HP ProLiant ML350 G5 captures #1, 1P TPC-C price/performance world wide record with incredible result of USD$.78/tpmC

Outcome trounces Dell PowerEdge price/performance and performance results

The industry's best selling x86 2-socket modular server combines Intel's new 64-bit Quad-Core Xeon processors, best-in-class availability features, and unsurpassed flexibility in a system ideal for SMB and remote office enterprise implementations.

Key results at a glance:

n Surpassed the 1P IBM p5 520 rack server configured with a 1.65GHz POWER5+ processor at 74% less cost/tpmC!

n Defeated the lowest price/performance Dell PowerEdge 2900 by 14% with 45% faster performance!

n Outperformed the lowest price/performance Dell PowerEdge 2800 by more than TRIPLE at less cost/tpmC!

n Proven flexibility with #1 and #3 top positions in overall price/performance with two different operating systems and databases.

The HP ProLiant ML350 G5 displayed its outstanding versatility by earning the world record for price/performance with 100,926/tpmC at USD$.78/tpmC utilizing the Oracle Enterprise Linux 4 operating system and Oracle Database 10g database in the June 8, 2007 TPC-C benchmark. The HP ProLiant ML350 G5 was configured with one 2.66GHz Intel Xeon X5355 Quad-Core processor with 8MB Cache and 24GB Fully Buffered DIMM main memory. The server also featured 2 Smart Array P800 Controllers driving 4 x MSA70 Storage Works Enclosures filled with 25 x 36GB 15K SFF SAS drives each and 1 Smart Array E200i Controller driving 2 x 36GB 10k Small Form Factor (SFF) SAS drives, and 6 x 146GB SFF SAS drives in an internal bay.

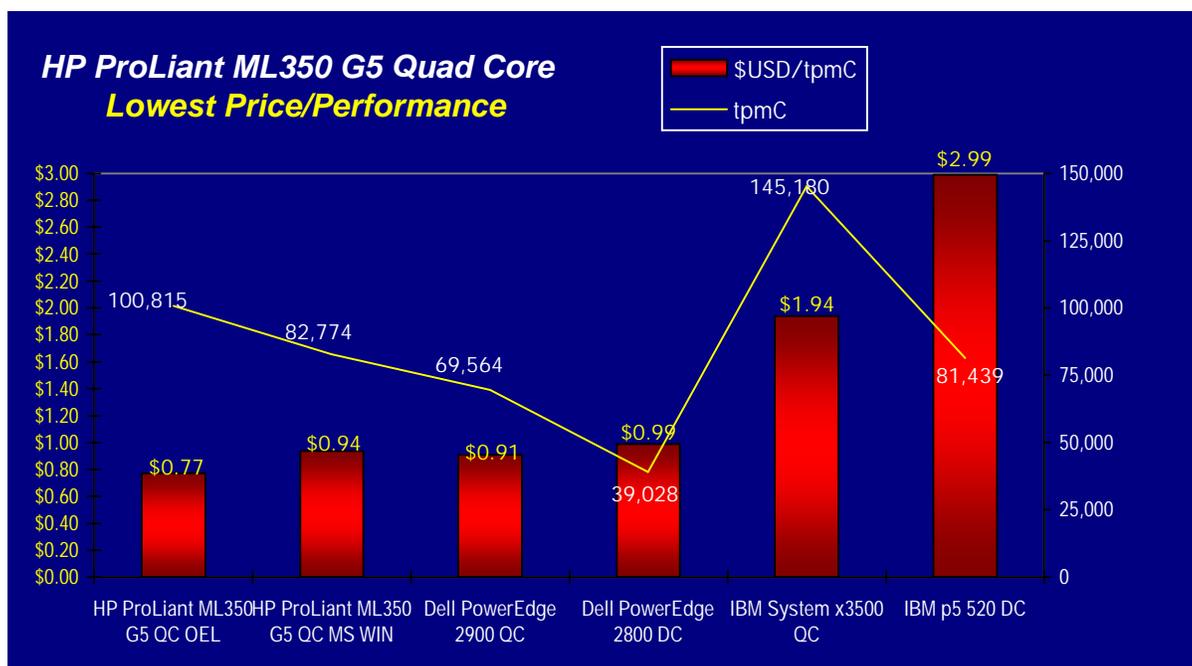HP Quad-Core server outperforms at a less cost/tpmC

Figure 1. Leading comparison of performance and price/performance results of the HP ProLiant ML350 G5 Quad-Core one-processor server vs. Dell and IBM one-processor results on the TPC-C benchmark.

More information about all servers can be found at the following Web page: http://www.tpc.org.

Results as of 6-12-07.

ProLiant ML350 G5 server leads competitors

Table 1. Results of TPC-C Performance Benchmark Results

System (processors/cores/threads)	tpmC	USD$/tpmC	Availability	Database	OS	Significance
HP ProLiant ML350 G5 1P Quad-Core Intel Xeon X5355 2.66GHz (1 processor/4 cores/4 threads)	100,926	$.78	06/08/07	Oracle Database 10g Standard Edition 1	Oracle Enterprise Linux	
Dell PowerEdge 2900 1P Quad-Core Intel Xeon E5345 2.33GHz, (1 processor/4 cores/4 threads)	69,564	$.91	03/09/07	Microsoft SQL Server 2005 Standard Edition	Microsoft Windows Server 2003 Standard Edition SP1	The ProLiant ML350 G5 performed 45% faster at 14% less cost!
HP ProLiant ML350 G5 1P Quad-Core Intel Xeon E5320 1.8GHz (1 processor/4 cores/4 threads)	82,774	$.94	03/27/07	Microsoft SQL Server 2005 x64 Enterprise Edition SP1	Microsoft Windows 2003 x64 Server Standard Edition	The ProLiant ML350 G5 Quad-Core server performed 18% faster than the Dell PowerEdge 2900 Quad-Core server at a comparable cost.
Dell PowerEdge 2800 1P Dual-Core Intel Xeon 2.8GHz (1 processor/2 cores/ 4 threads)	38,622	$.99	11/08/05	Microsoft SQL Server 2005 Standard x64 Edition	Microsoft Windows Server 2003, Standard x64 Edition	The ProLiant ML350 G5 performed 161% faster at 26% less cost!
IBM System x3500 1P Quad-Core Intel Xeon X5355 2.66GHz (1 processor/4 cores/4 threads)	145,180	$1.94	05/01/07	Microsoft Windows Server 2003 Enterprise x64 Edition SP2	Microsoft SQL Server 2005 Enterprise x64 Edition SP2	Although faster, the IBM x3500 costs 148% MORE to run than the ProLiant ML350 G5.
IBM System p5 520 1P Dual-Core 1.65GHz POWER5+ (1 processor/2 cores, 4 threads)	81,439	$2.99	12/22/06	Sybase Adaptive Server Enterprise 12.5.4	SUSE Linux 9	The ProLiant ML350 G5 performed 23.9% faster at 74% less cost!

Major flexibility with OS and database

The HP ProLiant ML350 G5 not only took the #1 position utilizing a Linux and Oracle operating system and database, but also earned the #3 position for one processor TPC-C price/performance with its benchmark from March 27, 2007 achieving 82,774tpmC @ USD$.94/tpmC with a Microsoft Windows operating system and database. The server was configured with one 1.86GHz Intel Xeon E5320 Quad-Core processor (1 processor/4 cores/4 threads) with 8MB Cache, and 20GB RAM and was running Microsoft Windows Server 2003 Standard x64 Edition SP1 and Microsoft SQL Server 2005 Standard x64 Edition SP1. The server featured two Smart Array P800 Controllers driving containing 4 x MSA70 Storage Works Enclosures with 25 x 36GB 15K SFF SAS drives each and 1 Smart Array E200i Controller driving 2 x 36GB 10k Small Form Factor (SFF) SAS drives, and 6 x 146GB SFF SAS drives in an internal bay.

Why HP wins in performance

HP ProLiant ML350 G5

The HP ProLiant ML350 server, the best selling tower server in the world, is all new with its fifth generation and remarkable improvements to reliability, expandability, environmental, and performance features. If there was one word to describe the features of the HP ProLiant ML350 G5 server, it would be "Dual". Dual-socket, Dual- and Quad-Core Intel Xeon 5000 sequence processors, dual redundant hot plug power supplies, dual redundant fans, and the smaller, lighter, and quieter "dual" purpose chassis gives you the choice of 2.5″ SFF or 3.5″ LFF SAS or SATA drives.

The HP ProLiant Advantage

HP Smart Array Controller P800

The HP Smart Array P800 is a 16 port, PCI-Express SAS controller. It ships standard with 512MB cache, dual batteries, and RAID 6 (ADG) support. This controller supports up to 108 hard drives and is the highest performing controller in the Smart Array portfolio.

HP StorageWorks 70 Modular Smart Array

The HP StorageWorks 70 Modular Smart Array is an end-to-end flexible storage array, offering data availability, enhanced reliability, enhanced performance, and tiered storage capability up to 14.4TB with SAS and SATA drives and investment protection.

HP SFF SAS: leading the future of storage

The transition to SFF SAS drives is one of the most significant transitions in the industry's history, fueled by the biggest required leap in storage capacity ever experienced along with the need for faster access to stored data.

- **Higher reliability**
  - 1.7 million mean time between failures (MTBF) vs. 1.5 million for 3.5″ SCSI
- **Better performance**
  - Serial point-to-point connections
  - More spindles per platform
- **Greater efficiency and improved thermals with SFF drives**
  - Half the power consumption – 9 Watts
  - SFF enables better airflow

Airflow
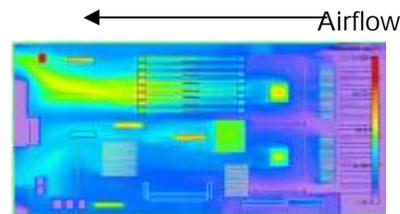
For more information

HP ProLiant ML350 G5: www.hp.com/proliant/serversml350g5

HP ProLiant storage solutions: www.hp.com/go/serial

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