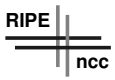
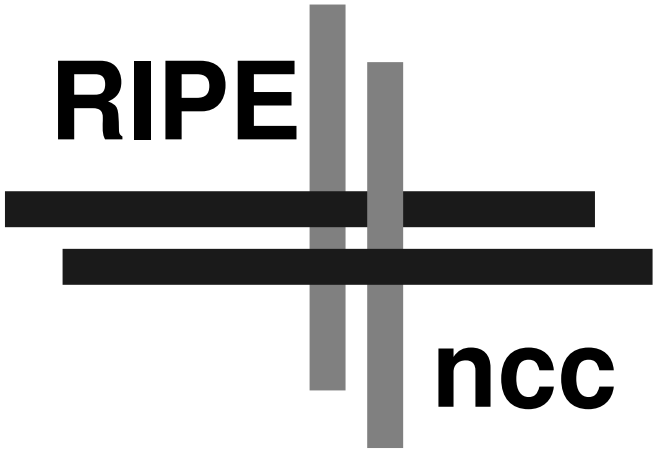
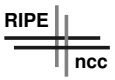


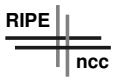


Network Coordination Centre



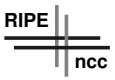
Why an NCC?

- not all RIPE work can be done on a voluntary basis
- some activities need continuity
- some activities should be centralized and coordinated between the many service providers
- clear contact point
  - for service providers in Europe
  - for anyone outside Europe
- started operation in April 1992
- Not a NOC (no network operated)
- Not a NIC (more than information)
- main task is coordination, thus an NCC!



Organisational Environment

- RIPE
  - Forum for European Internet Service Providers
  - does *not* operate a network
  - meets 3 times a year
  - defines RIPE NCC activities
- TERENA
  - Association of Research Networks
  - does *not* operate a network
  - provides legal and financial framework for NCC
  - provides framework for technical projects
  - advised by Contributors Committee



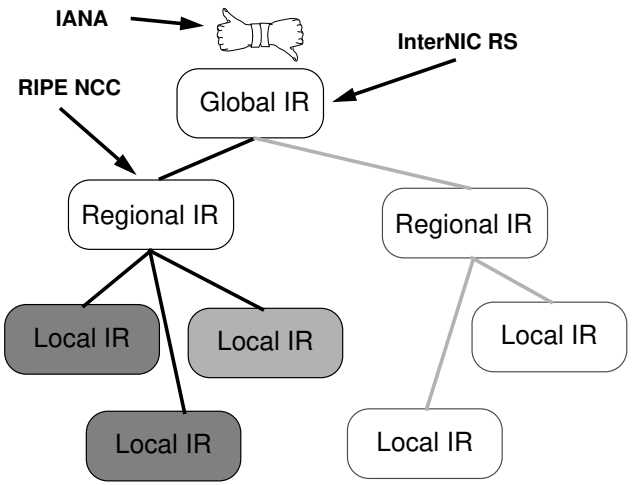
The NCC

- located in Amsterdam, the Netherlands
- 5 permanent staff (7 planned in 1995)
  - manager: Daniel Karrenberg
  - 1 administrative staff: David Kessens
  - 3 engineers: Anne Lord, Mirjam Kühne, Geert Jan de Groot
- 1 conscientious objector: Roderik Muit
- ~10 workstations, ~7 Gbyte of disk

RIPE NCC

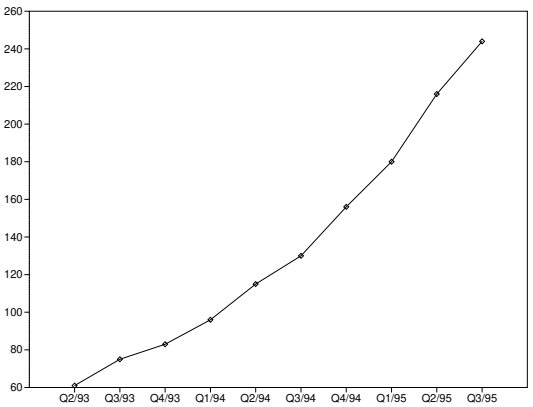
- core activities
  - funded by (all) European Service Providers
  - reported in public Quarterly Reports
  - 1995 budget of ECU 407,500
- joint projects
  - funded per project
  - reported in Project Reports (RTRs, RFCs...)
  - Tony Bates, Marten Terpstra

Internet Registries



European Internet Registries

- EU registry system started operation 1993
- today 148 local registries (31 last-resort)



European Internet Registries

- CIDR blocks from the start
- 193.0.0 - 194.255.255 are European
- >1000 network numbers assigned / month
- ~1 B / month (more recovered)
- bulk of the work done by local registries!!!!

How to become a local IR

- see

  `ftp://ftp.ripe.net/ripe/new-registry`

- read the documentation!

- contact <hostmaster@ripe.net> for operational details
- contact <billing@ripe.net> for formal stuff

- be a good customer ;-)

RIPE Database

- vital information for operations
  - networks
  - domains
  - autonomous systems (routing)
  - persons

- operational since 1989
- accessible by WHOIS at `whois.ripe.net`
- tagged format (make your own reports)
- data (going to be) exchanged automatically with InterNIC

RIPE Database

October 1994

- ~21,000 IP network objects
- ~22,000 contact persons
- ~4600 domains
- ~380 Autonomous Systems

RIPE Database

```
inetnum:  192.87.45.0
netname:  RIPE-NCC
descr:    RIPE Network Coordination Centre
descr:    Amsterdam, Netherlands
country:  NL
admin-c:  Daniel Karrenberg
tech-c:   Marten Terpstra
connect:  RIPE NSF WCW
aut-sys:  1104
rev-srv:  ns.ripe.net
changed:  marten@ripe.net930215
source:   RIPE
```

RIPE Database

```
person: Daniel Karrenberg
address: RIPE Network Coordination Centre
address: Kruislaan 409
address: NL-1098 SJ Amsterdam
address: Netherlands
phone: +31 20 592 5065
fax-no: +31 20 592 5090
e-mail: dfk@ripe.net
nic-hdl: DK58
changed: ripe-dbm@ripe.net 920826
source: RIPE
```


RIPE Document Store

- all RIPE documents
  - recommendations
  - minutes
  - RIPE NCC procedures/reports
- other Internet related documents
  - RFCs
  - IETF docs
  - RARE
  - EBONE
  - ....

RIPE Document Store Access

- interactive: `telnet info.ripe.net`
  `pad 204129004331`
- FTP: `ftp.ripe.net`
- GOPHER: `gopher.ripe.net`
- WAIS: `wais.ripe.net`
- WWW: `http://www.ripe.net./local/spool/www/default.html`
- Mail: `mailserver@ripe.net`

Other RIPE NCC Activities

- RIPE Support
- Joint Projects
  - GISD (terminated)
  - Route Server (terminated)
  - PRIDE (being terminated)
  - to be continued

Routing Registry

- Strategy: help the SPs to manage external routing
- Tools for Service Providers (PRIDE)
  - prconfig - generate router configurations
  - prcheck - check policies
  - prtraceroute - traceroute with policy information
  - prpath - extract possible paths between nets
  - prconn - extract connectivity of a network
- Tools use the Routing Registry

More Information

- Document Store!!!
- Mail: <ncc@ripe.net> preferred!
- Fax: +31 20 592 5090 sort of OK.
- Telephone: +31 20 592 5065 don't please!
- Talk to us at the meeting
- Come visit the NCC during breaks

Questions?