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PROPOSAL DATA:

Policy Proposal Title: Modification of Section 2.3.3 - Initial IPv4 Address Allocation and Assignment
Policy Proposal Type: LACNIC
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PROPOSAL SUMMARY:

Modify Section 2.3.3, Initial IPv4 Address Allocation and Assignment, of LACNIC's Policy Manual to include an additional requirement for the applicant to prove that it will integrate IPv6 into its network from the beginning.

RATIONALE:

During the first quarter of 2011 LACNIC will receive its last /8 from IANA's central pool. LACNIC will then have an address pool that must be administrated in a way such that will guarantee a seamless transition to IPv6. Modifying this policy seeks to ensure that organizations requesting IPv4 address blocks already have a consistent plan for integrating IPv6 into their networks.

PROPOSAL TEXT:

LACNIC shall allocate IPv4 addresses to organizations covered by the following cases:

- Allocations to Internet Service Providers.
- Micro-assignments to Critical Infrastructure.
- Direct allocations to Internet Service Providers.
- End user Assignments.

This section contains a detailed description of the policies LACNIC shall apply for the initial allocation of portable (provider-independent) IPv4 addresses in each of the cases listed above.

Due to the fact that the number of IPv4 addresses available on the Internet is limited, many factors must be considered for determining IPv4 address space allocation. Therefore, IPv4 address space is allocated to ISPs based on a slow-start model. Allocations are based on current justifiable need, not on prediction of number of clients, market research, etc.

2.3.3.1. *Initial Allocations to ISPs*

The minimum initial allocation size applicable to Internet Service Providers established within LACNIC's service region is a /22.

2.3.3.1.1. Requirements for a /22 prefix (block of 4 /24s)

In order to qualify for the allocation of a /22 prefix, the requesting ISP must satisfy the following requirements:

1. Prove utilization or immediate necessity of a /24.
2. Submit a detailed one-year utilization plan for a /23.
3. Agree to renumber out of the previously assigned block and return those IPv4 addresses to their ISPs no later than 12 months after the allocation of the /22.
4. If the applicant does not already have an IPv6 block assigned by LACNIC, simultaneously request an IPv6 block in accordance with the corresponding applicable policy.

2.3.3.1.2. Requirements for a /21 or shorter prefix (block of 8 /24s or more)

Should the requesting ISP require an initial IPv4 address allocation of a /21 prefix or larger space, the following requirements must be satisfied:

1. Provide information on assignments with prefixes equal to or shorter than /29 (more than 8 IPv4 addresses) on LACNIC's WHOIS database.
2. Provide documentation that justifies the initial address space allocation (Completion of the IPv4 address application template for ISPs). This must include detailed information showing how this resource will be used within a period of three, six and twelve months.
3. Agree to renumber out of the blocks obtained from their providers within a period no longer than 12 months and return the space to its original provider.
4. If the applicant does not already have an IPv6 block assigned by LACNIC, simultaneously request an IPv6 block in accordance with the corresponding applicable policy.

In addition, depending of the multihomed or non-multihomed status of the applying ISP, the following requirements shall be considered:

If the applicant is a multihomed ISP:

Efficient utilization of at least 25% of the requested address space (contiguous or not).

An ISP is considered to be multihomed if it receives full-time connectivity from more than one Internet Service Provider and has one or more routing prefixes published by at least two of its connectivity providers. Those ISPs that will acquire this status within a period no longer that one month also qualify as multihomed ISPs. In this case, copies of the contracts or documents that validate this status shall be required.

If the applicant is a non-multihomed ISP:

Efficient utilization of at least a 50% of the requested address space (contiguous or not).

2.3.3.2. *Micro-Assignments to Critical Infrastructure*

Micro-assignment is the name given to those assignments that involve prefixes longer than /20 but shorter than or equal to /24.

LACNIC may grant this type of assignment in case of projects and network infrastructure that are key or critical for the region, such as IXPs (Internet Exchange Points), NAPs (Network Access Points), RIRs, ccTLDs, among others.

In the case of IXPs or NAPs, in order to be eligible for this type of assignment, the organization must meet the following requirements:

1. Duly document the following aspects:
   a) Prove by means of their bylaws their IXP or NAP capacity. The organization shall have at least three members and an open policy for the association of new members.
   b) Submit a diagram of the organization's network structure.
   c) Document the numbering plan to be implemented.
2. Provide a utilization plan for the following three and six months.
3. If the applicant does not already have an IPv6 block assigned by LACNIC, simultaneously request an IPv6 block in accordance with the corresponding applicable policy.

The rest of the applications shall be studied based on the analysis of the documentation justifying the critical and/or key aspects of the project.
Organizations receiving micro-assignments shall not sub-assign these IPv4 addresses.

2.3.3.3. *Direct Allocations to Internet Service Providers*

LACNIC acknowledges that there may exist circumstances under which there is justifiable need for an initial allocation such that infrastructure and service investment levels warrant the allocation of a /20 or smaller prefix.
LACNIC may grant this type of allocation to those organizations that meet the following requirements:

1. The organization is currently multi-homed or will be multi-homed in the near future (have subscribed contracts or letters of intent with their access providers).
2. Submit a detailed description of their network topology.
3. Submit a portfolio with a detailed description of the services the organization will offer.
4. Submit a detailed plan of the deployment of address space utilization for three, six, and twelve months.
5. Submit a copy of receipts or purchase orders for the equipment that will support the services described above.
6. If the applicant does not already have an IPv6 block assigned by LACNIC, simultaneously request an IPv6 block in accordance with the corresponding applicable policy.

It should be noted that this type of allocations shall be handled as exceptions and are not covered by the response times guaranteed for processing normal IPv4 address applications. For these allocations LACNIC may, at any time, request additional information to help justify a minimal allocation.

2.3.3.4. *Assignments to End Users*

LACNIC shall assign IPv4 address blocks to end users requiring IPv4 address space for internal use, for the operation of their networks, but not for sub-delegation outside their organization.

Typically, end users receive IPv4 address space from their upstream providers, not directly from LACNIC. Portable (provider-independent) IPv4 addresses obtained directly from LACNIC or other Regional Registries are not guaranteed to be globally routable.

For this reason, end users should contact their Internet Service Providers to ensure their connectivity within the network.

End users not connected to an ISP and/or not planning to be connected to the Internet are advised to use private IPv4 addresses. The description of these IP addresses may be found in **RFC 1918**.

When assigning IPv4 addresses to end users, LACNIC follows the guidelines of the assignment policies and procedures established in **RFC 2050**. These guidelines and policies were developed to satisfy the needs of the growing Internet community in relation to preserving the limited IPv4 address space and allowing the continuity and existence of Internet routing technologies.

2.3.3.4.1. Required Information

LACNIC shall request the following information from all end users requesting IPv4 address blocks:

1. Provide detailed information showing how the requested block will be used within the following three, six and twelve months.
2. Submit subnetting plans for a period not shorter than one year, including subnet masks and host numbers on each subnet. Use of VLSM is required.
3. Submit a detailed description of the network topology.
4. Prepare a detailed description of the network routing plans, including the routing protocols to be used as well as any existing limitations.
5. If the applicant does not already have an IPv6 block assigned by LACNIC, simultaneously request an IPv6 block in accordance with the corresponding applicable policy.

2.3.3.4.2. Utilization Rate

Utilization rate is a key factor that must be justified in order to dimension the size of the assignment. Utilization rate is the percentage of IPv4 addresses that the organization will use within a specified period of time. The rate established according to **RFC 2050** and adopted by LACNIC is:

25% immediate utilization rate of the requested block.
50% utilization rate of the requested block within one year.

A higher utilization rate may be required based on individual requirements. Should the organization presenting the application fail to comply with these parameters, addresses may be withdrawn and a reasonable period negotiated for their renumbering.

2.3.3.4.3. Applicant Status

In addition, the applicant's multihomed or non-multihomed status also affects the evaluation of the application.

If the applicant is a multihomed end user:

The size of the minimum IPv4 address allocation to a multihomed end user is a /24. In order to qualify for a block the applicant must also satisfy the following requirements:

1. Have received an assignment equivalent to a /25 from its Internet Service Providers.
2. Agree to renumber out of all the blocks allocated by providers within a period of 3 months and return the space to its original provider.

The maximum prefix size that may be assigned shall be a /24 and the minimum a /21. Initial assignments of a block larger than a /21 must follow the additional requirements established for non-multihomed end users described below.

Those users that are planning to become a multihomed user within a period of one month may also apply. In this case, copies of the contracts or documents that validate this status will be required.

If the applicant is a non-multihomed end user:

The size of the minimum IPv4 address assignment to a non-multihomed end user is a /20 block. Should the need for IPv4 address space be smaller than a /20, in order to obtain the required addresses end users should contact their corresponding Internet Service Providers.

In order to assign a /20 to an end user, in addition to the previous requirements, the following shall be satisfied:

1. Have received a minimum assignment of 8 /24 prefixes from its Internet Service Provider.
2. Agree to renumber out of the previously assigned space within a period of 12 months and return it to its original provider. This requirement is essential for obtaining the requested /20 prefix. The assigned /20 prefix must be used to renumber out of the addressing previously assigned by its provider.

Additional assignments shall follow the policies included in Section 2.3.4 applicable to end users.

The change means that applicants must now have a plan for integrating IPv6 into their networks and will therefore always take IPv6 into consideration, among others, in their designs, supplier contracts, equipment purchases, and professional services.

ADDITIONAL INFORMATION:

Timetable: After LACNIC XV – May 2011