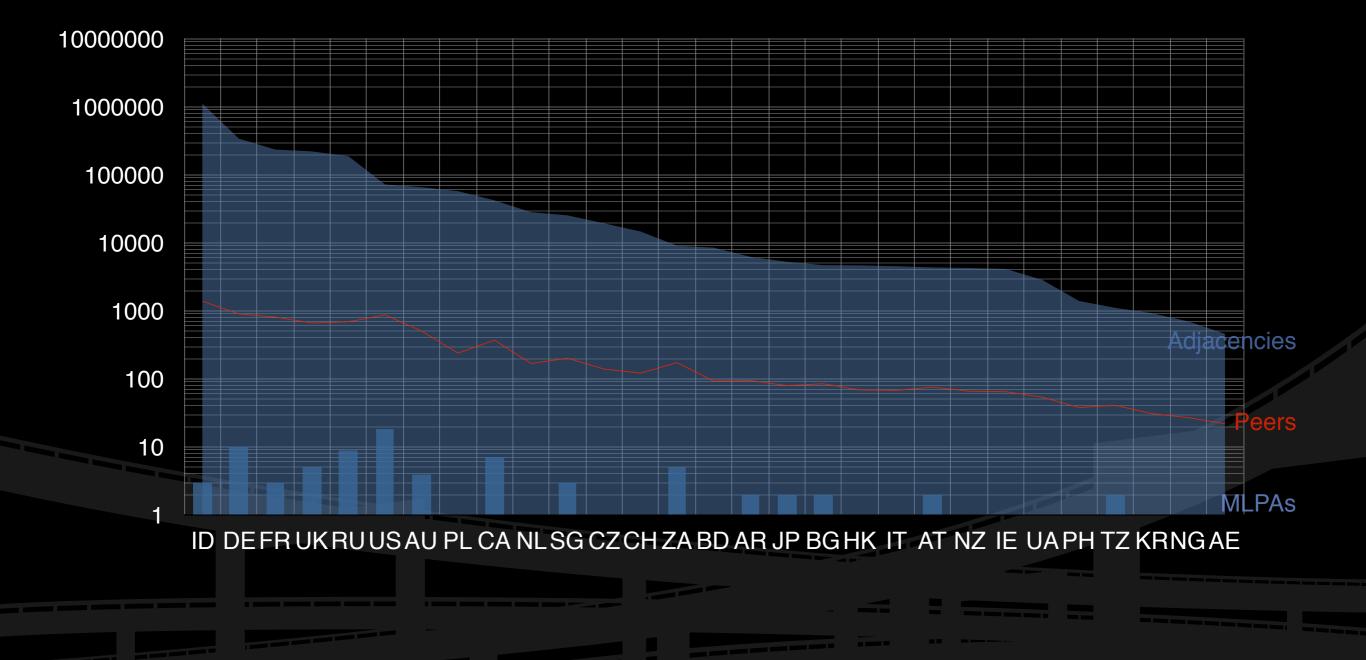
### BGP Route Servers, Route Collectors, Anycast DNS, and more ..

(Getting more Value Added Services to your IXP)

Most peering sessions (byPeeringSessionCount) happen through through multilateral peering sessions

### **Countries that Benefit from MLPAs**



## **BGP Route Collectors**

| Packet Clearing House | About +            | Services + | 10015 -            | Hesources +          |  |
|-----------------------|--------------------|------------|--------------------|----------------------|--|
| PCH                   | About <del>-</del> | Services - | Tools <del>-</del> | Login<br>Resources - |  |

#### IXP, City, Country

AAIX, Klagenfurt, Austria AIX, Port au Prince, Haiti AIXP, Arusha, Tanzania AMS-IX Bay Area, San Francisco, United States AMS-IX Chicago, Chicago, United States AMS-IX New York, New York, United States AMS-IX, Amsterdam, Netherlands ANGONIX, Luanda, Angola Any2, Los Angeles, United States AtlantalX, Atlanta, United States BCIX, Berlin, Germany BDIX, Dhaka, Bangladesh Query

- show ip bgp summary
- show ipv6 bgp summary
- O show ip bgp <prefix> [netmask]
- show ipv6 bgp <prefix>
- show ip bgp regex <regex>
- show ip bgp neighbor <IP\_addr>

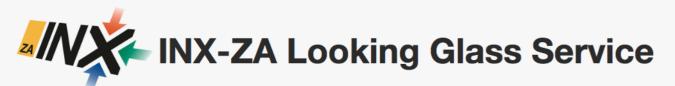
#### Argument(s)

Sort By IXP

Sort By City Sort By Country

Submit 🔶

# Debugging...



#### **INX BGP Looking Glass**

| Router:   | JINX Route Collector 💲   |           |
|-----------|--|-----------|
| Query Typ | e: show ip bgp regexp <expr< td=""><td>ession&gt; 🗘</td></expr<> | ession> 🗘 |
| Argument  | S: _ <b>37150</b> _  | Query     |

| Network           | Next Hop       | Metric LocPrf Weight Path   |        |
|-------------------|----------------|-----------------------------|--------|
| * 196.40.176.0/20 | 196.223.14.47  | 0 37179 37150 37150 37150   | i      |
| *                 | 196.223.14.103 | 0 37150 i                   |        |
| *                 | 196.223.14.10  | 0 3741 37179 37150 37150 3  | 7150 i |
| *                 | 196.223.14.103 | 0 37150 i                   |        |
| *>                | 196.223.14.103 | 0 37150 i                   |        |
| * 196.46.176.0/21 | 196.223.14.47  | 0 37179 37150 37150 37150 3 | i      |
| *                 | 196.223.14.103 | 0 37150 i                   |        |
| *                 | 196.223.14.10  | 0 3741 37179 37150 37150 3  | 7150 i |
| *                 | 196.223.14.103 | 0 37150 i                   |        |
| *>                | 196.223.14.103 | 0 37150 i                   |        |

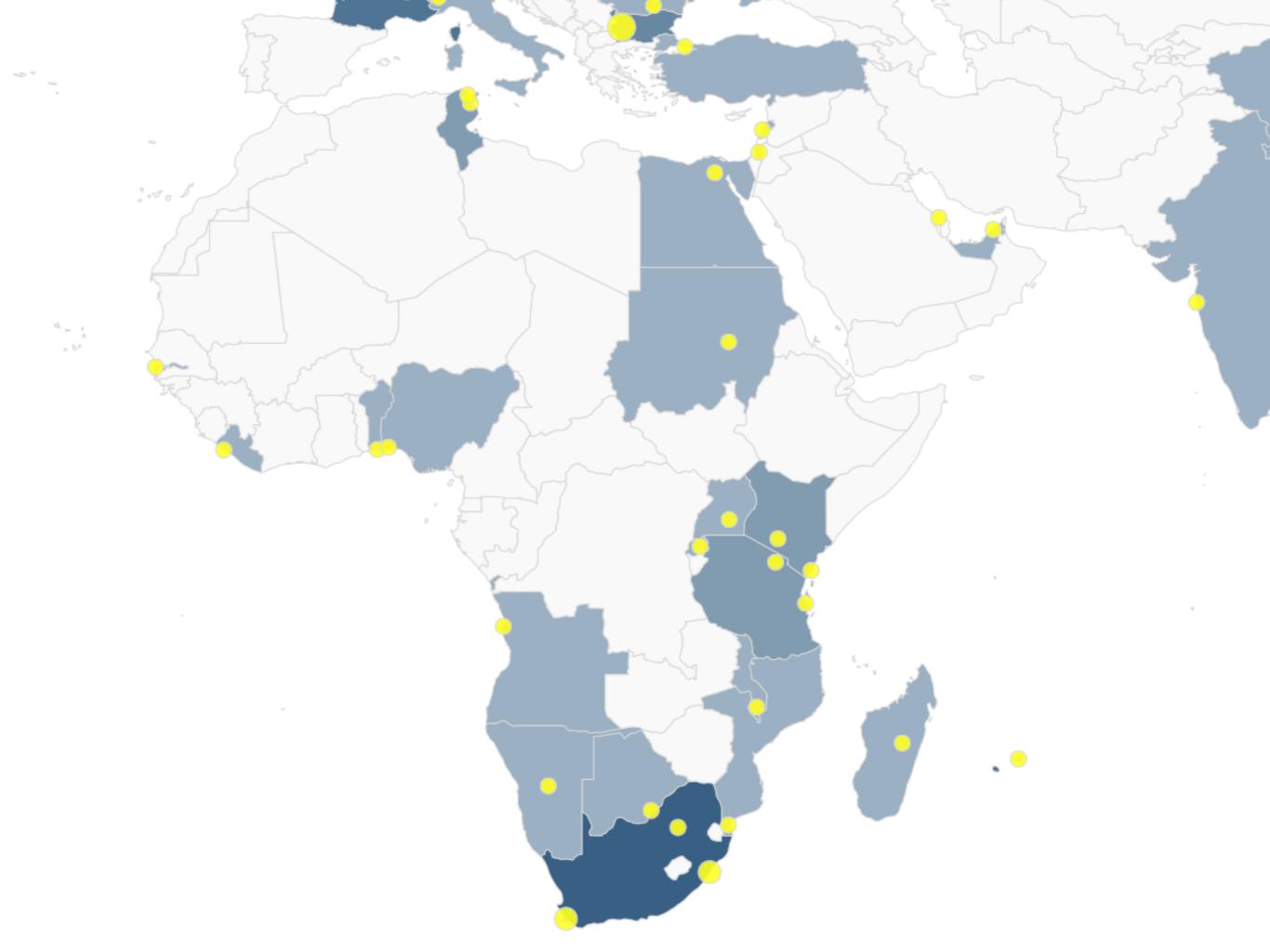
Total number of prefixes 2 rc-jinx> quit

## More debugging...

| -                 |       | -       | -      | - | - | - |          |       |
|-------------------|-------|---------|--------|---|---|---|----------|-------|
| 2001:43f8:1f0::37 |       |         |        |   |   |   |          |       |
| 4                 | 32653 | 430419  | 390994 | 0 | 0 | 0 | 01w6d08h | 1     |
| 2001:43f8:1f0::39 |       |         |        |   |   |   |          |       |
| 4                 | 36874 | 2048258 | 287988 | 0 | 0 | 0 | 01w6d08h | 20867 |
| 2001:43f8:1f0::41 |       |         |        |   |   |   |          |       |
| 4                 | 15169 | 803729  | 779582 | 0 | 0 | 0 | 01w3d09h | 28    |
| 2001:43f8:1f0::43 |       |         |        |   |   |   |          |       |
| 4                 | 37640 | 320837  | 280917 | 0 | 0 | 0 | 01w6d08h | 1     |
| 2001:43f8:1f0::44 |       |         |        |   |   |   |          |       |
| 4                 | 25152 | 444924  | 389968 | 0 | 0 | 0 | 04w0d19h | 1     |
| 2001-4250-15047   |       |         |        |   |   |   |          |       |

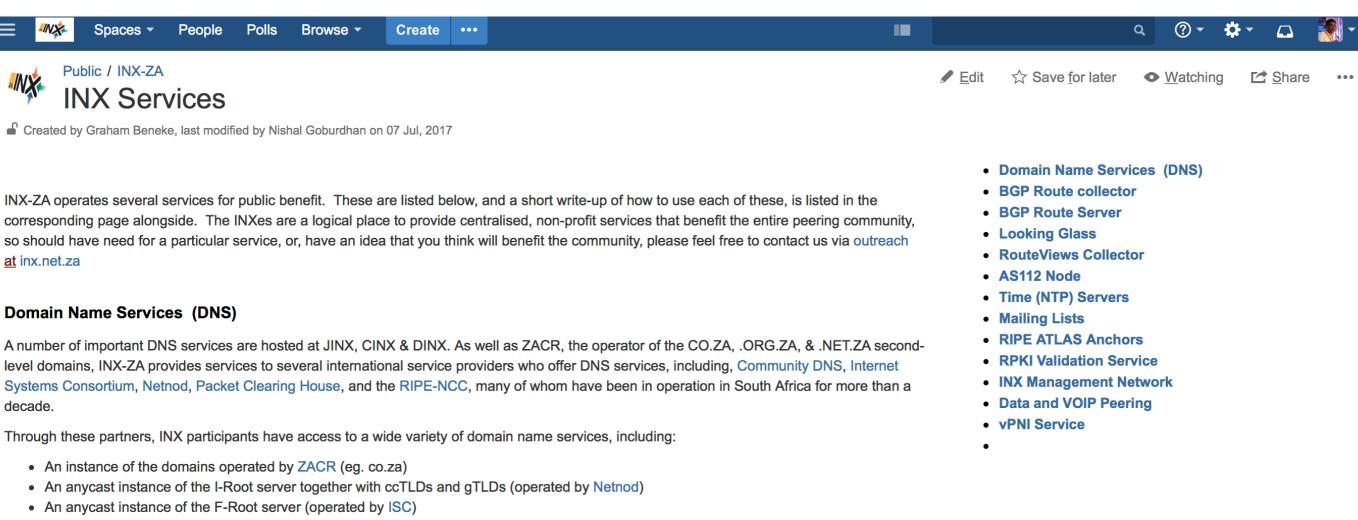
### **DNS Services**

- PCH DNS node 300+ TLDs
- 2-3 DNS Roots



### dns@afrinic.net

### Other services to consider



- An anycast instance of the E-Root server (operated by NASA)
- An anycast instance of the D-Root server (operated by University of Maryland)
- Any anycast instance of the K-Root server (operated by the RIPE-NCC)
- Instances of DNS services provided by CommunityDNS
- Instances of about 400 TLDs (operated by Packet Clearing House)

### wiki.inx.net.za

- Domain Name Services (DNS)
- BGP Route collector
- BGP Route Server
- Looking Glass
- RouteViews Collector
- AS112 Node
- Time (NTP) Servers
- Mailing Lists
- RIPE ATLAS Anchors
- **RPKI Validation Service**
- INX Management Network
- Data and VOIP Peering
- vPNI Service