

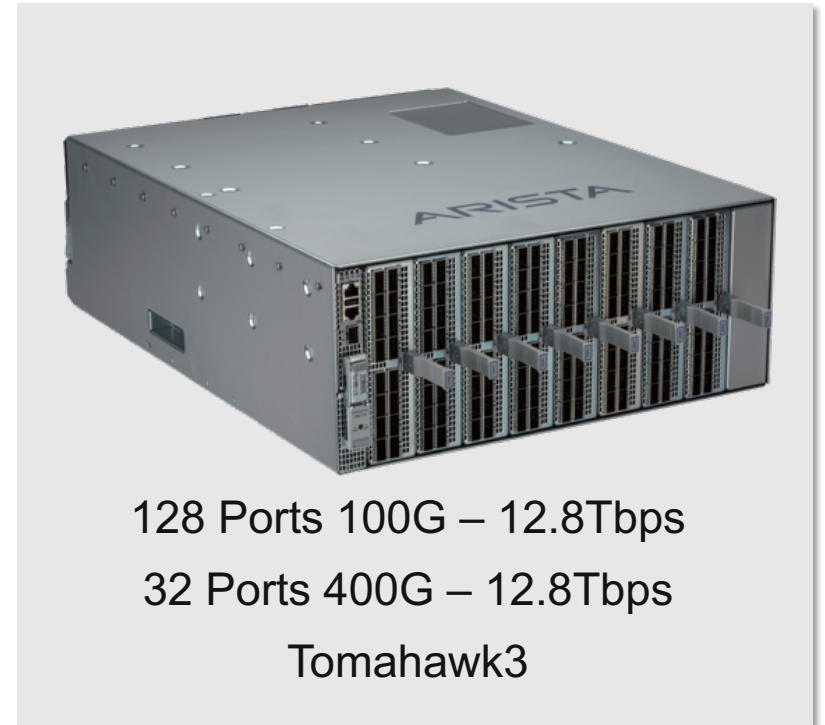
Arista 7368X4 Series 100G/400G

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Arista 7368X4 Series 100G/400G

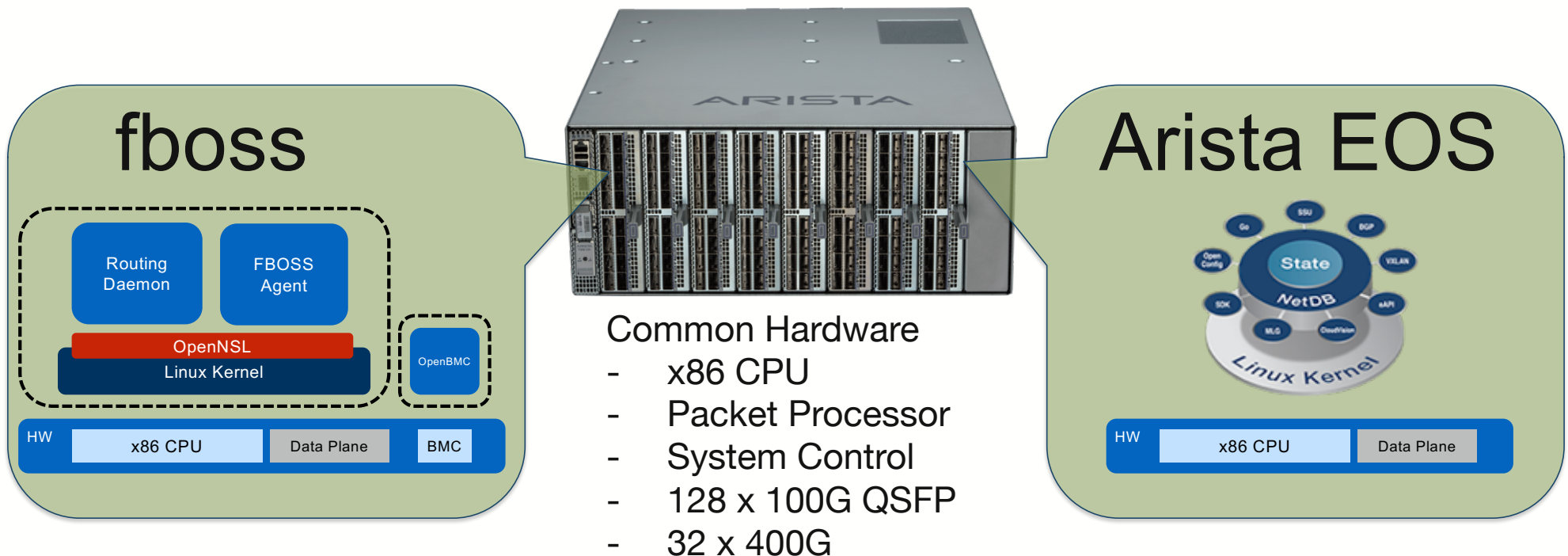
100/400G High Performance Semi-Fixed System

- High Performance 100G/400G system with hyperscale features
 - High Performance with 12.8Tbps and 8Bpps
 - Latency - 700ns port to port with cut-through mode
 - Shared 64MB Smart-buffer and monitoring with LANZ
- Datacenter Optimized
 - Datacenter Spine and next gen Leaf
 - Under 10W per 100G port typical to lower TCO
 - Increased routing scale and robustness
 - Elephant Flow Detector to automatically manage large flows
- Hyperscale Cloud Networks Scalability
 - OSPF, BGP, Multicast & MLAG - 400K routes, 128-way ECMP
 - Dynamic Load Balancing & Dynamic Group Multipath
 - Optimized hashing and ALPM for large scale IPv4 and IPv6



Consistent certification, knowledge, sparing, and architecture

Open Platform with Choice of Operating Environments



- Flexible Operating Model
 - Arista EOS environment with rich features for cloud and Enterprise networks
 - FBOSS environment takes total control of system including forwarding and management



Hardware Architecture

Hyper-scale Cloud - Cost and Power Efficient Bandwidth

- Demand for more bandwidth in the cloud
 - High Network Radix Modular System
 - High performance 12.8Tbps switch
- Choice of port module configurations
 - 16 x 100G QSFP
 - 8 x 200G QSFP56
 - 4 x 400G (OSFP and QSFP-DD)
- 4U System Optimized for cloud networks
- Improve power efficiency per bandwidth
- Upgradeable to next generation



Already released and shipping in volume

Base System and Removable Switch Card - 7368X4-SC

Base system for multiple generations

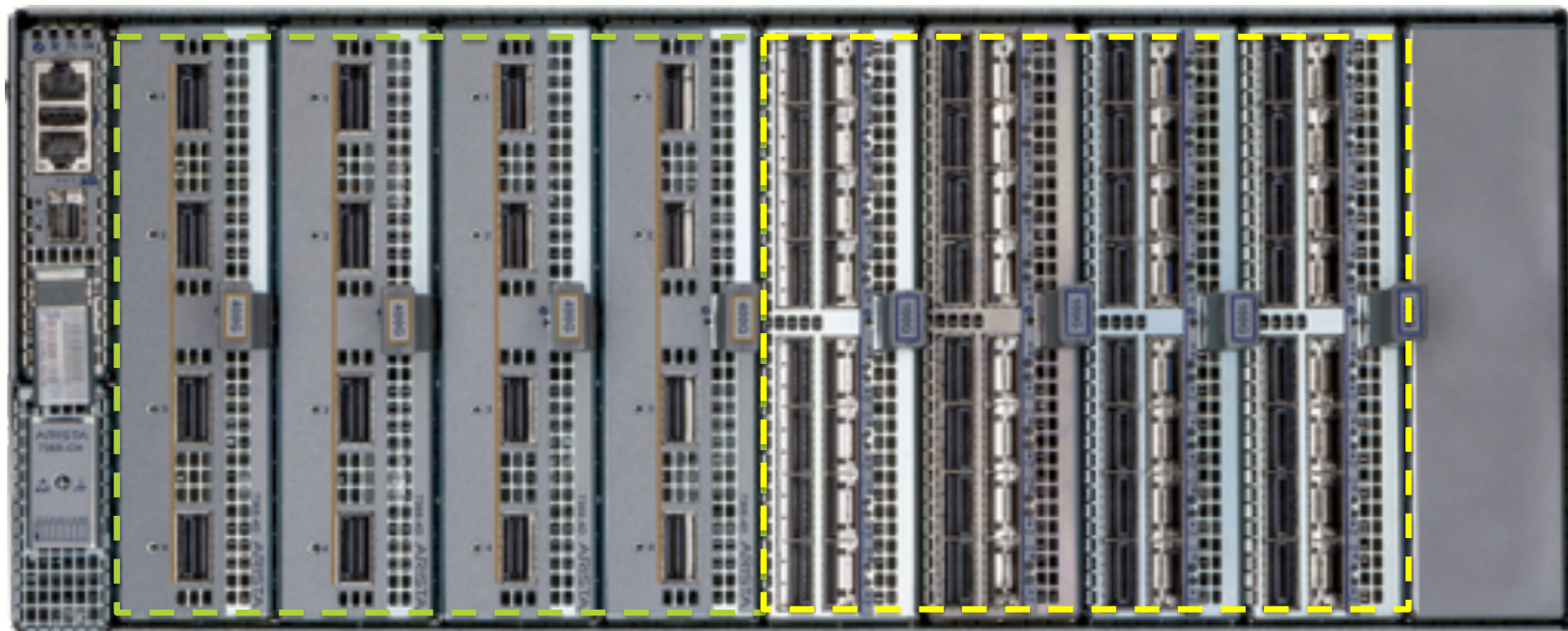
- Future proof base system design
- High speed cooling with 2U fans
- Up to 4 x 1900W AC or DC power
- Interface modules are transparent to SC

Removable Switch Card – 7368X4-SC

- Allows simple field replacement
- No requirement to un-rack entire system
- No disruption to cabling on front modules
- Hot swap fan modules



7368X Front – Management and I/O Modules



Management
Module

4 x 400G QSFP-DD
(4 x 400G OSFP)

16 x 100G QSFP
(8 x 200G mode)

7368X Rear – Switch Card and common equipment

Single Switch Card / Module

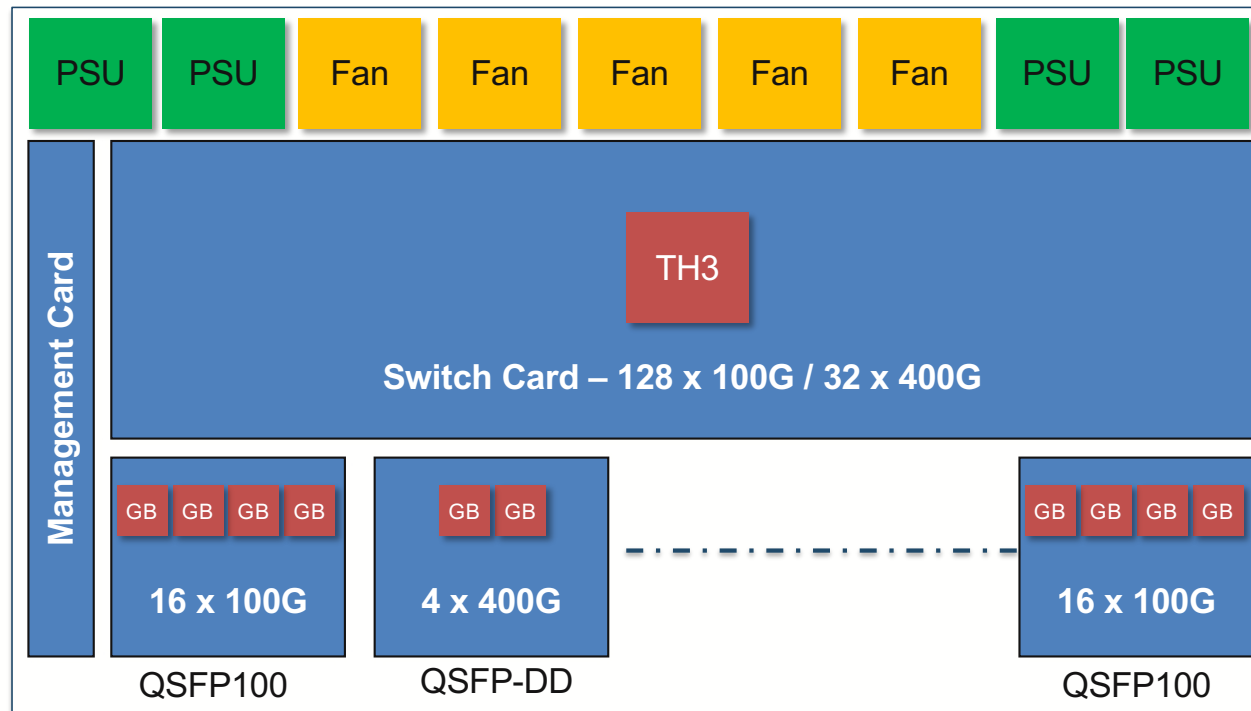
2U Fan Modules



AC PSU
(1900W)

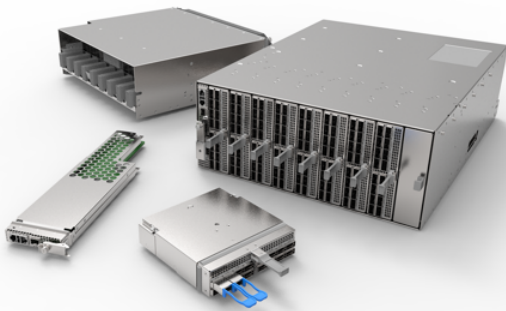
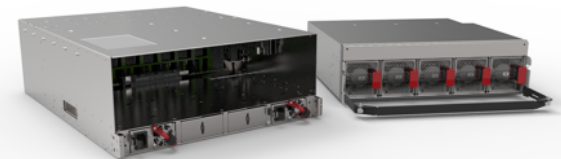
Up to 4 PSU
(2 Default)

High Level Schematic: 7368X - System



7368X – Ease of Maintenance

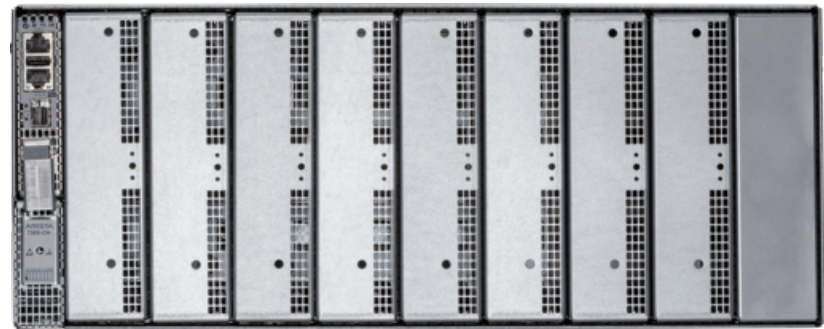
- All components field removable:
 - Switch Card – remove from rear without cable changes
 - Management Module – removes from front
 - 100G and 400G Modules – hot swap
 - Power Supplies – rear accessible and hot swap
 - Fan Modules – individually removable and hot swap



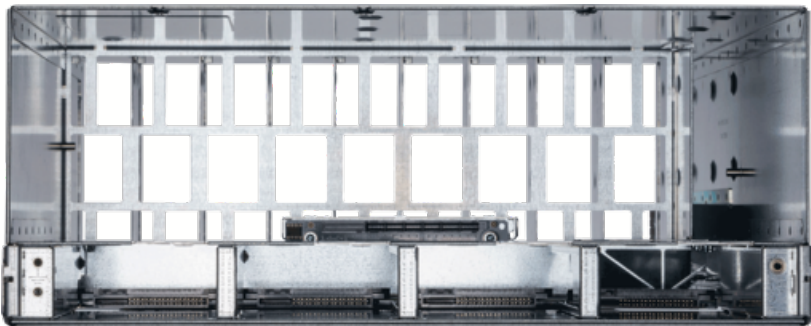
DCS-7368-CH and DCS-7368X-BND



Front View – Empty



Front View – with Management module



Rear View – Empty



Rear View – with Common Equipment

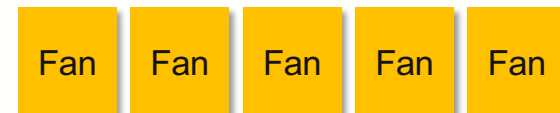
7368X4 Switch Card - Specifications

DCS-7368X4-SC - Switch Card

- Allows simple field replacement
- No requirement to un-rack entire system
- No disruption to cabling on front modules
- Hot swap fan modules
- Integrated ejector handle

High Performance Packet Processor

- 12.8Tbps of switching and 8Bpps
- 50G to 400G ports
- 64MB Smart Buffer
- High Performance 50G PAM4 Serdes
- Upgradeable to next generation



TH3

Switch Card – 128 x 100G / 32 x 400G

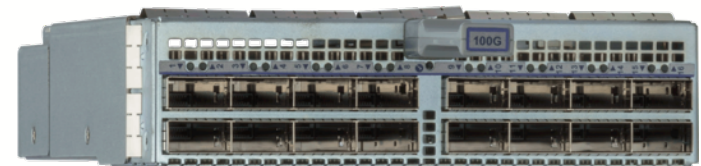
7368 Supervisor Module - Specifications

- DCS-7368-SUP
 - Intel Broadwell-DE Quad core x86 CPU with hyper-threading for high performance control plane
 - 32GB DRAM for control plane scale
 - 30G SSD for EOS and Logging
 - Console and Management Ethernet Ports
 - 2nd Dedicated 1/10G SFP for OOB
 - USB ports for memory devices
 - LEDs for system, Fan, PS and SC status
- DCS-7368-SUP-D
 - Same specifications as 7368-SUP
 - 240G SSD for expanded local storage



7368X – 100G and 400G Modules

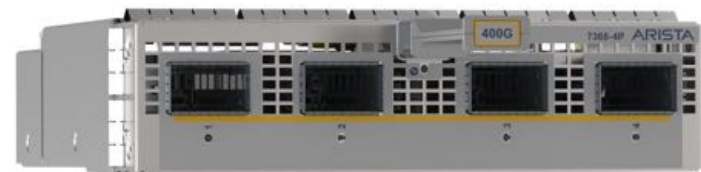
- 16 x 100G Module
 - QSFP100 ports for range of cables and optics
 - Optional 200G Mode with Alternate ports
 - Hotswap with no power off
 - Integrated ejector and handle
- 4 x 400G Modules
 - QSFP-DD or OSFP
 - Widest range of cables and optics
 - Flexible 400G or 4x 100G (and 2x 200G) modes
 - Hotswap with no power off
 - Integrated ejector and handle



QSFP – 100G



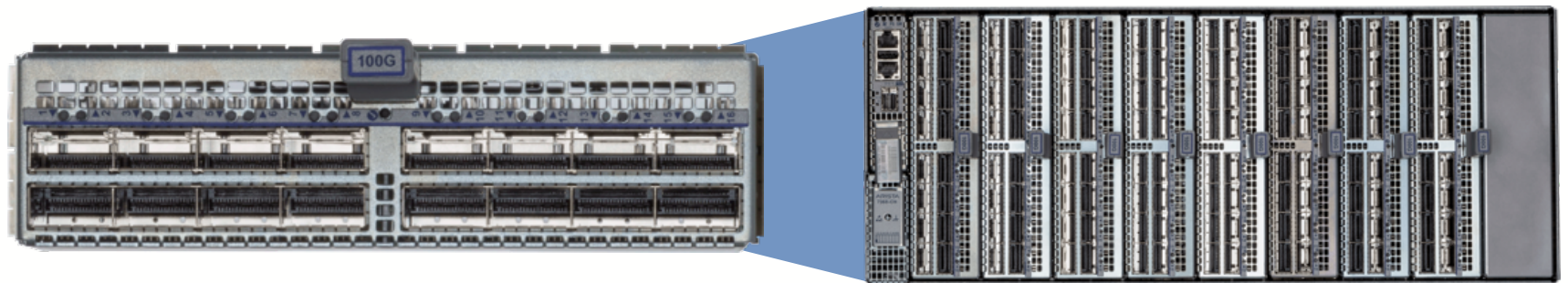
QSFP-DD – 400G



OSFP – 400G

7368-16C – 100G QSFP

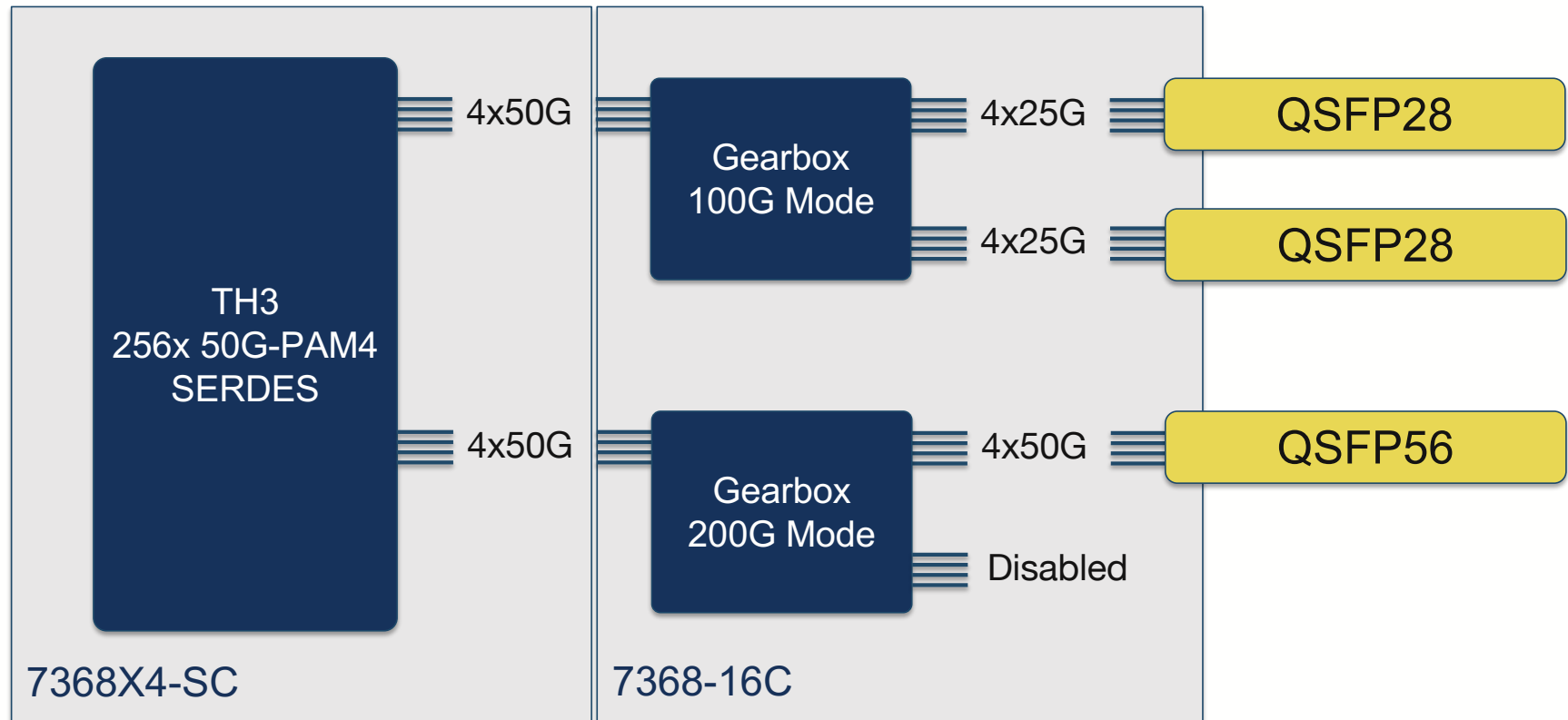
100G Options for High Performance Designs



Sixteen Port QSFP I/O module

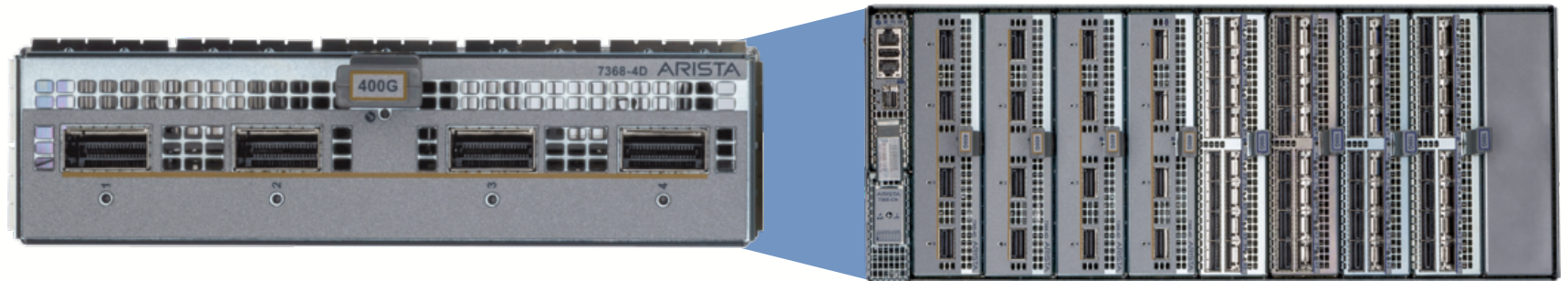
- Eight modules per system allows 128 x 100G in 4U
- All 16 ports allow 100G or 40G mode with QSFP optics and cables
- Alternate ports enable 200G mode with QSFP56 optics and cables
- Mix and match port speed and breakout options
- Integrated ejector and handle for simple module removal
- Hot swap modules like-for-like with no power off required

Converting 2x50G PAM4 SERDES to 4x25G NRZ



7368-4D – 400G QSFP-DD

400G Options for High Performance Designs



Four Port QSFP-DD I/O module

- Eight modules per system allows 32 x 100G in 4U
- All 4 ports allow 400G QSFP-DD optics and cables
- Mix and match of 2x 200G and 4x 100G modes
- Integrated ejector and handle for simple module removal
- Hot swap modules like-for-like with no power off required


7368-4P – 400G OSFP

400G Options for High Performance Designs



Four Port OSFP I/O module

- Eight modules per system allows 32 x 100G in 4U
- All 4 ports allow 400G OSFP optics and cables
- Mix and match of 2x 200G and 4x 100G modes
- Integrated ejector and handle for simple module removal
- Hot swap modules like-for-like with no power off required



System Differences to Facebook Minipack

System Comparison : Chassis & Linecards

	Arista 7368X4	Facebook Minipack
Chassis	<ul style="list-style-type: none"> • 179mm (H) • 442mm (W) • 559mm (D) 	<ul style="list-style-type: none"> • 176mm (H) • 440mm (W) • 737mm (D)
	4RU	4RU
	Designed to mount in EIA 19" rack	Designed to mount in EIA 19" rack
Linecards	DCS-7368-16C: 16 x QSFP28 100G port interface module	PIM-16Q: 16 x QSFP28 100G port interface module
	DCS-7368-4D: 4 x QSFP-DD 400G port interface module	PIM-4DD: 4 x QSFP-DD 400G port interface module
	DCS-7368-4P: 4 x OSFP 400G port interface module	

System Comparison : Supervisor & Management Plane

	Arista 7368X4	Facebook Minipack
Supervisor	Intel Broadwell-DE CPU	Intel Broadwell-DE CPU
		Industry-standard COM-Express (COM-e) CPU module form-factor
		System Control Module(SCM) carries one COM-e module.
Management Plane / BMC	Aspeed AST2520 BMC chip	Aspeed AST2520 BMC chip
	Front panel Ethernet for CPU and BMC	OOB GbE Switch for COM-e and BMC inside Minipack Chassis
	Front panel Console for CPU or BMC	Front panel RS232 console to BMC
	Front panel USB for memory devices	USB debug port that supports Facebook OCP debug dongle <ul style="list-style-type: none"> • UART to CPU or BMC • I2C to BMC

System Comparison : Components

	Arista 7368X4	Facebook Minipack
PSU Units	Delta - DPS1900AB (2000W)	BelPower: PFE1500-12-054NAC (1500W)
Power Plane	<ul style="list-style-type: none"> • 1+1 or 2 + 2 redundant AC/DC PSU • Input 200-240AC / 40-72V DC 	<ul style="list-style-type: none"> • 2+2 redundant AC/DC PSU • 90VAC to 400VAC input (180VAC minimum required for full PSU output power)
Fan	<ul style="list-style-type: none"> • Size - 80mm x 80mm x 38mm Single Rotor fan • Quantity - 5 	<ul style="list-style-type: none"> • Size - 80mm x 80mm x 80mm Counter Rotating fan • Quantity - 8
Gearbox	Credo CRT50216 gearbox PHY	Broadcom BCM81724 gearbox PHY

System Comparison : Front Panel Ports Striping

- Front Panel Port Striping on Arista 7368 is different from Minipack. Port mapping of Tomahawk3 and Front Panel Port for Arista 7368 below:

Ethernet2/1/1	Port:	ce16	IngressXPE:	0	EgressXPE:	0,1	Pipe:	1
Ethernet2/2/1	Port:	ce17	IngressXPE:	0	EgressXPE:	0,1	Pipe:	1
Ethernet2/3/1	Port:	ce18	IngressXPE:	0	EgressXPE:	0,1	Pipe:	1
Ethernet2/4/1	Port:	ce19	IngressXPE:	0	EgressXPE:	0,1	Pipe:	1
Ethernet2/5/1	Port:	ce0	IngressXPE:	0	EgressXPE:	0,1	Pipe:	0
Ethernet2/6/1	Port:	ce1	IngressXPE:	0	EgressXPE:	0,1	Pipe:	0
Ethernet2/7/1	Port:	ce2	IngressXPE:	0	EgressXPE:	0,1	Pipe:	0
Ethernet2/8/1	Port:	ce3	IngressXPE:	0	EgressXPE:	0,1	Pipe:	0
Ethernet2/9/1	Port:	ce32	IngressXPE:	1	EgressXPE:	0,1	Pipe:	2
Ethernet2/10/1	Port:	ce33	IngressXPE:	1	EgressXPE:	0,1	Pipe:	2
Ethernet2/11/1	Port:	ce34	IngressXPE:	1	EgressXPE:	0,1	Pipe:	2
Ethernet2/12/1	Port:	ce35	IngressXPE:	1	EgressXPE:	0,1	Pipe:	2
Ethernet2/13/1	Port:	ce48	IngressXPE:	1	EgressXPE:	0,1	Pipe:	3
Ethernet2/14/1	Port:	ce49	IngressXPE:	1	EgressXPE:	0,1	Pipe:	3
Ethernet2/15/1	Port:	ce50	IngressXPE:	1	EgressXPE:	0,1	Pipe:	3
Ethernet2/16/1	Port:	ce51	IngressXPE:	1	EgressXPE:	0,1	Pipe:	3
Ethernet3/1/1	Port:	ce36	IngressXPE:	1	EgressXPE:	0,1	Pipe:	2
Ethernet3/2/1	Port:	ce37	IngressXPE:	1	EgressXPE:	0,1	Pipe:	2
Ethernet3/3/1	Port:	ce38	IngressXPE:	1	EgressXPE:	0,1	Pipe:	2
Ethernet3/4/1	Port:	ce39	IngressXPE:	1	EgressXPE:	0,1	Pipe:	2
Ethernet3/5/1	Port:	ce4	IngressXPE:	0	EgressXPE:	0,1	Pipe:	0
Ethernet3/6/1	Port:	ce5	IngressXPE:	0	EgressXPE:	0,1	Pipe:	0
Ethernet3/7/1	Port:	ce6	IngressXPE:	0	EgressXPE:	0,1	Pipe:	0
Ethernet3/8/1	Port:	ce7	IngressXPE:	0	EgressXPE:	0,1	Pipe:	0

Ethernet3/9/1	Port:	ce20	IngressXPE:	0	EgressXPE:	0,1	Pipe:	1
Ethernet3/10/1	Port:	ce21	IngressXPE:	0	EgressXPE:	0,1	Pipe:	1
Ethernet3/11/1	Port:	ce22	IngressXPE:	0	EgressXPE:	0,1	Pipe:	1
Ethernet3/12/1	Port:	ce23	IngressXPE:	0	EgressXPE:	0,1	Pipe:	1
Ethernet3/13/1	Port:	ce52	IngressXPE:	1	EgressXPE:	0,1	Pipe:	3
Ethernet3/14/1	Port:	ce53	IngressXPE:	1	EgressXPE:	0,1	Pipe:	3
Ethernet3/15/1	Port:	ce54	IngressXPE:	1	EgressXPE:	0,1	Pipe:	3
Ethernet3/16/1	Port:	ce55	IngressXPE:	1	EgressXPE:	0,1	Pipe:	3
Ethernet4/1/1	Port:	ce24	IngressXPE:	0	EgressXPE:	0,1	Pipe:	1
Ethernet4/2/1	Port:	ce25	IngressXPE:	0	EgressXPE:	0,1	Pipe:	1
Ethernet4/3/1	Port:	ce26	IngressXPE:	0	EgressXPE:	0,1	Pipe:	1
Ethernet4/4/1	Port:	ce27	IngressXPE:	0	EgressXPE:	0,1	Pipe:	1
Ethernet4/5/1	Port:	ce8	IngressXPE:	0	EgressXPE:	0,1	Pipe:	0
Ethernet4/6/1	Port:	ce9	IngressXPE:	0	EgressXPE:	0,1	Pipe:	0
Ethernet4/7/1	Port:	ce10	IngressXPE:	0	EgressXPE:	0,1	Pipe:	0
Ethernet4/8/1	Port:	ce11	IngressXPE:	0	EgressXPE:	0,1	Pipe:	0
Ethernet4/9/1	Port:	ce40	IngressXPE:	1	EgressXPE:	0,1	Pipe:	2
Ethernet4/10/1	Port:	ce41	IngressXPE:	1	EgressXPE:	0,1	Pipe:	2
Ethernet4/11/1	Port:	ce42	IngressXPE:	1	EgressXPE:	0,1	Pipe:	2
Ethernet4/12/1	Port:	ce43	IngressXPE:	1	EgressXPE:	0,1	Pipe:	2
Ethernet4/13/1	Port:	ce56	IngressXPE:	1	EgressXPE:	0,1	Pipe:	3
Ethernet4/14/1	Port:	ce57	IngressXPE:	1	EgressXPE:	0,1	Pipe:	3
Ethernet4/15/1	Port:	ce58	IngressXPE:	1	EgressXPE:	0,1	Pipe:	3
Ethernet4/16/1	Port:	ce59	IngressXPE:	1	EgressXPE:	0,1	Pipe:	3

System Comparison : Front Panel Ports Striping Contd.

Ethernet5/1/1	Port:	ce44	IngressXPE:	1	EgressXPE:	0,1	Pipe:	2
Ethernet5/2/1	Port:	ce45	IngressXPE:	1	EgressXPE:	0,1	Pipe:	2
Ethernet5/3/1	Port:	ce46	IngressXPE:	1	EgressXPE:	0,1	Pipe:	2
Ethernet5/4/1	Port:	ce47	IngressXPE:	1	EgressXPE:	0,1	Pipe:	2
Ethernet5/5/1	Port:	ce28	IngressXPE:	0	EgressXPE:	0,1	Pipe:	1
Ethernet5/6/1	Port:	ce29	IngressXPE:	0	EgressXPE:	0,1	Pipe:	1
Ethernet5/7/1	Port:	ce30	IngressXPE:	0	EgressXPE:	0,1	Pipe:	1
Ethernet5/8/1	Port:	ce31	IngressXPE:	0	EgressXPE:	0,1	Pipe:	1
Ethernet5/9/1	Port:	ce12	IngressXPE:	0	EgressXPE:	0,1	Pipe:	0
Ethernet5/10/1	Port:	ce13	IngressXPE:	0	EgressXPE:	0,1	Pipe:	0
Ethernet5/11/1	Port:	ce14	IngressXPE:	0	EgressXPE:	0,1	Pipe:	0
Ethernet5/12/1	Port:	ce15	IngressXPE:	0	EgressXPE:	0,1	Pipe:	0
Ethernet5/13/1	Port:	ce60	IngressXPE:	1	EgressXPE:	0,1	Pipe:	3
Ethernet5/14/1	Port:	ce61	IngressXPE:	1	EgressXPE:	0,1	Pipe:	3
Ethernet5/15/1	Port:	ce62	IngressXPE:	1	EgressXPE:	0,1	Pipe:	3
Ethernet5/16/1	Port:	ce63	IngressXPE:	1	EgressXPE:	0,1	Pipe:	3
Ethernet6/1/1	Port:	ce80	IngressXPE:	1	EgressXPE:	0,1	Pipe:	5
Ethernet6/2/1	Port:	ce81	IngressXPE:	1	EgressXPE:	0,1	Pipe:	5
Ethernet6/3/1	Port:	ce82	IngressXPE:	1	EgressXPE:	0,1	Pipe:	5
Ethernet6/4/1	Port:	ce83	IngressXPE:	1	EgressXPE:	0,1	Pipe:	5
Ethernet6/5/1	Port:	ce96	IngressXPE:	0	EgressXPE:	0,1	Pipe:	6
Ethernet6/6/1	Port:	ce97	IngressXPE:	0	EgressXPE:	0,1	Pipe:	6
Ethernet6/7/1	Port:	ce98	IngressXPE:	0	EgressXPE:	0,1	Pipe:	6
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Ethernet6/15/1	Port:	ce66	IngressXPE:	1	EgressXPE:	0,1	Pipe:	4
Ethernet6/16/1	Port:	ce67	IngressXPE:	1	EgressXPE:	0,1	Pipe:	4
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Ethernet7/3/1	Port:	ce102	IngressXPE:	0	EgressXPE:	0,1	Pipe:	6
Ethernet7/4/1	Port:	ce103	IngressXPE:	0	EgressXPE:	0,1	Pipe:	6
Ethernet7/5/1	Port:	ce116	IngressXPE:	0	EgressXPE:	0,1	Pipe:	7
Ethernet7/6/1	Port:	ce117	IngressXPE:	0	EgressXPE:	0,1	Pipe:	7
Ethernet7/7/1	Port:	ce118	IngressXPE:	0	EgressXPE:	0,1	Pipe:	7
Ethernet7/8/1	Port:	ce119	IngressXPE:	0	EgressXPE:	0,1	Pipe:	7

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Ethernet7/10/1	Port:	ce85	IngressXPE:	1	EgressXPE:	0,1	Pipe:	5
Ethernet7/11/1	Port:	ce86	IngressXPE:	1	EgressXPE:	0,1	Pipe:	5
Ethernet7/12/1	Port:	ce87	IngressXPE:	1	EgressXPE:	0,1	Pipe:	5
Ethernet7/13/1	Port:	ce88	IngressXPE:	1	EgressXPE:	0,1	Pipe:	4
Ethernet7/14/1	Port:	ce69	IngressXPE:	1	EgressXPE:	0,1	Pipe:	4
Ethernet7/15/1	Port:	ce70	IngressXPE:	1	EgressXPE:	0,1	Pipe:	4
Ethernet7/16/1	Port:	ce71	IngressXPE:	1	EgressXPE:	0,1	Pipe:	4
Ethernet8/1/1	Port:	ce88	IngressXPE:	1	EgressXPE:	0,1	Pipe:	5
Ethernet8/2/1	Port:	ce89	IngressXPE:	1	EgressXPE:	0,1	Pipe:	5
Ethernet8/3/1	Port:	ce90	IngressXPE:	1	EgressXPE:	0,1	Pipe:	5
Ethernet8/4/1	Port:	ce91	IngressXPE:	1	EgressXPE:	0,1	Pipe:	5
Ethernet8/5/1	Port:	ce120	IngressXPE:	0	EgressXPE:	0,1	Pipe:	7
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Ethernet8/7/1	Port:	ce122	IngressXPE:	0	EgressXPE:	0,1	Pipe:	7
Ethernet8/8/1	Port:	ce123	IngressXPE:	0	EgressXPE:	0,1	Pipe:	7
Ethernet8/9/1	Port:	ce104	IngressXPE:	0	EgressXPE:	0,1	Pipe:	6
Ethernet8/10/1	Port:	ce105	IngressXPE:	0	EgressXPE:	0,1	Pipe:	6
Ethernet8/11/1	Port:	ce106	IngressXPE:	0	EgressXPE:	0,1	Pipe:	6
Ethernet8/12/1	Port:	ce107	IngressXPE:	0	EgressXPE:	0,1	Pipe:	6
Ethernet8/13/1	Port:	ce72	IngressXPE:	1	EgressXPE:	0,1	Pipe:	4
Ethernet8/14/1	Port:	ce73	IngressXPE:	1	EgressXPE:	0,1	Pipe:	4
Ethernet8/15/1	Port:	ce74	IngressXPE:	1	EgressXPE:	0,1	Pipe:	4
Ethernet8/16/1	Port:	ce75	IngressXPE:	1	EgressXPE:	0,1	Pipe:	4
Ethernet9/1/1	Port:	ce108	IngressXPE:	0	EgressXPE:	0,1	Pipe:	6
Ethernet9/2/1	Port:	ce109	IngressXPE:	0	EgressXPE:	0,1	Pipe:	6
Ethernet9/3/1	Port:	ce110	IngressXPE:	0	EgressXPE:	0,1	Pipe:	6
Ethernet9/4/1	Port:	ce111	IngressXPE:	0	EgressXPE:	0,1	Pipe:	6
Ethernet9/5/1	Port:	ce124	IngressXPE:	0	EgressXPE:	0,1	Pipe:	7
Ethernet9/6/1	Port:	ce125	IngressXPE:	0	EgressXPE:	0,1	Pipe:	7
Ethernet9/7/1	Port:	ce126	IngressXPE:	0	EgressXPE:	0,1	Pipe:	7
Ethernet9/8/1	Port:	ce127	IngressXPE:	0	EgressXPE:	0,1	Pipe:	7
Ethernet9/9/1	Port:	ce92	IngressXPE:	1	EgressXPE:	0,1	Pipe:	5
Ethernet9/10/1	Port:	ce93	IngressXPE:	1	EgressXPE:	0,1	Pipe:	5
Ethernet9/11/1	Port:	ce94	IngressXPE:	1	EgressXPE:	0,1	Pipe:	5
Ethernet9/12/1	Port:	ce95	IngressXPE:	1	EgressXPE:	0,1	Pipe:	5
Ethernet9/13/1	Port:	ce76	IngressXPE:	1	EgressXPE:	0,1	Pipe:	4
Ethernet9/14/1	Port:	ce77	IngressXPE:	1	EgressXPE:	0,1	Pipe:	4
Ethernet9/15/1	Port:	ce78	IngressXPE:	1	EgressXPE:	0,1	Pipe:	4
Ethernet9/16/1	Port:	ce79	IngressXPE:	1	EgressXPE:	0,1	Pipe:	4



Thank You

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