

Abstract**SYSTEM AND METHOD FOR LATENCY CRITICAL QUALITY OF SERVICE USING
CONTINUOUS BANDWIDTH CONTROL**

A system and method are provided for a bandwidth manager for packetized data designed to arbitrate access between multiple, high bandwidth, ingress channels (sources) to one, lower bandwidth, egress channel (sink). The system calculates which source to grant access to the sink on a word-to-word basis and intentionally corrupts/cuts packets if a source ever loses priority while sending. Each source is associated with a ranking that is recalculated every data word. When a source buffer sends enough words to have its absolute rank value increase above that of another source buffer waiting to send, the system "cuts" the current packet by forcing the sending buffer to stop mid-packet and selects a new, lower ranked, source buffer to send. When there are multiple requesting source buffers with the same rank, the system employs a weighted priority randomized scheduler for buffer selection.

Figure 1