Regional and International Integration:
Joint ARIN-LACNIC Presentation

Bevil M. Wooding (ARIN) bwooding@arin.net
Kevon Swift (LACNIC) kevon@lacnic.net

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24 July 2018 • Panama City, Panama
3 Key Take Aways

1. Learn the Role of the Two Regional Internet Registries Servicing North America, Latin America & the Caribbean

2. Track Notable Stat on IP Number Resource Growth in the Region and the factors behind it

3. Understand the Role Internet Number Resources Play in Strengthening Caribbean Network & Communications Resilience
Profile of Organisations We Serve

And How We Help the Caribbean…
Organisations Served - ARIN

- Member: Pay fees & vote in ARIN elections
- Non-Member: Pay fees but cannot vote
- Legacy: Do not pay fees
Organisations Served - LACNIC

7,669 Organisations Served

Organisations Served:
- ipv6
- end user
- 5x_large
- 4x_large
- 3x_large
- 2x_large
- mayor
- x_large
- large
- medium
- small
- small/micro
- nano

Years:
- 2002
- 2003
- 2004
- 2005
- 2006
- 2007
- 2008
- 2009
- 2010
- 2011
- 2012
- 2013
- 2014
- 2015
- 2016
- 2017
- 2018

Numbers of Organisations Served:
- 124
- 158
- 249
- 294
- 390
- 728
- 902
- 1,128
- 1,524
- 2,185
- 2,779
- 3,387
- 4,285
- 5,178
- 6,009
- 7,382
- 7,669

Joint ARIN / LACNIC Presentation For CANTO 2018
Notable Statistics

And What The Mean for the Caribbean…
<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>TOTAL ORGS</th>
<th>LEGACY</th>
<th>NON-MEMBER</th>
<th>MEMBER</th>
</tr>
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<tbody>
<tr>
<td>Anguilla</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Antigua &amp; Barbuda</td>
<td>7</td>
<td>0</td>
<td>4</td>
<td>3</td>
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<tr>
<td>Bahamas</td>
<td>10</td>
<td>1</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Barbados</td>
<td>13</td>
<td>3</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Bermuda</td>
<td>29</td>
<td>8</td>
<td>13</td>
<td>8</td>
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<td>Cayman Islands</td>
<td>9</td>
<td>0</td>
<td>3</td>
<td>6</td>
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<tr>
<td>Dominica</td>
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<td>0</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Grenada</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Guadeloupe</td>
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<td>4</td>
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<tr>
<td>Jamaica</td>
<td>19</td>
<td>8</td>
<td>3</td>
<td>8</td>
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<tr>
<td>Martinique</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Montserrat</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Saint Barthelemy</td>
<td>5</td>
<td>0</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Saint Kitts &amp; Nevis</td>
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<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Saint Lucia</td>
<td>6</td>
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<td>1</td>
<td>4</td>
</tr>
<tr>
<td>St. Pierre and Miquelon</td>
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<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Saint Vincent &amp; The Grenadines</td>
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<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>St. Martin</td>
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<td>0</td>
<td>1</td>
<td>5</td>
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<tr>
<td>Turks &amp; Caicos Islands</td>
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<td>3</td>
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<tr>
<td>Virgin Islands (British)</td>
<td>14</td>
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<tr>
<td>Puerto Rico</td>
<td>105</td>
<td>16</td>
<td>43</td>
<td>46</td>
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<tr>
<td>Virgin Islands (U.S.)</td>
<td>11</td>
<td>1</td>
<td>5</td>
<td>5</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>266</strong></td>
<td><strong>41</strong></td>
<td><strong>98</strong></td>
<td><strong>127</strong></td>
</tr>
<tr>
<td>Territory</td>
<td>CC</td>
<td># of Members</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>------</td>
<td>--------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aruba</td>
<td>.AW</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BES (Bonaire, St Eustatius, Saba) Islands</td>
<td>.BQ</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Belize</td>
<td>.BZ</td>
<td>28</td>
<td></td>
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</tr>
<tr>
<td>Cuba</td>
<td>.CU</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Curaçao</td>
<td>.CW</td>
<td>21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dominican Republic</td>
<td>.DO</td>
<td>47</td>
<td></td>
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</tr>
<tr>
<td>French Guiana*</td>
<td>.GF</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guyana</td>
<td>.GY</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Haiti</td>
<td>.HT</td>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suriname</td>
<td>.SR</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sint Maarten</td>
<td>.SX</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trinidad &amp; Tobago</td>
<td>.TT</td>
<td>13</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>159</strong></td>
<td></td>
<td></td>
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</tbody>
</table>
# Caribbean Orgs With IPv6 Per Country - ARIN
Caribbean Orgs with IPv6 - LACNIC

LACNIC Caribbean - No. of IPv6 Allocations (/48-End Users; /32-ISP)
Joint ARIN / LACNIC Presentation For CANTO 2018

Exhaustion Phase - LACNIC

• Phase 3 (current)
  • Started 15 Feb 2017
  • Slightly more than 5M IPv4s
  • 3.2M IPs available for new entrants only

• Organisations that already have LACNIC IP addresses cannot receive additional IPv4 space directly.
Why does this matter?

And What Can You Do…
Spotlight on Network Resilience

Recent crises have put a spotlight on network resilience and the need to:

- Improve Technical Capacity in Network Engineering
- Strengthen Network and Infrastructure Resilience
- Strengthen Policy and Regulation
- Improve Disaster Mitigation and Response Planning Capability
**Why Network Autonomy Matters**

- **Reduce**
  - Reduce Vulnerability to External Dependencies

- **Enable**
  - Enable Number Resource Portability

- **Strengthen**
  - Strengthen Internal Technical Capacity

- **Improve**
  - Improve Network Routing And Security Options

- **Increase**
  - Increase Agility And Scalability In Network Design

- **Enhance**
  - Enhance Internal Capacity And Flexibility To Evolve Your Network
Pathway to Resilience: A Focus on Infrastructure

<table>
<thead>
<tr>
<th>AUTONOMY:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Gov Managed IP Number Resources (Gov ASN(s), IPv4, IPv6)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NETWORK:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Gov Fiber Networks with Coverage to Public Good Service Providers (Health, Security, etc)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IXPs:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Domestic Bandwidth Creation and Local Traffic Exchange</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CARIBBEAN CLOUD:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Local Cloud Services – Backup, Hosting, VMs, App Hosting with OECS redundancy</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DIGITAL SKILLS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Training, Innovation Labs, and IT-Enabled Services Hubs</td>
</tr>
</tbody>
</table>
What’s Been Happening

Kicked off **ARIN in the Caribbean** Events in 2018

• 6 countries to date
drew over 300 participants
• Key Talking Points
  • Why Network Resilience Matters
  • What Practical Steps Can Be Taken
  • How ARIN Can Help
Consistent Community Feedback

TOP PRIORITIES

1. Network Resilience
2. Network Autonomy
3. IPv6 Adoption
4. Network Security
5. Technical Capacity Building
ARIN Supporting Caribbean Internet Development

ARIN Caribbean Forum Launched in April 2018

✓ Technical Training with CaribNOG
✓ Internet Public Policy Series with CTU
✓ Cyber Security for Regional Law Enforcement and Judicial Education with APEX
✓ Internet Resilience Support with the OECS
✓ Caribbean Peering Support with CarPIF
LACNIC OnTheMove launched in July 2015

Evolution of LACNIC Caribbean series

✓ 2015 – Suriname, Belize
✓ 2016 – Honduras, Dom Rep, St Maarten
✓ 2017 – Guatemala, Guyana, Colombia
✓ 2018 – Paraguay, T&T (scheduled Oct 2018)

http://onthemove.lacnic.net
LACNIC Community Priorities

- **Boosting Internet infrastructure** (optimising Internet traffic management via interconnection training, root zone deployment, deploying DNSSEC, RPKI, etc)

- **Cyber security** (Warning Advice and Reporting Point (WARP – a LACNIC CSIRT), AMPARO project on establishing CSIRTs in organisations)

- **Skills development for digital employment** (Ayitic Goes Global, digital entrepreneurship training)
LACNIC Supporting Caribbean Internet Development - #Internet4Development

Empowering Women through Digital Markets

A collaborative initiative from:

Digital innovation for the Global South
Collective Effort Underway
THANK YOU

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Twitter: @TeamARIN & @LACNIC

www.arin.net | www.lacnic.net
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