Testing Ethernet over SONET/SDH (NG SONET/SDH) with the T-BERD®/MTS-6000A Multi-Service Application Module

Ordering information:

- **CTLSNG:** Low-Speed NG SONET/SDH 155M/622M/2.5G
- **CT10GNG:** 10G NG SONET/SDH

Use Cases:

- Troubleshooting Ethernet over SONET/SDH Transport
- Verifying MSPP operation

Intended Audience:

- Technicians who install and maintain Ethernet over SONET/SDH circuits.
- Engineers who perform system verification of Multi-Service Provisioning Platforms (MSPPs).

Applications:

- Testing Ethernet/IP over SONET/SDH interfaces
- Verifying Virtual Concatenation (VCAT), Generic Framing Procedure (GFP), and Link Capacity Adjustment Scheme (LCAS) in MSPPs.

Solution Description:

- Next-Generation (NG) SONET/SDH is a software option for the T-BERD/MTS-6000A Multi-Service Application Module (MSAM) that verifies the proper transport of Ethernet services over SONET/SDH circuits.

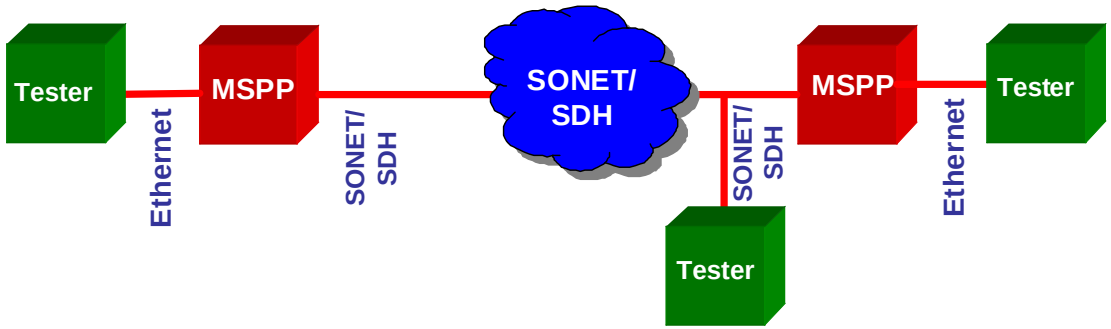
Value Proposition:

For technicians who turn up and troubleshoot Ethernet circuits over SONET/SDH networks, NG SONET/SDH testing helps verify proper operation of GFP, VCAT, and LCAS in NG SONET/SDH networks.

Unlike conventional end-to-end testing of Ethernet services, NG SONET/SDH testing enables the verification and troubleshooting for Ethernet service level agreements (SLAs) within SONET/SDH networks, which improves SLAs and reduces troubleshooting time.

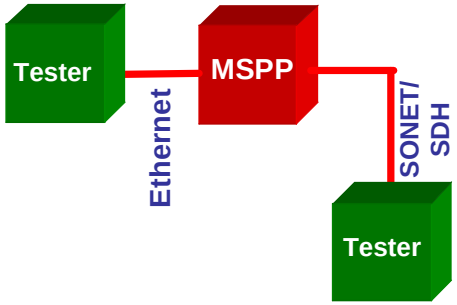
Use Case: Troubleshooting Service Problems in Ethernet over SONET/SDH

Provisioning an Ethernet point-to-point service involves testing Ethernet connectivity, throughput, delay, and frame loss measurements. Problems in MSPPs or within the SONET/SDH network can cause Ethernet delivery problems. Conducting measurements at the MSPP with an NG SONET/SDH tester enables technicians to isolate Ethernet service problems.



Use Case: Verification of MSPP

Before MSPP network deployment, technicians conduct tests to verify its function and configuration by generating traffic at an Ethernet interface and taking measurements at a network SONET/SDH interface. The NG SONET/SDH follows the configuration of a Virtual Concatenation Group (VCG) and the mapping procedure to verify Ethernet throughput and frame loss against those created at the Ethernet interface. The test can also include a basic functional test of the LCAS that verifies the status of VCG members.

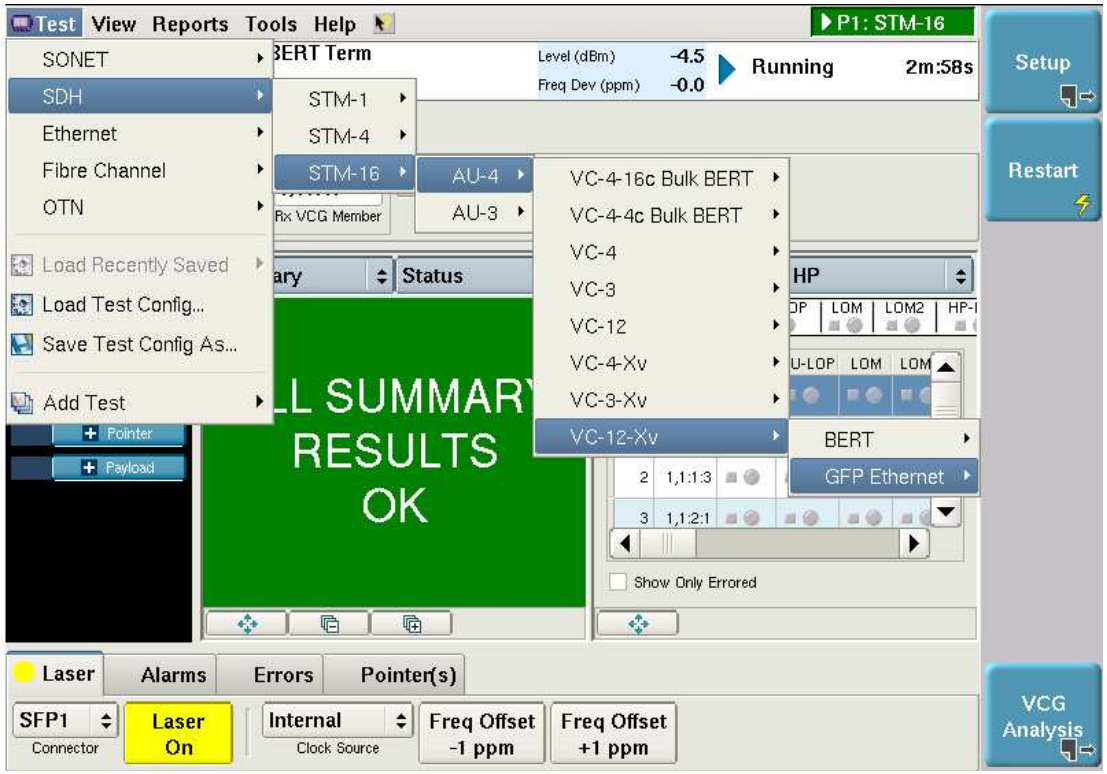


Quick Demo Setup

To set up an NG SONET/SDH demo:

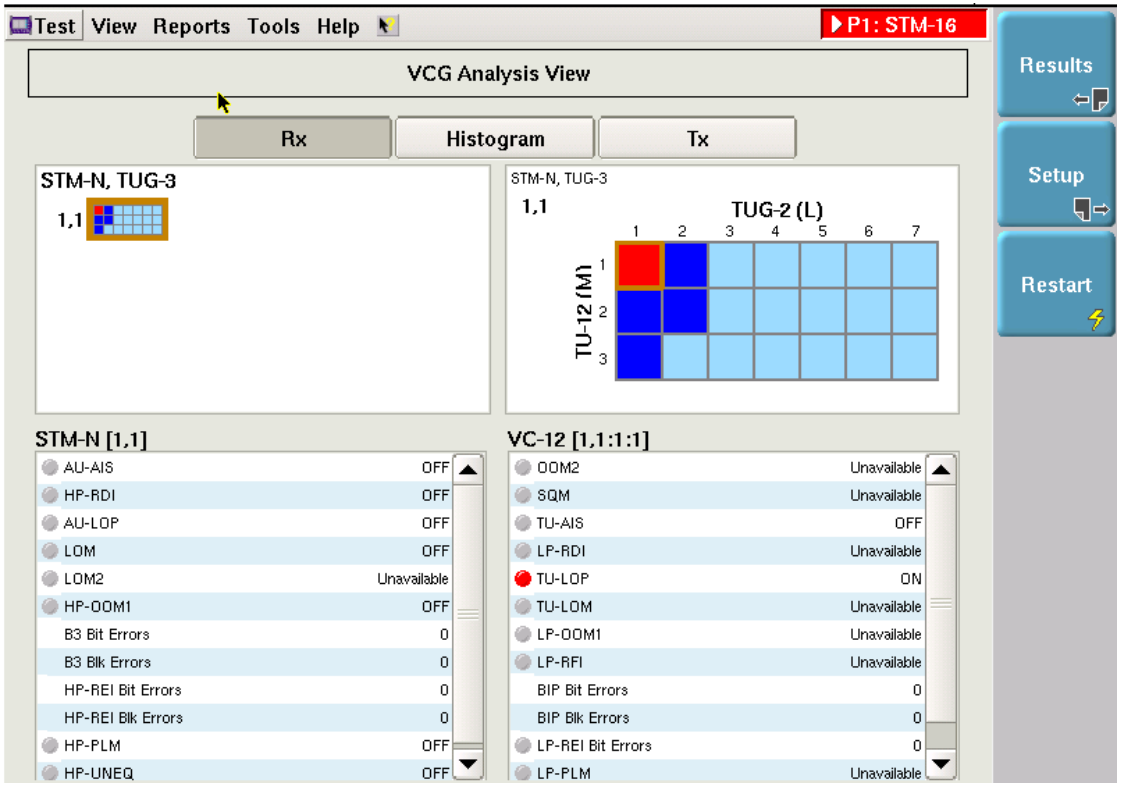
1. Select the SONET (or SDH) High Order (VC4_nv/STS1_nv) or Low Order (VC12_nv/VT1.5_nv) GFP-F Terminate application.
2. Press the appropriate button at the right of the screen to create a VCG in the setup page.
3. For a quick demo, select VC4_nv (STS3_nv). Enter “2” for the number of VCG members (this equals a bandwidth of 300 M).
4. Select TX -> RX.

Return to the main (result) screen, and restart the test.



VCG Analysis

This innovative graphical user interface (GUI) element lets users verify the health of the Virtual Concatenation Group (VCG) by checking the status of each member in a graphical screen. Selecting an individual member displays detailed results about that member.



FAQ

Q: Do our competitors offer this feature?
A: Yes, but in they are integrated into much larger platforms.

Q: What are the pre-requisites for this feature?
A: This feature requires a dual-port MSAM chassis, such as C0404 or C1004. To operate the NG SONET/SDH option, users must purchase the *classic* SONET/SDH options at respective rates, such as 155M, 622M, 2.5G, or 10G. Users with single-port chassis (C0400/1000) must upgrade to a dual-port chassis. Part numbers for this upgrade are available.

Q: Will there be further NG SONET/SDH features for the T-BERD/MTS-6000A?
A: Yes, a second release for NG SONET/SDH will be available in Q4 CY09/Q1 CY10 that will add advanced testing capabilities, such as the Differential Delay and LCAS Terminate tests. The first release supports the LCAS test feature for monitoring applications.

Q: Is there a plan to add NG SONET/SDH for the T-BERD/MTS-8000 Transport Module?
A: No, we are working on an alternative product plan for support of NG SONET/SDH testing for users of the T-BERD/MTS-8000 mainframes. This product plan will be disclosed in the respective product launch phase.