CHECK POINT™

Quantum
Maestro

YOU DESERVE THE BEST SECURITY

Maestro Hyperscale Orchestrator 140 | 175

Maestro Hyperscale is designed to simplify small, medium and large-scale security deployments with a modern firewall clustering architecture that spans both on-premises and cloud environments, creating a true hybrid datacenter fabric. By orchestrating multiple Quantum firewalls as one unified system, Maestro delivers:

- **Seamless Scale & Growth:**
  N+1 clustering powered by Check Point HyperSync lets you add or retire firewalls without downtime, growing capacity on demand.

- **Cloud-Level Agility On-Premises:**
  Elastic traffic distribution across all nodes ensures consistent performance under any load.

- **Unified Management & Policy:**
  A single pane-of-glass for configuration, monitoring, and reporting across your entire security cluster.

- **Flexibility for Any Environment:**
  Support for multi-site and hybrid-cloud deployments, so you can collocate workloads wherever it makes sense —public cloud, private cloud, or traditional datacenter— without changing policies or tools.

- **Cost-Efficient Resiliency:**
  Leverage hyperscale efficiency to maximize hardware utilization and lower total cost of ownership, while maintaining N+1 uptime guarantees.

With Maestro, organizations of any size gain simplicity, flexibility, and growth potential of cloud-native security — delivered on premises with enterprise-grade resilience and control. The Maestro hyperscale network security solution orchestrates multiple Quantum firewalls as one unified system with a new clustering architecture that offers simplicity and hybrid datacenter flexibility at growth. Bring scale, agility, and elasticity of the cloud on premises with efficient N+1 clustering based on Check Point HyperSync technology. Maestro Hyperscale Orchestrators distribute internal and external network traffic equally across multiple Quantum firewalls managed as a single group with a common security feature set and policy. With Maestro, organizations of all sizes can have cloud scale and agility with datacenter resiliency – all while maximizing cost efficiency.

Example: Maestro System with Dual MHO 175 Orchestrators
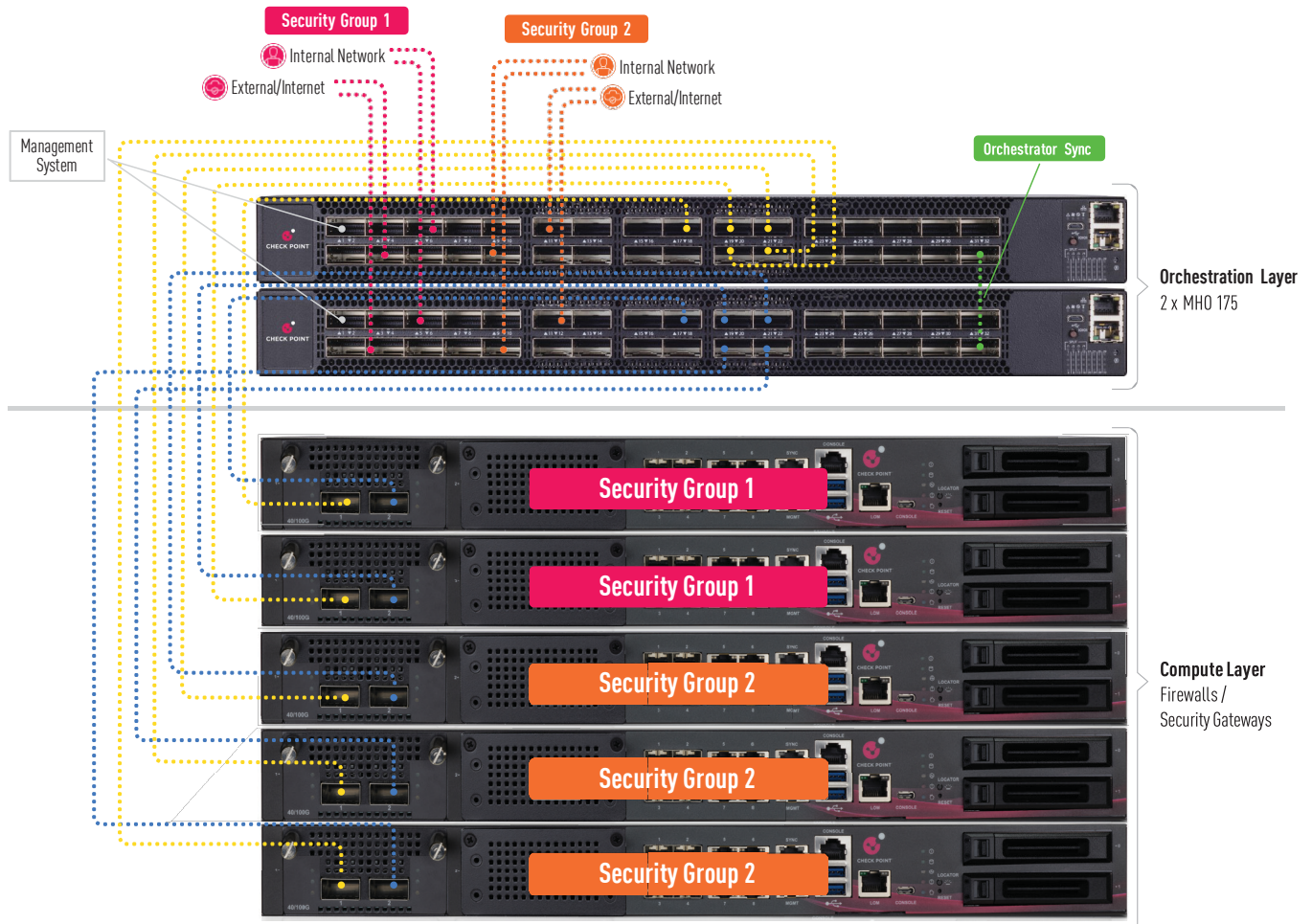
Maestro Strengths

- **Operational Supremacy**
- **Hyperscale Security**
- **Cloud-Level Resiliency**
- **Maximum Cost-Efficiency**
- **Telco-Grade Technology**
- **Linear Scalability**

Technical Resources

Guide to Hyperscale Networking
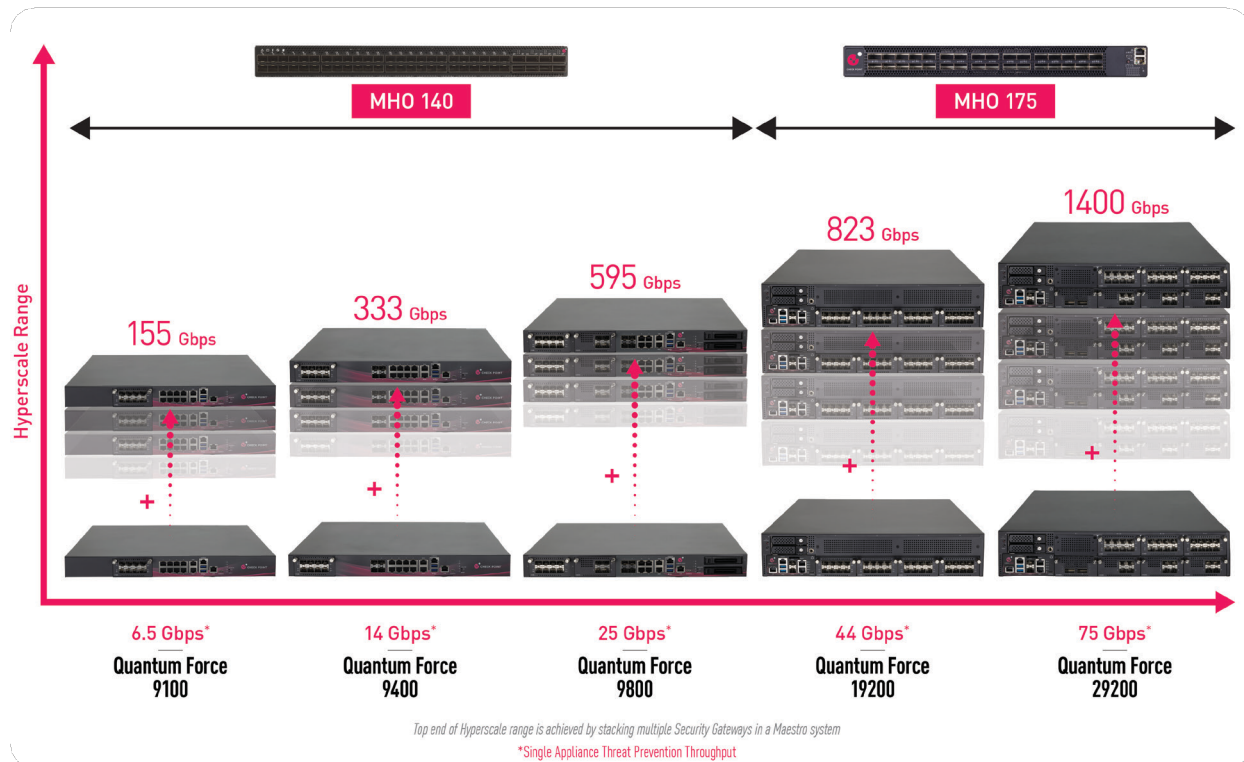https://www.checkpoint.com/resources/items/ebook-guide-to-hyperscale-network-security

Maestro Technical Videos
https://youtu.be/mkGj0pJIn5Y?si=Nk84r8XNSyfSimQW

Tech Point Central Video Series
https://www.youtube.com/playlist?list=PLMAKXIJBvfAiox1OCCUGcv90oK6N3G1v

Flexible Scalability with MHO 140 or MHO 175

Firewall Appliance Model & Threat Prevention Throughput


Key Maestro Benefits

- **Always-On:** 99.999% uptime, no single point of failure

- **Elastic Performance:** 60 Gbps to 1,400 Gbps threat prevention without disruption. No gaps during traffic spikes.

- **Intelligent Load Sharing:** Security resources adjust automatically

- **Simplified Operations:** In-service upgrades, no forklift swaps

- **True multi-tenancy:** Isolate and enforce zero trust seamlessly

PATENTED

Orchestrators

Security Gateways
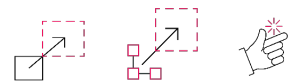
Scalable   Unified   Simple
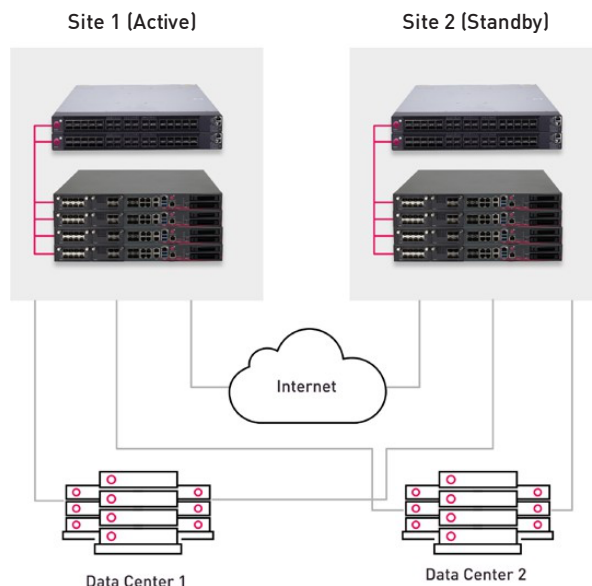
Maestro Hyperscale Orchestrator

Maestro Hyperscale Orchestrator 140 & 175 Default Port Mappings
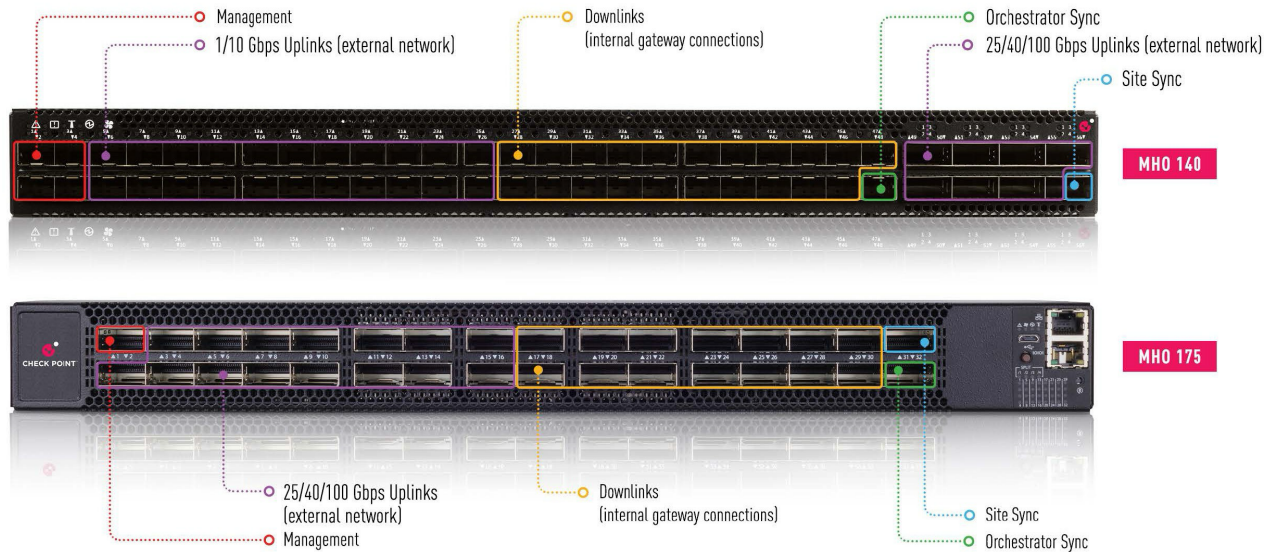
The Hyperscale Orchestrator 140 is a mid-range model with 48x 10/25GbE and 8x 40/100 GbE ports with a total fabric capacity of 2 Tbps. The Hyperscale Orchestrator 175 is a high-end model with 32x 40/100 GbE ports and a total fabric capacity of 3.2 Tbps.

For full redundancy, deploy two Orchestrators of the same model together. Security Group members connect to the Orchestrator via Direct Attached Copper (DAC) cables, either 10, 25, 40 or 100 GbE depending upon the gateway and Orchestrator models deployed. The Orchestrator's 300-nanosecond port-to-port latency delivers predictable wire speed performance with no packet loss for any packet size.

Example Dual Site Configuration for Full Active/Standby Redundancy

Appliance Specifications

Maestro Hyperscale Orchestrator

	MHO 140	**MHO 175**
Fabric Capacity	2 TB	3.2 TB
Latency	300 nsec port to port	400 nsec port to port
Ports	48x 10/25GbE and 8x 40/100GbE	32x 40/100GbE or 128x 10/25GbE
Enclosure	1RU	1RU
Standard Dimensions (W x D x H)	17.24' 'x 17' x 1.72'', 438 x 436 x 43.8mm	16.84' 'x 27' x 1.72'', 427.83 x 686 x 43.8mm
Weight	18.8lb (8.52kg)	24.5lb (11.1kg)
Power Input	100-127 VAC, 200-240VAC, 50-60Hz	100-127 VAC, 200-240VAC, 50-60Hz
Single Power Supply Rating	165W	150W
Dual Power Supplies	Included	Included
Airflow	Front to Back	Front to Back
Safety/Emissions/Environment	UL60950-1, CB IEC60950-1 , CE LVD EN60950-1 / FCC, IC, CE, VCCI, RCM/C-Tick / RoHS, WEEE, REACH , *ISO14001	

* Factory certificate

Spotlight on Management

Security Groups

With Maestro, you can dynamically allocate or deal locate compute resources within and between Security Groups to meet your needs. Security Groups are logical groups of appliances providing active/active cluster functionally segregated from other Security Groups. Each Security Group has dedicated internal and external interfaces and may have a different configuration set and policy,
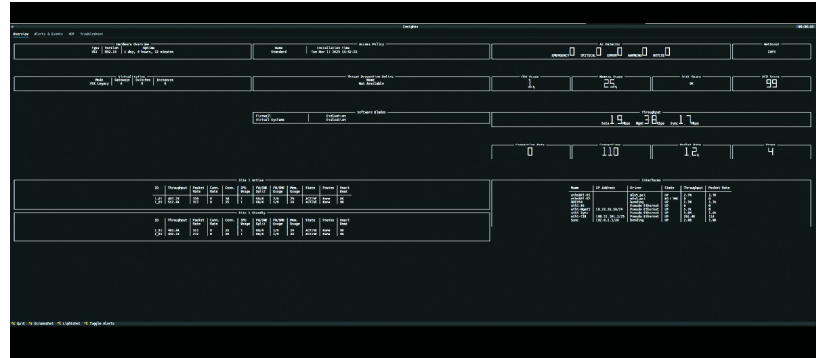

Fig. 01: Insights Tool: Real-time Health Monitoring & Troubleshooting for Maestro and Firewalls

e.g. Next Generation Firewall protecting a data center or Next Generation Threat Prevention providing perimeter protection. In addition, new tools have been integrated: a comprehensive Insights tool for monitoring and troubleshooting security group's health and status in real-time. A new snapshot system – 'Lightshot' – enabling smaller and faster snapshot improving recovery time and backup possibilities.

Single Management Object (SMO)

Externally a Security Group is seen as one security gateway or VSX gateway object in the Check Point security management GUI client, SmartConsole. A single IP address per Security Group for management communications and policy install simplifies Security Group management. All configurations, e.g. interfaces or IP addresses and routes are mirrored on gateways in the Security Group. Prior to becoming an online member and actively handling traffic each new member of the Security Group synchronizes its image, software configuration and security policy with the SMO of the Security Group. Quantum firewall software release R82 GAIA Web UI has been enhanced to include Cluster Management.

Deployment

Single Site Deployment (Local) - Standard high-performance and high-availability scenario in a single data center.

Dual Site Active-Active (Dual-Site Clustering with Load Sharing) - Two geographically separated sites with simultaneous traffic handling for high availability and disaster recovery.

Dual Site Active/Standby (Dual-Site Clustering with Failover) - Two sites where one acts as the primary, the other as a hot standby for disaster recovery.

Latest Orchestrator OS Features

Quantum Firewall Software release R82 has implemented significant changes in the Orchestrator's software features. Starting with the initial deployment, the Orchestrator's setup is managed by the First Time Wizard, where all environment and site parameters can be set. A vastly improved WebUI allows easy and intuitive interactive port map to simplify identification of ports and their roles and status.
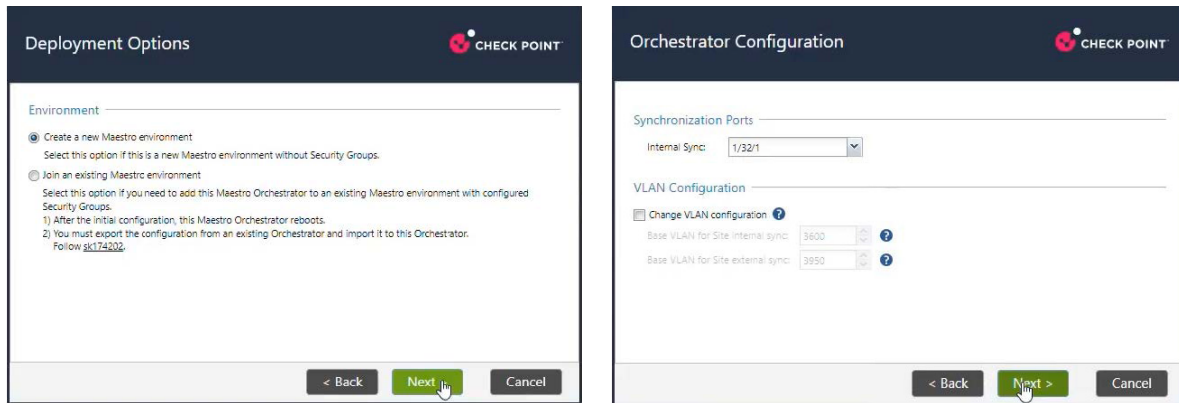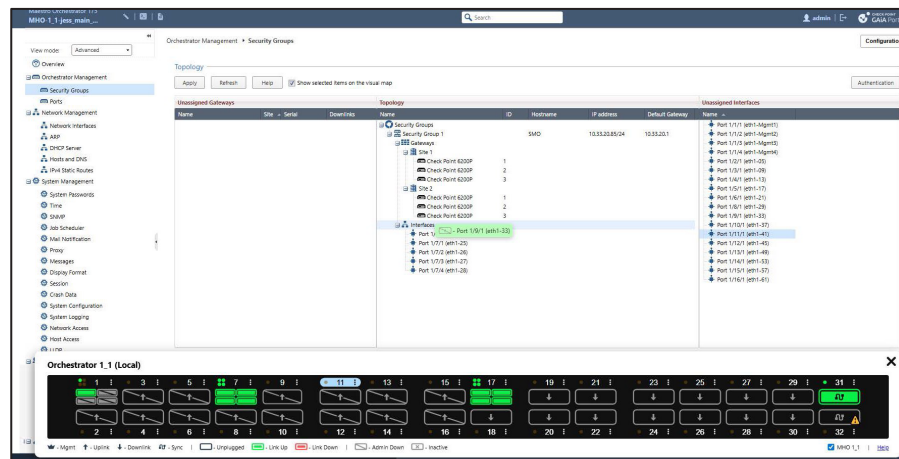

Fig. 02: Orchestrator First Time

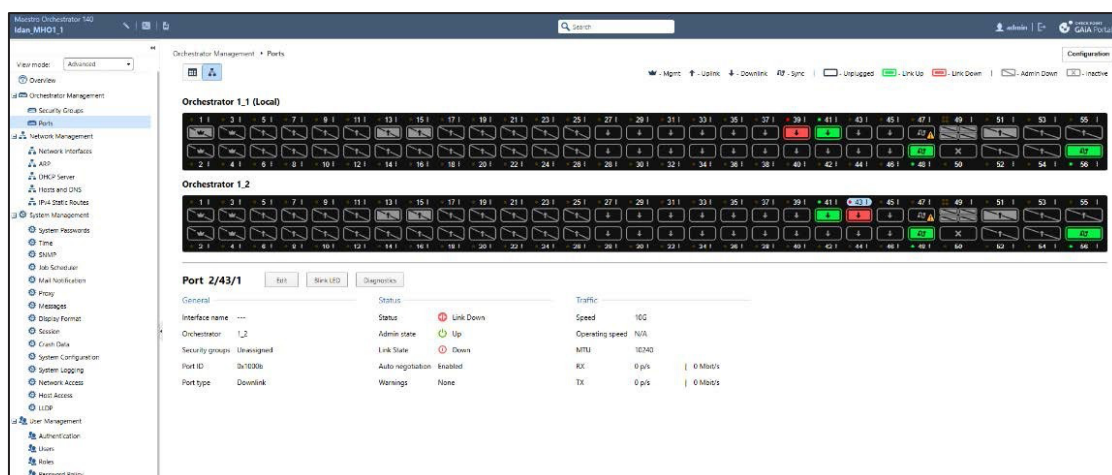Fig. 03: Orchestrator WebUI physical ports visualization

Fig. 04: Orchestrator WebUI physical ports visualization

Hyperscale Security System

With Maestro, you can start with two gateways and then can grow to up to 28 gateways across 8 security groups, in a single site, each managing their own separate networks with their own rules and policies.

For example, when you start with 88 Gbps using two Quantum Force 19200 gateways you can finish with a 1012 Gbps security solution that supports over 713 million concurrent connections. Simply by using Check Point Maestro.

Hyperscale Orchestrator Connections

When a Security Group is created, an IP address is created for a Single Management Object connection to the security management server. Easily create and assign IP addresses to the internal and external network interfaces. These uplinks are the visible components of the Maestro security solution.

Intelligent Load Sharing
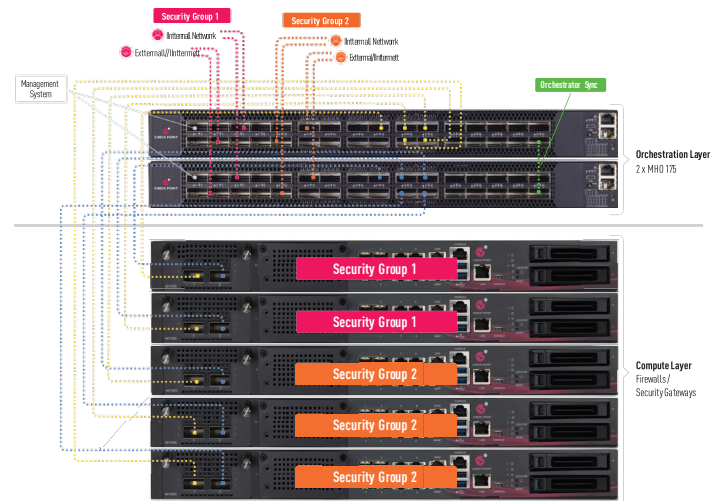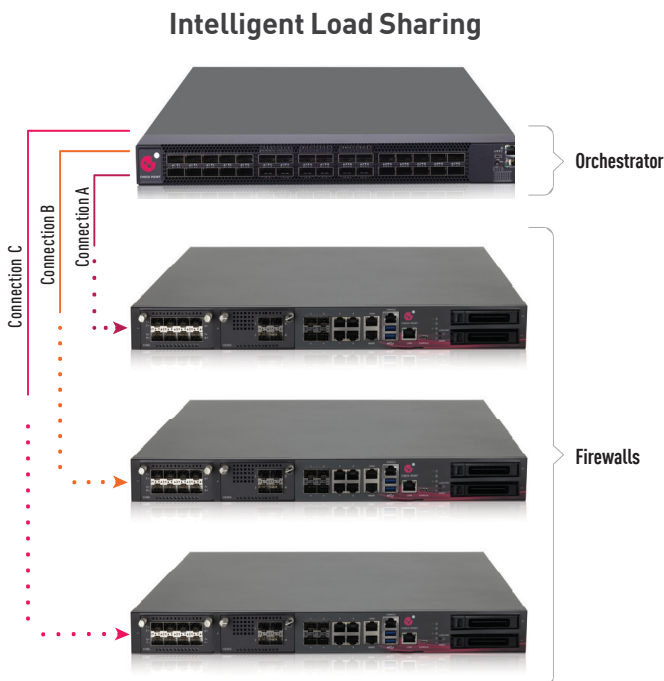
Operational Efficiency

Simplified operations with improved user interface, features and tools. When we add a gateway to the system, it gets all the configurations, the policy, even the software version, updated and aligned with the existing deployment, ready to go within 6 minutes.

Maestro Traffic Distribution

Within security groups, traffic is fully load-balanced, HyperSync tracks the Active/Standby/Backup state of group members. Sync traffic is limited to only the Active and Standby members handling the connection.

Cost-Efficient N+1 Deployments

Now businesses of all sizes can enjoy cloud-level resiliency and telco-grade technology using the efficient Maestro N+1 clustering design supporting a fully redundant active/active mode.

Simply Zero

Zero Touch & Zero down time, enhance operational simplicity and efficiency and enabling continuity of business with no connection lost during upgrades.

Specifications

Single Appliance - MHO 175 bundles					
	19100	19200	29100	29200	
Threat Prevention (Gbps)	Up to 655*	Up to 823*	Up to 1122*	Up to 1400*	
Dual Site Deployment Security Groups	up to 28 gateways, 14 from each site				

Single Appliance Performance Comparisons- MHO 175 bundles				
Enterprise Testing Conditions	19100	19200	29100	29200
Threat Prevention (Gbps) [1]	35	44	60	75
NGFW Throughput (Gbps) [2]	90	100	130	165
IPS Throughput (Gbps)	130	145	175	235
Firewall (Gbps)	200	245	365	500
Ideal Testing Conditions				
Firewall Throughput (Gbps)	800	800	1,400	1,400
VPN Throughput (Gbps)	75.3	86	103	130
Connections Per Second	750,000	1,000,000	1,250,000	1,500,000
Concurrent Sessions (M) [3]	Up to 31M	Up to 31M	Up to 67M	Up to 67M
Additional Features				
CPUs/physical cores/virtual cores	2/32/64	2/40/80	2/56/112	2/64/128
Storage Size (NVMe)	960 GB	960 GB	960 GB	960 GB
Physical				
Enclosure	2U	2U	2U	2U

Note: additional Maestro solution configurations are available in the product catalog.

*In a 2xMHO175 full redundancy deployment with up to 22 appliances connected and based on Quantum Firewall Software Release R82 take #25

Maestro Scalability - MHO 140 bundles						
	9100	9200	9300	9400	9700	9800
Threat Prevention (Gbps)	Up to 155	Up to 190	Up to 250	Up to 333	Up to 476	Up to 595
Dual Site Deployment Security Groups	up to 28 gateways, 14 from each site					

Single Appliance - MHO 140 bundles						
Enterprise Testing Conditions	9100	9200	9300	9400	9700	9800
Threat Prevention (Gbps) [1]	6.5	8	10.5	14	20	25
NGFW Throughput (Gbps) [2]	18.6	19	28.2	33.3	57.6	67.7
IPS Throughput (Gbps)	25.7	31	39	46.4	73.7	90.5
Firewall (Gbps)	55	60	70	72.6	129	185
Ideal Testing Conditions						
Firewall Throughput (Gbps)	80	80	80.2	200	400	400
VPN Throughput (Gbps)	22.1	28.6	33	40	75	75
Connections Per Second	190,000	250,000	300,000	355,000	535,000	715,000
Concurrent Sessions (M) [3]	Up to 16.2M	Up to 16.2M	Up to 16.2M	Up to 16.2M	Up to 29M	Up to 29M
Additional Features						
CPUs/physical cores/virtual cores	1/4/8	1/4/8	1/10/16	1/14/20	1/16/32	1/20/40
Storage Size	480 GB (SSD)	480 GB (SSD)	480 GB (SSD)	960 GB (SSD)	960 GB (NVMe)	960 GB (NVMe)
Physical						
Enclosure	1U	1U	1U	1U	1U	1U

Content Security

First Time Prevention Capabilities

- CPU-level, OS-level and static file analysis
- File disarm and reconstruction via Threat Extraction
- Average emulation time for unknown files that require full sandbox evaluation is under 100 seconds
- Maximal file size for Emulation is 100 MB
- Emulation OS Support: Windows XP, 7, 8.1, 10

Applications

- Use 10,000+ pre-defined or customize your own applications
- Accept, prevent, schedule, and apply traffic-shaping

Data Loss Prevention

- Classify 700+ pre-defined data types
- End user and data owner incident handling

Dynamic User-based Policy

- Integrates with Microsoft AD, LDAP, RADIUS, Cisco pxGrid, Terminal Servers and with 3rd parties via a Web API
- Enforce consistent policy for local and remote users on Windows, macOS, Linux, Android and Apple iOS platforms

Network

Network Connectivity

- Total physical and virtual (VLAN) interfaces per appliance:
  1024/4096 (single gateway/with virtual systems)
- 802.3ad passive and active link aggregation
- Layer 2 (transparent) and Layer 3 (routing) mode

High Availability

- Session failover for routing change, device and link failure

IPv6

- NAT66
- CoreXL, SecureXL

Unicast and Multicast Routing (see SK98226)

- OSPFv2, BGP, RIP
- Static routes, Multicast routes
- Policy-based routing
- PIM-SM, PIM-DM, IGMP v2, and v3

Ordering Maestro Hyperscale Orchestrator

MAESTRO HYPERSCALE ORCHESTRATORS	SKU
Maestro Hyperscale Orchestrator 175 with 32x 100 GbE ports, plus 1 x 100G DAC (3m) AC power	PAP-MHO-175-AC
Maestro Hyperscale Orchestrator 175 with 32x 100 GbE ports, DC power	CPAP-MHO-175-DC
Maestro Hyperscale Orchestrator 140 with 8x 100 GbE and 48x 10 GbE ports, plus 1 x 10G DAC (3m)	CPAP-MHO-140

MAESTRO HYPERSCALE SOLUTION PACKAGES – MHO 175	SKU
Quantum Force 29200 Maestro / MHS HyperScale configuration: 2x2x40/100GbE QSFP fiber ports, 2x100GbE DAC 3m transceivers, 192 GB RAM, 2x 960GB NVMe, 2x 10 GbE Short Range Transceivers, 2x AC PSUs, Lights-Out Management (LOM), Sliding rails, with SandBlast subscription package for 1 year	CPAP-SG29200-PLUS-MHS-SNBT
Quantum Force 29200 Maestro / MHS HyperScale configuration with 1 MHO-175 orchestrator and **2x Quantum Force 29200 appliances**, each appliance includes 2x2x40/100GbE QSFP fiber ports, 2x100GbE DAC 3m transceivers, 128 GB RAM, 2x 960GB NVMe, 2x AC PSUs, Lights-Out Management (LOM), Sliding rails, with SandBlast subscription package for 1 year	CPAP-SG29202-PLUS-MHS-SNBT
Quantum Force 29200 Maestro / MHS HyperScale configuration with 1 MHO-175 orchestrator and **3x Quantum Force 29200 appliances**, each appliance includes 2x2x40/100GbE QSFP fiber ports, 2x100GbE DAC 3m transceivers, 128 GB RAM, 2x 960GB NVMe, 2x AC PSUs, Lights-Out Management (LOM), Sliding rails, with SandBlast subscription package for 1 year	CPAP-SG29203-PLUS-MHS-SNBT
Quantum Force 29100 Maestro / MHS HyperScale configuration: 2x2x40/100GbE QSFP fiber ports, 4x100GbE DAC 3m transceivers, 128 GB RAM, 2x 960GB NVMe, 2x 10 GbE Short Range Transceivers, 2x AC PSUs, Lights-Out Management (LOM), Sliding rails, with SandBlast subscription package for 1 year	CPAP-SG29100-PLUS-MHS-SNBT
Quantum Force 29100 Maestro / MHS HyperScale configuration with 1 MHO-175 orchestrator and **2x Quantum Force 29100 appliances**, each appliance includes 2x2x40/100GbE QSFP fiber ports, 2x100GbE DAC 3m transceivers, 128 GB RAM, 2x 960GB NVMe, 2x AC PSUs, Lights-Out Management (LOM), Sliding rails, with SandBlast subscription package for 1 year	CPAP-SG29102-PLUS-MHS-SNBT
Quantum Force 29100 Maestro / MHS HyperScale configuration with 1 MHO-175 orchestrator and **3x Quantum Force 29100** appliances, each appliance includes 2x2x40/100GbE QSFP fiber ports, 2x100GbE DAC 3m transceivers, 128 GB RAM, 2x 960GB NVMe, 2x AC PSUs, Lights-Out Management (LOM), Sliding rails, with SandBlast subscription package for 1 year	CPAP-SG29103-PLUS-MHS-SNBT
Quantum Force 19200 Maestro / MHS HyperScale configuration: 2x2x40/100GbE QSFP fiber ports, 2x100GbE DAC 3m transceivers, 128 GB RAM, 2x 960GB NVMe, 2x AC PSUs, Lights-Out Management (LOM), Sliding rails, with SandBlast subscription package for 1 year	CPAP-SG19200-PLUS-MHS-SNBT
Quantum Force 19200 Maestro / MHS HyperScale configuration with 1 MHO-175 orchestrator and **2x Quantum Force 19200 appliances**, each appliance includes 2x2x40/100GbE QSFP fiber ports, 2x100GbE DAC 3m transceivers, 128 GB RAM, 2x 960GB NVMe, 2x AC PSUs, Lights-Out Management (LOM), Sliding rails, with SandBlast subscription package for 1 year	CPAP-MHS-19202-PLUS-SNBT
Quantum Force 19200 Maestro / MHS HyperScale configuration with 1 MHO-175 orchestrator and **3x Quantum Force 19200 appliances**, each appliance includes 2x2x40/100GbE QSFP fiber ports, 2x100GbE DAC 3m transceivers, 128 GB RAM, 2x 960GB NVMe, 2x AC PSUs, Lights-Out Management (LOM), Sliding rails, with SandBlast subscription package for 1 year	CPAP-MHS-19203-PLUS-SNBT
Quantum Force 19100 Maestro / MHS HyperScale configuration: 2x 1/10GbE copper management ports, 2x2x40/100GbE QSFP fiber ports, 96 GB RAM, 2x 960GB NVMe, 2x 100GbE DAC 3m transceivers, 2x AC PSUs, Lights-Out Management (LOM), telescopic rails, 5 Virtual Systems, SandBlast (SNBT) Security Subscription Package for 1 Year	CPAP-SG19100-PLUS-MHS-SNBT
Quantum Force 19100 Maestro / MHS HyperScale configuration with 1 MHO-175 orchestrator and **2x Quantum Force 19100 appliances**, each appliance includes 2x 1/10GbE copper management ports, 2x2x40/100GbE QSFP fiber ports, 96 GB RAM, 2x 960GB NVMe, 2x 100GbE DAC 3m transceivers, 2x AC PSUs, Lights-Out Management (LOM), telescopic rails, 5 Virtual Systems, SandBlast (SNBT) Security Subscription Package for 1 Year	CPAP-MHS-19102-PLUS-SNB
Quantum Force 19100 Maestro / MHS HyperScale configuration with 1 MHO-175 orchestrator and **3x Quantum Force 19100 appliances**, each appliance includes 2x 1/10GbE copper management ports, 2x2x40/100GbE QSFP fiber ports, 96 GB RAM, 2x 960GB NVMe, 2x100GbE DAC 3m transceivers, 2x AC PSUs, Lights-Out Management (LOM), telescopic rails, 5 Virtual Systems, SandBlast (SNBT) Security Subscription Package for 1 Year	CPAP-MHS-19103-PLUS-SNBT

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MAESTRO HYPERSCALE SOLUTION PACKAGES – MHO 140	SKU
Quantum Force 9800 Maestro / MHS HyperScale configuration: 1x RJ45 (1GbE Copper) management port & 1x RJ45 (1GbE Copper) sync port, on-board 4x RJ45 network ports, on-board 4 x 1/10GbE SFP+ ports, 4 x 10/25GbE SFP+ ports, 64 GB RAM, 2x 960 GB SSD NVMe, 2x AC PSUs, Lights-Out Management (LOM), 2x 25GbE DAC 3M, telescopic rails, SandBlast (SNBT) Security Subscription Package for 1 Year	CPAP-SG9800-PLUS-MHS-SNBT
Quantum Force 9800 Maestro / MHS HyperScale configuration with 1 MHO-140 orchestrator and **2x Quantum Force 9800 appliances**, each appliance includes 1x RJ45 (1GbE Copper) management port & 1x RJ45 (1GbE Copper) sync port, on-board 4x RJ45 network ports, on-board 4 x 1/10GbE SFP+ ports, 4 x 10/25GbE SFP+ ports, 64 GB RAM, 2x 960 GB SSD NVMe, 2x AC PSUs, Lights-Out Management (LOM), 2x 25GbE DAC 3M, telescopic rails, SandBlast (SNBT) Security Subscription Package for 1 Year	CPAP-MHS-9802-PLUS-SNBT
Quantum Force 9800 Maestro / MHS HyperScale configuration with 1 MHO-140 orchestrator and **3x Quantum Force 9800 appliances**, each appliance includes 1x RJ45 (1GbE Copper) management port & 1x RJ45 (1GbE Copper) sync port, on-board 4x RJ45 network ports, on-board 4 x 1/10GbE SFP+ ports, 4 x 10/25GbE SFP+ ports, 64 GB RAM, 2x 960 GB SSD NVMe, 2x AC PSUs, Lights-Out Management (LOM), 2x 25GbE DAC 3M, telescopic rails, SandBlast (SNBT) Security Subscription Package for 1 Year	CPAP-MHS-9803-PLUS-SNBT
Quantum Force 9700 Maestro / MHS HyperScale configuration: 1x RJ45 (1GbE Copper) management port & 1x RJ45 (1GbE Copper) sync port, on-board 4x RJ45 network ports, on-board 4 x 1/10GbE SFP+ ports, 4 x 10/25GbE SFP+ ports, 64 GB RAM, 2x 960 GB SSD NVMe, 2x AC PSU, Lights-Out Management (LOM), 2x 25GbE DAC 3M, telescopic rails, SandBlast (SNBT) Security Subscription Package for 1 Year	CPAP-SG9700-PLUS-MHS-SNBT
Quantum Force 9700 Maestro / MHS HyperScale configuration with 1 MHO-140 orchestrator and **2x Quantum Force 9700 appliances**, each appliance includes 1x RJ45 (1GbE Copper) management port & 1x RJ45 (1GbE Copper) sync port, on-board 4x RJ45 network ports, on-board 4 x 1/10GbE SFP+ ports, 4 x 10/25GbE SFP+ ports, 64 GB RAM, 2x 960 GB SSD NVMe, 2x AC PSU, Lights-Out Management (LOM), 2x 25GbE DAC 3M, telescopic rails, SandBlast (SNBT) Security Subscription Package for 1 Year	CPAP-SG9702-PLUS-MHS-SNBT
Quantum Force 9700 Maestro / MHS HyperScale configuration with 1 MHO-140 orchestrator and **3x Quantum Force 9700 appliances**, each appliance includes 1x RJ45 (1GbE Copper) management port & 1x RJ45 (1GbE Copper) sync port, on-board 4x RJ45 network ports, on-board 4 x 1/10GbE SFP+ ports, 4 x 10/25GbE SFP+ ports, 64 GB RAM, 2x 960 GB SSD NVMe, 2x AC PSU, Lights-Out Management (LOM), 2x 25GbE DAC 3M, telescopic rails, SandBlast (SNBT) Security Subscription Package for 1 Year	CPAP-SG9703-PLUS-MHS-SNBT
Quantum Force 9400 Maestro / MHS HyperScale configuration: 1x RJ45 (1GbE Copper) management port & 1x RJ45 (1GbE Copper) sync port, on-board 8x RJ45 network ports, on-board 4 x 1/10GbE SFP+ ports, 4 x 10/25GbE SFP+ ports, 32 GB RAM, 1x 960 GB SSD SATA, 2x AC PSUs, Lights-Out Management (LOM), 2x 25GbE DAC 3M, telescopic rails, SandBlast (SNBT) Security Subscription Package for 1 Year	CPAP-SG9400-PLUS-MHS-SNBT
Quantum Force 9400 Maestro / MHS HyperScale configuration with 1 MHO-140 orchestrator and **2x Quantum Force 9400 appliances**, each appliance includes 1x RJ45 (1GbE Copper) management port & 1x RJ45 (1GbE Copper) sync port, on-board 8x RJ45 network ports, on-board 4 x 1/10GbE SFP+ ports, 4 x 10/25GbE SFP+ ports, 32 GB RAM, 1x 960 GB SSD SATA, 2x AC PSUs, Lights-Out Management (LOM), 2x 25GbE DAC 3M, telescopic rails, SandBlast (SNBT) Security Subscription Package for 1 Year	CPAP-MHS-9402-PLUS-SNBT
Quantum Force 9400 Maestro / MHS HyperScale configuration with 1 MHO-140 orchestrator and **3x Quantum Force 9400 appliances**, each appliance includes 1x RJ45 (1GbE Copper) management port & 1x RJ45 (1GbE Copper) sync port, on-board 8x RJ45 network ports, on-board 4 x 1/10GbE SFP+ ports, 4 x 10/25GbE SFP+ ports, 32 GB RAM, 1x 960 GB SSD SATA, 2x AC PSUs, Lights-Out Management (LOM), 2x 25GbE DAC 3M, telescopic rails, SandBlast (SNBT) Security Subscription Package for 1 Year	CPAP-MHS-9403-PLUS-SNBT
Quantum Force 9300 Maestro / MHS HyperScale configuration: 1x RJ45 (1GbE Copper) management port & 1x RJ45 (1GbE Copper) sync port, on-board 8x RJ45 ports, 4x 10/25GbE SFP+ ports, 32 GB RAM, 1x 480 GB SSD SATA, 2x AC PSUs, Lights-Out Management (LOM), 2x 25GbE DAC 3M, telescopic rails, SandBlast (SNBT) Security Subscription Package for 1 Year	CPAP-SG9300-PLUS-MHS-SNBT
Quantum Force 9300 Maestro / MHS HyperScale configuration with 1 MHO-140 orchestrator and **2x Quantum Force 9300 appliances**, each appliance includes 1x RJ45 (1GbE Copper) management port & 1x RJ45 (1GbE Copper) sync port, on-board 8x RJ45 ports, 4x 10/25GbE SFP+ ports, 32 GB RAM, 1x 480 GB SSD SATA, 2x AC PSUs, Lights-Out Management (LOM), 2x 25GbE DAC 3M, telescopic rails, SandBlast (SNBT) Security Subscription Package for 1 Year	CPAP-MHS-9302-PLUS-SNBT
Quantum Force 9300 Maestro / MHS HyperScale configuration with 1 MHO-140 orchestrator and **3x Quantum Force 9300 appliances**, each appliance includes 1x RJ45 (1GbE Copper) management port & 1x RJ45 (1GbE Copper) sync port, on-board 8x RJ45 ports, 4x 10/25GbE SFP+ ports, 32 GB RAM, 1x 480 GB SSD SATA, 2x AC PSUs, Lights-Out Management (LOM), 2x 25GbE DAC 3M, telescopic rails, SandBlast (SNBT) Security Subscription Package for 1 Year	CPAP-MHS-9303-PLUS-SNBT
Quantum Force 9200 Maestro / MHS HyperScale configuration: 1x RJ45 (1GbE Copper) management port & 1x RJ45 (1GbE Copper) sync port, on-board 8x RJ45 ports, 4x 10/25GbE SFP+ ports, 32 GB RAM, 1x 480 GB SSD SATA, 2x AC PSUs, Lights-Out Management (LOM), 2x 25GbE DAC 3M, fixed rails, SandBlast (SNBT) Security Subscription Package for 1 Year	CPAP-SG9200-PLUS-MHS-SNBT
Quantum Force 9200 Maestro / MHS HyperScale configuration with 1 MHO-140 orchestrator and **2x Quantum Force 9200 appliances**, each appliance includes 1x RJ45 (1GbE Copper) management port & 1x RJ45 (1GbE Copper) sync port, on-board 8x RJ45 ports, 4x 10/25GbE SFP+ ports, 32 GB RAM, 1x 480 GB SSD SATA, 2x AC PSUs, Lights-Out Management (LOM), 2x 25GbE DAC 3M, fixed rails, SandBlast (SNBT) Security Subscription Package for 1 Year	CPAP-MHS-9202-PLUS-SNBT
Quantum Force 9200 Maestro / MHS HyperScale configuration with 1 MHO-140 orchestrator and **3x Quantum Force 9200 appliances**, each appliance includes 1x RJ45 (1GbE Copper) management port & 1x RJ45 (1GbE Copper) sync port, on-board 8x RJ45 ports, 4x 10/25GbE SFP+ ports, 32 GB RAM, 1x 480 GB SSD SATA, 2x AC PSUs, Lights-Out Management (LOM), 2x 25GbE DAC 3M, fixed rails, SandBlast (SNBT) Security Subscription Package for 1 Year	CPAP-MHS-9203-PLUS-SNBT

MAESTRO HYPERSCALE ORCHESTRATOR
140 | 175

Ordering Maestro

SECURITY GATEWAY APPLIANCES FOR SCALE-UP - Quantum Lightspeed	SKU
MLS400 Lightspeed firewall includes 4x 100G QSFP28 ConnectX ports, 2x 1GbE copper ports on-board, 192 GB RAM, 2x 960GB SSD, 2x AC PSU, Lights-out Management, telescopic rails, plus 4x 100G DAC cables (3m, 3m).	CPAP-SG-MLS400-MHS
MLS200 Lightspeed firewall includes 2x 100G QSFP28 ConnectX ports, 10x 1GbE copper ports on-board, 64 GB RAM, 2x 480GB SSD, 2x AC PSU, Lights-out Management, telescopic rails, plus 2x 100G DAC cables (3m, 3m).	CPAP-SG-MLS200-MHS

MAESTRO HYPERSCALE ORCHESTRATORS ACCESSORIES	SKU
Fan replacement for Maestro Hyperscale Orchestrator 175	CPAC-FAN-MHO175
Fan replacement for Maestro Hyperscale Orchestrator 140	CPAC-FAN-MHO140
AC power supply unit replacement for MHO 140 and 175, with front to back airflow	CPAC-PSU-AC-MHO140/175
Rail kit for Maestro Hyperscale Orchestrator 140 and 170	CPAC-RAIL-MHO140/170
Rail kit for Maestro Hyperscale Orchestrator 175	CPAC-RAIL-MHO175

MHO-175 TRANSCEIVERS	SKU
SFP+ transceiver module for 10GbE fiber ports - long range (10GBASE-LR), SM Fiber, LC with QSFP28 Adapter	CPAC-TR-10LR-ADP
SFP+ transceiver module for 10GbE fiber ports - long range (10GBASE-LR), SM Fiber, LC with QSFP28 Adapter	CPAC-TR-10LR-D-ADP**
SFP+ transceiver module for 10GbE fiber ports - long range (10GBASE-SR), SM Fiber, LC with QSFP28 Adapter	CPAC-TR-10SR-ADP
SFP+ transceiver module for 10GbE fiber ports - long range (10GBASE-SR), SM Fiber, LC with QSFP28 Adapter	CPAC-TR-10SR-D-ADP**
SFP+ transceiver 10GBASE-T RJ45 (Copper) - for links up to 30m over CAT6a/CAT7, CU, RJ45 with QSFP28 Adapter	CPAC-TR-10T-ADP
SFP+ transceiver 10GBASE-T RJ45 (Copper) - for links up to 30m over CAT6a/CAT7, CU, RJ45 with QSFP28 Adapter	CPAC-TR-10T-D-ADP**
SFP28 transceiver module for 25GbE fiber ports - short range (25GBASE-SR) MM Fiber, LC with QSFP28 Adapter	CPAC-TR-25SR-ADP
SFP28 transceiver module for 25GbE fiber ports - short range (25GBASE-SR) MM Fiber, LC with QSFP28 Adapter	CPAC-TR-25SR-DM-ADP**
QSFP+ transceiver module for 40GbE fiber ports - short range (40GBASEase-SR4), MM Fiber, MPO-12	CPAC-TR-40SR-QSFP-100M*
QSFP+ transceiver module for 40GbE fiber ports - short range (40GBASEase-SR4), MM Fiber, MPO-12	CPAC-TR-40SR-QSFP-100M-D* **
QSFP+ transceiver module for 40GbE fiber ports - short range (40GBASEase-eSR4), MM Fiber, MPO-12	CPAC-TR-40SR-QSFP-300M
QSFP+ transceiver module for 40GbE fiber ports - short range (40GBASEase-eSR4), MM Fiber, MPO-12	CPAC-TR-40SR-QSFP-300M-D**
QSFP+ Bi-directional transceiver module for 40GbE fiber Ports - short range (40GBase-SR-BD), MM Fiber, LC	CPAC-TR-40SR-QSFP-BiDi
QSFP+ Bi-directional transceiver module for 40GbE fiber Ports - short range (40GBase-SR-BD), MM Fiber, LC	CPAC-TR-40SR-QSFP-BiDi-D**
QSFP+ transceiver module for 40GbE fiber ports - long range (40GBASEase-LR4), SM Fiber, LC	CPAC-TR-40LR-QSFP-10KM
QSFP+ transceiver module for 40GbE fiber ports - long range (40GBASEase-LR4), SM Fiber, LC	CPAC-TR-40LR-QSFP-10KM-D**
QSFP+ transceiver module for 40GbE fiber ports, for links up to 75m (40GBASE-SWDM4) MM Fiber, LC	CPAC-TR-40SWDM4
QSFP+ transceiver module for 40GbE fiber ports- for links up to 40km (40GBASE-ER4), SM Fiber, LC	CPAC-TR-40ER4
QSFP28 transceiver module for 100GbE fiber ports - short range (100GBASE-SR4), MM Fiber, MPO-12	CPAC-TR-100SR
QSFP28 transceiver module for 100GbE fiber ports - short range (100GBASE-SR4), MM Fiber, MPO-12	CPAC-TR-100SR-D**

MHO-175 TRANSCEIVERS	SKU
QSFP28 transceiver module for 100GbE fiber ports - long range (100GBASEase-LR4), SM Fiber, LC	CPAC-TR-100LR
QSFP28 transceiver module for 100GbE fiber ports - long range (100GBASEase-LR4), SM Fiber, LC	CPAC-TR-100LR-D**
QSFP28 transceiver module for 100GbE fiber ports - for links up to 75m (100GBASE-SWDM4), MM Fiber, LC	CPAC-TR-100SWDM4
QSFP28 transceiver module for 100GbE fiber ports - for links up to 75m (100GBASE-SWDM4), MM Fiber, LC	CPAC-TR-100SWDM4-D**
QSFP28 transceiver module for 100GbE fiber ports - for links up to 2km (100GBASE- CWDM4), SM Fiber, LC	CPAC-TR-100CWDM4
QSFP28 transceiver module for 100GbE fiber ports - for links up to 2km (100GBASE- CWDM4), SM Fiber, LC	CPAC-TR-100CWDM4-D**
QSFP28 Bi-directional transceiver for 100GbE fiber Ports - short range (100GBase-SR1.2), MM Fiber, LC	CPAC-TR-100SR-BiDi
QSFP28 transceiver module for 100GbE fiber ports for links up to 40km (100GBASE-ERL4), SM Fiber, LC	CPAC-TR-100ERL4
QSFP+ splitter for 40G fiber ports MTP/MPO to 4 Duplex LC Breakout Cable, OM3, 3m	CPAC-MPO-4xLC-MMF-OM3-3m
QSFP+ splitter for 40G fiber ports MTP/MPO to 4 Duplex LC Breakout Cable, OM3, 6m	CPAC-MPO-4xLC-MMF-OM3-6m

* It is recommended to use the CPAC-TR-40SR-QSFP-100m when using the splitters CPAC-MPO-4xLC-MMF-OM3-3m or CPAC-MPO-4xLC-MMF-OM3-6m
** See sk182207

MHO-140 TRANSCEIVERS	SKU
SFP transceiver module for 1GbE fiber ports - long range (1000BASE-LX), SM Fiber, LC	CPAC-TR-1LX-C
SFP transceiver module for 1GbE fiber ports - long range (1000BASE-LX), SM Fiber, LC	CPAC-TR-1LX-D**
SFP transceiver module for 1GbE fiber ports - short range (1000BASE-SX), SM Fiber, LC	CPAC-TR-1SX-C
SFP transceiver module for 1GbE fiber ports - short range (1000BASE-SX), SM Fiber, LC	CPAC-TR-1SX-D**
SFP transceiver to 1000 BASE-T RJ45 (Copper), CU, RJ45	CPAC-TR-1T-C
SFP transceiver to 1000 BASE-T RJ45 (Copper), CU, RJ45	CPAC-TR-1T-D**
SFP+ transceiver module for 10GbE fiber ports - long range (10GBASE-LR), SM Fiber, LC	CPAC-TR-10LR-CM
SFP+ transceiver module for 10GbE fiber ports - long range (10GBASE-LR), SM Fiber, LC	CPAC-TR-10LR-D**
SFP+ transceiver module for 10G fiber ports - short range (10GBASE-SR), SM Fiber, LC	CPAC-TR-10SR-D**
SFP+ transceiver 10GBASE-T RJ45 (Copper) - for links up to 30m over CAT6a/CAT7	CPAC-TR-10T-C
SFP+ transceiver 10GBASE-T RJ45 (Copper) - for links up to 30m over CAT6a/CAT7	CPAC-TR-10T-D**
SFP+ transceiver module for 10GbE fiber ports - for links up to 40km (10GBASE-ER) SM Fiber, LC	CPAC-TR-10ER-C
SFP+ transceiver module for 10GbE fiber ports - for links up to 40km (10GBASE-ER) SM Fiber, LC	CPAC-TR-10ER-D**
QSFP28 transceiver module QSFP28 adaptor for 25G fiber ports - short range (25GBase-SR)	CPAC-TR-25SR-DM**
QSFP+ transceiver module for 40GbE fiber ports - short range (40GBASEase-SR4), MM Fiber, MPO-12	CPAC-TR-40SR-QSFP-100M*
QSFP+ transceiver module for 40GbE fiber ports - short range (40GBASEase-SR4), MM Fiber, MPO-12	CPAC-TR-40SR-QSFP-100M-D* **
QSFP+ transceiver module for 40GbE fiber ports - short range (40GBASEase-eSR4), MM Fiber, MPO-12	CPAC-TR-40SR-QSFP-300M
QSFP+ transceiver module for 40GbE fiber ports - short range (40GBASEase-eSR4), MM Fiber, MPO-12	CPAC-TR-40SR-QSFP-300M-D**
QSFP+ Bi-directional transceiver module for 40GbE fiber Ports - short range (40GBase-SR-BD), MM Fiber, LC	CPAC-TR-40SR-QSFP-BiDi
QSFP+ Bi-directional transceiver module for 40GbE fiber Ports - short range (40GBase-SR-BD), MM Fiber, LC	CPAC-TR-40SR-QSFP-BiDi-D**
QSFP+ transceiver module for 40GbE fiber ports - long range (40GBASEase-LR4), SM Fiber, LC	CPAC-TR-40LR-QSFP-10KM
QSFP+ transceiver module for 40GbE fiber ports - long range (40GBASEase-LR4), SM Fiber, LC	CPAC-TR-40LR-QSFP-10KM-D**
QSFP+ transceiver module for 40GbE fiber ports, for links up to 75m (40GBASE-SWDM4) MM Fiber, LC	CPAC-TR-40SWDM4
QSFP+ transceiver module for 40GbE fiber ports- for links up to 40km (40GBASE-ER4), SM Fiber, LC	CPAC-TR-40ER4

MHO-140 TRANSCEIVERS	SKU
QSFP28 transceiver module for 100GbE fiber ports – short range (100GBASE-SR4), MM Fiber, MPO-12	CPAC-TR-100SR4-DM
QSFP28 transceiver module for 100GbE fiber ports - long range (100GBASEase-LR4), SM Fiber, LC	CPAC-TR-100LR
QSFP28 transceiver module for 100GbE fiber ports - long range (100GBASEase-LR4), SM Fiber, LC	CPAC-TR-100LR-D**
QSFP28 transceiver module for 100GbE fiber ports - for links up to 75m (100GBASE-SWDM4), MM Fiber, LC	CPAC-TR-100SWDM4
QSFP28 transceiver module for 100GbE fiber ports - for links up to 75m (100GBASE-SWDM4), MM Fiber, LC	CPAC-TR-100SWDM4-D**
QSFP28 transceiver module for 100GbE fiber ports - for links up to 2km (100GBASE- CWDM4), SM Fiber, LC	CPAC-TR-100CWDM4
QSFP28 transceiver module for 100GbE fiber ports - for links up to 2km (100GBASE- CWDM4), SM Fiber, LC	CPAC-TR-100CWDM4-D**
QSFP28 transceiver module for 100GbE fiber ports for links up to 40km (100GBASE-ERL4), SM Fiber, LC	CPAC-TR-100ERL4
QSFP+ splitter for 40G fiber ports MTP/MPO to 4 Duplex LC Breakout Cable, OM3, 3m	CPAC-MPO-4xLC-MMF-OM3-3m
QSFP+ splitter for 40G fiber ports MTP/MPO to 4 Duplex LC Breakout Cable, OM3, 6m	CPAC-MPO-4xLC-MMF-OM3-6m

* It is recommended to use the CPAC-TR-40SR-QSFP-100m when using the splitters CPAC-MPO-4xLC-MMF-OM3-3m or CPAC-MPO-4xLC-MMF-OM3-6m

** See sk182207

MHO140 & MHO175 DIRECT ATTACH COPPER (DAC) CABLES	SKU
SFP+ 10GBASE CU, Direct Attach Copper (DAC) cable, 1 meter	CPAC-DAC-10G-1M
SFP+ 10GBASE CU, Direct Attach Copper (DAC) cable, 1 meter	CPAC-DAC-10G-1M-D**
SFP+ 10GBASE CU, Direct Attach Copper (DAC) cable, 3 meters	CPAC-DAC-10G-3M
SFP+ 10GBASE CU, Direct Attach Copper (DAC) cable, 3 meters	CPAC-DAC-10G-3M-D**
SFP+ 10GBASE CU, Direct Attach Copper (DAC) cable, 5 meters	CPAC-DAC-10G-5M
SFP+ 10GBASE CU, Direct Attach Copper (DAC) cable, 5 meters	CPAC-DAC-10G-5M-D**
SFP28 25GBASE CU, Direct Attach Copper (DAC) cable, 1 meter	CPAC-DAC-10G-1M
SFP28 25GBASE CU, Direct Attach Copper (DAC) cable, 1 meter	CPAC-DAC-10G-1M-D**
SFP28 25GBASE CU, Direct Attach Copper (DAC) cable, 3 meters	CPAC-DAC-10G-3M
SFP28 25GBASE CU, Direct Attach Copper (DAC) cable, 3 meters	CPAC-DAC-10G-3M-D**
SFP28 25GBASE CU, Direct Attach Copper (DAC) cable, 5 meters	CPAC-DAC-10G-5M
SFP28 25GBASE CU, Direct Attach Copper (DAC) cable, 5 meters	CPAC-DAC-10G-5M-D**
QSFP+ 40GBASE-CR4, Direct Attach Copper (DAC) cable, 1meter	CPAC-DAC-40G-1M
QSFP+ 40GBASE-CR4, Direct Attach Copper (DAC) cable, 1 meter	CPAC-DAC-40G-1M-D**
QSFP+ 40GBASE-CR4, Direct Attach Copper (DAC) cable, 3 meters	CPAC-DAC-40G-3M
QSFP+ 40GBASE-CR4, Direct Attach Copper (DAC) cable, 3 meters	CPAC-DAC-40G-3M-D**
QSFP+ 40GBASE-CR4, Direct Attach Copper (DAC) cable, 5 meters	CPAC-DAC-40G-5M
QSFP+ 40GBASE-CR4, Direct Attach Copper (DAC) cable, 5 meters	CPAC-DAC-40G-5M-D**
QSFP+ 40GBASE-CR4 to four 10GBASE-CU interfaces DAC Splitter, 1m length	CPAC-DAC-40/10G-1M
QSFP+ 40GBASE-CR4 to four 10GBASE-CU interfaces DAC Splitter, 3m length	CPAC-DAC-40/10G-3M
QSFP28 100GBASE-CR4 Direct Attach Copper (DAC) cable, 1 meter	CPAC-DAC-100G-1M-DM**
QSFP28 100GBASE-CR4 Direct Attach Copper (DAC) cable, 3 meters	CPAC-DAC-100G-3M-DM**
QSFP28 100GBASE-CR4 Direct Attach Copper (DAC) cable, 5 meters	CPAC-DAC-100G-5M-DM**
QSFP25 40GBASE-CRR to four 25GBASE-CU interfaces DAC Splitter, 3m length	CPAC-DAC-100/25G-3M
QSFP25 40GBASE-CRR to four 25GBASE-CU interfaces DAC Splitter, 3m length	CPAC-DAC-100/25G-3M-D**

All DAC will require an adapter CPAC-TR-QSFP28-SFP28 to connect to the QSFP28 interfaces.

** See sk182207