Internet Governance Model in Brazil

ICANN47 - ccNSO meeting

Durban, Jul 2013
Demi Getschko

NIC.br – Brazilian Network Information Center

nic.br

A bit of history
milestones of first 10 years

- *OCT 1988* - First Connection (to BITNET, via Fermilab)

- *APR 1988* - Delegation of ccTLD ".br"

- *JAN 1991* - First Internet TCP/IP Connection (to ESNet, via Fermilab)

- *MAY 1991* - Definition of the Brazilian DNS Tree Structure

- *DEC 1994* - Opening of the Internet to individuals (Embratel)

- *MAY 1995* - Creation of the CGI.br (Brazilian Internet Steering Committee)

- *JUL 1997* - Brazilian Telecomm General Law and creation of ANATEL

- *NOV 1997* - Installation of the First IXP in São Paulo

- *JUL 1998* - Privatization of TELEBRAS and the Brazilian Telecommunications

Legal Framework in Brazil

(some) laws, resolutions and legislation

- ❑ The National General Law on Telecommunications *(since 1997)*

- ❑ CGI.br's Principles for the Governance and Use of the Internet *(enounced by CGI in 2009)*

- ❑ Information Access Act *(approved 2012, in fast adoption)*

- ❑ W3C Open Data Principles *(International)*

- ❑ Privacy and Personal Data *(in discussion)*

- ❑ The Civil Rights Framework for the Internet *(in discussion)*

About CGI.br

Created in 1995, the **Brazilian Internet Steering Committee - CGI.br** coordinates and integrates Internet services in Brazil, promoting technical quality, innovation and dissemination of the use of Internet services.

❑Propose policies and procedures related to the regulation of Internet activities;

❑Recommend standards for technical and operational procedures;

❑Establish strategic directives for the use and development of the Internet;

❑Promote studies and technical standards for network and Internet security;

❑Oversight the allocation of Internet addresses (IPs) and registration of domain names under the ccTLD ".br";

❑Promote specialized research on the use of ICTs;

❑Collect, organize and disseminate information on Internet services, including the production of indicators and statistics.

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CGI.br   Total of **21** members:

9 representatives from the Federal Government
    Ministry of Science and Technology;
    Ministry of Communication;
    Presidential Cabinet;
    Ministry of Defense;
    Ministry of Development, Industry and Foreign Trade;
    Ministry of Planning, Budget and Management;
    National Telecommunication Agency;
    National Council for Scientific and Technological Development;
    National Council of State Secretariats for Sc. Tech. and Inf., CONSECTI.

12 form Civil Society,
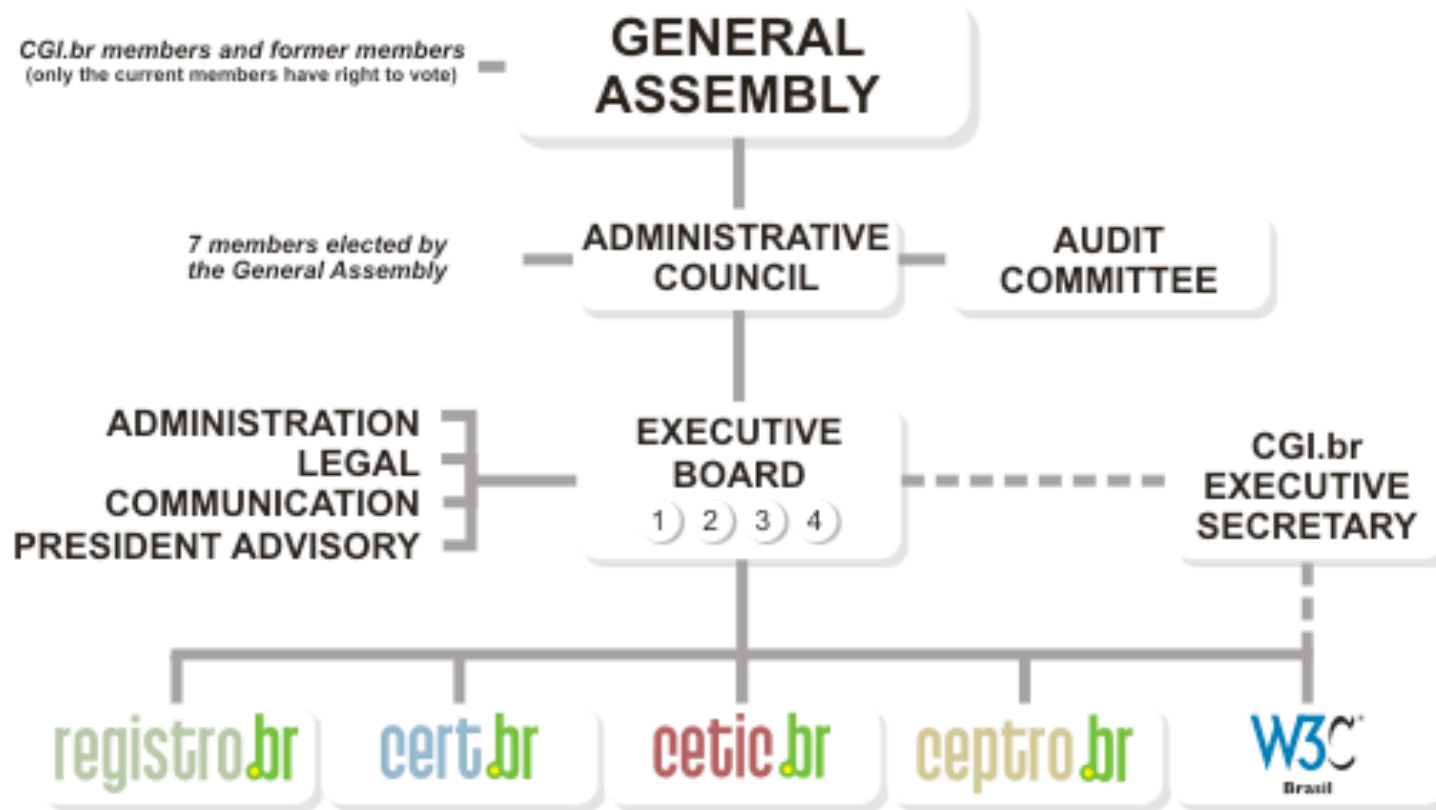 **4** representatives from the corporate sector
    Internet access and content providers;
    Telecommunication infrastructure providers;
    Hardware, telecommunication and software industries;
    Enterprises that use the Internet.
  4 representatives from the third sector
  3 representatives from the scientific and technological community
  1 Internet expert

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CGI.br members and former members
(only the current members have right to vote)

GENERAL ASSEMBLY

7 members elected by
the General Assembly

ADMINISTRATIVE COUNCIL

AUDIT COMMITTEE

ADMINISTRATION
LEGAL
COMMUNICATION
PRESIDENT ADVISORY

EXECUTIVE BOARD
1) 2) 3) 4)

CGI.br
EXECUTIVE SECRETARY

registro.br   cert.br   cetic.br   ceptro.br   W3C
Brasil

1) CEO
2) CFO
3) CTO
4) CPO

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Principles of Governance and Use of the Internet

CGI.br/Res/2009/03/P

❑ ***Freedom, privacy and human rights***: *The use of the Internet must be driven by the principles of freedom of expression, individual privacy and the respect for human rights, recognizing them as essential to the preservation of a fair and democratic society.*

❑ ***Democratic and collaborative governa****nce: Internet governance must be exercised in a transparent, multilateral and democratic manner, with the participation of the various sectors of society, thereby preserving and encouraging its character as a collective creation.*

❑ ***Universality***: *Internet access must be universal so that it becomes a tool for human and social development, thereby contributing to the formation of an inclusive and nondiscriminatory society, for the benefit of all.*

❑ ***Diversity***: *Cultural diversity must be respected and preserved and its expression must be stimulated, without the imposition of beliefs, customs or values.*

❑ ***Innovation***: *Internet governance must promote the continuous development and widespread dissemination of new technologies and models for access and use.*

Principles for Governance and Use of the Internet

CGI.br/Res/2009/03/P

- ❑ ***Neutrality of the network***: *Filtering or traffic privileges must meet ethical and technical criteria only, excluding any political, commercial, religious and cultural factors or any other form of discrimination or preferential treatment.*

- ❑ ***Unaccountability of the network***: *All action taken against illicit activity on the network must be aimed at those directly responsible for such activities, and not at the means of access and transport, always upholding the fundamental principles of freedom, privacy and the respect for human rights.*

- ❑ ***Functionality, security and stability***: *The stability, security and overall functionality of the network must be actively preserved through the adoption of technical measures that are consistent with international standards and encourage the adoption of best practices.*

- ❑ ***Standardization and interoperability***: *The Internet must be based on open standards that facilitate interoperability and enable all to participate in its development.*

- ❑ ***Legal and regulatory environments***: *The legal and regulatory environments must preserve the dynamics of the Internet as a space for collaboration*

About NIC.br

The **Brazilian Network Information Centre - NIC.br** is a private, civil, non-for-profit organization, that implements **CGI.br**'s decisions, and:
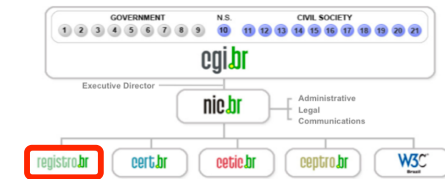
❏ Manage the registry and maintenance of domain names under the ccTLD ".br", and allocation of Autonomous System Numbers (ASN), IPv4 and IPv6 addresses;

❏ Ensure the treatment of and the response to security incidents;

❏ Develop technological projects to enhance the Brazilian network infrastructure;

❏ Conduct specialized research, producing and publishing indicators, statistics and strategic information on the development of the Brazilian Internet;

❏ Conduct studies and recommend procedures, norms and technical and operational standards for the web;

❏ Provide technical and operational support through the LACNIC, Internet Address Registry for Latin America and the Caribbean.

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REGISTRO.br

Brazilian Domain Name Registry Authority

registro.br

http://www.registro.br/

❑ ***REGISTRO.br*** is responsible for managing the registry and maintenance of domain names under the ccTLD ".br";

❑ Services and projects:

- o *Operation of Domain names registry;*

- o *Operation of the DNS and DNSSEC services for the ".br" domain;*

- o *Allocation of Autonomous System Numbers (ASN), IPv4 and IPv6 addresses in Brazil;*

- o *Provision of technical and operational support through the LACNIC, Internet Address Registry for Latin America and the Caribbean.*

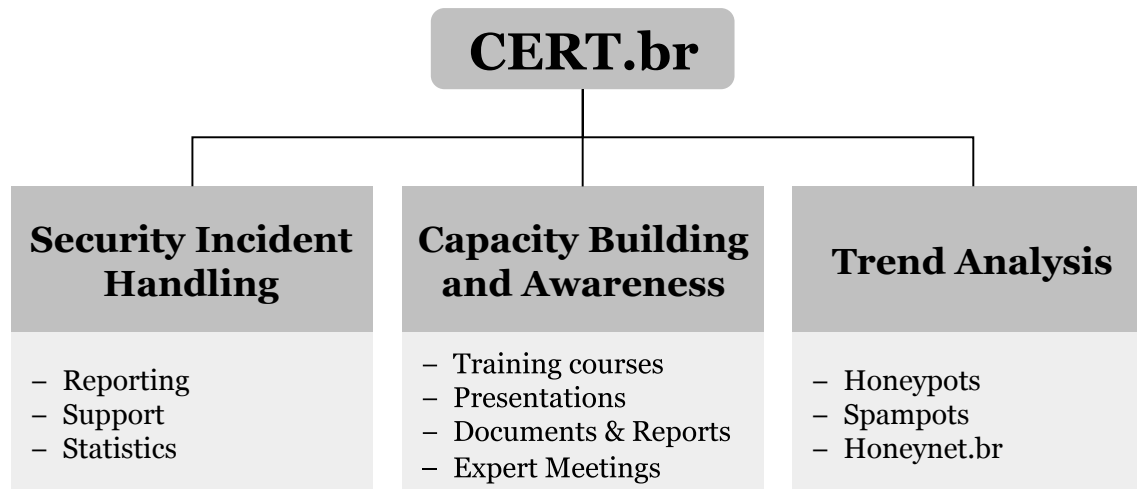**nic.br**

CERT.br

Brazilian National Computer Emergency Response Team

cert.br

http://www.cert.br
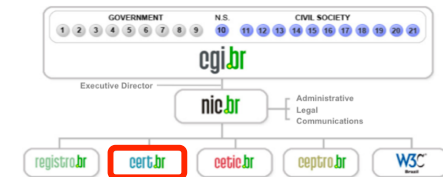
❑ Created in 1997 to act as the national focal point to handle computer security incident reports and to perform activities related to networks connected to the Brazilian Internet.
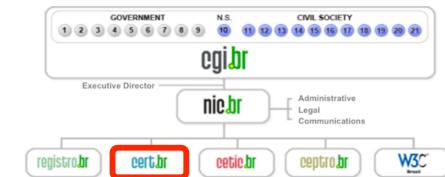
CERT.br

Security Incident Handling	Capacity Building and Awareness	Trend Analysis
– Reporting – Support – Statistics	– Training courses – Presentations – Documents & Reports – Expert Meetings	– Honeypots – Spampots – Honeynet.br

antispam.br

http://www.antispam.br/

❑ Videos & Guides

nic.br

CERT.br

Brazilian National Computer Emergency Response Team

cert.br

http://www.cert.br

- ❑ **CERT.br** is the Brazilian National Computer Emergency Response Team, maintained by NIC.br;

- ❑ Develops Internet attacks trends analysis projects, with the goal to better understands the threats in the Brazilian Internet space:

  - o **Distributed Honeypots**: *to increase the capacity of incident detection and event correlation;*

  - o **SpamPots**: *to obtain details about the abuse of the Internet infrastructure by spammers;*

  - o *CERT.br is a Software Engineering Institute Partner and is licensed to deliver in Brazil the following* **CERT® Program courses**: *Overview of Creating and Managing Computer Security Incident Response Teams / Fundamentals of Incident Handling / Advanced Incident Handling for Technical Staff*

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CEPTRO.br

Center of Study and Research in Network Technology and Operations


ceptro.br

http://www.ceptro.br
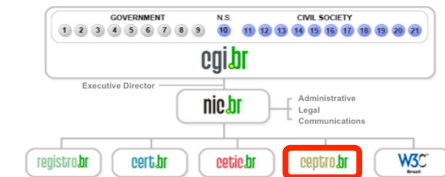
❑ **CEPTRO.br** is responsible for services and projects that aim to improve the quality of Internet services and the Internet infrastructure in Brazil.

❑ Development of technological projects :

- o *PTT Metro (Brazilian Internet Exchange Points - IXPs)*
- o *NTP.br (Brazilian Legal Time over Internet)*
- o *IPv6.br (IPv6 dissemination in Brazil)*
- o *Internet Quality Measurements*

- o *Zappiens.br*
- o *INOC-DBA*
- o *Web Census*
- o *VoIP Peering*

IXPs and ASs distribution in Brazil
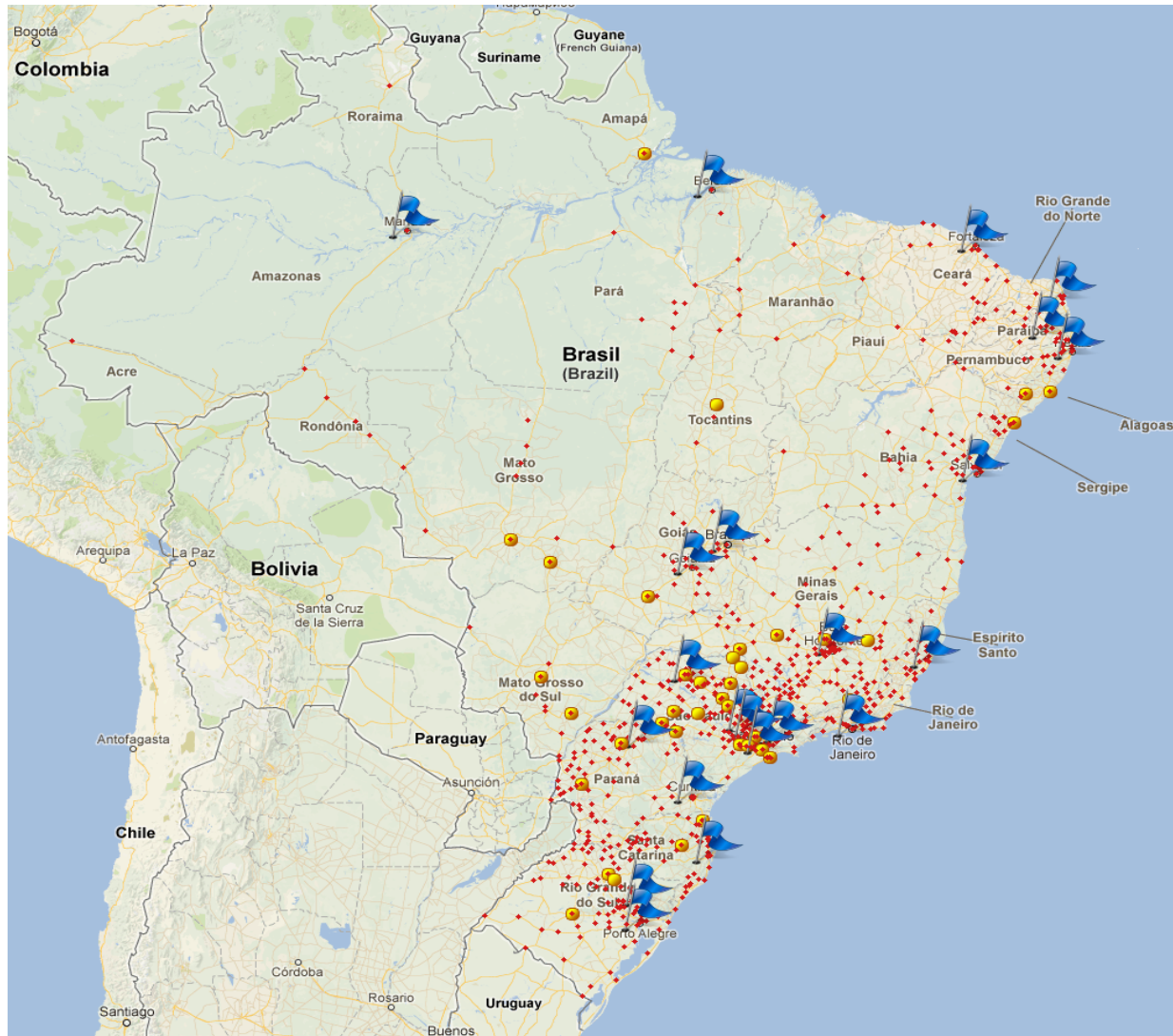
1. Americana
2. Belém
3. Belo Horizonte
4. Brasília
5. Caxias do Sul
6. Campina Grande
7. Campinas
8. Curitiba
9. Florianópolis
10. Fortaleza
11. Goiânia
12. Londrina
13. Manaus
14. Natal
15. Porto Alegre
16. Recife
17. Rio de Janeiro
18. Salvador
19. São José dos Campos
20. São José do Rio Preto
21. São Paulo
22. Vitória

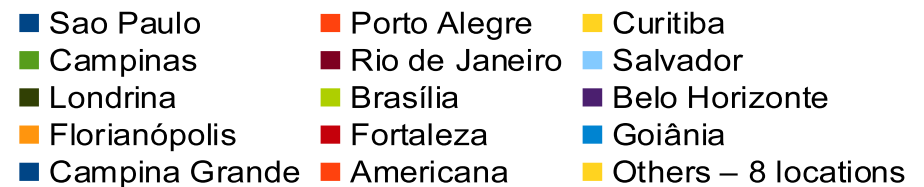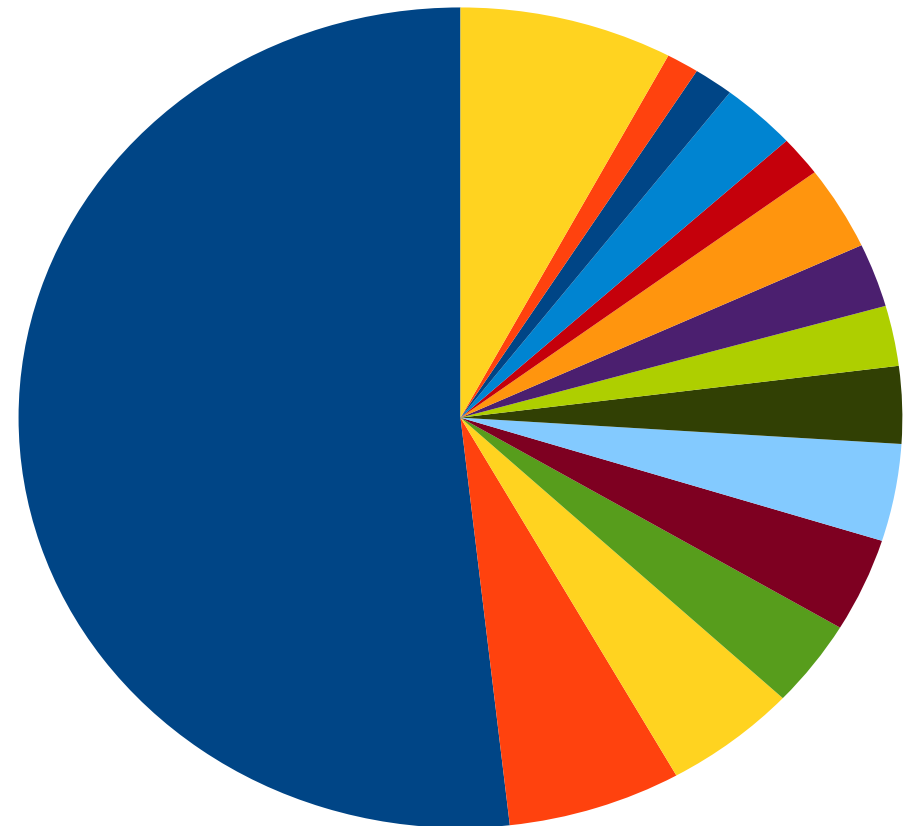# São Paulo METRO IXP Topology (with access data centers)
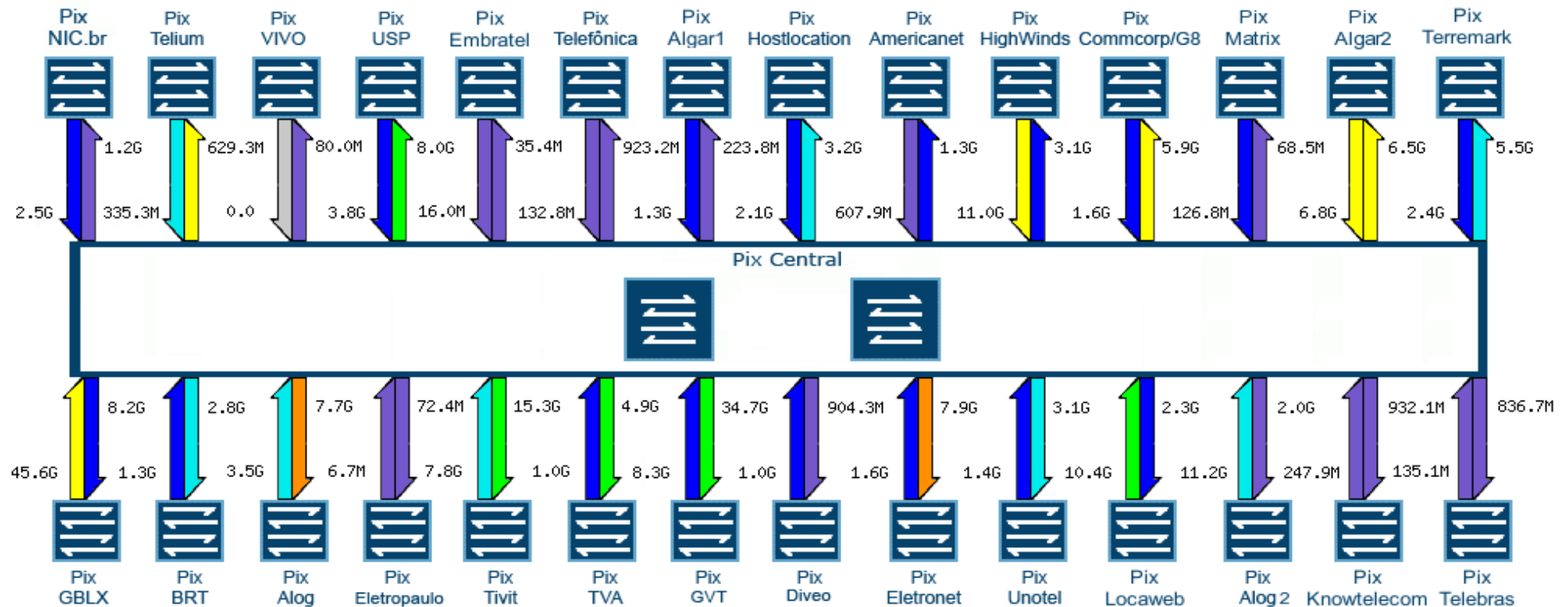
2013-05-21 16:15 (-0300)

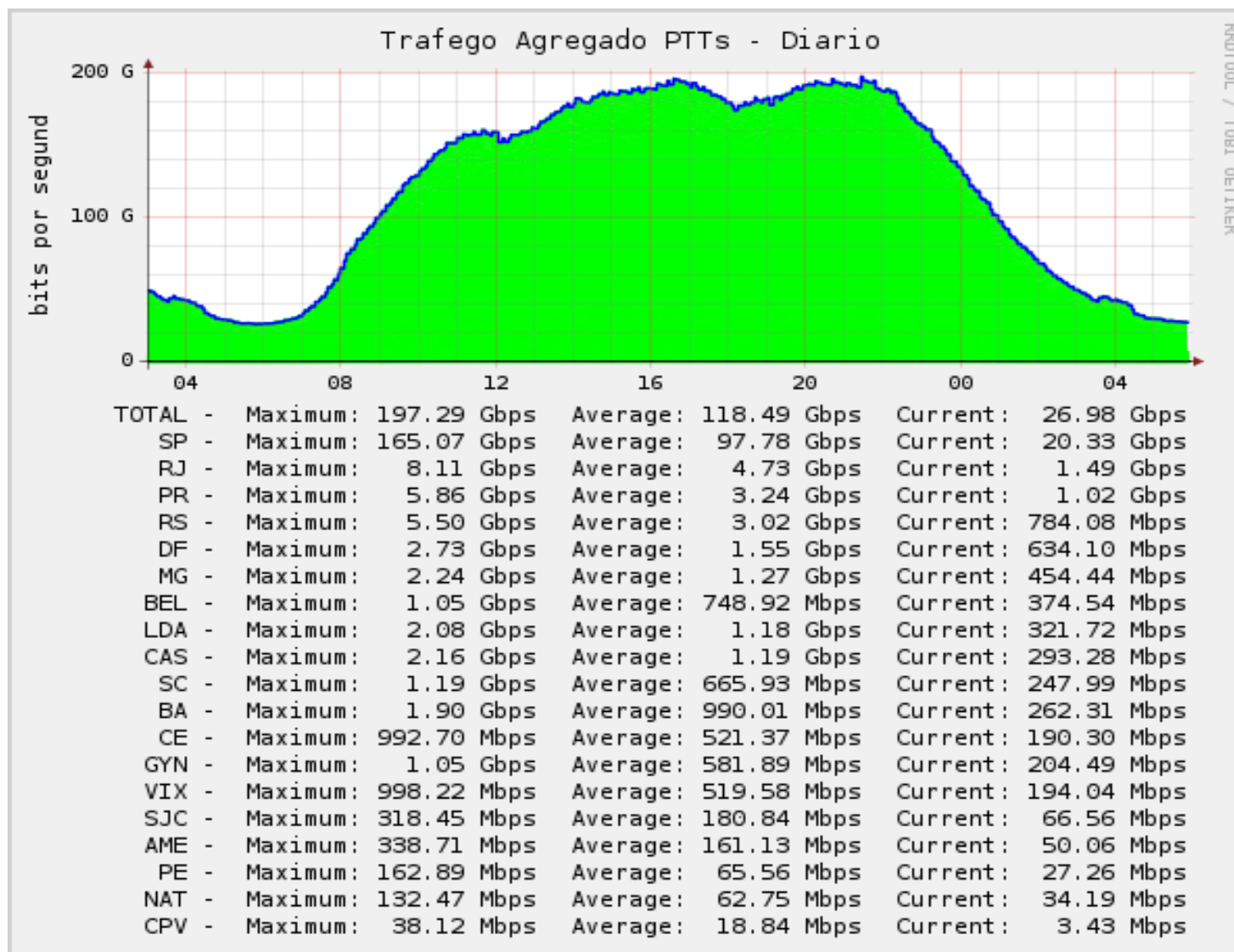# São Paulo METRO IXP Topology (access data centers)
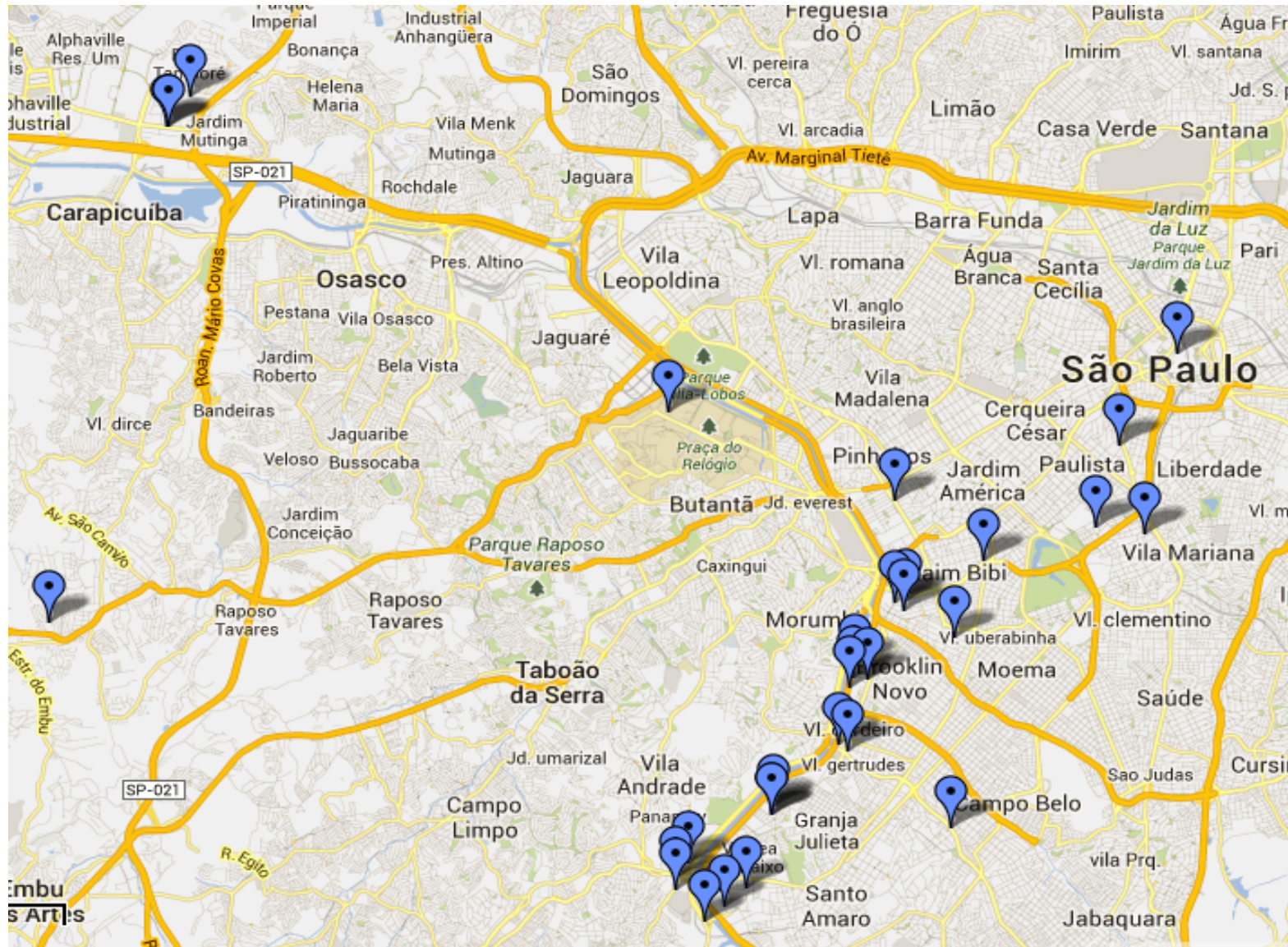
ASs per IXP (Location)

CITY	# AS	%
São Paulo	392	52
Porto Alegre	48	6
Curitiba	37	5
Campinas	26	3
Rio de Janeiro	28	4
Salvador	29	3
Londrina	23	3
Brasília	18	2
Belo Horizonte	19	2
Florianópolis	25	3
Fortaleza	12	2
Goiânia	21	3
Campina Grande	11	1
Americana	9	1
Other 8 locations	59	8

Legend:
- Sao Paulo
- Porto Alegre
- Curitiba
- Campinas
- Rio de Janeiro
- Salvador
- Londrina
- Brasília
- Belo Horizonte
- Florianópolis
- Fortaleza
- Goiânia
- Campina Grande
- Americana
- Others – 8 locations

Daily Aggregated Traffic - all locations

Trafego Agregado PTTs - Diario

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TOTAL -   Maximum: 197.29 Gbps   Average: 118.49 Gbps   Current:  26.98 Gbps
   SP -   Maximum: 165.07 Gbps   Average:  97.78 Gbps   Current:  20.33 Gbps
   RJ -   Maximum:   8.11 Gbps   Average:   4.73 Gbps   Current:   1.49 Gbps
   PR -   Maximum:   5.86 Gbps   Average:   3.24 Gbps   Current:   1.02 Gbps
   RS -   Maximum:   5.50 Gbps   Average:   3.02 Gbps   Current: 784.08 Mbps
   DF -   Maximum:   2.73 Gbps   Average:   1.55 Gbps   Current: 634.10 Mbps
   MG -   Maximum:   2.24 Gbps   Average:   1.27 Gbps   Current: 454.44 Mbps
  BEL -   Maximum:   1.05 Gbps   Average: 748.92 Mbps   Current: 374.54 Mbps
  LDA -   Maximum:   2.08 Gbps   Average:   1.18 Gbps   Current: 321.72 Mbps
  CAS -   Maximum:   2.16 Gbps   Average:   1.19 Gbps   Current: 293.28 Mbps
   SC -   Maximum:   1.19 Gbps   Average: 665.93 Mbps   Current: 247.99 Mbps
   BA -   Maximum:   1.90 Gbps   Average: 990.01 Mbps   Current: 262.31 Mbps
   CE -   Maximum: 992.70 Mbps   Average: 521.37 Mbps   Current: 190.30 Mbps
  GYN -   Maximum:   1.05 Gbps   Average: 581.89 Mbps   Current: 204.49 Mbps
  VIX -   Maximum: 998.22 Mbps   Average: 519.58 Mbps   Current: 194.04 Mbps
  SJC -   Maximum: 318.45 Mbps   Average: 180.84 Mbps   Current:  66.56 Mbps
  AME -   Maximum: 338.71 Mbps   Average: 161.13 Mbps   Current:  50.06 Mbps
   PE -   Maximum: 162.89 Mbps   Average:  65.56 Mbps   Current:  27.26 Mbps
  NAT -   Maximum: 132.47 Mbps   Average:  62.75 Mbps   Current:  34.19 Mbps
  CPV -   Maximum:  38.12 Mbps   Average:  18.84 Mbps   Current:   3.43 Mbps
```

IPv4 vs IPv6

27.52%

0.28%

71.56%

Ipv4
Ipv6
Acordos Bilaterais

CETIC.br

Center of Studies on Information and Communication Technologies

http://www.cetic.br
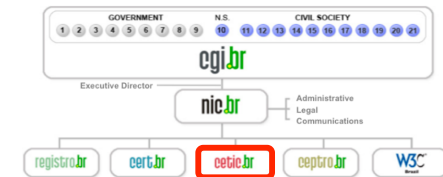
ICT Surveys and Data Analysis

Survey Methodologies and Quantitative Methods

- Production of indicators and statistics on the availability and use of the Internet in Brazil;

- Publication of specialized ICT surveys, reports and comparative studies;

- Provision of data for the development of public policies, action plans and governmental strategies;

- Collaboration with national and international forums for the development and harmonization of ICT indicators.
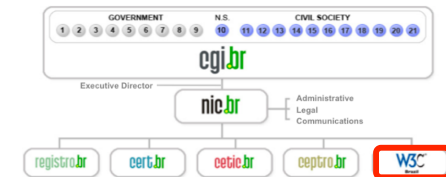
W3C.br

The W3C Brazilian Office

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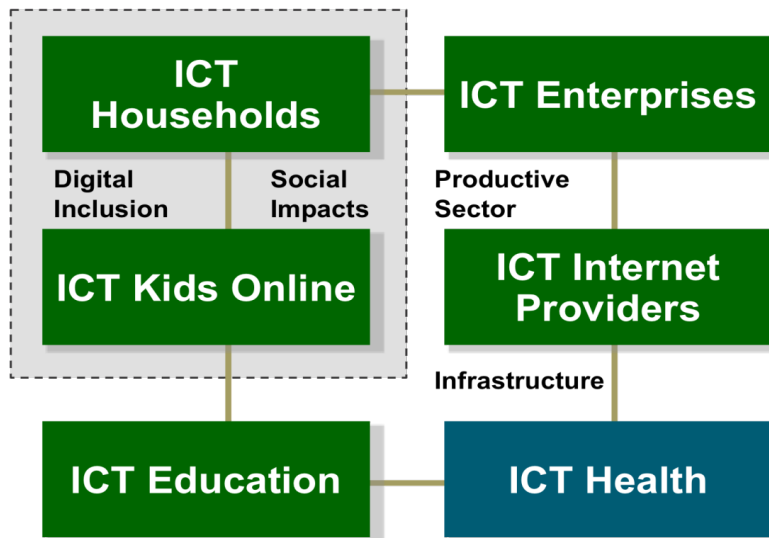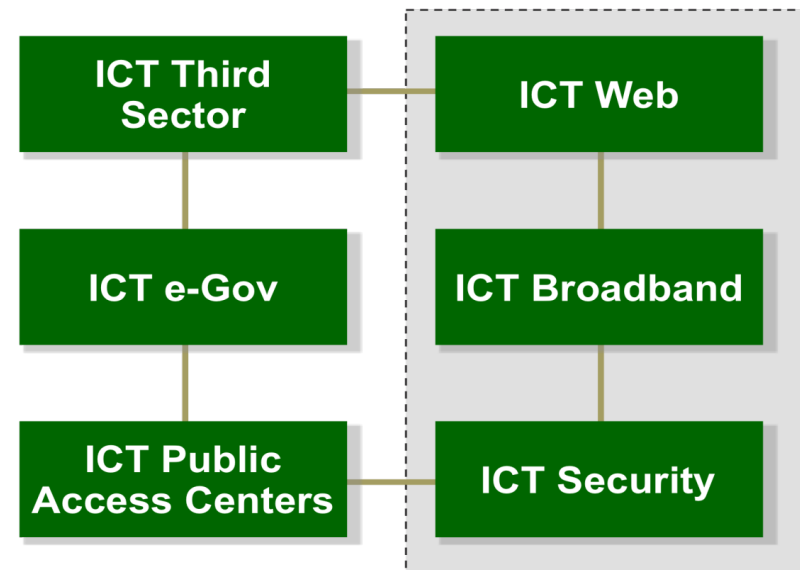
- ❑ **W3C** – World Wide Web Consortium is an international consortium that aims to bring the Internet to its full potential through the establishment of standards and guidelines (such as HTML, XML, XHTML and CSS standards);

- ❑ The W3C Brazilian Office began its operation in 2007 with the following objectives:
    - o *To disseminate the culture of adoption of web standards for the web development;*
    - o *To promote and to demonstrate the tools and standards developed by W3C;*
    - o *To create a forum of participation of W3C.br members and community interested in Web standards;*
    - o *To propose policies and procedures related to the regulation of Internet use;*
    - o *To recommend technical standards and operational procedures for the development of the Internet in Brazil.*

Thank You!