Regional Internet Registries – Law Enforcement Cooperation

RIPE
NCC

The "INR world"

Internet Number Resources - IP addresses

"An internet protocol (IP) address is a numeric identifier that includes information about how to reach a network location via the Internet routing system"

An IP address does <u>not</u> give any information on:

• The geographic location of a network or device

• Who is using the IP address

• Why the IP address is in use (the purpose)

INR - IPv4 Addressing

193.0.19.25

- Defined in RFC791 in September 1981

- 32 bits of address space
  - 2^{32} = ~4,295,000,000

- Originally a classful system
  - Class A, B and C
  - Equivalent to /8, /16 and /24 networks

- Classless Inter Domain Routing (CIDR) notation in 1993
  - more efficient use of available addresses

INR – IPv6 Addressing

`2001:610:240:11::c100:1319`

- Defined in RFC1883 in December 1995

- 128 bits of address space
  - 2^{128} = 340 Undecillion addresses
  - ~340,000,000,000,000,000,000,000,000,000,000,000,000

- **Large** allocations
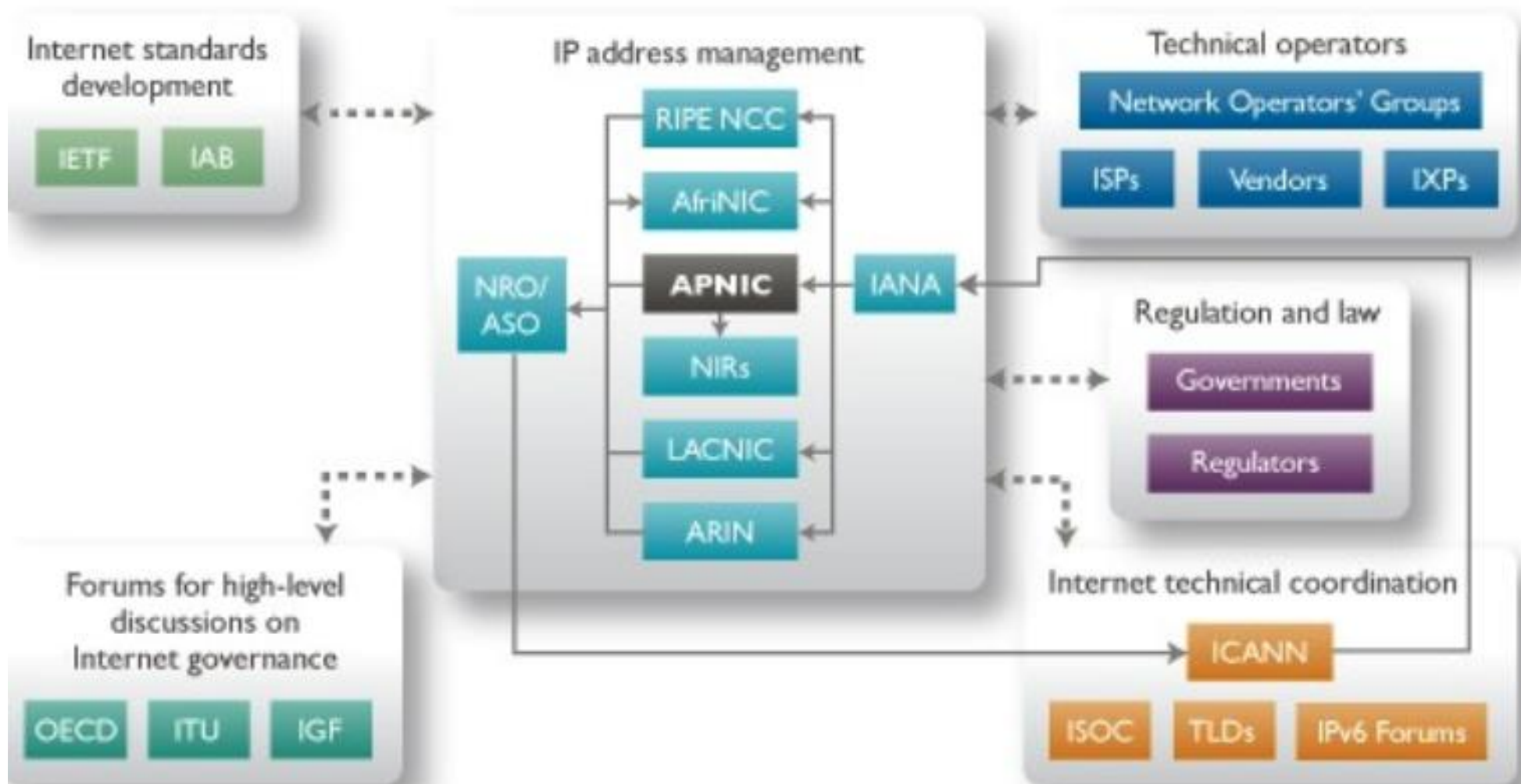
- IPv6 hosts cannot directly communicate with IPv4 hosts

Internet Number Resources – ASN

3333

- Autonomous System Numbers, in 1995

- 16-bit and since 2007 32-bit

- Indentifies a group of IP networks with a single and clearly defined routing policy

- Requirements are:
  - IP Addresses,
  - Multihoming,
  - an AS Number per group of IP networks

The "INR world"

The 5 RIRs

RIPE NCC

Since 1992 in Amsterdam

Not-for-profit association

Independent organisation

6500+ members in 75 countries

One of the five RIRs

Does not make policies

RIPE NCC services

- ## Member services

- Distributing resources
    - IPv4
    - IPv6
    - AS numbers

- Training Courses
    - LIR
    - Routing Registry
    - DNS for LIRs
    - Other - OPTA, IPv6 training

Public services

- RIPE Database

- Reverse DNS

- ENUM (e164.arpa)

- K-root nameserver

- Information Services

- RIPE Labs

- E-learning

RIPE (Community)

- Policy forum
  - Not a legal entity
  - No official membership
  - Open to everyone

- One RIPE chairman and WG chairs

- No voting
  - **consensus** is "the magic word"

- Work happens at meetings and on mailing lists by
  - Working groups (for policies)
  - Task forces (other specific tasks)

Relevant recent RIPE policies

- All Internet Number Resource holders need to have a contractual relationship with the RIPE NCC or via LIR

  - Improved registration of specific Internet Number Resources

  - Improved "Chain of trust"

- Reallocation of INR between LIRs

  - Transfers possible between LIRs

  - Based on need for INR

- Run out policies – dealing with the future run out of IPv4 addresses

LEA cooperation

Internet Governance

- Began with WSIS

  - World Summit on the Information Society

  - Organised by the ITU with UN mandate

  - Beginning of current multi-stakeholder approach

  - Established Technical Community as a stakeholder

  - Continue to cooperate in areas of common interest

    - With partners - ISOC, ICANN, IETF

RIPE NCC Roundtable Meetings

- Nine meetings held since 2005
  - Last meeting February 2010, in Amsterdam

- Participants
  - Typically 30+ Government representatives from 15+ countries

- Topics covered
  - Address allocation, IPv6 Adoption, IPv4 Depletion, IGF

- Future meetings
  - Nov 2010 (Rome), Feb 2011 (Amsterdam) Governments and Regulators

Areas Of External Activity

- IGF - Internet Governance Forum (2010 Vilnius)

  - Regional IGFs (UK, DE, RU, SE, EURODIG)

- United Nations - ECOSOC & CSTD

- ITU - International Telecommunication Union

- EU Commission / Parliament

- OECD – ICCP & CISP

- ICANN - Internet Corporation for Assigned Names and Numbers (Government Advisory Committee)

RIPE NCC and Law Enforcement

- Increased contact from LE regarding INR

  - More information requests

- Meetings, conferences, training, outreach with

  - Dutch authorities

  - International LEAs

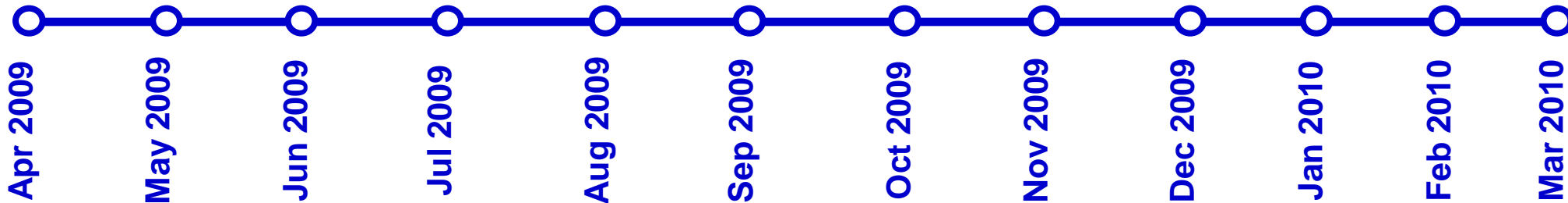- More information exchange and cooperation - regular meetings since 2007

RIPE NCC Law Enforcement meetings

- Started February 2009

- Identify and deny criminal misuse of INR through

  - Cooperation and sharing of knowledge and resources

  - Development of practices and suggesting policy

  - Raising awareness

- Participants

  - Trusted RIPE Community members

  - Law enforcement professionals and prosecutors

- Recent meeting

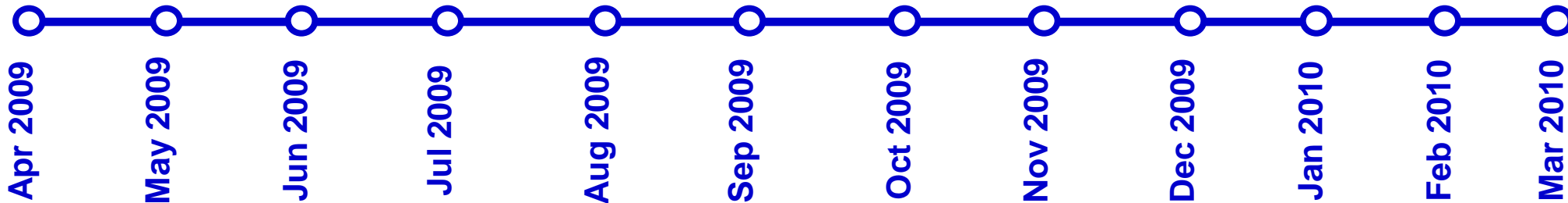 - *Global RIR & LEA on 17 March 2010 London*

Recent Events - LEA

- CNSA / EC - Mar 2009, Brussels

- Technical LEA workshops - Mar 2009, Mexico City

- Cybercrime conference – Apr 2009, The Hague

- RIPE NCC – Feb & Sep 2009, Amsterdam

- RIPE cooperation WG - May & Oct 2009

Apr 2009   May 2009   Jun 2009   Jul 2009   Aug 2009   Sep 2009   Oct 2009   Nov 2009   Dec 2009   Jan 2010   Feb 2010   Mar 2010

Recent Events - LEA

- LAP/CSNA – Oct 2009, Lisbon

- NZ ITF – Nov 2009, Wellington

- Dutch Bank Association - Dec 2009, Amsterdam

- European Financial Coalition - Jan 2010, Paris

- AfGWG - Jan 2010, Mauritius

| Apr 2009 | May 2009 | Jun 2009 | Jul 2009 | Aug 2009 | Sep 2009 | Oct 2009 | Nov 2009 | Dec 2009 | Jan 2010 | Feb 2010 | Mar 2010 |

Lessons Learned

- Different working environments
  - RIR processes do not mirror government process
  - Adjustments needed for open dialogue
- LE/Governments want inclusion in Internet issues
  - We are working to facilitate
- Law Enforcement and Industry
  - Have similar goals
  - Need to work closer together

for more:

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