

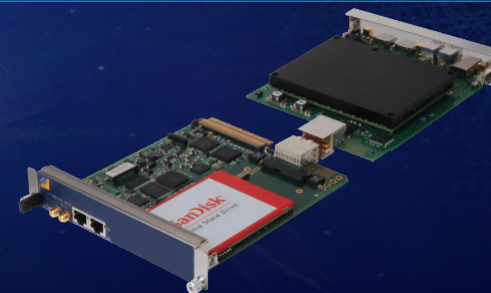
# NAT-MCH Base Overview



**NAT-MCH**



**NAT-MCH M4**



	<b>NAT-MCH</b>	<b>NAT-MCH M4</b>
<b>Form Factor</b>	single-width / full-size	double-width / full-size
<b>Support AMC</b>	12 (AMC13 in 2 <sup>nd</sup> MCH-Slot, Fabric A only)	12 (AMC13 in 2 <sup>nd</sup> MCH-Slot, Fabric A only)
<b>Support μRTM</b>	n/a	12
<b>Support PM</b>	1-4	1-4
<b>Support CU</b>	2	2
<b>Support PTM</b>	2	2
<b>Support JSM</b>	1	1
<b>Support NAT-MCH-RTM</b>	n/a	via Zone3 connector <b>NAT-MCH-RTM</b>
<b>Update to 2<sup>nd</sup> NAT-MCH</b>	yes	yes
<b>Fabric A (Base Fabric)</b>	2x GbE to 13 AMCs	2x GbE to 13 AMCs
<b>Fabric D-G (Fat Pipe Fabric)</b>	via HUB-Module	via HUB-Module
<b>Front Panel Interfaces</b>	2x RJ45 (GbE Uplink), 1x USB Console	3x RJ45 (2x GbE Uplink / 1x Console), 1x USB Console


# NAT-MCH Clock Overview



	<b>NAT-MCH-CLK-123</b>	<b>NAT-MCH-CLK-12F</b>	<b>NAT-MCH-CLK-00F</b>	<b>NAT-MCH-CLK-PHYS</b>
<b>Form Factor</b>	single-width	single-width	single-width	single-width
<b>Support AMC</b>	12	12	12	12
<b>CLK1</b>	Telecom Clock to 12 AMCs	Telecom Clock to 12 AMCs	n/a	to 12 AMCs, multiplexed by one device
<b>CLK2</b>	Telecom Clock to 12 AMCs	Telecom Clock to 12 AMCs	n/a	to 12 AMCs, multiplexed by one device
<b>CLK3</b>	Telecom Clock to 12 AMCs	Fixed 100MHz PCIe (HCSL) for FCLK	Fixed 100MHz PCIe (HCSL) for FCLK	Fixed 100MHz PCIe (HCSL)
<b>Update CLK to 2<sup>nd</sup> NAT-MCH</b>	yes	yes	yes	yes
<b>Clock Source</b>	Stratum 3 PLL	Stratum 3 PLL	n/a	Low jitter reference oscillator
<b>Front Panel Interfaces</b>	2x Reference CLK IN / OUT	2x Reference CLK IN / OUT	n/a	2x Reference CLK IN / OUT

# NAT-MCH HUB Overview



	NAT-MCH-HUB-E-40GX	NAT-MCH-SRIO	NAT-MCH-PCIex48	NAT-MCH-PCIex80
				
<b>Form Factor</b>	single-width	single-width	single-width	double-width
<b>Support AMC</b>	12	12	12	12
<b>Fabric D-G (Fat Pipe)</b>	40G Ethernet	SRIO Gen2	PCIe Gen3	PCIe Gen3
<b>Fat Pipe Front Panel Uplink Configuration</b>	10G or 25G optical transceiver 1G-SR 10G-SR 40G-SR 100G-SR (25G transceiver only!)	2x SRIO Gen2 x4	n/a	1x PCIe Gen3 x16 or 2x PCIe Gen3 x8
<b>Fat Pipe Backplane Interconnect</b>	1G-1000BASEX 10G-KR 10G-XAUI 40G-KR4 Mixture of 10G/40G infrastructure Combination of 1-4 lanes and 2.5/10GBaud per lane per AMC slot	12x SRIO x1 - x4  Baud rate per data lane 1.25 Gbit/s, 2.5 Gbit/s, 3.125 Gbit/s, 5Gbit/s, or 6.25 Gbaud	12x PCIe Gen3 x1 - x4  higher bandwidth to reduced number of AMCs	12x PCIe Gen3 x1 - x4  higher bandwidth to reduced number of AMCs
<b>Fat Pipe Zone3 Connect</b>	n/a	n/a	n/a	1x PCIe Gen3 x16 to MCH-RTM
<b>PCIe Clustering</b>	n/a	n/a	6 independent clusters with own Root Complex each, 1 configurable non-transparent upstream port	up to 4 independent clusters with own Root Complex each
<b>Front Panel Interfaces</b>	1x MPO 12x AMC Link Status LED	2x Infiniband 12x AMC Link Status LED	12x AMC Link Status LED	1x / 2x MPO 12 AMC / 1x RTM / 3x Uplink Status LED

# NAT-MCH Compatibility Matrix

	NAT-MCH	NAT-MCH M4	NAT-MCH-CLK-123	NAT-MCH-CLK-12F	NAT-MCH-CLK-00F	NAT-MCH-CLK-PHYS	NAT-MCH-HUB-E-40GX	NAT-MCH-SRIO	NAT-MCH-PCIex48	NAT-MCH-PCIex80
NAT-MCH	✓	-	✓	✓	✓	✓	✓	✓	✓	-
NAT-MCH M4	-	✓	✓	✓	✓	✓	✓	✓	✓	✓
NAT-MCH-CLK-123	✓	✓	✓	-	-	-	✓	✓	✓	✓
NAT-MCH-CLK-12F	✓	✓	-	✓	-	-	✓	✓	✓	✓
NAT-MCH-CLK-00F	✓	✓	-	-	✓	-	⊗	⊗	✓	✓
NAT-MCH-CLK-PHYS	✓	✓	-	-	-	✓	✓	✓	✓	✓
NAT-MCH-HUB-E-40GX	✓	✓	✓	✓	⊗	✓	✓	-	-	-
NAT-MCH-SRIO	✓	✓	✓	✓	⊗	✓	-	✓	-	-
NAT-MCH-PCIex48	✓	✓	✓	✓	✓	✓	-	-	✓	-
NAT-MCH-PCIex80	-	✓	✓	✓	✓	✓	-	-	-	✓