
IP Premium Service

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IP Premium Service

From the Géant proposal:

“A Premium IP service ensures that traffic associated with particular groups of users, or with specific applications, is given priority over the basic IP service in order to meet defined Quality of Service parameters. “

WI 8.2 goals:

- Investigate Technologies available to support IP Premium;
- Specify such service for Géant (and NRENs)
- if feasible, implement the service

Deliverable is 9.1 due for march 2001....

Tasks

- Information gathering and analysis
 - standards, hardware, implementations
- Definition of QoS parameters
- Behaviour of Overprovisioned networks
- Testing the QoS techniques
 - queueing techniques validation
 - effect of classification and policing
 - QoS parameters values in an unloaded QoS aware network
- QoS measurements tools and procedures
- more complex (dynamic) QoS provisioning

Quality of Service parameters

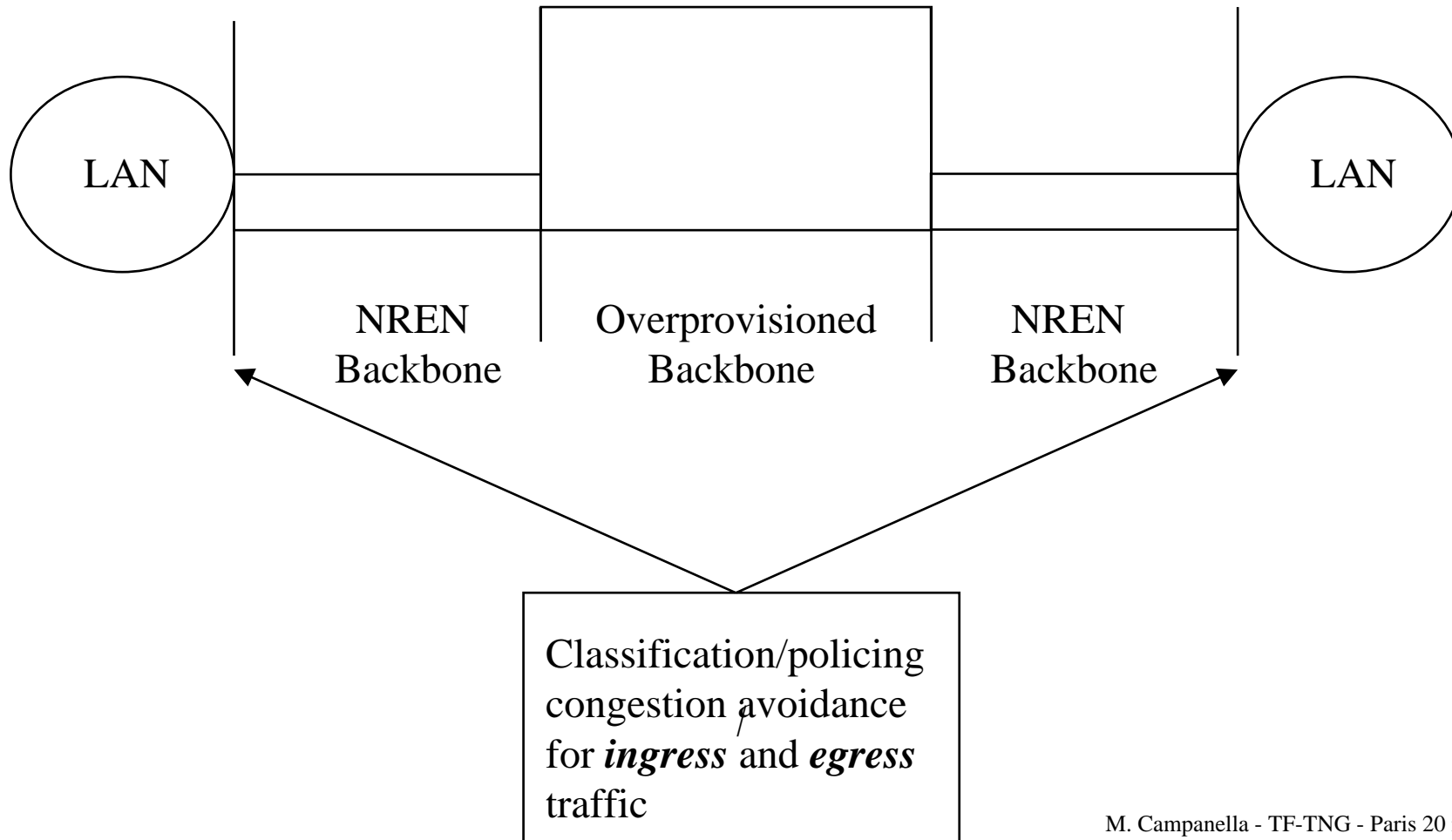
Need to translate the QoS word in a measurable entity, defined by (ranges of) values of the following proposed parameters (using IETF IPPM naming):

- Delay, ipdv (instantaneous packet delay variation - jitter)
- packet loss, bandwidth
- *provisioning, BER, availability*
- *MTU size (fragmentation), duplicate and out-of-order packets*
- *security, shaping*

Basic IP Premium

- Delay near physical limit ($\sim 7 \mu\text{s}/\text{Km}$)
- ipdv limited (few milliseconds ?)
- very low or none packet loss
- bandwidth available according to SLA
- provisioning : static
- BER, availability as best effort
- MTU size (fragmentation) large (4450) as best effort
- duplicate and out-of-order packets: negligible
- security, shaping: *none*

Overprovisioning end to end



Why policing/queueing

- Because of errors or willingness to break the SLA (at the *ingress* from LAN/MANs)
Rate limiting and congestion avoidance, priority over Best Effort traffic
- because it is a $N \times N$ static traffic matrix, it can be known 'a priori'. Idea is to overprovision anyway and apply queueing at the *egress* to the NREN

A la Diffserv

