

IPv6 Networking at TUT

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Conclusions

- Implementing IPv6 is easy
- Implementation can be done gradually
- IPv4 and IPv6 coexist independently
- IPv4 knowledge is directly applicable to IPv6

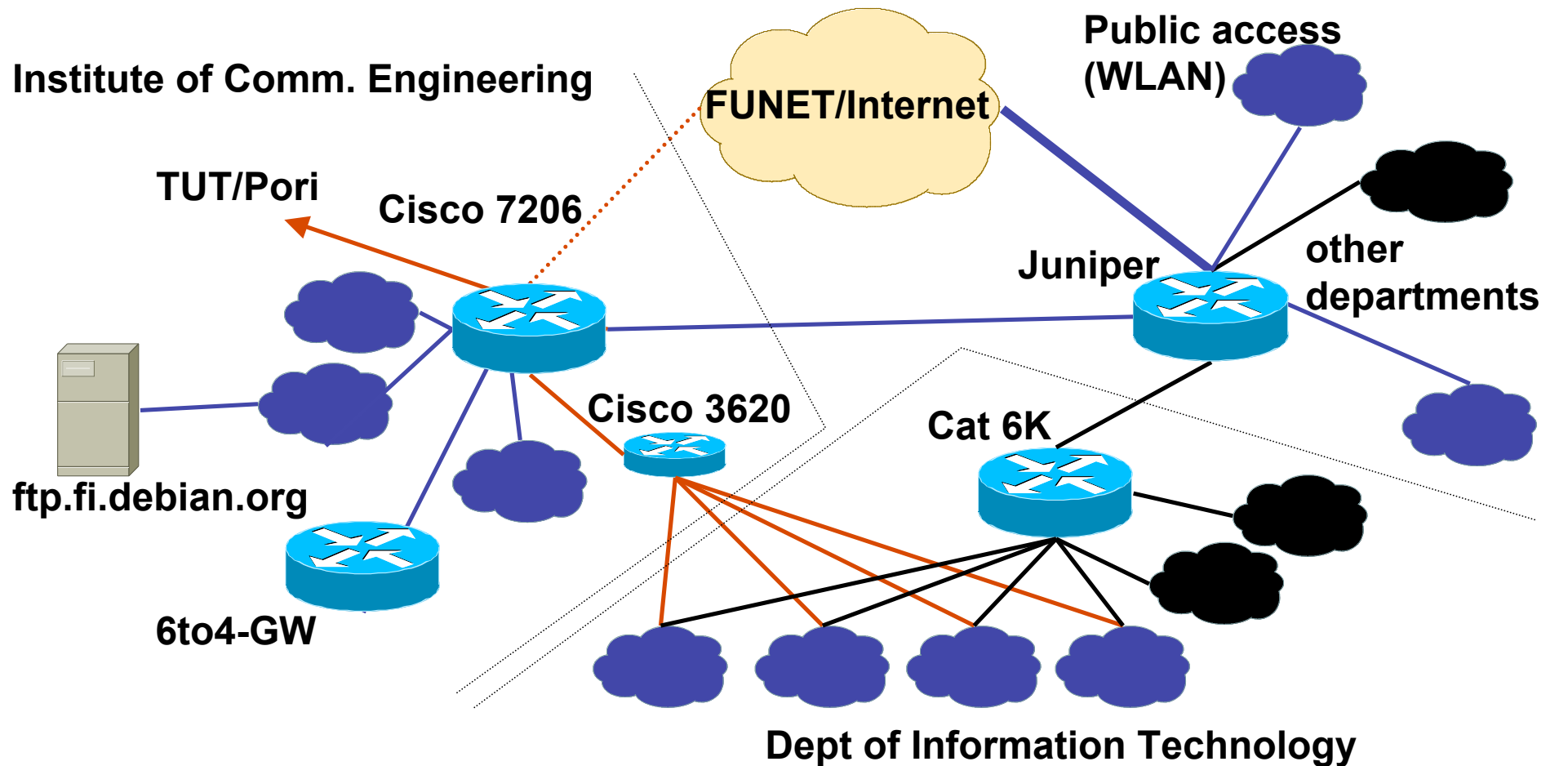


TUT in short

- Graduates in 2002
 - 703 MScs and Architects
 - 27 Licentiates
 - 58 PhDs
- Students 11 000
- Staff 2000



TUT IPv6 network



- TUT currently has about 50 IPv6 subnets



First steps in implementation

- Enabling IPv6 on the networks on the router
 - Router gets a new address - just like in IPv4
 - The network is now IPv4 and IPv6 enabled
- Repeat correspondingly for other networks
- No need to touch the existing IPv4 configuration

```
interface GigabitEthernet2/0.52
 encapsulation dot1Q 52
 ip address 130.230.52.3 255.255.255.0
 ipv6 address 2001:708:310:52::/64 eui-64
```



Continuing the implementation 1/2

- Start IPv6 routing on one router
- Repeat correspondingly on the other routers
- No need to modify the IPv4 routing configuration

```
interface GigabitEthernet2/0.52
  encapsulation dot1Q 52
  ip address 130.230.52.3 255.255.255.0
  ipv6 address 2001:708:310:52::/64 eui-64
  ipv6 rip enable TUT-RIP
```



Continuing the implementation 2/2

- Applying the IPv4 knowledge
 - Monitoring the IPv6 routing
 - Implementing IPv6 DNS
 - For other IPv6 services
- IPv6 and IPv4 are both IP!
 - IPv6 is new - what we already know about IP is still valid



About TUT IPv6 services

- Public file server ftp.fi.debian.org
 - 290 Gigabytes freely available software
 - IPv4 traffic 3 MB/s, IPv6 traffic 50 KB/s
- TUT Usenet news
 - 10 Mbit/s incoming flow from Funet
- Student network can use 6to4
 - TOAS network has about 4000 users



Future development

- Feedback from users:
 - If IPv6 services are enabled - keep them
- More IPv6 coverage and services
 - Using the Dual Stack transition technique
- IPv6 is gradually made supported just like IPv4

