



LACNIC

2011 Annual Report: Facing the Challenges of the Post-IPv4 Era

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Prepared for a New Dream

Message from the President of LACNIC's Board of Directors

2011 was a transcendental year both for LACNIC as well as for the Internet community as a whole.

A year that brought to a close an era long awaited and announced, which put to the test the global address space assignment system's ability to solve one of the most difficult challenges it has ever faced: the exhaustion of the central pool of IPv4 addresses. When the time came, LACNIC was prepared in the best possible way.

Thanks to the policies developed by the community since its creation as a regional registry in 2002, LACNIC has enough IPv4 addresses to ensure Internet growth in Latin America and the Caribbean for the next two years and thus to allow a gradual transition to the new platform as the use of IPv6 expands.

Assuming the responsibility it was entrusted by the community, during 2011 LACNIC multiplied its efforts geared towards IPv6 implementation, and the region of Latin America and the Caribbean thus reached outstanding levels of IPv6 address space assignments.

But that is not all. Today we can say that LACNIC has become institutionally consolidated and that it has constantly grown in terms of its number of members, now more than two thousand, and in terms of the quality and quantity of services we provide, with new infrastructure that allows us to serve our growing membership, in benefit of Internet development and stability at global level.

This level of consolidation can also be observed in the articulation with each and every regional organization and the region's governments, with whom we have worked to promote policies that will guarantee the benefits of Internet access for the more than 600 million inhabitants of Latin America and the Caribbean. Today that is our dream, and it is towards that dream that we must direct our best efforts. I can think of no better way to prepare for our tenth anniversary.



Oscar Messano
President of LACNIC's Board of Directors



Vision

"To lead a space for building and articulating initiatives for Internet development and stability in Latin America and the Caribbean."

Mission

To administrate Internet numbering resources and contribute to the creation of collaboration and cooperation opportunities that will benefit the regional Internet community, committed to:

- The quality of our services
- Constantly perfecting an impartial, participative and transparent self-regulation model in cooperation with the other Regional Internet Registries
- Promoting the participation of all stakeholders in the organization's processes
- Adopting and promoting technological advancements and standards within the industry
- Strengthening our relationships with the main Internet stakeholders of the region
- Developing regional capabilities through training and the dissemination of Internet-related technology

LACNIC's Board of Directors

LACNIC's Board of Directors is made up by seven members, each of which serves a 3-year term. These positions are partially renewed each year in groups of two or three, as applicable.

Directors are nominated and elected by LACNIC members using e-voting mechanisms. Their main functions are to summon assemblies and execute assembly decisions, to comply with and enforce the organization's bylaws, to manage and administrate the organization, to decide the admittance of new members, and to approve methodologies for the development of LACNIC, as well as Internet resource administration and allocation policies.

During 2011, LACNIC's Board of Directors was made up as follows:



From left to right: Wardner Maia, Hartmut Glaser, Oscar Robles, Oscar Messano, Raúl Echeberría, Alejandro Guzmán, Rafael Ibarra and Javier Salazar

Name	Position	Country of residence	Term ends in
Oscar Messano	President	Argentina	December 2011
Oscar Robles	Vice President	Mexico	December 2011
Hartmut Gvlaser	Treasurer	Brazil	December 2012
Alejandro Guzmán	Deputy Treasurer	Colombia	December 2012
Javier Salazar	Secretary	Mexico	December 2013
Rafael Ibarra	Deputy Secretary	El Salvador	December 2012
Wardner Maia	Member	Brazil	December 2013
Raúl Echeberría	Executive Director	Uruguay	

An Intense and Challenging Year

Message from LACNIC's Executive Director

The year began with a historical event. In January, the central pool of IPv4 addresses administrated by the Internet Assigned Numbers Authority (IANA) was finally exhausted and this triggered the irreversible process of changing the existing Internet protocol.

In Latin America and the Caribbean, community participation and the work carried out by LACNIC allowed facing the moment with calm, as the region has enough IPv4 addresses to ensure a proper transition to IPv6.

This is a new era: the internet's future lies with IPv6 and it is towards that future that we have been working during all these years.

In the midst of these activities, we were honored to receive Steven Crocker, one of the creators of the Internet, who visited us in Montevideo and left us with a clear message. The Internet has been extremely successful because millions of people use it; however, more than half of the population does not yet have Internet access.

At institutional level, LACNIC became consolidated as a financially sound and stable organization. This growth led us to create the Customer Department in order to prioritize support services and activities for the more than 2000 regional Internet companies and entities that are now part of our organization.

Results of the customer satisfaction survey commissioned to and conducted by international consultant Equipos Mori show that the time and effort LACNIC has devoted to better serving its members and strengthening their ties through more and improved services have paid off. This fills us with pride and the commitment to continue working even more.



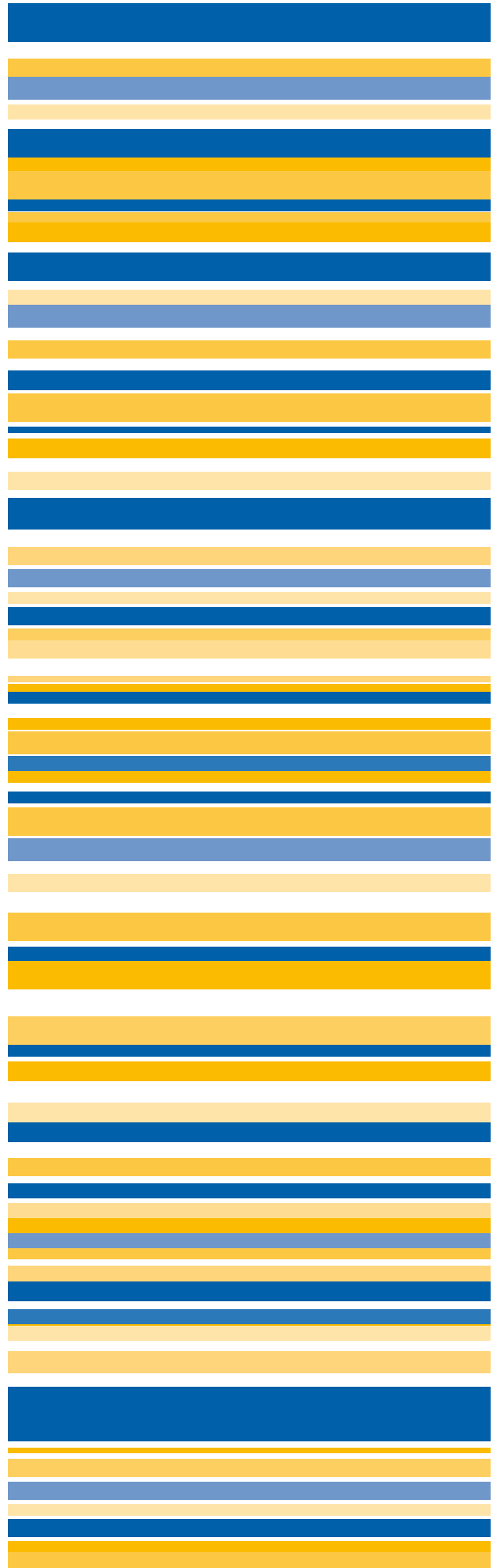
Raúl Echeberría
LACNIC's Executive Director

Once again, in 2011 we had two successful meetings, one in Mexico in May, the other in Argentina in October. These meetings have continued to grow and to incorporate new topics, interests and participants, and they have now become true platforms for the integration of Internet entities of Latin America and the Caribbean. These events included, among other highlights, presentations by renowned international experts, hot topics such as IPv6, DNSSEC and the development of standards, and, more importantly, the possibility of interacting with colleagues working in other countries and top-level professionals. In addition, this year witnessed the birth of a new entity, LAC-IX, the Latin American and Caribbean Internet Exchange Point Operators Association, a clear example of this community's spirit of cooperation.

At international level, in 2011 LACNIC once again played an active role in various forums and debates devoted to promoting Internet growth and stability around the globe. We have been present at every available platform, providing information and contributing to each debate.

During this very special year, LACNIC was also responsible for leading the Number Resource Organization (NRO), taking the voice of Regional Registries to international forums and every other environment where we saw a chance to cooperate with different stakeholders.

We conclude, therefore, a year that has prepared us for the challenges that we will face in 2012, the year that marks our tenth anniversary.



2011 Resource Assignment

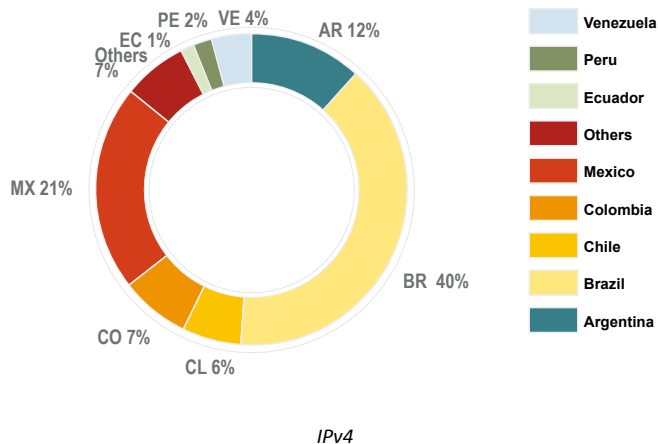
2011 was particularly important for LACNIC in terms of resource assignment due to the exhaustion of IANA's central pool of IPv4 addresses and those of the APNIC region. These events prompted us to increase our efforts to promote IPv6 adoption in our region.

During 2011 LACNIC assigned the following resources:

- ASN assignments: 552
- /24 IPv4 address block assignments: 79,111
- IPv6 address block assignments: 469
- IPv4 addresses assigned in 2011: 20,252,416
- Available IPv4 addresses (as at 1st January 2012): 66,350,336
- Percentage of members that have IPv6 assignments: 24.73%

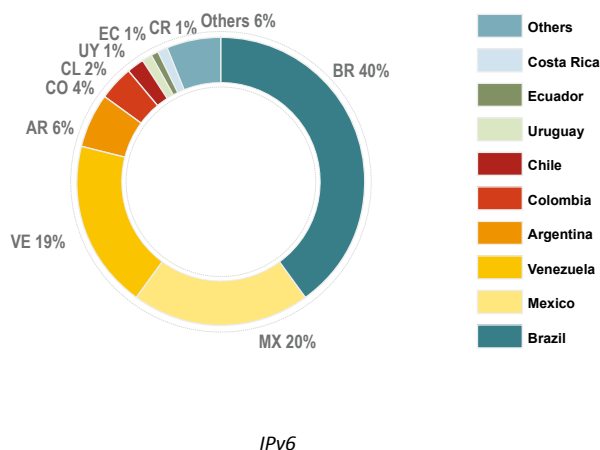
Distribution of Resources by Country in 2011

Brazil is the leader in terms of assigned IPv4 resources, as it holds 39% of the total space assigned in the region, the same percentage as last year. It is followed by Mexico with 21% and Argentina with 12%. Another country worth mentioning is Colombia (7%), while the country that achieved the greatest percentage increase in the region was Chile, a country that went from 4% to 6%.

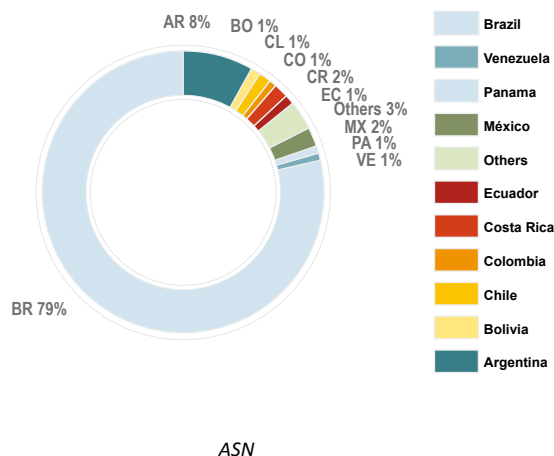


Brazil is also the leader in terms of assigned IPv6 resources (40%), followed in second place by Mexico (20%). Venezuela is the country with the third highest percentage of IPv6 assignments (19%), while Argentina (5.5%) is in fourth place.

The number of /32s assigned in the region also grew considerably. While 211 of these blocks were assigned in 2010, 967 /32s were assigned in 2011.

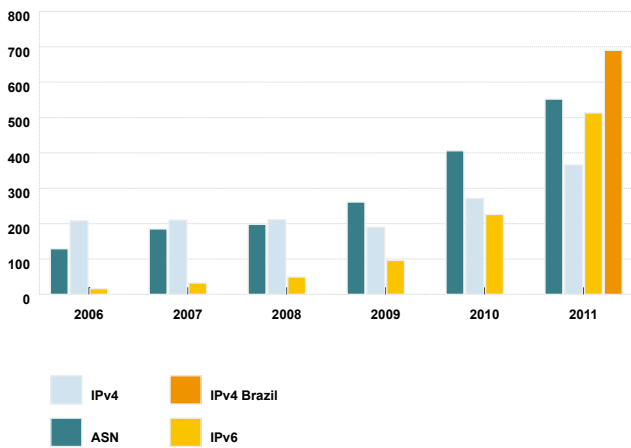


In 2011 Brazil was also the leader in terms of ASN assignments (79%), the largest number of assignments in the region. The remaining 21% corresponds to the rest of the region. Brazil exhibited an 18% growth as compared to the previous year; this country also had the largest growth of ASN assignments in Latin America. Argentina is the country with the second largest number of ASNs assigned in 2011 (8%), followed in third place by Mexico (3%).





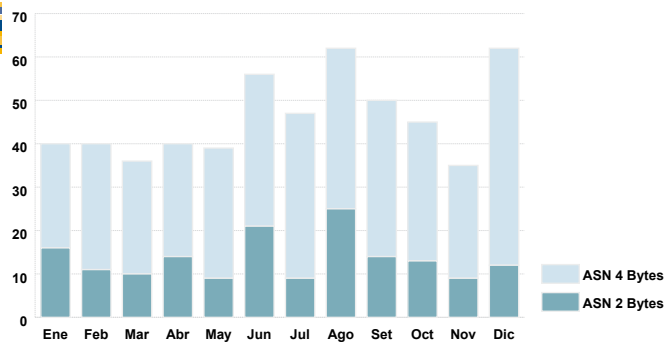
2011 Resource Assignment



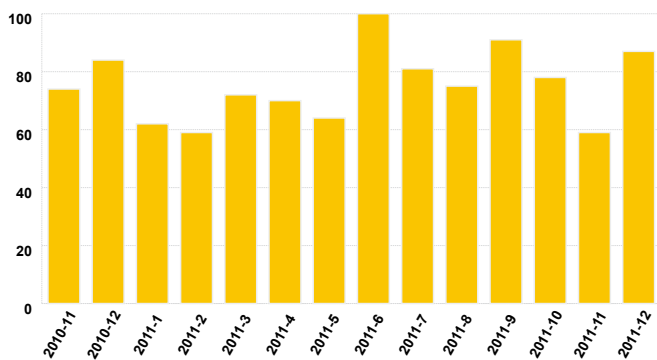
Resource Assignments by year

The following figures show the growth of ASN assignments in 2011 (in total numbers):

- 35.96% growth in ASN assignments,
- 35.05% growth in IPv4 address block assignments, and
- 126.99% growth in IPv6 address block assignments.



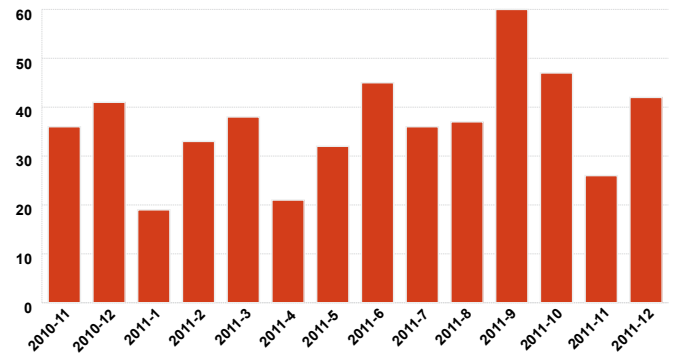
The increase in autonomous system assignments between 2010 and 2011 was similar to that between 2009 and 2010.



IPv4

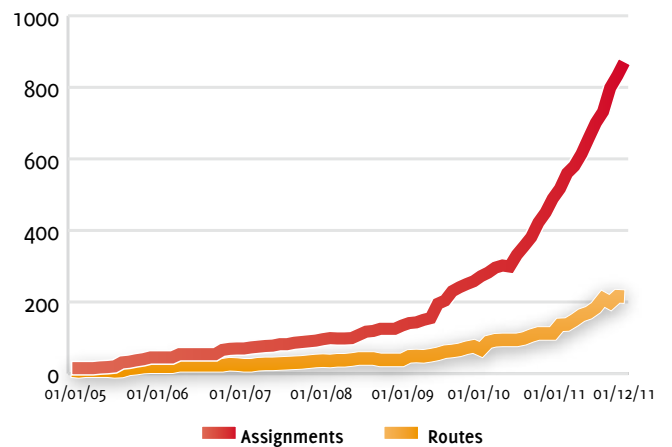
In the case of IPv4, between 2010 and 2011 assignments grew more than 5% as compared to the period between 2009

and 2010. Despite this relative increase in the number of IPv4 assignments, LACNIC believes that there is no risk of premature exhaustion of its available IPv4 address pool.



IPv6

IPv6 assignments exhibited major growth –from 57% between 2009 and 2010, to almost 127% between 2010 and 2011. This growth is due, in part, to an increased awareness of the importance of adopting IPv6 as well as to the implementation of policies that require having IPv6 addresses in order to request initial or additional IPv4 assignments.



As well as increased resource assignment, LACNIC also observed the evolution of IPv6 utilization. One of the basic metrics used for this purpose is the number of IPv6 prefixes announced on global routing tables. During 2011, the number of routed IPv6 prefixes grew almost 100% (from 112 prefixes in January to 215 prefixes in December 2011). This growth, however, has not yet matched assignment levels.

LACNIC and the Policy Development Process

The Policy Development Process (PDP) is an essential part of the services LACNIC provides to the regional community. It is through this process that the Internet resource allocation policies that LACNIC applies in its service region are created and modified. According to LACNIC's PDP, policy proposals are first presented and discussed by members of the Internet community on the policy mailing list. These proposals are then taken to

the forums, where they are discussed and consensus is sought.

In 2011 the regional community discussed various proposals at the LACNIC XV (Cancun) and LACNIC XVI (Buenos Aires) forums. The following is a summary of these policies along with their current status.

Title	Date published on mailing lists	LACNIC XV (May 2011)	LACNIC XVI (October 2011)	Status as of 31/12/2011	
LAC-2010-04: Global Policy for IPv4 Allocation by the IANA Post Exhaustion	18/09/2010	Abandoned by the authors on 18 May, 2011		Abandoned	
LAC-2011-01: Elimination of Technical Restrictions on IPv6 Prefix De-aggregation	10/02/2011	Consensus reached		Implemented	
LAC-2011-02: Modification of Section 2.3.3 - Initial IPv4 Address Allocation and Assignment	20/01/2011	Consensus reached		Implemented	
LAC-2011-03: Modification of Section 2.3.4 - Policies for the Distribution of Additional IPv4 Address Space	20/01/2011	No consensus reached; returned to the list for discussion.	Consensus reached	Implemented	
LAC-2011-04: Adding Subsection 11.2 to the Policy Manual under the Address Space Exhaustion Section	07/03/2011	No consensus reached; returned to the list for discussion.	Consensus reached	Implemented	
LAC-2011-05: Global Policy for IPv4 Allocation by the IANA Post Exhaustion	15/03/2011	Consensus reached. Completed the PDP in the LACNIC region.		Pending implementation until the remaining regions complete the corresponding process.	
LAC-2011-06 Allocations/Assignments for Gradual IPv4 Resource Exhaustion	23/03/2011	No consensus reached; returned to the list for discussion.	Consensus reached	Implemented	
LAC-2011-07: Modification of Policy 2.3. Policies for the Allocation and Assignment of IPv4 Addresses	15/04/2011	No consensus reached; returned to the list for discussion.	No consensus reached; returned to the list for discussion.	Open discussion.	
LAC-2011-08: Including ROA Data in the Whois Database when Available	28/07/2011	No consensus reached; returned to the list for discussion.	No consensus reached; returned to the list for discussion.	Open discussion.	
LAC-2011-09: Modification of the Requirements for the Initial Assignment of IPv4 Addresses to End Users.	04/09/2011	No consensus reached; returned to the list for discussion.	No consensus reached; returned to the list for discussion.	Open discussion.	

Biannual Events

LACNIC facilitates and coordinates two annual meetings that are open to the general public and focus on promoting Internet development and stability in the region of Latin America and the Caribbean. The week-long program includes various activities ranging from technical training workshops on new technologies, security, and the promotion of IPv6 adoption, to open technical forums such as the Public Policy Forum, a key part of these meetings in line with LACNIC's PDP. The program also includes the LACNIC Annual Member Assembly, the Governments Working Group meeting, and the Annual Assembly and workshops of the region's ccTLD association, LACTLD.

Session for New and Sponsored Participants

More than 100 participants were present at this meeting designed to provide information to those attending a LACNIC event for the first time, as well as to the beneficiaries of the sponsorship program. The session included a general introduction to LACNIC, its annual meetings and the sponsorship program.

Latin American IPv6 Forum, FLIP6



FLIP-6

Mariela Rocha, moderator of the FLIP6 Forum, was in charge of preparing an annual report on the activities conducted by the Latin American and Caribbean IPv6 Task Force. Important personalities from our region as well as renowned international experts gave presentations and/or were part of panels that met to discuss IPv6 deployment experiences at regional and global level. A global overview on government actions aimed at achieving IPv6 deployment was also presented.



The Network Information Center Mexico (NIC Mexico) is the organization responsible for administering the territorial domain name (ccTLD country code Top Level Domain) .MX. Its functions include the providing of information services and registration for .MX and the IP addresses assignment and maintenance of the respective databases to each resource.



Date: 15-20 May, 2011

Location: Cancun, Mexico

Participants: 297

Countries: 32

Sectors represented: Academia, governments, ISPs, ccTLD and NAP operators, content providers, international carriers, civil society

Languages: Spanish – English – Portuguese

Remote participation: Webcasting, chat

Workshops:

- 1) Introduction to IPv6 and transition mechanisms
- 2) Resource certification, RPKI
- 3) IPv6 protocol, routing practices - IPv6 security
- 4) Resource administration at LACNIC
- 5) DNS and DNSSEC operation and troubleshooting
- 6) Computer Security Incident Response Teams (CSIRTs)

Host:



Organization:



Sponsors:





Public Forum Elections



Nicolás Antoniello, elected Co-Chair of the Public Policy Forum in Cancun.

Term: May 2011 – May 2013

Election of a LACNIC Region Representative to the ASO Address Council (ASO AC)/NRO Number Council (NRO NC):



Alejandro Guzmán Giraldo, elected representative to the ASO Address Council.

Term: 1/1/2012 – 12/31/2014

Electronic Election of the New LAC IPv6 TF and FLIP6 Chair



Alejandro Acosta (Venezuela), elected FLIP6 Chair.

Term: May 2011 – May 2014

After 4 years of working intensely with the regional community, Mariela Rocha (Argentina) ended her term as FLIP6 Chair.

LAC Governments Working Group

The IV Meeting of the Latin American and Caribbean Governments Working Group was held within the framework of LACNIC XV. Government representatives from ten different countries participated in this meeting either in person or remotely.

During the meeting, reports were presented on LACNIC activities dealing with issues such as the stock of available IPv4 addresses and projected consumption rates within Latin America and the Caribbean, IPv6 adoption and actions to promote IPv6 deployment in the region, and a presentation on LACNIC's Resource Certification Program. In addition, the NRO's position on the IANA functions and ICANN's contract with the United States government was reported and the Regional Preparatory Meeting for the IGF to be held in Trinidad and Tobago in August 2011 was announced.

General Session



General Session

A joint general session was held with the participation of LACNIC and LACTLD where both organizations were introduced and there was a presentation on Telmex's IPv6 deployment experience in Mexico.



LACTLD Meeting



LACTLD

As customary, LACTLD also held its member assembly and a policy workshop within the framework of LACNIC's annual event.

LACSEC - 6th Network Security Event for Latin America and the Caribbean

The event's agenda included presentations by numerous regional and international computer security experts. In response to growing concerns and increasing interest in this topic, discussions were held on various aspects of computer security.

In addition to this forum, an informal meeting was organized with the participation of many members of the LACSEC community who presented on the use of different tools and showed practical security demonstrations.

Regional Interconnection Forum, NAPLA 2011

The forum's Chair, Milton Kaoru Kashiwakura, opened the meeting and presented its objectives. Numerous regional NAP representatives then presented their reports and there was a panel on regional IXP news and experiences.

Other Sessions

LACNIC Internet Resource Certification

This session included a presentation on LACNIC's RPKI by staff members, followed by a panel on RPKI experiences in other regions by different stakeholders such as equipment manufacturers and service providers.

In addition, a BGPSEC test was conducted (the next step in global routing infrastructure protection).

LACNOG - Latin American and Caribbean Network Operators Forum



LACNOG

LACNIC XV also hosted the LACNOG forum, during which a summary of LACNOG 2010 was presented and a panel made up by all LACNIC forum chairs discussed topics of interest for 2011. In addition, details of World IPv6 Day were announced, as was the LACNOG 2011 event that was to take place in October in Buenos Aires, Argentina.

Internet Exchange Point Operators Meeting



LAC-IX

The creation of a new regional entity made up by eight IXPs, LACNIC and ISOC was decided during this meeting. This entity was given the name of LAC-IX.



lacnog **2011**
3/7 OCTUBRE 2011

Internet

Event: 3-7 October, 2011

Date: Buenos Aires, Argentina

Location: 354

Participants: 28

Sectors represented: Internet Service Provider (ISP) managers and technicians, network engineers, experts in new technologies, traffic exchange point operators (IXP/NAPs), content providers, international carriers, academia, civil society.

Languages: Spanish – English – Portuguese

Remote participation: Webcasting, chat

Workshops: 1) Basic IPv6 and transition mechanisms
2) IPv6 security
3) DNSSEC

Host:



Organization:



Sponsors:



Highlights included the participation on world-renowned presenters Olaf Kolkman, director of NLnet Labs; Russ Housley, current President of the Internet Engineering Task Force (IETF); and Geoff Huston, Chief Scientist at APNIC, who shared their experiences on operating issues, the standards and protocols that are currently being developed at IETF level, IPv6 implementation, and the challenges that need to be faced in the short term.



2011 Outstanding Achievement Award



2011 Outstanding Achievement Award Ceremony. The Award was presented to Florencio Utreras (Chile), Executive Director of CLARA (Latin American Advanced Networks Cooperation).

The Outstanding Achievement Award is an initiative of LACNIC that aims at honoring and rewarding those individuals who have made significant contributions to the development of the Internet and the Information Society in the region of Latin America and the Caribbean.



Founded in 1989, CABASE is the association of Argentinean Internet Service Providers, Telecommunications, Datacenter Solutions and Online Content Companies, amongst others. In the international environment, CABASE is a founding member of eCOM-LAC and of LACNIC, and maintains a permanent and active participation in the main international entities and forums related to ICT and the Internet, such as The World Summit of the Information Society, the Internet Governance Forum, etc. CABASE hosts the Argentina NAP, which is the national Internet traffic exchange, the first initiative of this kind in Latin America



LACNOG 2011



LACNOG 2011

The third edition of the Latin American and Caribbean Network Operators Forum (LACNOG) was held jointly with the LACNIC event. During the forum, participants discussed and exchanged technical information relating to network infrastructure and debated technical implementation issues and operating practices with top-level experts who shared their knowledge with the members of the community.

Internet ON Conference



Internet ON Conference

The Internet Society ION Conference brought together network engineers and leading industry experts to discuss new technologies such as IPv6, DNSSEC, and RPKI. Early adopters of these new technologies provided valuable information on their experiences and updated participants on the new IETF standards.

OTHER MEETINGS

The event also gave different interest groups the opportunity to hold numerous coordination meetings, among them:

CSIRTs

The first regional Latin American and Caribbean meeting of Computer Security Incident Response Teams took place on Wednesday 5 October. This meeting allowed experts from 12 different security teams from 6 different countries to share experiences and exchange knowledge.

LAC IX

The bylaws for the Latin American and Caribbean Internet Exchange Point Operators Association, LAC-IX, currently made up by eight members, were approved in Buenos Aires. In addition, members were elected to the board of directors of the new organization and an agreement was signed with LACNIC, who will support the Association in its establishment and operations.

IPv6 and Major Operators Meeting

Taking advantage of the presence of the region's major Internet operators, a meeting was scheduled to get to know their points of view on IPv6 promotion activities such as the IPv6 Day that ISOC organized last June. At NIC.br's proposal, operators agreed to participate in the IPv6 Week that NIC.br is organizing together with Campus Party and which will take place on 6-10 February, 2012.

Argentine NAPs meeting

A meeting was held with representatives of Argentine IX (NAP) operators to coordinate technical aspects, as well as to provide information on different ongoing projects led by the CABASE NAP, interconnection projects (Google, Antel Uruguay, and the Government of the City of Buenos Aires), the CABASE Observatory (Universidad de San Andres), traffic measurement and analysis (Universidad de Palermo), and potential cooperation between ARIU and NAPs to develop and implement IPv6.

Taking advantage of the occasion, the Argentine IPv6 Task Force met to coordinate future activities and logistical aspects.

Likewise, the company Telefónica used the opportunity to bring together representatives from their offices in various countries for the purpose of discussing, among others, issues relating to IPv6 deployment.

Other Events

LACNIC CARIBBEAN 3

13 / 15 JULIO 2011 PARAMARIBO, SURINAM

Date: 13-15 July, 2011

Location: Paramaribo, Suriname

Participants: 77

Countries: 11

Sectors: Governments, regulators, ISPs, NAP operators, content providers, international carriers

Workshops: 1) Introduction to IPv6
2) IPv6 transition mechanisms
3) IPv6 security

Sponsorship program: 5 participants from the Caribbean region were sponsored

Host:



Organization:



Sponsors:



This meeting was open to the regional community and focused mainly on training and encouraging participants to use and deploy the new IPv6 protocol and analyzing topics relating to Internet resource administration policies, security issues, and resource certification.

With these meetings LACNIC seeks to foster greater Caribbean participation in its priority working areas and to strengthen its ties with this community.

Members of LACNIC staff presented the institution and also presented reports on the activities organized by LACNIC and the services provided by the organization. These covered issues such as the pool of available IPv4 addresses and projected consumption in the LACNIC region, IPv6 adoption and actions for the new protocol's deployment within the region, as well as a detailed description of all the services that LACNIC provides to its members and to the regional community in general.

Max Larson Henry, LACNIC Public Policy Forum Chair, explained how LACNIC's Policy Development Process (PDP) works and provided information on the policies that are currently under discussion both in the LACNIC region as well as at global level. He also presented a report on IPv6 implementation experiences in the Caribbean.

Members of LACNIC staff then presented the organization's Security project (AMPARO) and its Resource Certification System (RPKI).

Representing Columbus Communications Trinidad Limited, Brent McIntosh gave a presentation on his experience of having participated in prior LACNIC meetings and the results and benefits obtained by his organization.



Activities Focused on Promoting IPv6 Deployment in the LACNIC Region

During 2011, one of LACNIC's main goals was to promote IPv6 development and deployment in the region through numerous activities such as workshops aimed at operators, virtual seminars, and presentations on IPv6 at various regional and extra-regional forums. These activities were possible thanks to the support of local organizations, national networks and universities, as well as the instructors' cooperation through the 6Deploy project.



IPv6 Training Workshops for Regional Operators

Number of workshops: 10

Cities: Buenos Aires (Argentina), Cancun (Mexico), Tegucigalpa (Honduras), Paramaribo (Suriname), Santiago (Chile), Colonia (Uruguay), Lima (Peru), Quito (Ecuador), Montevideo (Uruguay), San Jose (Costa Rica).

Persons trained: 500

Instructors: Jordi Palet (6Deploy Project) and LACNIC staff



Virtual Seminars

Number of seminars: 6

Persons trained: 300

Instructors: Cisco, Google and Facebook representatives and LACNIC staff members



IPv6 Training Lab

LACNIC installed in its Montevideo office a 6DEPLOY-2 Project IPv6 training lab using equipment donated by Cisco Systems and the European Commission (EC). The lab is available to be used for training experts either within or outside the framework of the 6DEPLOY-2 Project. The lab was used during the final part of the year and several in-person and virtual workshops have already been scheduled for 2012.

Resource Certification (RPKI)

During 2011, one of LACNIC's priority issues was the Resource Certification or RPKI project developed jointly with the NRO. Started in 2007, this project provides an additional tool to reduce route hijacking incidents. It is based on the operation of a digital certification system that allows LACNIC members to digitally prove that they have the right to use the resources they have been assigned and the authority to announce routes for those resources.

LACNIC's Resource Certification Service began operating in January 2011. The service is currently operating in hosted mode, under which LACNIC stores its members' digital certificates.

As at 31 December, 2011 LACNIC's repository contained certificates corresponding to 54 organizations and 181 signed IPv4 and IPv6 prefixes (Figure 1). Regarding ROAs (Route Origin Authorizations), the equivalent of 31,998 IPv4 /24s (Figure 2) and the equivalent of 19 IPv6 /32s (Figure 3) have been created. In the case of IPv4 this equals little over 5% of the total address space assigned by LACNIC (including the as-yet-unassigned address space and the space assigned to NIRs) (Figure 4).

Figure 1 - Prefixes Signed

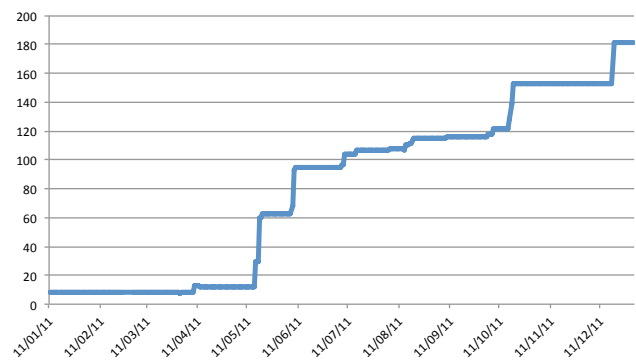


Figure 2 - IPv4 Space covered by ROAs (units of /24)

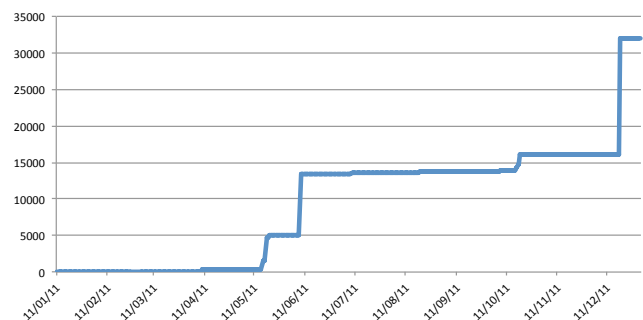


Figure 3 - IPv6 Space covered by ROAs (in units of /32)

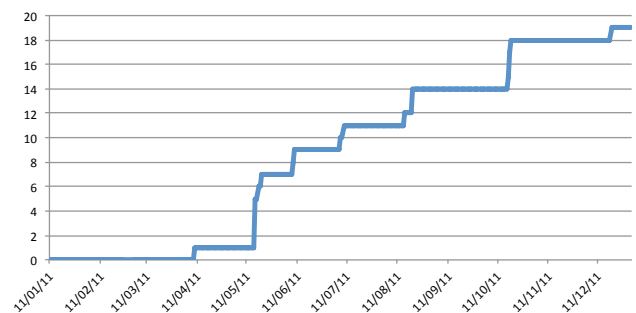
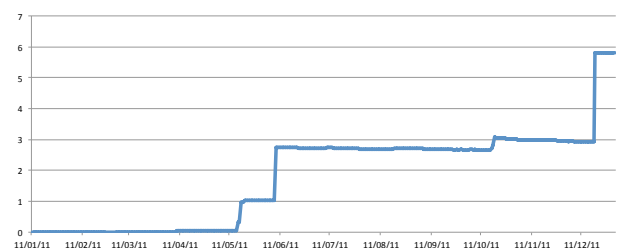


Figure 4 - IPv4 Space covered by ROAs (in % of total)





Contributing to Innovation: LACNIC Labs

LACNIC Labs were born from the need to have an open space in which to promote and accelerate the adoption of technological advances and industry standards. In 2011 LACNIC Labs completed almost an entire year of operation during which time the team of professionals developed more than ten projects.

LACNIC Labs can be defined as a strategy for innovation and development that comprises a series of research projects, new service analysis and development, a website, a blog, and the generation of training and promotional materials relating to emerging Internet technologies.



18

Research and Development Unit

In 2011 LACNIC consolidated its Research and Development unit, which focused on innovation and research in new services and technologies. During 2011, this unit made presentations at different technical forums, prepared new IPv6 training materials and enhanced those already in existence, created LACNIC-Labs, worked on projects for measuring RPKI and IPv6 use and adoption, developed the RPKI system, planned and implemented DNSSEC in reverse zones, and worked on other developments such as the event registration system and applications for data mining and access through the new Intranet.

As part of its efforts to perfect existing services, the technical department worked on improving LACNIC's network, computer and IT infrastructure. Accordingly, new equipment was installed in the Sao Paulo datacenter as well as at our Montevideo office.

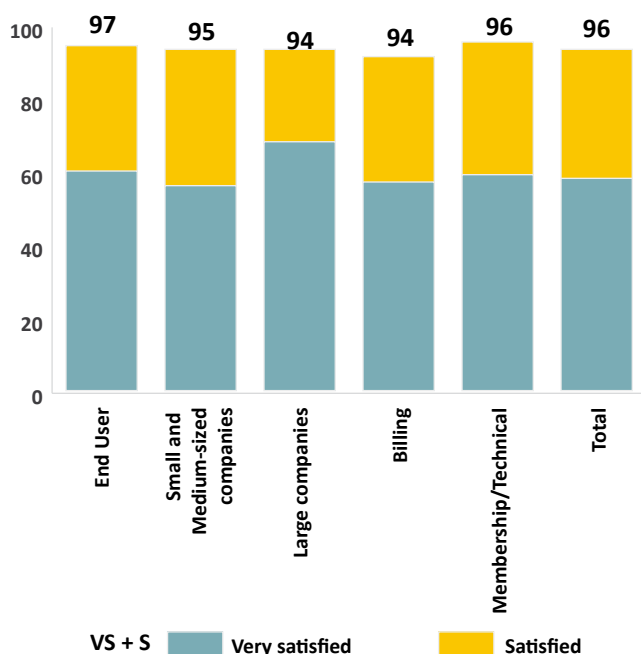
Creating Value for Our Customers

Creation of a New Customer Department

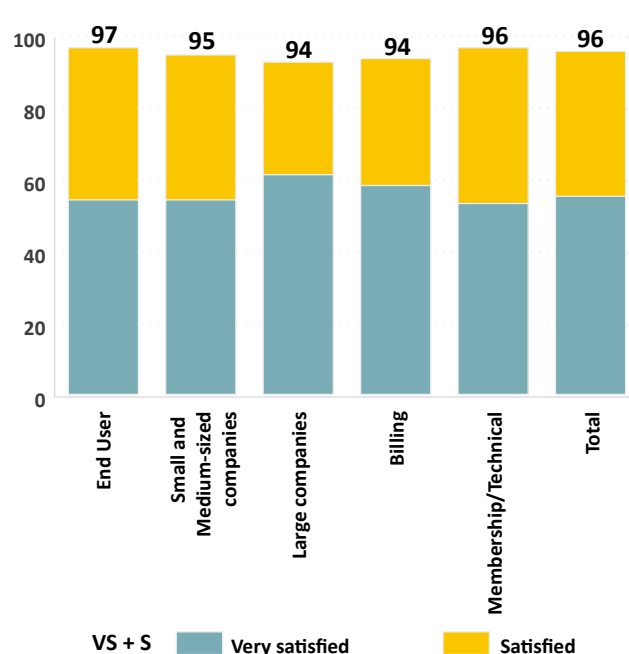
The creation of the new Customer Department in 2011 came about as the result of an analysis conducted in 2010 within the framework of the execution of LACNIC's strategic plan, of which one of the priorities was to strengthen the organization's customer-oriented approach. This department started operating in July 2011, grouping together billing and collection services, resource assignment and member services.

With the aim of focusing efforts on satisfying our customers' needs, an additional channel of communication was established as the first Customer Satisfaction survey was conducted. The information obtained through this survey is of vital importance to LACNIC, as it allows identifying opportunities and establishing plans for making improvements according to our clients' demands. It is worth noting that member participation levels and their willingness to cooperate in the survey were quite high.

The results of this study conducted by consulting firm Equipos Mori indicate that LACNIC received excellent evaluations from its customers. Satisfaction levels with the organization in general show that 94% of our customers were very satisfied or satisfied, while satisfaction levels specifically regarding services were as high as 96%. These satisfaction levels confirm that what began in 2010 continues on the right track. They also represent a challenge and a commitment to continue working to improve those aspects or areas for which the evaluation was not ideal.



Satisfaction regarding LACNIC



Satisfaction regarding LACNIC services

Face-2-Face Consultations (F2F)

In order to get closer to our members and better serve their needs, we began implementing "Face2Face" (F2F) consultations during our events. These meetings provide our customers with the chance to receive customized advice from LACNIC's experts and to clear their doubts regarding resource assignment, technical queries, membership related issues, billing and other projects.

This methodology was first implemented at the LACNIC XVI - LACNOG 2011 event in Buenos Aires with great success, so we anticipate that we will continue to offer this service regularly during future LACNIC events.



Customer Visits

During the second half of 2011, we visited some of our customers who welcomed us at their offices in Ecuador and Paraguay. These visits were made following the IPv6 workshops conducted in Quito and Asuncion, respectively. LACNIC's hostmasters had the opportunity to talk with members from those organizations and to answer their questions and doubts regarding IPv4, IPv6, SARA, and RPKI. We hope to continue these visits during 2012.

LACNIC Annual Member Assembly

The Annual Member Assembly that met in Cancun approved the annual report, balance sheet, inventory, statement of resources and expenses, external auditors' reports, and Fiscal Commission's report as at 31 December, 2010 by unanimous vote.



Voting was conducted to appoint new Fiscal and Electoral Commission members. Gabriel Adonaylo was elected to the Fiscal Commission, while Guillermo Cicileo and Alejandro Acosta were elected to the Electoral Commission.

The proposed clarification and increase of membership fees were also passed by unanimous vote.

Details of the documents discussed during the Assembly are available at LACNIC'S website:

<http://lacnic.net/en/eventos/lacnicxv/agenda/asamblea-asociados.html>

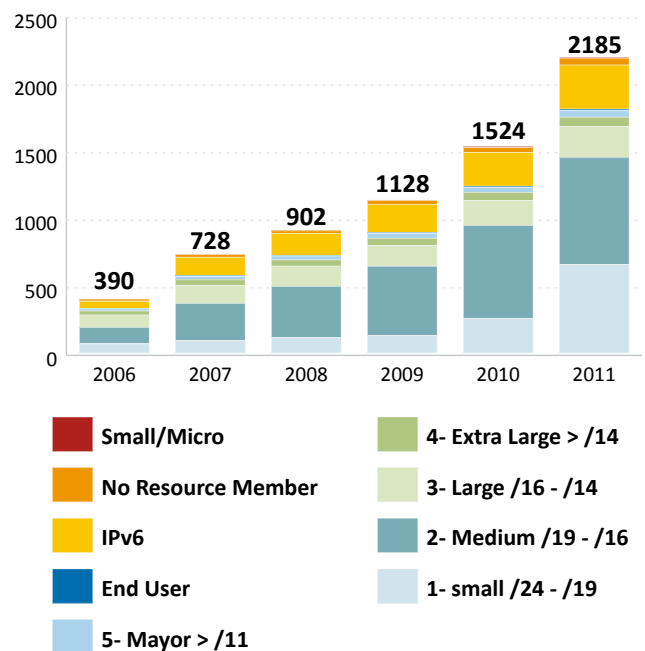
LACNIC Board of Directors Election

From 4 to 14 November, 2011 LACNIC members participated in an on-line voting process to elect candidates to fill two positions on the organization's Board of Directors.



Oscar Robles (Mexico) and Oscar Messano (Argentina), re-elected by LACNIC members to the Board of Directors

Membership Evolution



2011 will be remembered as a commemorative year for LACNIC, as the organization reached the 2000 member milestone. It is also worth noting that the number of members has doubled during the past few years. In addition to representing the result of the time and efforts devoted by LACNIC and its people to the needs of the region's Internet community, this significant membership growth is also an indicator of how much the Internet itself has grown in Latin America. At the end of 2011 LACNIC had 2185 members.

Articulating Initiatives for Development

Through various activities and programs, often in collaboration with other organizations, LACNIC continues to lead cooperation and articulation spaces for Internet development and stability in Latin America and the Caribbean. Examples include, among others, the Amparo Project, the Frida Program, and the External Events Support Program.

Amparo Project



The AMPARO Project was born in 2009 in response to the need to have professional teams prepared to deal with growing concerns about computer security issues in Latin America and the Caribbean. The project is a LACNIC initiative that up to this year has received financial support from the International Development Research Center (IDRC) of Canada. Many initiatives were completed under this project in 2011:

Security Workshops

Date: 14-17 March

Location: Panama

Location / Host: UTP (Universidad Tecnológica de Panamá)

Participants: Total: 32 participants

Countries of origin: Mexico, Costa Rica, Guatemala, Colombia, Cuba, Honduras, Brazil, El Salvador.

Instructors: José Luis Chávez (Guatemala), Edgar Vega Briceño (Costa-Rica), Eduardo Carozo (Uruguay)



Date: 25-28 April

Location: Buenos Aires, Argentina

Location / Host: CABASE

Participants: Total: 30 participants

Instructors: Eduardo Carozo and Leonardo Vidal (ANTEL), Cristian Borghello (Segu-Info), Hugo Scolnik and Julio Ardita (UBA).



Date: 7-10 November

Location: Liberia, Costa Rica

Location / Host: UNA (Universidad Nacional)

Participants: Total: 35 participants

Instructors: José Luis Chávez (Guatemala), Edgar Vega (Costa Rica), Eduardo Carozo (Uruguay)

Participation type: Remote participation [first time for an AMPARO workshop]



Since its creation, nine AMPARO workshops have been held around the region and almost 350 individuals have received training on computer security incident management and the creation of CSIRTs (Response Teams).



First Regional Latin American and Caribbean Meeting of Computer Security Incident Response Teams (CSIRTs)

The First Regional Latin American and Caribbean Meeting of Computer Security Incident Response Teams took place on Wednesday 5 October, 2011 within the framework of the LACNIC XVI / LACNOC event. Experts representing 12 different security teams from 6 different countries participated in the meeting, the goal of which was to increase knowledge among stakeholders and to promote the exchange of experiences in order to strengthen the region in terms of computer security incident impact prevention and mitigation.

Participants made technical presentations, shared their current and future lines of work, and reported their experiences. Priorities were also defined for exchanges and development within the region. It was agreed to continue with this initiative and to hold another meeting during the LACNIC XVII event that will take place in Quito, Ecuador (May 2012).



Translation of the Computer Security Incident Management Manual

The Computer Security Incident Manual –which was already available in Spanish– has now also been published in French and English. The manual can be downloaded from the Amparo website:

http://www.proyectoamparo.net/files/manual_seguridad/manual_en.pdf

Computer Security Research Supported and Conducted in 2011

Two extremely relevant and original regional studies were conducted within the framework of the project:

- An Overview of Cyber-Crime in Latin America
- An Analysis of Regional Coordination Opportunities

These reports can be found on the Amparo Project website:

<http://www.proyectoamparo.net/en/proyectos>

Support for Regional Events

In response to the growing number of collaboration requests and the variety of regional initiatives that have emerged in Latin America and the Caribbean, in 2011 LACNIC issued a public call for nominations to select events requiring LACNIC support. This new program offers support for holding events that will contribute to Internet development and stability in the region of Latin America and the Caribbean. Selected events focus on Internet Governance (access, development, innovation, freedoms) and may be as varied as conferences, seminars, training workshops or courses.

In 2011, LACNIC provided support to the following events held in the region:

Name of the proposing organization	Name of the event	Country
Fundación Redes para el Desarrollo Sostenible (REDES)	Towards the construction of a national agenda for Internet Governance for development in Bolivia	Bolivia
Unicamp	LANOMS 2011	Ecuador
Cooperativa Sulá Batsú R.L	Conference on Internet Governance	Costa Rica
Escuela del Sur de Gobernanza de Internet	3rd South School of Internet Governance	Mexico
ESLARED	WALC2011	Ecuador
Task Force IPv6 Mexico	Global IPv6 Summit Mexico 2011	Mexico
PRODELTEL (the Society of Telecommunications Professionals of the Dominican Republic)	IPv6 - Towards an inevitable transition (meetings to create awareness on the transition to IPv6)	Dominican Republic

FRIDA/IGF 2011 Award



Maximiliano Chisnerman (Argentina), María Luisa de Moreno (Colombia), Martin Porras (Peru) and Joao Carlos Caribe (Brazil)

In 2011, the Regional Fund for Digital Innovation in Latin America and the Caribbean (FRIDA) presented awards to five outstanding initiatives that have contributed to the use of the Internet as a catalyst for change in Latin America and the Caribbean.

- Winning projects: “Plan Ceibal”, “Mercedes y Marcos Paz Digital”, “Red Educativa Mundial”, “Movimiento Mega Não ao vigilantismo na Internet” and “Via Nostrum”. The awards were presented in Buenos Aires during the LACNIC XVI sessions

Representatives of the five winning projects participated at the Internet Governance Forum (Nairobi, 2011) and presented their projects in Buenos Aires within the framework of the LACNIC XVI/ LACNOG 2011 event.

The FRIDA Award is presented by the FRIDA Program (Regional Fund for Digital Innovation in Latin America and the Caribbean), an initiative of the Latin American and Caribbean Internet Addresses Registry (LACNIC) financially supported by the International Development Research Center (IDRC) and the Internet Society (ISOC).

Categories:

Freedom
Access
Development
Innovation
most voted project

more than
120
proposals received



LACNIC at International Forums

CITEL/OAS: Permanent Consultative Committee meetings.

As usual, in 2011 LACNIC actively participated at the two CCP1 meetings of CITEL (the American Telecommunication Commission of the Organization of American States) that were held in Lima (Peru) in May and in Mar del Plata (Argentina) in August.

After being debated at the CCP1, on both occasions contributions made by our organization were approved as CITEL documents on topics relating to Internet Issue Reporting and other related areas.

Documents on topics such as RPKI (Resource Certification), IPV6 and DNSSEC were approved. Among others, it is worth highlighting a key Internet Governance issue with two CITEL documents that reflect Number Resource Organization (NRO) statements regarding the debate opened by the United States Department of Commerce in 2011 on the Internet Assigned Numbers Authority (IANA) Contract. These documents were presented jointly with ARIN, after which the United States delegation publicly expressed their gratitude.

At CITEL's request, a contribution made jointly with the Internet Society was approved as a document containing information on Internet Exchange Points in the region. In addition, a Seminar in Internet Standards which will take place within the framework of one of the 2012 meetings was also approved.

ITU/COMCITEL: WCIT/WTSA Preparatory Meetings

In December 2011 LACNIC participated in the regional meeting organized by CITEL in preparation for WCIT (the World Conference on International Telecommunications) and WTSA (the World Telecommunication Standardization Assembly) organized by the United Nation's ITU (International Telecommunications Union), a meeting that kicked off a preparatory meetings process that will set the 2012 agenda in every region and will conclude at the two conferences above, both of which will be held towards the end of the year in Dubai.

eLAC 2015: Observers to the Program's Follow-up Mechanism

In 2011 LACNIC took on the role it had been assigned at the 2010 eLAC Ministerial Meeting held in Lima: an observer to the program's follow-up mechanism. Our organization participates in representation of the Regional Technical Community (made up by organizations such as the CLARA Network, LACTLD, ISOC, and ICANN).

Members of LACNIC staff participated in meetings at the ECLAC headquarters in Santiago, Chile for the purpose of materializing the organization's role as observer to the program's follow-up mechanism, as well as in Brasilia, where LACNIC acted in its new capacity and had fluent interaction with the other represented organizations. This is expected to continue in 2012.

Mercosur: Commission on Public Telecommunications Services (CTSPT):

LACNIC participated in the meeting of the Mercosur Commission on Public Telecommunications Services (CTSPT) that was held in Montevideo, where the organization gave presentations on topics such as ENUM (Telephone Number Mapping), IPv6, RPKI, and DNSSEC.

Dialogue with the Region's Governments:

In 2011 LACNIC continued to offer spaces for dialogue with the region's relevant stakeholders through the Governments Working Group, which held a face-to-face meeting at the LACNIC XV event in Cancun and will continue to interact remotely. In addition, in the month of November it was decided to hold periodic virtual meetings that will continue in 2012.

LACNIC Participation in Internet Governance Debates

I Latin American and Caribbean Internet Governance Convention

LACNIC was once again an active promoter and organizer of the fourth edition of the Regional Preparatory Meeting for the Internet Governance Forum. Held jointly with the Caribbean IGF, the I Latin American and Caribbean Convention was co-organized by the Caribbean Telecommunications Union (CTU), the Association for Progressive Communications (APC), the NUPEF Institute, and the Internet Society (ISOC), and took place on 8-11 August 2011 in the city of Port of Spain, Trinidad and Tobago.

More than 110 Government, Civil Society and Academia representatives from different countries of the region participated in the debates, among them 47 sponsored participants. A highlight of this meeting was the open methodology used to set the agenda, which included prior consultation with the community by means of a specific survey.

Internet Governance Forum

The Internet Governance Forum (IGF 2011) met for the sixth time in Nairobi (Kenya). The event was organized by the United Nations and promoted by various institutions, among them the Number Resource Organization (NRO), to discuss current Internet governance challenges. The central theme of the meeting was the importance of the Internet as a catalyst for change and a promoter of freedom, development and innovation.

LACNIC participated very actively, both by sending its own representatives as well as by promoting community participation through the forum. Five Frida Award winners received full financial support to attend this meeting, as did three Regional Preparatory Meeting participants. The criterion adopted was to support people from the region who had never before participated at the Forum.

STATEMENT OF ASSETS AND LIABILITIES

AS OF DECEMBER 31, 2011 (In U.S. Dollars)

	31.12.2011	31.12.2010
ASSETS		
CURRENT ASSETS		
CASH AND BANKS (Note 2.6)		
Cash	867	701
Banks	301.731	483.218
	302.595	483.919
SHORT TERM INVESTMENTS (Note 2.9 y 4)		
Investments	1.113.474	1.322.551
ACCOUNTS RECEIVABLE (Note 2.7)		
Trade Debtors	1.611.497	917.538
Less:		
Deferred Income	(328.932)	(248.300)
Allowance for Doubtful Accounts (Note 2.8)	(23.148)	(9.929)
	1.259.418	659.309
OTHER RECEIVABLES		
Guaranty Deposits (Note 11)	100.784	71.796
Other Credits	76.326	87.362
Allowance for Other Credits	-9.273	
	167.838	159.158
TOTAL CURRENT ASSETS	2.843.324	2.624.937
NON CURRENT ASSETS		
FIXED ASSETS (Note 2.10 and Appendix I)		
Property, Plant and Equipment	2.725.457	2.012.867
Less: Accumulated Depreciation	(295.911)	(222.617)
	2.429.546	1.790.250
INTANGIBLES (Note 2.10 and Appendix I)		
Intangibles	166.349	103.241
Less: Accumulated Depreciation	(52.155)	(19.411)
	114.194	83.830
TOTAL NOT CURRENT ASSETS	2.543.740	1.874.080
TOTAL ASSETS	5.387.064	4.499.017

	31.12.2011	31.12.2010
LIABILITIES		
CURRENT LIABILITIES (Note 2.11)		
COMMERCIAL DEBTS		
Accounts Payable	53.663	96.002
FINANCIAL DEBTS		
Bank Loans (Note 6)	254.088	275.614
OTHER DEBTS		
Provisions for Employee Benefits	53.156	39.711
Benefits for Staff Retirement	15.326	8.356
Advanced Collections	210.355	94.061
Other Debts	2.636	93.890
	281.473	236.018
TOTAL CURRENT LIABILITIES	589.224	607.634
NON-CURRENT LIABILITIES		
FINANCIAL DEBTS		
Bank Loans (Note 6)	691.350	912.527
TOTAL NON-CURRENT LIABILITIES	691.350	912.527
TOTAL LIABILITIES	1.280.574	1.520.161
EQUITY		
RETAINED EARNINGS		
Accumulated Surplus (Note 8)	2.908.639	2.302.386
Net Income of the Year	1.197.851	676.470
	4.106.490	2.978.856
TOTAL EQUITY	4.106.490	2.978.856
TOTAL LIABILITIES AND EQUITY	5.387.064	4.499.017

The accompanying notes and appendix are an integral part of the financial statements

The accompanying notes and appendix are an integral part of the financial statements

PROFIT AND LOSS STATEMENT

AS OF DECEMBER 31, 2011 (In U.S. Dollars)

	Year ended 31.12.2011	Year ended 31.12.2010
OPERATING REVENUES		
Net Operating Revenues (Note 7)	4.133.243	2.939.588
	4.133.243	2.939.588
SELLING AND ADMINISTRATIVE EXPENSES		
Salaries and Contributions for Retirement	(1.143.561)	(887.781)
Travel and Training	(740.073)	(512.422)
Hired Services	(271.580)	(244.536)
Cooperation, Contributions and Memberships	(167.363)	(124.520)
Correspondence and Communications	(107.897)	(88.804)
Fixed Assets Depreciation	(106.038)	(80.256)
Dissemination Expenses	(215.258)	(155.327)
Stationery and Other Office Supplies	(49.210)	(47.082)
Electric Power and Water	(22.167)	(16.847)
Insurance	(6.526)	(9.900)
Other Expenses	(56.101)	(71.407)
	(2.885.774)	(2.238.882)
OTHER RESULTS		
Other Expenses	(333)	(1.250)
	(333)	(1.250)
FINANCIAL RESULTS		
Interest Paid	(80.455)	(57.254)
Interest Income	74.591	43.453
Differences of Investment Valuation	(55.439)	16.710
Exchange Differences	12.019	(25.895)
	(49.285)	(22.986)
NET INCOME OF THE YEAR	1.197.851	676.470

The accompanying notes and appendix are an integral part of the financial statements

INDEPENDENT AUDITORS' REPORT

To
Directors and Members of the General Meeting of
Registro Regional de Direcciones IP para América
Latina y el Caribe (LACNIC)
Montevideo - Uruguay

Report on the Financial Statements

1. We have audited the enclosed Statements of Assets and Liabilities of **Registro Regional de Direcciones IP para América Latina y el Caribe (LACNIC)** as of 31st December 2011, and the related Statement of Profit and Loss, Changes in Shareholders' Equity and Cash Flows, stated in United States Dollars for the year then ended, and a summary of significant accounting policies and other explanatory notes.

Management's Responsibility for the Financial Statements.

2. Management of **Regional de Direcciones IP para América Latina y el Caribe (LACNIC)** is responsible for the preparation and fair presentation of these financial statements in accordance with International Financial Reporting Standards. This responsibility includes: designing, implementing and maintaining an internal control relevant to the preparation and fair presentation of the financial statements that should be free from material misstatement, either due to fraud or to error, selecting and applying appropriate accounting policies; and making accounting estimates that are reasonable in the circumstances.

Auditor's Responsibility

3. Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with International Standards on Auditing. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance that the financial statements are free from material misstatement.
4. An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, either due to fraud or to error. In making those risks assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting principles used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

Independent Auditors' Report

I/II

RSM Unity is a member of the RSM International Network. The RSM International network is a network of independent accounting and consulting firms, each of which practices in its own right. The RSM International network is not itself a separate legal entity in any jurisdiction.

RSM Unity

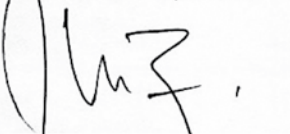
Excelencia en auditoría, consultoría & impuestos

5. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

6. In our opinion, the financial statements present fairly, in all material aspects, the financial position of **Registro Regional de Direcciones IP para América Latina y el Caribe (LACNIC)** as of December 31st, 2011 and the results of its operations, the changes in its shareholders' equity and its cash flows for the year then ended, in accordance with International Financial Reporting Standards.

Montevideo, 4th April 2012.



Jorge Gutfraind
Public Accountant
C.P. 32.922



FISCAL COMMISSIONS REPORT

Based on to the provisions of Article 5, Item (d) and Article 27, Item (c), of the approved and valid Bylaws of the LATIN AMERICAN AND CARIBBEAN INTERNET ADDRESSES REGISTRY (hereinafter "LACNIC"), a meeting of the Fiscal Commission, made up by Cassio Vecchiatti, Gabriel Adonaylo and Adriana Ibarra Vázquez, is held.

In view of the above, a report is issued in reference to the Financial Statements corresponding to the term ended December 31st, 2011, and the Independent Auditor's Report.

CONCLUSIONS

ONE.- The results of the audit carried out by RSM UNITY, in their capacity as independent auditors, in relation to the Financial Statements corresponding to the term ended on December 31st, 2011, were reviewed. The result of said audit has been favorable and the referenced financial statements reasonably represent, in all significant aspects, LACNIC's financial situation as at December 31st, 2011.

TWO.- Based on the analysis of the independent auditor's report conducted by the Control Organ and the documentation submitted by or requested from LACNIC, it is our conclusion that the information we have been presented reasonably reflects LACNIC's financial situation as at December 31st, 2011, and therefore recommend its approval by the General Assembly under the provisions of LACNIC's Bylaws.

Montevideo, Uruguay. April 9, 2012.

Fiscal Commission

Cassio Vecchiatti
Gabriel Adonaylo
Adriana Ibarra Vázquez

DICTAMEN DE LA COMISION FISCAL

Con fundamento en artículo en el artículo 5, inciso d) y 27, inciso c) de los Estatuto aprobados y vigentes del REGISTRO DE DIRECCIONES DE INTERNET PARA AMÉRICA LATINA Y CARIBE (en adelante "LACNIC"), se reúne la Comisión Fiscal conformado por Cassio Vecchiatti, Gabriel Adonaylo y Adriana Ibarra Vázquez.

Atendiendo lo anteriormente expuesto, se emite un Dictamen relativo a los Estados Contables correspondientes al ejercicio finalizado al 31 de diciembre de 2011 e informe de auditoría independiente.

CONCLUSIONES

PRIMERA.- Se revisó el resultado de la auditoría de los Estados Contables del ejercicio finalizado al 31 de diciembre de 2011 realizado por la firma RSM UNITY, como auditor independiente. El resultado de dicha auditoría ha sido favorable y los estados contables referidos presentan razonablemente en todos sus aspectos significativos la situación patrimonial de LACNIC al 31 de diciembre de 2011.

SEGUNDA.- Derivado del análisis que realizó el Órgano de Fiscalización del informe del auditor independiente y la documentación presentada por o requerida a LACNIC, concluimos que los datos presentados reflejan razonablemente la situación patrimonial de LACNIC al 31 de diciembre de 2011, por lo que aconsejamos su aprobación por la Asamblea General de conformidad con el Estatuto de LACNIC.

Montevideo, Uruguay a 9 de abril de 2012.

Comisión Fiscal


Cassio Vecchiatti


Gabriel Adonaylo


Adriana Ibarra Vázquez

LACNIC

LACNIC

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