



Mellanox Corporate Update

Unleashing the Power of Data

April 2020



We Live in a World of Data

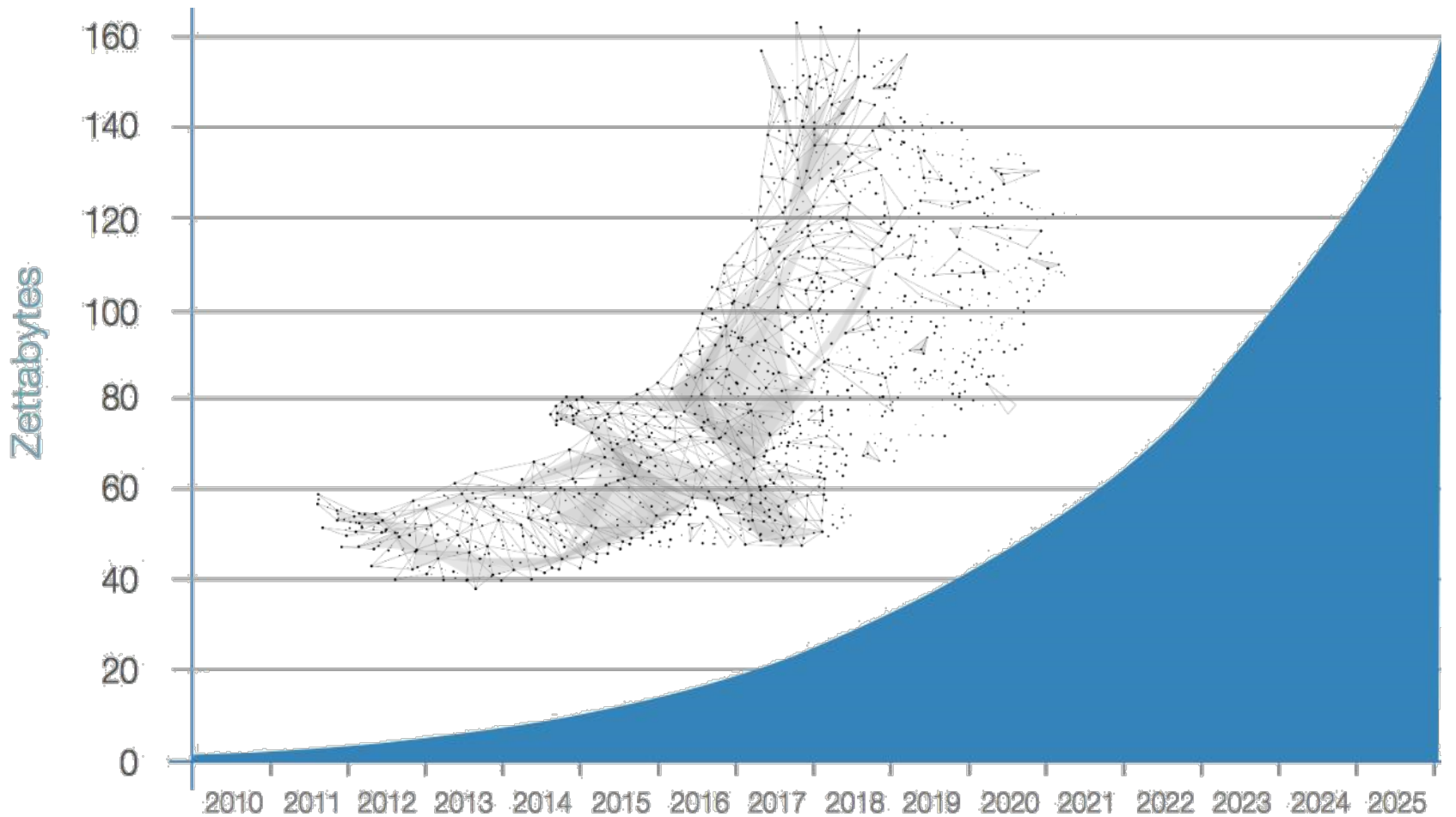
More Devices

More Applications










More Data



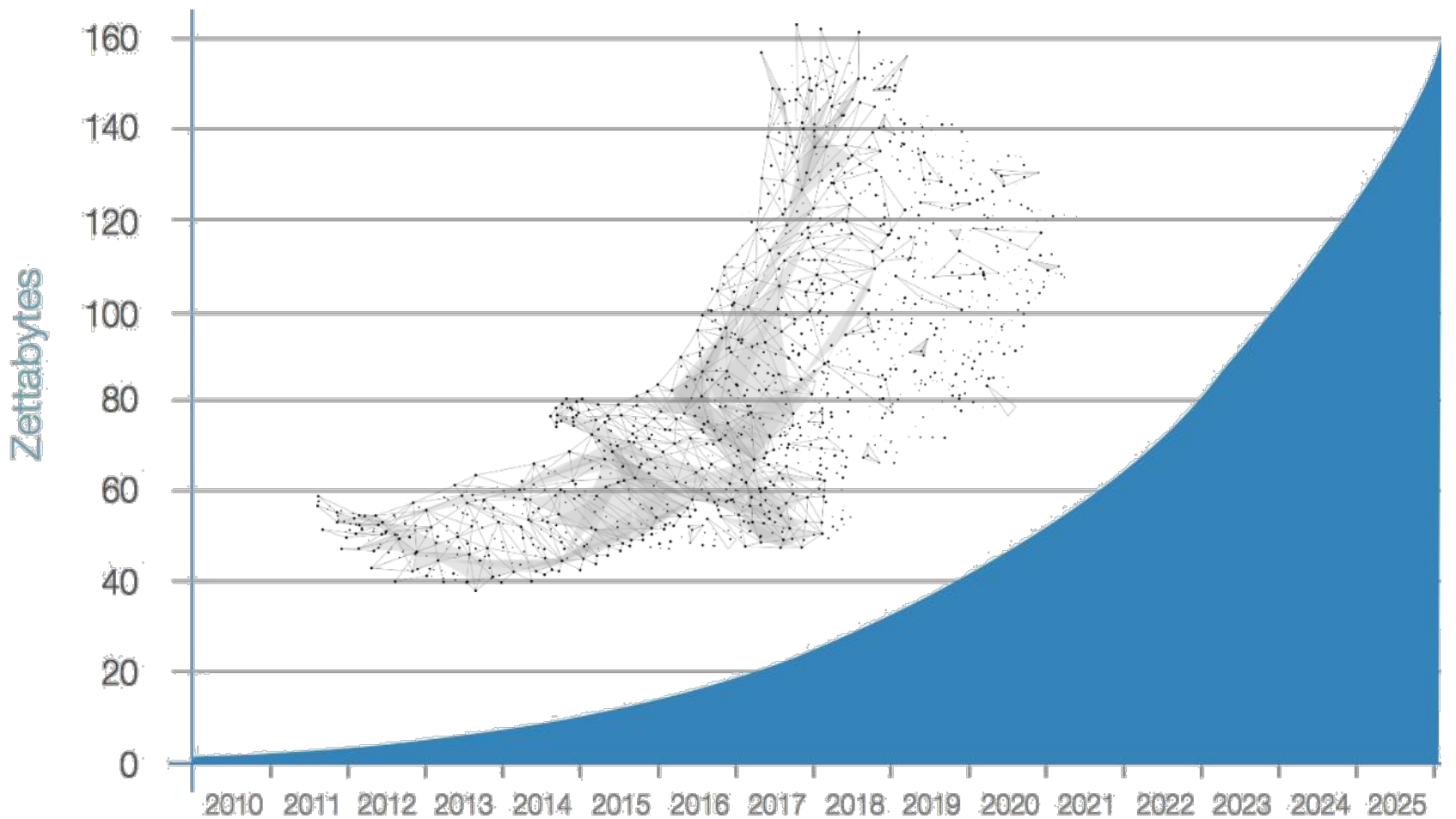
Exponential Data Growth Everywhere



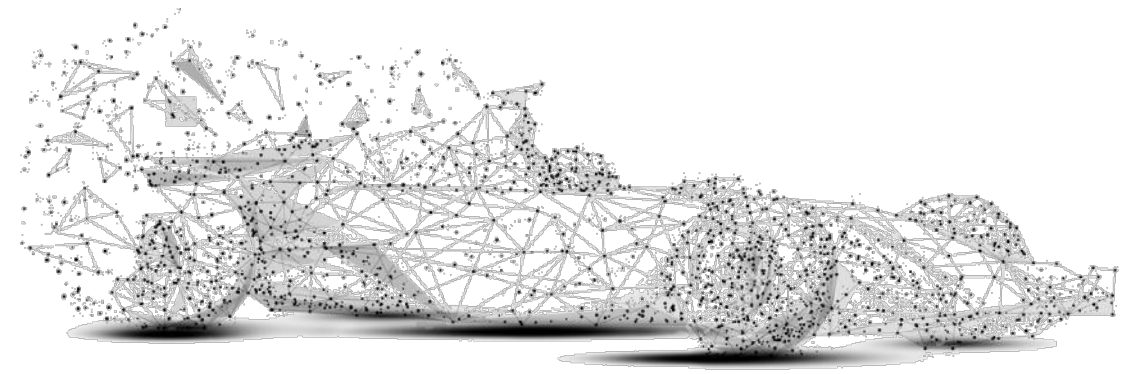
Source: IDC
 HPC: High-Performance Compute
 AI: Artificial Intelligence

Cloud & Web 2.0 	HPC 	Big Data 
Security 	Internet of Things 	Enterprise 
Storage 	AI & Machine Learning 	Business Intelligence 

Exponential Data Growth Everywhere



Higher Data Speeds
Faster Data Processing
Better Data Security



The More Data we Analyze, the More Powerful we get and the More we Can Do.

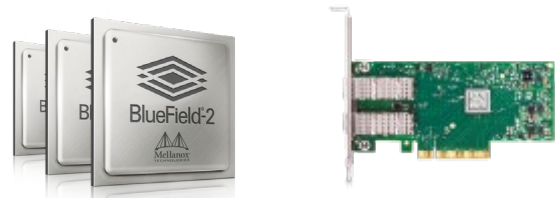
		Finance, Fraud & Insurance	<ul style="list-style-type: none">■ Fraud Detection■ Credit/Risk Analysis■ High Frequency Trading
		Cloud, Web, Mobile, Retail	<ul style="list-style-type: none">■ Image Tagging■ Speech Recognition■ Sentiment Analysis
		Automotive & Transportation	<ul style="list-style-type: none">■ Self Driving■ Image / Facial Recognition■ Logistics & Mapping
		Medicine & Genomics	<ul style="list-style-type: none">■ Drug Discovery■ Diagnostic Assistance■ Cancer Cell Detection
		Security & Safety	<ul style="list-style-type: none">■ Surveillance■ Image Analysis■ Facial Recognition and Detection
		Oil & Gas	<ul style="list-style-type: none">■ Seismic Imaging■ Reservoir Characterization■ Subsurface Fault Detection



Data Growth is Driving Mellanox Growth

Exponential Growth of Data & Real Time Analytics

Requires Mellanox High Throughput, Low Latency, Smart Interconnect Solutions



Software Programmable SmartNICs



I/O Processing Units (IPU)

Higher

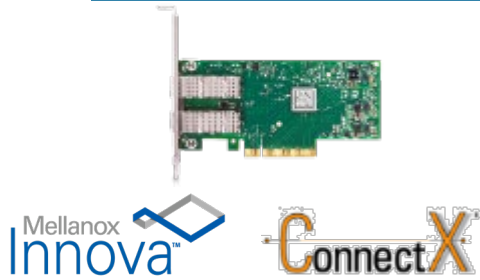
Data Speeds

Faster

Data Processing

Better

Data Security

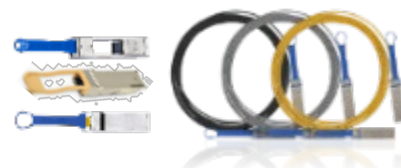


SmartNICs

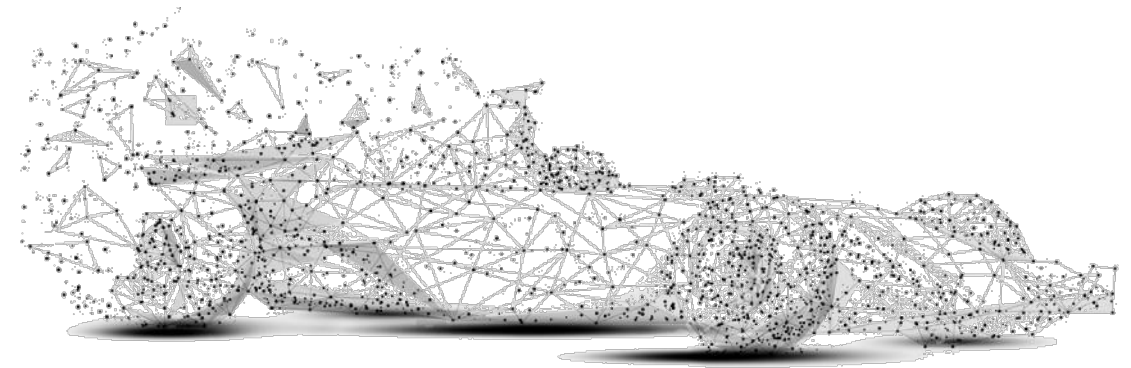


Spectrum Quantum

Switches



LinkX Cables & Transceivers



Industry Leaders Choose Mellanox Solutions

 **5** of Top 6 **Global Banks**

 **9** of Top 10 **Hyperscale Companies**

 **9** of the Top 10 **Oil and Gas Companies**

 **3** of Top 5 **Pharmaceutical Companies**

 **10** of Top 10 **Automotive Manufacturers**



Business Success Depends on Mellanox

Deliver the Highest Data Center Return on Investment

Tier-1 Trading
Institution

10x Reduction
Of Latency

Tier-1 Fortune100
Web 2.0 Company

97% Reduction in Database
Recovery Time

Military
Systems

4x Higher Performance While Reducing
System Footprint by 50%



OPEN
Compute Project

Yosemite Platform with Multi-Host Technology
Lowers Total Cost of Ownership

NETFLIX

100k Concurrent Streams From a Single Server
For the Highest Quality Viewing Experience



Enabling Most Efficient Machine Learning Platforms

Allowing AI to Perform Critical & Real Time Decisions

■ OCP Big Sur Artificial Intelligence Platform



■ Real Time Fraud Detection



■ Machine Learning System with 400Gb/s



■ 18X Speedup For Image Recognition



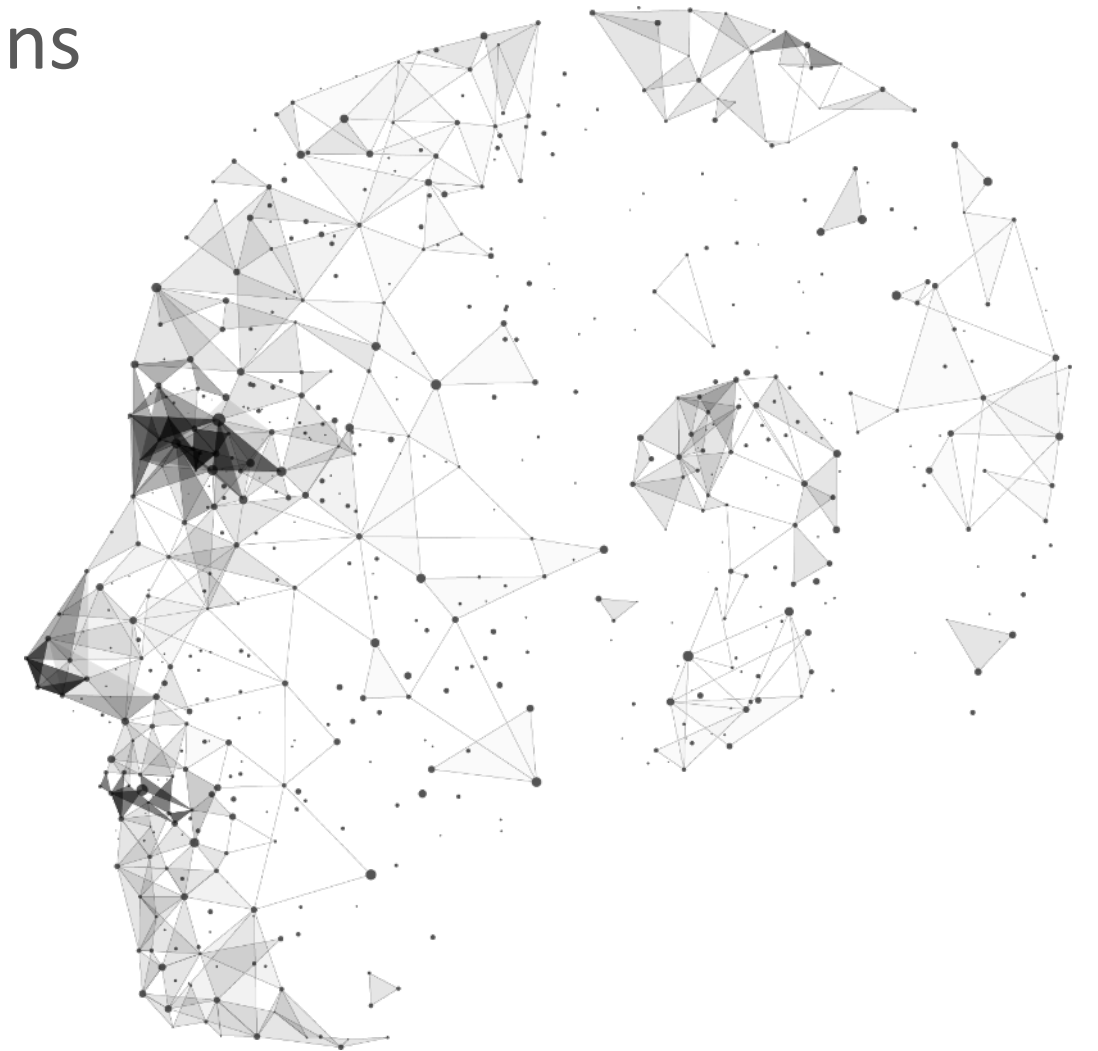
■ 4X Speedup For Image Recognition



■ Data Analytics Image Recognition



■ World Record For Data Sort, 3X Faster



The Smart Choice for HPC and AI Platforms

Delivering the Highest Data Center Return on Investment



InfiniBand Accelerates the Fastest HPC and AI Supercomputer in the World (TOP500)



InfiniBand Leadership

InfiniBand Accelerates Six of the Top Ten Supercomputers in the World, Including the Top Three, and Four of the Top Five on November's TOP500



Mellanox InfiniBand and Ethernet Solutions Connect 297 Systems or 59% of Overall TOP500 Platforms, Demonstrating 12% Growth Year over Year (Nov'18-Nov'19)

HDR 200G InfiniBand

200G HDR InfiniBand Accelerates 31% of New InfiniBand Systems on November's TOP500, Including Fastest 2019-Built TOP500 Supercomputer

Ethernet Leadership

Mellanox 25 Gigabit and Faster Ethernet Solutions Connect 60% of Total Ethernet Systems, Representing 20% Growth Year over Year

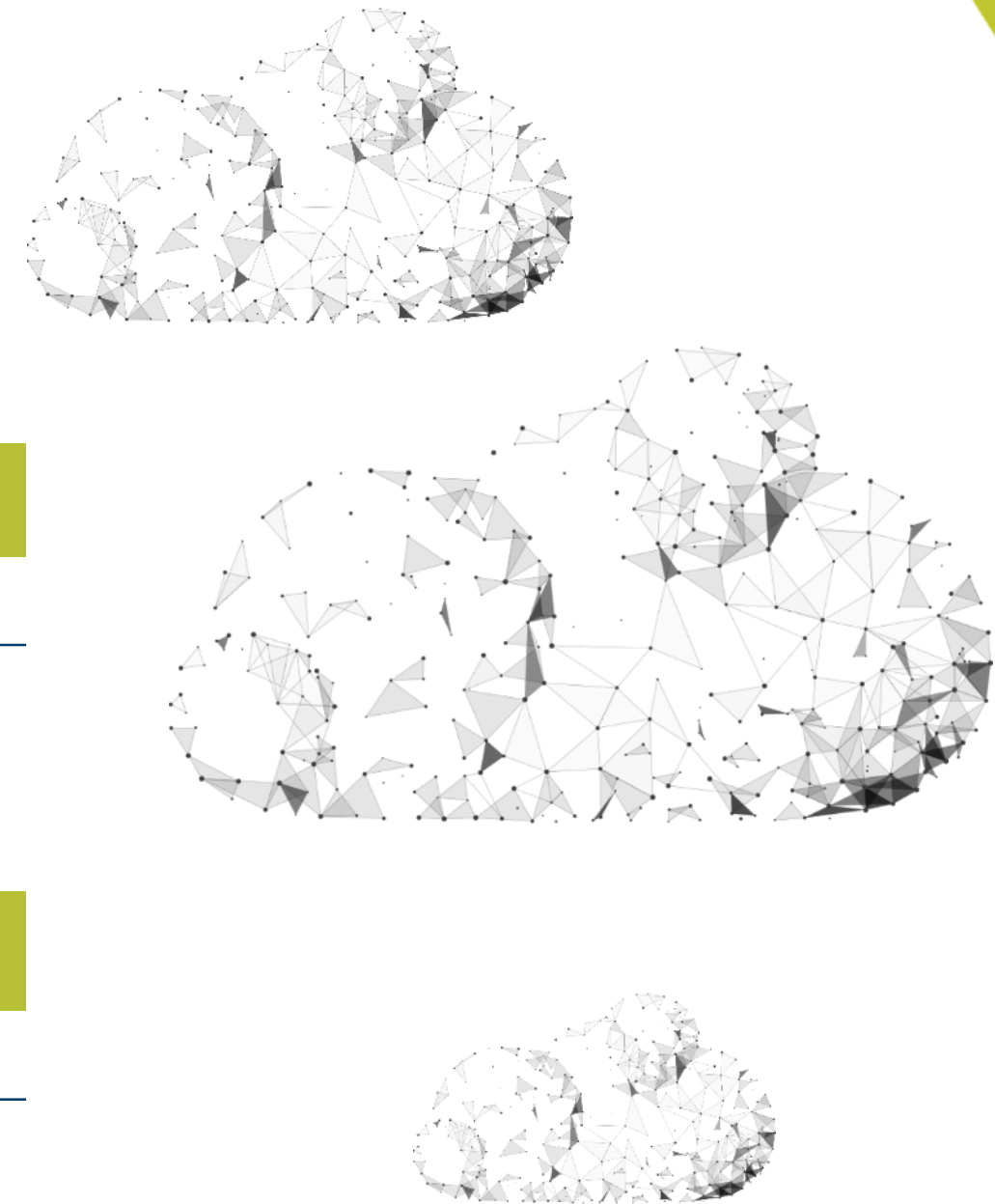


Mellanox Empowers Leading Storage Platforms

Delivering the Highest Data Center ROI



Mellanox is Enabling Data Centers of the Future - Today



Security

Data Insights

Real-Time



Software-Defined Network Intelligence

Performance

Efficiency

Scalability



Highest Performance 100Gb/s, 200Gb/s and 400Gb/s Interconnect Solutions

Comprehensive End-to-End Portfolio

InfiniBand and Ethernet

Software



IPU & NPU



Metro / WAN



Switches/Gateways



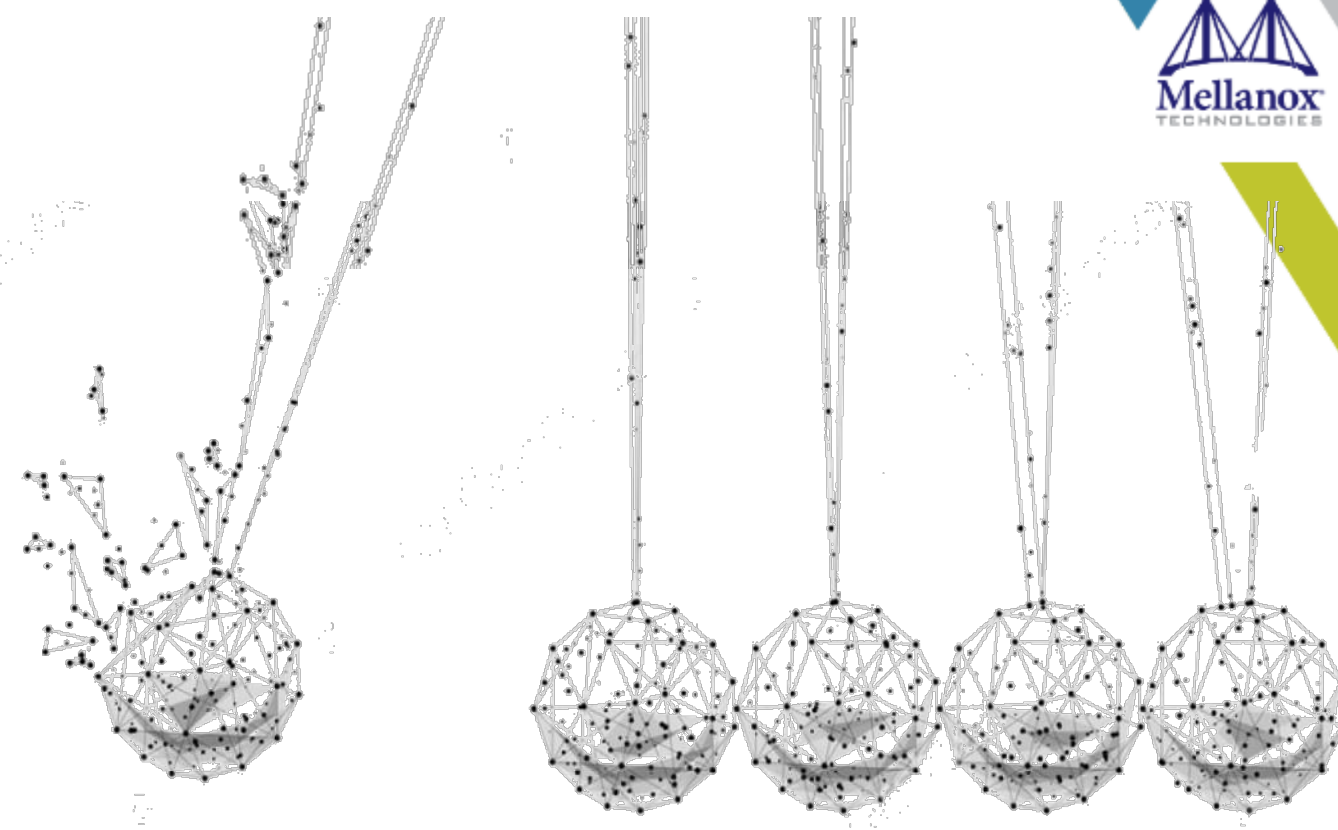
SmartNICs/Adapters



ICs

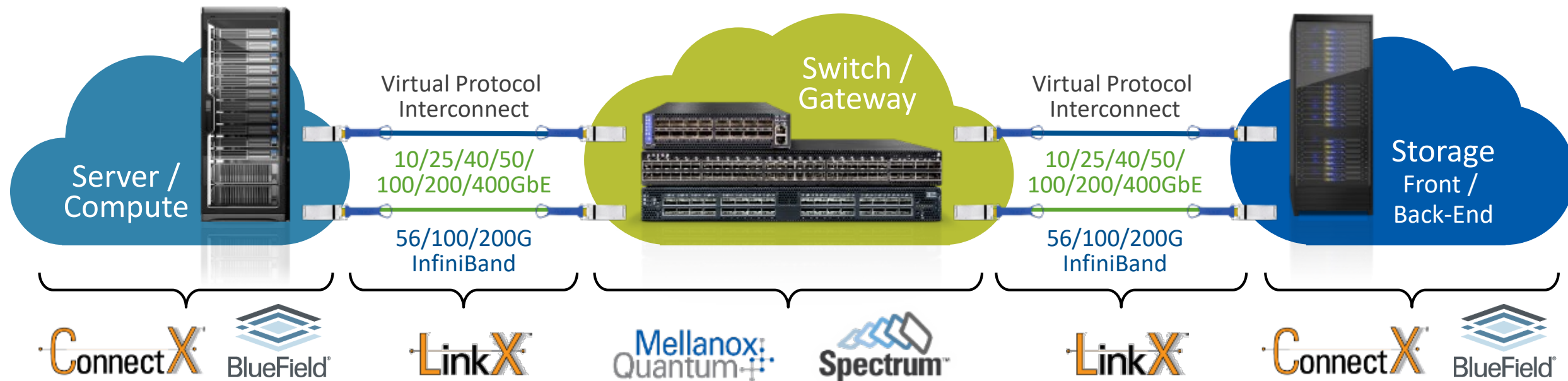
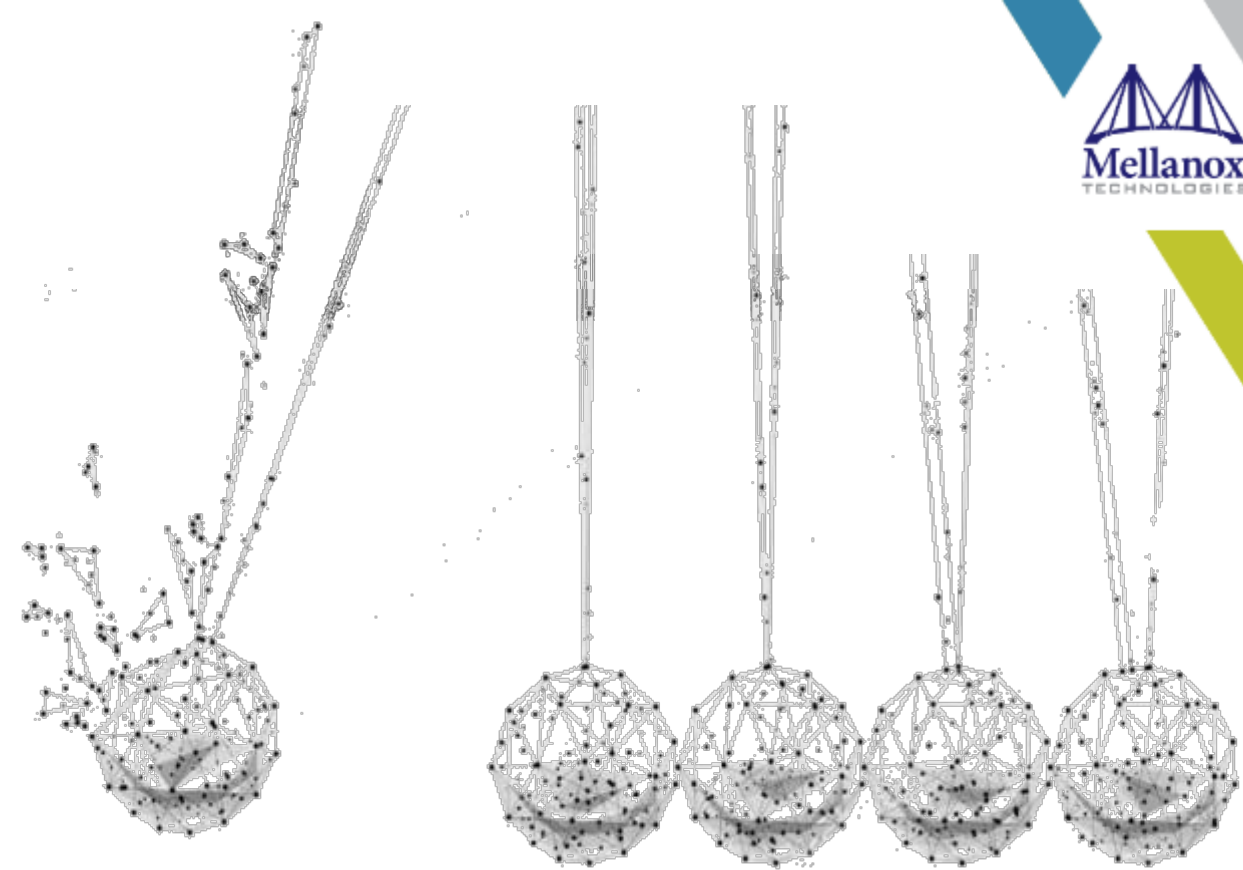


Cables/Modules



Leading Supplier of InfiniBand and Ethernet End-to-End Interconnect Solutions

The Smart Choice for Intelligent Compute and Storage Platforms



Highest Performance 100, 200 and 400Gb/s Interconnect Solutions

ConnectX-6 ConnectX-6 Dx
Adapters

200Gb/s, 0.6us Latency
 215 Million Messages per Second
 (10 / 25 / 40 / 50 / 56 / 100 / 200Gb/s)



Mellanox Quantum
Switch

40 HDR (200Gb/s) Ports
 80 HDR100 (100Gb/s) Ports
 16Tb/s Throughput, 15.6 Billion msg/sec



Spectrum-2
Switch

16 400GbE Ports, 32 200GbE Ports
 64 100GbE Ports, 128 25/50GbE Ports
 Throughput of 6.4Tb/s



BlueField-2
I/O Processing Unit

IPU and SmartNIC
 Programmable adapter
 Smart Offloads



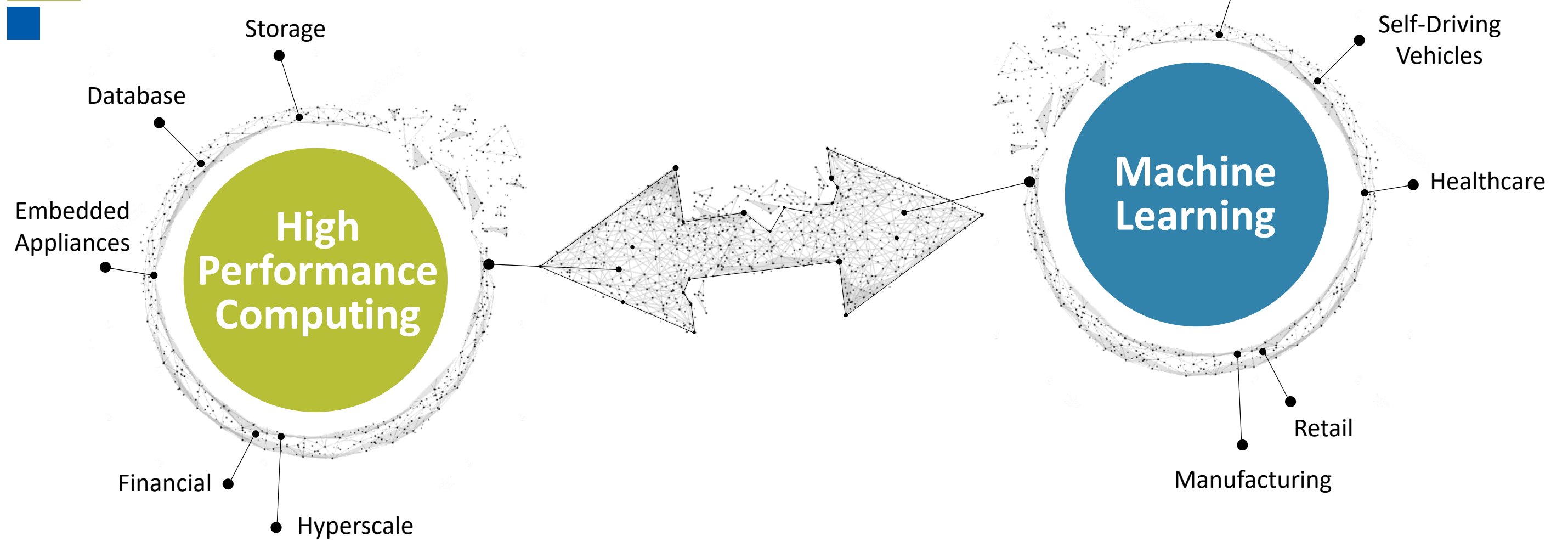
LinkX
Interconnect

Transceivers
 Active Optical and Copper Cables
 (10 / 25 / 40 / 50 / 56 / 100 / 200 / 400Gb/s)



Enabling the Future of Machine Learning

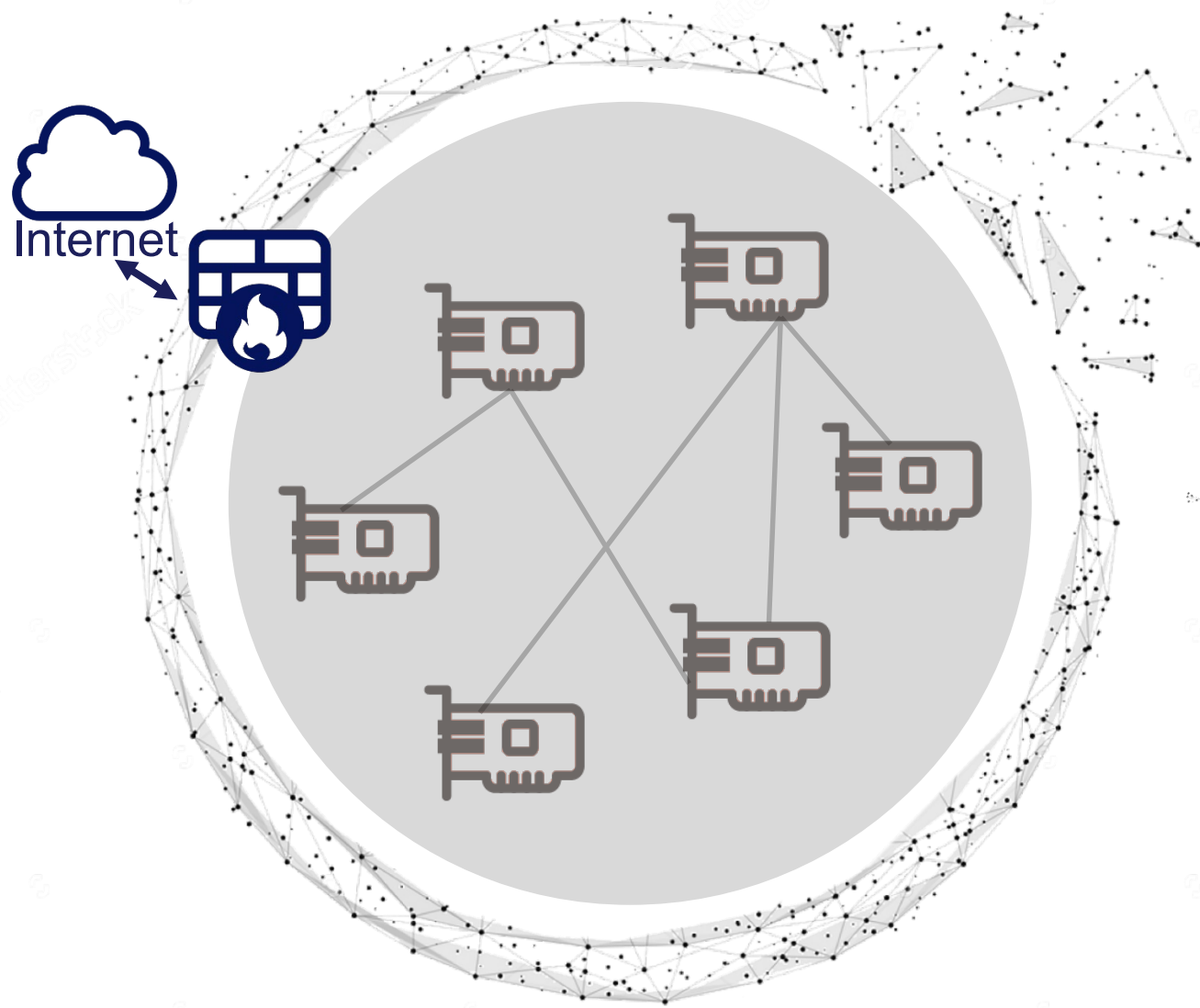
HPC and Machine Learning Share Same Interconnect Needs



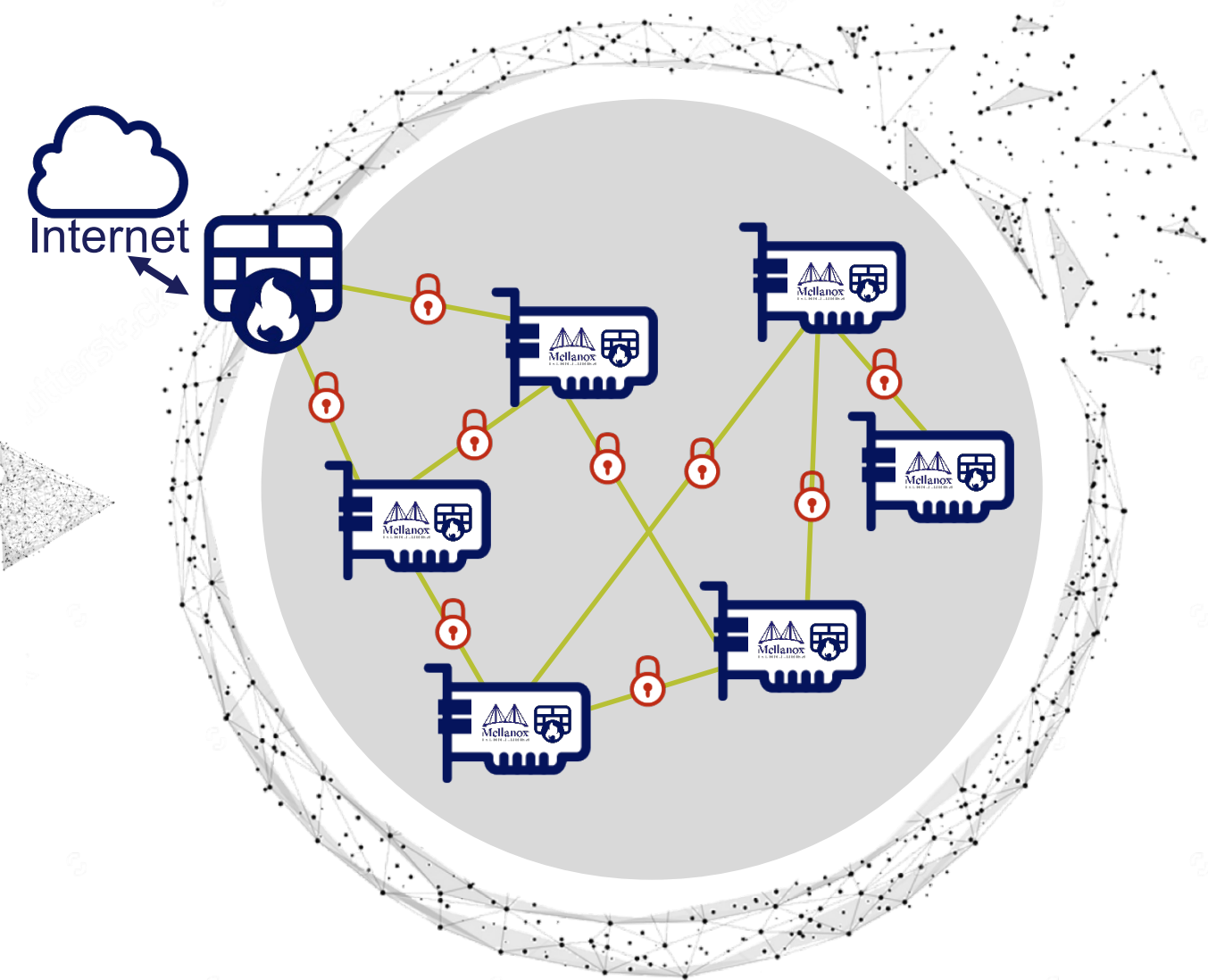
Mellanox SmartNICs Make Secure Cloud Possible

Foundational NICs – Perimeter Security Only

Mellanox's SmartNICs – Secure Cloud



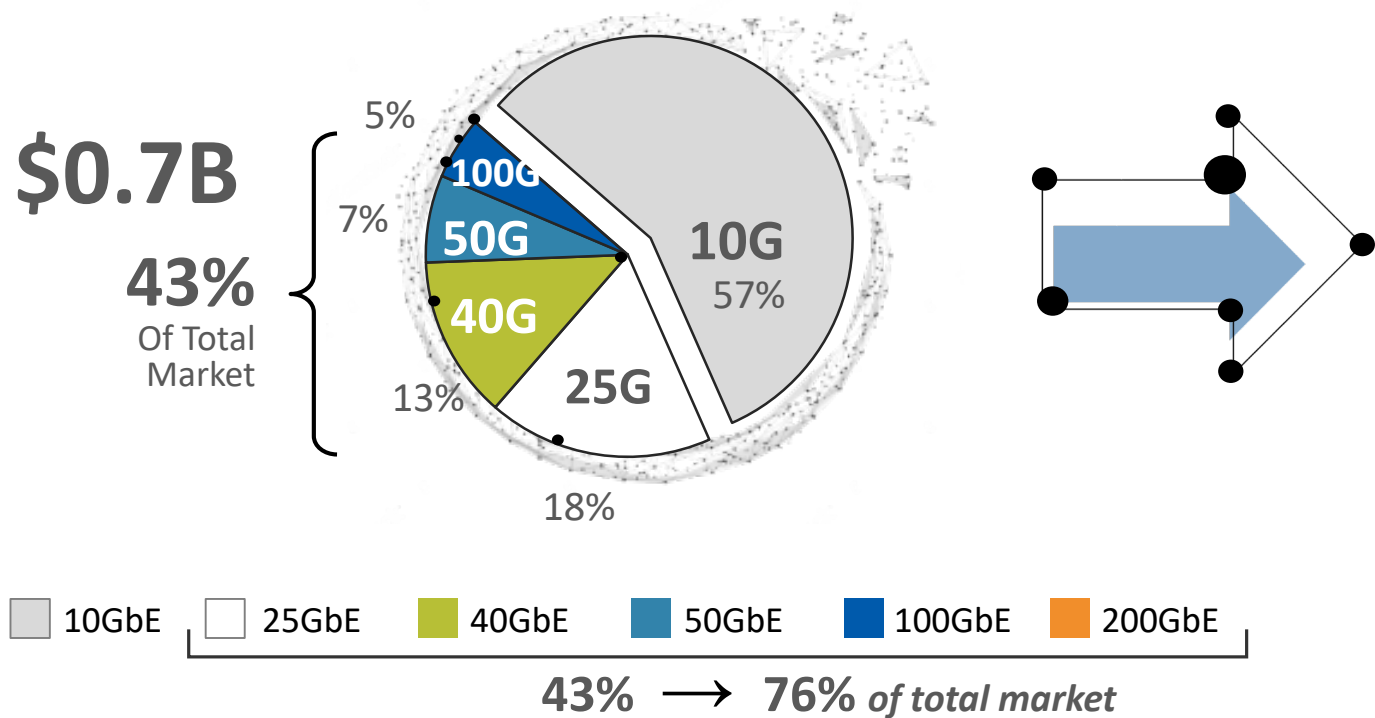
Traditional Security Model



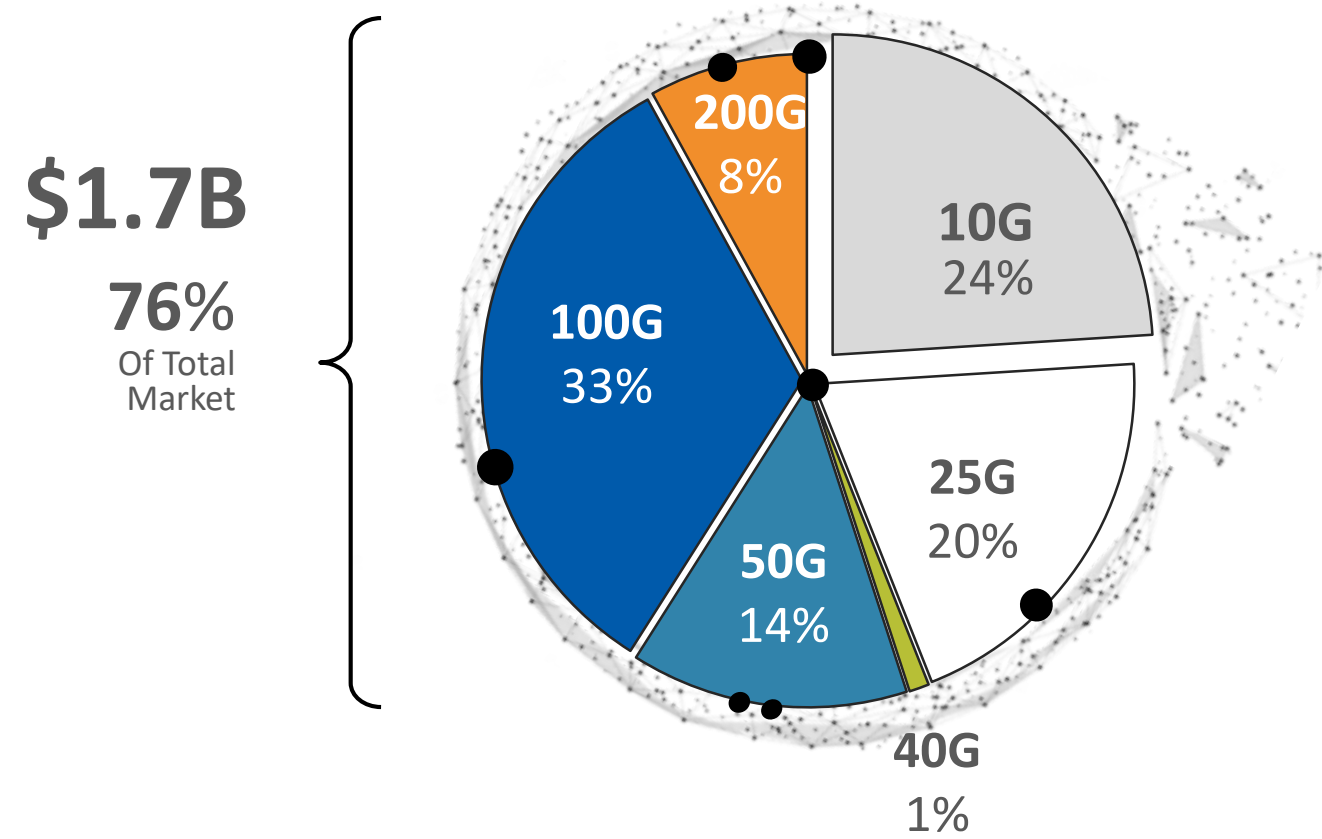
Security Everywhere

High-Speed Ethernet Adapter Market is Significantly Growing

2019
25G+ Ethernet Adapter TAM









2023
25G+ Ethernet Adapter TAM



Source: Crehan Long-range Forecast - Server-Class Adapter-LOM-Controller, January 2019
TAM: Total Available Market



Spectrum Delivers Highest Data Center ROI

Flexibility	10, 25, 40, 50, 100, 200 and 400 Gigabit Speeds, Variety of Port Configurations
Scalability	10X Better Scalability, Optimized Data Center Utilization and End-User Experience
Programmability	Programmable Flexible Parser and Packet Modifier, Support User-Defined Protocols
TCO	1.3X Lower Power Consumption Versus Competition
Performance	1.4X Lower Latency Versus Competition, Enable Real-Time Data Analysis and Insights
Open Ethernet	     





BlueField-2 IPU Driving Future Growth

- The New Generation of I/O Processing Units for Compute and Storage
- Platforms Broad Base of Customers Using ConnectX Can Seamlessly Transition to BlueField

Security

Data Center Infrastructure Protection

Storage

Enabling NVMe-over-Fabric Storage Platforms

Machine Learning

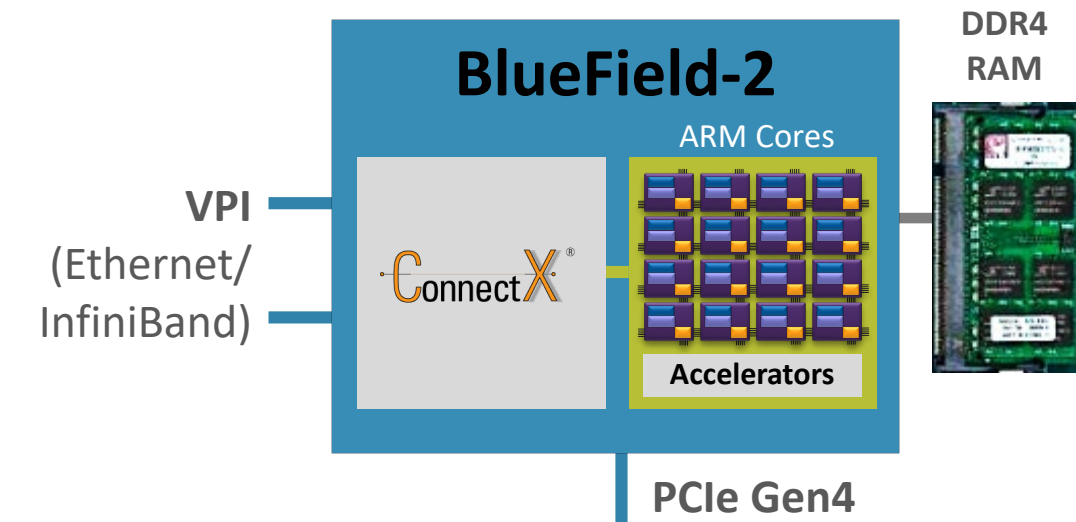
The Most Efficient Machine Learning Systems

NFV

Higher Performance & Flexibility at Lower Cost

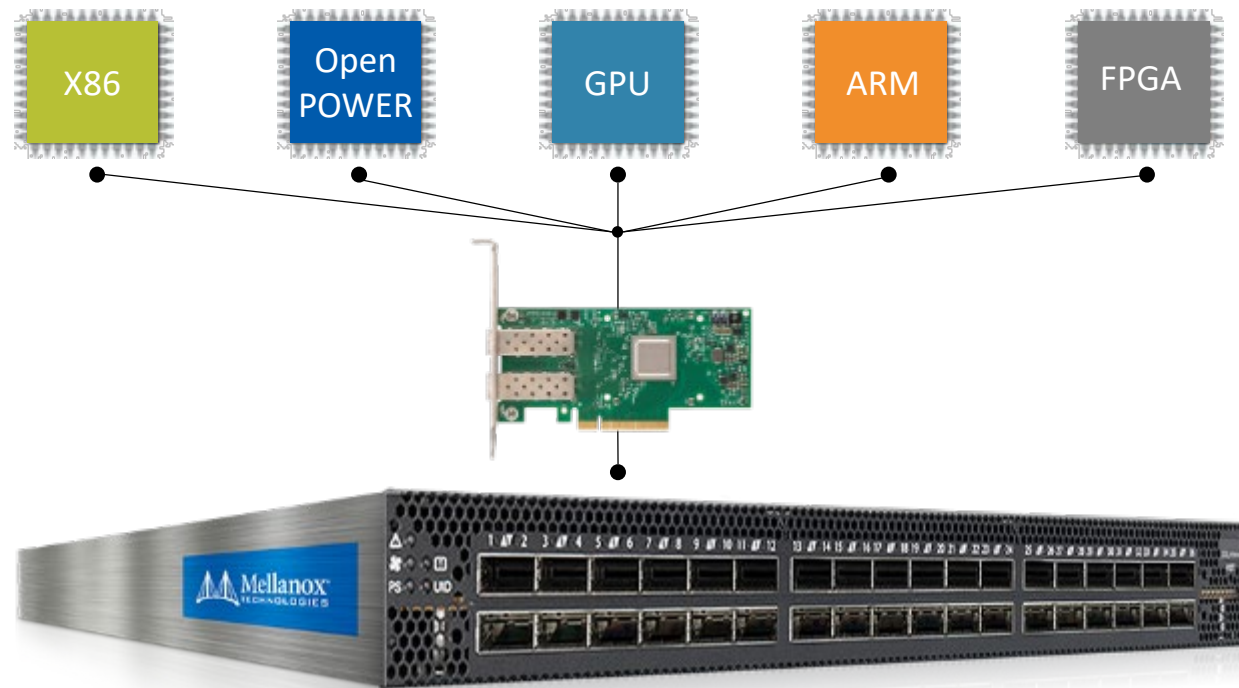
On a Single Chip, BlueField combines:

- Market Leading ConnectX Adapter Technology
- ARM v8 Multicore Processors
- DDR4 DRAM Controller
- PCIe Gen-4 Switch

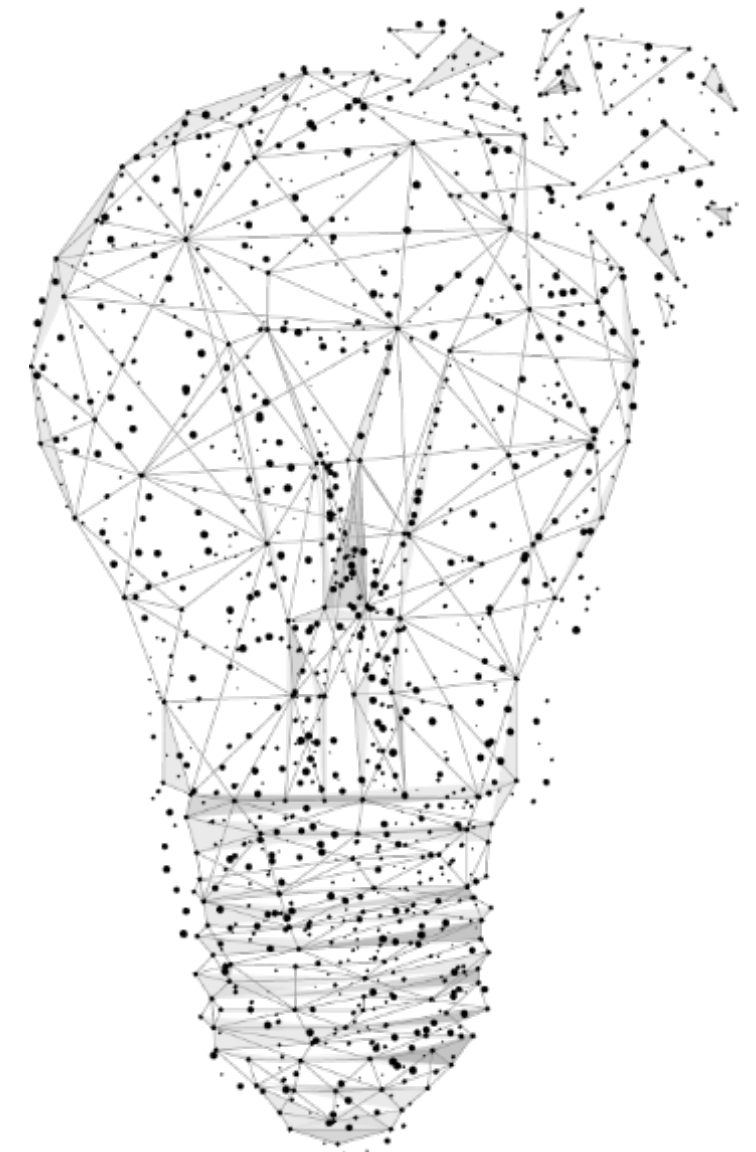


End-to-End Solutions for All Platforms

Unleashing the Power of all Compute Architectures



Highest Performance and Scalability for Intel, AMD, IBM Power, NVIDIA, Arm and FPGA-based Compute and Storage Platforms at 10, 20, 25, 40, 50, 100, 200 and 400Gb/s Speeds

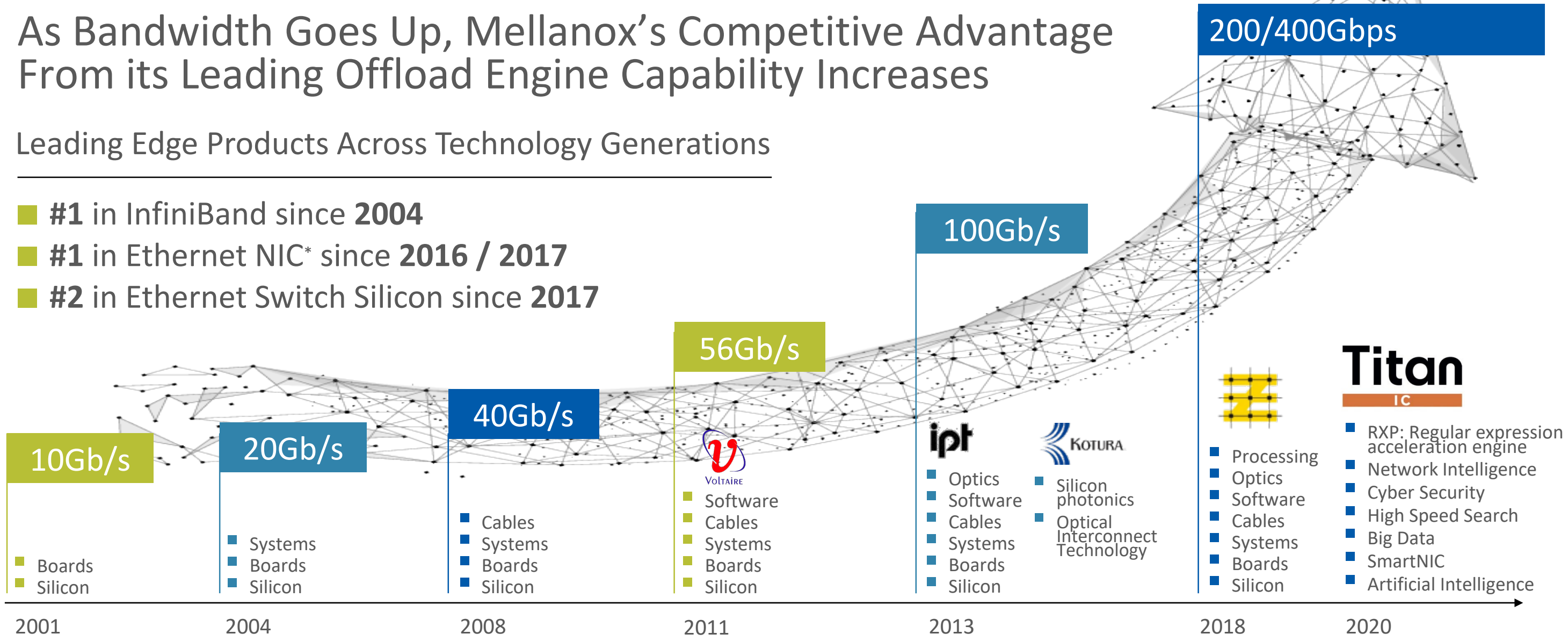


Mellanox Has A Long Track Record Of Delivering Breakthrough Technology

As Bandwidth Goes Up, Mellanox's Competitive Advantage From its Leading Offload Engine Capability Increases

Leading Edge Products Across Technology Generations

- #1 in InfiniBand since 2004
- #1 in Ethernet NIC* since 2016 / 2017
- #2 in Ethernet Switch Silicon since 2017

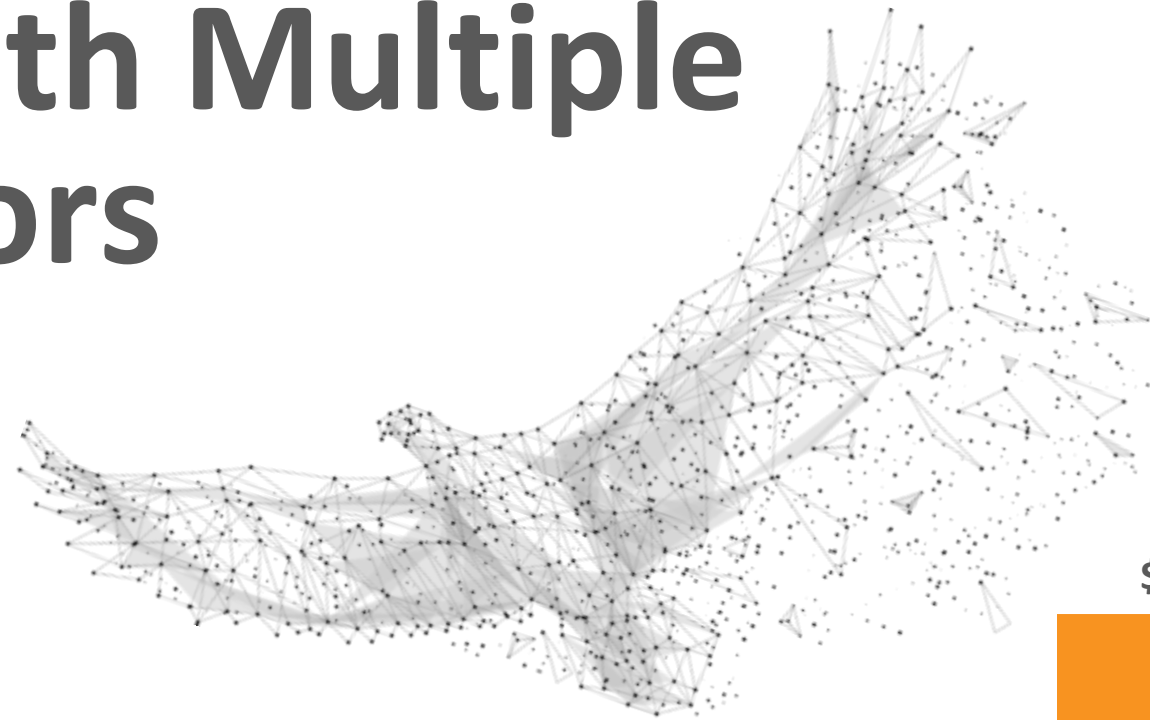






Source: Crehan Research, Mellanox internal estimates
 * 25G and above

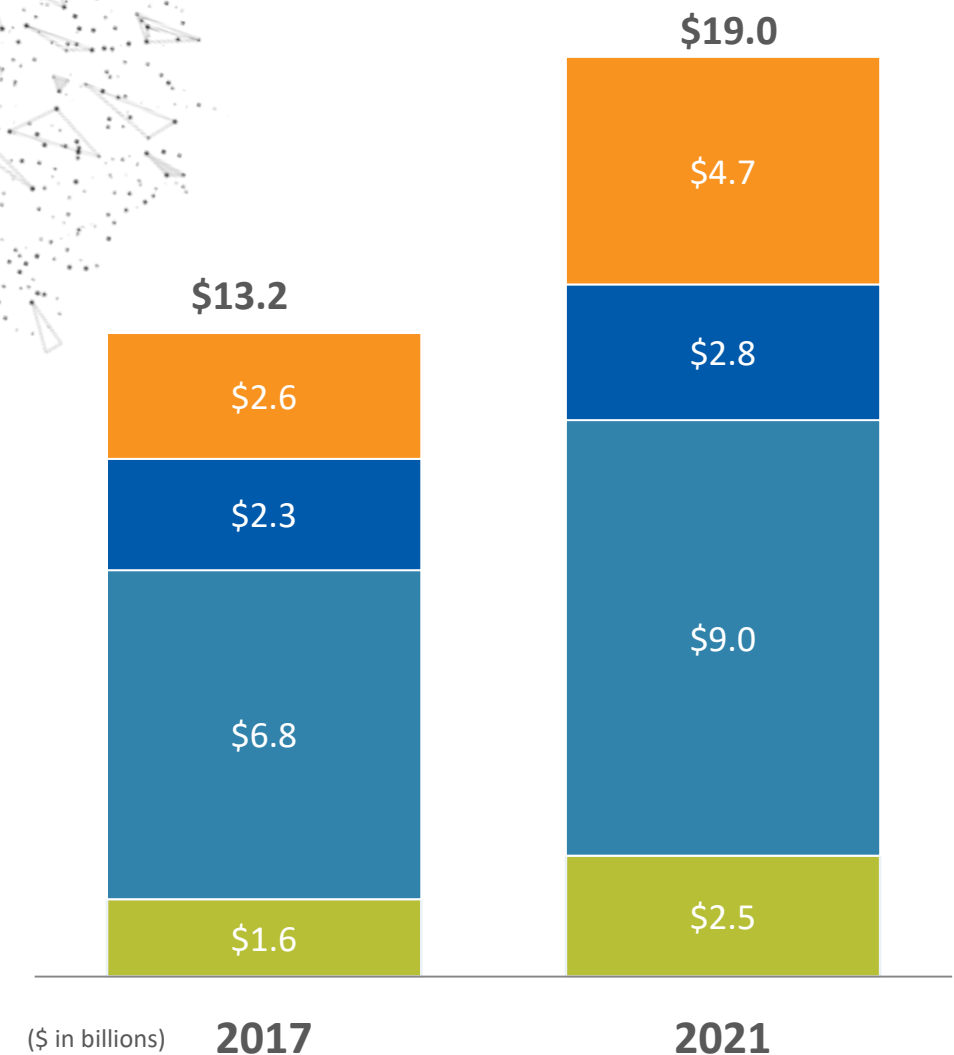
Mellanox's Opportunity Is Significant with Multiple Growth Vectors

Mellanox's strong product cycles and share gain momentum should allow the Company to grow substantially above the market at rates of mid-double digits or higher.

Source: Crehan Research, Linley Group, LightCounting
 Note: Market segments may not sum to total due to rounding



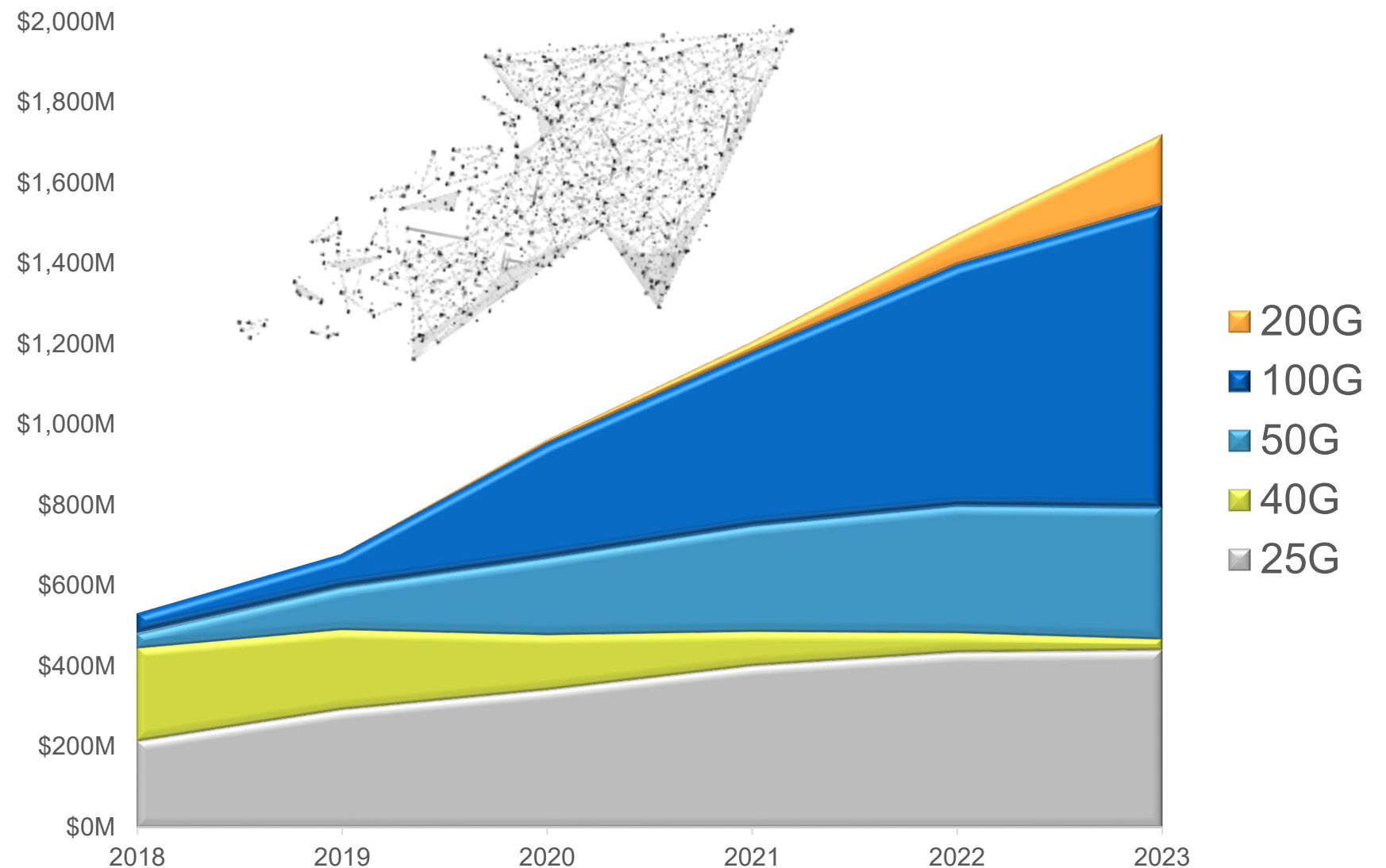
Segment	'17 – '21 CAGR
 Cables (10G+)	16%
 Multicore Processors	6%
 Switch (10G+)	7%
 Adapter (10G+)	12%
Total	9%



Market Waves: 25 Gb/s and Above Ethernet Adapter

Each Transition to Faster Ethernet Adapter Speeds Represent a Multi-Year Growth Wave for Mellanox
(10G → 25G → 50G → 100G...)

25G+ Ethernet Adapter Market Waves

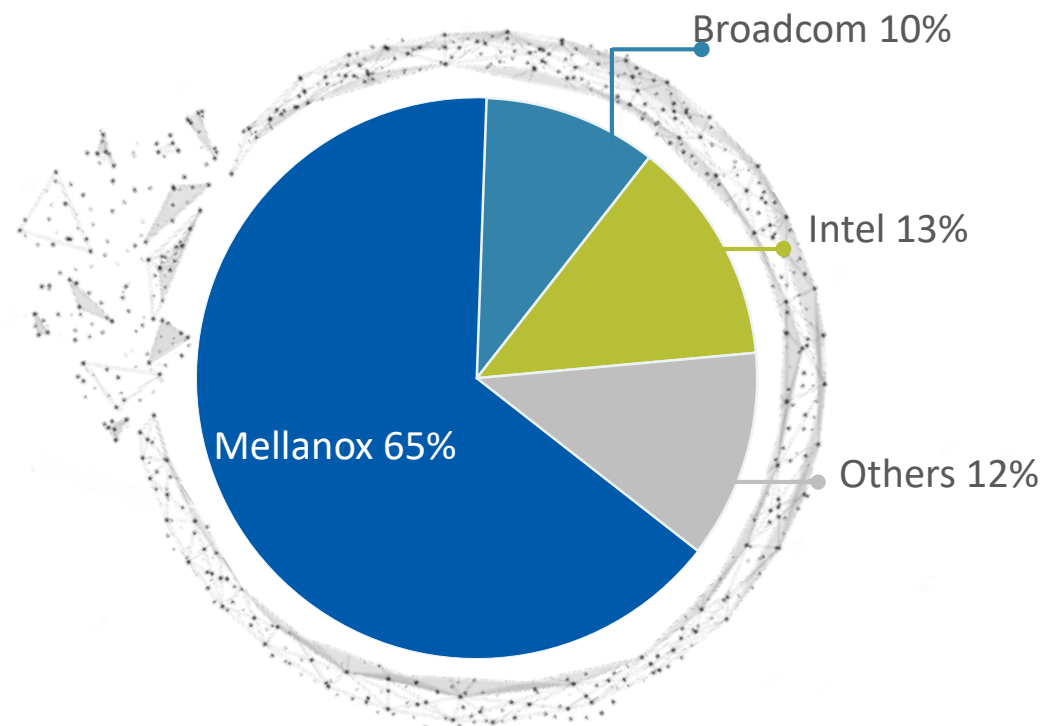




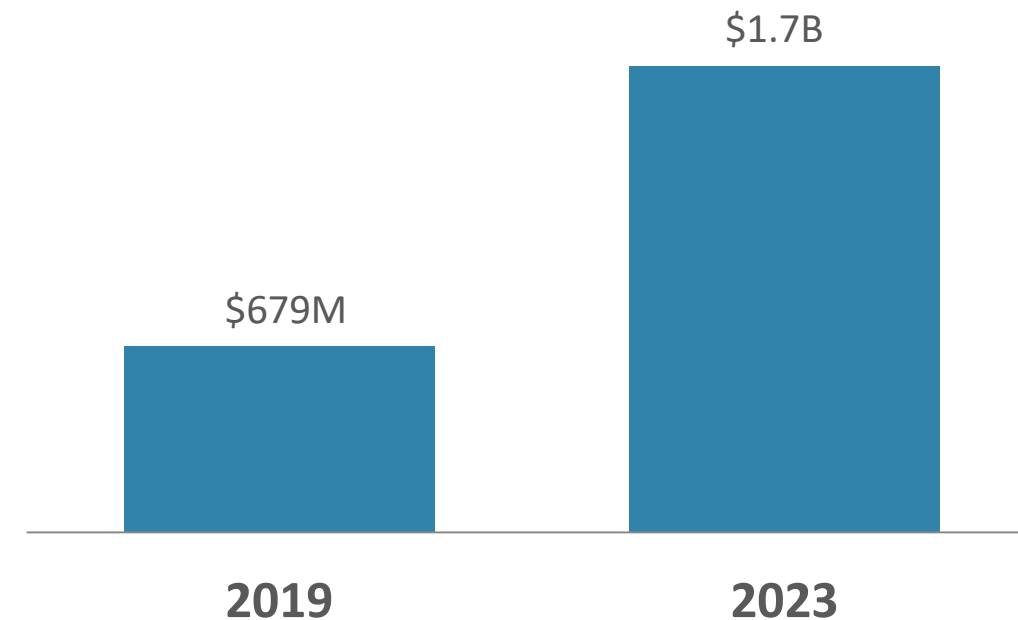
Positioned for Significant Growth in High-Speed SmartNICs

- First to Market with 25/40/50/100/200 Gb/s Ethernet Adapters
- Broad and expanding portfolio of offload engines creates a competitive advantage - lowers TCO, improves operational efficiency

Mellanox Is the Market Leader in 25G+ Ethernet Adapters¹



25G+ Ethernet Adapter Market Is Growing Rapidly²

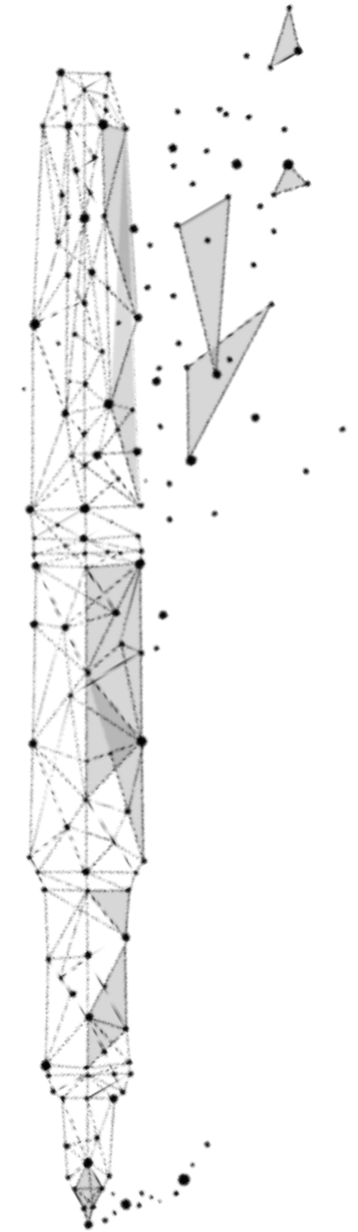


Source:
¹Crehan Quarterly Market Share Server-Class Adapter-LOM-Controller 3Q 2019 25, 40, 50, 100 and 200 Gb/s Adapter
²Crehan Long-range Forecast - Server-Class Adapter-LOM-Controller, January 2019

Broad Data Center Portfolio

Mellanox Now Has a Leading InfiniBand and Ethernet Product Portfolio Targeting the Data Center

	InfiniBand	High End Ethernet NIC	High End Ethernet Switch	Smart NIC	Cables and Transceivers
	✓ #1 Since 2004	✓ #1 Since 2016	✓ #2 Since 2017	✓ New Leading Technology	✓ Rapid Share Gains
	✓	✓			
		✓	✓	✓	✓
		✓	✓	✓	

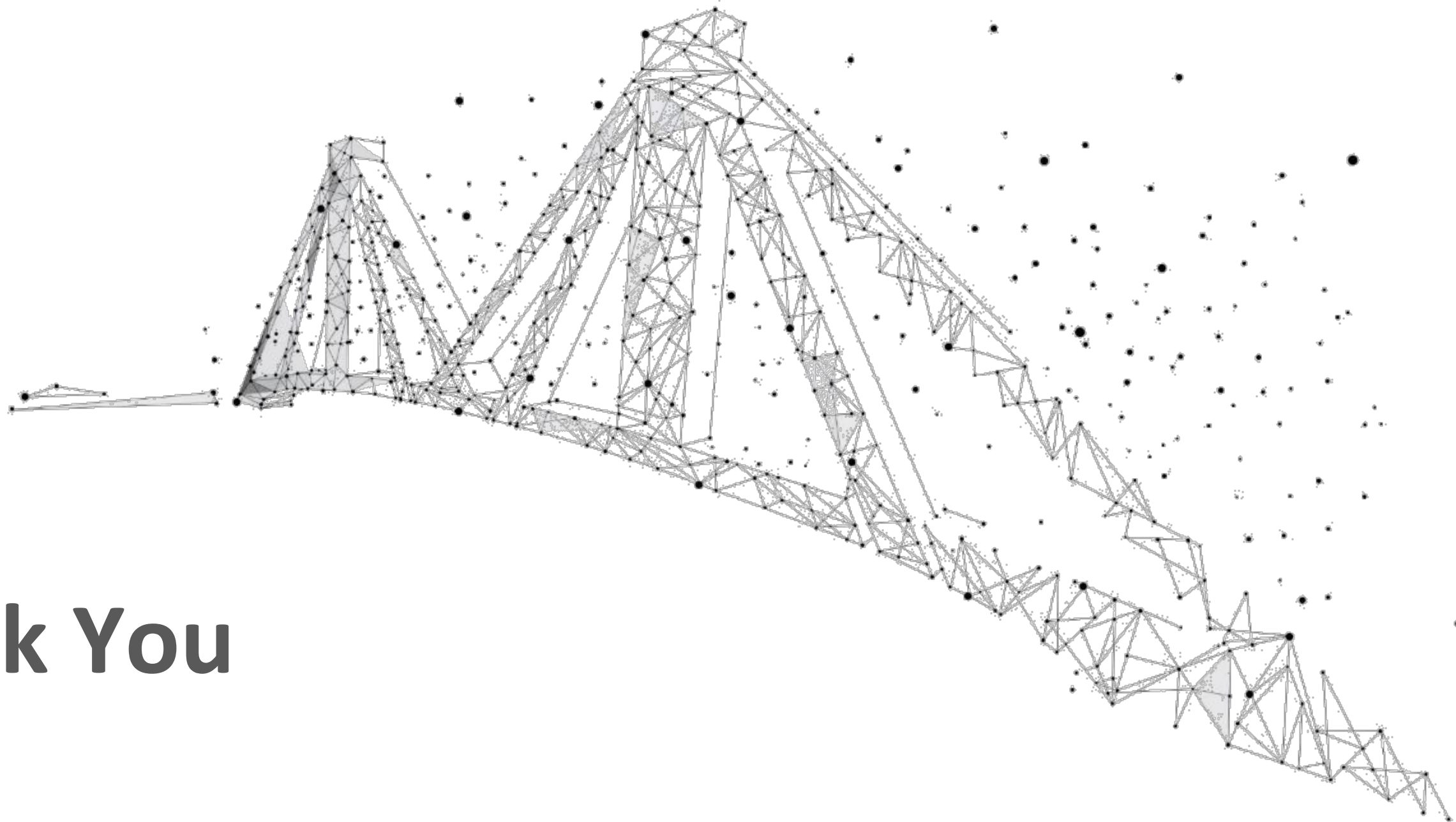


Source: Crehan Research, Mellanox internal estimates

Summary

- Exponential growth of data creating significant opportunities for Mellanox (\$19B TAM)
- Leading interconnect solutions supplier, offering technology that is critical to data center performance at the highest ROI
- Diversified business with comprehensive end-to-end Ethernet, InfiniBand and multi-core processor product portfolio
- Leading the transition to Exascale computing; first to market with 200G HDR InfiniBand with 400G NDR under development
- Benefiting from multi-year growth opportunities driven by the transition to 25G+ Ethernet technology





Thank You

