

ENTERPRISE NETWORK SYNCHRONIZATION FOR NEXT GENERATION MULTI-SERVICE SONET CUSTOMERS

THE PROBLEM

As telecommunications service providers roll out Next Generation Multi-Service SONET systems into the large enterprise arena and for the "dark fiber" independent installations, the customer's desire for high end-to-end quality of service (QoS) may dictate the need for on-premise, precise network synchronization equipment.

Although an excellent transport system, a SONET system makes VT pointer adjustments in order to carry various payloads within its synchronous line rate. These pointer adjustments inject phase steps into its DS1 or E1 payloads. This can cause some customer network elements, such as ATM switches and PBX's, to lose synchronization momentarily, causing dropped calls, data errors, and the recurring need to troubleshoot and reset communication links. While SONET equipment often supplies a derived DS1 from the optical line rate, service providers and/or enterprise customers may not be able to use this output as a timing source.

THE SOLUTION

Higher QoS can be achieved by installing Spectracom's Model 8197(or Model 8195A), which provides Stratum 1 timing performance traceable to the atomic clocks in GPS satellites. The 8195A/8197's DS1 timing output can be connected locally with premises network equipment, such as an ATM switch. In addition, the 8195A/8197's DS1 timing output can be connected to the SONET equipment in dark fiber applications, providing a timing source for the SONET system. If several premises network elements require timing, Spectracom's Model 8144 Distribution Amplifier can be connected to the Model 8195A/8197, to provide 12 outputs or more.

