



RIPE NCC
RIPE NETWORK COORDINATION CENTRE

Maintaining the Internet Infrastructure

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Introduction

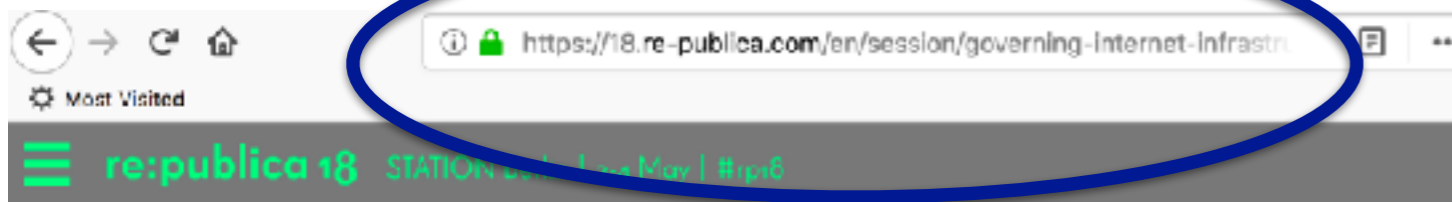


- Informatik an der TU-Berlin
- In einer Reihe von not-for-profits gearbeitet
- Jetzt bei RIPE NCC
 - not-for-profit in Amsterdam
 - Senior Community Builder

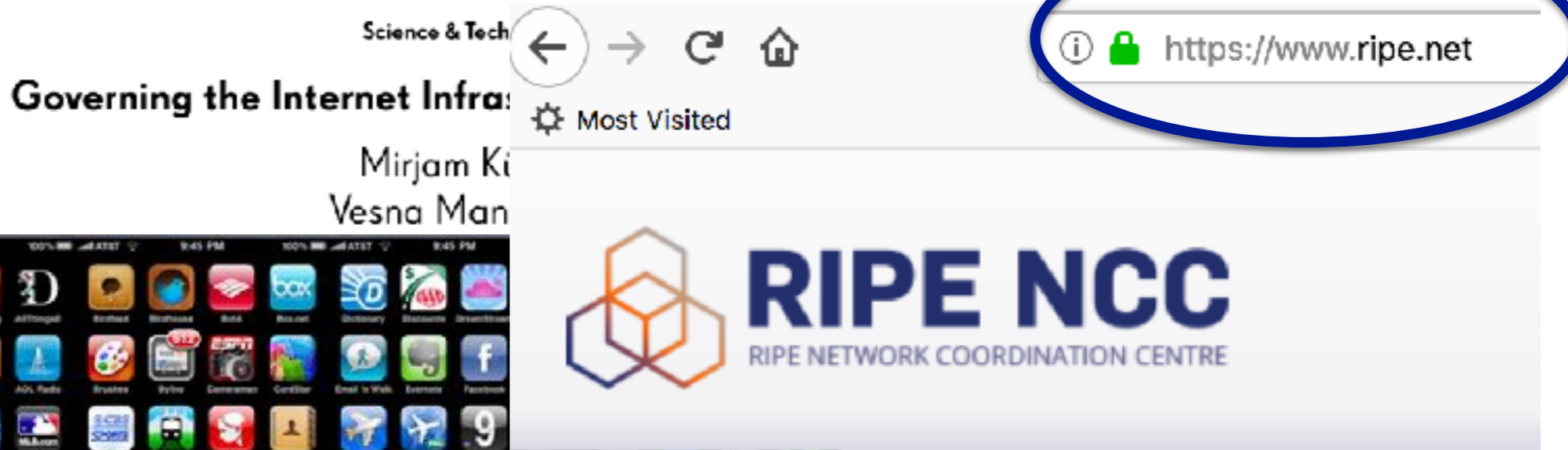
Der Rest in English :-)



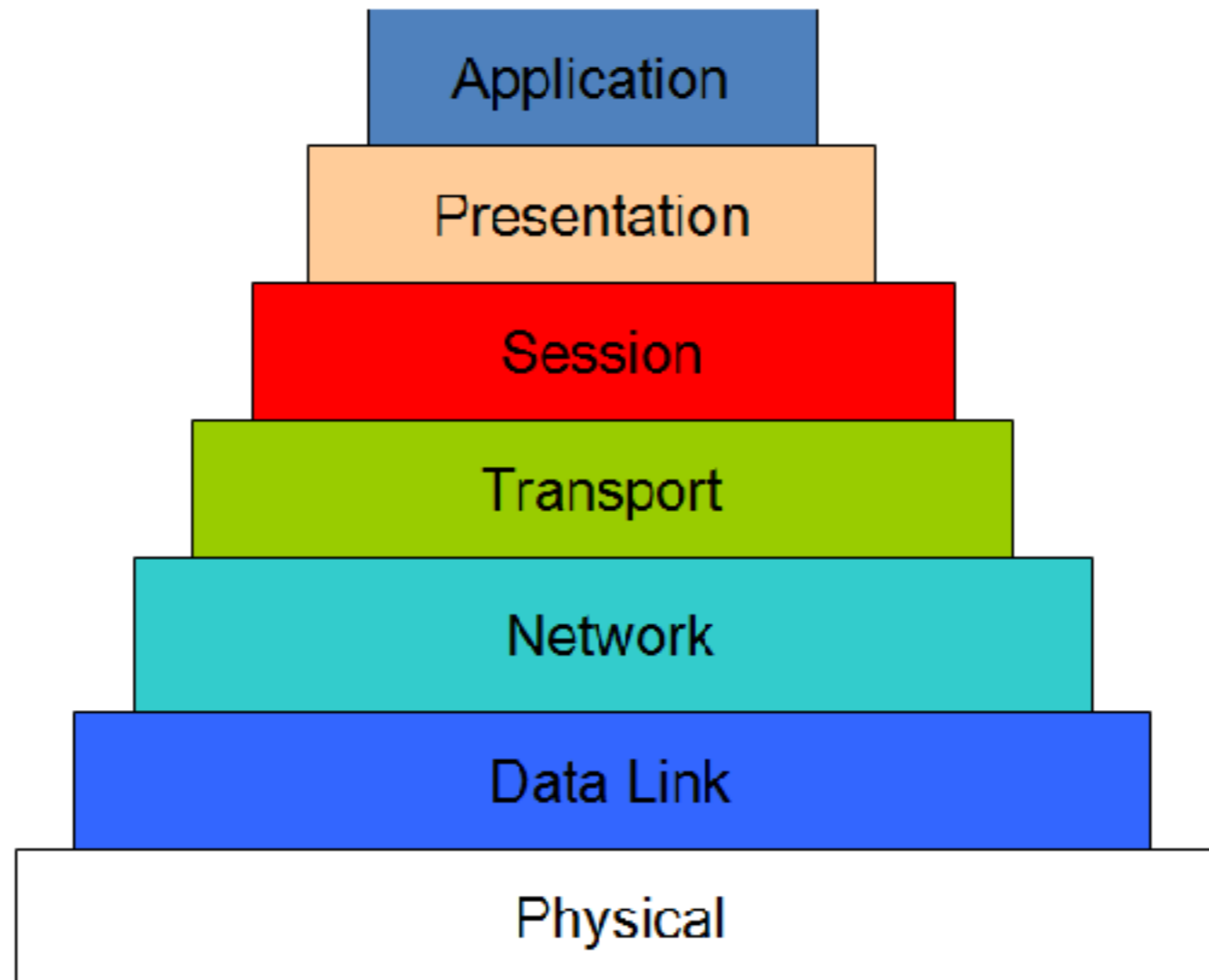
What happens under the hood



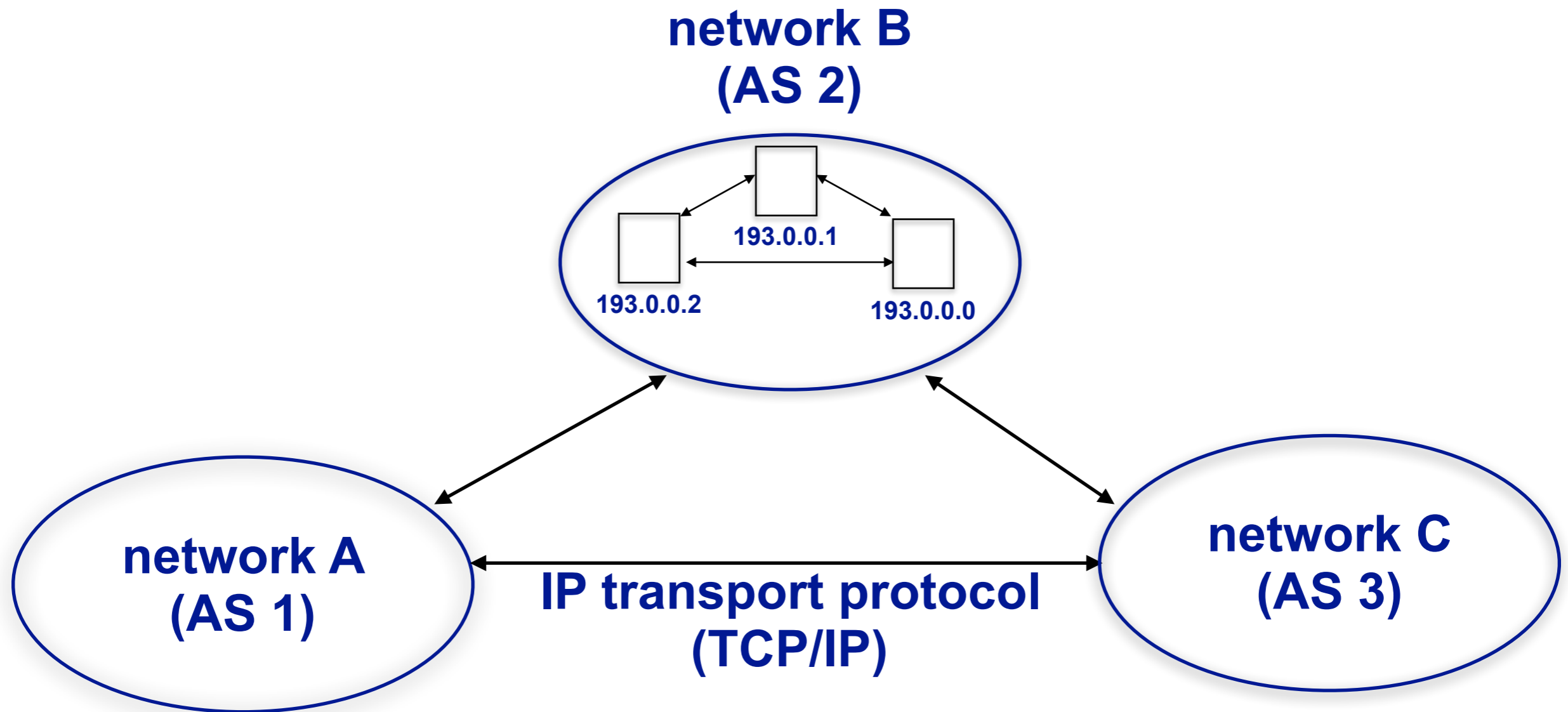
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Internet layers



A network of networks



Internet infrastructure



- Internet protocols / standards
 - TCP/IP, email, ftp, http, ..
- IP addresses / numbers
 - IPv4: 193.0.22.0/23
 - IPv6: 2001:67:2e8::/48
 - Autonomous System Numbers: AS3333

Protocols & standards



- The Internet Engineering Task Force
 - started in 1986
 - independent, not-for-profit
 - not even a legal entity
- Anyone can participate
- People participate as individuals
 - companies or governments have no special rights
- No voting
 - consensus by humming



<https://ietf.org>



- Standard documents available for free
- Very different from other SDOs

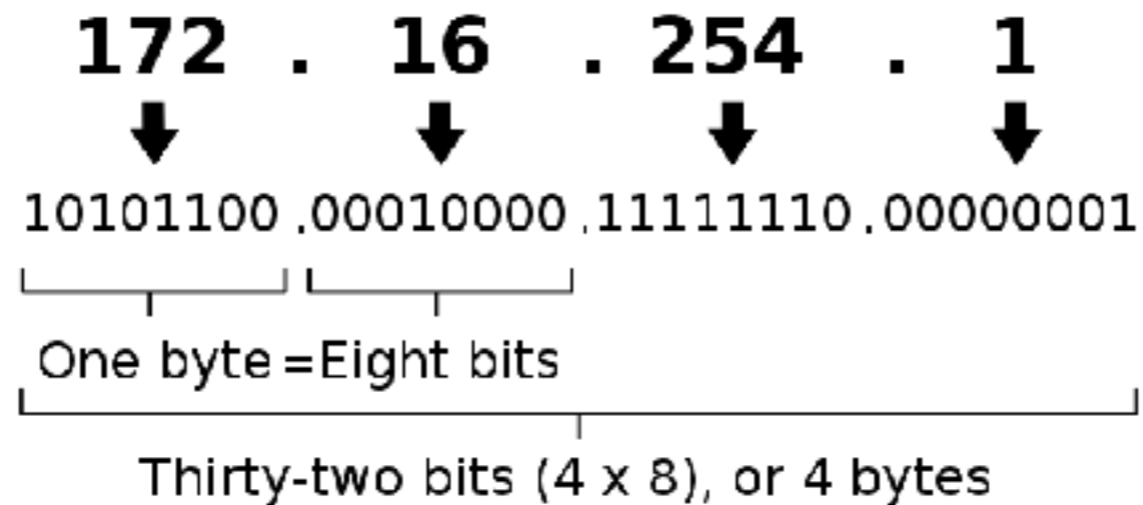




IP addresses

- Unique identifiers (numbers)
 - only 4.3 billion numbers in total

An IPv4 address (dotted-decimal notation)



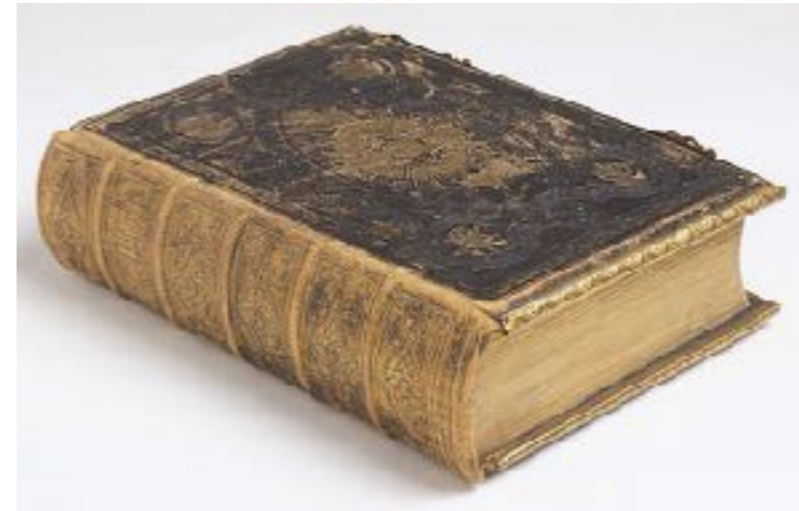
- labs.ripe.net = 193.0.06.153

Address distribution



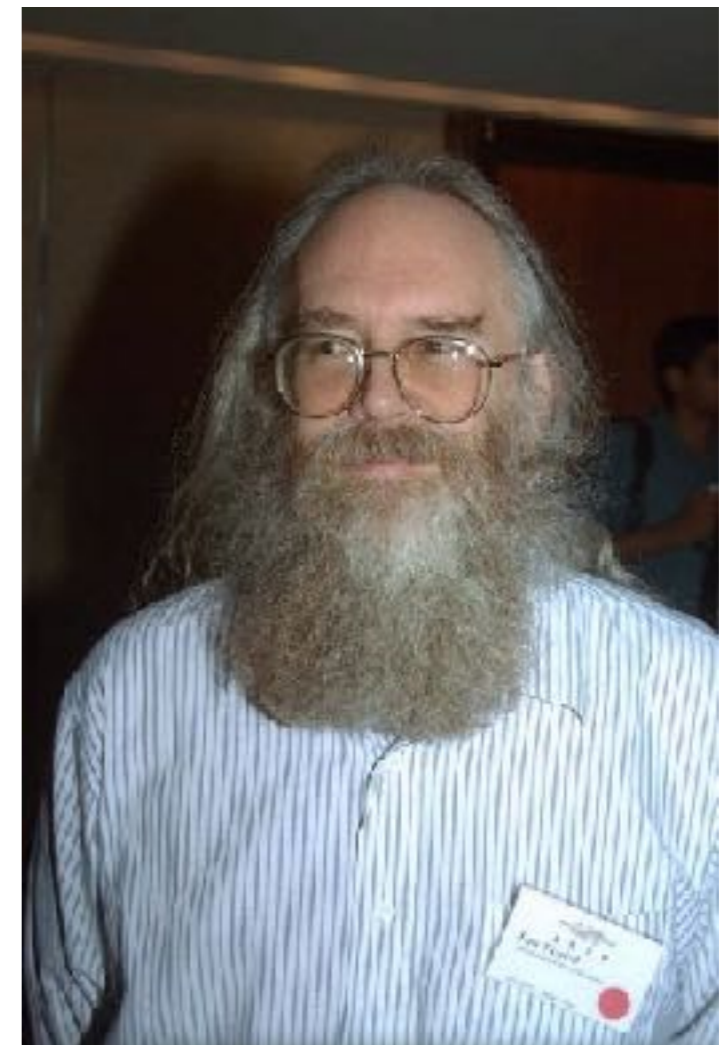
- Addresses need to be unique
 - otherwise packets cannot be delivered
- Addresses need to be registered
 - so you know who uses what

Address distribution



- 1980s: Central distribution
 - Jon Postel
 - everyone (universities) got a range of addresses

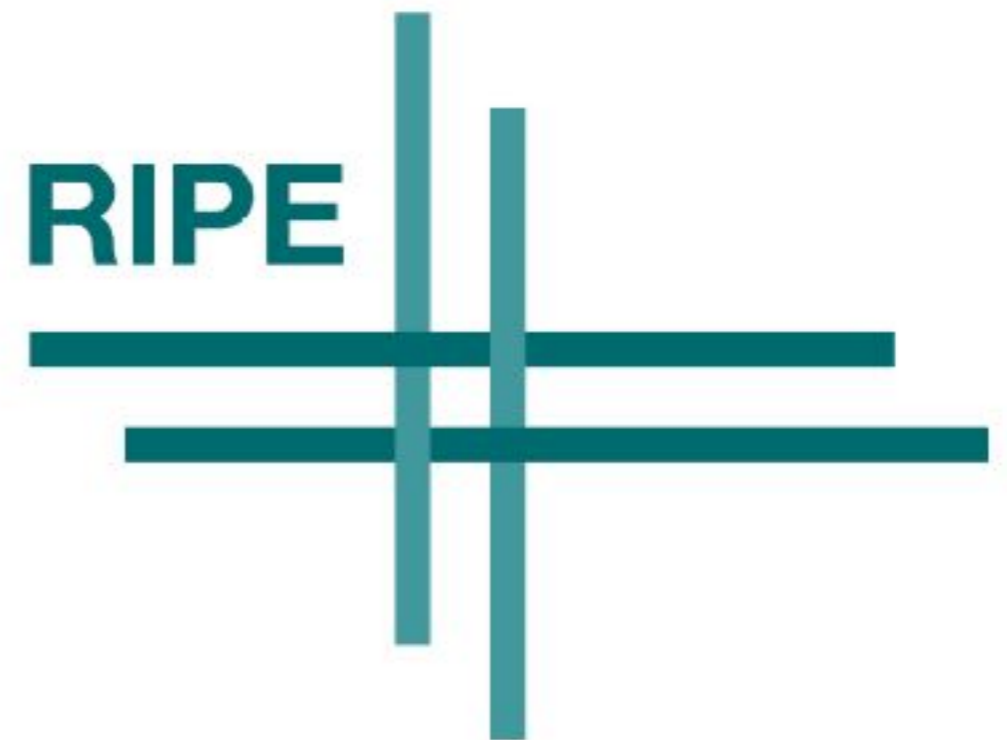
- Didn't scale
 - more de-centralisation needed



RIPE community



- Started in 1989 by researchers in Europe
- Technical coordination of IP network
- Volunteers, no legal structure
- Open to anybody
 - meetings
 - working groups
 - mailing lists
- Collaboration and coordination



RIPE NCC



- Not-for-profit, independent, neutral
- Started in 1992
- Membership organisation (18,000 members)



The Internet Registry System



ARIN
American Registry for Internet Numbers

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lacnic

AFRINIC
The Internet Number Registry for Africa

 **APNIC**

Collaborative model



**community
decisions**

**not for
profit**

**little government
influence**

**Common
good**

**stewardship,
no ownership**

consensus

self regulation

Threats to the collaborative model



Participate!



RIPE Meetings



- Two times a year, one week
 - plenary sessions, working groups, hallway chats
- Remote participation possible
 - student rates, one-day passes, fellowship programme
- RIPE 76: Marseille, 14 - 18 May
 - <https://ripe76.ripe.net>
- RIPE 77: Amsterdam, 15 - 19 October
 - <https://ripe77.ripe.net>



- Publish your research or use case
- Reach out to RIPE Community
- Read about latest analysis or conferences
- labs.ripe.net

Contact details & references



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- www.ripe.net
- [ietf.org](https://www.ietf.org)