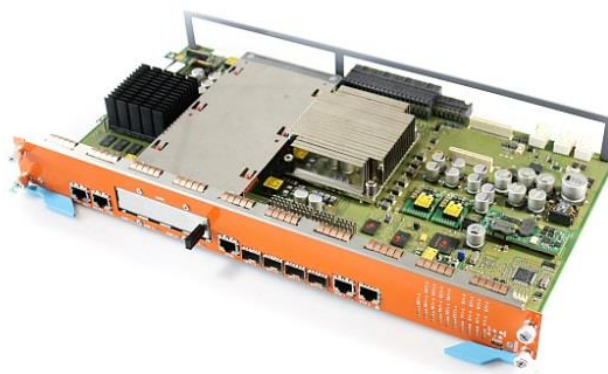


# Central Blade for Lumia - IDK

The Central Blade IDK is a high performance central switch and management blade for SI3000 Lumia. With its multiple 10 GE network interfaces and extension possibilities through AMC slot it offers configurations of 1 Tbit/s switching capability. Advanced network functionalities designed for residential, business and mobile backhauling interconnecting allows building various network topologies through switching or routing mechanisms.

## Key Features and Benefits

- Up to 1 Tbit/s switching capabilities
- **High-Availability**
- **Selective Q-in-Q** and **flexible Double VLAN** Tagging
- **SyncE** and **PTP**
- **128k** MAC address



The central blade is the Ethernet switch and management blade for SI3000 Lumia 3.0. With its advanced Carrier Class network functionalities and various types of uplink interfaces it is an Ethernet switch and aggregation platform for subscriber blades and external network elements. Two central switch blades in MEC are logically seen as one device, which offers both extremely high bandwidths (40G/slot) and flexibility in building various network topologies like subtending or Ethernet rings.

AMC extension slot offers future possibility to include various extension cards to central blade, for example:

- Expand number of 10G front panel interfaces (up to 4x 10GE)
- One 40G network interface (QSFP based)
- Deep packet HW acceleration
- Hard disc drive for traffic capturing



Highly flexible & redundant connection to network can be done using multi-chassis LAG or distributed xSTP protocol between both central blades.

An Ethernet ring built on standardized ERPS and ELPS can have multiple shelves included and it offers sub-50 ms resilience which is comparable to that provided by SDH rings.

For improved switching flexibility, either 802.1Q-compliant VLAN bridging or 802.1ad-compliant provider edge bridging can be used.

DATASHEET

<b>Network interface</b>	
10GE (10GBASE-LR / 10GBASE-ER)	4 x 10GE SFP+
Gigabit Ethernet	2 x GE (RJ-45)
Backplane Ethernet interface	2 x 10GE/2,5G/1G per service blade
<b>Local Management interface</b>	
Console	RS-232 (over Micro USB connector, adapter needed)
Gigabit Ethernet	10/100/1000 BaseT, RJ45 – Management port
<b>Performance</b>	
Throughput	960 Gb/s (redundant mode) / 480 Gb/s (stand-alone mode)
MAC Table Size	128 k
Number of Multicast Groups	2048
<b>Advanced features</b>	
Business Connectivity	L2CP, E-Line, E-LAN, MEF compliant (MEF-9, MEF-14)
<b>Ethernet switching (L2) features</b>	
Switching	IPv4, IPv6, Support for Jumbo packets up to 9216 Bytes
Spanning-tree protocol	STP (802.1D), RSTP (802.1w), MSTP (802.1s)
Link Aggregation	LACP (802.3ad), Static LAG
VLAN	4094 simultaneous VLANs, Port based VLAN (Native VLAN), VLAN Remarking, Provider Edge Bridging (802.1ad , Q-in-Q, Selective Q-in-Q)
IP Multicast support	IGMP v2/v3 Snooping, IGMP Proxy, Multicast Group ACL, Static Multicast Groups, IGMP forking, IGMP Querier*
Quality of Service	L2-L4 Ingress Classification (PCP/802.1p/CoS, MAC, VLAN, ToS/DSCP, DiffServ, IP, TCP/UDP port), Ingress Marking, Ingress Policing (per port, per service), Upstream/Ingress Shaping (per port, per service), Egress Queuing (up to 8 Queues per port, RED, Tail-drop), Egress Scheduling (Strict priority, Weighted Fair Queuing, Low Latency Queuing)
Ring resiliency	RSTP, ERPS (G.8032), ELPS (G.8031)
<b>Layer 3 Features*</b>	
Layer 3 interfaces*	Routed ports, switch virtual interface (SVI), PortChannels, subinterfaces, and PortChannel subinterfaces for a total of 4096 entries
Support for up to prefixes*	8000 prefixes and up to 16000 IPv4 and 8000 IPv6 host entries
Number of supported multicast routes*	8000
Number of supported IGMP groups*	8000
Number of supported VRF entries*	1000
IPv4 Routing protocols*	Static, Routing Information Protocol Version2 (RIPv2), Open Shortest Path First Version 2 (OSPFv2), and Border Gateway Protocol (BGP)
IPv6 Routing protocols*	Static, Open Shortest Path First Version 3 (OPFv3), Border Gateway Protocol (BGPv6), Enhanced Interior Gateway Routing Protocol (EIGRPv6)
Virtual Route Forwarding (VRF)*	VRF-lite (IP VPN); VRF-aware unicast; and BGP-, OSPF-, RIP-, and VRF-aware multicast
<b>Security features</b>	
User/Blade Isolation	Protected Port (Private Port)
Filtering	L2-L4 Access Lists, Remote Access Filtering for Telnet/SSH, Application Rate Limiting
Storm Control	Per-port packet-rate control for broadcast, multicast and unicast DLF traffic
Unauthorized DHCP Server prevention	DHCP Options 60 and 43 (for ACS)
<b>Management features</b>	
Management interfaces	CLI (Console, Telnet, SSH), SNMP, Web (Java) based Element Manager
IP assignment	DHCP or Static
Management protocols	SNMPv2c, SNMPv3, ACS Client for Auto Configuration Service, Radius client, TACACS+ client, Telnet Client, SSH client
Firmware upgrading	SFTP, ACS, Dual firmware image
Time Synchronization	SNTP
Monitoring	Performance and Quality Monitoring, RMON (Etherstat), System resource monitoring, Port Mirroring, Remote Mirroring, SFP Diagnostics
Events collecting	Event Log, Error Log, Syslog client
Shelf management functions	2 x IPMI I <sup>2</sup> C dedicated control bus, Remote shutdown/reset of any MSAN/Lumia blade, Selective Power Control <sup>TM</sup> , Temperature monitoring, Fan speed control, Overheat Control
<b>Timing and Synchronization</b>	
Frequency/Phase synchronization	Synchronous Ethernet up to Stratum 3E*, IEEE 1588v2 (Precision Time Protocol)*
<b>Environmental conditions</b>	
Safety	EN 60950-1:2006 + A1:2010 + A2:2013 + A11:2009 + A12:2011
EMC	ETSI EN 300 386 V1.6.1 (EN55022 Class A)
Storage	ETS 300 019-1-1, class 1.2 , temperature -50 to 70°C, rel. humidity 10–100%
Transport	ETS 300 019-1-2, class 2.3
Operation	ETS 300 019-1-3, class 3.1E, temperature -5 to 65°C, rel. humidity 5–90% (non-condensing)
<b>Power consumption</b>	148W
<b>Power Supply</b>	-42 V to -72V (redundant)

\* Future Release

Ordering code	Description
SBB2240AA	Central blade for Lumia, 4 x 10GE/GE (SFP+/SFP, w/o optical modules) and 2 x GE (RJ-45) network ports, AMC slot, backplane 2 x 10GE per each service blade - IDK

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