

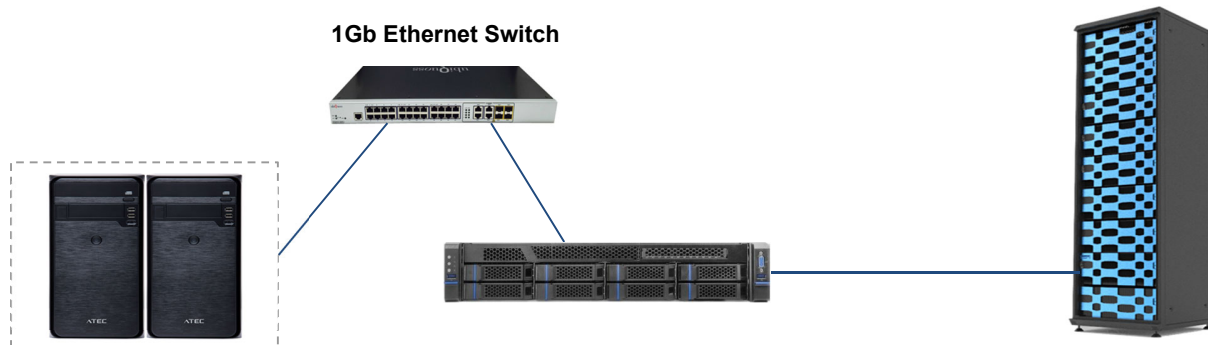


## Goldilocks v3.1 Standard Edition on 3Score SR285 K2

TPC-C Version 5.11.0  
TPC Pricing 2.4.0

Report Date  
**14-Oct-2019**

Total System Cost	TPC-C Throughput	Price/Performance	Availability Date
<b>₩ 246,875,000 (KRW)</b>	<b>114,245 tpmC</b>	<b>2,161 KRW/tpmC</b>	<b>Available Now</b>
Server Processors/Cores/Threads	Database Manager	Operating System	Other Software
<b>2/16/32</b>	<b>Goldilocks v3.1 Standard Edition</b>	<b>RHEL 7.6</b>	<b>JBoss Web Server</b>
Number of Users			
<b>90,000</b>			



### Web Application Server

#### 2 x ATEC A6HGBCP

- 1 x Intel Xeon E3-1270 V5 3.60GHz
- 2 x 8GB Memory
- 1 x 1TB SATA HDD
- 1 x 250GB SATA SSD
- 1 x 1Gb Ethernet

### Database Server

#### 1 x 3Score SR285 K2

- 2 x Intel Xeon Silver 4110 2.10GHz
- 18 x 64GB (1152GB) Memory
- 2 x 960GB SATA SSD
- 1 x 16/32Gb 2-Port Host Bus Adaptor
- 1 x 1Gb Ethernet

### Storage

#### 1 x UNIWISE FCH2800

- 16 x 32GB (512GB) Cache Memory
- 8 x 1.6TB FMD Drive
- 4 x 8/16Gb 8-Port Host Bus Adaptor

System Components	DB Server		WAS Server	
	Quantity	Description	Quantity	Description
Processors/Cores/Threads	2/16/32	Intel Xeon Silver 4110 2.10GHz	1/4/8	Intel Xeon E3-1270 V5 3.60GHz
Memory	18	64GB	2	8GB
Storage Controller	1	SAS 12G Raid		
	1	16/32Gb FC HBA		
Storage Device	2	960GB SATA SSD	1	1TB SATA HDD
	8	1.6TB FMD SSD (External)	1	250GB SATA SSD
Total Storage Capacity		14.675TB		



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Description	Part Number	Source	Unit Price	Qty	Price	3-Yr. Maint. Price
<b>Server Hardware</b>						
<b>1 x DB Server – 3Score SR285 K2</b>	SR285 K2	1	30,400,000	1	<b>30,400,000</b>	
SR285 K2 Barebone	BB00024	1	(included)	1		
Xeon Silver 4110 2.1G, 85W ,L3:11M ,8C/16T	PR00046	1	(included)	2		
DDR4 64GB Registered 2666MHz	ME00032	1	(included)	18		
960GB 2.5" SATA SSD	SD00032	1	(included)	2		
Broadcom MEGARAID SAS 9361-8i RAID Card (1GB Cache)	RD00001	1	(included)	1		
Qlogic 2port 16G FC HBA Adapter	NI00014	1	(included)	1		
Logitech Keyboard & Mouse	KM00009	1	(included)	1		
LG 27-inch Monitor	MO00019	1	(included)	1		
Maintenance - 7x24x4 Care Pack (3-yrs)		1	4,500,000	1		<b>4,500,000</b>
<b>2 x WAS Servers (per server) - A6HGBDPNN</b>						
Intel® Xeon® Processor XEON E3-1270V5, 3.6GHz		2	(included)	1		
DDR4 8GB ( 2400MHz / PC4 19000 / ECC / REG )		2	(included)	2		
Samsung 850EVO, 250GB, SATA3, TLC, MEX		2	(included)	1		
1TB, 7200RPM, 64M, SATAIII, ST1000DM010		2	(included)	1		
KUB-1407, USB, Black		2	(included)	1		
MUB-1407, USB, 1000DPI, Black		2	(included)	1		
Tower, 500W, ATX		2	(included)	1		
UTP CAT5e Ethernet Cable 1M		2	(included)	1		
Power Cord, NICETECH, 2.5M		2	(included)	1		
A6HGBDPNN 7x24x4 Care Pack (3-yrs)		2	(included)	1		
<b>Server Hardware Sub Total</b>					<b>33,900,000</b>	<b>4,500,000</b>
<b>Storage Hardware</b>						
<b>All Flash Storage - FCH2800</b>	FCH2800	3	72,250,000	1	<b>72,250,000</b>	
FCH2800 Controller Device	T0001-0117-00	3	(included)	1		
Back-end Bus Adapter 12G SAS	T0001-0117-01	3	(included)	1		
16G 8-Port Host Bus Adapter	T0001-0117-02	3	(included)	4		
Cache Interconnect Adapter	T0001-0117-03	3	(included)	1		
Cache Memory DDR-3 (32GB)	T0001-0117-04	3	(included)	16		
FCH2800 Flash Disk Drive Expantion Unit	T0001-0117-05	3	(included)	1		
FCH2800 controller cpu Board	T0001-0117-06	3	(included)	1		
Rack 600x1200x2010 mm (WxDxH) 42U	T0001-0117-07	3	(included)	1		
Storage Management SW	T0001-0117-08	3	(included)	1		
UTP CAT5e Ethernet Cable 1M	61001-0001-00	3	(included)	1		
Power Cord, NICETECH, 2.5M	42119-0005-00	3	(included)	2		

1.6TB Flash Memory Disk Drive	DKC-F810I-1R6FM.P	3	3,900,000	8	31,200,000	
3-yrs 24x7x4hrs Onsite Support Service		3	26,350,000	1		26,350,000
<b>Storage Hardware Sub Total</b>					<b>103,450,000</b>	<b>26,350,000</b>
<b>Client/Server Software</b>						
Red Hat Enterprise Linux Server Standard 3yrs	RH00004F3	4	3,975,000	3	11,925,000	
RHEL Server Standard Maintenance - 3yrs 24x7x4hrs	RSC-LSF3	4	6,000,000	3		18,000,000
Red Hat JBoss Web Server 4-Core Standard 3Year	MW00123F3	4	2,086,000	2	4,172,000	
JBoss Web Server per 16Core 3Year Maintenance	RSC-JSF3	4	12,000,000	1		12,000,000
Goldilocks v3.1 Standard Edition		5	96,000,000	1	96,000,000	
Goldilocks v3.1 Standard Edition Technical Supports		5	10,000,000	3		30,000,000
<b>Software Sub Total</b>					<b>112,097,000</b>	<b>60,000,000</b>
<b>Other Hardware</b>						
UbiQuoss uSafe3010-24ps (10G, 24-port)(w/spares)	22917889	6	1,900,000	3	5,700,000	
<b>Other Hardware Sub Total</b>					<b>5,700,000</b>	
<b>Discounts*</b>						
SW Discount - Goldilocks					-64,000,000	-15,600,000
Red Hat OS Discount					-4,770,000	-12,000,000
Red Hat JBoss Discount					-1,252,000	-6,000,000
<b>Discounts Sub Total</b>					<b>-70,022,000</b>	<b>-33,600,000</b>
<b>Total</b>					<b>185,125,000</b>	<b>61,750,000</b>

**Pricing Notes**

- 1) 3Score Inc.
- 2) Atec Co., Ltd.
- 3) UNIWIDE Technologies Inc.
- 4) Rockplace Inc.
- 5) Sunjesoft Inc.
- 6) UbiQuoss 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.

**Three year cost of ownership KRW(₩): 246,875,000**

**TPC-C throughput: 114,245 tpmC**

**Price/Performance: 2,161 ₩ / tpmC**

**Benchmark implementation and results independantly audited by Francois Raab 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** **114,245 tpmC**

<b>Response Times (seconds)</b>	<b>Min</b>	<b>Average</b>	<b>90<sup>th</sup></b>	<b>Max</b>
New-Order	0.103	0.105	0.106	0.709
Payment	0.102	0.104	0.105	0.625
Order-Status	0.102	0.104	0.104	0.591
Delivery (interactive portion)	0.101	0.102	0.102	0.509
Delivery (deferred portion)	0.003	0.009	0.013	0.787
Stock-Level	0.102	0.104	0.105	0.577
Menu	0.101	0.102	0.102	0.518

Emulated Display Delay: 0.1 sec.

<b>Transaction Mix</b>	<b>Percent</b>	<b>Number</b>
New-Order	44.979%	47,985,192
Payment	43.011%	45,885,692
Order-Status	4.002%	4,269,725
Delivery	4.003%	4,271,012
Stock-Level	4.003%	4,270,810

<b>Keying Times (seconds)</b>	<b>Min</b>	<b>Average</b>	<b>Max</b>
New-Order	18.001	18.001	18.011
Payment	3.001	3.001	3.027
Order-Status	2.001	2.001	2.022
Delivery	2.001	2.001	2.011
Stock-Level	2.001	2.001	2.020

<b>Think Times (seconds)</b>	<b>Min</b>	<b>Average</b>	<b>Max</b>
New-Order	0.001	12.047	120.501
Payment	0.001	12.041	120.501
Order-Status	0.001	10.042	100.501
Delivery	0.001	5.030	50.301
Stock-Level	0.001	5.032	50.301

<b>Test Duration</b>	
Ramp-up time	65 min
Measurement Interval (MI)	420 min
Checkpoints in MI	15
Checkpoint Interval (Average / Max)	27.56 min / 27.58 min
Number of Transactions in MI (all types)	106,682,431