
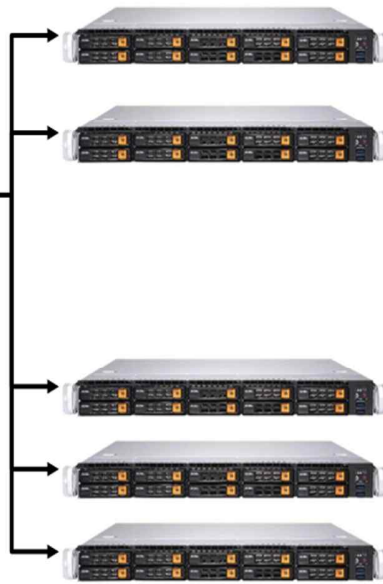
		<h1>Machbase 8.0.1</h1>		TPCx-IoT 2.1.0 TPC Pricing 2.8.0 Report Date Sep. 18, 2023
Total System Cost \$248,443.45 USD		TPCx-IoT Performance Metric 4,529,397.35 IoTps		Price/Performance \$54.85 USD/kIoTps
Servers		Operating System		Availability Date
Supermicro A+ Server 1115SV-WTNR		Red Hat Enterprise Linux Server Release 8.6		Sep 18, 2023
System Under Test Configuration Overview				
<p style="text-align: center;">5 x Supermicro A+ Server 1115SV-WTNR each with:</p> <div style="display: flex; align-items: center; justify-content: space-around;"> <div style="text-align: center;">  <p>NVIDIA MSN2700 100GbE Ethernet Switch (32 x QSFP28 Ports)</p> </div> <div style="text-align: center;">  </div> <div style="width: 30%;"> <p>2 x Master Node</p> <ul style="list-style-type: none"> 1 x AMD EPYC 8534P 64-Core Processor 6 x 64GB (384GB) Memory 1 x 100GbE 2-Port Adaptor 1 x 10GbE 2-Port Adaptor 7 x 3.8TB NVMe PCIe 4x4 SSD 1 x 1TB NVMe M.2 PCIe SSD <p>3 x Data Nodes</p> <ul style="list-style-type: none"> 1 x AMD EPYC 8324P 32-Core Processor 6 x 64GB (384GB) Memory 1 x 100GbE 2-Port Adaptor 1 x 10GbE 2-Port Adaptor 7 x 3.8TB NVMe PCIe 4x4 SSD 1 x 1TB NVMe M.2 PCIe SSD </div> </div>				
Total Servers:		5x Supermicro A+ Server 1115SV-WTNR		
Total Processors/Cores/Threads:		5/224/448		
Server Configuration:	2x Master Node		3x Data Nodes	
Processor	1x AMD EPYC 8534P (2.30GHz, 64-core, 128 MB L3)		1x AMD EPYC 8324P (2.65GHz, 32-core, 128 MB L3)	
Memory	384 GB		384 GB	
Storage Device	1x 1TB NVMe M.2 PCIe SSD Gen4 7x 3.8TB NVMe PCIe SSD Gen4		1x 1TB NVMe M.2 PCIe SSD Gen4 7x 3.8TB NVMe PCIe SSD Gen4	
Network Controller	1x Mellanox CX-7 100GbE 1x Broadcom BCM57416 Dual-Port 10GbE		1x Mellanox CX-7 100GbE 1x Broadcom BCM57416 Dual-Port 10GbE	
Connectivity	NVIDIA MSN2700 100GbE Switch			
Total Rack Units:	(5x 1115SV-WTNR) + (1x MSN2700) = (5x1) + (1x1) = 6 RU			




Machbase 8.0.1



TPCx-IoT	2.1.0
TPC Pricing	2.8.0
Report Date	Sep. 18, 2023

Description	Part Number	Source	List Price (USD)	Qty	Extended Price (USD)	3 yr. Maint. Price (USD)
Server Hardware						
Supermicro A+ Server AS -1115SV-WTNRT (OPTIMIZED [NR]H13SVW-NT, CSE-116BTS-R000WNP, PWS-861A-1R)	AS -1115SV-WTNRT-OTO-10	1	10,456.00	2	20,912.00	
AS -1115SV-WTNRT(x1)[NR]H13SVW-NT, CSE-116BTS-R000WNP, PWS-861A-1R(CQ8600917423)	-	-	-	-	-	-
8471.49.0000 / 5A992C	-	-	-	-	-	-
PSE-SMP8534P-64C200W(x1)PSE-SMP8534P-64C200W	-	-	-	-	-	-
MEM-DR564MC-ER48(x6)64GB DDR5-4800 2RX4 (16Gb) RDIMM	-	-	-	-	-	-
8473.30.0002 / EAR99	-	-	-	-	-	-
HDS-M2N4-960G0-E1-TXD-SED-110(x1)SSD M.2 NVMe PCIe4 960GB 1DWPD TLC D, SED/TCG 110mm	-	-	-	-	-	-
8523.51.0000 / 5A992C	-	-	-	-	-	-
HDS-25N4-003T8-E1-TXD-SED-007(x7)SSD 2.5" NVMe PCIe4 3.8TB 1DWPD TLC D, SED/TCG 7mm	-	-	-	-	-	-
8523.51.0000 / 5A992C	-	-	-	-	-	-
AOC-CX7660030-ST0(x1)Nvidia 900-9X766-003N-ST PCIe 1-port IB NDR200 OSFP Gen5	-	-	-	-	-	-
8517.62.0050 / 5A992C	-	-	-	-	-	-
AOC-STG-B2T-O(x1)Standard LP 2-port 10Gbase-T, Broadcom 57416, HF, RoHS	-	-	-	-	-	-
8517.62.0050 / 5A992C	-	-	-	-	-	-
MC0037(x1)ASSEMBLY FEE	-	-	-	-	-	-
CBL-MCIO-1326M5(x2)MCIO (x8 to x8), STR, 26cm, G5, 32AWG, RoHS, RoHS	-	-	-	-	-	-
8544.42.0000 / EAR99	-	-	-	-	-	-
CBL-MCIO-1340M5-1(x2)MCIO x8 (STR to STR), semi-flat, 40cm, 32AWG, RoHS	-	-	-	-	-	-
8544.42.0000 / EAR99	-	-	-	-	-	-
CBL-MCIO-1218M5(x1)MCIO x8 (STR to STR), 18CM, 85OHM, RoHS	-	-	-	-	-	-
8544.42.0000 / EAR99	-	-	-	-	-	-
OS4HR3(x1)3 YR ONSITE 24X7X4 SERVICE	-	-	-	-	-	-
Sales Tax	-	-	-	-	1,908.22	-
Supermicro A+ Server AS -1115SV-WTNRT (OPTIMIZED [NR]H13SVW-NT, CSE-116BTS-R000WNP, PWS-861A-1R)	AS -1115SV-WTNRT-OTO-90	1	9,020.00	3	27,060.00	
AS -1115SV-WTNRT(x1)[NR]H13SVW-NT, CSE-116BTS-R000WNP, PWS-861A-1R(CQ8600918405)	-	-	-	-	-	-
8471.49.0000 / 5A992C	-	-	-	-	-	-
PSE-SMP8324P-32C180W(x1)PSE-SMP8324P-32C180W	-	-	-	-	-	-
MEM-DR564MC-ER48(x6)64GB DDR5-4800 2RX4 (16Gb) RDIMM	-	-	-	-	-	-
8473.30.0002 / EAR99	-	-	-	-	-	-
HDS-M2N4-960G0-E1-TXD-SED-110(x1)SSD M.2 NVMe PCIe4 960GB 1DWPD TLC D, SED/TCG 110mm	-	-	-	-	-	-
8523.51.0000 / 5A992C	-	-	-	-	-	-
HDS-25N4-003T8-E1-TXD-SED-007(x7)SSD 2.5" NVMe PCIe4 3.8TB 1DWPD TLC D, SED/TCG 7mm	-	-	-	-	-	-
8523.51.0000 / 5A992C	-	-	-	-	-	-
AOC-CX7660030-ST0(x1)Nvidia 900-9X766-003N-ST PCIe 1-port IB NDR200 OSFP Gen5	-	-	-	-	-	-
8517.62.0050 / 5A992C	-	-	-	-	-	-
AOC-STG-B2T-O(x1)Standard LP 2-port 10Gbase-T, Broadcom 57416, HF, RoHS	-	-	-	-	-	-
8517.62.0050 / 5A992C	-	-	-	-	-	-
MC0037(x1)ASSEMBLY FEE	-	-	-	-	-	-

CBL-MCIO-1326M5(x2)MCIO (x8 to x8), STR, 26cm,G5,32AWG, RoHS,RoHS 8544.42.0000 / EAR99	-	-	-	-	-	-
CBL-MCIO-1340M5-1(x2)MCIO x8 (STR to STR), semi-flat, 40cm,32AWG,RoHS 8544.42.0000 / EAR99	-	-	-	-	-	-
CBL-MCIO-1218M5(x2)MCIO x8 (STR to STR),18CM,85OHM,RoHS 8544.42.0000 / EAR99	-	-	-	-	-	-
OS4HR3(x1)3 YR ONSITE 24X7X4 SERVICE	-	-	-	-	-	-
Sales Tax	-	-	-	-	-	2,469.23
					Sub-Total	52,349.45 -
Network						
NVIDIA MSN2700-CS2F Spectrum 100GbE 1U Open Ethernet Switch	MSN2700-CS2F	2	21,568.00	1		21,568.00
Mellanox MCP1600-E002E30 Passive NVIDIA MCP1600-C001E30N Direct Attach Copper Cable Ethernet 100GbE QSFP28 1m Black 30AWG CA-N	MCP1600-C001E30N	2	144.00	5		720.00
Mellanox Technical Support and Warranty - Silver 3 Year with 4 Hours On-Site Support for SN2000 Series Switch	781-C27N4Z+P2CMI36	2	10,131.00	1		10,131.00
					Sub-Total	22,288.00 10,131.00
Software						
Red Hat Enterprise Linux Server8.6 with Premium Support 1 Year	RH00003	3	1,299.00	15		19,485.00
Machbase v8.0.1 Cluster Edition (includes 1y 7x24x4 Technical Support) (1Set = 5Node)	-	4	170,000.00	1		170,000.00
Machbase v8.0.1 Cluster Edition 7x24x4 Technical Support	-	4	25,500.00	2		51,000.00
					Sub-Total	170,000.00 70,485.00
Infrastructure						
HP M27fw FHD Monitor (w/ spares)	2H1A4AA#ABA	5	159.00	3		477.00
HP 225 Wired Mouse and Keyboard Combo (w/ spares)	286J4UT#ABA	5	21.00	3		63.00
					Sub-Total	540.00 -
Discounts*						
Machbase v8.0.1 Cluster Edition (includes 1y 7x24x4 Technical Support)	-					(59,500.00)
Machbase v8.0.1 Cluster Edition 7x24x4 Technical Support	-					(17,850.00)
					Sub-Total	(59,500.00) (17,850.00)
					Total	\$185,677.45 USD \$62,766.00 USD

Price Source 1) Super Micro Computer Inc. 2) NVIDIA Inc. 3) Red Hat Inc. 4) Machbase Inc. Audited by Pre-Publication Board *All discounts are based on US list prices and for similar quantities and configurations. Discounts for similarly sized configurations will be similar to those quoted here, but may vary based on the components in the configuration.	Three-Year Cost of Ownership: \$248,443.45 USD IoTps: 4,529,397.35 USD/kIoTps: \$54.85 USD
<i>Prices used in TPC benchmarks must reflect the actual prices a customer would pay for purchase of the components in all regions specified in the result. Individually negotiated discounts are not permitted. Special prices based on assumptions about past or future purchases are not permitted. All discounts reflect standard pricing conventions for the listed components. For complete details, see the pricing section of the TPC benchmark specification. If you find that stated prices are not available according to these terms, please inform the TPC at pricing@tpc.org. Thank you.</i>	

	<h2>Machbase 8.0.1</h2>	TPCx-IoT 2.1.0
		TPC Pricing 2.8.0
		Report Date Sep. 18, 2023
<h3>Numerical Quantities</h3>		
Scale Factor	13000000000	
<hr/> <h4>Performance Run (Run2)</h4>		
Warmup Run Start Time	2023-08-30 16:26:37.000	
Warmup Run End Time	2023-08-30 17:09:45.000	
Warmup Run Elapsed Time	2,587.186	
Measured Run Start Time	2023-08-30 17:09:46.000	
Measured Run End Time	2023-08-30 17:57:37.000	
Measured Run Elapsed Time	2,870.139	
Performance Metric (IoTps)	4,529,397.35	
<hr/> <h4>Repeatability Run (Run1)</h4>		
Warmup Run Start Time	2023-08-30 17:58:57.000	
Warmup Run End Time	2023-08-30 18:42:27.000	
Warmup Run Elapsed Time	2,610.021	
Measured Run Start Time	2023-08-30 18:42:29.000	
Measured Run End Time	2023-08-30 19:27:46.000	
Measured Run Elapsed Time	2,716.382	
Performance Metric (IoTps)	4,785,777.55	

 	<h2>Machbase 8.0.1</h2>	<table> <tr> <td>TPCx-IoT</td> <td>2.1.0</td> </tr> <tr> <td>TPC Pricing</td> <td>2.8.0</td> </tr> <tr> <td>Report Date</td> <td>Sep. 18, 2023</td> </tr> </table>	TPCx-IoT	2.1.0	TPC Pricing	2.8.0	Report Date	Sep. 18, 2023
TPCx-IoT	2.1.0							
TPC Pricing	2.8.0							
Report Date	Sep. 18, 2023							
<h3>Performance Run Report (Run2)</h3> <hr/> <p>TPCx-IoT Performance Metric (IoTps) Report</p> <p>Test Run2 details : Total Time For Warmup Run In Seconds = 2,587.186</p> <p>Test Run2 details : Total Time In Seconds = 2,870.139</p> <p style="padding-left: 150px;">Total Number of Records = 13,000,000,000</p> <p>TPCx-IoT Performance Metric (IoTps): 4,529,397.35</p> <hr/> <h3>Repeatability Run Report (Run1)</h3> <hr/> <p>TPCx-IoT Performance Metric (IoTps) Report</p> <p>Test Run1 details : Total Time For Warmup Run In Seconds = 2,610.021</p> <p>Test Run1 details : Total Time In Seconds = 2,716.382</p> <p style="padding-left: 150px;">Total Number of Records = 13,000,000,000</p> <p>TPCx-IoT Performance Metric (IoTps): 4,785,777.55</p> <hr/> <p>Summary details of the run reports are show above. For the complete run reports, see the Supporting Files Archive.</p>								