 | 58 | 9 | 46

Processors

CPU of RP 5	5%
CPU of SP 5	33%
CPU of Module 1 CFC Card	0%
CPU of Module 2 CFC Card	0%
CPU of Module 6 DFC	7%

Memory Pools

CPU of Module 1 CFC Card - Processor	24%
CPU of Module 2 CFC Card - Processor	25%
CPU of SP 5 - Processor	25%

- **One CMDB to rule them all**

Rezopole - vCMDB v1.0

Recherche

Recherche Wiki

Rechargement du schema

Accueil | Achat | ASN | Baie | IPv4 | IPv6 | IX | Liaisons | Nos Equipements | Projets | Societe | Site | Tirroirs | VLAN

Accès rapide
- Big Brother
- CRM Vtiger
- Nagios L1
- PHPSyslog1
- Trafic cumulé
- Weathermap

bgp (133)

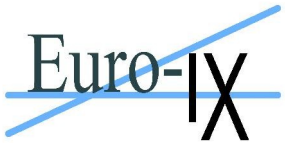
Ajouter

<-- 1-100 --> [Tous]

name ^ v	id_asn ^ v	id_ipv4 ^ v	id_ipv6 ^ v	id_ix ^ v	localpref ^ v	md5 ^ v	minv4 ^ v	minv6 ^ v	rs
Absolight	29608	91.216.67.18	2001:7f8:59:0:75::12	fr-ix	500	no	32	64	fa
Accelance	16073	77.95.71.10	2001:07f8:0047:0047:0000:0000:0000:000a	lyonix	1000	no	24	64	tru
Actimage	20994	195.238.229.1		EuroGIX	1000	no	24	64	fa
Adeli	43142	77.95.71.11	2001:07f8:0047:0047:0000:0000:0000:000b	lyonix	1000	no	24	64	tru
Advalem	48528	195.42.144.78	2001:7F8:43::4:8528:1	equinix	500	no	32	64	fa
Afilias	12041	195.42.144.112	2001:7f8:43::1:2041:1	equinix	500	no	32	64	fa
Afnic_I1	2484	77.95.71.33	2001:07f8:0047:0047:0000:0000:0000:0021	lyonix	1000	no	24	64	tru
Afnic_I2	2484	77.95.71.34	2001:07f8:0047:0047:0000:0000:0000:0022	lyonix	1000	no	24	64	tru
Afnic_sfinx1	2483	194.68.129.193	2001:7f8:4e:2::193	sfinx	500	no	32	64	fa
Afnic_sfinx2	2486	194.68.129.238	2001:7f8:4e:2::238	sfinx	500	no	32	64	fa
AIC_Network	47332	77.95.71.23	2001:07f8:0047:0047:0000:0000:0000:0017	lyonix	1000	no	24	64	tru
Akamai	20940	195.42.144.102	2001:7F8:43::2:940:1	equinix	500	no	32	64	fa
ALIONIS	34997	195.42.144.80	2001:7F8:43::3:4997:1	equinix	500	no	32	64	fa
Alsatis	48072	77.95.71.44	2001:07f8:0047:0047:0000:0000:0000:002c	lyonix	1000	no	24	64	fa
AltitudeInfra	49594	195.42.144.134	2001:7f8:43::4:9594:1	equinix	500	no	32	64	fa
Amazon	16509	195.42.144.162		equinix	1000	no	24	64	fa
Aquaray	41653	194.68.129.105		sfinx	500	no	32	64	fa
Aquaray1	41653	195.42.144.145	2001:7f8:43::4:1653:1	equinix	500	no	32	64	fa
Ascus_I3B	39912	195.42.144.118	2001:7f8:43::3:9912:1	equinix	500	no	32	64	fa
AS_EULERIAN	50234	195.42.144.49	2001:7F8:43::5:234:1	equinix	500	no	32	64	fa

Rezopole is member of...

- ADIRA
- Euro-IX
- FING
- ISOC-FR
- RIPE



They support us

Région RhôneAlpes

GRANDLYON communauté urbaine

Services around the GIX...

Related services

- Telecommunications Information Desk
- Visio-conference
- Events
  - Teldej
  - RUG
  - Aperezo
- YTest (innovative projects support)

The Visio-conference (1)

The service

- Conference up to 16 people: voice + image + sound
- Auditorium up to 200 people: voice + sound
- Multi-languages
- Chat
- Sharing documents
- Broadcasting screen

The Visio-conference (2)

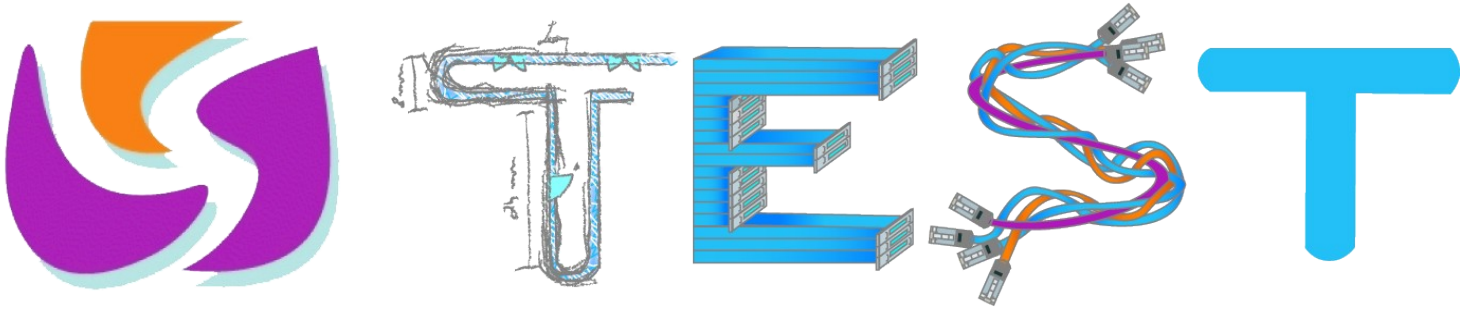
http://visio.rezopole.net

Telecommunications Information Desk (1)

www.guichettelecom.com

Economic benefits:

- Online information service destined for companies looking for telecommunications ressources and offers in a specific geographic area
- Linking users and operators through a search engine
- Accompanying companies wishing to established themselves in a new sector
- Marketplace allowing better competition thus better prices for enterprises
- A support to the economic development of the region



YTest objectives:

- Accompanying innovative structures wishing to start or do a POC (Proof Of Concept)
- Ensuring a collaboration with possible partner enterprises who put their services at disposal for free
- Enterprises creation and development
- Development of associations and other actors while minimizing technical and financial risks

Thank you for your attention!

For further information

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