

TERALYNX® 7

Data Center Ethernet Switch Family

PRODUCT BRIEF

The world's fastest and most scalable switch family – 3.2 Tbps through 12.8 Tbps featuring industry-leading analytics, low latency and programmability

OVERVIEW

Data centers are set to dominate IT infrastructure across the Cloud, Enterprises and Service Providers. Continued adoption of cloud, mobile, video, Anything-as-a-Service (XaaS), big data analytics, and machine learning is driving rapid growth of traffic inside data center networks and with end users. Architectural shifts such as micro-services based applications and the move to distributed storage using flash/NVMe over fabric are further increasing Ethernet traffic. In addition to an unlimited thirst for bandwidth, critical data center requirements include deeper, actionable analytics, programmability, high power efficiency, low latency and flexibility. These factors demand a fresh, innovative and focused approach to scalable, high performance networking silicon.

Innovium's TERALYNX™ Ethernet Switch Silicon family has been architected from the ground up to provide the most optimized Ethernet solutions for data centers. Innovium delivers the world's highest performance switch silicon with large buffers, unmatched analytics through fine-grain telemetry, line-rate programmability, the industry's best power efficiency in terms of performance per watt and very low latency. Innovium offers the broadest range of data center switches ranging from 3.2Tbps to 12.8Tbps, enabling compelling and unique systems such as 128 ports of 100GbE, 64 ports of 200GbE and 32 ports of 400GbE.

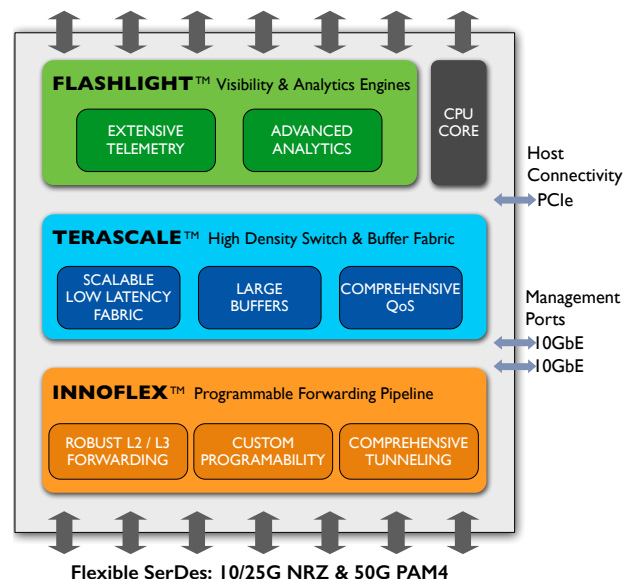
KEY BENEFITS

- Industry leading performance and scale enables customers to deploy fewer network switches and tiers dramatically reducing cost, power, latency & management
- 50G SerDes lowers cost/bit and enables higher scale IO such as 200GbE & 400GbE with backward compatibility
- Breakthrough visibility and analytics capabilities enable predictive, faster & more accurate issue resolution, higher automation and self-healing autonomous networks
- Superior power efficient switch drives overall data center efficiency and better TCO
- Up to 128 ports of 100GbE, 64 ports of 200GbE, or 32 ports of 400GbE enables flatter & cost-effective networks
- InnoFlex™ programmable forwarding pipeline enables support of custom & new standard protocols without requiring ASIC spins to future proof the network

KEY FEATURES

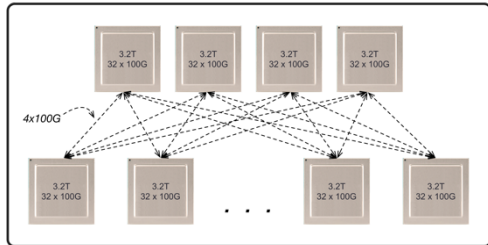
- Switch capacity up to 12.8Tbps with large buffers
- Up to 256 SerDes that support 10G, 25G and 50G IO speed with proven, robust interoperability
- Industry's first switch to include high port count 200G and 400G connectivity using 50G PAM-4 with support for 10 / 25 / 40 / 50 / 100 / 200 and 400GbE connectivity
- Industry leading power efficiency, with 2X performance per watt over alternatives

- Comprehensive IP forwarding and highly scalable/flexible layer 2 and 3 tables for IPv4, IPv6 and hybrid networks
- Line-rate programmability to accommodate future networking protocols with software upgrades
- Extensive tunneling capabilities such as IP-in-IP, GRE, MPLS, VXLAN and Geneve
- Very low latencies - cut-through and store-and-forward
- Advanced QoS/traffic management feature set such as DCB, RoCE and QCN
- FLASHLIGHT™ delivers breakthrough visibility and telemetry, including support for P4 In-band Network Telemetry (INT) along with critical extensions



CUSTOMER DEPLOYMENT SCENARIOS

- Data center networking infrastructure for the Cloud, Enterprises, HPC and Service Providers
- Fixed and modular (chassis) switches
 - Single chip fixed switches for ToR, Leaf & Spine
 - Multi-chip fixed switches for Leaf & Spine
 - Multi-chip modular switches for EoR, Leaf & Spine



128 x 100G switch



6-12X ADVANTAGE OVER ALTERNATIVES

- 6X over 6.4Tbps switch chips
- 12X over 3.2Tbps switch chips
- Dramatically lowers cost, power and latency with simpler management
- Superior visibility and analytics

SOFTWARE SUPPORT

- Common software development kit (SDK) across entire product line to help customers develop network operating software (NOS) stack easily
- High performance and highly resilient, modern software with a clean-sheet design
- Support for open APIs, including OCP SAI (Switch Abstraction Interface)



Single Chip System Design Examples

1U: 32 x 400G (QSFP-DD or OSFP)

1U: 32 x 100/200G
2U: 64 x 100/200G (QSFP28/56)

4U: 128 x 100G (QSFP28)



Multi Chip System Design Examples

2U: 64 x 400G (QSFP-DD or OSFP)

Chassis: 128 x 400G (i.e. 512 x 100G ports)

Chassis: 256 x 400G (i.e. 1024 x 100G ports)

TERALYNX™7 Product Family

| SKU / Part Number | Capacity (Tbps) | # of SerDes @ Gbps | 100G ports | 200G ports | 400G ports |
|-------------------|-----------------|--------------------|------------|------------|------------|
| IVM77700 | 12.8 | 256 @ 10/25/50 | 128 | 64 | 32 |
| IVM77600 | 8.0 | 160 @ 10/25/50 | 80 | 40 | 20 |
| IVM77500 | 6.4 | 256 @ 10/25 | 64 | 32 | - |
| IVM77510 | 6.4 | 128 @ 10/25/50 | 64 | 32 | 16 |
| IVM77310 | 3.2 | 128 @ 10/25 | 32 | 16 | - |

About Innovium

Innovium is a leading provider of high performance, innovative switching silicon solutions for cloud, enterprise and edge data centers. Innovium TERALYNX family delivers software compatible products ranging from 1Tbps to 12.8Tbps with unmatched telemetry, low latency, programmability, and large buffers. Innovium's products have been selected and validated by market-leading switch OEM, ODM and cloud providers. The company is headquartered in Silicon Valley, California and is backed by leading venture capital firms including Greylock Partners, Walden Riverwood, Capricorn Investment Group, Qualcomm Ventures, S-Cubed Capital and Redline Capital. For more information, please visit: <http://www.innovium.com>

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