

# 6WiN

## IPv6 in the DFN

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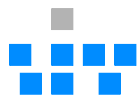
JOIN Projekt Team

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# Topics


- JOIN Project - overview
- 6bone backbone site JOIN
- 6WiN - german native IPv6 Backbone
- IPv6-Showcase - a cooperation with Deutsche Telekom (T-Systems Nova)

# The JOIN Project



- JOIN is a project of the DFN (German Research Network) at the Westfälische Wilhelms-Universität Münster
- since 1994 JOIN Project works on IPng/IPv6
- Last 3 years: Reference Center for IPv6 for customers of the DFN
- Building up a native IPv6-Infrastructure in the German Research network: *6WiN*
- <http://www.join.uni-muenster.de>

# JOIN projects and collaborations

- IPv6-cooperation project with T-NOVA:  
*„Ipv6 Showcase: Setup and operation of an IPv6-backbone in Germany“*
- 6WiN – IPv6 im DFN
- WWU Münster is assistant partner in the  
*6net*
- Collaboration in the Task Force – Next Generation Networks (TF-NGN)
-  backbone site

# JOIN in 6bone



6bone data (March 2002) :

- 57 countries
- Global number of sites: 1052
  - JOIN: 116 sites
  - 36 int. links
  - JOIN has 27 backbone peerings (BGP4+,RIPng)

# Prefixes

The JOIN Project is administrating the 6bone prefix

3ffe:400::/24

The DFN has (since end of 1999) the production prefix

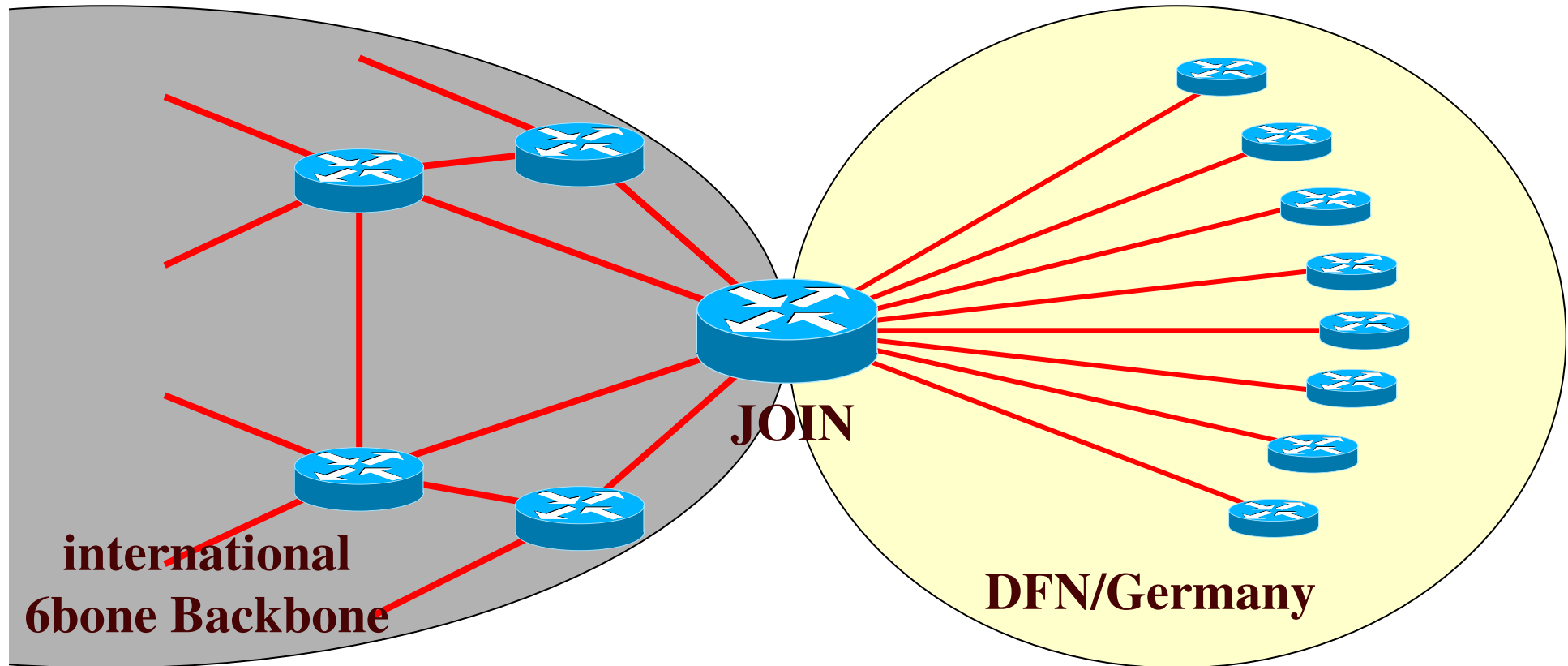
2001:638::/35

Since beginning of 2001 the DFN assigns address space to DFN members.

# IPv6 production addresses

- Today: 32 prefixes assigned
- 12 sites have connectivity with production prefix
- All DFN customers with production prefix will be connected to IPv6 native backbone 6WiN (native or via tunnel)

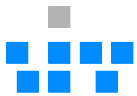
# Test network 6bone



**3ffe::/16**

**3ffe:400::/24**

**3ffe:400:xxxx::/48**



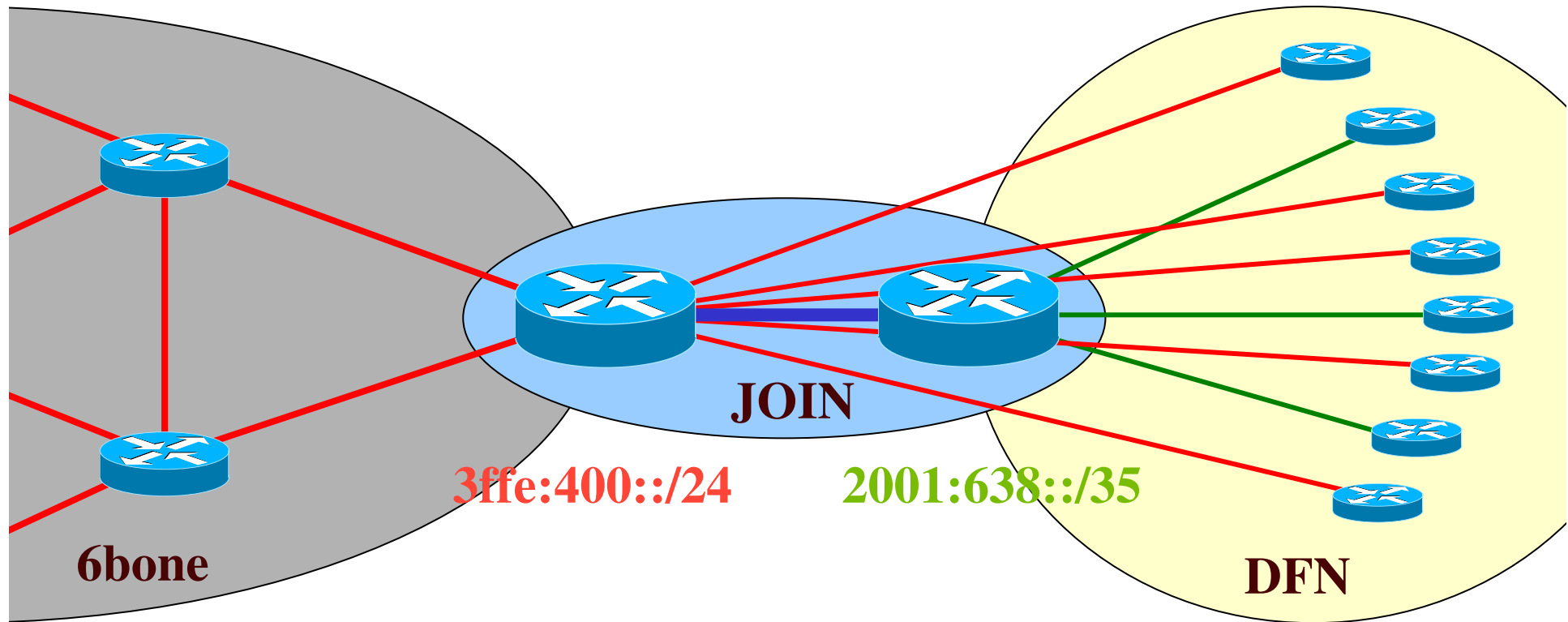
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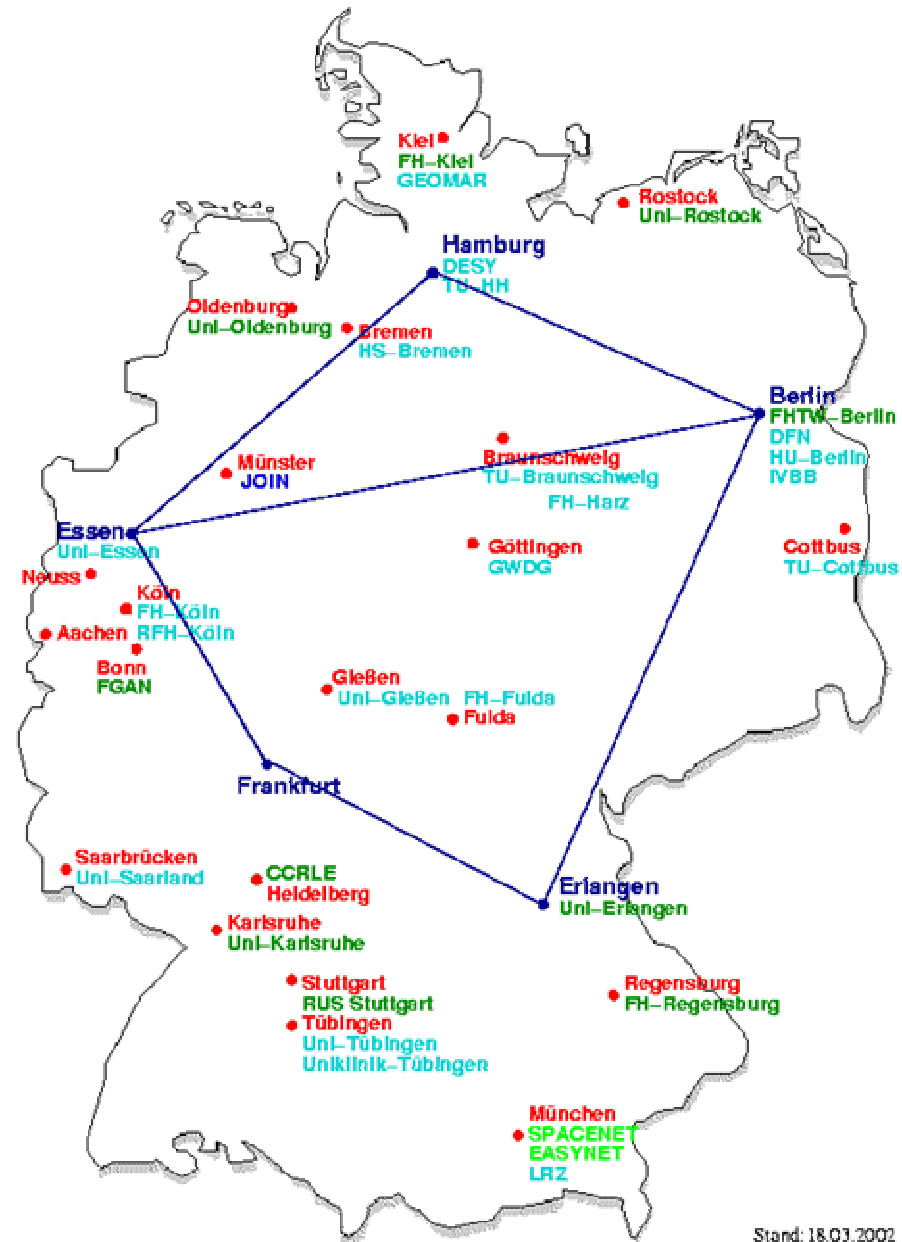
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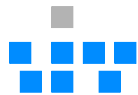


# 6bone and 2001-prefix





Stand: 18.03.2002



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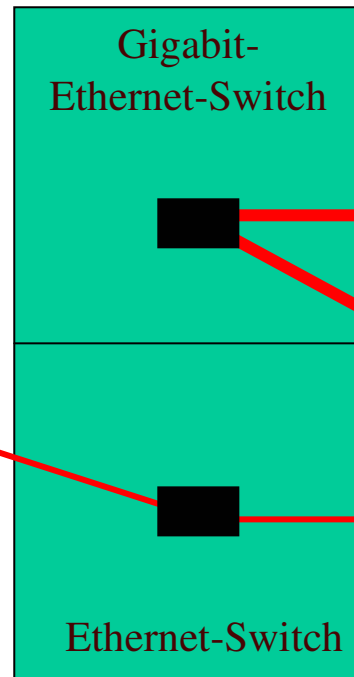
# 6WiN to G-WiN

IPv6 core

Same location for IPv4 and IPv6 core routers

Gbit   
100MBit   
34 MBit 

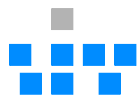
6WiN Router



IPv4 core

AR<sub>G-WiN</sub>  
CR

aR

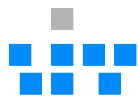
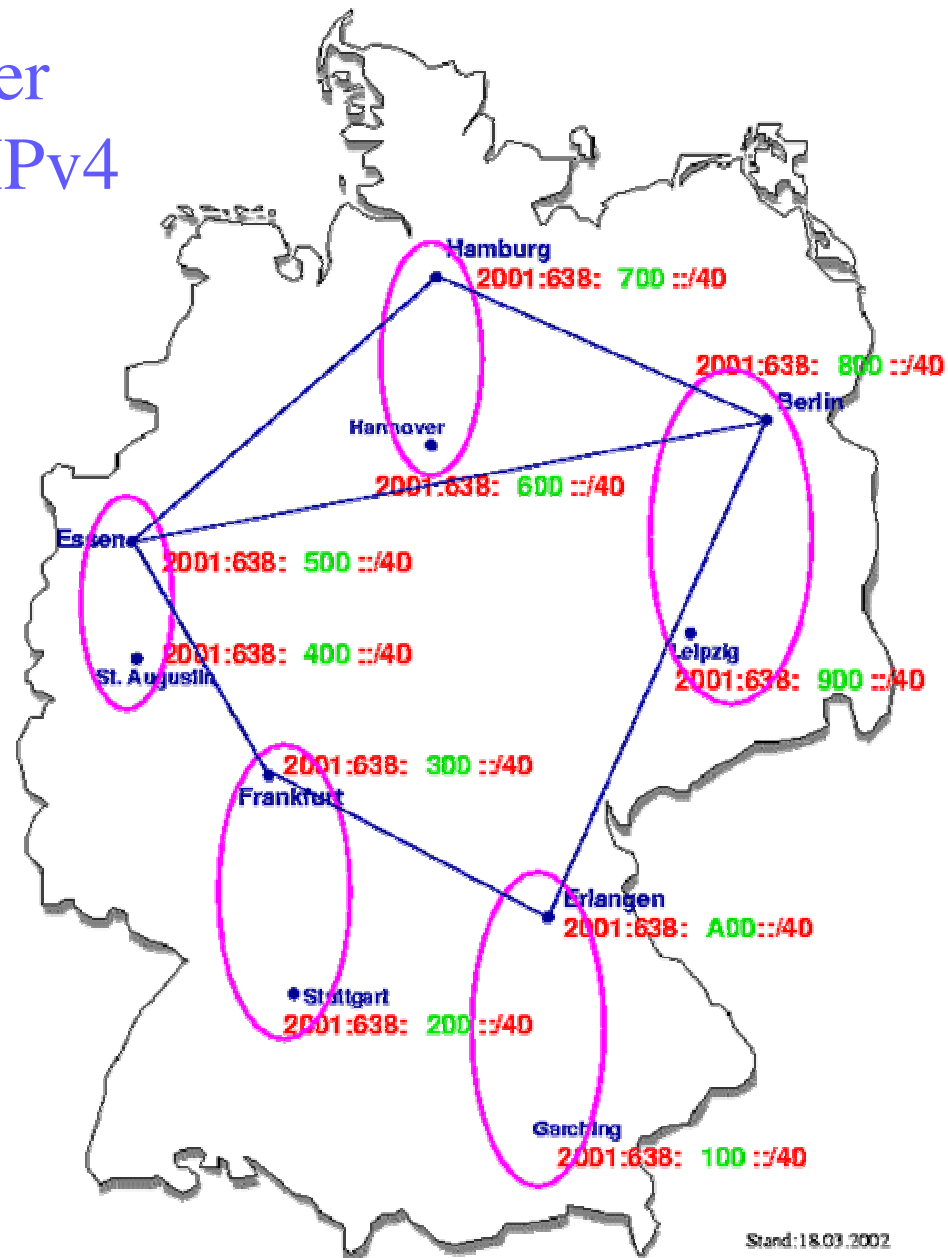


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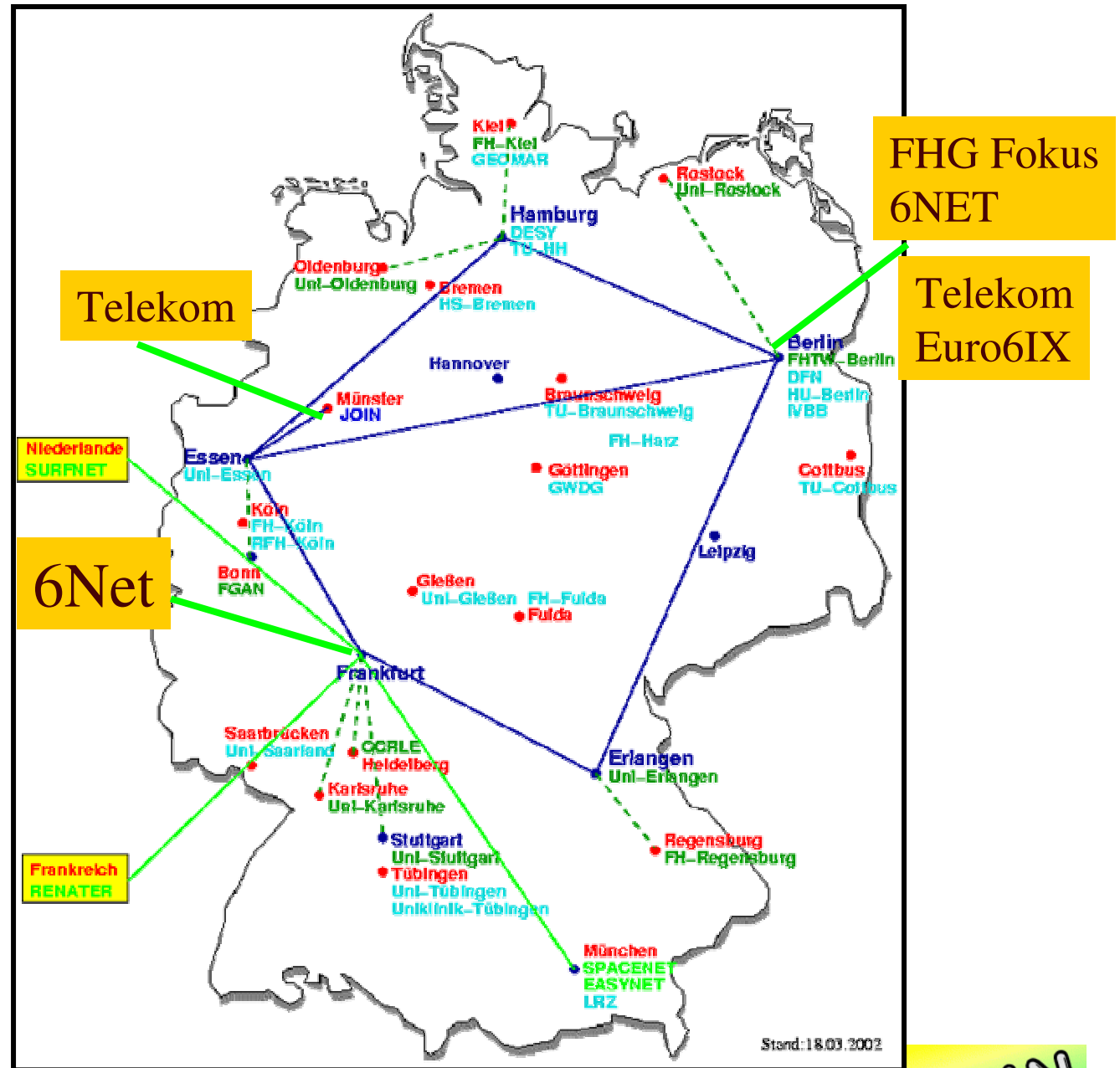
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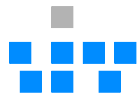
Each IPv6 core router represents two real IPv4 core routers



# Planned network (first step)



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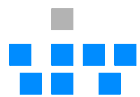
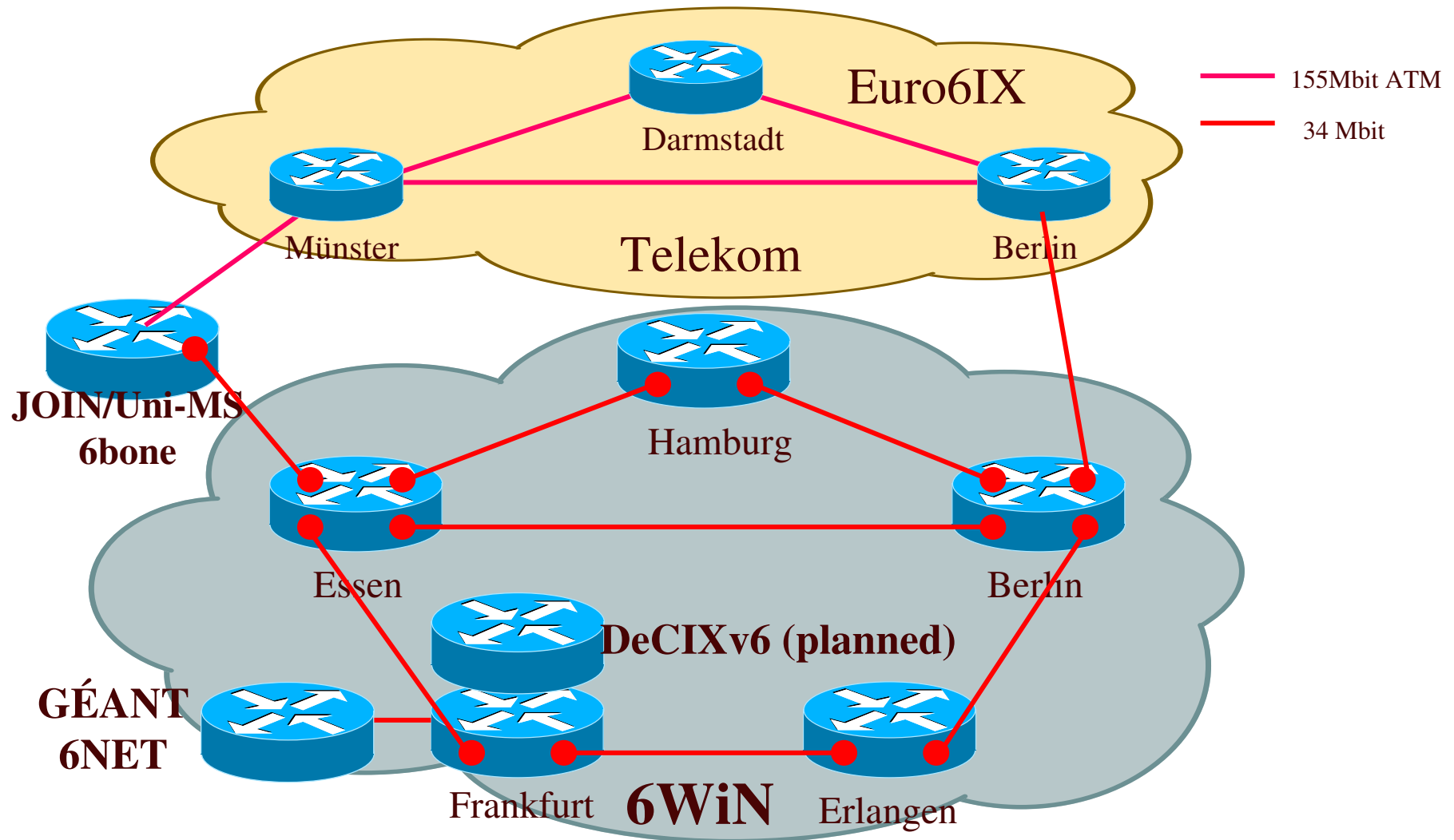
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# IPv6-Showcase

- Setup and operation of a joined IPv6 native Backbone in Germany
- Looking for „friendly customers“, who will really use IPv6 (Traffic!)
- Deutsche Telekom is partner in Euro6IX
- Possible connection between Euro6IX and 6NET via 6WiN over native IPv6 link in Berlin and Münster

# 6WiN and connections to everywhere



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# More IPv6 in DFN

- FTPv6-Server at JOIN  
**ftp.ipv6.uni-muenster.de** (IPv6 only)  
(2001:638:500:200:201:2ff:fedd:5056)  
**ftp.join.uni-muenster.de** (IPv4 & IPv6)  
**ftp6.uni-muenster.de** (IPv4 only)
- IPv6 Tunnelbroker at Universität Leipzig
- 6to4-Gateway at FH-Regensburg
- IRCv6-Server at Universität Erlangen





JOIN is a project of DFN at the  
Westfälische Wilhelms-Universität Münster  
in Germany (WWU)

email: [join@uni-muenster.de](mailto:join@uni-muenster.de)

WWW: <http://www.join.uni-muenster.de> (IPv4)

<http://www.ipv6.uni-muenster.de> (IPv6)