

# META-DX2L Family

1.6T Ethernet Retimer, Gearbox and Hitless 2:1 Mux



## Summary

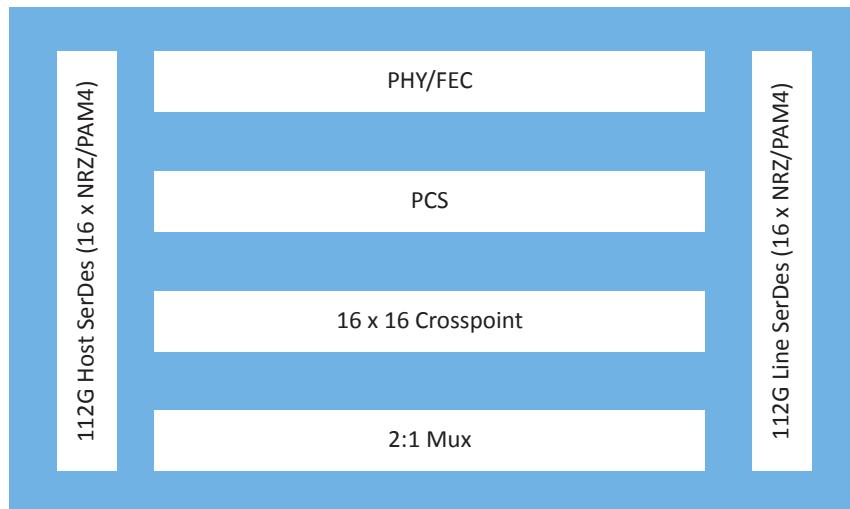
META-DX2L family is a multi-purpose Ethernet PHY supporting rates from 1 GbE to 800 GbE with a broad range of FEC regeneration and termination capabilities. It supports up to 1.6 Tbps capacity in retiming applications and up to 800G capacity in gearbox and 2:1 mux applications. The device features 32 SerDes, a hitless 2:1 mux, a flexible crosspoint and support for additional protocols, such as Fibre Channel and OTN.

Its SerDes can support backplanes and passive Direct Attach (DAC) cables at up to 112 Gbps and can also be configured to reduce power for VSR applications. The hitless 2:1 mux enables high availability architectures and the device latency is deterministic to enable Class C/D PTP at the system level.

## Highlights

- Up to 1.6 Tbps capacity throughput in a single device
- Ethernet client support from 1 GbE to 800 GbE
- 32 LR capable 1G NRZ to 112G PAM4 SerDes
- Ethernet, OTN, and Fibre Channel retiming
- Supports proprietary data rates for AI/ML applications
- 800G forward and reverse gearbox modes
- Hitless 2:1 mux mode for Working/Protect functionality
- 16 × 16 crosspoint functionality supports “any-to-any” SerDes connection on both line and host interfaces
- PRBS generation, diagnostic loopbacks, and eye monitoring on all SerDes lanes
- Industrial temperature range support
- Direct connectivity to passive copper cables including support for link training and auto-negotiation
- Enables PTP (IEEE 1588v2) Class C/D at the system level
- SyncE timing support
- Software Development Kit (SDK) APIs simplify software integration at the system level
- Compact 23 mm × 30 mm device package

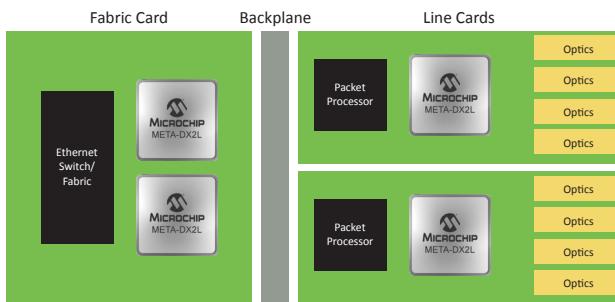
## META-DX2L Block Diagram



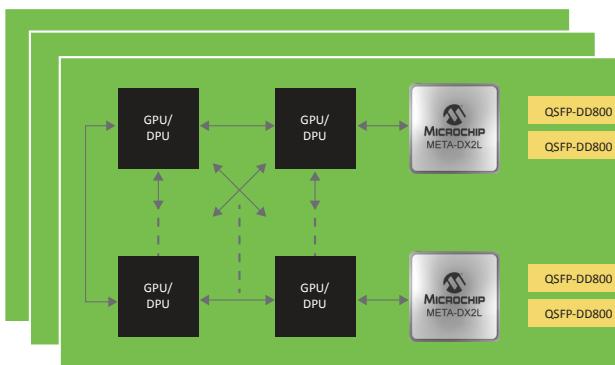
## Benefits

- 1.6 Tbps device enables high-density, 112G SerDes based line cards and fixed form factor switches
- Multiple operating modes enable design reuse across platforms and improves time to market
- Crosspoint enables flexible connection to multiple types of optics or datapaths on a single design
- Deterministic latency enables PTP Class C/D at the system level for 5G-ready equipment
- FEC termination and conversion capability enables support of a wide range of optical modules
- Complete set of SDK APIs to reduce development time

## Modular Switch/Router



## AI Acceleration Nodes

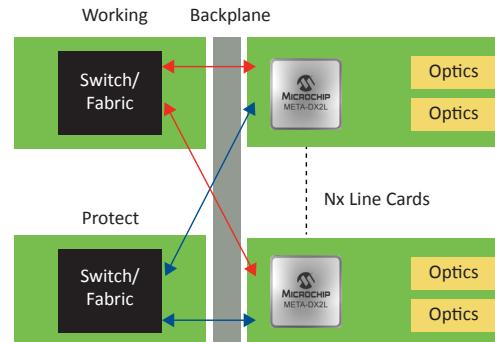


Family Variant	Part Number	SerDes Rate	Retimer/ Gearbox	Crosspoint	Hitless 2:1 Mux	OTN/FC Rates	Number of SerDes	Analog Retimer Max Cap.	PCS/MAC Retimer Max Cap.	Gearbox Max Cap.	Package Size (Ball Pitch)
<b>META-DX2L</b>	PM6200B-FEI	1G to 112G	✓	✓	✓	✓	32	1.6T	1.6T	800G	23 x 30
	PM6203B-FEI	1G to 53G	✓	✓	✓	-	32	800G	800G	400G	23 x 30

## Applications

- Fabric card in a modular switch/router system
- Line card in a modular switch/router system
- Centralized switch/router platform
- Fixed form factor switch/router
- AI acceleration nodes
- Compact optical transport platform

## Centralized Switch/Router



## Compact Optical Transport Platform

