

# Multicast IPv6 in GÉANT

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# Multicast IPv6 in GÉANT

- Objective: Native mcast IPv6 pilot service for the end of year 2004
  - tests done during 2004 in collaboration with Multicast IPv6 TF
- Roll out on-going with the JUNOS upgrade
  - currently three weeks behind the initial schedule

# GEANT topology

- First core topology based on static RP towards global RP
  - kindly offered by Renater (thanks!)
  - PIM SM for IPv6 deployed
  - JUNOS rib groups configured to use inet6.2 as multicast RPF check table - thus JUNOS 6.4 needed
- Internal monitoring based on beacon
  - internal RP restricted for GÉANT internal use

# NREN connections

- NREN are expected to have native connection to the GÉANT access router
  - external M-BGP peer will be set to accept unicast+multicast routes
  - if native not available yet, one multicast tunnel per NREN is allowed as an interim solution
    - ✓ tunnel will carry mcast IPv6 traffic only

## Current status (I)

- Currently, rollout is three weeks delay due to problems in December with JUNOS upgrade to 6.4
  - image contained a bug PR#52868 related with PIM causing the router to reset routing daemon (bug not related with mcast v6 at all!)
  - Forced to stop upgrades until bug fixed
    - ✓ NRENs were informed of delays
  - Fix provided by Juniper in mid-December
  - consequently, a second upgrade campaign in all GÉANT routers that will finish next week

## Current status (II)

- After JUNOS upgrades, core configuration is scheduled
- Multicast TF NREN members will be connected first in order to test mcastv6 forwarding in GÉANT
- Following those tests, connection to M6bone will be activated– via Renater connection
- Rest of the NREN connections during February
  - if no more delays on the roll out
  - NREN interested, contact [operations@dante.org.uk](mailto:operations@dante.org.uk)

# Interdomain multicast IPv6

- Requested features in JUNOS: embedded RP
  - Interdomain multicast IPv6 solution where the RP can be selected per session
  - Available in JUNOS 7.0R2
    - ✓ GÉANT plans to upgrade to release 3 in order to provide emb-RP
  - Needs to be deployed in all the domains
    - ✓ other vendors such as Cisco also support it