97-1088
Modifications to the Performance Testing Baseline Text

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Changes in Section 3.1. Throughput

❑ At the end of the subsection **3.1.4. Measurement Procedures,** add [Mandeville] :

Before conducting the tests, it is recommended that the port clocks be synchronized or locked together; otherwise, an unstable delay may be observed. In case of instability, one solution is to reduce the maximum load to slightly below 100%. In this case, the load used should be reported.

Changes in Section 3.1. Throughput (cont.)

❑ From the subsection **3.1.5. Foreground Traffic,** delete the following two sentences :

Use of the 1-to-(n- 1) multicast connection configuration for the foreground traffic is under study.

Use of the n-to-(n- 1) multicast connection configuration for the foreground traffic is under study.

❑ The details of the foreground traffic characteristics were added in July 97 meeting and so these sentences are no longer required

Changes in Section 3.1. Throughput (cont.)

❑ In the subsection **3.1.5. Foreground Traffic,** add the following paragraph after the paragraph ending with the sentence "See Figure 3.2f":

Note that a generalization of 1-to-(n-1) multicast and n-to-(n-1) multicast is m-to-(n-1) multicast with

1 £ m £ n.

❑ This is to be consistent with the discussion on n-to-n straight and n-to-(n-1) full cross configurations, which are special cases of n-to-m partial cross.

Changes in Section 3.1. Throughput (cont.)

❑ Replace the following text in the subsection

3.1.6. Background traffic:

Higher priority traffic (like VBR or CBR) can act as background traffic for experiments. Further details of measurements with background traffic using multiple service classes simultaneously are under study. Until then, all testing will be done without any background traffic.

With:

Changes in Section 3.1. Throughput (cont.)

In connection configurations with multiple VCCs, it is possible to use some VCCs for foreground traffic and the others for background traffic. One particularly interesting case is when one VCC of the n-to-n straight configuration is used for foreground and the remaining n-1 VCCs are used for background. This will help study the effect of background traffic on the quality of service of the foreground traffic. ...(Cont)

Changes in Section 3.1. Throughput (cont.)

…The background and the foreground traffics can be of the same or different classes. Further details of measurements with background traffic are under study.

❑ The special case added above, pointed out by Juha Heinen of Telecom Finland, is of immediate interest in verifying if the minimum cell rate (MCR) guaranty to an ABR or GFR VCC is being met. Other more general cases are for further study.

Changes in Section 3.1. Throughput (cont.)

❑ At the end of the subsection **3.1.7. Guidelines For Scaleable Test Configurations,** add the following paragraph [Mandeville]:

In the case of unicast, it may not be possible to overload a port with only one generator. Using two generators in scaleable configurations may exhibit different behavior, such as overloading, that may not show up with one generator.

Changes in Section 3.2. Frame Latency

❑ From the subsection **3.2.6 Background Traffic,** delete the following sentence :

Use of the 1-to-(n- 1) multicast and n-to-(n- 1) multicast connection configuration for the background traffic is under study.

❑ The details of the background traffic characteristics were added in July 97 meeting and so this sentence is no longer required.

Changes in Section 3.2. Frame Latency (cont.)

❑ Throughput subsections **Sections 3.2.6 through 3.2.8** interchange *w* and *n*.

❑ This will make the use of *n* consistent with rest of the document. In the rest of the document, n is the number of ports in the switch. In these three subsections, *n* is used for the equivalent number of ports for background traffic and *w* is used for the total number of ports.

Changes in Section 3.2. Frame Latency (394nt.)

❑ From the subsection **3.6.1. Definition,** delete the following footnote:

  Applies only if cells of Setup and Connect messages are 394ntiguous at the input port.

❑ This footnote was included at the early stages of MIMO latency definition and it is not valid now.

Changes in Section 3.2. Frame Latency (cont.)

❑ From the subsection **3.6.1. Definition,** delete the following paragraph: *Recall that the MIMO latency for a frame is defined as the minimum of last-bit-in-to-last-bit-out (LILO) and the difference of first-bit-in-to-last-bit-out (FILO) and normal frame output time (NFOT)*

MIMO Latency = Min{LILO, FILO-NFOT}

❑ The MIMO latency definition has changed, but also there is no need to repeat the definition here again.

Changes in Section 3.2. Frame Latency (cont.)

❑ Add at the end of subsection **3.6.3. Configurations**:

It has been shown that the values of traffic contract and quality of service parameters may influence the processing time of Setup and Connect messages. Values of those parameters for which measurements should be performed are for further study. Measurement can be performed with or without background traffic. Further details of measurements with background traffic are under study.

Changes in Section 3.2. Frame Latency (cont.)

❑ This subsection already talks about the influence of PNNI group hierarchy on the call establishment latency. The above changes add other aspects, which are known to affect the latency.

Changes in Section 3.2. Frame Latency (cont.)

❑ From the subsection **3.6.4. Statistical Variations,** remove the following two sentences:

Each time a different node pair is selected randomly as the source and destination end system.

For a singe n-port switch it is expected that all n ports are equally probable candidates to be source and destination end-systems.

Changes in Section 3.2. Frame Latency (cont.)

❑ Measurements have shown that results for two pairs of source and destination end-systems are not statistically different as long as both source end systems are connected to the same switch and both destination end systems are connected to the same switch. There is no need to introduce additional complexity required by random selection.
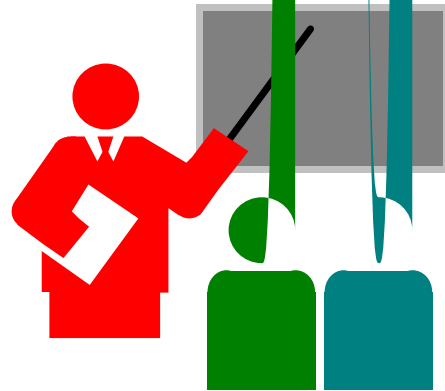
Changes in Section 3.7. Application Goodput

❏ This section should be removed completely.

❏ Application goodput and the frame loss ratio are related as follows:

$$\text{Frame loss ratio} = 1 - \text{Application goodput}$$

Thus, the application goodput metric does not provide any new information.

Motion

❑ Adopt the changes in 97-1088 "Modifications to the performance testing baseline text" to be included in Performance Testing Baseline Text.