

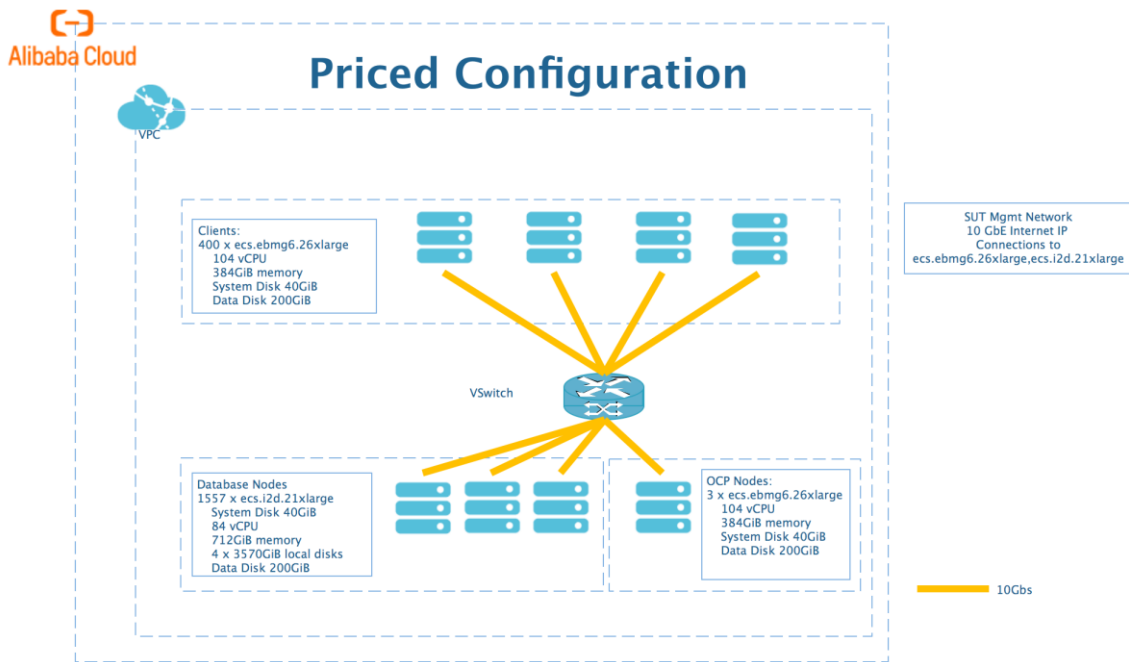


Alibaba Cloud Elastic Compute Service Cluster (with 1554 OceanBase Data Nodes)

**TPC-C 5.11.0
TPC-Pricing 2.5.0**

**Report Date
May 15, 2020**

Total System Cost	TPC-C Throughput	Price/Performance	Availability Date	
CNY 2,814,509,552.00	707,351,007 tpmC	CNY 3.98/tpmC	June 08, 2020	
Database Server Processors/Cores/Threads	Database Manager	Operating System	Other Software	Number of Users
Intel Xeon Platinum 8163(Skylake) 2.5GHz 130,788 vCPU	OceanBase v2.2 Enterprise Edition with Partitioning, Horizontal Scalability and Advanced Compression	Aliyun Linux 2	Nginx 1.15.8	559,440,000



System Component	1557 x Database Nodes (each with)		3 x OCP Nodes (each with)		400 x Clients (each with)		Total
Proc./Core/Thread (Virtual CPU)	2/42/84 (84 vCPU)	Intel Xeon Platinum 8163 (2.5GHz, 33MB)	2/52/104 (104 vCPU)	Intel Xeon Platinum 8269CY 2.5GHz (2.5GHz, 35.75MB)	2/52/104 (104 vCPU)	Intel Xeon Platinum 8269CY 2.5GHz (2.5GHz, 35.75MB)	3920/86,350/172,700 (172,700 vCPU)
Memory		712GB		384GB		384GB	1,263,336 GB
OS Disk	1	40GB Ultra Cloud Disk	1	40GB Ultra Cloud Disk	1	40GB Ultra Cloud Disk	
Local Disk	4	3,570GB NVMe SSD					
Cloud Disk	1	200GB Ultra Cloud Disk	1	200GB Ultra Cloud Disk	1	200GB Ultra Cloud Disk	
Total Storage		22,607,640 GB		720GB		96,000GB	22,704,360GB



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Description	Part Number	Src	Unit Price (CNY)	Qty	Ext. Price (CNY)	3-Y Maintenance (CNY)
Licensed Compute Services						
<u>Virtual cloud server</u>						
ECS Instance ecs.i2d.21xlarge (3-year price) - NVMe SSD Local Disk (4 x 3570GB) - vCPU (84) - Memory (712 GB)	ecs.i2d.21xlarge (South China 2)	2	349,287.16	1,557	543,840,108.12	
ECS System Disk (Ultra Cloud Disk 40GB)	Included	2	0.00	1,557	0.00	
ECS Data Disk (Ultra Cloud Disk 200GB)	Included	2	0.00	1,557	0.00	
Aliyun Linux 2	Included	2	0.00	1,557	0.00	
<u>Virtual cloud server</u>						
ECS Instance ecs.ebmg6.26xlarge (3-year price) - vCPU (104) - Memory (384 GB)	ecs.ebmg6.26xlarge (South China 2)	2	250,956.00	400	100,382,400.00	
ECS System Disk (Ultra Cloud Disk 40GB)	Included	2	0.00	400	0.00	
ECS Data Disk (Ultra Cloud Disk 200GB)	Included	2	0.00	400	0.00	
Aliyun Linux 2	Included	2	0.00	400	0.00	
<u>Virtual cloud server</u>						
ECS Instance ecs.ebmg6.26xlarge (3-year price) - vCPU (104) - Memory (384 GB)	ecs.ebmg6.26xlarge (South China 2)	2	250,956.00	3	752,868.00	
ECS System Disk (Ultra Cloud Disk 40GB)	Included	2	0.00	3	0.00	
ECS Data Disk (Ultra Cloud Disk 200GB)	Included	2	0.00	3	0.00	
Aliyun Linux 2	Included	2	0.00	3	0.00	
Sub-Total					644,975,376.12	
Licensed Software Services						
OceanBase v2.2 Enterprise Edition, per vCPU for 3 years		1	14,850.00	130,788	1,942,201,800.00	
OceanBase v2.2 Partitioning, per vCPU for 3 years		1	2,475.00	130,788	323,700,300.00	
OceanBase v2.2 Horizontal Scalability, per vCPU for 3 years		1	2,475.00	130,788	323,700,300.00	
OceanBase v2.2 Advanced Compression, per vCPU for 3 years		1	2,475.00	130,788	323,700,300.00	3,178,148,400.00
Sub-Total					2,913,302,700.00	3,178,148,400.00
Other Components						
Lenovo ThinkPad X1 Yoga 2019 14" Laptop (includes 2 spares)	20SA000BCD	3	16,999.00	3	50,997.00	
Sub-Total					50,997.00	

Other Services								
Alibaba Cloud Enterprise Support Service for 3 years 7x24x4hrs - ECS support included - Aliyun Linux 2 support included	2	300,000.00	3	900,000.00				
OpenResty Professional Edition Support Service for 3 years 7x24x4hrs - Nginx support included	4	15,300.00	400	6,120,000.00				
			Sub-Total	0.00				
				7,020,000.00				
Discounts*								
OceanBase v2.2 Enterprise Edition Discount	1	-9,578.25	130,788	-1,252,720,161.00				
OceanBase v2.2 Partitioning Discount	1	-1,596.38	130,788	-208,787,347.44				
OceanBase v2.2 Horizontal Scalability Discount	1	-1,596.38	130,788	-208,787,347.44				
OceanBase v2.2 Advanced Compression Discount	1	-1,596.38	130,788	-208,787,347.44				
OceanBase v2.2 Support Service Discount	1	-15,673.50	130,788	-2,049,905,718.00				
			Sub-Total	-1,879,082,203.32				
				-2,049,905,718.00				
			Total	1,679,246,869.80				
				1,135,262,682.00				
			3-Y Cost of Ownership (CNY):	2,814,509,552.00				
			tpmC	707,351,007				
			CNY/tpmC	3.98				
<table border="1"> <tbody> <tr> <td>1 Ant Financial</td> </tr> <tr> <td>2 Alibaba Cloud</td> </tr> <tr> <td>3 thinkpad.lenovo.com.cn</td> </tr> <tr> <td>4 OpenResty Inc.</td> </tr> </tbody> </table>					1 Ant Financial	2 Alibaba Cloud	3 thinkpad.lenovo.com.cn	4 OpenResty Inc.
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Audited by Doug Johnson of InfoSizing.								
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 section of the TPC benchmark specifications. If you find that stated prices are not available according to these terms, please inform the TPC at pricing@tpc.org. Thank you.								



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Numerical Quantities Summary:

MQTh (Maximum Qualified Throughput)

707,351,007 tpmC

Response Time (sec.)	Min	Average	90 th	Max
New-Order	0.103	0.127	0.160	5.555
Payment	0.104	0.123	0.154	5.527
Order-Status	0.102	0.117	0.141	5.354
Delivery (Interactive)	0.101	0.101	0.101	0.970
Delivery (Deferred)	0.008	1.550	6.340	13.376
Stock-Level	0.102	0.120	0.152	5.087
Menu	0.101	0.101	0.101	21.932

Emulated Display Delay: 0.1 sec.

Transaction Mix	Percent	Number
New-Order	44.960%	339,528,483,405
Payment	43.010%	324,805,893,484
Order-Status	4.010%	30,282,810,672
Delivery	4.010%	30,283,015,648
Stock-Level	4.010%	30,282,852,629

Keying Times (sec.)	Min	Average	Max
New-Order	18.002	18.068	19.744
Payment	3.002	3.065	4.739
Order-Status	2.002	2.063	3.735
Delivery	2.002	2.063	3.736
Stock-Level	2.002	2.063	3.743

Think Times (sec.)	Min	Average	Max
New-Order	0.002	12.065	121.456
Payment	0.002	12.065	121.558
Order-Status	0.002	10.065	101.152
Delivery	0.002	5.064	51.159
Stock-Level	0.002	5.064	51.156

Test Duration

Ramp-up Time	55 min.
Measurement Interval (MI)	480 min.
Checkpoints in MI per Node (Min/Avg/Max)	23/23.18/24
Maximum Checkpoint Interval (All Nodes)	22:27
Number of transactions (all types) completed in Measurement Interval	755,183,055,838