HP ProLiant DL580 G5 with Quad-Core Intel® Xeon® processors takes #1 4P x86/64 performance and #1 4P price/performance on TPC-C benchmark

In online transaction processing, the HP ProLiant DL580 G5 using Quad-Core Intel® Xeon® 7350 processors delivers the world's fastest 4P x86/64 server performance with a record-breaking TPC-C benchmark result of **407,079 tpmC @ $1.71/tpmC**.
This result is **faster than IBM's recent Power6 System p570 at less than ½ the cost** (404,462tpmC @ $3.50/tpmC).

Key results at a glance:

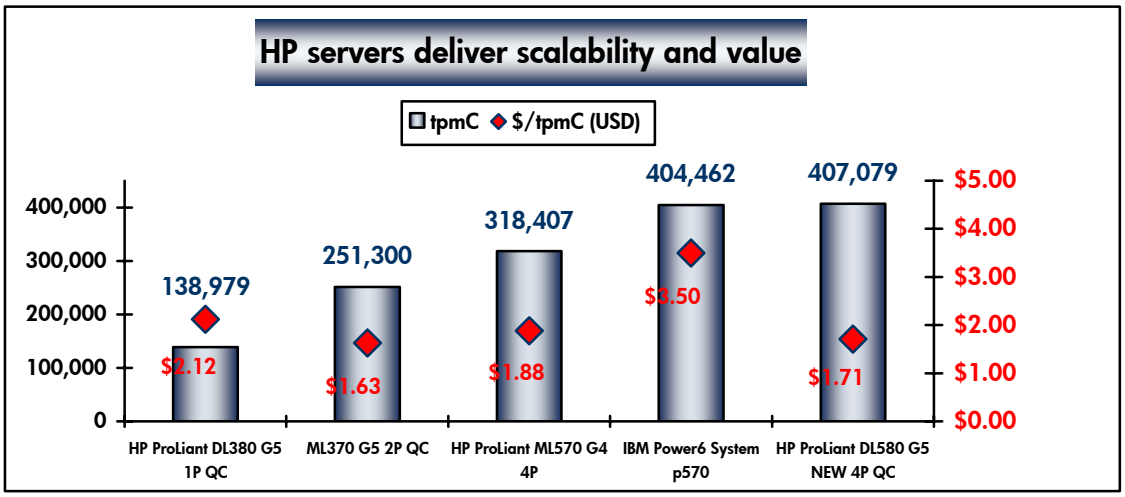
- **#1 4P x86/64 performance**
- **#1 4P price/performance**
- **HP servers claim Top 5 4P price/performance results**

What's new with the latest DL580

- **Quad core Intel Xeon MP**
- **4 x FSB drops, 1033MHz**
- **32 DIMM Slots**
- **16 SFF HDD bays vs. 8**
- **Up to 11 PCI Slots, 8+3**
- **Embedded SA P400, BBWC**
- **Front LED diagnostics**
- **iLO 2 v1.30 support**

Results valid as of 09-05-07. No results were available as of 09-05-07 for the Dell PowerEdge 6900 and the IBM x3900.

Figure 1. TPC-C comparisons



Configuration

The HP ProLiant DL580 G5 was configured with 4 x 2.93-GHz quad-core Intel Xeon E7350 2.93-GHz processors with 2x4MB L2 Cache and 128 GB Fully Buffered main memory running Microsoft Windows Server 2003 Enterprise x64 Edition R2 operating system and Microsoft SQL Server 2005 Enterprise x64 Edition SP2 database. The server also utilized 2 X 36GB 10K SFF SAS Drives in internal bays connected to 1 x Smart Array P400 controller, and used 8 x Smart Array P800 Controllers and 3 x Smart Array E500 Controllers connected to 3 HP 5642 Racks containing 40 X MSA70 StorageWorks Enclosures each with 25 X 36 GB 15K SFF SAS Drives and 2 X MSA70 StorageWorks Enclosures with 23 X 72GB 15K SFF SAS Drives.

Table 1. Chart comparison configurations

Systems (processors/cores/threads)	tpmC	$/tpmC	Availability	Database	OS
HP ProLiant DL580 G5 Quad-Core Intel Xeon MP 7350 (4 processors/16 cores/16 threads)	407,079	1.71 US $	09/05/07	Microsoft SQL Server 2005 Enterprise x64 Edition SP2	Windows Server 2003 Enterprise x64 Edition R2
IBM System p 570 IBM Power6 4.7 GHz (2 processors/2 cores/8 threads)	404,462	3.50 US $	11/26/07	Oracle Database 10g Enterprise Edition	IBM AIX 5L V5.3
HP ProLiant ML570G4 Intel Xeon 7140 3.4GHz (4 processors/8 cores/16 threads)	318,407	1.88 US $	04/19/07	Microsoft SQL Server 2005 Enterprise Edt (x64)	Microsoft Windows Server 2003 Enterprise x64 Edition SP1
HP ProLiant ML370 G5 2P QC Intel 5365 3.0GHz (2 processors/8 cores/8 threads	251,300	1.63 US $	09/05/07	Microsoft SQL Server 2005 Enterprise x64 Edition SP2	Microsoft Windows Server 2003 Enterprise x64 Edition SP1
HP ProLiant DL380G5 QC Intel X5355 2.66Ghz (1 processor/4 cores/4 threads)	138,979	2.12 US $	03/26/07	Microsoft SQL Server 2005 x64 Enterprise Edt. SP1	Microsoft Windows Server 2003 Enterprise x64 Edition SP1

Figure 2. Top 5 4P price/performance results on the TPC-C benchmark

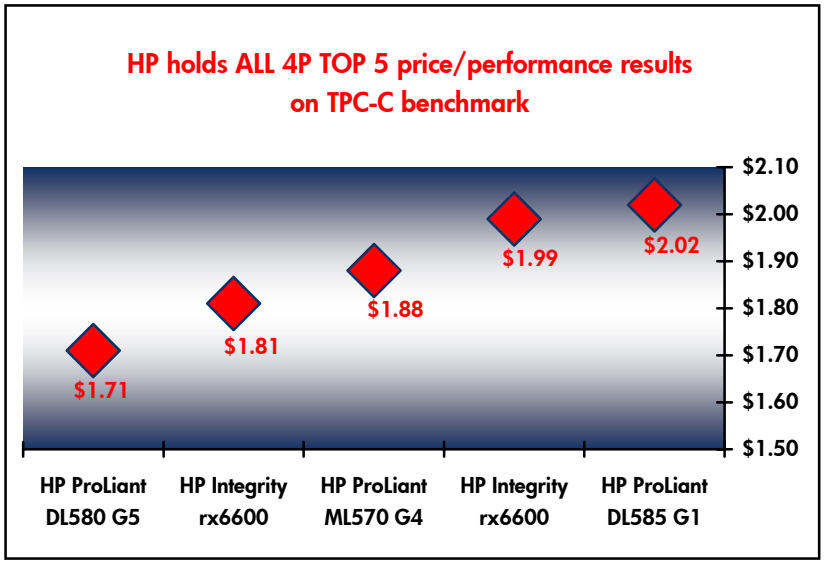


Table 2. Best 5 4P TPC-C price/performance results as of 9/5/07

4P Systems (processors/cores/threads)	tpmC	$/tpmC	Availability	Database	OS
HP ProLiant DL580 G5 Intel Xeon MP 7350 2.93 GHz (4 processors/16 cores/16 threads)	407,079	1.71 USD	09/05/07	Microsoft SQL Server 2005 Enterprise x64 Edition SP2	Windows Server 2003 Enterprise x64 Edition R2
HP Integrity rx6600 Intel DC Itanium2 Processor 9050 - 1.6 GHz (4 processors/8 cores/16 threads)	372,140	1.81 USD	6/11/2007	Microsoft SQL Server 2005 Enterprise Itanium Ed.	Microsoft Windows Server 2003 Enterprise Ed. Itanium SP1
HP ProLiant ML570G4 Intel Xeon 7140 3.4GHz (4 processors/8 cores/16 threads)	318,407	1.88 USD	4/19/2007	Microsoft SQL Server 2005 Enterprise Edt (x64)	Microsoft Windows Server 2003 Enterprise x64 Edition SP1
HP Integrity rx6600 Itanium2 Intel Dual-Core Itanium2 1.6GHz (4 processors/8 cores/16 threads)	359,440	1.99 USD	12/15/2006	Oracle Database 10g release2 Enterprise Edt	Red Hat Enterprise Linux 4 AS
HP ProLiant DL585 G1 AMD Opteron Dual Core 1 MB L2 - 2.4 GHz (4 processors/8 cores/8 threads)	236,054	2.02 USD	12/5/2005	IBM DB2 UDB 8.2	Microsoft Windows Server 2003 Enterprise x64 Edition

Why HP wins

HP ProLiant DL580 G5 server

Once again, the HP ProLiant DL580 distinguishes itself as a superior server with its latest benchmark result. The 4-processor server combines Intel's new quad-core Xeon processor technology, best-in-class availability features, and unsurpassed flexibility in a system ideal for mission-critical data center deployments. The new DL580 G5 offers twice the feature set of the previous generation DL580 G4.

HP Storage

HP Smart Array Controller P400

The HP Smart Array P400 is HP's first PCI-e SAS RAID controller and provides new levels of performance and reliability for HP servers, through its support of the latest SCSI technology and advanced RAID capabilities. The Smart Array P400 is ideal for SAS-based servers and storage enclosures that require mission-critical reliability and high performance.

HP Smart Array Controller E500

The HP Smart Array E500 is HP's first external connect only, entry level PCI Express (PCIe) Serial Attached SCSI (SAS) RAID controller. The full size card has 8 ports (2 x4 mini SAS external connectors) and utilizes DDR2-533 memory. The E500 offers RAID 0, 1 and 0+1 and can be upgraded with the battery-backed write cache (BBWC) module for RAID 5. This low-profile card is ideal for customers needing a low-cost external connect for HP ProLiant servers to tape, JBODs, and intelligent Modular Storage Arrays (MSA).

HP Smart Array Controller P800

The HP Smart Array P800 is a 16-port, PCIe 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 with SAS and SATA drives and investment protection. Small and midrange business growing storage needs can be managed by deploying this low cost, flexible tiered storage system with up to 14.4 TB capacity supporting SAS or SATA.

For more information

HP ProLiant DL580 G5: www.hp.com/servers/proliantdl580

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

TPC: Results valid as of September 5, 2007. Complete results can be found at http://www.tpc.org.

A full disclosure report describing these benchmark results has been filed with the Transaction Processing Performance Council (TPC) and is available upon request. The full disclosure report describes the benchmark hardware and software configuration in detail, provides costs, and lists the code actually used to perform the test. Similar reports from other vendors are the source of the price/performance comparisons provided above. Summaries of all tests are published each month by the TPC. Summaries are also posted on the Internet on the TPC's World Wide Web Server. With these benchmarks, customers can objectively compare the performance of different vendors' servers in specific areas such as database throughput in transactions per minute (tpmC) and cost per transactions per minute ($/tpmC).