

PM5990/PM5991 DIGI-G4

4x100G/5x40G/20x10G Multi-Service OTN Processor

Summary

The PM5990 DIGI-G4 (with encryption) and PM5991 (no encryption) are members of fourth-generation OTN processing solution for OTN switching and packet-optical transport platforms (P-OTPs/P-OTNs), Wavelength Division Multiplexing (WDM) and Reconfigurable Optical Add-Drop Multiplexers (ROADMs).

Built on the foundation of OTN Processing IP from DIGI 120G, widely deployed in service provider and hyperscale datacenter networks today, the DIGI-G4 is an ultra-high density, multi-service OTN processor. The DIGI-G4 has the feature integration and the scalability to enable the mass deployment of service flexible, elastic bandwidth, resource efficient and cost-effective 100G optical transport architectures required for multi-layer SDN controlled networks.

Reusing proven, carrier-grade OTN Software IP libraries and toolkits, the DIGI-G4 can be leveraged across multiple applications and equipment platforms to reduce OEM development costs while accelerating time-to-market.

The DIGI-G4 expands the DIGI Family of OTN processors, adding key technologies and capabilities such as:

- Deeply channelized architecture, supporting single-chip 400G line card applications
- Integrated 28G SERDES, enabling connectivity to next-generation DSPs, optical modules and backplanes
- FIPS 197 certified CryptOTN OTN payload encryption, enabling secure, protocol-agnostic, wire-speed transport applications (PM5990 only)
- OTU4flex, a flexible framer-to-NG-Coherent-DSP interface protocol, enabling scalable line-rate WDM architectures
- Pre-standard OTUCn, supporting Beyond 100G applications
- 5x 40GE over 2x OTU4 muxponder mode, delivering maximum 100G wavelength utilization for 40 GE client WDM applications
- Flexible Interlaken controllers, enabling hybrid OTN/packet line/client card and compact metro OTN switching platform architectures
- Next-generation datacenter/storage client support, support, including 25GE and 16G and 32G Fibre Channel
- Integrated GCC processor, reducing the need for auxiliary components and lowering the overall line card cost
- Per-port LLDP packet monitoring for 10GE/40GE/100GE clients, enabling WAN topology auto-discovery in DCI and SDN-enabled applications

Highlights

Reduces Service Provider CapEx and OpEx for 100G Deployments

- High-capacity OTN switching and aggregation with support for hybrid packet/OTN
- Optical transport architectures dramatically improves 100G wavelength utilization and simplifies equipment deployment and network management
- Universal line card solution simplifies line card management

Supports Datacenter Interconnect (DCI) Transport Requirements

- Integrated FIPS 197 certified protocol-agnostic wire-speed layer 1 OTN payload encryption
- Integrated LLDP packet monitoring on Ethernet clients for WAN topology auto-discovery in DCI and SDN-enabled transport networks
- On-chip OTN switch enabling the design of high-capacity, compact Nx100G DCI platforms

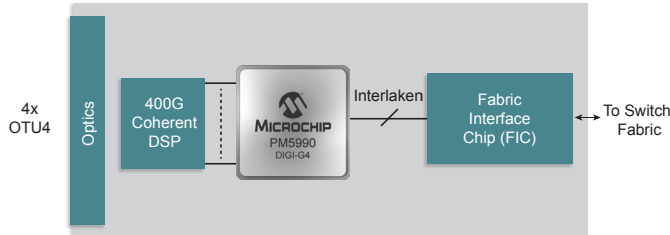
Enables Unprecedented Service Delivery and Network Deployment Flexibility

- Widest range of multi-service client mappings into OTN
- Enables full SNCP-based protection switching for ring, point-to-point or meshed network topologies
- Multi-stage OTN multiplexing, enabling compatibility and interoperability between network nodes

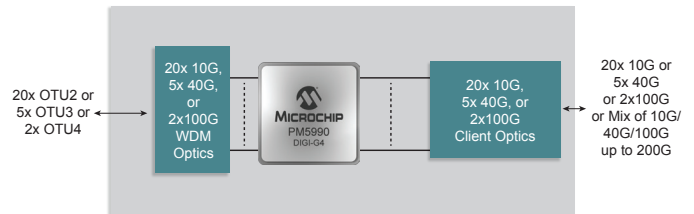
Optimized Power and Footprint for OEMs

- Connects directly to a wide range of 100G, 40G and 10G optical modules including CFP, CFP2, CFP4, QSFP28, CXP (limiting), QSFP/QSFP+ (limiting), XFP, SFP+ (limiting)
- Generates all client protocols and device interface rates from internal PLLs with a single 125 MHz external reference clock
- Provides glueless interconnects to many off-the-shelf NPs and switch fabrics
- Carrier-grade, field-proven OTN Software Development Kit reduces OEM development costs and accelerates time to market

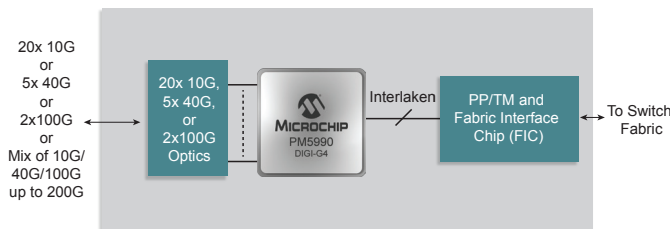
Single-Chip 400G OTN Line Card



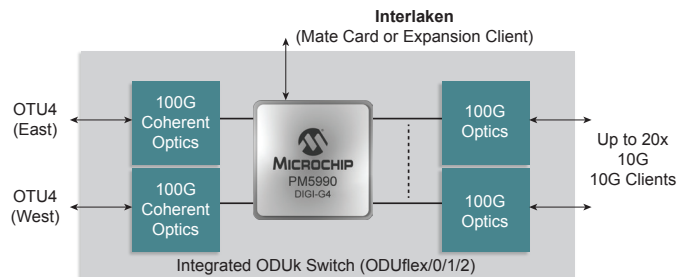
Single-Chip 200G Muxponder/Transponder



20x 10G/4x 40G/2x 100G Line/Client/ Hybrid P-OTP Line Card



Single-Chip 200G Compact ADM



For More Information

www.microsemi.com

The Microchip name and logo and the Microchip logo are registered trademarks of Microchip Technology Incorporated in the U.S.A. and other countries. All other trademarks mentioned herein are property of their respective companies.
© 2019, Microchip Technology Incorporated. All Rights Reserved. 8/19

DS00003129A