



Expanding Our Cloud-Optimized Portfolio

Enabling Serial 100G Short-Reach Interconnect Revolution

March 2022

Every cloud is unique

Search

eCommerce

Enterprise
applications

IaaS

Social
media

Driving cloud-optimized silicon era

Search

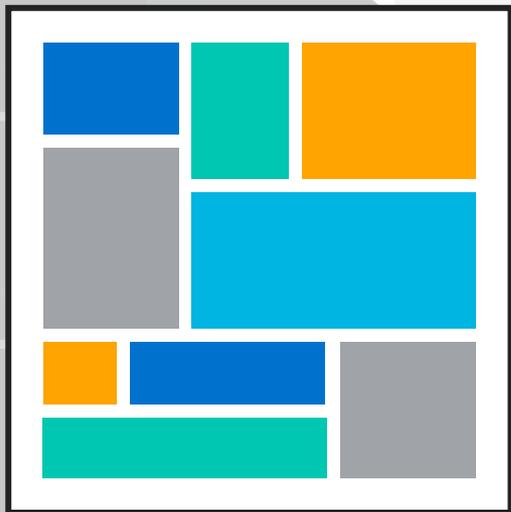
eCommerce

Enterprise
applications

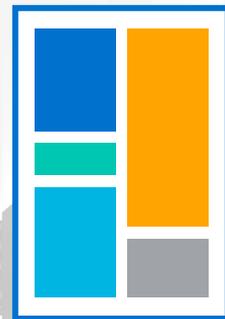
IaaS

Social
media

What is cloud-optimized silicon?



General-purpose

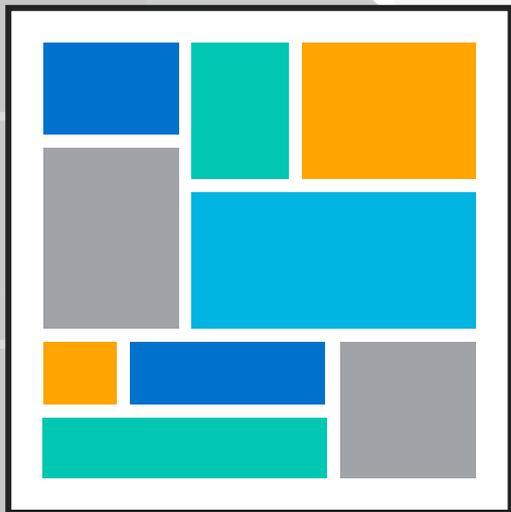


Cloud A

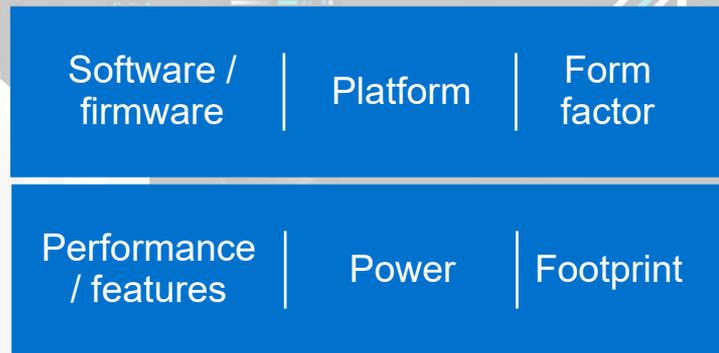
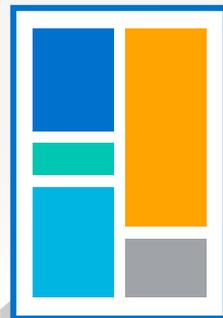


Cloud B

What is cloud-optimized silicon?



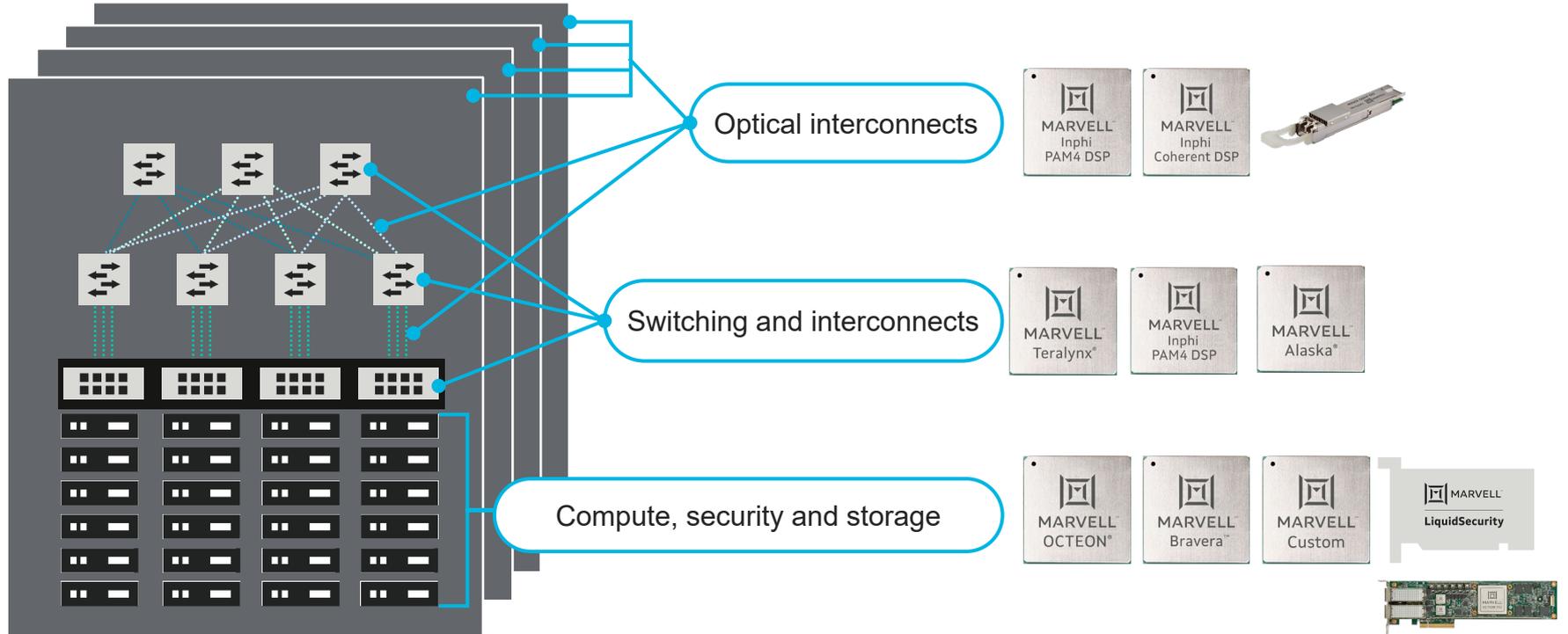
General-purpose



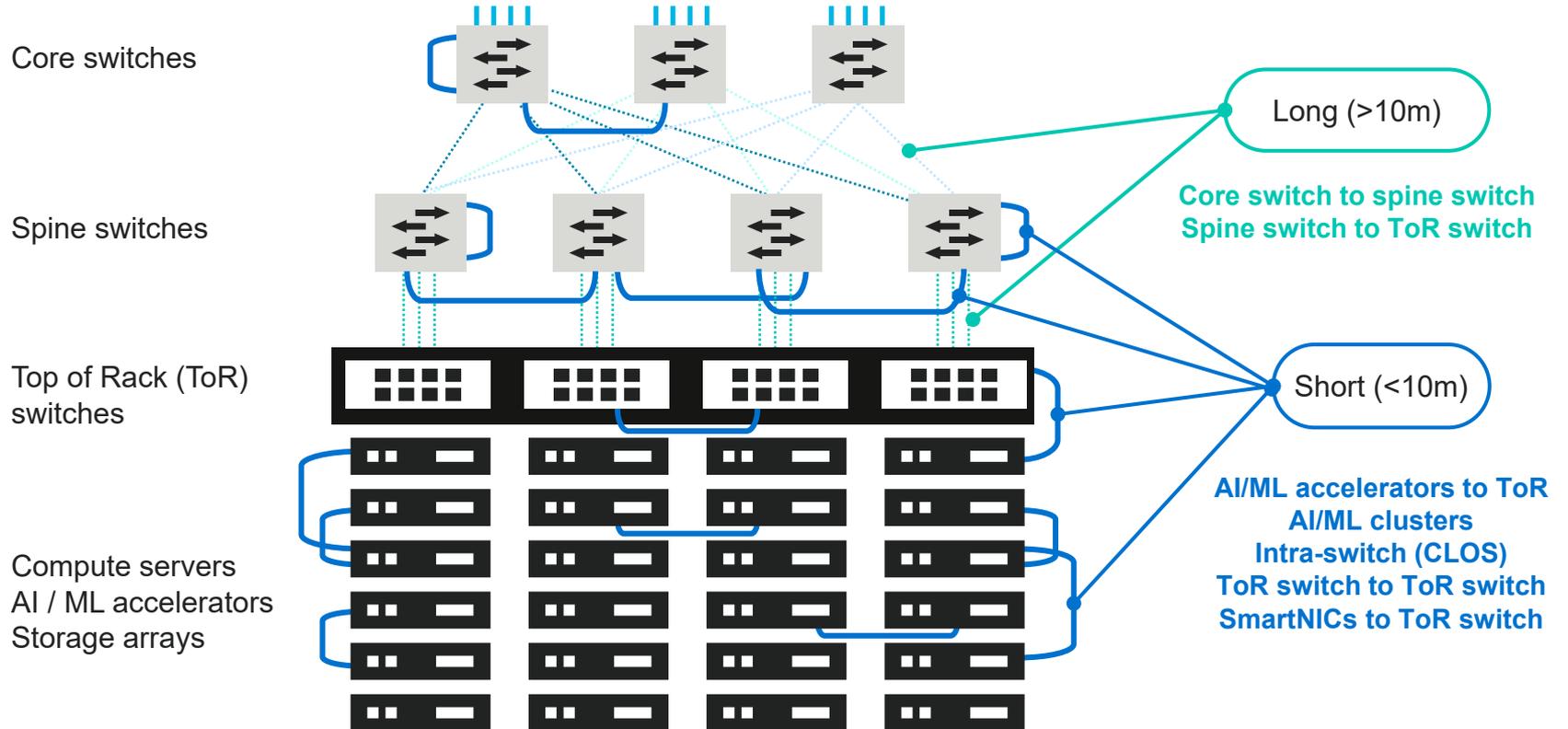
Cloud A

Cloud B

Unique portfolio to address cloud-optimized silicon era



Growing number of cloud data center interconnects

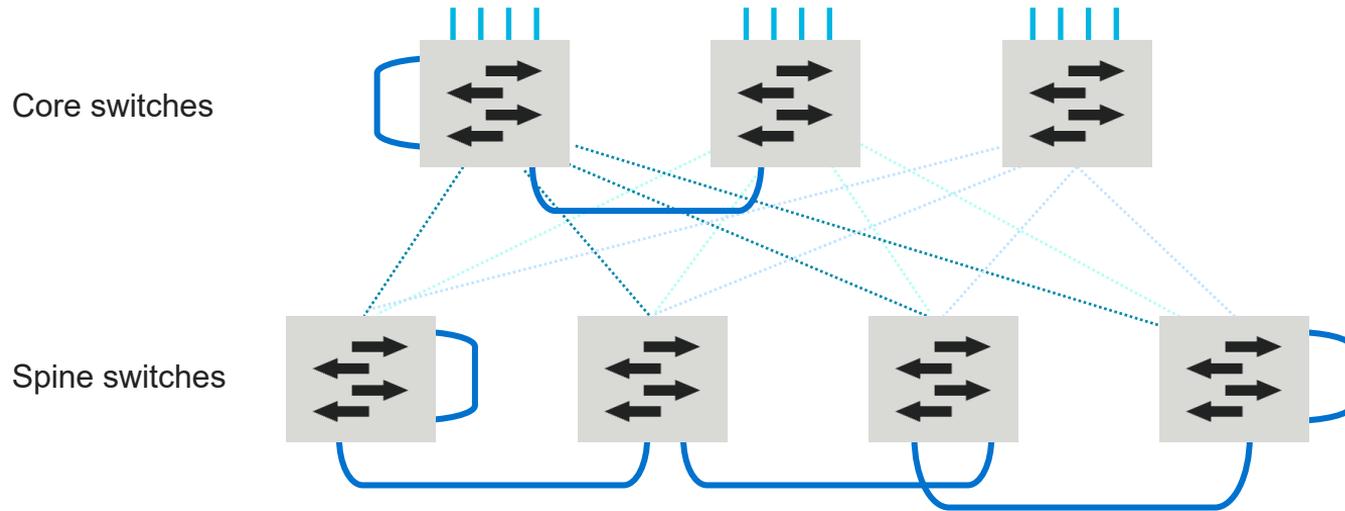


AI/ML accelerators and 400G SmartNICs leading move to serial 100G inside cloud data center racks



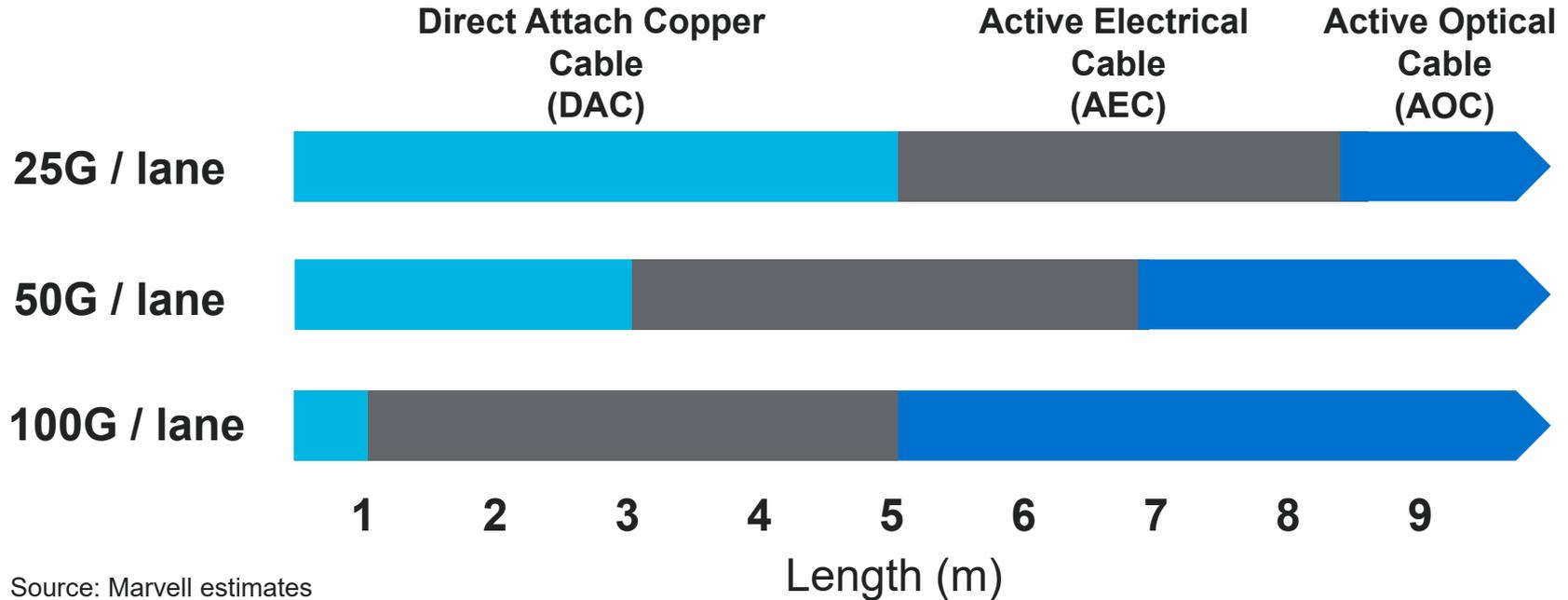
AI/ML cluster applications require serial 100G interconnects

Emerging distributed disaggregated chassis (DDC) architecture value increases with serial 100G



Greater capacity scalability, innovative architectures and lower TCO

Serial 100G driving need for new short interconnects

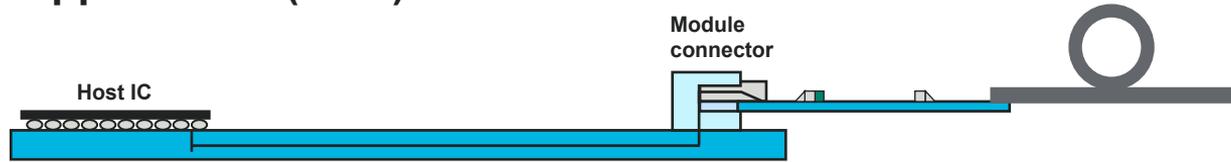


Source: Marvell estimates

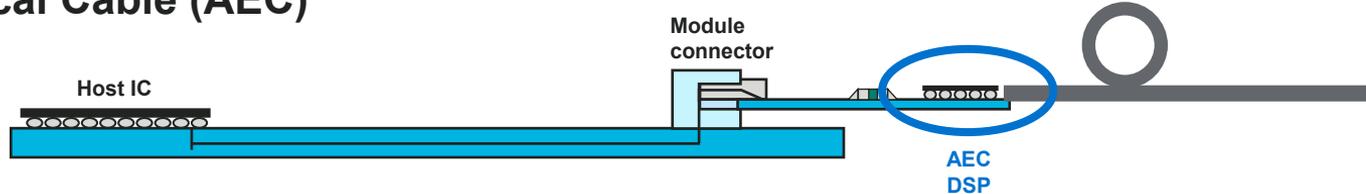
DACs cannot meet reach and cable thickness requirements

What is an Active Electrical Cable (AEC)?

Direct Attach Copper Cable (DAC)

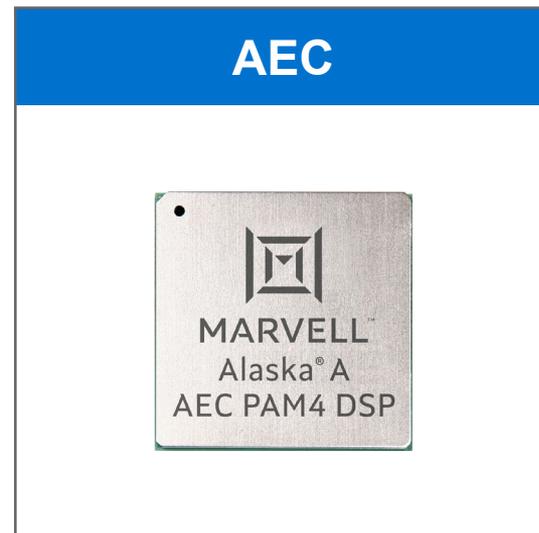


Active Electrical Cable (AEC)



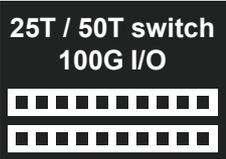
Address short reach interconnect distance and thickness needs

Marvell enabling all cloud short interconnects



Leveraging PAM4 DSP leadership to address emerging AECs

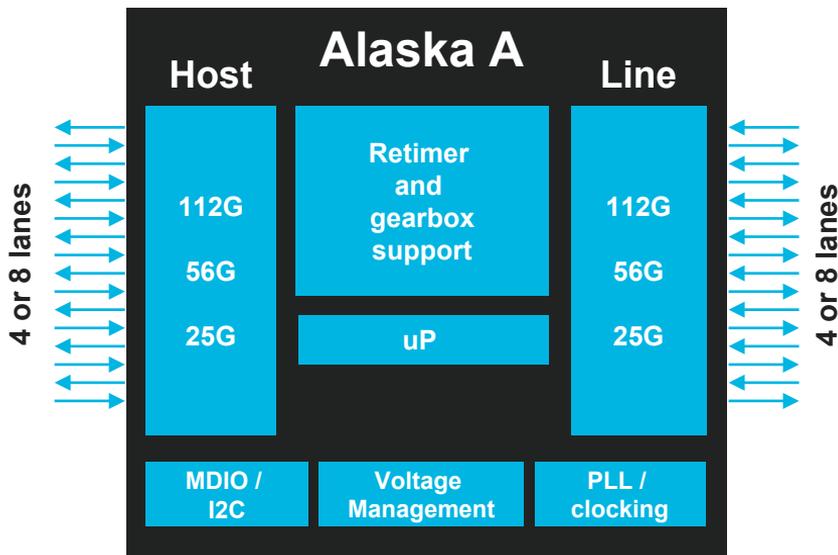
Expanding our cloud-optimized networking portfolio

 <p>12T / 25T switch 50G I/O</p>	<p>50G Host I/O 50G Line I/O 50GE – 400GE</p>	<p>Ethernet switch</p>  <p>MARVELL Teralynx®</p>	<p>Optical PAM4 DSP</p>  <p>MARVELL Inphi PAM4 DSP</p> <p>4x50G</p>	<p>Line card PAM4 DSP</p>  <p>MARVELL Alaska®</p> <p>serial 50G</p>	<p>AEC PAM4 DSP</p>  <p>MARVELL Alaska® A AEC PAM4 DSP</p> <p>serial 50G</p>
 <p>12T / 25T switch 50G I/O</p>	<p>50G Host I/O 100G Line I/O 50GE – 800GE</p>	 <p>MARVELL Teralynx®</p>	 <p>MARVELL Inphi PAM4 DSP</p> <p>8x50G to 4x100G</p>	 <p>MARVELL Alaska®</p> <p>serial 50G / 100G</p>	 <p>MARVELL Alaska® A AEC PAM4 DSP</p> <p>serial 100G</p>
 <p>25T / 50T switch 100G I/O</p>	<p>100G Host I/O 100G Line I/O 100GE – 800GE</p>	 <p>MARVELL Teralynx®</p>	 <p>MARVELL Inphi PAM4 DSP</p> <p>8x100G</p>	 <p>MARVELL Alaska®</p> <p>serial 100G</p>	 <p>MARVELL Alaska® A AEC PAM4 DSP</p> <p>serial 100G</p>

Alaska[®] A: industry's 1st cloud-optimized AEC DSPs



Alaska[®] AEC 800G and 400G PAM4 DSPs

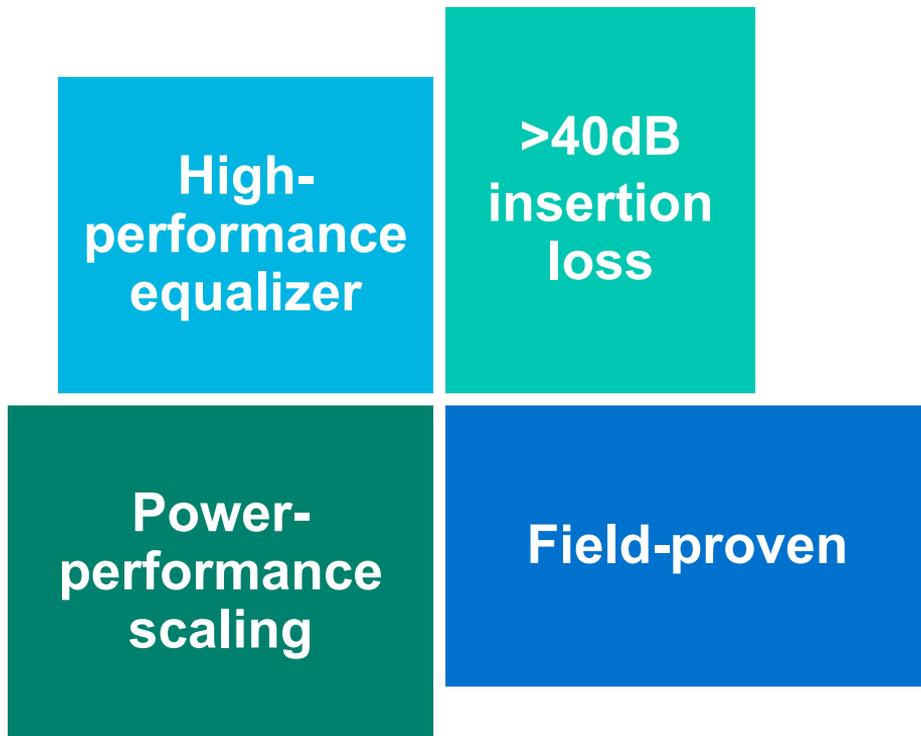


Key features

- 112G / 50G PAM4 and 50G / 25G NRZ support
- Best-in-class SerDes performance: > 40dB loss
- Retimer and gearbox modes supported
- Auto Negotiation and Link Training (ANLT)
- Comprehensive diagnostics and debug capabilities
- Product package sizes:
 - 400G: 10mm x 13mm
 - 800G: 12mm x 14mm

Sampling now with complete reference platform

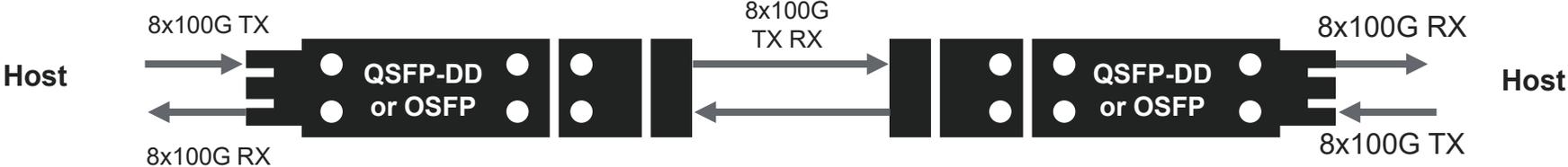
Best-in-class DSP SerDes



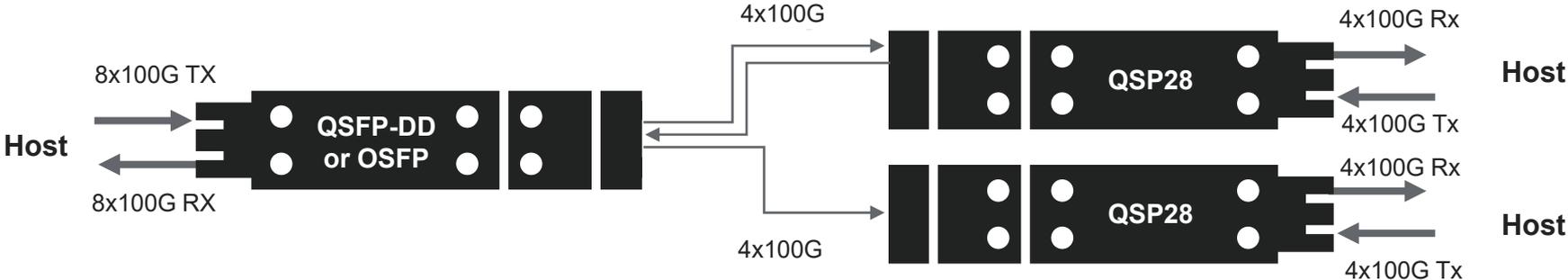
Enables cloud-optimized cables with different distances and thicknesses

Optimized for 800G straight and Y-split AECs

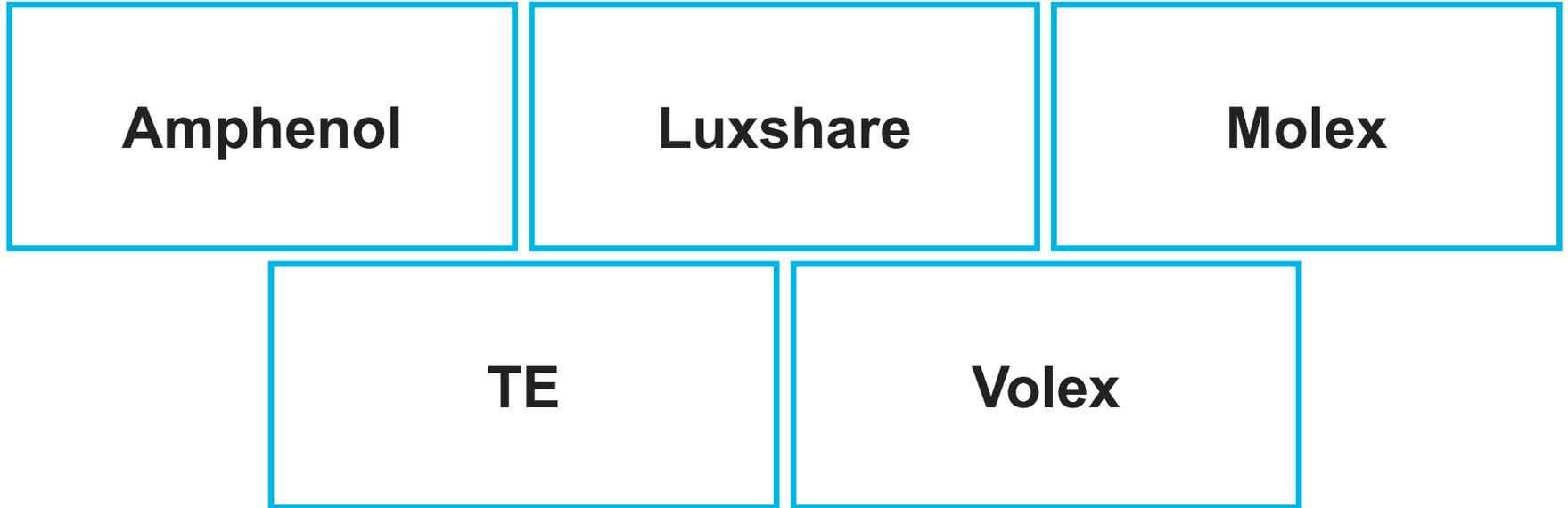
Straight 800G AEC



Y-split 800G to 2 x 400G AEC

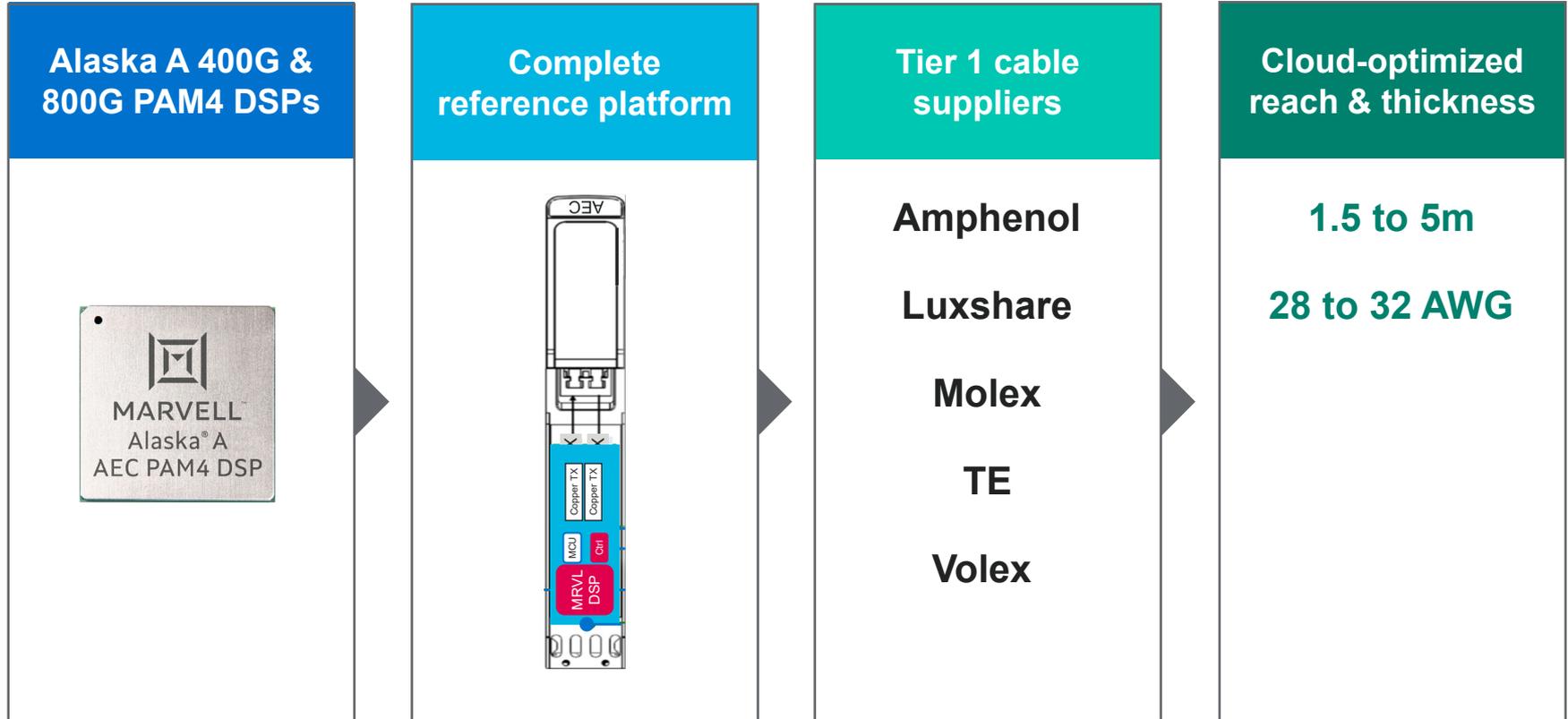


Enabling broad ecosystem of tier 1 cable vendors

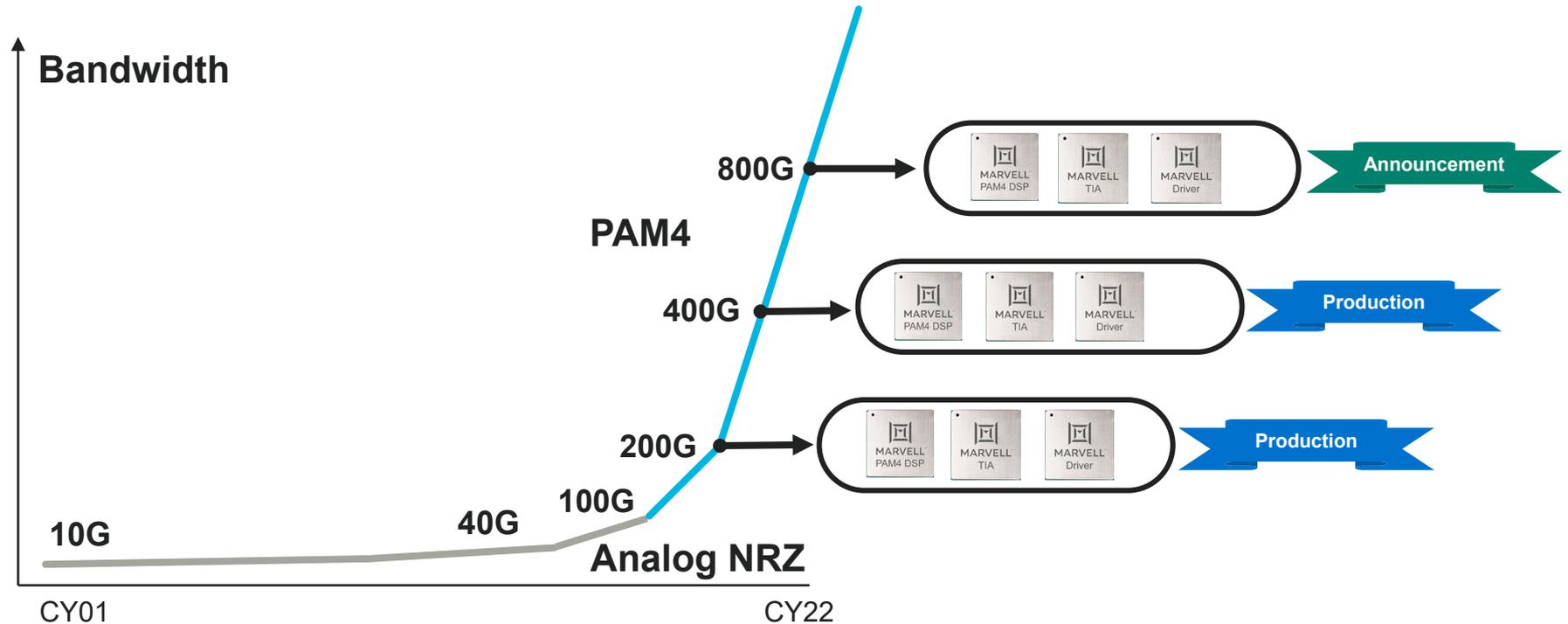


Collaborating with leading vendors to deliver cloud-optimized solutions

Uniquely delivering cloud-optimized AECs



Extending multimode PAM4 electro-optics leadership



Source: Marvell estimates

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Industry-leading multimode electro-optics portfolio

200G / 400G



2865



2814

800G



5669



5614

Production



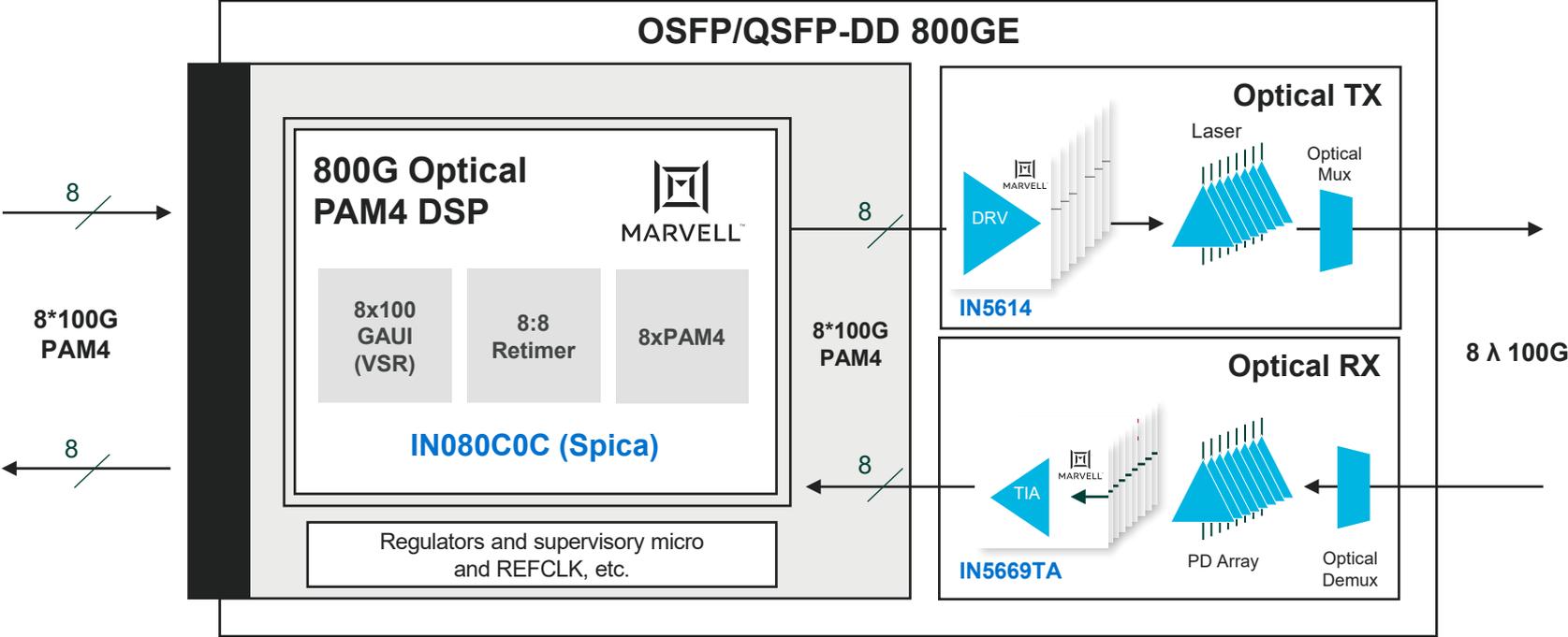
Polaris™

Announcement

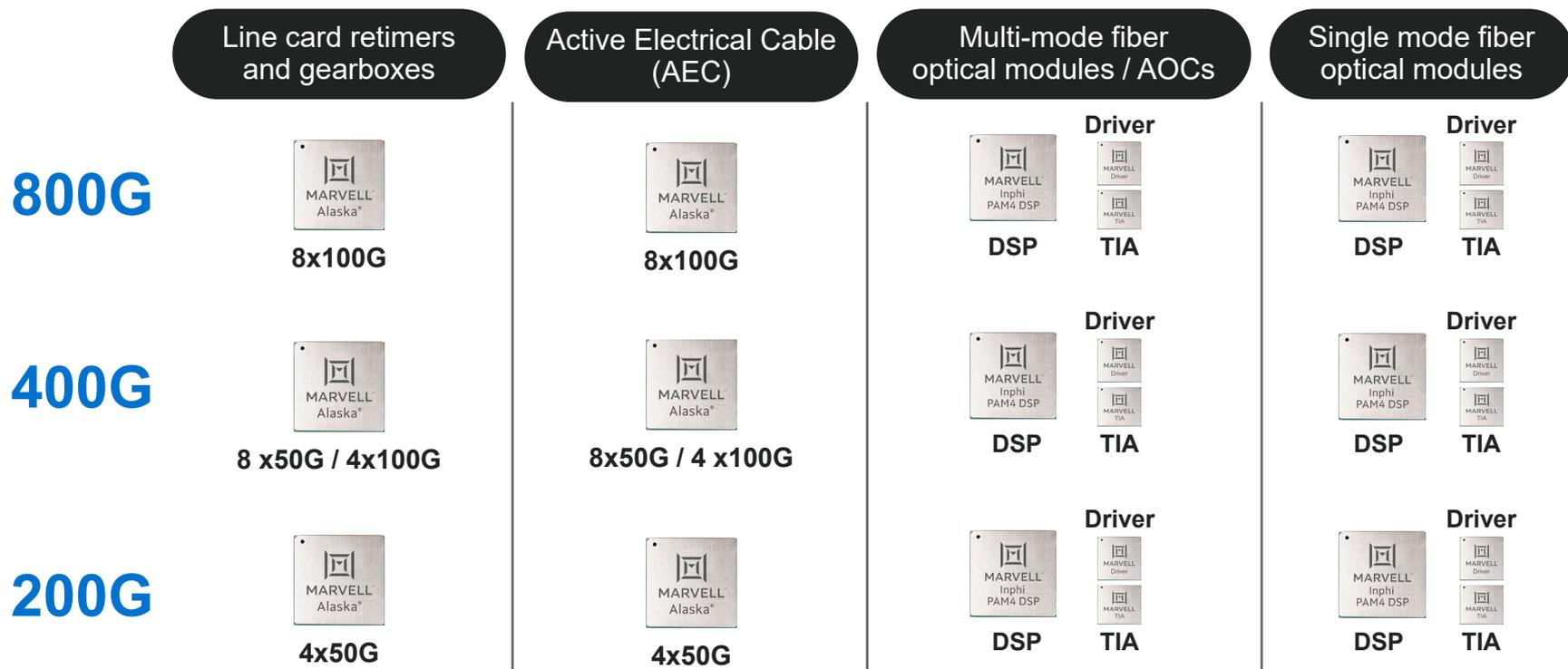


Spica™

Industry's 1st 800G multimode (VCSEL) chipset



Enabling all critical cloud data center interconnects



Key takeaways

- 1 Every cloud is unique and requires cloud-optimized silicon solutions
- 2 Emerging AI/ML accelerator and DDC architectures require serial 100G interconnects
- 3 Serial 100G will drive migration from DACs to cloud-optimized AEC and AOC interconnects
- 4 Marvell delivering the industry's 1st cloud-optimized AEC PAM4 DSP family: Alaska A
- 5 Marvell extending PAM4 electro-optics leadership with optimized 800G multimode chipset



Essential technology, done right™