





	<h1>Machbase 6.5.1</h1>		TPCx-IoT	1.0.5
			TPC Pricing	2.6.0
			Report Date Mar. 15, 2021	
Total System Cost \$302,788 USD		TPCx-IoT Performance Metric 3,410,800.16 IoTps		Price/Performance \$0.09 USD/IoTps
Servers	Operating System	Other Software	Availability Date	
Supermicro A+ Server 1114S-WN10RT	Red Hat Enterprise Linux Server Release 8.3	None	Mar 16, 2021	
System Under Test Configuration Overview				
<p>4 x Supermicro A+ Server 1114S-WN10RT with 4x H12SSW-NTR Nodes, each with:</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  NVIDIA MSN2700 100GbE Ethernet Switch (32 x QSFP28 Ports) </div> <div style="text-align: center;">  4 x Supermicro A+ Server 1114S-WN10RT with 4x H12SSW-NTR Nodes, each with: </div> <div style="width: 30%;"> <p>1 x Master Node</p> <ul style="list-style-type: none"> 1 x AMD EPYC 7713 64-Core Processor 16 x 64GB (1,024GB) Memory 1 x 100GbE 2-Port Adaptor 10GbE 2-Port Adaptor 1 x 7.68TB NVMe PCIe 4x4 SSD 1 x 960GB NVMe M.2 PCIe SSD <p>3 x Data Nodes</p> <ul style="list-style-type: none"> 1 x AMD EPYC 75F3 32-Core Processor 8 x 64GB (512GB) Memory 1 x 100GbE 2-Port Adaptor 10GbE 2-Port Adaptor 4 x 7.68TB NVMe PCIe 4x4 SSD 1 x 960GB NVMe M.2 PCIe SSD </div> </div>				
Total Servers:		4x Supermicro A+ Server 1114S-WN10RT (with 4x H12SSW-NTR Nodes)		
Total Processors/Cores/Threads:		4/160/320		
Server Configuration:	1x Master Node		3x Data Nodes	
Processor	1x AMD EPYC 7713 (2.00GHz, 64-core, 256 MB L3)		1x AMD EPYC 75F3 (2.95GHz, 32-core, 256 MB L3)	
Memory	1,024 GB		512 GB	
Storage Device	1x 960GB NVMe M.2 PCIe SSD Gen3 1x 7.68TB NVMe PCIe SSD Gen4		1x 960GB NVMe M.2 PCIe SSD Gen3 4x 7.68TB NVMe PCIe SSD Gen4	
Network Controller	1x Mellanox MT27800 Family 100GbE 1x Broadcom BCM57416 NetXtreme-E Dual-Media 10GbE		1x Mellanox MT27800 Family 100GbE 1x Broadcom BCM57416 NetXtreme-E Dual-Media 10GbE	
Connectivity	NVIDIA MSN2700 100GbE Switch			
Total Rack Units:	(4x 1114S-WN10RT) + (1x MSN2700) = (4x1) + (1x1) = 5 RU			

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Description	Part Number	Source	List Price (USD)	Qty	Extended Price (USD)	3 yr. Maint. Price (USD)
Server Hardware						
Supermicro A+ Server 1114S-WN10RT	MBD-H12SSW-NTR	1	1,506.00	4	6,024.00	
AMD EPYC 7713 64-Core Processor	-	1	5,070.00	1	5,070.00	
AMD EPYC 75F3 32-Core Processor	-	1	4,920.00	3	14,760.00	
Supermicro 64GB DDR4-3200(PC4-25600)	MEM-DR464L-HL02-BR32	1	277.00	40	11,080.00	
Kioxia CD6 7.68TB NVMe PCIe 4x4	HDS-TUN0-KCD6XLUL7T68	1	990.00	13	12,870.00	
Mellanox Technologies MT27800 Family [ConnectX-5] Dual-port 100GbE card	-	1	1,060.00	4	4,240.00	
Micron 7300 PRO 960GB PCIe NVMe M.2	HDS-MMN-MTFDHBA960TDF1AW	1	130.00	4	520.00	
ASSEMBLY FEE	MC0037	1	-	1	-	
Maintenance - 7x24x4 Care Pack (3-yrs)	OS4HR3	1	2,000.00	4	-	8,000.00
Sub-Total					54,564.00	8,000.00
Network						
NVIDIA MSN2700-CS2F Spectrum 100GbE 1U Open Ethernet Switch	MSN2700-CS2F	2	33,003.00	1	33,003.00	
Mellanox MCP1600-E002E30 Passive NVIDIA MCP1600-C001E30N Direct Attach Copper Cable Ethernet 100GbE QSFP28 1m Black 30AWG CA-N	MCP1600-C001E30N	2	85.00	6	510.00	
Mellanox Technical Support and Warranty - Silver 3 Year with 4 Hours On-Site Support for SN2000 Series Switch	SUP-SN2000-3S-4H	3	1,981.00	1		1,981.00
Sub-Total					33,513.00	1,981.00
Software						
Red Hat Enterprise Linux Server8.3 with Premium Support 1 Year	RH00003	4	1,299.00	12		15,588.00
Machbase v6.5.1 Cluster Edition (includes 1y 7x24x4 Technical Support) (1Set = 4Node)	-	5	170,000.00	1	170,000.00	
Machbase v6.5.1 Cluster Edition 7x24x4 Technical Support	-	5	25,500.00	2		51,000.00
Sub-Total					170,000.00	66,588.00
Infrastructure						
HP EliteDisplay E190i 18.9-inch LED Backlit IPS Monitor (w/ spares)	E4U30A8#ABA	6	179.00	3	537.00	
HP C2500 Desktop(Keyboard and Mouse) (w/ spares)	H3C53AA#ABA	6	35.00	3	105.00	
Sub-Total					642.00	-
Discounts*						
Machbase v6.5.1 Cluster Edition (includes 1y 7x24x4 Technical Support)	-				(25,000.00)	
Machbase v6.5.1 Cluster Edition 7x24x4 Technical Support	-					(7,500.00)
Sub-Total					(25,500.00)	(7,500.00)
Total					\$233,719.00 USD	\$69,069.00 USD
Price Source						
1) Super Micro Computer Inc. 2) NVIDIA Inc. 3) Mellanox Technologies Inc. 4) Red Hat Inc. 5) Machbase Inc. 6) Hewlett Packard 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: \$302,788 USD	
					IoTps: 3,410,800.16	
					USD/IoTps: \$0.09 USD	
<p><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></p>						

	Machbase 6.5.1	TPCx-IoT 1.0.5
		TPC Pricing 2.6.0
		Report Date Mar. 15, 2021
Numerical Quantities		
Scale Factor	6440000000	
Performance Run (Run2)		
Warmup Run Start Time	2021-03-03 02:02:07.000	
Warmup Run End Time	2021-03-03 02:32:50.000	
Warmup Run Elapsed Time	1,841.657	
Measured Run Start Time	2021-03-03 02:32:50.000	
Measured Run End Time	2021-03-03 03:04:19.000	
Measured Run Elapsed Time	1,888.120	
Performance Metric (IoTps)	3,410,800.16	
Repeatability Run (Run1)		
Warmup Run Start Time	2021-03-03 00:54:58.000	
Warmup Run End Time	2021-03-03 01:25:02.000	
Warmup Run Elapsed Time	1,802.580	
Measured Run Start Time	2021-03-03 01:25:02.000	
Measured Run End Time	2021-03-03 01:56:09.000	
Measured Run Elapsed Time	1,866.829	
Performance Metric (IoTps)	3,449,699.99	

	<h2>Machbase 6.5.1</h2>	<table> <tr> <td>TPCx-IoT</td> <td>1.0.5</td> </tr> <tr> <td>TPC Pricing</td> <td>2.6.0</td> </tr> <tr> <td>Report Date</td> <td>Mar. 15, 2021</td> </tr> </table>	TPCx-IoT	1.0.5	TPC Pricing	2.6.0	Report Date	Mar. 15, 2021
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<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 = 1,841.657</p> <p>Test Run2 details : Total Time In Seconds = 1,888.120</p> <p style="padding-left: 150px;">Total Number of Records = 6440000000</p> <p>TPCx-IoT Performance Metric (IoTps): 3410800.1610</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 = 1,802.580</p> <p>Test Run1 details : Total Time In Seconds = 1,866.829</p> <p style="padding-left: 150px;">Total Number of Records = 6440000000</p> <p>TPCx-IoT Performance Metric (IoTps): 3449699.9993</p> <hr/> <p>Summary details of the run reports are show above. For the complete run reports, see the Supporting Files Archive.</p>								

	<h1>Machbase 6.5.1</h1>	TPCx-IoT 1.0.5 TPC Pricing 2.6.0 Report Date Mar. 15, 2021						
<h2>Revision History</h2> <table><thead><tr><th data-bbox="359 616 422 645">Date</th><th data-bbox="619 616 710 645">Edition</th><th data-bbox="783 616 927 645">Description</th></tr></thead><tbody><tr><td data-bbox="359 674 539 703">March 15, 2021</td><td data-bbox="619 674 671 703">First</td><td data-bbox="783 674 991 703">Initial Publication</td></tr></tbody></table>			Date	Edition	Description	March 15, 2021	First	Initial Publication
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