8000 Intelligent Network Manager Testing Package
Ensure High Service Quality by Testing Your Services

The 8000 Intelligent Network Manager is a powerful element, network and service management system supporting Mobile Backhaul, Packet Optical and Business Solutions, including support for the following product families:

- 5500 Digital Cross-Connect System
- 6300 Series
- 7100 Packet Optical Transport Platform
- 7090 Packet Transport Platform
- 8100 Managed Access System
- 8600 Smart Routers
- 8800 Smart Routers

The 8000 Intelligent Network Manager Testing Package is a separately licensed application that includes the Packet Loop Test and Circuit Loop Test tools for troubleshooting circuits, pseudowires, VLAN, VPLS and IP VPN services. The Circuit Loop Test tool can be used for services in TDM networks whereas the Packet Loop Test tool is designed for MPLS- and Ethernet-based services.

FEATURES AND BENEFITS
The Testing Package contains a versatile collection of tests to ensure flawless performance of the network and services. The tests make sure that everything is working correctly before turning-up the service or after fixing a fault.

When executed centrally from the management system, the tests increase the operator’s efficiency and minimize field test operations. There is no need to send maintenance personnel to the field and equip them with separate test equipment.

The tests are executable online and some tests can be scheduled to perform in the background automatically, at selected intervals. The test results can be saved in the database for further analysis.

The Testing Package uses test generators and analyzers that are built into network elements. Combined with an easy-to-use GUI, network testing becomes very efficient.

The Testing Package consists of two main tools: Packet Loop Test and Circuit Loop Test.

BENEFITS OF CORIANT’S 8000 INTELLIGENT NETWORK MANAGER TESTING PACKAGE
- Support flawless delivery of the network and services
- Increase efficiency and reduce field test operations
- Identify problems in packet networks and verify services easily
- Reduce operating costs
- Save results for more detailed analysis
Ensure High Service Quality with Efficient Testing

The 8000 Intelligent Network Manager Testing Package contains a versatile collection of tests to ensure flawless performance of the network and services.

When executed centrally from the management system, the tests increase operating efficiency and minimize field test operations, reducing operating costs.

PACKET LOOP TEST

The Packet Loop Test tool is used for identifying problems in packet networks and verifying services. It contains a collection of tests that can be scheduled or executed manually. The test results can be stored in the database for further analysis.

Figure 1: The Packet Loop Test ensures optimal connectivity within your IP network

Figure 2: Packet Loop Test tool shows the test result data in both graphical and exportable list format.

MANAGEMENT COMMUNICATION TESTS

The Management Communication Test package contains functionality for testing the communication between the 8000 Intelligent Network Manager and the nodes. It includes the following tests:

- **Node Management Connectivity Test** – pings nodes to check the IP-level connectivity between the Communication Server and the nodes.
- **Node Management Traceroute Test** – detects the route along the Communication Server and the nodes.
- **Trunk Management Connectivity Test** – tests the IP-level connectivity between the Communication Server and one or both end-nodes of a specific trunk.
- **IP VPN Management Connectivity Test** – pings all endpoint nodes of the IP VPN to check the IP-level connectivity between the Communication Server and the nodes.
- **PW Management Connectivity Test** – pings all pseudowire endpoint nodes to check the IP-level connectivity between the Communication Server and the nodes.
- **TE Tunnel Management Connectivity Test** – pings the endpoint nodes of the tunnel to check the IP-level connectivity between the Communication Server and the nodes.

NODE NETWORK TESTS

The Node Network Test package contains functionality for testing basic router communication between network nodes. The following tests are included:

- **Node Connectivity Test** – pings nodes to check the IP or LSP level connectivity between 2 nodes.
- **Node Traceroute Test** – traces the path between 2 nodes.
- **Node Throughput Test** – is an intrusive test to determine the maximum bandwidth available between 2 nodes.
- **Node Round-trip Delay Test** – analyzes the round-trip delay of packets sent between 2 nodes.
- **Node One-way Delay Variation Test** – examines the one-way delay variation between 2 nodes.
- **Node One-way Packet Loss Test** – determines packet loss for packets sent between 2 nodes.
TRUNK TESTS
The Trunk Test package contains functionality for testing basic router network communication between trunk end-nodes and includes the following test:

- Trunk Connectivity Test – pings trunk end-nodes to check the IP-level connectivity.

IP VPN TESTS
The IP VPN Test package contains functionality for executing tests on individual VPNs. The following tests are included:

- IP VPN Connectivity Test – enables the operator to test the connectivity automatically between all IP VPN endpoint interfaces.
- IP VPN Traceroute Test – reveals the routes between all endpoint interfaces of an IP VPN.
- IP VPN Throughput Test – is an intrusive test for determining the maximum bandwidth available between tunnel end-nodes without discarding the traffic.
- IP VPN Round-trip Delay Test – is used to measure the round-trip delay of packets sent between the endpoints in the IP VPN.
- IP VPN One-way Delay Variation Test – is used to test the one-way delay variation of test packets sent between the endpoints in an IP VPN.
- IP VPN One-way Packet Loss Test – can be used for testing the packet loss for packets sent between endpoints in an IP VPN.

PSEUDOWIRE TESTS
The Pseudowire Test package contains functionality for testing basic router network communication between pseudowire end-nodes in a basic router network. The package includes the following tests:

- PW Connectivity Test – is used to test the connectivity inband and end-to-end for a pseudowire. This is a powerful test for verifying the consistency between the control plane and forwarding plane for the tested PW.
- PW Traceroute Test – traces the path inband and end-to-end for a pseudowire.
- PW End-Node Throughput Test – is an intrusive test to determine the maximum bandwidth available between the pseudowire end-nodes without discarding the traffic.
- PW End-Node One-way Delay Variation Test – analyzes the one-way delay variation between pseudowire end-nodes.
- PW End-Node One-way Packet Loss Test – evaluates packet loss for packets sent between pseudowire end-nodes.

TE TUNNEL TESTS
The TE Tunnel Test Package contains functionality for testing TE tunnel communication between the tunnel ends in the network. The package includes the following tests:

- TE Tunnel Connectivity Test – can test the connectivity inband and end-to-end for an RSVP TE tunnel using the LSP ping.
- TE Tunnel Traceroute Test – traces the path inband and end-to-end for an RSVP TE tunnel using the LSP traceroute.
- TE Tunnel Throughput Test – is an intrusive test to determine the maximum bandwidth available between tunnel end-nodes without discarding the traffic.
- TE Tunnel One-way Delay Variation Test – analyzes the one-way delay variation between tunnel end-nodes.
- TE Tunnel One-way Packet Loss Test – evaluates the packet loss for packets sent between tunnel end-nodes.

VLAN TESTS
The VLAN Test Package contains functionality for testing VLAN VPN services using the 802.1ag standard and includes the following tests:

- VLAN Connectivity Test – checks the connectivity between service endpoints using an 802.1ag-based loopback message between the source and destination MEPs associated with the service.
- VLAN Traceroute Test – traces the path between the service endpoints using an 802.1ag-based link trace message between the source and destination MEPs associated with the service.
- VLAN Throughput Test – checks for the maximum throughput between VLAN VPN endpoints using RFC2544.
- VLAN Round-trip Delay Test – is for measuring the roundtrip delay of packets sent between the endpoints in the VLAN VPN using RFC2544.
- VLAN Frame Loss Test – is also an RFC2544-based test, for measuring frame loss between VLAN VPN endpoints.
- VLAN Burst Test – is used for determining the maximum number of frames that can be sent in a burst so that received frames are not lost using the given bit rate for frames sent between the VLAN endpoints.

VPLS TESTS
The VPLS Test Package contains functionality for testing VPLS VPN services and includes the following tests:

- VPLS Connectivity Test – checks the connectivity between the service endpoints using an 802.1ag-based loopback message between the source and destination MEPs associated with the service.
- VPLS Traceroute Test – traces the path between the service endpoints using an 802.1ag-based link trace message between the source and destination MEPs associated with the service.
ETHERNET OAM TESTS
The Ethernet OAM Test Package contains functionality for testing the connectivity and delay between MEPs for a selected maintenance domain and maintenance association.

- The Ethernet OAM Connectivity Test checks the connectivity between the MEPs selected for the test using an 802.1ag-based loopback message between the source and destination MEPs.
- The Ethernet OAM Traceroute Test traces the path between the MEPs selected for the test using an 802.1ag-based link trace message between the source and destination MEPs.
- The Ethernet OAM Delay measurement Test measures the delay between the MEPs selected for the test using Y.1731-based messages between the source and destination MEPs.

CIRCUIT LOOP TEST
The Circuit Loop Test provides features to test TDM circuits, locate faults, and measure circuit and transmission media quality through detailed performance results. Several features enable the operator to test different sections of a circuit using various test patterns and loops. The control signal operation can be tested separately, and circuit interruptions detected easily.

The test for PDH circuits can be executed between the endpoints or between intermediate points of the circuit. During the test, the circuit is looped. The internal test transmitters/receivers in the nodes are used to generate test patterns for the circuit and to monitor the received signal. The results are presented as bit error and G.821 counters or signal interruption counters, depending on the test.

ORDERING AND AVAILABILITY
For more information, please contact your local sales representative or local sales office, or see: www.coriant.com.