

Lab tests

2/7/02

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SEQUIN Tests

**SEQUIN workshop,
Amsterdam, 1 February 2002**

**Szymon Trocha
PSNC**



Sequin Workshop - Amsterdam 01/02/02 Sz. Trocha



Lab tests

- Router functionality tests
 - Juniper M160 series
 - Cisco 124xx series (engine3 and 4)
 - Tests performed in Juniper and Cisco labs
 - Functions
 - Rate limiting
 - Marking
 - Scheduling



Calibration tests

- **Measurement tools evaluation**
 - For IP-Premium monitoring
- **PSNC - SWITCH low speed tests**
 - Two NREN ATM networks (in Berne and Poznan) connected via TEN-155
 - To evaluate Cisco7500 diffserv mechanisms for IP-Premium
 - Core ATM network behaves as a DiffServ network model
 - Guarantees on bandwidth and packet loss could be achieved
 - Guarantees on delay and IPDV require complex configuration and fine tuning



Measurement infrastructure



- SmartBits (a loan from Spirent)
 - 2 pairs: Italy, France
 - SmartBits600 with Terametrics POS OC-48, POS OC-3 / OC-12 / STM-12, 10/100 Ethernet cards
 - SmartFlow (QoS test at L3), SmartWindow (traffic generator at L2) and others
 - Used for calibration tests as well as EF tests





Real users tests (1)

- Testing on production networks
- Multi-domain environment
 - 5 high and lower speed national networks
- Different transmission technologies
 - ATM, POS, Ethernet, Gigabit Ethernet







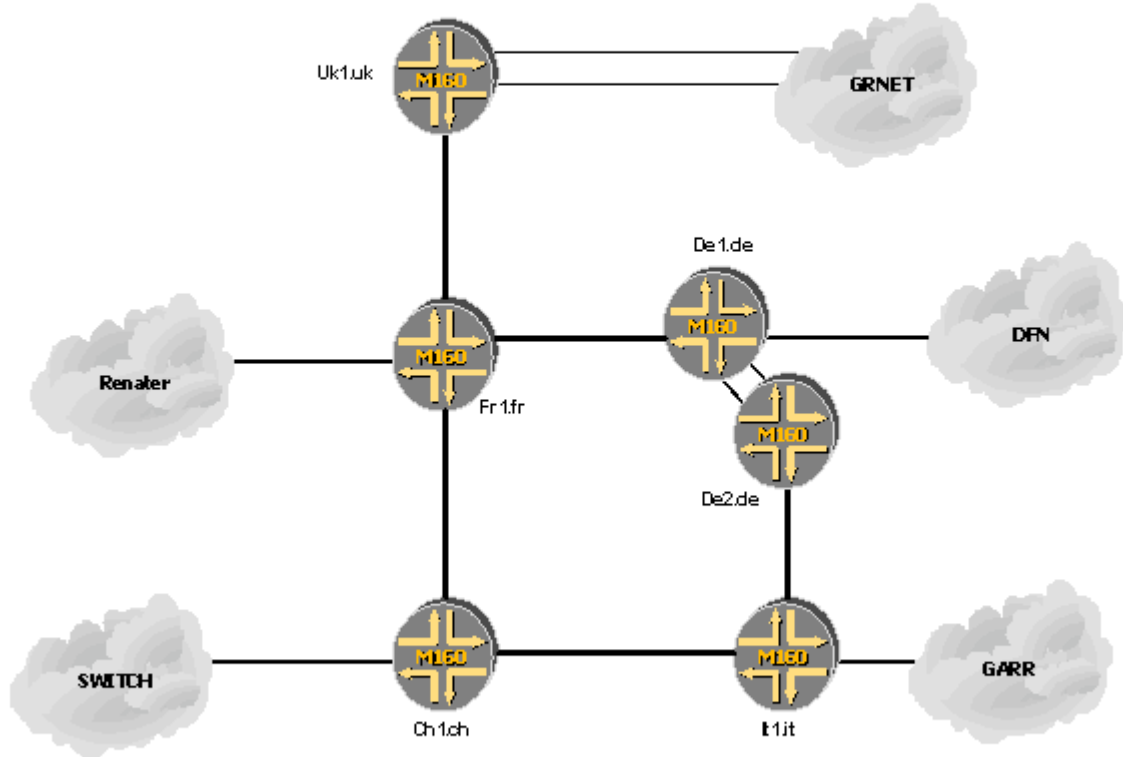
H.323 test participants



- DFN
- GARR
- GRNET
- RENATER
- SWITCH



H.323 testbed topology























Video-conferencing equipment (3)



- CINECA (Italy)
 - Polyspan ViewStation 128
- GRNET (Greece)
 - VCON ViGO









Measurement tools (active)



- Active measurements
 - RUDE/CRUDE
 - IPDV
 - H.323 traffic pattern
 - netperf
 - bandwidth
 - ping
 - Round Trip Time
 - packet loss











H.323 expected results (2)



- Operational procedures for requesting service (users)
- Operational procedures for implementing service in a multi-domain environment (NRENs, GÉANT)
- Validation of network performance monitoring scheme for conformance to SLA/SLS





Tests to date

- **Baseline measurements**
 - H.323 stream captured
 - distribution of the packet length and the interarrival time
 - traffic pattern created for RUDE/CRUDE tools
- **Traffic tests**
 - RUDE/CRUDE, ping
 - without IP Premium



Next steps

- Traffic tests
 - with IP Premium
- Results evaluation
- Tests with other participants (projects)

