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**13th Annual Technical Meeting for
CSIRTs with National Responsibility**

Kuala Lumpur, Malaysia

June 30, 2018

From Professionals to Policy Makers: Challenges and Opportunities in Educating about Cybersecurity and Incident Handling

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This slide set is TLP: WHITE

**It will be available at
<https://cert.br/docs/presentations/>**

Internet Governance in Brazil: The Brazilian Internet Steering Committee – CGI.br

CGI.br is a **multi-stakeholder organization** created in 1995 by the Ministries of Communications and Science and Technology to **coordinate all Internet related activities in Brazil.**

Among the diverse responsibilities reinforced by the Presidential Decree 4.829, it has as the main attributions:

- to propose policies and procedures related to the regulation of Internet activities
- **to recommend standards for technical and operational procedures**
- to establish strategic directives related to the use and development of Internet in Brazil
- **to promote studies and technical standards for the network and services' security in the country**
- to coordinate the allocation of Internet addresses (IP) and the registration of domain names using <.br>
- **to collect, organize and disseminate information on Internet services, including indicators and statistics**

<https://www.cgi.br/about/>



1 2 3 4 5 6 7 8 9

GOVERNMENT (Appointed)

10 11 12 13 14 15 16 17 18 19 20 21

CIVIL SOCIETY (Elected)

and

Government Representatives:

- 1 Ministry of Science and Technology (Coordination)
- 2 Presidential Cabinet
- 3 Ministry of Communications
- 4 Ministry of Defense
- 5 Ministry of Development, Industry and Foreign Trade
- 6 Ministry of Planning, Budget and Management
- 7 National Telecommunications Agency
- 8 National Council of Scientific and Technological Development
- 9 National Forum of Estate Science and Technology Secretaries

Civil Society Representatives:

- 10 Internet Expert
- 11 General Business Sector Users
- 12 Internet Service Providers
- 13 Telecommunication Infrastructure Providers
- 14 Hardware and Software Industries
- 15 a 18 Non-governmental Entity
- 19 a 21 Academia

Brazilian Network Information Center – NIC.br

A **private not for profit** organization, created to **implement the decisions and projects designed by the Brazilian Internet Steering Committee – CGI.br.**

Its mission involves certain rights and obligations, which include:

- registering and maintaining <.br> domain names, as well as allocating Autonomous System Numbers (ASN) and IPv4 or IPv6 addresses in the country through Registro.br;
- **handling and responding to computer security incidents involving networks connected to the Brazilian Internet, which are activities to be carried out by CERT.br;**
- projects that support and improve the network infrastructure in the country, such as the direct interconnection between networks (IX.br) and the distribution of the Brazilian Official Time (NTP.br). These projects are the responsibility of CEPTRO.br;
- promoting studies and recommending procedures, norms and technical and operational standards that will improve network and Internet service security, as well as ensure its increased and adequate use by society.

<https://nic.br/who-we-are/>

Brazilian Network Information Center – NIC.br

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
.....
ADVISORIES:
CGI.br and PRESIDENT

EXECUTIVE BOARD

1 2 3 4 5

registro.br

Domain Registration
IP Assignment

cert.br

Security and
Incident Response

cetic.br

Studies and Surveys
About ICT use

ceptro.br

Internet Engineering
and New Projects

ceweb.br

Web Technologies

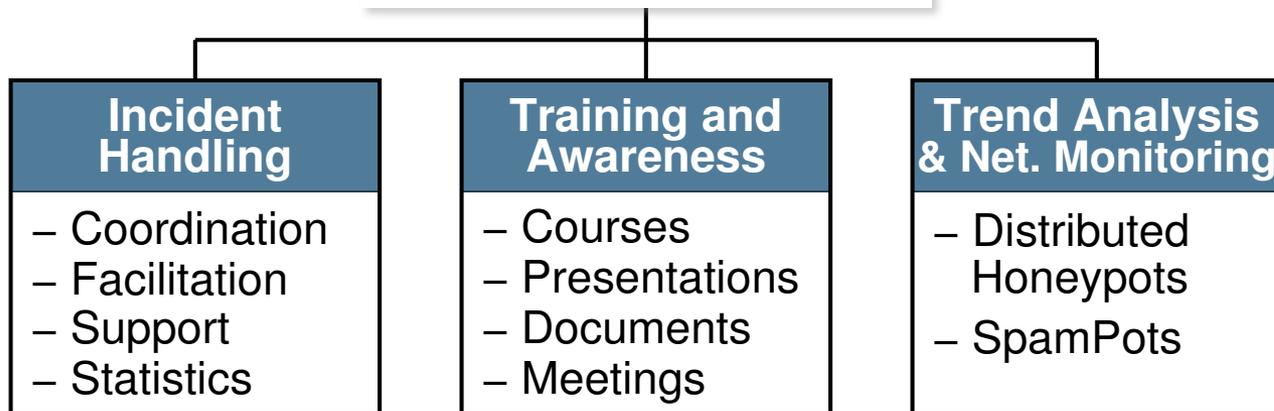
ix.br

Traffic Exchange

W3C
Brasil

Web Standards

- 1 Chief Executive Officer
- 2 Administrative and Financial Director
- 3 IT and Services Director
- 4 Director of Special Projects and Development
- 5 Consulting Director for CGI.br activities



Created in 1997 to handle computer security incident reports and activities related to networks connected to the Internet in Brazil

- National focal point for reporting security incidents
- Collect and disseminate information about threats and attack trends
- Increase the country's security awareness and incident handling capacity
- Develop collaborative relationships with other entities
- Help new CSIRTs to establish their activities

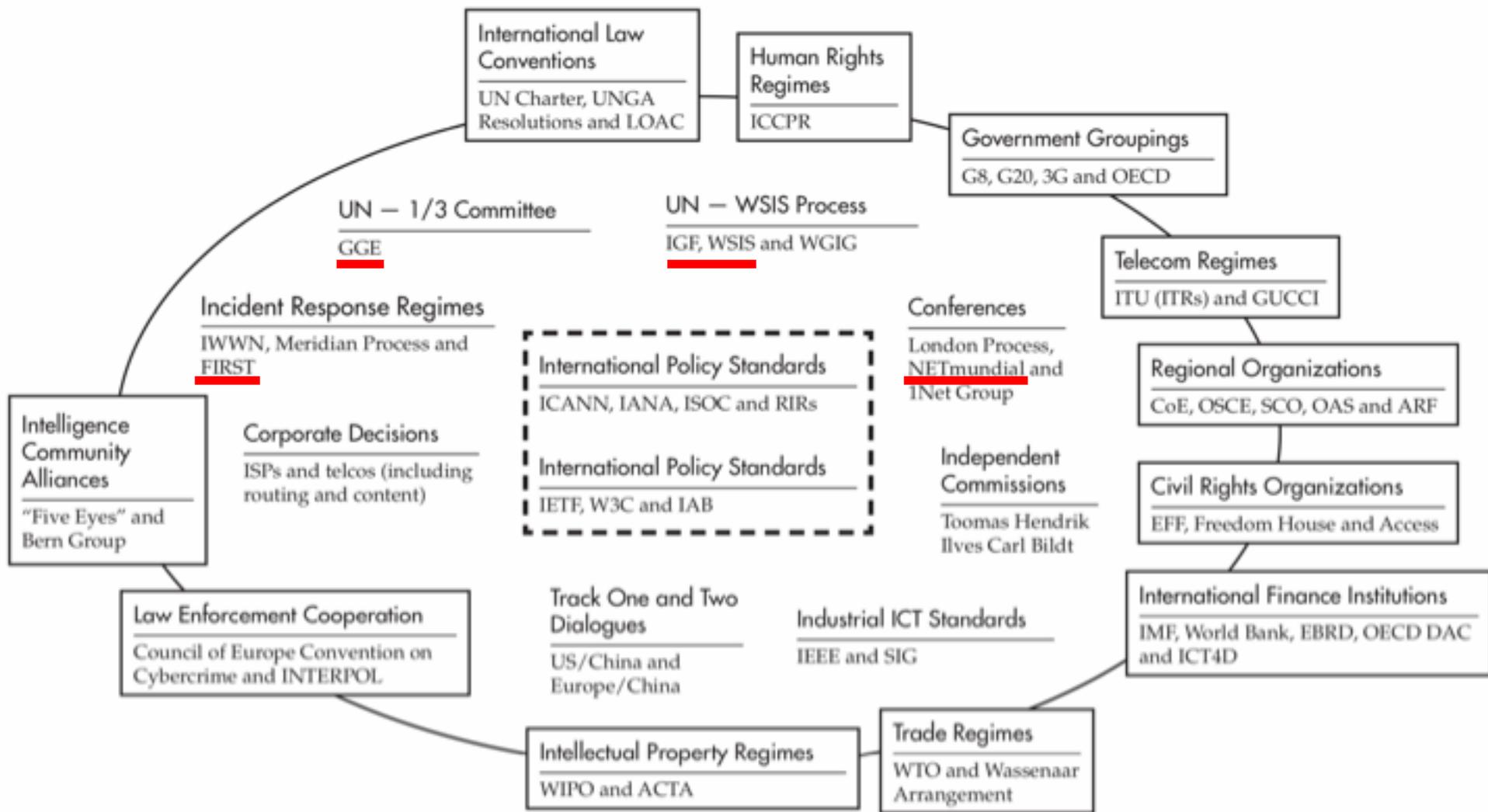
<https://www.cert.br/about/>

1996 CGI.br study that defined the needs and mission of CERT.br (in Portuguese):

<http://www.nic.br/pagina/grupos-de-trabalho-documento-gt-s/169>

Policy Makers and Cybersecurity

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The Regime Complex for Managing Global Cyber Activities
Global Commission on Internet Governance Paper Series No. 1

May 20, 2014, Joseph S. Nye Jr.

<https://www.cigionline.org/publications/regime-complex-managing-global-cyber-activities>

World Summit on the Information Society (WSIS): Declaration of Principles

Document WSIS-03/GENEVA/DOC/4-E

12 December 2003

[...]

B5) Building confidence and security in the use of ICTs

35. Strengthening the trust framework, **including information security and network security, authentication, privacy and consumer protection**, is a prerequisite for the development of the Information Society and for building confidence among users of ICTs.

[...]

<http://www.itu.int/wsis/docs/geneva/official/dop.html>

Led to the creation of the
Internet Governance Forum (IGF)
in 2006



IGF Internet
Governance
Forum

CGI.br:

Principles for the Governance and Use of the Internet

CGI.br/RES/2009/003/P - Principles for the Governance and Use of the Internet

February 2009

[...]

8. 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.**

[...]

<https://www.cgi.br/resolucoes-2009-003-en/>

The CGI.br principles lead to a new legislation: The Brazilian Internet Bill of Rights (MCI)

2009 – 2013

- Open consultation process for a new legislation
- Active participation of all sectors of the society
 - All contributions via an online platform

Early 2013

- Legislation draft sent to Congress

Mid 2013

- “Snowden revelations”

2013 – 2014

- Legislation proposal got traction in Congress
- NETMundial meeting was called

April 2014

- MCI was signed into law by the President at the NETmundial opening ceremony

https://igarape.org.br/marcocivil/assets/downloads/igarape_brazil-the-internet-and-the-digital-bill-of-rights.pdf

NETmundial: Internet Governance Principles



NETmundial Multistakeholder Statement
April, 24th 2014, 19:31 BRT

[...]

SECURITY, STABILITY AND RESILIENCE OF THE INTERNET

Security, stability and resilience of the Internet should be a key objective of all stakeholders in Internet governance. As a universal global resource, the Internet should be a **secure, stable, resilient, reliable and trustworthy network**. **Effectiveness** in addressing risks and threats to security and stability of the Internet **depends on strong cooperation among different stakeholders**.

[...]

<http://netmundial.br/netmundial-multistakeholder-statement/>

UN GGE



**UN General Assembly, Group of Governmental Experts, Document A/70/174
22 July 2015**

[...]

States should not conduct or knowingly support activity to **harm the information systems of the authorized emergency response teams** (sometimes known as computer emergency response teams or cybersecurity incident response teams) of another State. A State should not use authorized emergency response teams to engage in malicious international activity.

[...]

<https://ccdcoe.org/sites/default/files/documents/UN-150722-GGEReport2015.pdf>

We have Statements and Several Fora

Do all stakeholders understand the technology?



UNODA
UNITED NATIONS OFFICE FOR
DISARMAMENT AFFAIRS



Global Multistakeholder
Meeting on the Future
of Internet Governance



IGF Internet
Governance
Forum

NETmundial

“Without ‘exceptional access’ it is impossible to investigate crimes”

“Routers should not inspect packet headers”

“Using crypto is enough to ensure privacy”

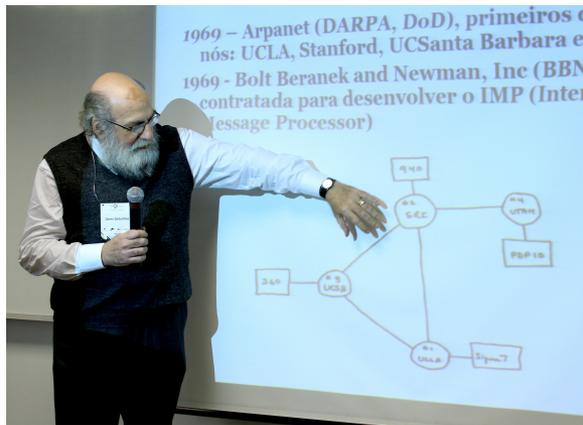
“Cookies harm privacy, we should get rid of cookies”

Brazilian Internet Governance School (EGI) 2014–present: Educate policy makers about technology



<https://www.flickr.com/photos/nicbr/albums>

Brazilian Internet Governance School – Legal Focus: Educate LEAs, judges, prosecutors, lawyers, etc



<https://www.flickr.com/photos/nicbr/albums>

Training Different Audiences: Major Challenges

Technical community

- Lack of foundations
 - TCP/IP, operating systems, networking
- Believe that tools should be the focus
- Don't care about policy implications
- Resistance to new technologies
 - Delay in acknowledging them
 - Resistance to adopt them

Policy makers, activists and legal personnel

- They don't think they need to understand a minimum about the technology
 - Mismatch of expected behavior vs. unintended consequences of a given policy being proposed
- Have preconceptions
- Different "language" is still a main barrier
 - To describe their view of how the technology works they rely on metaphors, not always the best ones ☹️

Training Different Audiences: Major Opportunities

Technical community

- Provides a structured way to deliver our message
- Creates a pool of knowledgeable professionals
- Fosters a trusted community

Policy makers, activists and legal personnel

- Highlights our own misconceptions and preconceptions
- Helps us to better shape our message
 - Avoid “taboo” words (like monitoring and deep packet inspection!)
 - Create our own metaphors ☺
- We can get them acquainted with our language and acronyms
 - CSIRT, CERT, FIRST, IETF, ICANN, ISOC, RIR...
 - AS, ASN, BGP, IXP, ISP, Peering...
 - TCP/IP, UDP, Service Port, TLS, DNSSEC, PGP...

Security is Inheritably Multi-stakeholder: Cooperation for a Healthy Ecosystem

No organization or agency alone will be able to secure the digital environment – everyone has a role, specially:

Academia

- needs to include security thinking in all disciplines
- secure development has to be a priority from the beginning

Developers / companies

- security needs to be a requirement from early development stages

Managers / executives

- think about security as in investment and allocate appropriate resources

System and network administrators and security professionals

- care about which type of traffic is leaving your network
 - mindset: do no harm, do not pollute the Internet
- adopt best current practices

End users

- understand the risks and follow security practices
- keep all devices updated and apply all patches

Final Thoughts

Technical professional qualification

- How to entice young people to learn “hard skills”?

Policy makers

- Need to learn to listen to the technical community
 - Maybe case studies of what went well and what went wrong?

Please, get engaged! Two places to start:

- **FIRST Internet Governance Initiative**
<https://first.org/global/governance/>
- **United Nations Internet Governance Forum
Best Practice Forum on Cybersecurity**
<https://www.intgovforum.org/multilingual/content/bpf-cybersecurity-1>

See also:

An Internet of Governments: How Policymakers Became Interested in “Cyber”

https://first.org/resources/papers/conf2018/Van-Horenbeeck-Maarten-Aiken-Klee_FIRST_20180626.pdf

Obrigada Terima Kasih Thank You

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June 30, 2018

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