



RIPE NCC

RIPE NETWORK COORDINATION CENTRE

Capacity Building with the RIPE NCC

Chafic Chaya | ITU Regional Workshop | October 2019

RIRs Around the World



ARIN
American Registry for Internet Numbers

 **RIPE NCC**
RIPE NETWORK COORDINATION CENTRE

 **APNIC**

lacnic 

AFRINIC
The Internet Numbers Registry for Africa

Responsibilities of an RIR



- Distribute IP addresses and AS Numbers
- Fulfil policies set by the RIPE community
- Support the infrastructure of the Internet



The Internet is Changing



- Key developments we need to consider:
 - IPv4 run-out
 - Fast increase of users
 - More demand for IoT, Smart Cities and AI
 - Emerging technologies: blockchain, 5G, 6LowPAN
 - Growing concerns about security, privacy and safety
 - Pressure from LEAs and TRAs on service providers

Fast Changes Need Fast Responses



- Provide information, support and technical expertise
- Raise awareness of technical developments
- Share industry knowledge and expertise
- Provide guidance and practical experience
- Contribute to regulation and policy development

Capacity Building



- Capacity building is for both private and public sectors
- Supports Internet operations and the Internet community
- It is an investment for future development
- Provides valued opportunities for collaboration

Supporting Internet Operations



- Tools for network operators
- Accurate registry
- Resource Certification/RPKI (secure Internet routing)
- Statistics and reports by country and region
- Measurements and Analysis: RIPE Atlas and RIPEstat

Supporting Internet Operations



- Face-to-face training courses
- eLearning and webinars
- RIPE NCC Certified Professionals
 - Certifying knowledge with digital badges and proctored exams
- Training courses: IPv6, routing, measurement tools, RIPE Database



RIPE Atlas: Measuring the Internet



RIPE Atlas is a **global, open, distributed** Internet measurement platform, consisting of thousands of measurement devices that measure **Internet connectivity** in real time. (Wikipedia)

Supporting the Internet Community



- Face-to-face and online workshops/training courses, seminars
- Bespoke training for ISPs, mobile operators, LEAs, and banks
- Conferences and meetings
 - RIPE Meeting, Regional Meetings, MENOG and more
- Government Roundtable for the Middle East region
- Train the Trainer (TTT) programme and MEAC-SIG
- RIPE NCC Academy and RIPE NCC Certified Professionals

RIPE NCC and Community Initiatives



- RIPE Academic Cooperation (RACI)
 - Successful candidates are invited (and funded) to attend meetings where they have the opportunity to present to leading technical figures in the Internet world
- The RIPE NCC Community Projects Fund (CPF)
 - Provides EUR 250,000 per year to support projects of value to the operation and resilience of the Internet



Observations



- IPv6 is gaining momentum after IPv4 run-out
- Capacity building is in more demand than ever
- Several IPv6 deployments are underway
- Regulators drive the transition
- Internet Exchange Points (IXPs) will facilitate peering
- More data centres will host content



Thank you



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