OcNOS® Service Provider Solution (OcNOS-SP)

Data Sheet

1.0 Overview

The Service Provider mobile and wireline network of the future will not just need to provide exponentially higher bandwidth at lower operating costs but will also have to be capable of enabling new applications such as pervasive mobile broadband, IoT/sensor networks, autonomous vehicles and smart consumer wireless devices. Mobile network operators are actively seeking cost-effective Cell Site Gateway Solutions to accommodate the mass rollout of 4G/5G services to meet this mobile traffic demands. Disaggregated Open Network Solutions benefit operators as they build out 4G/5G infrastructure by reducing costs, expanding the vendor ecosystem and leveraging automation so they are more agile in introducing new services.

OcNOS Software

OcNOS(Open Compute Network Operating System) is a robust, programmable and innovative operating system, featuring a single software image that runs across the entire portfolio of Open Compute platforms from leading network device vendors. This guarantees consistent operations, workflow automation and high availability, while significantly reducing operational expenses.

OcNOS borrows heavily from the popular ZebOS line of products, which provides a rich feature density and robustness that has been built up over the years and validated in thousands of diverse customer networks. OcNOS provides industry standard CLIs, supports standard MIBs and other standard operation and management tools. Its integrated centralized management and provisioning layer allows for transaction-based configuration and device feature modelling.

OcNOS is a modular, multi-tasking network operating system, with tight integration capabilities on commodity hardware. This design allows for scaled and performance critical deployments.

2.0 IPI Product Release Version

Release versions are denoted using an integer to indicate Major, Minor, and Hotfix / Patch.

OcNOS-SP-4.0

Product Family — Major Version — Minor/Patch Version
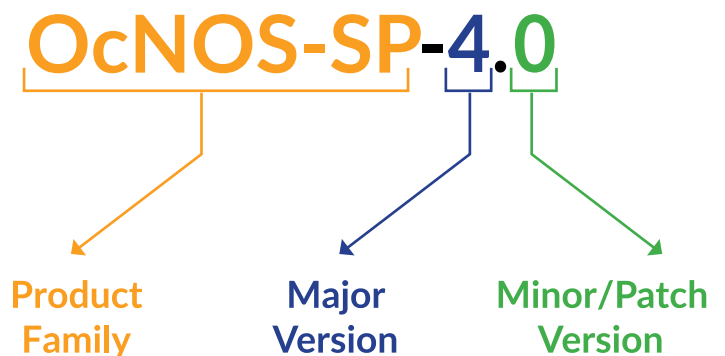
Product Name: Refers to the IPI Product Family (OcNOS-OTN, OcNOS-SP, DVE etc.)

Major Version: New customer-facing functionality and represents a significant change to the code base or change of direction in the product.

Minor Version: Enhancements/extensions to existing features or requests to meet marketing requirements.

3.0 Features on OcNOS-SP Release

The table below lists the new software features in the OcNOS-SP 4.0 release. Note, the following mentioned features are only indicative and the detailed feature list may vary. Please refer to Feature Matrix for complete feature list on supported ODM platforms.

3.1 OcNOS-SP 4.0: Technical Specifications – Feature Support per SKU

FEATURE	SUB-FEATURE	OC-NOS-SP-CSR	OCNOS-SP-IPADV-CE-AGGR	OC-NOS-SP-IP-BASE	OCNOS-SP-MPLS	OCNOS-SP-OLT-LITE	OCNOS-SP-OLT-SA-IP-BASE	OCNOS-SP-OLT-SA-IPM-PLS
Layer 2	Port-based Authentication with RADIUS server	Yes	Yes	Yes	Yes	No	No	No
	Port Security	Yes	Yes	Yes	Yes	No	No	No
Border Gateway Protocol (BGP)	BGP Graceful Restart	Yes	Yes	Yes	Yes	No	Yes	Yes
	BGP Dampening	Yes	Yes	Yes	Yes	No	Yes	Yes
Border Gateway Protocol – Link State (BGP-LS)	BGP Link state distribution (OSPF)	Yes	No	No	Yes	No	No	No
	BGP Link state distribution (ISIS)	Yes	No	No	Yes	No	No	No
	BGP Link state distribution for OSPF-SR	Yes	No	No	Yes	No	No	No
	BGP Link state distribution for ISIS-SR	Yes	No	No	Yes	No	No	No
Open Shortest Path First (OSPF)	OSPF Graceful Restart	Yes	Yes	Yes	Yes	No	Yes	Yes
	Graceful Restart mechanism for OSPFv3	Yes	Yes	Yes	Yes	No	Yes	Yes
Intermediate System to Intermediate System (IS-IS)	Restart Signaling (Graceful Restart) for IS-IS	Yes	Yes	Yes	Yes	No	Yes	Yes
Virtual Router Redundancy Protocol (VRRP)	VRRP Version 3 for IPv6	Yes	Yes	Yes	Yes	No	Yes	Yes
Label Distribution Protocol (LDP)	LDP Extension for Inter-Area Label Switched Paths	Yes	No	No	Yes	No	No	Yes
Resource Reservation Protocol (RSVP)	RSVP Shared Risk Link-Group (SRLG) support	Yes	No	No	Yes	No	No	Yes

FEATURE	SUB-FEATURE	OC-NOS-SP-CSR	OCNOS-SP-IPADV-CE-AGGR	OC-NOS-SP-IP-BASE	OCNOS-SP-MPLS	OCNOS-SP-OLT-LITE	OCNOS-SP-OLT-SA-IP-BASE	OCNOS-SP-OLT-SA-IPM-PLS
Protocol Independent Multicast (PIM)	Multicast Source Discovery Protocol (MSDP)	Yes	Yes	Yes	Yes	No	Yes	Yes
	Bidirectional Protocol Independent Multicast (BIDIR-PIM)	Yes	Yes	Yes	Yes	No	Yes	Yes
	Interoperability between the Virtual Router Redundancy Protocol and PIM	Yes	Yes	Yes	Yes	No	Yes	Yes
Management	sFlow	Yes	Yes	Yes	Yes	No	Yes	Yes
	Debounce Timer	Yes	Yes	Yes	Yes	No	Yes	Yes
Timing & Synchronization	G.8275.2 (T-BC-P, T-BC-A)	Yes	No	No	No	No	No	No
	G 8275.2 (T-GM) with antenna compensation	Yes	No	No	No	No	No	No
Optical Line Terminal (OLT)	N:1 VLAN	No	No	No	No	Yes	No	No
	ONU Auto Finding	No	No	No	No	Yes	No	No
	FEC Enable/Disable	No	No	No	No	Yes	No	No
	TC Layer Encryption	No	No	No	No	Yes	No	No
	Rogue ONU Detection	No	No	No	No	Yes	No	No
MPLS with EVPN	EVPN MPLS (ELINE and ELAN)	Yes	No	No	Yes	No	No	Yes
	EVPN MPLS Multihoming (ELINE & ELAN)	Yes	No	No	Yes	No	No	Yes
	EVPN MPLS - QoS (ELINE & ELAN)	Yes	No	No	Yes	No	No	Yes
Segment Routing	OSPF extensions for Segment-Routing	Yes	No	No	Yes	No	No	No
	IS-IS extensions for Segment-Routing	Yes	No	No	Yes	No	No	No
	LDP and SR interworking	Yes	No	No	Yes	No	No	No
	SR Mapping server	Yes	No	No	Yes	No	No	No
	Segment-Routing Policy (Traffic Engineering)	Yes	No	No	Yes	No	No	No
	Segment-routing OAM (LSP Ping/Traceroute) for MPLS dataplane	Yes	No	No	Yes	No	No	No
	Topology Independent Fast Reroute using Segment Routing	Yes	No	No	Yes	No	No	No
Path Computation Element Protocol (PCEP)	Support for PCEP	Yes	No	No	Yes	No	No	No
	Support for Stateful PCE	Yes	No	No	Yes	No	No	No
	PCEP Extensions for Segment Routing	Yes	No	No	Yes	No	No	No

4.0 Solution Ordering Guide

4.1 Platforms Supported per SKU

S. NO.	VENDOR PLAT-FORM	CHIPSET	SPEED/INTERFACE	CPU	OC-NOS-SP-CSR	OC-NOS-SP-IP-ADV-CE-AG-GR	OC-NOS-SP-IP-BASE	OC-NOS-SP-MPLS	OC-NOS-SP-OLT-LITE	OC-NOS-SP-OLT-LI-TE-SA-IPBASE	OC-NOS-SP-OLT-LI-TE-SA-IPMPLS
1	Dell S4248-FB/FBL	Qumran-MX BCM88375	40 x 10G ports, 2 x 40G QSPF+, 6 x 100G QSPF28	Intel C2xxx Rangeley	No	Yes	Yes	Yes	No	No	No
2	DELTA AG-C7648A	Qumra-MX BCM88375_B0	48 ports 10G, 6 ports 100G	Intel C2xxx Rangeley	No	Yes	Yes	Yes	No	No	No
3	Edgecore AS5912-54X	Qumran-MX BCM88370_B0	48 ports 10G, 6 ports 100G	Intel C2xxx Rangeley	No	Yes	Yes	Yes	No	Yes	Yes
4	Edgecore AS5916-54XKS	Qumran-MX BCM88375 + BCM52311 TCAM	48 ports 10G, 6 ports 100G	Intel® Xeon® D-1548 processor 8 cores 2.0 GHz	No	Yes	Yes	Yes	No	No	No
5	Edgecore AS7316-26XB	Qumran-AX BCM88470	16 x 10G, 8 x 25G, 2 x 100G	Intel Broadwell-DE D-1519 1.5G 4C	Yes	No	No	No	No	No	No
6	Edgecore ASX-vOLT16	Qumran-AX BCM88470	16 ports XGS-PON, 4 ports 100G QSFP28	Intel Broadwell-DE XeonD-1518 2.2 GHz	No	No	No	No	Yes	No	No
7	UFISpace S9500-30XS	Qumran-AX BCM88470	20 x 10GE SFP+ ports, 8 x 25GE SFP28 ports, 2 x 100GE QSFP28 ports	Intel Broadwell-DE D-1519 1.5G 4-Core	Yes	No	No	No	No	No	No
8	TIBIT XGS-PON 10G SFP+ OLT	-	1 x 10G Ethernet- to-XGS-PON OLT MAC bridge	Tibit Hardware version 180713	No	No	No	No	Yes	No	No

4.2 Maintenance & Support

SKU	MAINTENANCE & SUPPORT
OCNOS-MS-1Y	1-year Maintenance & Support with Upgrades - Includes Technical support resources, software updates & upgrades, email and phone support, access to Support web site including case management system. Access to technical support team 24 x 7 for Severity 1 issues, normal business hours for all other issues. "Upgrade" means a version change for the licensed software with substantial improvements, enhancements and bug fixes.
OCNOS-MS-3Y	3-year Maintenance & Support with Upgrades - Includes Technical support resources, software updates & upgrades, email and phone support, access to Support web site including case management system. Access to technical support team 24 x 7 for Severity 1 issues, normal business hours for all other issues. "Upgrade" means a version change for the licensed software with substantial improvements, enhancements and bug fixes.
OCNOS-MS-5Y	5-year Maintenance & Support with Upgrades - Includes Technical support resources, software updates & upgrades, email and phone support, access to Support web site including case management system. Access to technical support team 24 x 7 for Severity 1 issues, normal business hours for all other issues. "Upgrade" means a version change for the licensed software with substantial improvements, enhancements and bug fixes.
OCNOS-MS-1Y-Premium	1-year Maintenance & Support with Upgrades - Includes Technical support resources, software updates & upgrades, email and phone support, access to Support web site including case management system. Access to technical support team 24 x 7 for all issues. "Upgrade" means a version change for the licensed software with substantial improvements, enhancements and bug fixes.
OCNOS-MS-3Y-Premium	3-year Maintenance & Support with Upgrades - Includes Technical support resources, software updates & upgrades, email and phone support, access to Support web site including case management system. Access to technical support team 24 x 7 for all issues. "Upgrade" means a version change for the licensed software with substantial improvements, enhancements and bug fixes.
OCNOS-MS-5Y-Premium	5-year Maintenance & Support with Upgrades - Includes Technical support resources, software updates & upgrades, email and phone support, access to Support web site including case management system. Access to technical support team 24 x 7 for all 1 issues. "Upgrade" means a version change for the licensed software with substantial improvements, enhancements and bug fixes.

5.0 Relevant Links

Additional information about the following documents is available on the IP Infusion website (https://www.ipinfusion.com/products/ocnos/)

- Feature Matrix
- Configuration Guide
- Supported Optical Transceivers & Cables
- Platform Datasheets

More Information

For more information about the OcNOS Service Provider Solution, contact your IP Infusion sales representative.

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