Tools for Network Administrators

Matt Parker | 22/11/2018 | RSNOG

The Internet Registry System
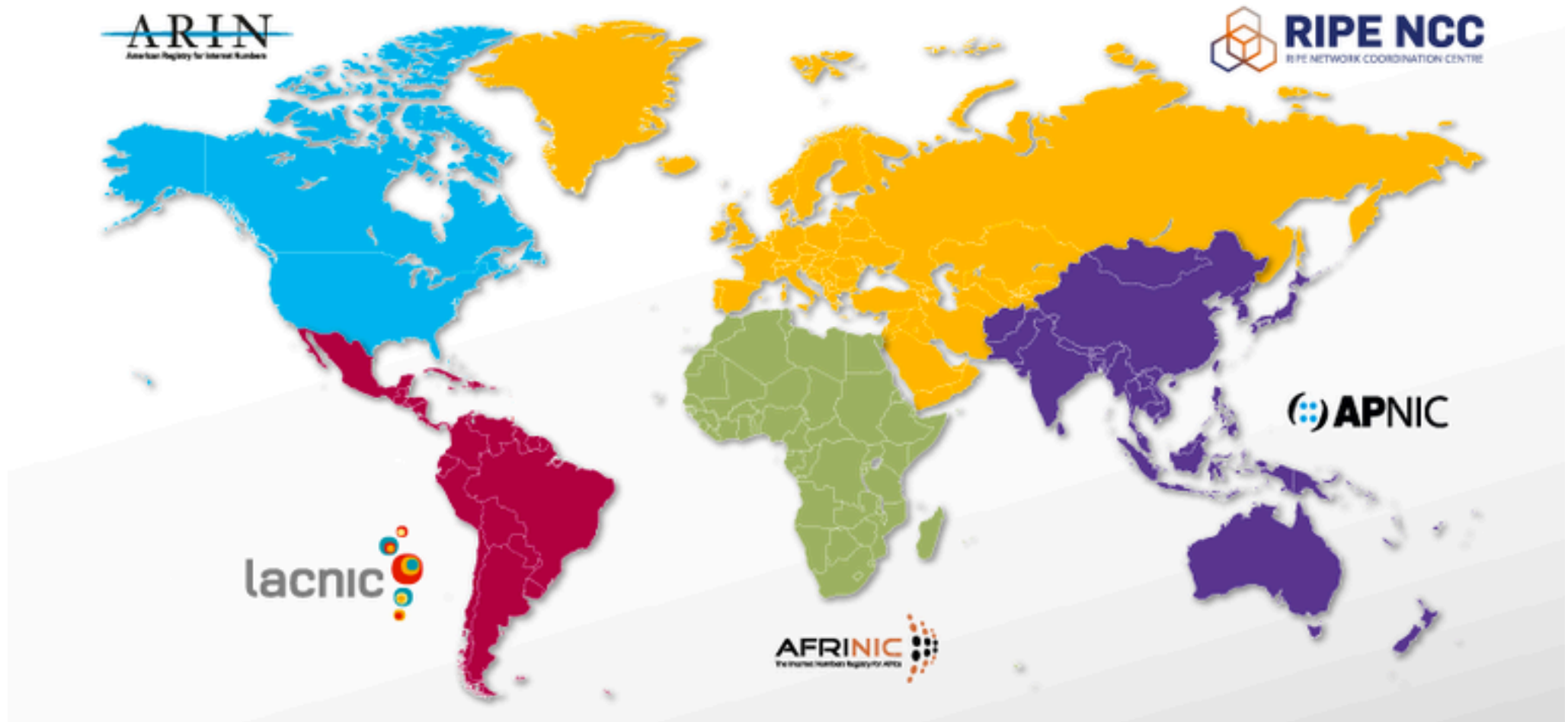
RIPE NCC - Who are we?

- Not-for-profit membership organisation, located in Amsterdam

- 20,000+ members (LIRs)

- Allocate & register Internet number resources according to the guidelines laid out by the RIPE community

- Provide coordination activities that support the Internet globally

RIPE NCC Services

RIPE Community

RIPE NCC Members

RIPElabs

RIPEstat

K-root DNS

RIPE Meetings

RIPE DB

RIPE Atlas

Training

IP / ASN

LIR Portal

RPKI

RIPE Database

- Public database of Internet resource information

  - Resources (inetnum, inet6num, aut-num)

  - Contact (person, role, organisation)

  - Reverse DNS (domain)

- How?

  - Command Line

  - Web Interface

  - Restful API

RIPE IRR

- RIPE Internet Routing Registry

- Routing policy (route, route6)

- Peering policy (aut-num)

aut-num:	AS64512
descr:	RIPE NCC Training Services
as-name:	GREEN-AS
tech-c:	LA789-RIPE
admin-c:	JD1-RIPE
import:	from AS64444 accept ANY
import:	from AS64488 accept ANY
export:	to AS64444 announce AS64512
export:	to AS64488 announce AS64512
mnt-by:	LIR-MNT
source:	RIPE

route:	192.168.0.0/24
tech-c:	LA789-RIPE
admin-c:	JD1-RIPE
origin:	AS64512
mnt-by:	LIR-MNT

route6:	2001:db8::/32
tech-c:	LA789-RIPE
admin-c:	JD1-RIPE
origin:	AS64512
mnt-by:	LIR-MNT

RPKI

- Resource Public Key Infrastructure

- Resource Certification

- Route Origin Authorisations (ROAs)

- Maximum Prefix length

- RPKI Validator

  - Valid

  - Invalid

  - Unknown

RIPEstat

- A single interface for Internet data & statistics

  - https://stat.ripe.net/

- Queries:

  - IP addresses/ranges, ASNs, Hostnames, Country Codes

- Data sources:

  - RIPE Database

  - BGP Routing Data (RIS)

 - RIPE Atlas

  - Third-Party (Geolocation, Blacklist)

RIPE Atlas

- Global active measurements platform

  - https://atlas.ripe.net/

- Consists of Probes, Anchors & Controllers

- Built in measurements (global & regional)

- User defined measurements

  - ping, traceroute,

  - DNS, SSL/TLS,

  - NTP and HTTP

Statistics	
Probes connected	10290
Anchors connected	354
Measurements running	19008
Results per second	6441

RIPE Atlas

RIPE Atlas Controllers

Web Interface

User

Probes

Probes

User Server
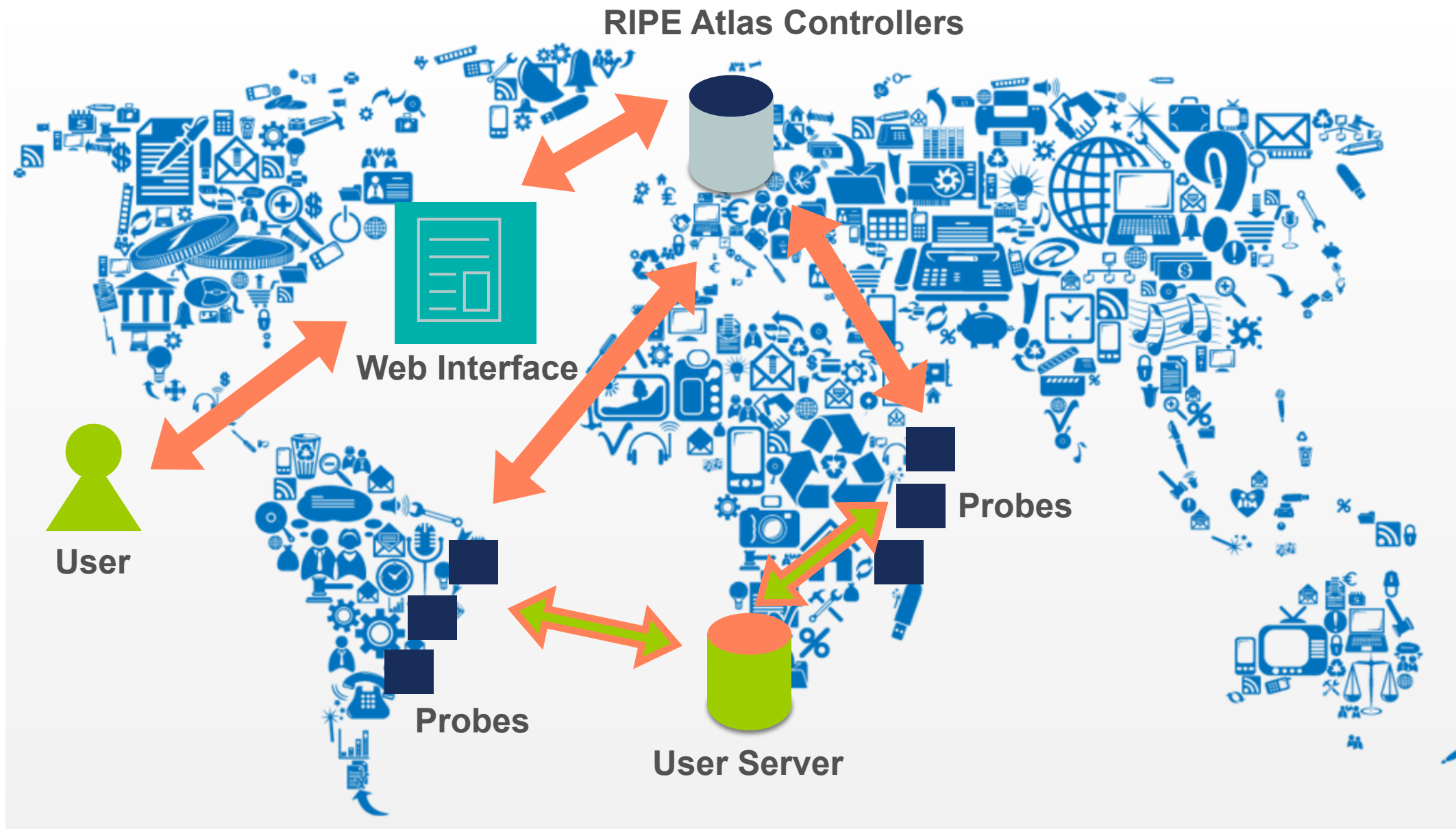
Training Services

- Training Courses

  - LIR, RIPE Database, IPv6 (basic, advanced, security)

  - BGP Operations & Security, Measurements & Tools

- Webinars

  - One hour interactive webinars on a wide range of topics with live demonstrations from RIPE NCC trainers

- RIPE Academy

  - https://academy.ripe.net

  - LIR, RIPE Database, Basic IPv6

@TrainingRIPENCC

- Credentialing (coming soon)