

ABSTRACT

**AN INTERRUPT MODULATOR FOR RECEIVING BURSTY HIGH SPEED
NETWORK TRAFFIC**

Interrupts are presented to a processor to indicate the arrival of data
5 packets from a high speed network. The rate of packet arrival interrupts is
modulated to prevent burdening the processor unnecessarily with repeated
interrupts while receiving a burst of data. The interrupt modulator of the present
invention ensures that the first packet of a new data burst, or the first packet of a
short message, generate an immediate interrupt to the processor, thus avoiding
10 any unnecessary latency in the processor's response. This is done by enabling
a packet arrival to generate an interrupt if a specified period of time has elapsed
since the previous interrupt. Further, the interrupt modulator ensures that every
N'th packet that arrives generates an interrupt -- for example, to ensure that the
processor performs any memory management functions that may be required.
15 A packet does not generate an interrupt if it arrives soon enough after the
previous interrupt and it is not the N'th packet since the pervious interrupt. This
lowers the interrupt rate due to the arrival of a burst of data, thus enhancing
processor and system performance.