

## CORIANT IS NOW PART OF INFINERA

## 7090-01 CE SFP NID

### *Managed Gigabit Ethernet Demarcation Device*

Telecommunication network operators are experiencing a significant transformation in packet transport networks as services are becoming increasingly dynamic with rapidly changing requirements. With the growing demand for flexibility in all network domains, carrier and transport operators face the critical challenge of reducing costs to ensure the profitability of transport networks. To meet these evolving industry needs, the Coriant portfolio of innovative solutions includes a packet transport component that provides network operators with unprecedented levels of efficiency, flexibility, and performance. By leveraging features such as low latency, low power consumption, and reduced CapEx and OpEx, carrier and transport operators can cost effectively maintain high performance network requirements.

### DELIVERING COMPREHENSIVE CARRIER ETHERNET CAPABILITIES IN AN SFP

The Coriant® 7090-01 CE SFP-NID is a Small Form-Factor Pluggable (SFP) gigabit optical Network Interface Device (NID) that is available in two variants: a 10 km variant and a 34 km variant. Enabling transport service providers to deliver low latency, Service Level Agreement (SLA) guaranteed business Ethernet, 4G/LTE macro cell, and metro/small cell backhaul services, the 7090-01 CE can be installed directly into a switch, router, or small cell, which saves CapEx by eliminating the need for a standalone demarcation device. The 7090-01 CE is ideally suited for applications with space constraints including locations where a standard NID or an additional power run would be impossible to install.

The 7090-01 CE is MSA SFF-8472 compliant, functions as a 1000BASE-X Gigabit Ethernet SFP transceiver, and features full digital diagnostic monitoring. The 10 km variant supports power consumption of less than 1.5W and the 34 km variant supports power consumption of less than 1.6W. The 7090-01 CE is a component of the Coriant® 7090 CE Packet Transport Solutions and can interoperate with all third-party Carrier Ethernet 2.0 compliant network and test equipment. The component can be managed by the Coriant® 8000 Intelligent Network Manager (INM) and the Coriant® Transport Network Management System (TNMS) as part of a comprehensive Coriant solution providing end-to-end provisioning and support. In addition, the 7090-01 CE can be managed through either the optical or electrical interface, allowing it to be installed and controlled anywhere along a Carrier Ethernet service path where UNI or ENNI functions are required. Remote management via TELNET, SNMPv1, SNMPv2c, and SNMPv3 is also available.

### PROVIDING TRAFFIC MANAGEMENT WITH EFFICIENT PERFORMANCE MONITORING AND TESTING

Featuring real-time OAM performance monitoring and fault management, the 7090-01 CE conforms to the latest carrier-class Ethernet OAM standards – 802.3ah Link OAM. The 7090-01 CE proactively monitors the network provider's fiber access and customer-facing links for physical failures and deterioration of data quality.

### BENEFITS OF THE CORIANT® 7090-01 CE SFP-NID

- **Delivers** low latency and SLA-guaranteed backhaul services
- **Saves** CapEx by direct installation into a switch, router, or small cell
- **Reduces** OpEx with lower power consumption and reduced space, installation, and maintenance costs
- **Provides** interoperability with third-party Carrier Ethernet network and test equipment
- **Offers** low cost monitoring of Carrier Ethernet functionality, operation, and performance
- **Accelerates** service activation with Zero Touch Provisioning



The pluggable provides ITU-T Y.1731/TWAMP performance monitoring and IEEE 802.1ag Connectivity Fault Management (CFM). When the 7090-01 CE is plugged into existing network equipment, these features enable low cost monitoring of Carrier Ethernet functionality, operation, and performance. Moreover, the OAM features provide efficient detection and rapid isolation of potential service problems to offer SLA assurance while reducing OpEx. Service Activation Test (SAT) features include hardware based ITU-T Y.1564 and RFC 2544 test heads, which provide multi-flow testing of throughput, latency, jitter, and frame loss at full wire speed.

## **SIMPLIFYING INSTALLATION, INTEGRATION, AND OPERATION IN NETWORKS**

The 7090-01 CE can be installed directly into any legacy demarcation device and aggregation device adding advanced Fault Management (FM) and Performance Management (PM) capabilities to existing legacy equipment while preserving investments. Installing the 7090-01 CE into existing network equipment simplifies integration and operation within the network and provides SLA assurance for value-added services while enhancing the end-user quality of experience. Carrier providers can add PM and FM to a small cell, a macro cell, and business services. This enhanced functionality gives service providers flexibility and enables solutions to be tailored to specific requirements. Zero Touch Provisioning eliminates dependency on expert personnel to perform the initial system installation and commissioning and ensures that personnel without extensive system knowledge can install and commission the NIDs.

## TECHNICAL SPECIFICATIONS

### Coriant® 7090-01 CE Variants

- 10 km variant
- 34 km variant

### Physical and Environmental

- Dimensions
  - 8.38 x 13.46 x 68.33 mm / 0.33 x 0.53 x 2.69 in (H x W X D)
- Weight
  - 0.021 kg / 0.736 oz
- Temperature and Humidity
  - Operating Case Temperature: -40°C to 85°C
  - Storage Temperature: -40°C to 85°C
  - Humidity: 5% to 95% (non-condensing)
  - Altitude: -100 m to 4000 m (operational)

### Ethernet

- Port Type (Fiber)
  - 1000Base-LX (LC)
  - 1000Base-EX (LC)
- Cable Type (Fiber)
  - Single-mode: 9/125um
- Supports 10,240 byte jumbo frames

### Power

- DC Input
  - <1.5 W power consumption @ 3.3VDC for 10 km model
  - <1.6 W power consumption @ 3.3VDC for 34 km model

### Fault Management

- IEEE 802.1ag end-to-end Fault Management (FM)
  - Maintenance End Points (MEPs) for fault detection and alerts
  - Maintenance Intermediate Points (MIPs) for fault isolation

- 3.3 ms – 10 ms Continuity Check Messages (CCM)
- IEEE 802.3ah Link OAM
  - Discovery
  - Active or Passive roles
  - Link loopback
  - Threshold-based monitoring and notification

### Traffic Management

- 64 Ethernet Virtual Connections (EVCs)
- Layer 2 control protocols (L2CP) policy management
  - Peering
  - Forwarding
  - Tunneling
- Low latency cut-through flow processing
- Port and per-flow loopback with MAC swap

### Node and Network Management

- Flexible Management Tools
  - Command Line Interface (CLI)
  - Coriant® 8000 Intelligent Network Manager (INM)
  - Coriant® Transport Network Management System (TNMS)
- Remote Management
  - Telnet
  - SNMPV1
  - SNMPV2c
  - SNMPV3
- Third-party NMS, EMS, and SLA Monitoring Software
- Supports Static or Dynamic IP (DHCP Client) configurations
- SNMP trap forwarding up to 8 hosts
- Zero Touch Provisioning (ZTP)
- Security Authentication
  - IP Access Control Lists
  - Multi-user login authentication

### Performance Monitoring and Testing

- ITU-T Y.1564 service activation testing with built-in test head
  - Multi-flow testing of information rate, latency, jitter, frame loss
  - Initiator and Reflector support
- IETF RFC 2544 Ethernet service testing with built-in test head
  - Wire-speed per flow testing of throughput, latency, and loss
  - Initiator and Reflector support
- ITU-T Y.1731 Performance Monitoring (PM)
  - Frame delay
  - Frame delay variation (jitter)
  - Frame loss
  - Service availability
  - Threshold monitoring and alerts
- RFC 5357 Two Way Active Measurement Protocol (TWAMP)
  - Initiator and Reflector support
- Third-party tester interoperability with Auto Loop Up/Down
- MSA SFF-8472 compliant for interoperability with other network devices

### Regulatory and Standards Compliance

- MEF CE2.0
- MEF 21, 30, 31 Compliant
- FCC Class A
- NEBS Level 3 Compliant\*
- RoHS2 (6/6)
- REACH
- WEEE

\*Compliance Pending

These trademarks are owned by Coriant or its affiliates: Coriant®, Coriant CloudWave™, Coriant Dynamic Optical Cloud™, Coriant Groove™, Coriant Transcend™, mTera®, Nano™, and Pico™. Other trademarks are the property of their respective owners. Statements herein may contain projections regarding future products, features, or technology and resulting commercial or technical benefits, which may or may not occur. This publication does not constitute legal obligation to deliver any material, code, or functionality. This document does not modify or supplement any product specifications or warranties. Copyright © 2018 Coriant. All Rights Reserved. 74C.0149 Rev. B 01/18