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 CrypOTN 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

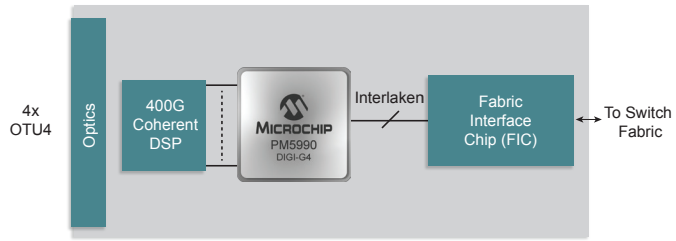
Enables Unprecedented Service Delivery and Network Deployment Flexibility

- 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

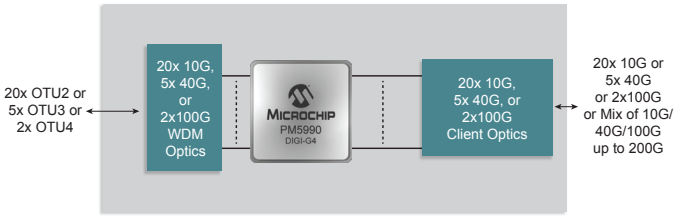
Optimized Power and Footprint for OEMs

- 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

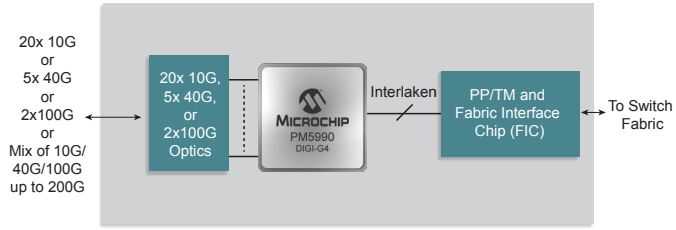
Single-Chip 400G OTN Line Card



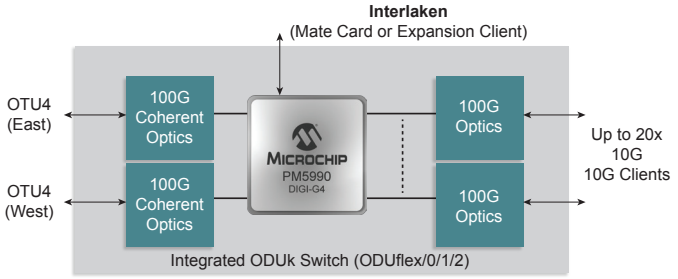
Single-Chip 200G Muxponder/Transponder



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



Single-Chip 200G Compact ADM



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