

Unigraphics NX performance brief

HP xw6200 and HP c8000 vs. Sun and IBM workstations



Platforms Tested

Benchmark Test One

HP Workstation xw6200
3.6 GHz
Microsoft® Windows® XP
Quadro FX 3400

Sun Blade 2500
1.28 GHz
Solaris
XVR-600 graphics

IBM POWER 4 p630
1.45 GHz
AIX
POWER GXT6500P graphics

Benchmark Test Two

HP Workstation c8000
1 GHz
HP-UX
ATI FireGL X1

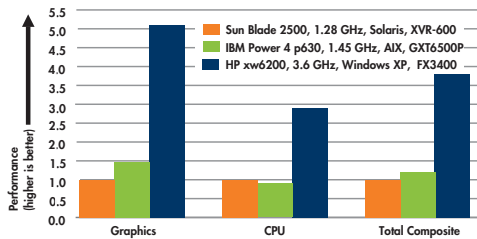
Sun Blade 2000
900 MHz
Solaris 8
Sun XVR-1200 graphics

Sun Blade 2500
1.28 GHz
Solaris
XVR-600 graphics

IBM POWER 4 p630
1.45 GHz
AIX
POWER GXT6500P graphics

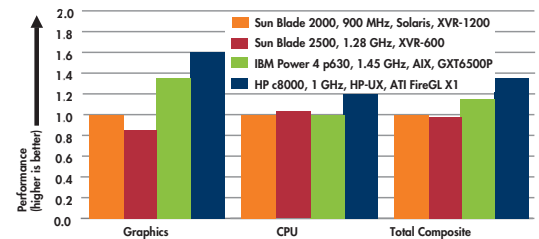
Benchmark Test One

HP xw6200 performance vs. Sun and IBM



Benchmark Test Two

HP c8000 Performance vs. Sun and IBM



Summary: The HP c8000 and HP xw6200 are ideally designed for complex large models and memory intensive applications such as Unigraphics. The HP c8000 is a PA-RISC workstation that features a high-performance, low-latency chipset to enable greater than-clock speed scaling and 64-bit architecture. The HP xw6200 is an Intel® Xeon™-based workstation that features PCI Express (x16) graphics, dual-channel memory and supports Intel Extended Memory 64 Technology (EM64T).

Application: Unigraphics NX2 (64-bit on UNIX, 32-bit on Microsoft Windows) running the Unigraphics Performance Harness (UPH) benchmark developed by HP.

Discussion: Applications such as Unigraphics are graphics, CPU, I/O and memory intensive and running them can push resources to their limits. Unigraphics can use large amounts of memory that exceed the capabilities of traditional 32-bit platforms, thus necessitating 64-bit architectures or Intel EM64T. Intel EM64T allows running Unigraphics 32-bit at full native performance today with the capability of running 64-bit Microsoft Windows and 64-bit Unigraphics as they become available.

The UPH benchmark was used to demonstrate a complex Unigraphics part, although it is designed not to exceed 32-bit limits. The benchmark consisted of two sets of tests: I/O performance by loading the model, manipulating the model in various display modes such as shaded, wireframe, studio and visualization modes and drafting, modeling, and CAM operations. These operations stress

graphics, I/O throughput, memory bandwidth, CPU to bus bandwidth and CPU performance.

The HP xw6200, HP c8000, IBM and Sun Blade systems were tested for graphics and CPU performance on a workload which consumes up to 1.5 GB of memory. In this scenario, the HP c8000 and xw6200 were superior to the Sun Blade 2000, Sun Blade 2500 and IBM pSeries 630 in all tests. The HP c8000 performance was due in part to its HP Chipset zx1, high-performance error checking and correcting (ECC) memory, industry-leading AGP 8X graphics and 6.4 GB/s of effective processor bandwidth. The HP xw6200 boasts Intel's E7525 next-generation high-end performance chipset, PCI Express (x16) graphics, 1 GB/s of unidirectional, an 800 MHz system bus and dual channel memory.

Conclusion: For customers who require performance, flexibility and expansion capabilities, the HP c8000 and the HP xw6200 demonstrate leadership performance compared to the Sun Blade 2500 and IBM pSeries 630.

Links:

<http://www.sun.com/desktop/workstation>
<http://www.ibm.com/servers/eserver/pseries/hardware/workstations>
<http://www.hp.com/workstations/index.html>

For more information, contact pam.taylor@hp.