

HP ProLiant BL460c takes #1 performance on Siebel CRM Release 8.0 Benchmark Industry Applications running Linux, Oracle

Defeats IBM x3850 in performance and Sun SPARC Enterprise T5120 in pricing



The HP Difference

The test system demonstrated that Oracle's Siebel CRM Release 8.0 architecture and HP BL460c blade servers form a very powerful business solution.



With features equal to standard 1U rack mount servers, the ProLiant BL460c server blade combines power-efficient compute power and high density with expanded memory and I/O.

Key results at a glance:

- ProLiant leadership with the #1 Linux result on Oracle's Siebel CRM Release 8.0 Benchmark with the ProLiant BL460c server blades with 4,000 users.
- HP beat the IBM System x3850 by 14.2% more number of users.
- The Sun SPARC T5120 is over THREE times more EXPENSIVE than the ProLiant BL460c server blade.
- This benchmark demonstrated the versatility and flexibility of HP Blades hardware. All tiers of the Siebel CRM Release 8.0 architecture ran on Red Hat Enterprise Linux. The backend database was an Oracle 10gR2 Database Server.
- The Siebel CRM Release 8.0 Smart Web Architecture and Smart Network Architecture efficiently managed the network with low network utilization — consuming only 6.6 Kbps per user.
- The Siebel CRM Release 8.0 Smart Database Connection Pooling and Multiplexing allowed the database to efficiently service 4,000 concurrent users and the supporting Siebel CRM Release 8.0 server application services with only 460 database connections.

The HP Advantage

The ProLiant BL460c server blade achieved superior results when compared to the IBM x3850 in each of the following key measurements:

- 14.8% more users than IBM
- 9.8% more business transactions than IBM

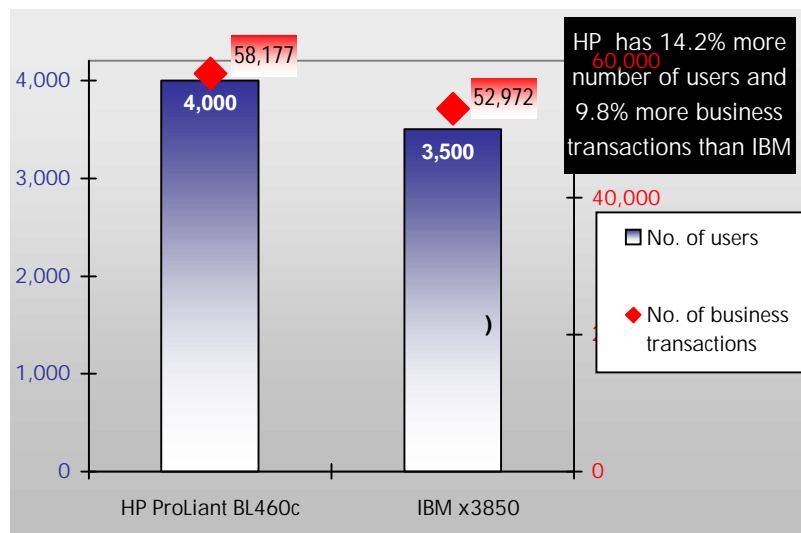


Figure 1. Comparison of performance results of the HP ProLiant BL460c dual processor Quad-Core server blade to the IBM x3850 four processor Dual-Core server in the Oracle Siebel CRM Release 8.0 Benchmark Industry Applications.

HP takes #1 performance

HP, in conjunction with Linux and Oracle Corp., has completed a Siebel 8.0 benchmark on an infrastructure designed to deliver a high-performance and cost-effective solution for midsized users of Siebel software. The tested configuration was built on an HP BladeSystem infrastructure running Red Hat Enterprise Linux operating system and an Oracle backend database. Completed as part of the CRM 8.0 Platform Sizing and Performance Program (PSPP), this benchmark, validated by Oracle Corp., demonstrated that enterprises requiring 4,000 concurrent CRM application users can confidently deploy their CRM software in a complete HP BladeSystem infrastructure and gain the advantage of an easily-managed, cost-effective infrastructure solution optimized for efficiency and change. HP BladeSystem infrastructures provide a complete, self-contained environment for Siebel applications, integrating multiple, modular components including blade servers, storage, and virtual LAN networking within a shared, intelligent infrastructure and powered by common, adaptive management. The PSPP benchmark is an excellent indication of the capacity of the HP ProLiant BL460c server blade in a controlled environment and an important data point in assisting HP in sizing real customer environments.

Benchmark comparison

Table 1. Result summary of the HP ProLiant BL460c to the IBM System X3850 and Sun SPARC Enterprise T5120/T5220 on the Siebel CRM Applications Release 8.0

Summary of results for HP ProLiant BL460c server blade vs. IBM x3850 and Sun SPARC Enterprise T5120 on Oracle's Siebel Customer Relationship Management (CRM) Applications Release 8.0.			
	ProLiant BL460c	IBM x3850	Sun SPARC Enterprise T5120/T5220
Application server configuration	ProLiant BL460c 2 x 3.16GHz Intel Xeon (X5460) Quad-Core (8 CPU Cores); 16GB RAM; Red Hat Enterprise Linux 4.0, 64-bit; Oracle 10gR2 Database Server v10.2.0.1.0	IBM System x3850 4 x 3.0GHz Intel Xeon MP Dual-Core (8 CPU Cores); 32GB RAM; Red Hat Enterprise Linux 4.0, AS U2 32-bit; Hyperthreading Enabled; Oracle 10gR2 Database Server v10.2.0.2.0	Sun SPARC Enterprise T5220 1 x 1.4GHz UltraSPARC T2 (8 CPU Cores); 32GB RAM; Solaris 10 8/07 64-bit ; Siebel CRM 8.0 SIA [20204] ENU
No. of users	4,000	3,500	10,000
Business Transactions Throughput/Hour	58,177	52,972	142,061
Projected Daily Transactions	465,416	423,776	1,136,488
% CPU Utilization (Application)	66.3	85	81
Memory (GB) Utilization (Application)	21.64	20	24.2
Network Utilization for Browser Traffic	26.06 Mbps/4000 users	19.04 Mbps/3500 users	70.01 Mbps/10,000 users
Network Utilization per user	6.6 Kbps	5.57 Kbps	7.17 Kbps

All results as of 5-08-08. For details on all configurations, see:

http://www.oracle.com/apps_benchmark/html/white-papers-siebel.html

HP White Paper: http://www.oracle.com/apps_benchmark/doc/hp-siebel8-4000-pspp-on-linux-benchmark-white-paper.pdf

IBM White Paper: http://www.oracle.com/apps_benchmark/doc/IBM_Siebel8_3500_PSPP_On_Linux_Final.pdf

Sun White Paper: http://www.oracle.com/apps_benchmark/doc/Sun_Siebel8_10000_PSPP_On_Solaris.pdf

What makes it work

The CRM 8.0 performance results were achieved with one HP ProLiant BL460c server blade configured as the application tier with 2 x 3.16GHz Intel Xeon X5460 Quad-Core processors with 32GB memory, maintaining a CPU utilization of 66.3% while running Red Hat Enterprise Linux. One HP ProLiant BL460c blade server with 2 x 3.16GHz Intel Xeon X5460 Quad-Core processors with 16GB of memory was used as the database server running the Oracle 10gR2 Database. One HP ProLiant BL460c server blade was used as the web server with 2 x 3.16GHz Intel Xeon X5460 Quad-Core processors. This compact enterprise solution demonstrates outstanding throughput, processing 58,177 complex business transactions per hour. Complete configuration details are listed in Appendix A.

Pricing

HP ProLiant BL460c less costly

The Sun SPARC Enterprise T5120 basic starting price is over **THREE TIMES** more costly than the basic starting price of the HP ProLiant BL460c server blade as shown in the table below.

Table 2. Cost comparison of HP ProLiant BL460c server vs. Sun SPARC Enterprise T5120 server¹

	ProLiant BL460c SMART BUY blade server 1U	Sun SPARC Enterprise T5120 Server 1U
Processor	Intel Xeon X5430 2.66GHz 1 x 4 Core (1 chip/4 cores)	UltraSPARC T2 1.2GHz 1 x 4 Core (1 chip/4 cores)
Cache	2 x 6MB L2 cache	4MB L2 cache
Memory	4GB (2 x 2GB) PC2-5300 FBD DDR-2 667MHz	4GB (4 x 1GB) FB DIMM
Drives	Open bay (diskless) Add 2 x HP 146GB hot-plug 2.5 SAS dual port 10,000 rpm disk drive (\$698)	2 x 146GB SFF SAS 10,000 rpm hot-swap disk drives; DVD-ROM/CD-RW slimline drive
Controllers	Integrated Smart Array 200i; 2 x embedded NC373i Gigabit Ethernet controllers; 10/100BaseT Ethernet Controller	
Ports	2 Integrated Gigabit Ethernet NIC ports plus (1) additional 10/100 NIC dedicated to iLO 2 Management	4 x Gigabit Ethernet ports
Power Supply		2 x (N+1) 650W power supplies
Software	MS Windows 5 User License (add \$129)	Solaris 10 and Java Enterprise System pre-installed (RoHS compliant)
Remote Management	Integrated Lights-Out 2 (iLO 2)	Not included
Total Price	\$1,899 + \$827 additions ² = \$2,726	\$8,995

¹ Pricing comparison from Ideas International:

<http://as.ideascp.com/cp/cp.aspx?c=IBAVD/erXEKHLc6ce7SYLugduribNBPjs8vkDglA3WncgagNYWtrPK6aE93QgrBnJgWD/ehRrfMebEsl65DbSug==&s=CPSystems:1aff1e00-b000-4f19-8870-dd83587962f7:2c21e241-ffac-4bc2-a670-57e2ad007ac6:1::>

² Additions priced from HP pricing web site at:

<http://h71016.www7.hp.com/dstore/MiddleFrame.asp?page=config&ProductLineId=431&FamilyId=2420&BaseId=24202&oi=E9CED&BEID=19701&SBLID=>

The ProLiant Advantage



The HP ProLiant BL460c server blade continues to provide enterprise-class features for high performance and reliability without compromising energy efficiency or density. With features equal to standard 1U rack mount servers, the two-processor, multi-core HP ProLiant BL460c server blade combines power-efficient compute power and high density with expanded memory and I/O for maximum performance. The ProLiant BL460c server blade now features the latest models of Intel Xeon 5200, 5300, and 5400 series processors with optional hot-plug hard drives, mirrored memory, online spare memory, memory interleaving, and much more to ensure high availability. The BladeSystem c7000 enclosure supports up to 16 BL460c server blades with Intel Xeon processors, 2 more servers than the IBM BladeCenter.

The ProLiant BL460c server blade key benefits include:

- [Concentrated compute power](#)
- [Deployment versatility in an efficient dense form factor](#)
- [Industry-leading management and configuration tools](#)

The ProLiant BL460c server blade is designed for large enterprise data centers, mainstream/mid-sized data centers and departments and branch offices.

The advantages of the partnership between HP and Oracle

The Oracle Applications Standard Benchmark is focused on ERP applications and represents a mixed workload intended to model the most common transactions operating on the most widely used enterprise application modules. Definitions of transactions that compose the benchmark load were obtained through collaboration with functional consultants and are representative of typical customer workloads, with batch transactions representing 25% of the total workload. HP, unlike several competitors, uses this real-world benchmark to focus on customer core transactions.

Strategic partners for over 25 years, HP and Oracle have more than 140,000 joint customers. Our accomplishments together are numerous. Here are just a few:

- A strong breadth and depth of platform, software, and services offerings
- Joint development, testing, and optimization
- Performance and price/performance leadership validated by industry and Oracle Applications benchmarking
- HP Consulting and Integration Services deliver solutions for Enterprise Integration and Service-Oriented Architecture with Oracle Fusion Middleware
- HP is a leading Oracle Applications Infrastructure Partner
- There are 13 HP/Oracle solution and demo centers worldwide
- Oracle Fusion Middleware is showcased in HP's SOA Competency Centers around the world
- The partners provide executive alignment that starts at the top and runs through both organizations

HP and Oracle aim to address today's business challenges by enabling the synchronization of infrastructure, applications, services, and business processes – from suppliers through to customers – to help organizations reduce the cost of change, reduce total cost of ownership, simplify IT management complexity, and rapidly implement solutions that provide a competitive advantage.

Partnership between HP and Linux

HP is a major contributor and world leader in open source technology solutions, and certifies more platforms on Red Hat than any other vendor. With over 6,500 Linux-trained services professionals across more than 160 countries, HP sells Red Hat Enterprise Linux and provides support and consulting services worldwide. According to IDC, HP servers have led in worldwide unit and revenue market share every year since IDC started tracking Linux market share back in 1998.

Best of all, for our joint customers, HP offers one-stop-shopping and overall accountability for their hardware and software Linux solutions, as well as long-term maintenance and support.

HP engineers have worked hand in hand with Red Hat engineers for years to assure that Red Hat Enterprise Linux is optimized on HP systems. All HP platforms include software and drivers to help customers set up, deploy, configure, and manage their Linux systems rapidly and easily.

Both companies continue to invest in today's fastest growing operating system - Linux. HP and Red Hat's leadership in the Linux marketplace is the result of a committed relationship combining engineering resources and expertise, world-class global support, excellent business and market development partnering, to deliver the best Linux-based solution to our customers.³

Partnership between HP and Siebel

HP is the leading platform provider for customers implementing Siebel applications. HP and Oracle understand what drives your business. With Oracle's Siebel System applications, we focus on deploying flexible CRM solutions for your environment and fine-tuning them, while providing the best performance with your infrastructure. The HP and Oracle's Siebel Applications enable you to increase the lifetime value of your customers, decrease your total cost of ownership, and leverage your existing technologies and business assets – allowing you to respond quickly to ever changing customer needs.

Recognizing the bottom-line benefits of being customer-driven, today's chief executives are focusing their IT investments on Customer Relationship Management (CRM) applications to enable their organizations to deliver a superior customer experience. Siebel Systems offers best-in-class software for customer relationship management, derived from more than 3,500 customer deployments, and has documented hundreds of industry-specific best practices for more than 20 industries and industry segments and embedded them directly into Siebel eBusiness Applications.

For more information

HP ProLiant BL460c server blade: www.hp.com/proliant/bl460c

HP ProLiant storage solutions: www.hp.com/go/serial and <http://h18004.www1.hp.com/products/servers/platforms/storage.html>

HP performed the benchmark project at the HP Enterprise Solutions Partner Labs in Houston, TX. Performance and solutions engineers from HP, Linux, and Siebel participated in the benchmark efforts. For full technical details and disclosure:

http://www.siebel.com/products/performance_benchmark/index.shtm

For complimentary sizing and configuration support from HP, please contact the HP Siebel Solutions Center at siebel.hp@hp.com.

For further information on HP and Siebel Systems working together to deliver industry-leading solutions, please visit: <http://www.hp.com/go/siebel>

³ <http://www.redhat.com/partners/partnerspotlight/hp/>

Appendix A

The following configurations were used in this benchmark:

PSPP Components

- Siebel CRM Release 8.0 Industry Applications
- Red Hat Enterprise Linux 4.0
- Oracle 10gR2 Database Server v10.2.0.1.0

Gateway/Application Server

- 1x2way HP BL460c configured with
 - 2 x 3.16GHz Intel Xeon (X5460) Quad-Core CPUs (8 CPU Cores)
 - 32GB RAM
 - Red Hat Enterprise Linux 4.0, 32-bit
 - Oracle 10gR2 Database Client v 10.2.0.1
 - Siebel CRM 8.0 SIA [20204] ENU

Database Server

- 1x2way HP BL460C Server configured with
 - 2 x 3.16GHz Intel Xeon (X5460) Quad-Core CPUs (8 CPU Cores)
 - 16GB RAM (installed)
 - Red Hat Enterprise Linux 4.0, 64-bit
 - Oracle 10gR2 Database Server v10.2.0.1.0

Web Server

- 1x2way HP BL460c configured with
 - 2 x 3.16GHz Intel Xeon (X5460) Quad-Core CPUs (8 CPU Cores)
 - 16 GB RAM
 - Red Hat Enterprise Linux 4.0, 32-bit
 - OHS (Oracle HTTPD Server) Version 10.1.3.0.0
 - Siebel CRM 8.0 SIA [20204] ENU

HP LoadRunner Controller

- 1x HP BL480c
 - 2 x 3.0GHz Intel Xeon Dual-Core CPUs
 - 4GB RAM
 - Microsoft Windows Server 2003 EE SP1
 - LoadRunner version 8.1

HP LoadRunner Host

- 1x HP BL460C
 - 2 x 2.66GHz Intel Xeon Dual-Core CPUs
 - 4GB RAM
 - Microsoft Windows Server 2003 EE SP1
 - LoadRunner version 8.1

© 2008 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein. AMD-8111, AMD-8131, AMD-8132, and AMD-8151 are trademarks of Advanced Micro Devices, Inc. HyperTransport is a licensed trademark of the HyperTransport Technology Consortium. Windows is a registered trademark of Microsoft Corporation in the U.S. and other jurisdictions. Intel is a trademark or registered trademark of Intel Corporation or its subsidiaries in the United States and other countries. Xeon is a trademark or registered trademark of Intel Corporation in the U.S. and other countries and is used under license. Linux is a U.S. registered trademark of Linus Torvalds. Microsoft and Windows are U.S. registered trademarks of Microsoft Corporation. May 2008