From 400ZR to 800ZR and Beyond

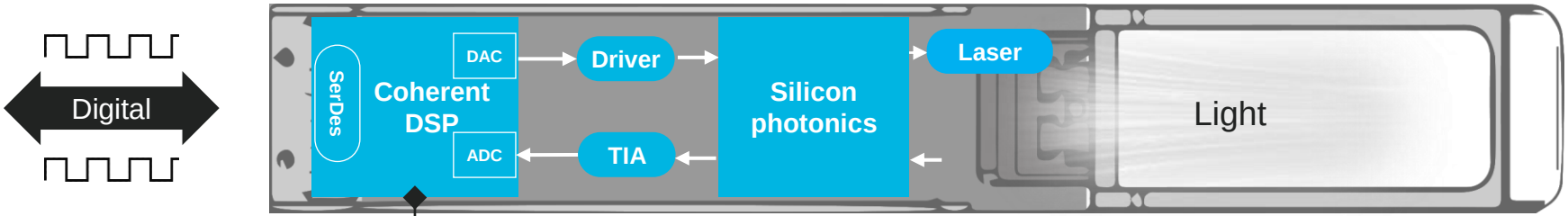
Josef Berger
AVP Marketing
March 8, 2023

Forward-looking statements

Except for statements of historical fact, this presentation contains forward-looking statements (within the meaning of the federal securities laws) including, but not limited to, statements related to market trends and to the company's business and operations, business opportunities, growth strategy and expectations, and financial targets and plans, that involve risks and uncertainties. Words such as "anticipates," "expects," "intends," "plans," "projects," "believes," "seeks," "estimates," "can," "may," "will," "would" and similar expressions identify such forward-looking statements. These statements are not guarantees of results and should not be considered as an indication of future activity or future performance. Actual events or results may differ materially from those described in this presentation due to a number of risks and uncertainties.

For factors that could cause Marvell's results to vary from expectations, please see the risk factors identified in Marvell's Quarterly Report on Form 10-Q for the fiscal quarter ended October 29, 2022, as filed with the SEC on December 2, 2022, and Marvell's Annual Report on Form 10-K for the fiscal year ended January 29, 2022, as filed with the SEC on March 10, 2022, and other factors detailed from time to time in Marvell's filings with the SEC. The forward-looking statements in this presentation speak only as of the date of this presentation and Marvell undertakes no obligation to revise or update publicly any forward-looking statements.

Cloud deployment of COLORZ II 400ZR



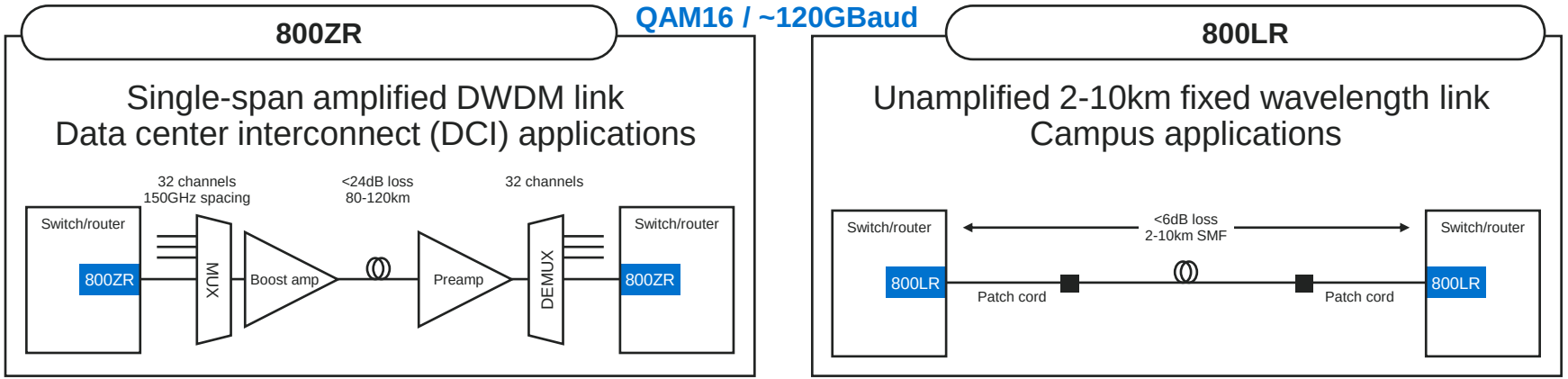
Best-in-class for coherent DWDM

- Lower $ / Gig
- Lower W / Gig
- Same size as 400G gray optics
- Similar features as a line card
- ZR+ offers extended reach and features

Best-in-class components + silicon photonics integration

800G Coherent project

- **Goal:** To enable interoperable, cost-effective, single-lambda 800G coherent interfaces for small- form-factor modules
- Project started Nov-2020



Source: oif2020.324.00, “800G Coherent Project: Applications”, K. Kota et. al.,

400ZR → 800ZR spec comparison

Specification	400ZR	800ZR
Client/Host interfaces	400GE/400GAUI-8	8x100GE (100GAUI-1) 4x200GE (200GAUI-2) 2x400GE (400GAUI-4) 1x800GE (800G-ETC/800GAUI-8)
Nominal Symbol Rate	59.87GBaud	118.2GBaud
Modulation	DP-QAM16	DP-QAM16
Channel Spacing	100GHz/75GHz	150GHz
Pilot Overhead	3%	1.5%
FEC Overhead	14.8% CFEC	15.3% OFEC
Laser linewidth	~500kHz	~500kHz
Line-side frame	FlexO-4	FlexO-8
Jitter Specifications	250fs rms	125fs rms
ROSNR	26db	27db

800ZR IA expected 1H24

800LR progress

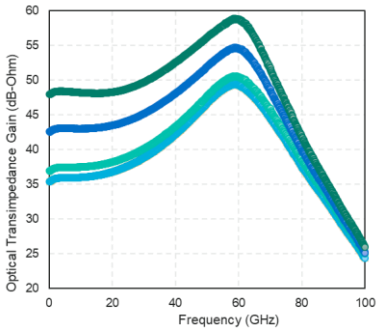
Specification	800LR
Client/Host interfaces	2x400GE (400GAUI-4) 1x800GE (800G-ETC/800GAUI-8)
Nominal Symbol Rate	123.6GBaud
Modulation	DP-QAM16
Pilot Overhead	1.5%
FEC Overhead	21% Concatenated KP4+BCH
Jitter Specifications	125fs rms

- 800LR draft / first straw ballot
- Digital specifications complete / optical under discussion
- Adopted very low latency (~55ns) and powerful concatenated FEC
- Lightweight streamlined frame to enable low power and complexity

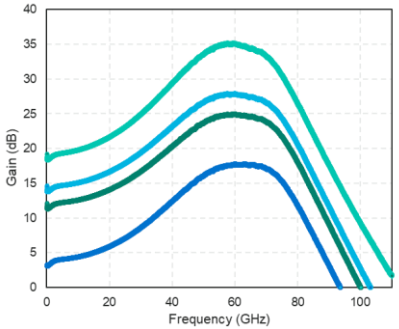
800LR IA expected 2H24

800ZR component and technology requirements

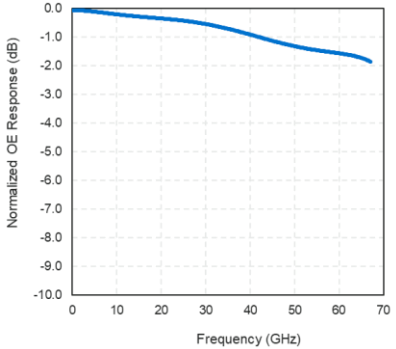
128Gbaud differential TIA



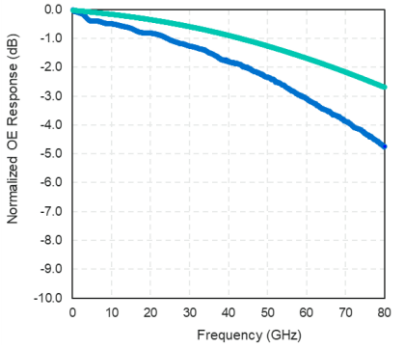
128Gbaud driver



128Gbaud Sipho PD

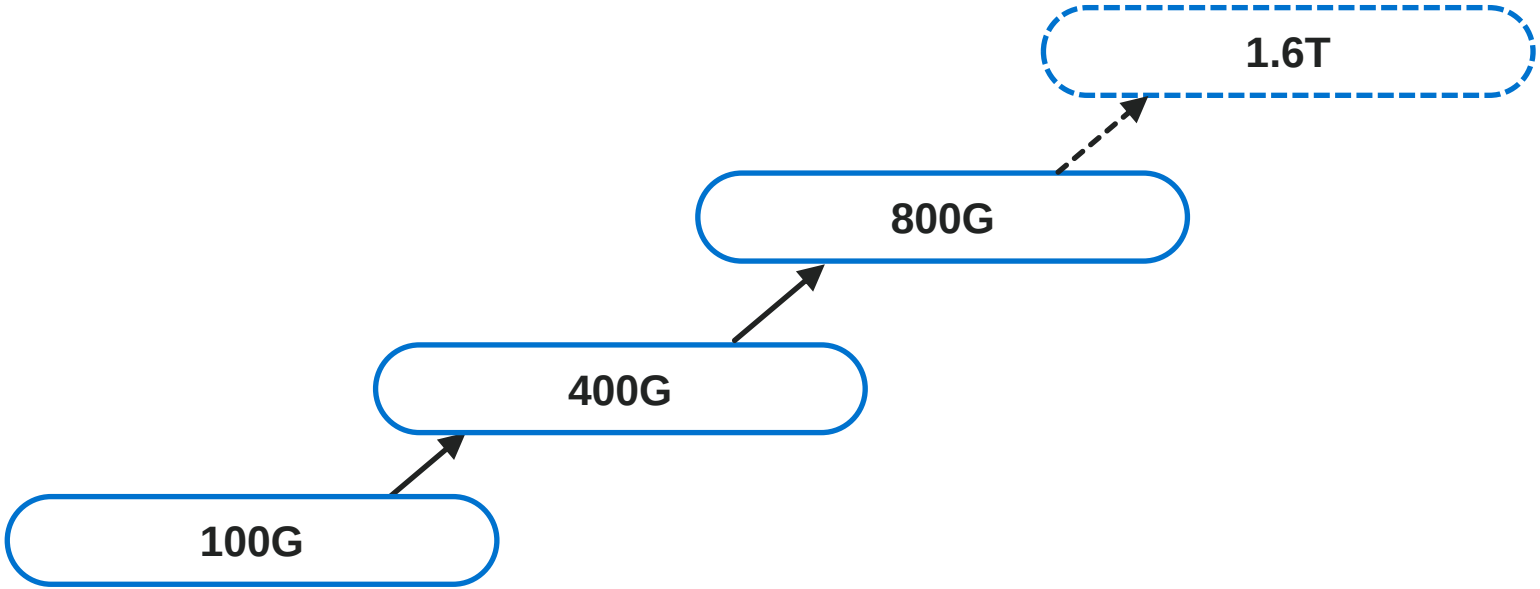


128Gbaud Sipho MZM



Source: Radha Nagarajan, Marvell, 800G/128Gbaud Pluggable Coherent (OFC 2023)

Disaggregated DWDM beyond 400ZR



ZR Optics provide the best cost and power for DCI

MARVELL

Thank You

Essential technology, done right™