OcNOS Data Center (DC)

November 2023

TOTAL NETWORK DISAGGREGATION

Take control of your network with Total Network Disaggregation from IP Infusion.
Complex networks simplified with open standards.

OcNOS Data Center

Web-scale networking requires new solutions to build hyperscale and cloud data centers equipped with a web-scale operations toolset. IP Infusion's Network Operating System (NOS) running on open networking switches combines the key principles of best-in-class hardware and software. IP Infusion's Open Compute Network Operation System (OcNOS) can be used to build both Layer-3 and Layer-2 Data Center fabric as it provides a rich set of control plane features, providing robust quality, ensuring lower costs and at the same time providing vendors with a best-of-breed selection for hardware platforms.

A key concept that will enable next-generation Data Center networks is the separation of the networking software from the switching or routing hardware. One of the biggest advantages of disaggregation is CAPEX reduction, followed by OPEX savings and deployment flexibility.

OcNOS provides a unique value proposition in helping build modern Data Centers. It provides robust quality with over 600 OEMs and end users, with hundreds of thousands of deployments in solutions spanning access, core, transport and data center networking. It is a feature rich solution with extensive legacy and new protocol coverage.

OcNOS-AGGR is used as DC Edge Router
OcNOS-RON is used used for DCI Transport

OcNOS also drastically reduces operational costs as the same OS can be used across multiple solutions such as Data Center, Optical Transport, Cell Site Router, Provider Aggregation and Passive Optical Networks.

OcNOS Software

OcNOS (Open Compute Network Operating System) is an industry-leading Network Operating System (NOS) providing the most complete carrier-grade disaggregated solution for data center and service provider networks. OcNOS-based solutions have been widely deployed in access, aggregation, transport and data center use cases for simplified operations and automation. It provides extensive programmability for end-to-end network management and orchestration. OcNOS features a single software image that runs across the entire portfolio of Open Compute platforms from leading vendors. This guarantees consistent operations, workflow automation and high availability, while significantly reducing operational expenses.

OcNOS provides industry standard CLIs, supports standard MIBs as well as the latest network management tools. Its integrated centralized management and provisioning layer allows for transaction-based configuration and device feature modelling. OcNOS is a modular, multi-tasking NOS, with tight integration capabilities on commodity hardware. This design allows for scaled and performance critical deployments.

OcNOS benefits include:

- Hardened carrier-grade solutions that are fully qualified with multi-vendor open networking platforms
- Breaks vendor lock-in
- Scalable software for terabit switching bandwidth
- Lower TCO: Up to 65-75% savings against Traditional Tier-1 vendors
- A broad ecosystem of technology and integration partners

OcNOS key highlights include:

- Packaged disaggregated networking solutions for faster deployment and shorter time-to-revenue
- Netconf and OpenConfig data models for network automation, orchestration, and control
- Standard Cisco-like CLI
- Flexible deployment: OcNOS solutions addressing different use cases across the data center and service provider networks
- World-class 24/7/365 support

OcNOS Data Center

OcNOS Data Center Key Benefits

Following are key benefits of the OcNOS Data Center:

- Deployment proven disaggregated networking solutions
- Open standards-based product, interoperable with existing deployments
- Small footprint resulting from an optimized design
- Scalable NOS supporting terabits switching bandwidth

ip infusion

- Available in multiple packages for out-of-band management network, data center CLOS and overlay networking, and data center interconnect use cases
- Enables hardware independence delivering faster roll-out of new services and shorter time-to-market
- Programmable API, industry-standard CLI, and standard data models simplify operations to reduce Total Cost of Ownership (TCO)
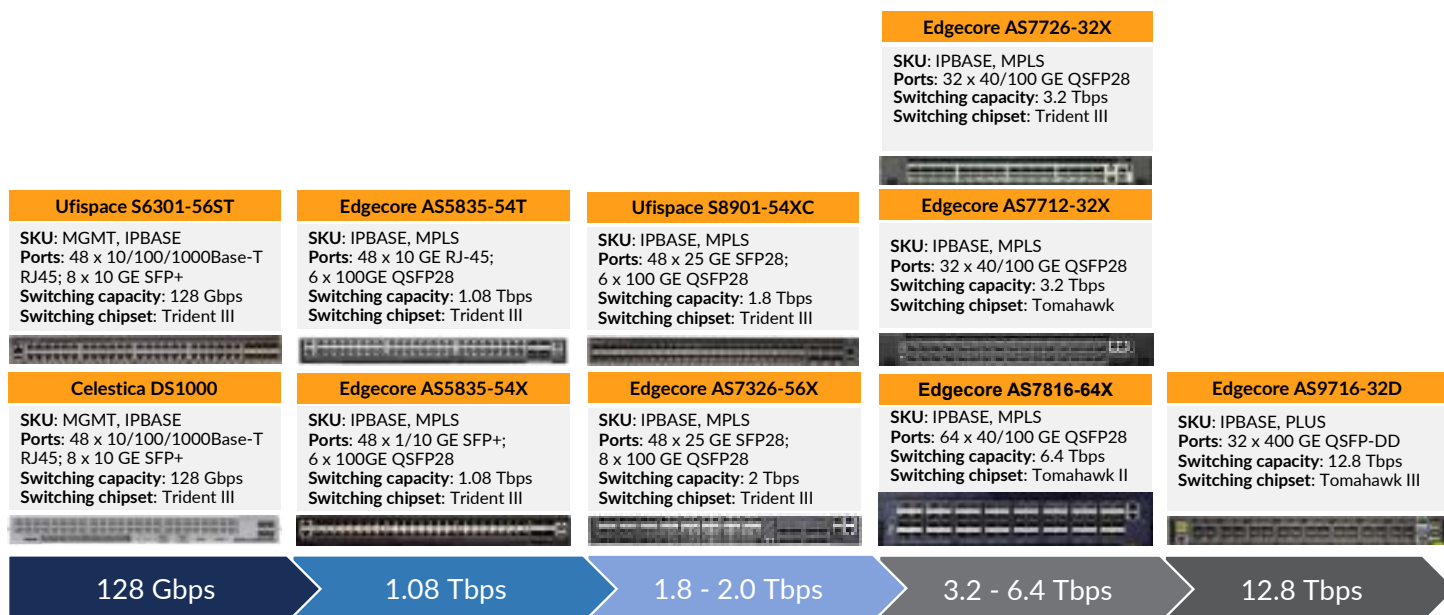
Key Features

- Comprehensive L2 switching and L3 routing
- EVPN-VxLAN
- Advanced QoS and Data Center Bridging
- SNMP
- ZTP
- Netconf, OpenConfig Yang data models, streaming telemetry

Use-Cases

- DC-CLOS
- Multi-tenant DC (Underlay + Overlay)
- BGP Peering Router
- Data Center Interconnect
- Data center devices Out-Of-Band Management

OcNOS Data Center Hardware Platforms

The following hardware platforms are supported.

Edgecore AS7726-32X
SKU: IPBASE, MPLS
Ports: 32 x 40/100 GE QSFP28
Switching capacity: 3.2 Tbps
Switching chipset: Trident III

Ufispace S6301-56ST
SKU: MGMT, IPBASE
Ports: 48 x 10/100/1000Base-T RJ45; 8 x 10 GE SFP+
Switching capacity: 128 Gbps
Switching chipset: Trident III

Edgecore AS5835-54T
SKU: IPBASE, MPLS
Ports: 48 x 10 GE RJ-45; 6 x 100GE QSFP28
Switching capacity: 1.08 Tbps
Switching chipset: Trident III

Ufispace S8901-54XC
SKU: IPBASE, MPLS
Ports: 48 x 25 GE SFP28; 6 x 100 GE QSFP28
Switching capacity: 1.8 Tbps
Switching chipset: Trident III

Edgecore AS7712-32X
SKU: IPBASE, MPLS
Ports: 32 x 40/100 GE QSFP28
Switching capacity: 3.2 Tbps
Switching chipset: Tomahawk

Celestica DS1000
SKU: MGMT, IPBASE
Ports: 48 x 10/100/1000Base-T RJ45; 8 x 10 GE SFP+
Switching capacity: 128 Gbps
Switching chipset: Trident III

Edgecore AS5835-54X
SKU: IPBASE, MPLS
Ports: 48 x 1/10 GE SFP+; 6 x 100GE QSFP28
Switching capacity: 1.08 Tbps
Switching chipset: Trident III

Edgecore AS7326-56X
SKU: IPBASE, MPLS
Ports: 48 x 25 GE SFP28; 8 x 100 GE QSFP28
Switching capacity: 2 Tbps
Switching chipset: Trident III

Edgecore AS7816-64X
SKU: IPBASE, MPLS
Ports: 64 x 40/100 GE QSFP28
Switching capacity: 6.4 Tbps
Switching chipset: Tomahawk II

Edgecore AS9716-32D
SKU: IPBASE, PLUS
Ports: 32 x 400 GE QSFP-DD
Switching capacity: 12.8 Tbps
Switching chipset: Tomahawk III

| 128 Gbps | 1.08 Tbps | 1.8 - 2.0 Tbps | 3.2 - 6.4 Tbps | 12.8 Tbps |

Relevant Links

| DATASHEET | FEATURE MATRIX | HARDWARE COMPATIBILITY LIST | OCNOS-DC CONFIGURATION GUIDE |

Contact us today to learn more about the OcNOS Data Center product.

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