



**Latin American and Caribbean** Internet Addresses Registry  
Registro de Direcciones de Internet para **América Latina y Caribe**  
Registro de Endereços da Internet para **América Latina e Caribe**

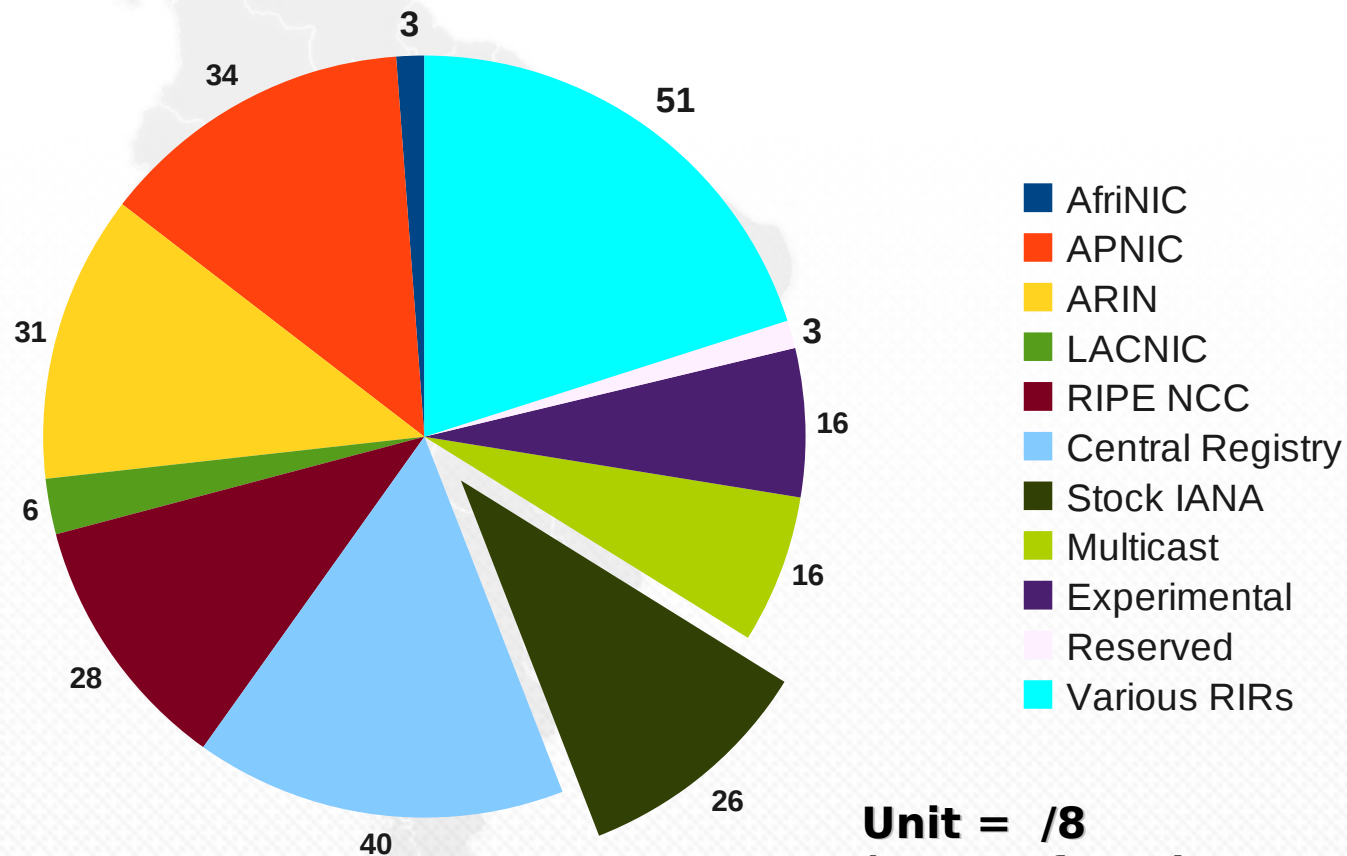
# The challenge of ending IPv4 addresses and the transition to IPv6

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**Belice, Belice**  
October 2009



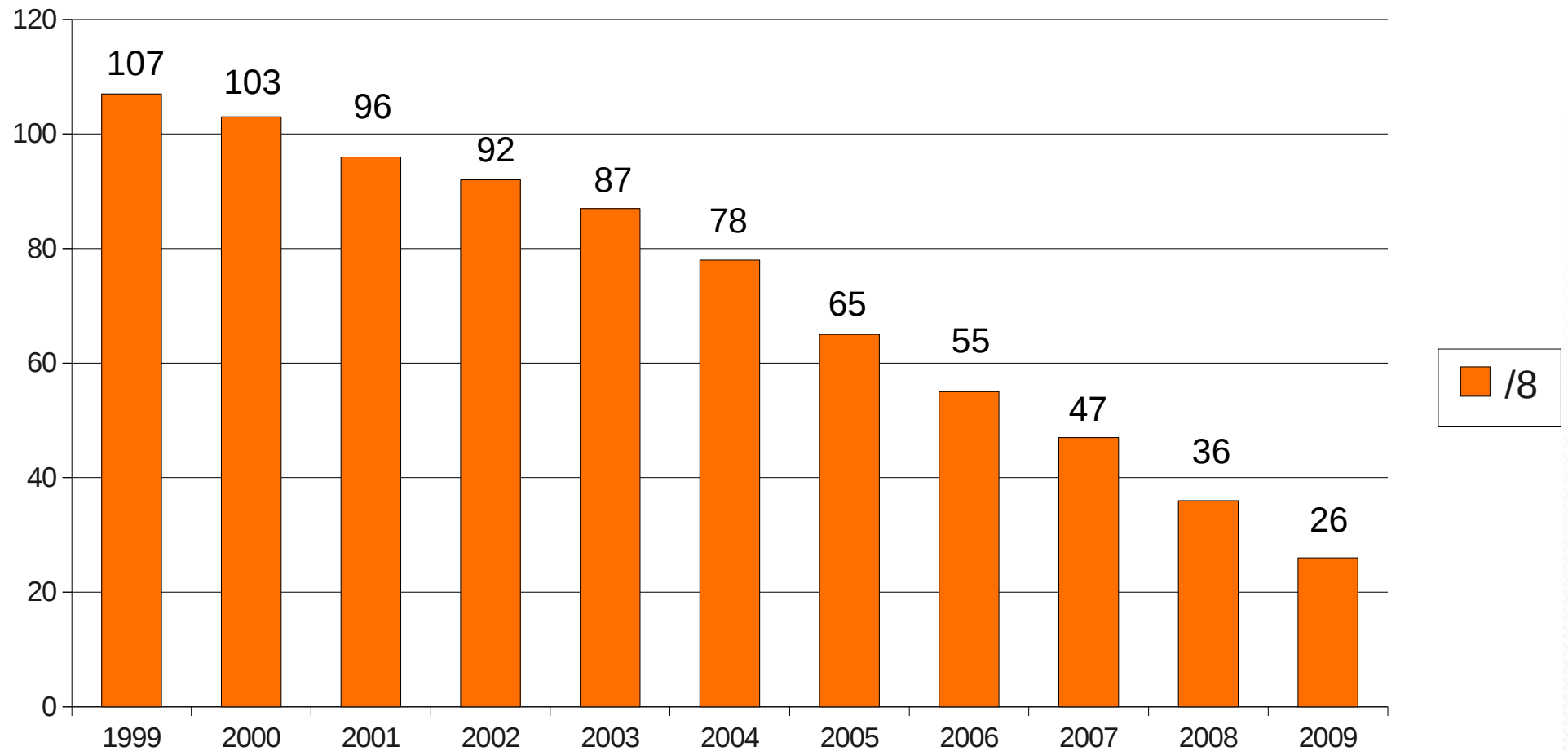
# Current Global Ipv4 distribution



**Unit = /8  
(1/256 of total IPv4 address space)**



# IPv4 Central pool





# Principles of Management Resources

## RFC 2050

- Conservation
- Aggregation
- Registration

The RIRs have made allocation processes IP addresses for many years to any organization/company that has applied for them

The RIRs system has proven to be very efficient and recognized in multiple forums, including the WSIS



# IPv4 Exhaustion

Recently approved a comprehensive policy promoted by the community LACNIC

- The last five /8 will be distributed one for each RIR (certainly before the end of stock)

LACNIC in 2008 adopted a policy to reserve space for new entrants and there are similar discussions in other RIRs

New global policy proposal to create a secondary pool with addresses retrieved. Currently under discussion.

- Less uncertainty

Transfer policies in several RIRs



# What will happen?

- The Internet will not stop
- IPv4 addresses will for many years (in various ways)
- Difficulties in allocating large (and not so great) contiguous blocks
- Increased use of NAT
- Secondary markets/gray
- At some point there might be users "IPv6 only"
- IPv6 will not be adopted massively until IPv4 addresses are completed or until suitable incentives (economic, political, regulatory)



# Scenarios

- There are several possible scenarios based on what measures and policies will be adopted
- It is not possible to ensure that access to IPv4 addresses in secondary markets will be fair
- There are many things to do, but most important is to work in the deployment and adoption of IPv6
- The best way to avoid major problems by the end of IPv4 is the early adoption of IPv6
- All actors can contribute from their respective roles
- For Latin America, early adoption of IPv6 can be more important than for other regions



# Adopt IPv6, which means?

## For an ISP

- IPv6 support in the backbone (core services)
- IPv6 Support in the datacenter
- Transition mechanisms available
- Support IPv6 in new equipment
- No need to replace the old terminals immediately

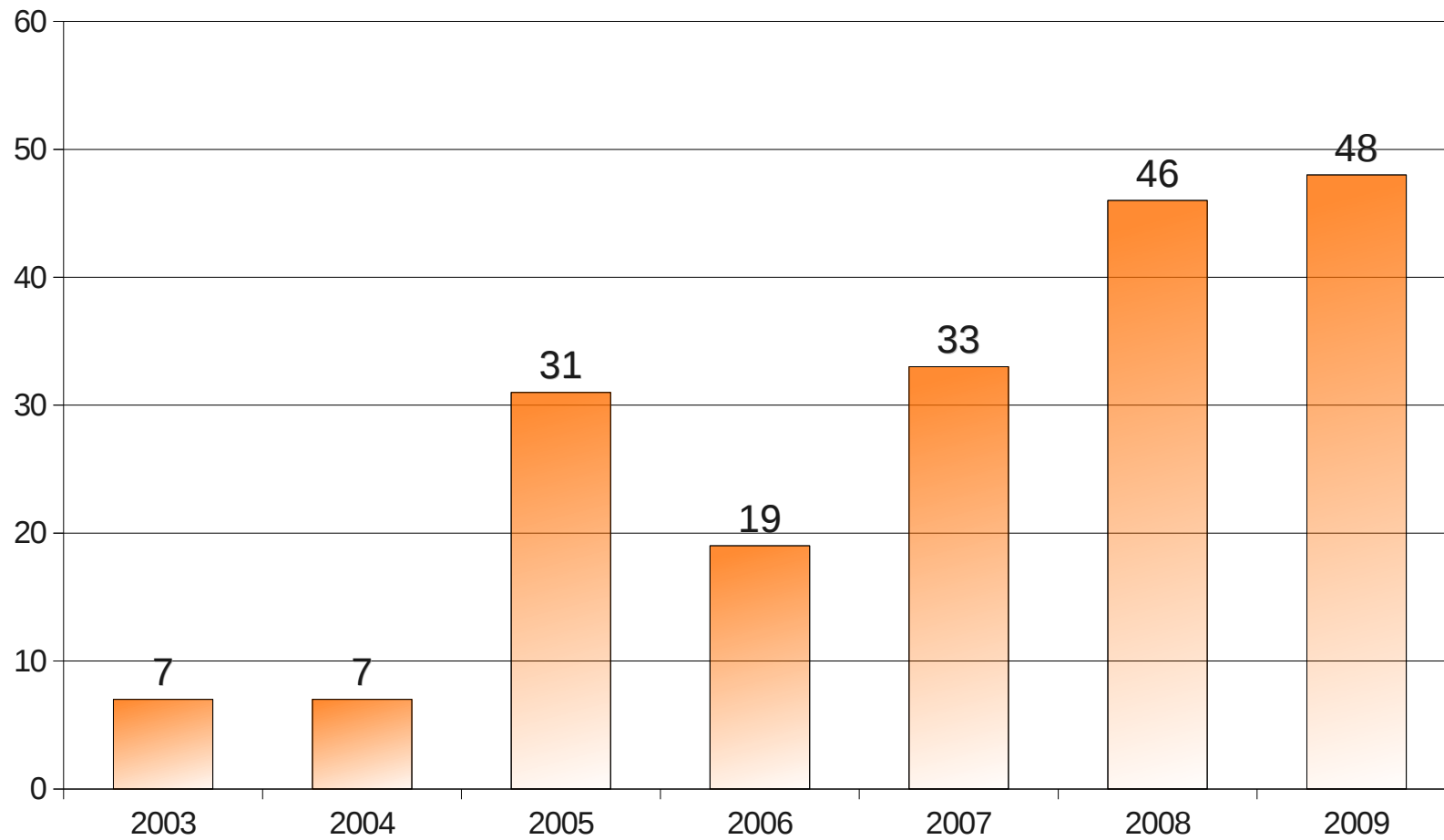


# Adopt IPv6, which means?

- For an End User
  - Computers (operating system)
  - Network Services
  - Applications
- Adopt IPv6 does not mean changing room facilities
- **It is a process of transition, not a migration**

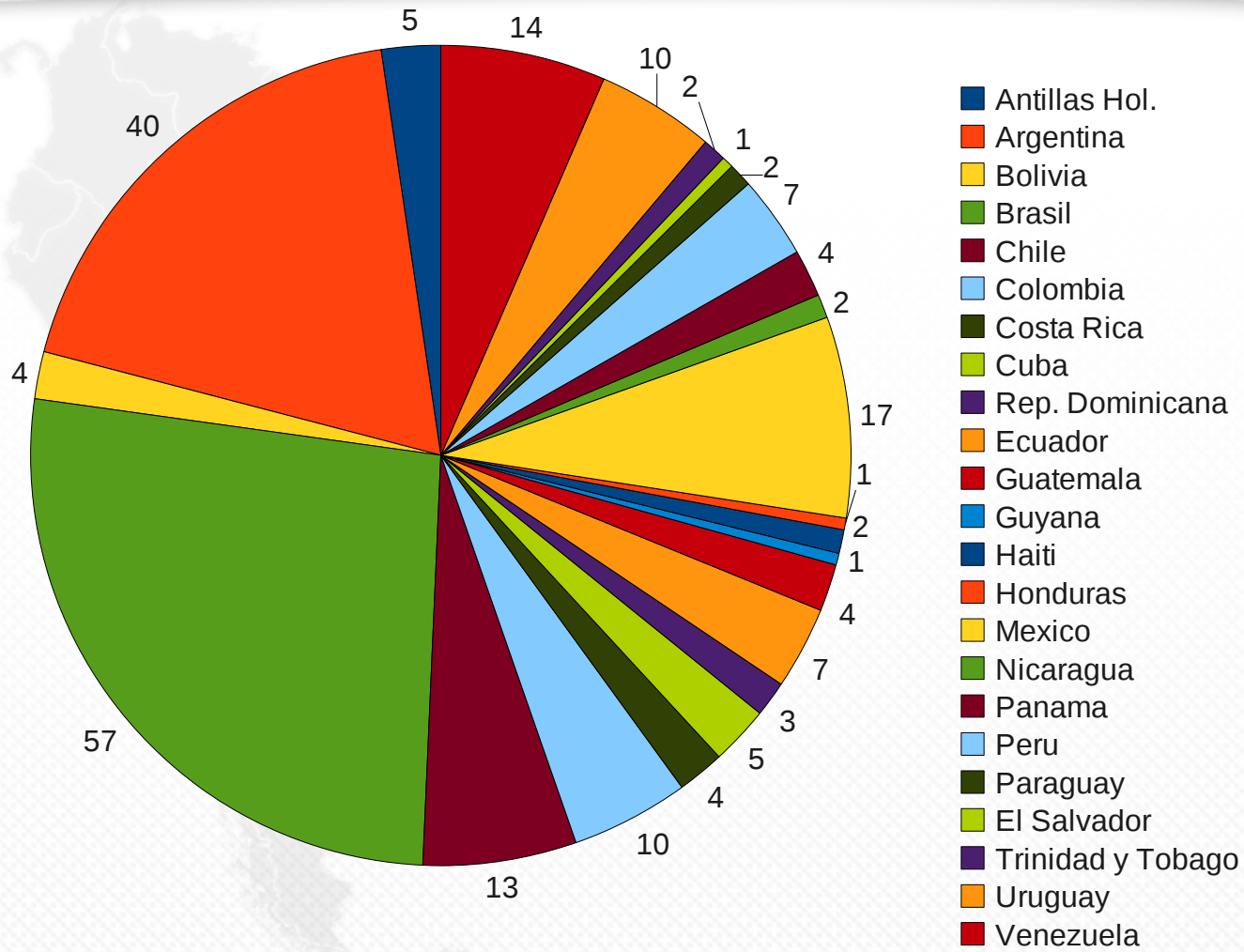


# IPv6 allocations in the LACNIC region



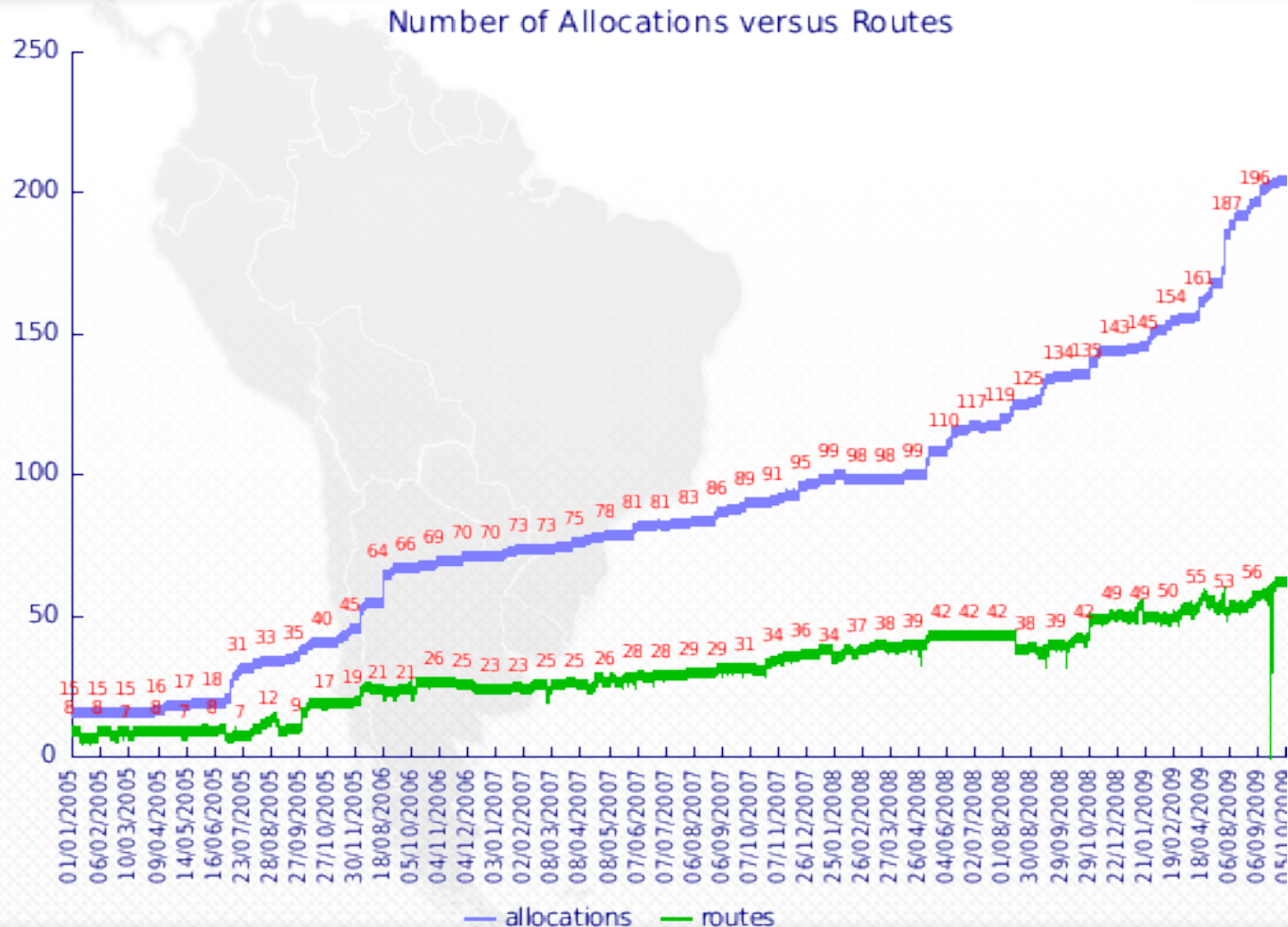


# IPv6 allocations in the LACNIC region by Country





# Allocations vs. Routes IPv6 in LAC





# Metrics

- Available at  
<http://portalipv6.lacnic.net/es/ipv6/estad-sticas/ipv6>
- To measure the adoption of IPv6
  - Number of assignments
  - Number of routes
- Useful for measuring the impact of campaigns by LACNIC



# Suggestions

- Share experiences and actions in different countries
  - Promotion
  - Government purchases
  - Coordination with the industry
  - Research
- International forums and collaborative framework
- Working toward goals eLAC-2010
- Public-Private Partnership
  - Create national multi-stakeholder Task Forces
- Objective: IPv6 in the region for 1/1/11



# Reflections

- IPv6 will not completely replace Ipv4, in the short or medium term, both protocols will coexist for several years
- Neither policies nor the costs to receive IPv6 addresses are barriers to the adoption of the new Protocol
- IPv6 is ready for deployment. Like any other technology is alive and will be enhanced and refined, **but now is ready for use**
- It should be made great efforts in the areas of promotion and training
- It is a great opportunity for innovation and to promote the concept of continuous innovation



# National IPv6 task forces

- There are currently 8 task forces in the region
  - **Cuba** <http://www.cu.ipv6tf.org/>
  - **Brasil** <http://www.br.ipv6tf.org/>
  - **México** <http://www.mx.ipv6tf.org/>
  - **Perú** <http://www.pe.ipv6tf.org/>
  - **Argentina** <http://www.ar.ipv6tf.org/>
  - **Colombia** <http://www.co.ipv6tf.org/>
  - **Panamá** <http://www.pa.ipv6tf.org/>
  - **Uruguay** <http://www.uy6tf.org.uy/>
- Are being created ...
  - **República Dominicana**
  - **Ecuador**
  - **Venezuela**



## Useful links

### **LACNIC IPv6 Portal**

- <http://portalipv6.lacnic.net/es>
- <http://portalipv6.lacnic.net/es/ipv6/ipv6-en/gobierno>

### **The IPv6 portal**

- <http://www.ipv6tf.org/>

### **IPv6 Task Force LAC**

- <http://www.lac.ipv6tf.org/>



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**Thank you very much !**