

Experience Report about the Activities in the Mackenzie Presbyterian University related to IETF, IRTF and ISOC

Julião Braga, Nizam Omar, Vagner Silva

juliao@braga.eti.br, nizam.omar@mackenzie.br, vagner.silva@cuzeirodosul.edu.br

Abstract

This paper discusses the initiatives taken under the Mackenzie Presbyterian University with respect to IETF, IRTF and ISOC during the period 2012-2015. Additionally, it makes an approach regarding the involvement of people of the LACNIC region in the IETF and features the low participation of regions on the influence of AFRINIC and LACNIC. In addition we present some proposed actions to take for the next five years.

1 Introduction

Since a few years ago, the Internet has suffered from some private groups and governments, attacks in order to disrupt its format and original principles.

The Mackenzie Presbyterian University (UPM) has been concerned with this state of affairs, too. So, the UPM, through its Graduate Program in Electrical Engineering and Computer Science began a process of research recommendations oriented to the IETF working groups and intensive dissemination of the activities inherent to the IETF, IRTF and ISOC.

This paper describes these initiatives, research and dissemination of information, in the sections that follow. In section two we describe the research and development activities under way. In section three we describe the disclosure movements. In section four we treat the results on data about attendees at IETF meetings, recently updated. Finally, we present some recommendations over the increase participation of Latin America and Africa persons, in the IETF, IRTF and ISOC, in order to stimulate the future.

2 Research Activities

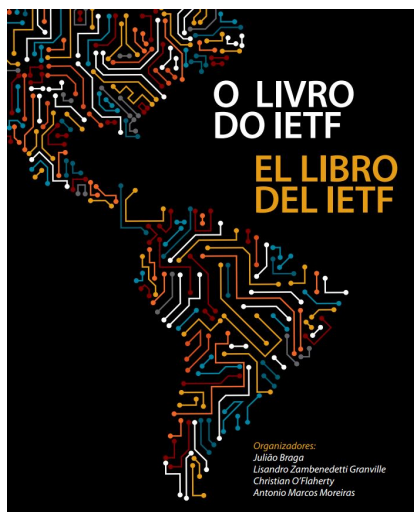


Figura 1: Book cover

The activities related to the IETF, IRTF and ISOC within the UPM began in 2012 with the participation of one of its researchers in the IETF 82, as ISOC Fellowship. From there, a systematic process of disclosure has produced some technical papers (BRAGA, 2013b) (BRAGA, 2013a). Concurrently, the translation was made into Portuguese of **The Tao of the IETF**¹. This initiative culminated in the organization of the book **O Livro do IETF / El Libro del IETF**, where the Tao appears in Portuguese, Spanish and English (BRAGA et al., 2014), in hard copy, Figure 1, and in electronic version².

In addition, two studies were presented at I Workshop pre IETF (2014), together with the CSBC 2014, with emphasis on Brazilian participation in the IETF (BRAGA; SILVA; OMAR, 2014) and the other one, a technical paper on application of intelligent agents in network virtualization functions (BRAGA; OMAR, 2014).

So far, in the year of 2015 was accepted by a qualification board, a master's thesis and was developed a paper, unpublished yet, with the title "A proposal for the use of Intelligent Elements in the Restricted Internet Infrastructure Domains", addressing a model that fits in the interests of IETF WG ANIMA³.

At present, besides the team coordinator, Prof. Dr. Nizam Omar, two other PhD students are part of the team of interest: Julião Braga and Vagner da Silva. All of them, allocated in a research group associated with the CNPq, named "Adaptive Computing Systems Engineering"⁴.

UPM, through its team, actively participated in the coordination of I Workshop pre IETF (July 2014) and in the organization of the next II Workshop pre IETF⁵ (July 2015).

¹ [url http://www.ietf.org/tao-translations.html](http://www.ietf.org/tao-translations.html) and <http://www.ietf.org/so-translated-br.html>

² <http://www.cgi.br/publicacao/o-livro-do-ietf>

³ <http://datatracker.ietf.org/wg/anima/charter/>

⁴ <http://dgp.cnpq.br/dgp/espelhogrupo/6249502998961138>

⁵ <http://workshop.protocolos.net.br>

3 Diffusion Initiatives

The most important outreach event was the distribution of the book "The IETF Book" on several occasions, in Latin America and Africa. In person, Table 1 displays some of the events in which there was disclosure of ISOC and IETF, mainly.

Tabela 1: Some event participations

#	Description	Where	Who	When
1.	Campus Party ⁷	São Paulo, SP	Julião Braga	Jan 2013
2.	CSBC 2013 ⁸	Maceio, AL	Julião Braga	Jul 2013
3.	Running the Internet	UPM, São Paulo, SP	Julião Braga	Oct 2014
4.	IXP Training	Sao Thome & Principe	Julião Braga ⁹	Nov 2014
5.	IXP Training	Cabo Verde	Julião Braga ⁹	Nov 2014
6.	ANIMA HUB	UPM, SP	Julião Braga, Vagner da Silva	Mar 2015
7.	Keynote Speaker	EXPOTEC ¹⁰ , Joao Pessoa, PB	Julião Braga	May 2015
8.	IXP Training	Mozambique	Julião Braga ⁹	Sep 2015

4 Brazilian, AFRINIC and LACNIC region participation in the IETF meetings data analysis

Following we will make some considerations about the data used in development of the work Braga, Silva e Omar (2014), but now updated.

4.1 About the data

The data shows in this paper was captured from the Attendance List, from IETF Meeting Registration System for each meeting of the IETF. Was used the URL <https://www.ietf.org/registration/ietfX/attendance.py>, where $X = 72, \dots, 93$. Before the IETF 72, the data was collected manually to construct part of the Figure 2. From IETF 72 to IETF 85 the data is available in <http://ietf.protocolos.net.br/meetings/ietf.php>. To the meetings from the IETF 86, the URL is (note the X), <http://ietf.protocolos.net.br/meetings/ietfX.php>, where X is the value of the desired meeting.

⁷ <http://ietf.protocolos.net.br/archives/CampusParty.pdf>

⁸ <http://ietf.protocolos.net.br/archives/IETF-CSBC-V6.pdf>

⁹ Com a participação de Leandro Bertholdo, UFRGS

¹⁰ <http://www.expotec.org.br/noticia/137-ietf-integra-associacoes-de-arquitetura-da-internet.html>

4.2 Brazilian participation

Figure 2 displays a graphic with the global and Brazilian registration in the IETF events.

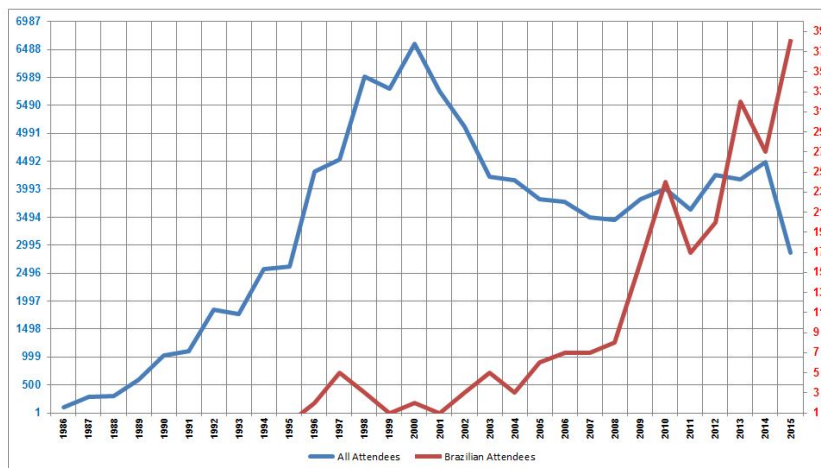


Figura 2: Brazilian and all attendees at annual IETF meetings

The year 2015 represents the attendees in the first annual meeting (IETF 92) and partial record at IETF 93 (Prague). meeting So, the overall participation should not be considered. The data shows a trend of significant growth of Brazilian attendees (including the partial attendees at IETF 93, so far). Especially if we consider the historical average of the last twenty years – 11 attendees – and the historical average of the last seven years – 24 attendees –, as shown the Table 3, since 1996, first year of Brazilian attendees.

The growth of Brazilian's participation should continue to increase in our opinion. Not only the initiatives of the UPM, but for the effective and meaningful participation of institutions such as CGI.br, Nic.br, among many others. One has to remember that individuals have dedicated themselves to spreading the IETF, IRTF and ISOC systematically, in Latin America, particularly, in Brazil. Below are some of them:

- Alvaro Retana, Cisco. Chair of IETF LAC Group
- Antonio Marcus Moreiras, Nic.br
- Christian O'Flaherty, ISOC
- Leandro Melo de Sales, UFAL
- Lisandro Zambenedetti Granville, CGI.br, UFRGS
- Percival Henriques, CGI.br
- Raquel Gatto, ISOC

Tabela 2: Attendees in annual IETF meetings

Year	Global	Brazilian
1996	4314	2
1997	4526	5
1998	6005	3
1999	5794	1
2000	6585	2
2001	5739	1
2002	5111	3
2003	4216	5
2004	4161	3
2005	3823	6
2006	3766	7
2007	3496	7
2008	3451	8
2009	3814	16
2010	4006	24
2011	3627	17
2012	4249	20
2013	4168	32
2014	4485	27
2015 (partial)	2858	38

This set of forces is the permanent inductor of the Brazilian and Latin American participation growth, in the activities of the IETF, IRTF and ISOC.

4.3 RIRs participations

The participation of the RIRs (Regional Internet Registers) in the IETF meetings, can be seen in Figure 3. There is a clear low personal attendance of people from regions under the control of AFRINIC and LACNIC.

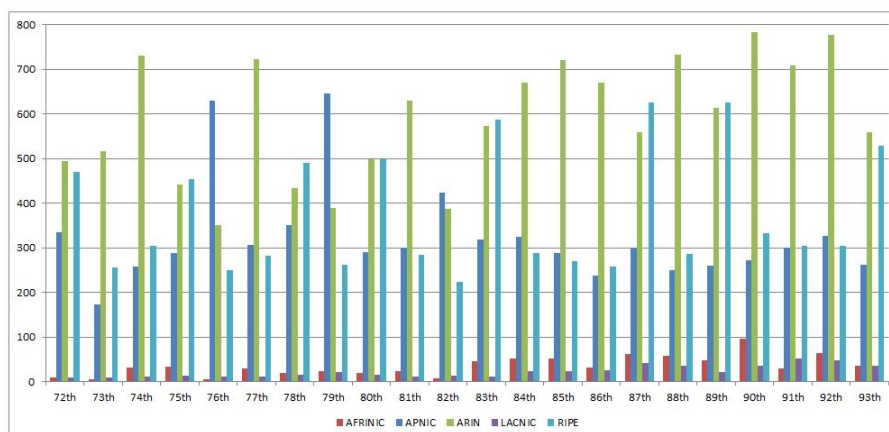


Figura 3: Attendees per RIR, since IETF 72

The most effective work to stimulate participation in the IETF is done by ISOC. The ISOC does an unusual effort to spread, guidance and participation, particu-

larly in the regions of AFRINIC and LACNIC. These RIRs do a great job locally. However, efforts are isolated but are justified by recognizing that there is technical capacity in these regions, which can contribute in many ways to a better Internet.

We noticed the fact that ISOC, AFRINIC and LACNIC need more support, especially from voluntary people.

4.4 Latin America ISOC Fellowships

From IETF 67 (2006) to the IETF 92 (2015) ISOC offered 80 Fellowships. Table 3 shows the number of Fellowships by the IETF meeting. From eighty Fellowships, ten were for female, and seventy for males⁶.

Tabela 3: Fellowships offered by ISOC to Latin America people, by meeting

IETF Meeting	# Fellowships
67	1
68	1
69	2
70	3
71	1
72	3
73	1
74	1
75	3
76	5
77	1
78	2
79	5
80	3
81	2
82	3
83	3
84	3
85	4
86	6
87	7
88	3
89	5
90	4
91	3
92	5

5 Proposed actions

Interestingly, the authors realize that there is a surprising lack of knowledge by the students of computing, on the IETF, IRTF and ISOC, in Brazil, at least. Maybe it's a result of the isolation of disclosure (only ISOC does this systematically) and lack of effectiveness in other disclosure initiatives. The implementation of the proposals

⁶ Thanks Christian O'Flaherty by this Fellowship informations

below and others that may be recommended should assume scenario no less than five years.

- (a) Increase the participation of persons from AFRINIC and LACNIC regions, through Fellowships. At least one hundred (100) Fellowships for each of these RIRs, by meeting. Or, three hundred (300) Fellowships by year, by RIR. This is a goal to be achieved.
- (b) A significant portion of these grants should be allocated for educational institutions, which get equivalent return, through funding research agencies in projects oriented to IETF, IRTF and / or ISOC.
- (c) Should be involved researcher institutions in the share of Internet Governance Forum⁷ (IGF). Part of the Fellowships may be shared for this purpose. A wonderful initiative was taken by CGI.br in 2014, which innovated in offering participation in the IETF, with the involvement of researchers from institutes, universities and companies⁸. It would be bad news if this program were not repeated this year and in the next five years.
- (d) Texts in native language should be encouraged and some Fellowship should be used as a reward to people who develop them.
- (e) Programs such as “NANOG College Immersion Program” (<<https://www.nanog.org/resources/nci>>) could be implemented by LACNIC (LACNOG).
- (f) Some countries, such as Brazil offer through development institutions, scholarships for undergraduate research. Such undergraduate projects that contemplate research oriented to IETF should include resources to attend meetings of the IETF and / or IGF during the project duration.
- (g) All Fellowship must be controlled by ISOC. Eventually, local chapters of ISOC could take care of local distribution, as an incentive for chapter growth.
- (h) Local computing associations should be involved. In the specific case of Brazil, the Brazilian Computer Society (SBC) should encourage further participation, more aggressively to support ISOC efforts to make the Internet better, stimulating the presence of his associates, increasingly.

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⁷ <<http://www.igf.org>>

⁸ <<http://cgi.br/noticia/notas/chamada-publica-ietf/>>

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