The Future of the Internet?

If Only I Knew…

Overview

- Profile RIPE NCC

- Coordinating the Internet

    - Industry Self Regulation at Work

- Big Issues

- Internet Governance Debate

- Discussion

What is the RIPE NCC?

- Dutch Membership Association
  - 4500 Members in Europe, Middle East, Parts of Central Asia
  - Mostly Internet Service Providers
  - Non Profit
- Budget 11 M EUR
- 95 FTEs
- One of five Regional Internet Registries (RIRs) providing
  - Internet resource allocation
  - Registration services and
  - Coordination activities

  … that support the operation of the Internet globally.

Industry Self Regulation & the Internet

- When the Techies ran the Internet…
  - Jon Postel was the Internet Assigned Numbers Authority (IANA)
  - Keeping track of assigned numbers, top-level domain names, …

- Names
  - Generic Top Level Domains (gTLDs/sTLDs)
    - .com, .org, .mil, .info, .aero, .travel …
  - Country Code Top Level Domains (ccTLDs)
    - .uk, .de, .nl …

- Numbers
  - IPv4 (192.34.8.200), IPv6 (2001:fecd:ba23:cd1f:dcb1:1010:9234:4088), …

- Standards
  - Request for Comments (RFC)
  - Internet Engineering Task Force (IETF)

ICANN -
Safeguarding the Stability of the Internet

- Internet Corporation for Assigned Names and Numbers

- Internationally organised, non-profit

- Responsible for

  - Internet Protocol (IP) address space allocation

  - Protocol identifier assignment

  - Generic (gTLD) and country code (ccTLD) top-Level Domain name system management

  - Root server system management functions

- ICANN performs the IANA function

- Dedicated to

  - preserving the operational stability of the Internet

  - promoting competition

  - achieving broad representation of global Internet communities

  - developing policy appropriate to its mission through bottom-up, consensus-based process

Case Study: RIPE & RIPE NCC

- Started in May 1989
- First Meeting:
  - 14 participants
  - half day
- Protocol Wars:
  - OSI is good
    - Invented by the phone companies
  - TCP/IP is bad
    - Not invented by the phone companies

RIPE Terms of Reference

- Operational Co-ordination of IP Networks

- No Standards Development

- No Names Assignment

- No Network Operation

RIPE Organisation

- Not a Legal Entity

- No formal membership

- No votes – consensus is the word

- Chairman:
  - organise the meetings
  - keep an eye on the work between meetings
  - external liaison

- Real work is done in the Working Groups
  - Sometimes Task Forces
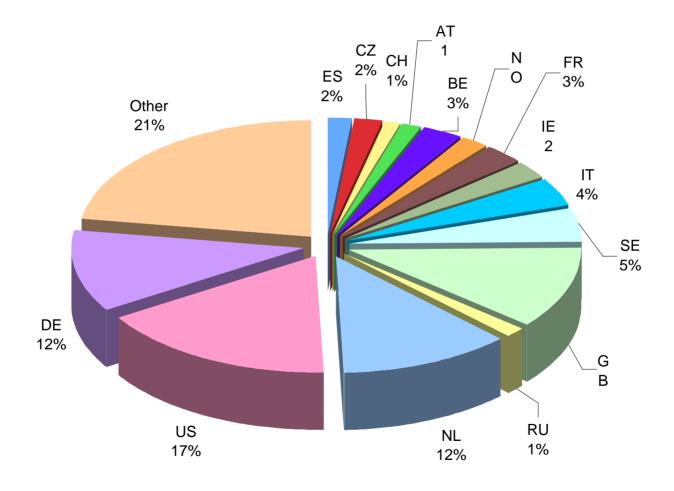 - Sometimes Birds of a Feather meetings

RIPE Meetings

- 2 times a year

- 5 days

- WG + TF + BOF meetings

- Plenary Session

- Related Meetings:
  - RIPE workshops
  - RIPE tutorials
  - RIPE NCC training

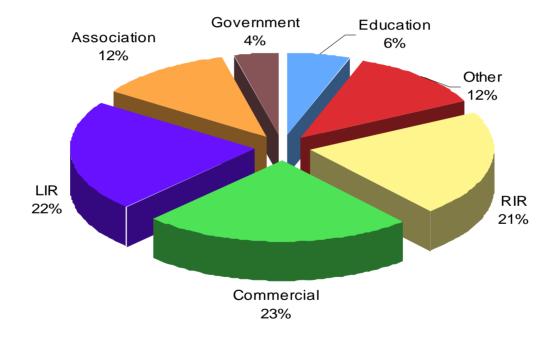- OPEN - OPEN - OPEN - OPEN

RIPE Meeting Attendance per Country 51-52

RIPE Meeting Attendance per Organisational Category 51 - 52

Government 4%
Education 6%
Association 12%
Other 12%
RIR 21%
LIR 22%
Commercial 23%

RIPE Working Groups (1)

- ## Address Policy Working Group:
  - open forum where RIPE address policy is made that affects
    address and ASN allocations.

- ## Anti-Spam Working Group:
  - fighting the problem of spam mail on the Internet

- ## Database Working Group:
  - RIPE network management database

- ## DNS Working Group:
  - Domain Name System technical questions and issues

- ## Test-Traffic Working Group:
  - Measurement of Internet performance

RIPE Working Groups (2)

- ## European Internet Exchange Working Group:

  - European Internet Exchanges technical issues

- ## IPv6 Working Group:

  - IPv6 operational issues

- ## RIPE NCC Services Working Group:

  - discussion of existing and new RIPE NCC services

- ## Routing Working Group:

  - architecture and operations of Internet routing

RIPE Working Groups (3)

- How to join:

  - subscribe to mailing lists

  - participate in RIPE meetings

- OPEN - OPEN - OPEN - OPEN

- Visit the Web site:

  - documents
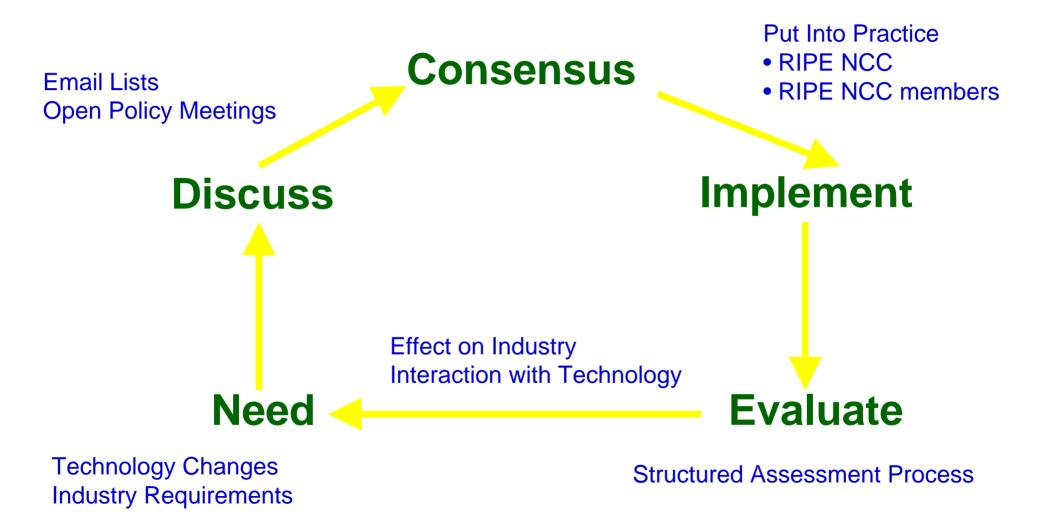
  - meeting minutes

  - mail archives

http://www.ripe.net

Policy Development Principles

- ## Open
  - Anyone Can Participate
    - This includes Governments
  - Policy Fora
  - Mail Lists

- ## Transparent
  - Mailing List Archives
  - Minutes
    - Policy Fora
    - RIR Boards

- ## Developed Bottom-Up
  - Internet Community
  - Technology Changes
  - IETF

- ## Documented
  - Formal Policy Documents
  - Implementation Procedures

Policy Development Process

Consensus

Email Lists
Open Policy Meetings

Put Into Practice
• RIPE NCC
• RIPE NCC members

Discuss

Implement

Effect on Industry
Interaction with Technology

Need

Evaluate

Technology Changes
Industry Requirements

Structured Assessment Process

Policy Development Process

Address Management Policy

Conservation

- Efficient Use of Resources
- Allocation Based on Need

Aggregation

- Limit Routing Table Growth
- Support Provider-Based Routing Policies

Registration

- Ensure Uniqueness
- Trouble Shooting

… and the RIPE NCC

Network Coordination Centre -
Why was it needed?

- RIPE participation was increasing

- Too much RIPE work to be done on a voluntary basis

- Activities require continuity & coordination

- Neutrality and impartiality is important

- Persistent contact point

What is the RIPE NCC?

- ## Bottom up industry self-regulatory structure
  - Open and transparent, neutral and impartial

- ## Not for profit membership association
  - Incorporated under Dutch law
    - Since 1997 (but previously active since 1992)
    - Funded by members, thus fully autonomous
  - Membership open to all interested parties
    - elects Executive Board
    - guides activities & budget
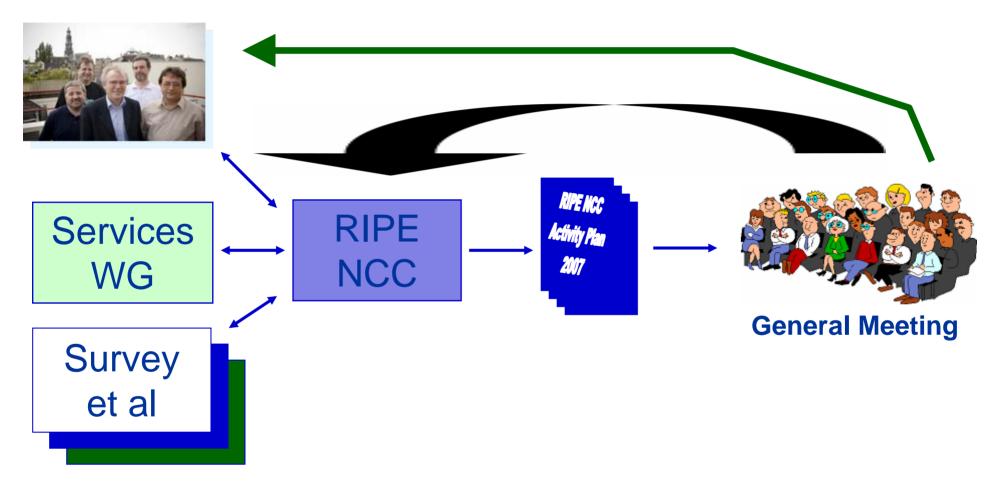   - approves fees ("Charging Scheme")

Who makes the Rules?

- The RIPE NCC was created by the RIPE Community

  - It was originally financed by that Community ("Contributors")

- The Community discusses activities and policies

- Again: Policies for RIPE NCC activities are developed by the Internet industry

  - "Bottom Up Industry Self Regulation"

  - Through open processes (PDP) during RIPE Meetings and on mailing lists

- Community participation & support is crucial

But what about the members?
Setting RIPE NCC Activities

Services WG

Survey et al

RIPE NCC

RIPE NCC Activity Plan 2007

General Meeting

What are the RIPE NCC's Tasks?

- Co-ordination and provision of services for its members & RIPE community

  - Membership Services

  - Coordination Services

  - Information Services

- Operate one of five Regional Internet Registries (RIRs)

  - Responsible stewardship of Internet Resources

    - IPv4, IPv6 addresses, ASNs

    - Allocation and Registration

  - AfriNIC, ARIN, APNIC, LACNIC, RIPE NCC

RIPE NCC Service Region

Regional Internet Registries Service Regions

ARIN

RIPE NCC

APNIC

AfriNIC

LACNIC

International Situation

- APNIC (1993)

- ARIN (1997)

- LACNIC (2002)

- AfriNIC (2005)

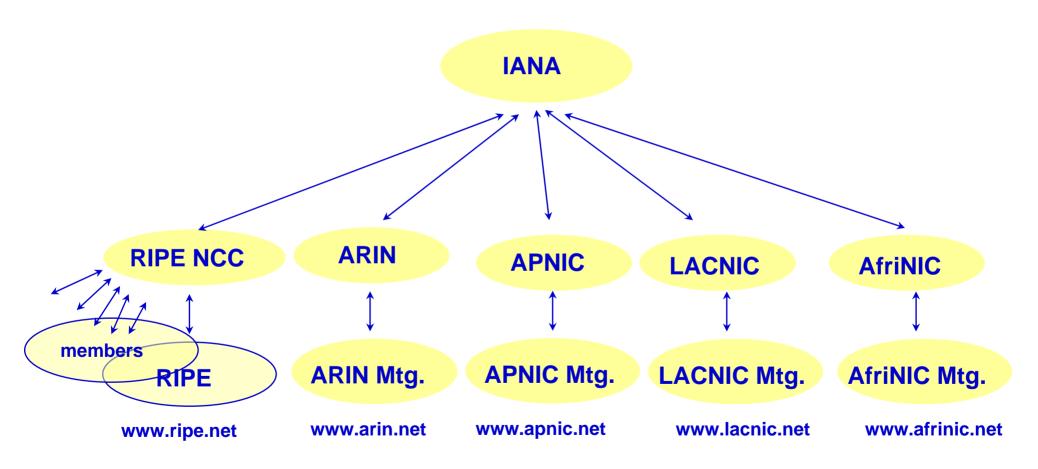- Number Resource Organisation (NRO)

  - Coalition of the RIRs

- Internet Assigned Numbers Authority (IANA)

Operational Context
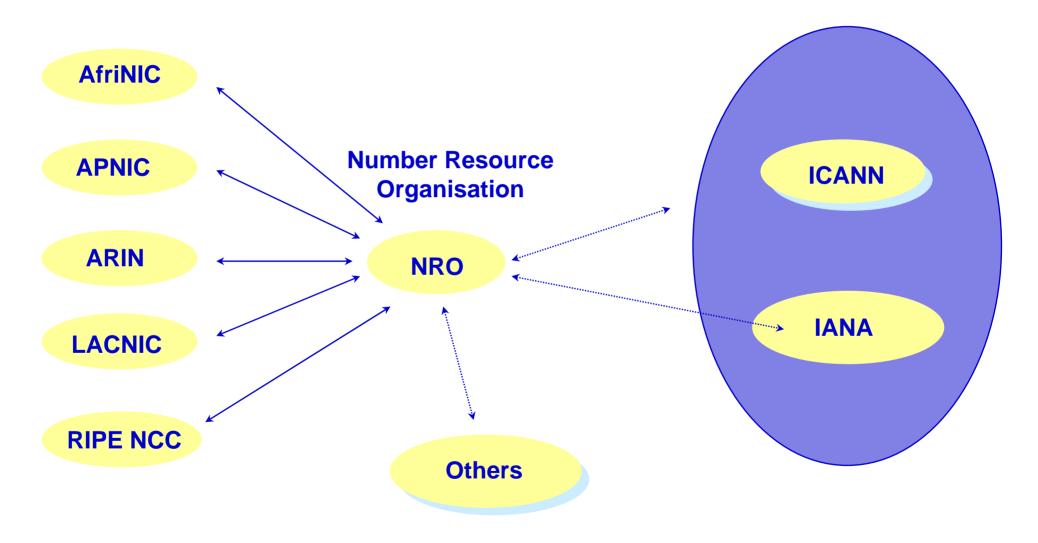## (Allocation of Resources)

IANA

RIPE NCC   ARIN   APNIC   LACNIC   AfriNIC

members

RIPE   ARIN Mtg.   APNIC Mtg.   LACNIC Mtg.   AfriNIC Mtg.

www.ripe.net   www.arin.net   www.apnic.net   www.lacnic.net   www.afrinic.net

Political Context

AfriNIC

APNIC

ARIN

LACNIC

RIPE NCC

Number Resource Organisation

NRO

Others

ICANN

IANA

RIPE NCC Profile

- Not for profit association

- Legitimate and stable organisation

- Long standing history

- Bottom-up self governing structure

- Open and transparent

- Neutral and impartial

Another Example: DE-NIC

- German ccTLD domain name registry

- Set up by one German networker, Rüdiger Volk, at Dortmund University

  - Started informally

  - Call for tender in 1993 by "IV DENIC", the then three German ISPs

  - Run from 1994 – 1997 at Frankfurt University

  - Became incorporated as not-for-profit cooperative of 36 ISPs

- Today around 100 staff

- 10 Million Domains

  - Second largest registry after .com

IETF – Sorting the Geeks

- ## Mission Statement
  - The goal of the IETF is to make the Internet work better.
    - Produce high quality, relevant technical and engineering documents: protocol standards, best current practices, and informational documents

- ## Cardinal principles:
  - **Open process** - any interested person can participate in the work, know what is being decided, and make his or her voice heard on the issue

  - **Technical competence** - the issues on which the IETF produces its documents are issues where the IETF has the competence needed to speak to them

  - **Volunteer Core** - our participants and our leadership are people who come to the IETF because they want to do work that furthers the IETF's mission of "making the Internet work better"

  - **Rough consensus** and **running code** - We make standards based on the combined engineering judgement of our participants and our real-world experience in implementing and deploying our specifications.

Internet Society

- Professional membership society

  - Over 100 organisations

  - Over 20,000 individual members

  - Over 180 countries.

- ISOC provides leadership in addressing issues that confront the future of the Internet, and is the organisational home for the groups responsible for Internet infrastructure standards, including the Internet Engineering Task Force (IETF) and the Internet Architecture Board (IAB).

Big Issues?

- Internationalisation / Multilingualism?

  - More languages than English

  - Still domain names are mostly pure ASCII characters

  - Cultural right to local language / local script domains

- Root Name Servers?

  - 13 operators worldwide

  - Perception of US centricity

- The End of Numbers?

  - Are IPv4 addresses running out?

  - Crisis looming?

  - Or Business as ususal?

- Is it all controlled by the Americans?

The Internet Governance Debate

World Summit on the Infrormation Society

- IG big issue concerning us
  - Others are Capacity Building, Financing, etc
- After Geneva Summit 2003:
  Working Group on Internet Governance
- 40 participants, multistakeholder
- WGIG report
  - Published July 2005
  - See www.wgig.org
  - Four IG models
  - Forum

WSIS Status

- Last PrepComm before the Summit, Geneva

  - Still no consensus on Internet Governance

- 3 Main Positions

  - US: "The UN will never run the Internet", US will continue stewardship, recognising other states sovereign rights

  - Authoritarian Stance (Brazil, China, Cuba, Saudi Arabia, Iran, ...): More governmental control

  - EU Surprise: "New Model needed", in between other positions

WSIS Tunis

- Pre-summit Prepcomm

- No clear result expected

- Outcome open

- Internet Community demonstrating Cooperation, Capacity Building etc pp

  - Under ISOC umbrella

  - RIPE NCC leading NRO effort

  - Seeking dialogue

And what became of…   WSIS?

- **Tumultuous Tunis**

- **Present in full force**

- **Outcome of Summit**

  - No immediate operational impact on Internet organisations.

  - Recognition of (also) our Governance mechanisms.

- **But…**

  - Everybody is happy with the outcome…

  - Some issues never die…

  - Very hard to get equal standing for "Internet Community" equal to other stakeholders.

  - Enhanced Cooperation?

On the Way to Greece - WGIG Redux?

- WSIS called for Internet Governance Forum (IGF) to
  - Affect international public policy
  - Advance development
  - Create discussion forum for all stakeholders on equal footing
  - Not to affect operations, or take over issues from other fora

- To meet 30 October - 3 November, Athens
  - Chaired by Nitin Desai (chair WGIG)
  - Geneva Secretariat (lead by Markus Kummer)

- Program Committee -> Advisory Group
  - 20/10/10 composition from governments, private sector, civil society
  - Appointed by UNSG

- Not to be governed by UN procedures

So – Are We Safe Yet?

- Tunis Agenda:

  38. We call for the reinforcement of specialized regional Internet resource management institutions to guarantee the national interest and rights of countries in that particular region to manage their own Internet resources, while maintaining global coordination in this area.

- IGF Themes

  - Openness

  - Diversity

  - Access

- No Numbers, No Root Servers

- But the debate is continuing

  - If not in Athens…

What is your role in all this?

- Que sera, sera?

- The future of the Internet is in your hands.

- Take active part in the fora appropriate to your sector of business.

- Support Industry Self Regulation.

- Indicate your concerns to your governments.

RIPE 53

Date: 2-6 October

City: Amsterdam

http://ripe.net/ripe/meetings/ripe-53/

RIPE 54

7-11 May 2007

Questions & Answers