



Goldilocks v3.1 Standard Edition on Supermicro A+ Server 1124US-TNRP

TPC-C Version 5.11.0
TPC Pricing 2.8.0

Report Date
31-Aug-2022

Total System Cost	TPC-C Throughput	Price/Performance		Availability Date
₩511,019,300 (KRW)	507,802 tpmC	1,006.34 KRW/tpmC		Available Now
Server Processors/Cores/Threads	Database Manager	Operating System	Other Software	Number of Users
2/32/64	Goldilocks v3.1 Standard Edition	RHEL 8.3	JBoss Web Server	400,000

100/25Gb Ethernet Switch



Web Application Server1

- 1 x Supermicro A+ Server AS-1114S-WN10RT
- 1 x AMD EPYC 7713 64-Core Processor
 - 8 x 16GB (128GB) Memory
 - 2 x 1.92TB NVMe SSD
 - 1 x 100Gb 2-Port Ethernet Adaptor



Database Server

- 1 x Supermicro A+ Server AS-1124US-TNRP
- 2 x AMD EPYC 7343 16-Core Processor
 - 32 x 256GB (8TB) Memory
 - 2 x 7.68TB NVMe SSD
 - 6 x 7.68TB SATA SSD
 - 1 x 25Gb 2-Port Ethernet Adaptor



Web Application Server2

- 1 x Supermicro A+ Server AS-1114S-WN10RT
- 1 x AMD EPYC 7713 64-Core Processor
 - 8 x 16GB (128GB) Memory
 - 2 x 1.92TB NVMe SSD
 - 1 x 100Gb 2-Port Ethernet Adaptor



Web Application Server3

- 1 x Supermicro A+ Server AS-1114S-WN10RT
- 1 x AMD EPYC 7713 64-Core Processor
 - 8 x 16GB (128GB) Memory
 - 1 x 1.02TB NVMe SSD
 - 1 x 25Gb 2-Port Ethernet Adaptor
 - 1 x 100Gb 2-Port Ethernet Adaptor

System Components	DB Server		WAS Server	
	Quantity	Description	Quantity	Description
Processors/Cores/Threads	2/32/64	AMD EPYC 7343 3.2GHz	3/192/384	AMD EPYC 7713 2.0GHz
Memory	32	256GB	24	16GB
Storage Controller	1	MegaRAID SAS-3 3108		
Storage Device	6	7.68TB SATA SSD	1	1.02TB NVMe SSD
	2	7.68TB NVMe SSD	4	1.92TB NVMe SSD
Total Storage Capacity		61.44TB		



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Description	Part Number	Source	Unit Price	Qty	Price	3-Yr. Maint. Price
Server Hardware						
1 x DB Server						
Supermicro A+ Server 1124US-TNRP	AS-1124US-TNRP	1	108,500,000	1	251,400,000	
AMD EPYC 7343 16-Core Processor	PSE-MLN7343-0338	1	(included)	2		
Samsung M386ABG40M50-CYF 256GB LRDIMM Memory	MEM-DR425L-SL01-LR29	1	(included)	32		
KIOXIA KCD6XLUL7T68 7.68TB NVMe SSD	HDS-TUN0-KCD6XLUL7T68	1	(included)	2		
Samsung SAMSUNG MZ7LH7T6HMLA-00005 7.68TB SATA SSD	MZ7LH7T6HMLA-00005-2	1	(included)	6		
Broadcom/LSI MegaRAID SAS-3 3108	AOC-S3108L-H8IR	1	(included)	1		
2-port 25GbE SFP28 Mellanox CX-4 Lx EN	AOC-MCX4121A-ACAT	1	(included)	1		
ASSEMBLY FEE	MC0037	1	(included)	1		
Maintenance - 7x24x4 Care Pack (3-yrs)	OS4HR3	1	(included)	1		
2 x WAS Servers (per server)						
Supermicro A+ Server 1114S-WN10RT	AS-1114S-WN10RT	1	19,200,000	2	38,400,000	
AMD EPYC 7713 64-Core	PSE-MLN7713-0344	1	(included)	1		
Supermicro 16GB 288-Pin DDR4 2666MHz	MEM-DR416L-CL06-ER32	1	(included)	8		
1.92TB NVMe U.2 2.5" PCIe 4.0 x4 SSD	HDS-SUN0-MZQL21T9HCJRA7	1	(included)	2		
2-port 100GbE SFP28 Mellanox CX-5	AOC-MCX516A-CDAT	1	(included)	1		
ASSEMBLY FEE	MC0037	1	(included)	1		
Maintenance - 7x24x4 Care Pack (3-yrs)	OS4HR3	1	(included)	1		
1 x WAS Servers (per server)						
Supermicro A+ Server 1114S-WN10RT	AS-1114S-WN10RT	1	19,200,000	1	19,200,000	
AMD EPYC 7713 64-Core	PSE-MLN7713-0344	1	(included)	1		
Supermicro 16GB 288-Pin DDR4 2666MHz	MEM-DR416L-CL06-ER32	1	(included)	8		
Intel DC P4511 1TB NVMe PCIe 3.1 x4, M.2 SSD	HDS-IMN0-SSDPELXX010T8	1	(included)	1		
2-port 25GbE SFP28 Mellanox CX-4 Lx EN	AOC-MCX4121A-ACAT-MLN	1	(included)	1		
2-port 100GbE SFP28 Mellanox CX-5	AOC-MCX516A-CDAT	1	(included)	1		
ASSEMBLY FEE	MC0037	1	(included)	1		
Maintenance - 7x24x4 Care Pack (3-yrs)	OS4HR3	1	(included)	1		
Server Hardware Sub Total					309,000,000	
Network						
Mellanox MSN2700-CS2F Spectrum 100GbE 1U Open Ethernet Switch	MSN2700-CS2F	2	36,844,000	1	36,844,000	
Mellanox ETH 100GbE to 4x25GbE, QSFP28 to 4xSFP28, 1m, Colored, 30AWG, CA-N	MCP7F00-A001R30N	2	234,000	1	234,000	
Technical Support and Warranty - 24x7, 4 Hours On-Site Support 1yr	Maintenance	2	3,770,000	3		11,310,000

Network Sub Total					37,078,000	11,310,000
Client/Server Software						
Red Hat Enterprise Linux Server Standard 3yrs	RH00004	3	4,098,000	4	16,392,000	
RHEL Server Standard Maintenance - 3yrs 24x7x4hrs	RP-CPS(OS)F3	3	6,000,000	4		24,000,000
Red Hat JBoss Web Server 16-Core Standard 3Year	MW0290056F3	3	28,005,000	3	84,015,000	
JBoss Web Server per 16Core 3Year Maintenance	RP-CPS(WAS)F3	3	30,000,000	3		90,000,000
Goldilocks v3.1 Standard Edition	-	4	64,000,000	1	64,000,000	
Goldilocks v3.1 Standard Edition Technical Supports	-	4	20,000,000	3		60,000,000
Software Sub Total					164,407,000	174,000,000
Infrastructure						
HP M27fw FHD 27-inch Monitor (w/ spares)	2H1B1AA	5	199,000	3	597,000	
HP 235 Wireless Keyboard and Mouse (w/ spares)	1Y4D0AA	5	34,900	3	104,700	
Infrastructure Sub Total					701,700	
Discounts*						
Red Hat Enterprise Linux Server Standard					(6,232,000)	(12,000,000)
Red Hat Jboss Web Server 16 Core Standard					(30,245,400)	(45,000,000)
Goldilocks v3.1 Standard Edition					(41,600,000)	(50,400,000)
Discounts Sub Total					(78,077,400)	(107,400,000)
Total					433,109,300	77,910,000
Pricing Notes		Three year cost of ownership KRW(W): 511,019,300 TPC-C throughput: 507,802 tpmC Price/Performance: 1,006.34 W / tpmC				
1) Super Solution Co., LTD 4) Sunjesoft Inc. 2) ICRAFT Co., LTD 5) Hewlett Packard Inc. 3) Rockplace Inc.						
All of the prices are based on South Korea's currency, KRW (₩, Korean Won) and excluded VAT. * All discounts are based on Korea 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.						
Benchmark implementation and results independantly audited by Doug Johnson of InfoSizing (www.sizing.com)						
Prices used in TPC benchmarks reflect the actual prices a customer would pay for a one-time purchase of the stated components. Individually negotiated discounts are not permitted. Special prices based on assumptions about past or future purchases are not permitted. All discounts reflect standard pricing policies for the listed components. For complete details, see the pricing sections of the TPC benchmark pricing specifications. If you find that the stated prices are not available according to these terms, please inform the TPC at pricing@tpc.org. Thank you.						



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MQTh, computed Maximum Qualified Throughput

507,802 tpmC

Response Times (seconds)	Min	Average	90 th	Max
New-Order	0.101	0.104	0.107	0.588
Payment	0.101	0.103	0.106	0.596
Order-Status	0.101	0.103	0.106	0.580
Delivery (interactive portion)	0.101	0.101	0.102	0.561
Delivery (deferred portion)	0.001	0.018	0.045	0.871
Stock-Level	0.102	0.104	0.106	0.550
Menu	0.101	0.102	0.103	0.617

Emulated Display Delay: 0.1 sec.

Transaction Mix	Percent	Number
New-Order	44.980%	213,277,203
Payment	43.011%	203,943,214
Order-Status	4.002%	18,977,456
Delivery	4.004%	18,983,206
Stock-Level	4.003%	18,981,402

Keying Times (seconds)	Min	Average	Max
New-Order	18.001	18.001	18.006
Payment	3.001	3.001	3.007
Order-Status	2.001	2.001	2.006
Delivery	2.001	2.001	2.005
Stock-Level	2.001	2.001	2.006

Think Times (seconds)	Min	Average	Max
New-Order	0.001	12.044	120.501
Payment	0.001	12.043	120.502
Order-Status	0.001	10.048	100.501
Delivery	0.001	5.030	50.301
Stock-Level	0.001	5.031	50.301

Test Duration

Ramp-up time	65 min
Measurement Interval (MI)	420 min
Checkpoints in MI	16
Checkpoint Interval (Average / Max)	25.02 min / 25.11 min
Number of Transactions in MI (all types)	474,162,481