hiT 7090

Intelligent MPLS-TP Platform for Next Generation Networks

A SCALABLE AND COST-EFFICIENT MPLS-TP SOLUTION

The move toward Ethernet-based services and the hypergrowth of network traffic has created new optical network requirements for operators. Coriant’s hiT 7090 family of next generation packet transport systems enable fixed line, mobile and utility operators to manage the explosive growth of IP traffic in access and aggregation networks. The hiT 7090 systems provide flexible traffic interfaces and connectivity options based on future-proof MPLS-TP technology.

From edge access to metro core, hiT 7090 systems deliver a seamless solution for next generation transport networks. The powerful feature-set balances service mode, interface types, climatic/environment parameters, protection, reliability, and bandwidth capacity requirements – enabling a range of applications in future mobile backhaul, residential and utility/enterprise networks.

The hiT 7090 family enhances an MPLS-TP-based core network toward the aggregation and access network, creating a true end-to-end unified service platform. Entirely integrated into the end-to-end Packet Optical Transport Network solution, hiT 7090 systems complement the hiT 7300 X MPLS-TP/ODU and hiT 7300 P WDM platforms. Additionally, a hiT 7090 solution can be deployed as a complete standalone MPLS-TP network.

FLEXIBLE PLATFORM FOR BOTH GREENFIELD AND UPGRADE DEPLOYMENTS

The flexible hiT 7090 systems can be deployed both as an MPLS-TP Greenfield solution and support the migration of an existing network as an overlay or a hybrid solution. Together with MSPP/SDH equipment, hiT 7090 systems provide both cost-efficient TDM and Ethernet-based packet services.

Employing CES and PWE3 technology, the hiT 7090 family delivers TDM services such as E1 or STM-1. These interfaces support interworking with traditional MSPP/SDH equipment, ensuring a flexible, cost-efficient and smooth migration path for the evolution of today’s transport networks. The powerful Coriant TNMS-Core Network Management system spans the entire network from access to core, enabling end-to-end traffic setup and maintenance for packet-based traffic.

The hiT 7090 family provides a reliable foundation for revenue-generating end-user services, including Triple Play, Enterprise Private Line (TDM, Carrier Ethernet) and Utility services. For mobile backhaul applications (such as 2G, 3G, 4G, LTE, LTE-A), capital investments are significantly lower than with router-centric (IP/MPLS-over-WDM) solutions. Combined, the hiT 7090 packet optical transport platform and the hiT 7300 X agnostic service switch form a powerful, fully-integrated end-to-end solution for the efficient and flexible transport of “any-service” across access, aggregation and core networks.

BENEFITS OF CORIANT’S hiT 7090

- Increase network efficiency and improve resource utilization with highly-efficient, packet-based features and capabilities
- Ease migration from TDM to packet-centric services while building a future-proof, packet-optimized infrastructure
- Assure highly reliable, quality services with the end-to-end QAM capability and network protection attributes of circuit-oriented transport technologies
- Optimize end-to-end service delivery in access and aggregation network segments with a single, unified transport platform – reducing OPEX via simplified operations, fewer spares and reduced training needs
- Improve overall efficiencies with advanced multi-layer optimization and fully integrated end-to-end service management
Coriant hiT 7090 solutions can be combined with hiT 7300 and hiT 70xx MSPP platforms for hybrid scenarios with all elements sharing a common network management system (TNMS-C)

**TECHNICAL SPECIFICATIONS**

**Dimensions (W x D x H mm)**
- hiT 7090 240G: 442 x 235 x 550
- hiT 7090 92G: 442 x 220 x 180
- hiT 7090 8G: 442 x 210 x 88.5
- hiT 7090 5G: 442 x 210 x 44.4
- Standard ANSI or ETSI 19 inch and 21 inch shelf

**Environment and Climatic**
- ETSI 300 019
- Operation temperature
  - Normal version: -5 °C to +55 °C
  - Enhanced version: -5 °C to +65 °C
- Humidity: 5%-90%
- ETSI EN 300 386 V1.6.1/EN 55022(2010)

**Power**
- -48V DC
- Max. Power Consumption
  - hiT 7090 240G: 1000W
  - hiT 7090 92G: 400W
  - hiT 7090 8G: 70W
  - hiT 7090 5G: 35W

**Synchronization**
- External Clock 2MHz, 2MBit, 1PPS+TOD
- Synchronization Ethernet (G.8261, G.8262)
- IEEE1588v2 (TC,OC, BC,TC+OC)
- L2 PTP
- SSM & ESMC

**TDM CES Interface**
- E1, STM-ISMC

**OAM**
- Ethernet Service OAM (ITU-T Y.1731)
- Ethernet Link OAM (IEEE 802.3ah)
- MPLS-TP OAM (G.8131/G.8132)

**Fabric Capacity**
- 240 Gbps
- 92 Gbps
- 8 Gbps
- 5 Gbps
- Non-blocking fabric

**Ethernet Interfaces**
- FX, FE, GE, 10GE
- GE and 10GE support CWDM and DWDM pluggable optical modules
- GE Bi-direction SFP support

**Ethernet Function**
- MAC ACL (IEEE 802.1D)
- VLAN (IEEE 802.1Q)
- Q-in-Q (IEEE 802.1ad)
- COS (IEEE 802.1P/IEEE 802.1Q)
- 9600 Bytes Jumbo Frame
- VLAN Manipulation: Stack/Switch/Strip
- Link Aggregation (IEEE 802.3ad)
- Flow Control (IEEE 802.3x)
- IGMP Snooping (V1/V2/V3)
- RSTP (IEEE 802.1w)
- LPT (Link Passthrough)

**Data Service**
- L2VPN E-line, E-LAN, E-Tree (MEF)

**Quality of Service (QoS)**
- Classification Parameters
  - L2: VLAN, PRI, MAC address, TPID
  - L3: IP Address, DSCP, Port Number, TOS
  - CIR/EIR/CBS/EBS
  - WRED
- 8 QoS classes
- Class based queuing
- SP, DWRR, SP+DWRR
- Color Aware and Color Blind Mode

**Protection**
- Hardware Protection
  - Power 1+1 Protection
  - Control, timing and fabric module protection for hiT 7090 240G and hiT 7090 92G
  - Control and timing module protection for hiT 7090 8G
  - E1 TPS protection for hiT 7090 240G and hiT 7090 92G
- Network Protection
  - LSP 1 Linear Protection
  - LSP SNC Protection
  - LSP Ring Protection
  - Link Aggregation (inter and intra board, multi-chassis)
  - Dual-homing Protection
  - STM-1 MSP Protection

**Management**
- Network Management System
  - Coriant TNMS-Core
  - Coriant hiT 7090 NetManager
  - NE Management System
  - Coriant hiT 7090 LCT

**DCN**
- In-band and out-band DCN
- OSPF Layer3 DCN