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Title: Examples of Switch Mechanisms - Corrected Text for the Appendix

Abstract: The example switch scheme in the appendix inadvertently describes the older time based scheme. It should be replaced by its newer version (ERICA) which is count-based and is compatible with current source requirements. This contribution provides the replacement text.

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The appendix section 5.7 in the current draft version of the traffic management document gives a high level description of the switch mechanisms. While the contributors of that section meant to describe the Explicit Rate Indication for Congestion Avoidance (ERICA) as one of the congestion avoidance mechanisms. He inadvertently referred to its older version known as OSU scheme, which was time based. The current version ERICA is count based, is compatible with the current source requirements and, therefore, is the correct one to be included. We propose that the subsection entitled "Time-based Congestion Avoidance" be replaced as follows: [Motion]

Explicit Rate Indication For Congestion Avoidance (ERICA)

ERICA [9] tries to maintain the network at a load ρ close to one. For this purpose it calculates two quantities fairshare and this VC's share:

$$\begin{aligned}\text{Fairshare} &= \text{Target capacity} / \text{Number of active VCs} \\ \text{VCshare} &= \text{CCR} / \rho\end{aligned}$$

Here CCR is the current cell rate declared by the source in the RM cell (or as measured by the switch). This scheme achieves fairness concurrently with efficiency by using the following formula to compute the explicit rate (ER):

$$\text{ER} = \text{Max} (\text{Fairshare}, \text{VCshare})$$

The above quantities are measured periodically using information from the forward going RM cells, and the feedback is given in the backward going RM cells. This ensures that the most current information is used to provide fastest feedback. The measurement interval is independent of the rate at which the sources send RM cells. For each interval, no more than one new explicit rate value is advertised per VC. This avoids conflicting feedback to sources due to stale information at the switches. The scheme has few parameters which can be easily tuned. There are a few other variations of this scheme [10].

[9] R. Jain, S. Kalyanaraman, R. Viswanathan, and R. Goyal, "A Sample Switch Algorithm," AF-TM 95-0178R1, February 1995.

[10] R. Jain, S. Kalyanaraman, R. Goyal, "Simulation Results for ERICA Switch Algorithm with VBR+ABR Traffic," ATM Forum/95-0467, April 1995.

