



# ANNUAL REPORT 2018

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# Major Advances and Improvements in 2018

The year 2018 closed with very positive indicators in multiple areas: on the one hand, our membership base increased by more than 1,350 members, an increase of 17% with respect to the previous year; on the other, we were able to maintain a level of excellence in our services, scoring an overall satisfaction level of 92% in the survey conducted by Mercoplus.

During the year, LACNIC assigned 1,191,168 IPv4 addresses, almost exclusively to new members. Our pool of available resources contains barely 2,612,000 addresses, so the only way to sustain Internet growth in the region and connect the unconnected is by using IPv6. Likewise, this year LACNIC assigned 1,180 /32 IPv6 blocks to its members, many of who have plans to deploy this protocol in their networks as soon as possible, as they understand how important it is for their continued growth.

In addition, the [List of Possible IPv4 Transfers](#) was created to facilitate contact between organizations interested in transferring or receiving IPv4 resources under LACNIC policy 2.3.2.18. This service was developed in response to a community need and provides information to help both parties involved in a transfer.

Seeking to facilitate the transition to IPv6 and strengthen technical capabilities in different areas, LACNIC offers webinars, workshops and other forms of training to the community through its different platforms. Throughout 2018, the various training activities offered by LACNIC allowed more than 8,800 experts and ICT professionals around the region to participate and strengthen their technical skills.

Almost 4,900 of these experts participated in one of the 14 different webinars organized by LACNIC and presented either by members of LACNIC staff or by representatives of other regional and global organizations. More than 15 hours of training were offered on IPv6, Internet Governance, Security, BGP and LACNIC's operation and policies. Likewise, our in-person courses allowed us to offer more than 100 hours of training to more than 1,900 participants.



*Wardner Maia, LACNIC Board of Directors President*

For the seventh year in a row, LACNIC made the list of the top ten places to work in Uruguay prepared by international consultants Great Place to Work, having achieved the highest possible score according to their indicators.

In 2018, our annual events were held in Panama City (Panama) and Rosario (Argentina), where participants expressed a level of satisfaction of over 97%. LACNIC 29 welcomed the first edition of the LACNIC Technical Forum, which was a great success.

Finally, as every year, the Board of Directors met in the month of December to review and approve the action plan that will be implemented in 2019, always with the commitment to continue to meet and exceed your expectations.

# What is LACNIC?

The Internet Addresses Registry for Latin America and the Caribbean is an international non-government organization established in Uruguay in 2002. It is responsible for assigning and managing Internet number resources (IPv4, IPv6), Autonomous System Numbers and Reverse Resolution for the region.

LACNIC contributes to regional Internet development through an active cooperation policy, promotes and defends the interests of the regional community, and helps create enabling conditions for the Internet to become an effective instrument for social inclusion and economic development in Latin American and the Caribbean.

LACNIC is managed and run by a Board of seven directors elected by LACNIC members, more than 8,500 network operators providing services in 33 Latin American and Caribbean territories.

## Vision and Mission

LACNIC's vision is to lead the strengthening of a single, open, stable and secure Internet at the service of the development of Latin America and the Caribbean, promoting the collaborative Internet model.

Its mission is to manage Internet number resources for Latin America and the Caribbean through the participatory development of policies, based on a culture of excellence, transparency and continuous improvement, adding value to our community by:

- Building capacity within the regional community through training activities, cooperation and collaboration with other organizations;
- Engaging in, and contributing a regional perspective to, industry and Internet Governance forums;
- Strengthening the multistakeholder, participatory, bottom-up Internet Governance model; and
- Promoting the use and development of Internet standards, involving the regional community in the process.

LACNIC strives to permanently serve as a regional leader on Internet development related issues.



# Who is part of LACNIC?

## The LACNIC Board of Directors

LACNIC is managed and run by a Board of seven directors elected by LACNIC members, more than 8,600 organizations operating networks and providing services in 33 different Latin American and Caribbean territories. The LACNIC Board is representative of the organization's members, as the Directors are elected directly by member vote. In 2018, the LACNIC Board was made up as follows:

Name	Position	Country of residence	Term ends in
<a href="#">Wardner Maia</a>	President	Brazil	December 2019
<a href="#">Javier Salazar</a>	Vice President	Mexico	December 2019
<a href="#">Hartmut Glaser</a>	Treasurer	Brazil	December 2018
<a href="#">Gabriel Adonaylo</a>	Deputy Treasurer	Argentina	December 2020
<a href="#">Alejandro Guzmán</a>	Secretary	Colombia	December 2018
<a href="#">Rafael Ibarra</a>	Deputy Secretary	El Salvador	December 2018
<a href="#">Rosalía Morales</a>	Member	Costa Rica	December 2020
<a href="#">Oscar Robles Garay</a>	CEO		



## Fiscal Commission

The Fiscal Commission is LACNIC's control organ and is charged with supervising that all accounting and administrative standards are met and overseeing compliance with LACNIC's legal and statutory framework. In 2018, this Commission was made up as follows:

Name	Country	Term
<a href="#">Hernán José Arcidiácono</a>	Argentina	2017 - 2020
<a href="#">Aristóteles Dantas Gaudêncio</a>	Brazil	2016 - 2019
<a href="#">Adriana Ibarra</a>	Mexico	2018 - 2021

## Electoral Commission

The Electoral Commission organizes and supervises elections to ensure the transparency of these processes. It analyzes each candidacy within the framework of the Regulations Regarding Incompatibilities, Capacities and Suitability and solves any issues that may arise during an election. It also validates vote counts and proclaims the final results.

Name	Country	Term
<a href="#">Horacio Tedesco</a>	Argentina	2016 - 2019
<a href="#">Vivian Valverde</a>	Costa Rica	2017 - 2020
<a href="#">Marcelo Corradini</a>	Brazil	2018 - 2021
<a href="#">Nancy Julia Cordova Gamarra</a>	Peru	2018 - 2020
<a href="#">Carolina Cofré Fernández</a>	Chile	2018 - 2021

# Our Members

LACNIC ended the year with more than 8,600 members, among them the most important companies, organizations and universities of Latin America and the Caribbean.

## 2018 Customer Satisfaction Survey

LACNIC has maintained high levels of customer satisfaction over the past four years, as shown by the latest study conducted by international consultants MERCOPPLUS among LACNIC members who use the services of the Regional Internet Registry for Latin America and the Caribbean.

Some highlights of the survey's results:

- 92% of customers are satisfied or very satisfied with LACNIC. Levels of general satisfaction with the organization have evolved steadily over the various measurements that were conducted (2014-2016-2018): currently, 70% of respondents are very satisfied with LACNIC. Likewise, the level of members' willingness to recommend the organization is in line with their satisfaction.
- Resource assignments (IPv4, IPv6, ASN) also received a very positive evaluation, with nine out of ten members replying that it is very easy or easy to request resources from LACNIC. In addition, there was a considerable increase in the approval of resource application processing times: 88% of respondents considered these processing times to be fast and fair.
- More than nine out of ten members said they were satisfied with the speed with which LACNIC responded to their queries or claims, and 88% answered they were very satisfied with how LACNIC had replied to their query.
- Members expressed high levels of satisfaction with LACNIC staff: 92% of members highlighted the problem-solving abilities, technical skills and clarity of the LACNIC employees they had interacted with.
- There has been an increase in the use of the LACNIC website. In this latest edition of the survey, 94% of respondents replied that they had visited the LACNIC website and expressed very high levels of satisfaction. For the first time, members mentioned using the Mi LACNIC service as the main reason for visiting the website (35%). Members stressed the speed and content of the website, although they also mentioned the need to improve how the website is displayed when accessed from different devices.

- The survey recorded a four-point increase in members' satisfaction with the annual fee they pay for LACNIC resources and services (66% replied that they are satisfied or very satisfied), a very positive figure considering that a new membership structure was introduced during the year.
- LACNIC members are well acquainted with the services offered by the organization and are very satisfied with these products. Participation in online training activities (51%) has grown significantly compared to the results of the surveys conducted in 2014 and 2016. Members also expressed a high level of satisfaction (4.5 over 5) with this service.

LACNIC would like to thank everyone for the comments and suggestions they included when responding to the survey, as this information will help us improve the quality of our services.



# Categories

LACNIC members are divided into different categories: Active A Members, Founding Members and Adhering Members.

Active A Members are those who receive IP address space from LACNIC either directly or indirectly through national registries NIC Brazil and NIC Mexico, or those who received address space from ARIN that is [part of the address space awarded to LACNIC](#) and who apply to be admitted.

Founding Members are the organizations that founded LACNIC, and Adhering Members are organizations who agree with LACNIC's objectives, apply to be admitted, manage IP addresses outside the address space allocated to the LAC region and are geographically located in LAC, or any person or legal entity.

Detailed information regarding membership categories and member rights and obligations is available in the LACNIC [Bylaws](#).

# Visits to LACNIC Members

Within the framework of its project for encouraging members to become involved in the organization's institutional life, since 2015 LACNIC has visited more than 220 organizations. During 2018, the organization made 44 visits in El Salvador, Honduras, Argentina and the Dominican Republic. On average, the number of organizations visited in each country corresponds to approximately 30% of ISPs.



# Growing Membership Base

Our membership base increased by more than 1,365 members — an increase of 18.7% with respect to the previous year — and we were able to maintain a level of excellence in our services, scoring a 92% of overall satisfaction in the survey conducted by Mercoplus.

# Participation in Different Spaces

In 2018, Member Assembly attendance increased and voting members present at the various in-person elections reached record numbers. More than 950 members completed and passed the courses offered through the LACNIC Campus — Basic IPv6, Advanced IPv6, and BGP+RPKI.



**lacnic**  
MEMBER

# The LACNIC Team

For the seventh consecutive year, LACNIC made the list of the top ten places to work in Uruguay according to the ranking prepared by international consultants Great Place to Work.

This year LACNIC climbed four places up the ranking, becoming the second best place to work in the category of up to 150 employees.

“Appearing in this ranking for the seventh year in a row is not an easy task or the task of a single person. It is the task of all the people who collaborate with LACNIC and continually strive to improve different aspects, ranging from offering a level of excellence in our services to maintaining a working environment that contributes to our employees’ development,” observed LACNIC CEO Oscar Robles.



# LACNIC in 2018

## FEBRUARY

### **A Copy of the “I” DNS Root Server Is Installed in Paraguay**

After the call for proposals by LACNIC and Netnod, NIC Paraguay (NIC.py) was one of the organizations selected to host an anycast copy of the I-root server in the region of Latin America and the Caribbean. This server was installed within the framework of LACNIC’s +Raíces program and seeks to strengthen DNS resilience, stability and security in the region.

## MARCH

### **New Service for Intra-Regional IPv4 Transfers**

To facilitate IPv4 address transfers, LACNIC launched a section where organizations interested in either transferring or receiving IPv4 resources can register and establish contact with each other.

This service is available through the MI LACNIC portal and a total of thirty-five organizations registered for the service in 2018.

## APRIL

### **Partnership for Strengthening Digital Capabilities in the Region**

This year, LACNIC signed an agreement with Google to work on strengthening digital markets in Central America and the Caribbean by developing various training initiatives. The project seeks to simultaneously strengthen the entrepreneurial ecosystem and local connectivity, and was implemented in Guatemala, Trinidad and Tobago, and the Dominican Republic.

## MAY

### **Ayitic Goes Global: Training Courses in Haiti**

Ayitic Goes Global, a project promoted by LACNIC and Canada’s International Development Research Centre (IDRC), organized different courses specifically designed for Haitian women and technicians. The training programs for women seek to create conditions that will allow them to access the digital labor market, while the courses for technicians seek to strengthen the local technical community’s capacities and their leadership in strengthening Haiti’s Internet infrastructure.



### **LACNIC 29**

Panama City hosted LACNIC 29, an event that brought together experts and representatives of academia, civil society, the private sector, governments, and telecommunications industry professionals.

The event took place from 30 April to 4 May and saw the [debut of the LACNIC Technical Forum \(LTF\)](#), a new format that allows addressing a variety of technical topics and broadening the scope of technical discussions.



### **Strengthening Collaboration with Other Cybersecurity Communities**

Together with Team Cymru, LACNIC WARP organized the Regional Internet Security Event in Montevideo, the second of its kind to be held in South America. The event included presentations and training on the main challenges in dealing with cybercrime

### **Agreement to promote activities for the development of regional IXPs**

Within the framework of LACNIC 29, LACNIC signed a cooperation agreement with LAC-IX and the Internet Society to work jointly on coordinating activities to promote the development of Internet traffic exchange points and encourage the adoption of best practices in the region.

### **LACNIC participates in CITEL**

LACNIC participated in the 32nd meeting of CITEL/OAS CCP1 which took place in the city of Lima on 22-25 May. There, LACNIC presented a [recommendation document that was adopted by CITEL](#).

# JUNE

## New Datacenter

LACNIC completed the construction and launched its new datacenter located at Casa de Internet for Latin America and the Caribbean in the city of Montevideo. The new datacenter has its own generator, redundant Internet links and increased wireless connectivity, and it will host 38 physical servers with more telecommunications equipment.



## Latin American Telecommunications Congress

LACNIC had a strong presence at the Latin American Telecommunications Congress (CLT) held in Varadero, Cuba on 11-15 June. During the event, LACNIC CEO Oscar Robles moderated the panel on Internet Access and Innovation: A Strategy for Growth and Economic Development.

## On the Move Paraguay

On June 5-7, the city of Asuncion welcomed LACNIC on the Move Paraguay, an event supported by COPACO, CNC, IXpy, NIC.py and TISA as its local hosts. The event was attended by 114 participants. In addition to the usual content (registry services, policies, transitioning to IPv6), the program included presentations on IXPs, the IoT, an Amparo workshop and an IPv6 tutorial.



# JULY

## Agreement with LACTLD to Use Its Anycast Cloud as DNS Infrastructure

Within the framework of the ICANN 62 meeting held in Panama, LACNIC signed an agreement with LACTLD that will allow the former to use the latter's anycast cloud as DNS infrastructure.

This agreement complements the one signed in December 2016 through which LACNIC participates in the administration of this project.

LACTLD's anycast cloud is a regional cooperation effort through which the ccTLDs of Latin America and the Caribbean seek to enhance regional Internet robustness and resilience.



## LACIGF 11

The eleventh edition of LACIGF was held in Buenos Aires, Argentina from July 31 to 2 August. More than 300 participants from different Latin American and Caribbean countries attended this meeting to discuss and identify regional priorities, thus broadening regional participation and their contribution to Internet Governance Forum (IGF) debates.

# AUGUST

## Winners of the 2018 FRIDA Program

The FRIDA Program's 2018 call for projects focused on community networks and initiatives promoting gender equality in technology. This year, seven winners were selected: Editatona, Atalaya Sur, Promoting Careers in ICT Among Secondary School Teenagers in Uruguay, Mobile Lab for Developing STEM Skills, Artigo 19, Asociación Colnodo and Acoso Online.



## Visiting Governments and Decision Makers

Working with national government actors involved in defining Internet policy is an essential part of LACNIC's working strategy. The purpose of these meetings is to address IPv6 deployment issues and potential actions by governments and other stakeholders.

In 2018, meetings were held with the authorities of four Central American countries: Guatemala, El Salvador, Honduras and Belize.

# SEPTEMBER

## LACNIC 30 LACNOG 2018

LACNIC 30 / LACNOG 2018 was held in the city of Rosario, Argentina from 24 to 28 September 2018. The meeting was hosted by Cabase (the Argentine Internet Chamber) at the Ros Tower Convention Center.

The event was attended by 565 people and included strong local participation. Keynote speaker [Hervey Allen](#) presented his lecture titled "Experiences and Strategies Working in the Less Connected World." Program highlights also included panels on Geolocation, IoT Deployment and [Address Transfers](#).



## Changes to the Policy Development Process

LACNIC 30 (Rosario, Argentina) was the first event to apply the new Policy Development Process (PDP) approved by the LACNIC community at its prior meeting. For more information on the changes that were implemented, go to: <http://bit.ly/2UBoPXf>



## Lifetime Achievement Award

Researcher and scientist Michael Anthony Stanton received the 2018 Lifetime Achievement Award for his contribution to Internet development in Latin America and the Caribbean. The award was presented by the chairman of the LACNIC Board during the LACNIC 30 / LACNOG 2018 event held in Rosario, Argentina.

## Amparo Workshops

Four Amparo workshops were held in 2018 to train computer security experts and teach participants how to create and manage a computer security incident response center. These activities were attended by close to 120 professionals representing the different sectors of the countries where the workshops took place: Trinidad and Tobago, Honduras, Guatemala, and Uruguay.

# OCTOBER

## Internet Week Trinidad and Tobago

LACNIC participated in the organization of workshops on entrepreneurship, interconnection and cybersecurity as part of a joint initiative by LACNIC and Google; these workshops were attended by more than 200 participants. Likewise, an Amparo cybersecurity workshop was organized within the framework of this event, where participants worked on the creation of CSIRTs.



# NOVEMBER

## Internet Governance Forum

During the IGF held in Paris, the three partners of the Seed Alliance — APNIC's ISIF Asia, AFRINIC's FIRE and LACNIC's FRIDA Program — organized a workshop titled “Upscaling Community Networks: Exploring the use of Blockchain and Smart Investment Strategies,” where funders and community network representatives discussed the priorities that will allow community networks to gain scale.

The awards ceremony for the winners of the 2018 edition of the FRIDA Program was also held at this IGF meeting.

## WALC 2018

LACNIC participated in the hands-on track on “IPv6: Routing and Services” during the 21st edition of the WALC held in Santo Domingo, Dominican Republic.



# Internet Number Resource Management

In 2018, LACNIC continued to apply the policy titled Special IPv4 Allocations/Assignments Reserved for New Members — better known as phase 3 of IPv4 exhaustion. Under this policy, the maximum IPv4 assignment is a /22, the minimum a /24, and these resources can only be assigned to organizations that have not previously received IPv4 space from LACNIC or from the organizations that preceded LACNIC.

Likewise, according to the global policies in force, LACNIC received from the IANA the eighth and ninth of a total of eleven blocks to be received under the Global Policy for the Allocation of the Remaining IPv4 Address Space. As a result of these two assignments, a /21 and a /22 were added to LACNIC's address pool.

As for number resource assignments, in 2017 1,448 IPv6 assignments were made in the LACNIC service region, while 2018 closed with a cumulative total of 6,826 assignments. The number of members with IPv6 assignments reached 93.26%.

As for IPv4 address assignments, 6,464 /24s were assigned in 2017, compared to 5,124 /24s in 2018.

ASN assignments were similar to those in the previous year: 1,398 ASNs were assigned in 2017, while 1,322 were assigned in 2018.

To summarize, during 2018, number resource assignment totals were as follows:

IPv6 1.448

IPv4 1.374

ASN 1.322

IPv6 space  
in /32 1.374

IPv4 space  
in /24 5.124

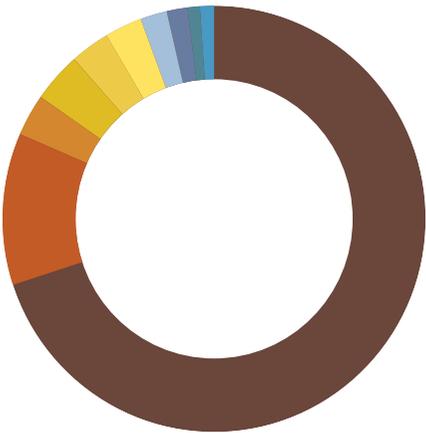
\*At the end of 2018, there were 2,473,984 available IPv4 addresses

# Resource Assignment Statistics for 2018

Below we present some IPv4 and IPv6 address assignment statistics for the LACNIC service region.

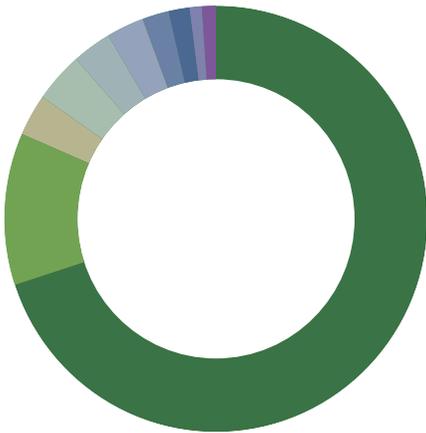
## Distribution of IPv4 Address Assignments in 2018 by Country

Brazil took the largest part of the IPv4 resources assigned in 2018 (73.1%), followed far behind by Argentina (9.4%) and Chile (4.2%).



## Distribution of IPv6 Address Assignments in 2018 by Country

Taking 72.4% of the total, Brazil also led the list of countries with the highest number of IPv6 assignments in 2018, followed by Argentina (8.8%) and Chile (4%).

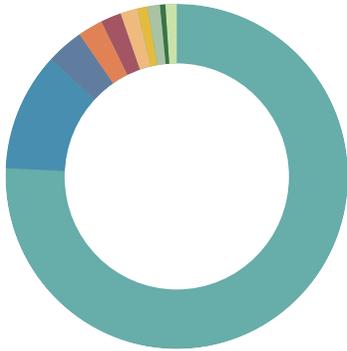


## Number of IPv6 Assignments by Year

IPv6 assignments decreased as compared to 2017. In 2018, 1,448 IPv6 assignments were made, compared to 1,549 in 2017.

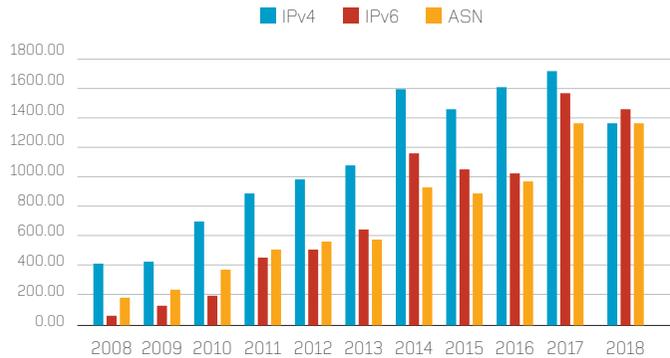
## Number of ASNs Assigned in 2018

Once again, Brazil and Argentina received the highest number of IPv6 assignments. Overall, 75.9% of ASNs were assigned in Brazil, a clear sign of how much the Internet has grown in the country. Argentina and Chile were next in the ranking, having received 8.8% and 4.2% of the assignments, respectively.



## Evolution of Number Resource Assignments

The final graph shows the evolution of number resource assignments in general (IPv4, IPv6, ASN).



In total numbers, a comparison with 2017 shows a 5.16% decrease in ASN assignments, an 18.65% decrease in IPv4 address assignments, and a 6.27% decrease in IPv6 address assignments.

## Intra-RIR IPv4 Address Transfers

Several IPv4 address transfer requests were also approved in 2018 through the process known as “Other Transfers” described in section 2.3.2.18 of LACNIC’s Policy Manual. It should be noted that this policy only allows transferring IPv4 space within the LACNIC service region.

## List of Potential IPv4 Transfers

In early 2018, LACNIC created the [List of Potential IPv4 Transfers](#) to facilitate contact between organizations interested in transferring or receiving IPv4 resources under the framework of policy 2.3.2.18. This service was developed in response to a community need and helps the parties involved in a transfer to make informed decisions.

The service is only available for LACNIC member organizations interested in transferring or receiving IPv4 addresses and for those willing to serve as facilitators between the two parties. At the end of 2018, a total of 35 organizations had already applied for this service.





# The LACNIC Community

LACNIC community refers to the entire regional Internet community and embodies the principle of multistakeholderism and open, bottom-up processes. Anyone interested in [participating in our discussion lists](#), our meetings or our policy development process is welcome to do so, whether an end user or an organization and regardless of their structure.

The LACNIC staff supports the community in different ways that range from advocating special initiatives to strengthen and promote Internet development and the information society in our region, to offering training on topics of interest to the community.

The LACNIC community covers an exceptionally diverse [geographic area](#) that includes territories in Central America, South America and some of the Caribbean islands. Its members participate in LACNIC in various capacities and share their interests and concerns regarding the realities of Internet development in their own countries of origin. Thus, they celebrate unity in diversity while working towards the development of [an open, stable and secure Internet](#) in the most inclusive way possible.

## LACNIC Events in 2018

Each year, LACNIC organizes two events that bring together an average of 600 participants to share technical information and promote the creation of synergies for regional Internet development. These meetings provide spaces for multistakeholder dialogue, high-level technical training activities, and the discussion of issues that are relevant to the Internet community.

# LACNIC 29

The LACNIC 29 event was held in Panama City from 30 April to 4 May 2018 with the participation of the AIG, Panama's National Authority for Government Innovation.

The event had a great turnout — 623 persons attended the event and more than 2,450 others followed the event online.

One of the key activities on the program was the first edition of the [LACNIC Technical Forum](#), the result of the integration and growth of the pre-existing technical forums.

The event also welcomed the Member Assembly and the Public Policy Forum, during which [11 policy proposals](#) were presented and discussed.

[Other highlights of the program](#) included the presence of keynote speaker [Lee Howard](#), the Peering Forum with its new format — a full day of activities that brought together a massive audience — and the FIRST Symposium organized as a parallel activity at a LACNIC event for the first time.

The presentations and videos of this meeting are available at: <http://bit.ly/lacnic29-videos>



NETSCOUT | Arbor



**30 ABRIL / 4 mayo**

*Ciudad de Panamá, Panamá*



Autoridad Nacional para  
la Innovación Gubernamental

**innovamos** para ti



# LACNIC 30

LACNIC 30 / LACNOG 18 took place in the city of Rosario, Argentina on 24-28 September and was organized with the support of Cabase as the meeting's host organization. The event was attended by 565 participants, and particularly noteworthy were the large number of local participants (47%) and the more than 2,000 people who followed the event online.

Highlights of the event included the presence of keynote speaker [Hervey Allen](#) with his presentation on Experiences and Strategies Working in the Less Connected World. The event program also included the panels on [Geolocation](#), IoT Deployment, and [Transfers](#). Finally, Scientist Michael Stanton was presented with his [Lifetime Achievement Award](#).

The presentations and videos of the event are available at: <http://bit.ly/lacnic30-agenda>



# LACNIC On the Move

Two LACNIC on the Move events were organized in 2018.

The first of these meetings was [held in Asuncion, Paraguay](#), an activity fully organized by LACNIC. LACNIC on the Move Paraguay took place on 5-7 June and was supported by COPACO, CNC, IXpy, NIC.py and TISA as the event's host organizations. The program included presentations on IXPs, the IoT, an Amparo workshop and an IPv6 tutorial, in addition to the usual content such as the registry service, policies, transitioning to IPv6 and others.

The year's second LACNIC on the Move meeting was organized as part of Internet Week Trinidad and Tobago and included the Interconnection workshop sponsored by Google, the Caribnog event and an Amparo workshop.

More information: <https://onthemove.lacnic.net/>

## Fellowship Program

Each year, LACNIC's fellowship program provides funds to help more than 121 members of the Latin American and Caribbean Internet community attend the conferences and forums LACNIC organizes in different countries of the region.

Through this program, LACNIC **offers financial support** to attend its two annual events. For the second meeting of the year, this is done jointly with LACNOG. LACNIC also contributes as a donor organization to the fellowship fund used to help participants attend the Regional Preparatory Meeting for the Internet Governance Forum (LACIGF).

In addition, for the second year in a row, LACNIC worked on the **fellowship program for young participants** which seeks to promote their participation in LACNIC events and encourage their involvement in Internet governance issues and the various spaces offered by LACNIC. This program is aimed exclusively at young people living in the country where each event takes place. Candidates must be students or young professionals working in the field of technology in general and/or Internet governance or ICT topics. In 2018, more than 90 fellowships were awarded to help students and young professionals attend LACNIC's two annual events.



# LACNIC Training Center

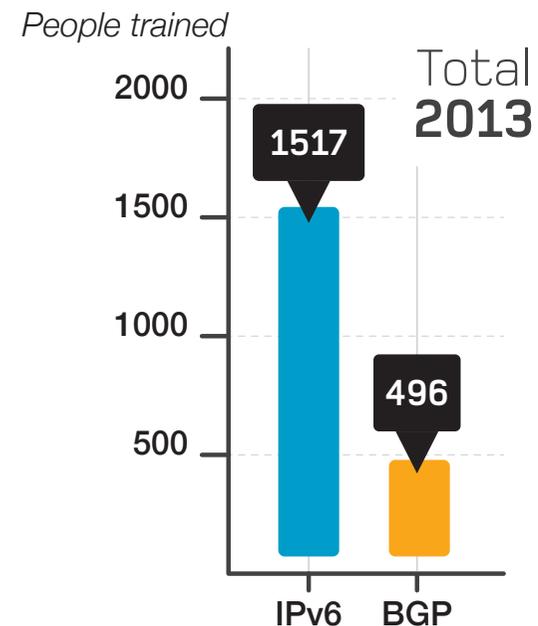
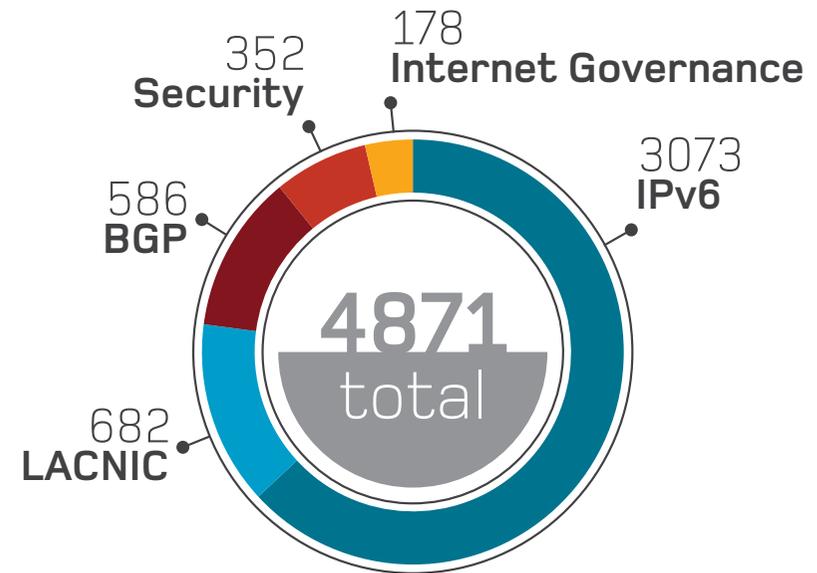
Seeking to facilitate the transition to IPv6 and strengthen technical capabilities on different topics, LACNIC offers the community webinars, workshops and other training activities through its different platforms. Throughout 2018, the multiple training activities offered by LACNIC allowed more than 8,800 experts and ICT professionals around the region to participate and strengthen their technical skills.

Nearly 4,900 of these experts participated in one of the 14 webinars organized by LACNIC and presented either by members of LACNIC staff or by representatives of other regional or global organizations. More than 15 hours of training were provided on IPv6, Internet Governance, Security, BGP and LACNIC's operation and policies.

In addition, the [LACNIC Campus](#) awarded diplomas to more than 2,000 students and professionals after they successfully passed the different courses offered through the e-learning platform (Basic IPv6, Advanced IPv6, and BGP Basics and Introduction to RPKI). There was a marked increase in the number of participants as well as in the number of participants who received their certification compared to the previous year. In addition, efforts to modernize the Campus continued, always with the goal of making it an easy-to-use platform with complete and up-to-date information and useful tools. In the same line, participants can now follow their classes on any device simply by downloading the Moodle app.

Finally, the in-person training activities presented by LACNIC experts in different countries of the region allowed training 1,949 professionals on RPKI, computer security incident management and the creation of incident response teams (CSIRTs), Internet exchange points (IXP), DNS security extensions (DNSSec) and other topics.

More information: <https://campus.lacnic.net/>



# Policy Development

LACNIC operates based on a self-regulation model according to which the rules (policies) that govern Internet resource management are developed by the regional community through a public, participative and transparent process that is open to anyone who wishes to participate and built on consensus.

Open participation of all stakeholders ensures that these policies are in line with regional interests, thus safeguarding the community as a whole.

The two annual events included a Changing Internet Policies tutorial, where participants were able to share their ideas on the proposals currently under discussion and receive training to help them be a part of these decisions. In addition, a space for direct Q&A with the authors of the policy proposals debuted at LACNIC 29 and was replicated during LACNIC 30.

The [changes to the Policy Development Process \(PDP\)](#) previously approved by the community during the meeting held in Panama [LAC-2018-10: Simplifying the PDP (Mailing List + Forum Option)] were implemented for the first time at the Public Policy Forum held during LACNIC 30. The PDP introduced substantial changes to the mechanisms and deadlines for the presentation and approval of policy proposals and incorporated the possibility of appealing the new rules.

In all, the community discussed 16 policy proposals at the two Forum meetings held in 2017. The following table shows a summary of these proposals and their current status.



Date of publication	Proposal	Status
27/02/2018	<a href="#">LAC-2018-4 Review and Correction of Errors in the IPv6 Policy</a>	Implemented 26 June 2018
20/03/2018	<a href="#">LAC-2018-7 Clarification of IPv6 Sub-Assignments</a>	Under discussion
02/02/2017	<a href="#">LAC-2017-2 One-Way Interregional Transfers to LACNIC</a>	Abandoned 02 April 2018
05/03/2018	<a href="#">LAC-2018-5 Registration and Validation of “abuse-c” and “abuse-mailbox”</a>	Under discussion
26/02/2018	<a href="#">LAC-2018-3 IP-Based Geolocation</a>	Implemented 20 July 2018
14/03/2018	<a href="#">LAC-2018-6 Simplification of the PDP</a>	Abandoned 07 May 2018
29/03/2018	<a href="#">LAC-2018-10 Simplifying the PDP (Mailing List + Forum Option)</a>	Implemented 26 June 2018
07/02/2018	<a href="#">LAC-2018-2 Update the Policy on Transfers Due to Mergers/Acquisitions</a>	Abandoned 18 October 2018
29/03/2018	<a href="#">LAC-2018-8 Update to the Policy on IPv4 Assignments to End Users</a>	Implemented 22 November 2018
29/03/2018	<a href="#">LAC-2018-9 Update to the Policy on Initial IPv4 Allocations to ISPs</a>	Implemented 26 June 2018
14/09/2018	<a href="#">LAC-2018-12 v2 Minor Revision to the PDP</a>	Implemented 23 January 2019
08/05/2018	<a href="#">LAC-2018-11 v1 Remove the Reference to an Applicant's Multihomed Status from the Policy on IPv4 Assignments to End Users</a>	Implemented 22 November 2018
29/03/2018	<a href="#">LAC-2018-8 v2 Update to the Policy on IPv4 Assignments to End Users</a>	Implemented 22 November 2018
20/03/2018	<a href="#">LAC-2018-7 v3 Clarification of IPv6 Sub-Assignments</a>	Under discussion
07/02/2018	<a href="#">LAC-2018-2 v4 Update the Policy on Transfers Due to Mergers/Acquisitions</a>	Abandoned 18 October 2018
19/01/2018	<a href="#">LAC-2018-1 Proposal to Create a Global Internet Registry (GIR)</a>	Abandoned 28 June 2018

# Technical Forums

The articulation of initiatives aimed at achieving regional Internet development and stability is reflected in LACNIC's support to multiple technical forums: the Network Operators Forum (LACNOG), CSIRT meetings, the LACNIC Technical Forum, the Peering Forum, and others. These meetings represent spaces for sharing knowledge and experiences, and they contribute to further strengthen the regional Internet community.

## LACNIC Technical Forum (LTF)

The LACNIC Technical Forum (FTL) was created in 2018 as a space for the LAC community to share and discuss Internet technologies and technical implementations. This forum was born as the result of having integrated the three existing technical forums: FLIP6, LACSEC and the Interconnection Forum. Starting this year, the FTL will include high-level technical presentations on topics as varied as cybersecurity, IPv6, DNS, the Internet of Things, interconnection, routing, Content Distribution Networks, and regulations.

The FTL is a space promoted by LACNIC in response to the regional community's need to strengthen their technical skills and build their network management capabilities.

The FTL program is coordinated by a multistakeholder Program Committee that includes representatives of the LACNIC Community, LACNIC staff and LACNOG.

More information: <https://www.lacnic.net/ftl>



## LACNOG

Since its creation, LACNIC has actively supported the consolidation of the Latin American and Caribbean Network Operators Group, LACNOG. Since 2011, LACNOG co-locates its annual meeting with the second annual LACNIC event, as this contributes to further the exchange of experiences and information that usually takes place on the discussion list.

The ninth edition of this forum met in September in the city of Rosario, Argentina. Highlights of the program included a panel on the Challenges of a Novice IXP, and the discussion of topics related to IPv6, routing, RPKI, and SDN (Software Defined Networks) among many others.

## CSIRT Meeting

The meeting of Latin American and Caribbean Computer Security Incident Response Teams has consolidated itself as a space for regional stakeholders to work together and share their experiences related to various security issues. This sharing of knowledge among participants seeks to strengthen the region's ability to prevent computer security incidents and mitigate their impact.

Two face-to-face meetings were held in 2018, co-located with the two annual LACNIC events. The topics discussed included different types of incidents reported in the region, information security, regional awareness on cyberattacks and many others.

## FIRST (Forum of Incident Response Team)

The first FIRST Symposium was held during the LACNIC 29 event. A symposium is a type of conference to which FIRST contributes human and financial resources. During the first day of this two-day symposium, Maarten van Horenbeeck, a member of the FIRST Board of Directors, presented the Basic CSIRT Course where he shared what a CSIRT is and what it does. The second day included presentations on different security related topics.

The excellent results of these joint activities led the FIRST Board of Directors to renew the cooperation agreement for three years at the meeting held in October 2018.

## Peering Forum

This joint initiative by LACNIC, the Internet Society and LAC-IX and supported by important sponsors provides network operators and other members of the industry the opportunity to meet, exchange ideas and experiences, and discuss future Internet interconnection activities. In 2018, the Peering Forum changed its format so that it would be more in line with that of the peering/interconnection forums held of other regions. This full-day edition of the event was divided into a half-day of conferences and a half-day of meetings for negotiating interconnection agreements.

# Support for Internet Governance Initiatives

LACNIC continued to support and strengthen Internet governance discussion spaces or dialogues, including LACIGF and various national Internet governance initiatives. Currently, more than 15 countries have national Internet governance dialogues, each with its own local characteristics.

By actively participating in these spaces, LACNIC contributes to the different topics and discussions and consequently to a better understanding of the multistakeholder model and the role of LACNIC. At the same time, these spaces enable actors (leaders) to emerge who can eventually participate in global processes or play a relevant role in developing and/or implementing national policies that will have an impact on regional Internet development.

## Regional Internet Governance Forum

This year, in addition to serving as LACIGF secretariat, LACNIC coordinated the LACIGF 11 event held in Buenos Aires, Argentina. This time, the meeting was co-organized by a local multistakeholder organizing committee made up by ADC, CABASE, ENACOM, CETYS/University of San Andres, NIC.AR, SETIC, the Ministry of Modernization, and the Ministry of Foreign and Religious Affairs.

In addition, starting in 2018 LACNIC, joined the Program Committee, occupying one of the three positions held by the technical community and will serve as part of the Forum's general coordination body for three editions.

## Support for Internet Governance Initiatives

In 2017, LACNIC established [Líderes](#), a project created to institutionalize the support provided over the years to National and Regional IGF initiatives (NRIs) based on the multistakeholder model. Through this project, LACNIC offers technical support (guidance), the presence of experts who are part of LACNIC's staff, and financial support to help organize such initiatives.

The goal of this project is for national initiatives to appropriate this way of approaching Internet issues, preparing their agendas through open and inclusive processes, the coordination of funds, and allowing the topics to be decided by all the stakeholders. In addition, partial fellowships are offered so that leaders selected by their own communities can participate in the annual LACIGF meeting. This form of support enriches regional debates and allows gaining experience that will lead to the development and consolidation of national spaces.

In 2018, direct support was offered to Internet governance initiatives (NRIs) in Costa Rica, Argentina, Haiti and El Salvador, and funds were provided to allow leaders from Venezuela, Youth Observatory and Costa Rica to attend LACIGF 11.

Likewise, a session for NRIs was organized at the LACIGF meeting. The leaders who received financial support participated in this session, where the results of a survey conducted by the Internet Society on various topics involved in the organization of an NRI were presented, including how such initiatives are funded, multistakeholder spaces and their local impact, and participants had the chance to share their own experiences.



# Interaction with Governments and Decision Makers

To complement IPv6 training actions in Latin America and the Caribbean, LACNIC is permanently working on its relationships with government stakeholders in the countries faced with the greatest challenges in terms of IPv6 deployment. During each visit, direct meetings are held with relevant national authorities and the main local stakeholders having an impact on Internet development.

In 2018, meetings were held with the authorities of four Central American countries: [Guatemala](#), [El Salvador](#), [Honduras](#) & [Belize](#).



## Belize

LACNIC visited Belize on 22-23 August to meet with the main local stakeholders.

The tour included meetings with senior officials of Belize's telecommunications regulator (PUC); the minister for ICTs; the Central Information Technology Office (CITO) of Belize, responsible for e-government and the digitization of the public sector; the association of ICT professionals in Belize; members of the Belize Internet Exchange Point (BIXP); and members of LACNIC, including Belize Telemedia Ltd (BTL), Smart Networks/Speed Net, Centaur Cable, and Alternative Networks.

## Guatemala

In Guatemala, a meeting was held with Gabriel Juárez, Vice Minister of ICT; Carlos Martínez, Secretary General of the Presidency of Guatemala; and Selvin Suárez, head of the Guatemalan Superintendence of Telecommunications to promote IPv6 deployment and discuss issues related to cybersecurity. LACNIC also visited Universidad del Valle, the organization responsible for Guatemala's ccTLD (.GT), where the role that universities play in the promotion of IPv6 was stressed.

In addition, Oscar Robles [participated in the opening of the workshop on Interconnection, Entrepreneurship and Digital Marketing organized within the framework of a joint project by LACNIC and Google](#) with the support of the Guatemalan Superintendence of Telecommunications (SIT).



## El Salvador

The first meeting in El Salvador was held at the Presidency's Technical Secretariat of Planning and SaLCERT (the Salvadoran Computer Security Incident Response Team), where the focus was on promoting IPv6 and improving cybersecurity.

A meeting was then held with the technical managers of four Salvadoran universities, who agreed on the role of educational institutions in promoting the use of new technologies.

The LACNIC team also had the opportunity to talk with CASA TIC, the Salvadoran Chamber of Information and Communication Technologies, whose members include different innovation and technology companies. The need for private companies to generate projects to promote IPv6 deployment was highlighted during the meeting.

## Honduras

Among other organizations, LACNIC visited HONDUTEL and CONATEL to promote IPv6 by sharing regional success stories.



The last item on the Salvadoran agenda was a meeting with Lidia Fromm, Executive Director of the Mesoamerica Project, during which several cross-cutting issues were identified for the deployment of new networks to promote infrastructure development and integration in Central America.

# Participation in Telecommunications Forums

## CITEL

As usual, LACNIC participated in the two meetings of CITEL/OAS CCP1. The 32nd meeting was held in Lima on 22-25 May, while the 33rd meeting was held in Washington DC on 20-24 August.

During CITEL 33, LACNIC presented a recommendation that was adopted at the meeting. This document serves as a basis for the promotion of legal or regulatory frameworks that will encourage IPv6 deployment — especially in government networks — with an emphasis on three different aspects.

First, the resolution seeks to improve government networks through the purchase of IPv6-compatible equipment and services. This will pave the way for IPv6 deployment in government offices and will generate business opportunities for the industry by establishing the basis for future services such as Smart Cities, the Internet of Things (IoT) and e-government.

Second, CITEL recommends importing IPv6-ready equipment, as otherwise Latin America and the Caribbean runs the risk of accepting a significant number of devices that only support the IPv4 protocol, thus forcing certain countries to become the recipients of obsolete and outdated technology. Consequently, each country should develop a plan to limit or reject the import of IPv4-only devices and encourage the import of technology that supports both IPv4 and IPv6 following the standards defined by the IETF.

Finally, a third item stresses the importance of preserving the population's digital security. Because IPv6 deployment improves the traceability of online transactions, the latest version of the IP protocol makes it easier to identify the source of online criminal activities

In addition, together with the Internet Society and with the support of CITEL, LACNIC organized a workshop on Internet Governance titled [Multi-Stakeholder Dialogue on the Future of Internet Governance](#). The purpose of this activity was to promote interactive and dynamic dialogue, bringing together decision makers representing multiple sectors of the community to discuss relevant issues relating to Internet Governance, its progress, roles and challenges for the region.



## COMTELCA

In 2018, LACNIC worked with COMTELCA's Standardization Committee on initiatives for promoting IPv6 deployment in the region and proposed using the format of the IPv6 Coalition.

The goal is for COMTELCA to issue instructions or recommendations that will ensure the establishment of guidelines and best practices for IPv6 deployment in their region.

## MESOAMERICA project

LACNIC participated in the Regional Workshop of the Mesoamerican Agenda for the Integration of Telecommunication Services (AMIST) held in mid-October 2018 in the city of San Salvador, El Salvador.

This activity included a review and discussion of issues such as the development of a digital market, the creation of infrastructure, a review of regulatory frameworks and cross-border e-commerce, as well as the current status of telecommunications in the different member countries.



# Follow Up and Contribution to Regional Digital Agendas

LACNIC has been involved in the discussions and has actively contributed to the development of regional Digital Agendas. In these spaces, LACNIC has promoted the topics most directly related to the work of the organization, including infrastructure development (IPv6 deployment and Internet Exchange Points), Internet governance, capacity building for cybersecurity incident management, and others.

Other spaces have recently emerged in sub-regional processes in which LACNIC has also participated, including:

## eLAC

The sixth Ministerial Conference on the Information Society in Latin America and the Caribbean took place on 18-20 April 2018. LACNIC continues in its historic role as observer of the follow-up mechanism in representation of the Technical Community, filling the two available seats together with ICANN.

## Pacific Alliance Digital Agenda Group (GAD)

Within the framework of the XXIX Meeting of Technical Groups and National Coordinators and the XLIII Meeting of the High Level Group of the Pacific Alliance, on 20-23 March, the Digital Agenda Group offered the Transition to IPv6 workshop, in which LACNIC participated and presented a comparison of the status of IPv6 deployment in the countries that are part of the Alliance, namely, Chile, Colombia, Mexico and Peru.

## Mercosur Digital Agenda Group

The IV meeting of the Mercosur Digital Agenda Group (GAD) met on 18 October in the city of Montevideo. The meeting included working groups on the 2018-2020 Action Plan, Mercosur Digital Agenda, with the participation of government and non-government actors from Argentina, Brazil, Paraguay and Uruguay, and led by AGESIC as the focal point of Uruguay.

The agenda covered the following topics:

### 1. Digital infrastructure and connectivity

LACNIC stressed the fact that IPv6 is strategic for the development of national digital agendas and shared information on the pool of available IPv4 addresses and the more than 240 million users that have yet to be connected in the region.

### 2. Security and trust in the digital environment

LACNIC presented the role of LACNIC WARP as the organization's cybersecurity incident coordination center and the AMPARO workshops for strengthening cybersecurity capabilities and the creation of incident response teams.

# Strengthening Internet Infrastructure

The +RAICES project allows increasing the scope, robustness and response speed of the DNS system — a key part of Internet infrastructure — at both regional and global level. Through this project, LACNIC has promoted the installation of anycast copies of the F, L, I and K root servers, thus improving the stability and performance of the DNS root server system in Latin America and the Caribbean.

In 2018, three copies of the I-root server (operated by Netnod) came into operation at Nic.Py in Paraguay, Cable & Wireless in Panama, and Transtelco in Mexico. A new call for proposals for hosting additional root server copies was also launched, as a result of which the following locations were selected in agreement with Netnod: ARIU in Argentina, RENATA in Colombia, Altarede in Brazil and CEDIA in Ecuador.

LACNIC continues to participate in LACTLD's Anycast cloud, having incorporated this anycast network among its reverse zone name servers.



# Promoting Cybersecurity

So far, this year [LACNIC WARP](#) — the Cybersecurity Incident Response Center for Latin America and the Caribbean — has already managed over 176 security incidents. The WARP also publishes monthly statistics and maintains historical data at <https://warp.lacnic.net/estadisticas>.

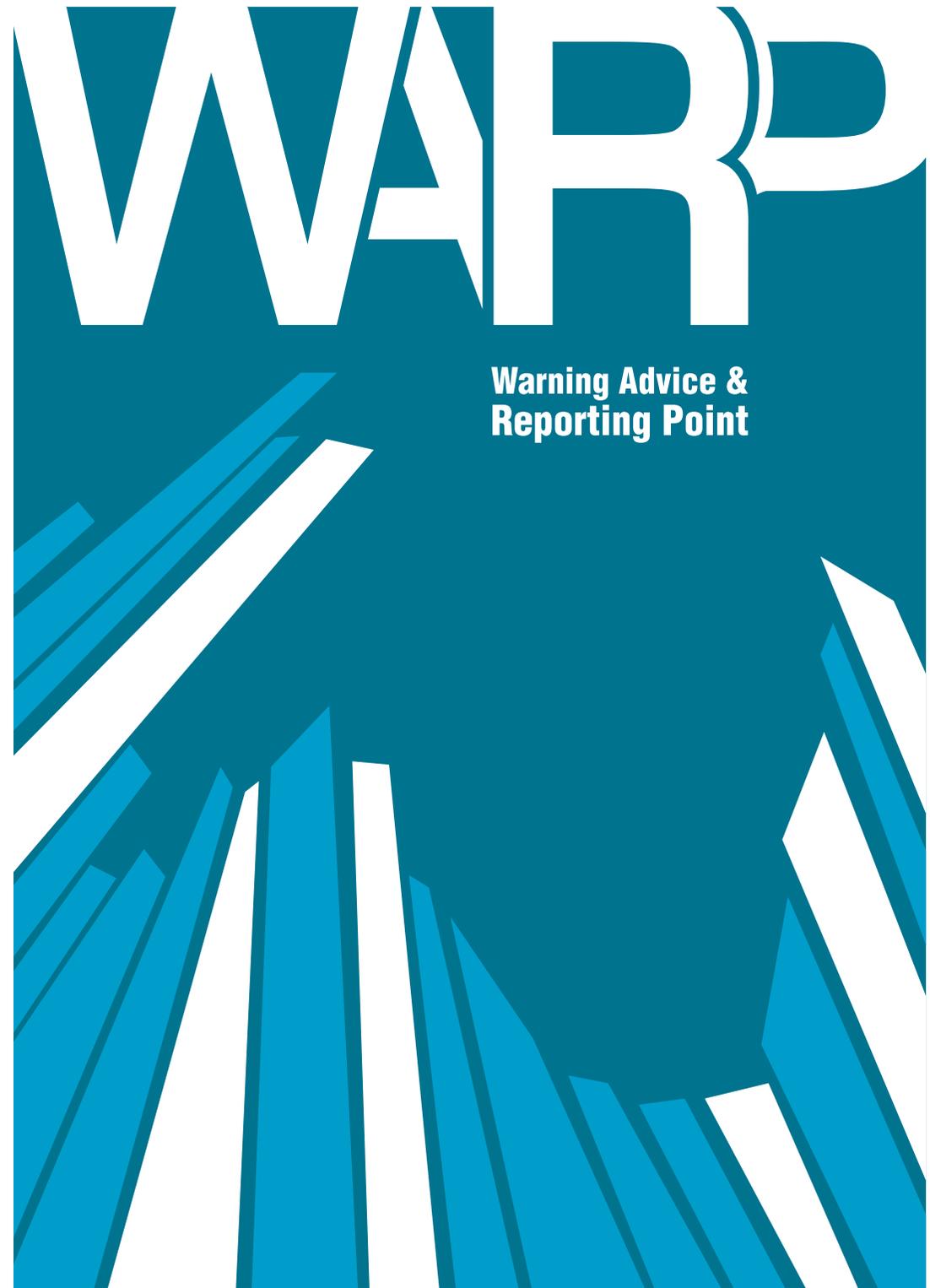
In 2018, progress was made in the creation of a sensor network for detecting security incidents in the region. To date, five honeypots have been installed in the region. These sensors were installed in cooperation with several of the region's CSIRTs: CSIRT CEDIA (Ecuador), CERTUNLP (Argentina), CERT.br (Brazil), Peru and at the WARP itself.

Given the excellent results of the activities carried out jointly with the Forum of Incident Response and Security Teams (FIRST), [the cooperation agreement was renewed in 2018](#) for an additional three years.

To strengthen regional cybersecurity capabilities, in 2018 LACNIC organized three workshops on how to create a security incident response center. These workshops allowed more than 120 professionals from different sectors to receive training.

Likewise, in the month of May, the Regional Internet Security Event was organized jointly with Team Cymru in Montevideo to address the main challenges in dealing with cybercrime.

In addition, the [FIRST Symposium](#) was co-located with the LACNIC 29 event. FIRST symposiums are a type of conference for which FIRST contributes human and financial resources.



# Promoting IPv6 Deployment

## Statistics

IPv6 deployment continues to make progress in the region and up-to-date statistics allow us to follow implementations of the new protocol as they occur.

## IPv6 Training

Promoting, strengthening and creating awareness on the importance of IPv6 deployment is a priority for LACNIC, one that cross-cuts all of the organization's activities. For this reason, this document devotes a special section to the strengthening of technical capabilities in the use of this protocol.

Seeking to facilitate the transition to IPv6 and strengthen technical capabilities on this topic, LACNIC offers webinars, workshops and other training activities for the community through its different platforms. Throughout 2018, the various training activities offered by LACNIC allowed more than 5,300 experts and ICT professionals around the region to participate and improve their technical IPv6 skills.

Nearly 3,000 of these experts participated in the six IPv6 webinars organized by LACNIC and presented by members of LACNIC staff as well as by instructors from other regional organizations. More than nine hours of training were offered on topics such as IPv6, transition mechanisms, the IoT, and prefix announcements.

In addition, more than 1,500 students and professionals received their diplomas from the LACNIC Campus after successfully completing the different courses offered through the e-learning platform (Basic IPv6 and Advanced IPv6).

Finally, the face-to-face workshops presented by LACNIC's experts in the different countries of the region allowed training 800 professionals on how to transition to IPv6 and deploy the latest version of the Internet Protocol.

Highlights of the in-person training activities included the workshop titled Hands-On IPv6: Routing and Services offered during the Workshop on Internet Technologies for Latin America and the Caribbean (WALC) held on November 26-30 in Santo Domingo, Dominican Republic. The aim of these workshops is to help satisfy the training needs of regional information and communication technology experts and professionals, with an emphasis on practical aspects of networking, ICT project organization and management, and recent technological developments.

More information: <https://campus.lacnic.net/>



## New Web Section on IPv6 Deployment

IPv6 Deployment is a new section on the LACNIC website created to share information on IPv6 deployment, events and workshops throughout the region, statistics, and the transition to the latest version of the Internet protocol, as well as to offer reading material and publish the latest news.

There you will find generic information on IPv6, success stories, articles, podcasts, webinars, interviews and many other interesting materials that will help any organization as they transition to IPv6.

The section also provides information on the different editions of the IPv6 Challenge, a competition that promotes and supports IPv6 deployment throughout the region. To join the Challenge, participants must set a goal that will allow them to implement or advance their IPv6 deployment initiatives and then present their process and final results.

Click on the following links to read about some of the winners of the 2018 edition of the Challenge:

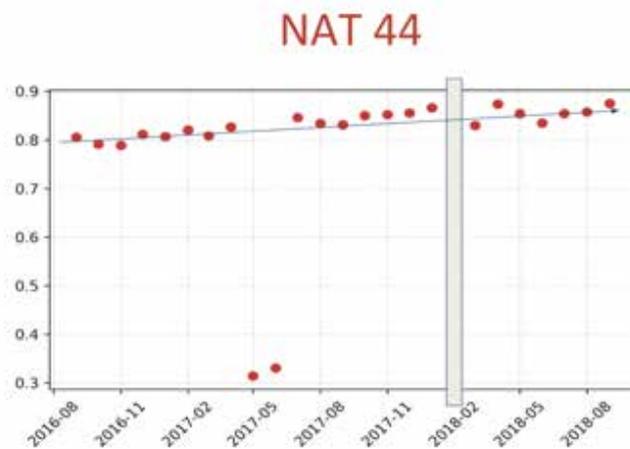
- <http://bit.ly/2D32kAD>
- <http://bit.ly/2uN0lfi>
- <http://bit.ly/2YTp5z>

More information: <https://www.lacnic.net/despliegaiIPv6>

# R+D Projects at LACNIC

## NATMETER

**Natmeter** is a project developed by LACNIC to identify the use of Network Address Translation (NAT) on the Internet. The first results were presented along with historical data, and this has allowed observing the evolution of dual-stack hosts, IPv6-only and IPv4-only hosts, the rate of NAT44 and NAT66 utilization, as well as other measurements.



\*A medida de que se profundiza el agotamiento de IPv4, crece el uso de NAT44.

## DNS Open Resolvers on IPv6

In addition, LACNIC also developed a new service for organizations and network administrators in the region to verify whether the DNS servers they are using with IPv6 addresses are properly configured. This tool is available free of charge [here](#) and allows easily checking whether a DNS server is open.

While developing this service, LACNIC conducted a study and concluded that 2.63% of all IPv6 DNS servers in Latin America and the Caribbean were open and vulnerable to cyberattacks. The project identified the number of open resolvers on IPv6 in the region and prepared a series of recommendations to correct server configuration errors.

## Geo Feeds

LACNIC has been working on developing a beta geolocation application for the IP addresses used by Latin American and Caribbean organizations and companies. Developed by LACNIC's engineering department, the project was inspired by an idea discussed by the IETF: publishing IP geolocation information in a standardized format.

Geolocation is the process that links the IP address that a device uses to connect to the Internet with its real-world geographic location.

To develop the **Geo Feeds platform**, the LACNIC team based its work on a proposal titled Self-published IP Geolocation Data [ID: Self Published Geofeeds] presented by Google engineers to the IETF in 2013 which basically allows operators to publish information about where an IP address is located. LACNIC currently offers the community a beta service that allows operators to generate and publish the location of the IP address blocks they are using.

Member organizations can access the system developed by LACNIC at <https://geofeeds.lacnic.net/> and voluntarily generate information on the geographic location of their IP addresses.

These files will then be used openly by the community when querying the location of an IP address.

This initiative allows improving the geolocation of the IP addresses used by infrastructure in the LACNIC region. It will help study the regional network and make it easier for operators and content providers to manage their information.

# FRIDA Program

As defined jointly by the FRIDA program's partners — the Internet Society (ISOC) and the International Development Research Center (IDRC) of Canada — and LACNIC itself, the 2018 edition of the FRIDA Program focused on community networks and projects on technology and gender.

Despite an increase in Internet penetration in Latin America and the Caribbean, access inequalities persist between men and women, between rural and urban populations, and between people with different income levels. With these challenges in mind, the 2018 call for projects focused on initiatives aimed at bridging the digital divide and the gender gap in technology in Latin America and the Caribbean. Two specific areas were selected: community networks and gender equality in technology and the Internet industry.

The FRIDA Selection Committee was made up by five regional experts — Carolina Aguerre, Amparo Arango, Carlos Rey Moreno, Antonio Moreiras and Juan Manuel Casanueva — and assessed 417 proposals from 24 different Latin American and Caribbean countries. In the end, seven initiatives submitted from Argentina, Brazil, Colombia, Mexico and Uruguay were selected as the winning projects.

Editatona, Bridging the Gender Divide in Wikipedia (Wikimedia Mexico) and Promoting Careers in ICT Among Secondary School Teenagers in Uruguay (Universidad de la República, School of Engineering) each received a USD 5,000 FRIDA Award in the Technology and Gender category.

**Editatona** has become a well-known event where women come together to edit and create Wikipedia content with a gender perspective. In turn, the goal of Promoting Careers in ICT Among Secondary School Teenagers in Uruguay is to attract young women to careers in Engineering and Technology.

**Atalaya Sur**: An experience in Community Connectivity and Popular Appropriation of Technology (Asociación para el Fortalecimiento Comunitario) received the Frida Award in the Community Networks category. The organization built a free, open, public WiFi network in Villa 31, an informal settlement in the city of Buenos Aires, Argentina.

In addition, three other projects received a USD 20,000 grant to promote new initiatives: Mobile Lab for Developing STEM Skills Among Students and Graduates with a Degree in Childhood Education (Universidad del Magdalena, Colombia) in the Gender and Technology category; Community Providers in Brazil (Associação ARTIGO 19) and Community Networks as a Social Program (Asociación Colnodo, Colombia) in the Community Networks category.

In the FRIDA Scale-Ups category, the Selection Committee decided to award a USD 20,000 grant to the initiative Acoso Online: Technologies to Combat Non-Consensual Pornography (Acoso Online, Chile). Acoso Online is the first Latin American website that deals with the non-consensual dissemination of intimate images and offers advice to the victims of this type of violence against women and LGBTQI persons.

FRIDA is part of **Seed Alliance**, a collaborative partnership between three Grants and Awards Programs: AFRNIC's FIRE Africa (<http://www.fireafrica.org/>), APNIC's ISIF ASIA (<http://isif.asia/>) and LACNIC's FRIDA Program. Together with its partners — the IDRC and the Internet Society — and with the support of various regional sponsors, these programs support innovation for Internet development across the global south.



# Lifetime Achievement Award

Within the framework of the LACNIC 30 / LACNOG 2018 meeting, researcher and scientist Michael Anthony Stanton was presented with the 2018 Lifetime Achievement Award for his contribution to Internet development in Latin America and the Caribbean.

The Lifetime Achievement Award is presented by LACNIC to personalities who have contributed to the growth of an open, stable and secure Internet for the development of the region. It was created by the LACNIC Board in 2009 to honor individuals whose achievements have had a significant impact on Internet development and have set an example for the rest of the community. Since its first edition in 2009, the Award has been presented to 19 leaders from 13 different countries in the LAC region.

After an extensive selection process, a Selection Committee made up by Ida Holz, Rodrigo de la Parra, Rafael Ibarra, Ben Petrazzini, Carolina Aguerre, Selby Wilson, and Jesús Martínez decided to present the award to Michael Stanton to acknowledge his contributions to the regional Internet community.

Stanton served as Director of Research and Development for Brazil's National Education and Research Network. After obtaining his Ph.D. in Mathematics from the University of Cambridge in 1971, he went on to teach at numerous renowned Brazilian universities, always encouraging the development of local computer network capabilities. From 1986 to 1993, he promoted training and research on computer networks in Brazil, including the creation of Rede-Rio, the Regional Network of the State of Rio de Janeiro, and the RNP itself. He also worked on the construction of the Clara academic network as a member of its technical commission, promoting community-building and academic collaboration in Latin America. Since 2001 and working from RNP, he has led collaborative projects for the implementation of large-scale networks and the deployment of modern optical infrastructure to provide high-capacity services for national and international collaboration efforts. He also contributed to the development of the Internet in Brazil and Latin America through academic research working groups that generated innovative services for RNP and the members of Red CLARA.

The Selection Committee especially valued his contribution to the promotion of the collaborative Internet model, the strengthening of technical skills, and the use and development of Internet technologies.



# Independent auditor's report

## Independent auditor's report

To the Shareholders of Latin America and Caribbean Network Information Centre (LACNIC).

### Opinion

We have audited the financial statements of Latin America and Caribbean Network Information Centre (LACNIC) (the Organization), which comprise the statement of financial position as at December 31, 2018, the statement of income, statement of comprehensive income, statement of changes in equity and statement of cash flows for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion, the Organization financial statements present fairly, in all material respects, the financial position of the Organization as at December 31, 2018, and its financial performance and its cash flows for the year then ended in accordance with general accepted accounting standards in Uruguay.

### Basis for Opinion

We conducted our audit in accordance with International Standards on Auditing (ISAs). Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of the Organization in accordance with the International Ethics Standards Board for Accountants' Code of Ethics for Professional Accountants (IESBA Code) together with the ethical requirements that are relevant to our audit of the financial statements, and we have fulfilled our other ethical responsibilities in accordance with these requirements and the IESBA Code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

### Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with general accepted accounting standards in Uruguay, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Organization's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Organization or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Organization's financial reporting process.

# Independent auditor's report

## Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with ISAs, we exercise professional judgment and maintain professional skepticism throughout the audit.

We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit 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 Organization's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Organization's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Organization to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

March 27, 2019

  
**Héctor Cuello**  
Director, Deloitte S.C.



# Independent auditor's report

## Statement of financial position as at December 31, 2018

(in United States dollars)

	Note	US\$	
		12.31.2018	12.31.2017
<b>Assets</b>			
<b>Current assets</b>			
Cash and banks	5	718,550	884,962
Investments	6	4,919,860	5,039,026
Membership's receivables	7	811,881	414,751
Other receivables	8	505,021	519,231
<b>Total current assets</b>		<b>6,955,312</b>	<b>6,857,970</b>
<b>Non-current assets</b>			
Fixed assets	9	4,981,753	3,564,310
Intangible assets	9	17,222	29,928
<b>Total non-current assets</b>		<b>4,998,975</b>	<b>3,594,238</b>
<b>Total assets</b>		<b>11,954,287</b>	<b>10,452,208</b>
<b>Off balance accounts</b>	17	<b>176,336</b>	<b>272,166</b>
<b>Liabilities and equity</b>			
<b>Current liabilities</b>			
Trade payables	10	377,215	209,161
Other payables	11	845,492	883,567
<b>Total current liabilities</b>		<b>1,222,707</b>	<b>1,092,728</b>
<b>Total liabilities</b>		<b>1,222,707</b>	<b>1,092,728</b>
<b>Equity</b>			
Prior year's results		9,518,810	8,752,762
Comprehensive result of the year		1,212,770	606,718
<b>Total equity</b>		<b>10,731,580</b>	<b>9,359,480</b>
<b>Total liabilities and equity</b>		<b>11,954,287</b>	<b>10,452,208</b>
<b>Off balance accounts</b>	17	<b>176,336</b>	<b>272,166</b>

The notes are an integral part of these financial statements.

The report dated March 27, 2019  
is submitted in document attached  
Deloitte S.C.

# Independent auditor's report

## Statement of income for the year ended December, 31 2018

(in United States dollars)

	Note	US\$	
		12.31.2018	12.31.2017
<b>Net operating revenues</b>	12	8,205,547	7,400,892
<b>Operating expenses</b>			
Salaries and Personnel Expenses		(3,097,807)	(2,944,337)
Travel Expenses (Staff, Board and Commissions)		(840,095)	(820,400)
Cooperation, Contribution and Memberships		(287,340)	(309,680)
Professional Fees and Hired Services		(542,725)	(568,214)
Outreach Costs		(589,875)	(474,299)
Travel Expenses (Fellows and Exhibitors)		(263,215)	(266,681)
Fixed Assets and Intangible Assets Depreciation		(297,724)	(234,548)
Building Maintenance and Utilities		(285,402)	(222,479)
Communication Expenses		(179,971)	(173,292)
IT Maintenance Services		(143,209)	(154,660)
Training Expenses		(103,382)	(88,927)
Other Operating Expenses		(128,591)	(125,464)
		<b>(6,759,336)</b>	<b>(6,382,981)</b>
<b>Other results</b>			
Other Incomes		8,304	24,313
Other expenses		(4,543)	(4,692)
		<b>3,761</b>	<b>19,621</b>
<b>Financial results</b>			
Interest and Bank Expenses		(39,228)	(31,351)
Collecting Fees		(82,893)	(83,542)
Result of Investments		70,459	71,763
Discounts Granted in Memberships		(200,147)	(371,540)
Foreign Currency Translation		14,607	(16,144)
		<b>(237,202)</b>	<b>(430,814)</b>
<b>Result of the year</b>		<b>1,212,770</b>	<b>606,718</b>
Other comprehensive results		-	-
<b>Comprehensive result of the year</b>		<b>1,212,770</b>	<b>606,718</b>

The notes are an integral part of these financial statements.

The report dated March 27, 2019  
is submitted in document attached  
Deloitte S.C.

# Independent auditor's report

## Statement of cash flows for the year ended December 31, 2018

(in United States dollars)

	Note	US\$	
		12.31.2018	12.31.2017
<b>Cash flows from operating activities</b>			
Comprehensive result of the year		1,212,770	606,718
Adjustments:			
Equity adjustment	16	159,330	
Depreciation of fixed assets	9	273,123	182,774
Depreciation of intangible assets	9	24,601	35,182
<b>Operating result before changes in operating activities</b>		<b>1,669,824</b>	<b>824,674</b>
Membership receivables		(397,130)	998,536
Other receivables		14,210	(379,623)
Trade payables		168,054	(23,831)
Other payables		(38,075)	120,526
<b>Net cash flow provided by operating activities</b>		<b>1,416,883</b>	<b>1,540,282</b>
<b>Cash flows from investment activities</b>			
Investments		119,166	(935,208)
Purchase of fixed assets	9	(1,696,686)	(539,759)
Sales of fixed assets		6,120	-
Purchase of intangible assets	9	(11,895)	-
<b>Net cash flow used in investing activities</b>		<b>(1,583,295)</b>	<b>(1,474,967)</b>
<b>Variation in net cash flow</b>		<b>(166,412)</b>	<b>65,315</b>
<b>Cash and banks at the beginning of the year</b>	5	<b>884,962</b>	<b>819,647</b>
<b>Cash and banks as of year end</b>	5	<b>718,550</b>	<b>884,962</b>

The notes are an integral part of these financial statements.

The report dated March 27, 2019  
is submitted in document attached  
Deloitte S.C.

# Fiscal Commission report

## DICTAMEN DE LA COMISION FISCAL

Con fundamento en el artículo 5 y 27 de los estatutos aprobados y vigentes del REGISTRO DE DIRECCIONES DE INTERNET PARA AMÉRICA LATINA Y CARIBE (en adelante "LACNIC"), se reúne la Comisión Fiscal conformada por Hernán José Arcidiácono, Aristóteles Dantas Gaudencio y Adriana Ibarra Vazquez.

Atendiendo lo anteriormente expuesto, se emite un dictamen relativo a los estados contables correspondientes al ejercicio finalizado al 31 de diciembre de 2018 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 2018 realizado por la firma DELOITTE, 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 2018.

SEGUNDA.- Derivado del análisis que realizó la Comisión Fiscal 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 2018, por lo que aconsejamos su aprobación por la Asamblea General de conformidad con el Estatuto de LACNIC.

Montevideo, Uruguay a 26 de marzo de 2019.

Comisión Fiscal



Hernán José Arcidiácono



Aristóteles Dantas Gaudencio



Adriana Ibarra Vazquez