

CX1

 Windows HPC Server 2008

High performance computing without the complexity of traditional clusters



CRAY

Windows® HPC Server® 2008 and the Cray CX1™ supercomputer deliver performance and ease of administration for HPC clusters.

Supercomputers are no longer exclusive to scientists and engineers in large organizations that have the funding, expertise and vast resources required to house, deploy and manage traditional high performance computing (HPC) clusters.

HPC has become a fundamental enabler of innovation by providing dedicated computer resources to solve complex simulations and long-running calculations. Many of today's IT professionals, application developers and HPC end users work in non-traditional HPC environments, such as offices or laboratories with limited resources for purchasing, implementing and maintaining traditional HPC clusters.

Faced with complex problems and calculations, end users find that their current workstation hardware is overwhelmed, or that their HPC applications do not work transparently with their existing infrastructure.

IT professionals require hassle-free HPC cluster deployment, management and troubleshooting, as well as scalable clusters that integrate with existing applications.

Application developers require support for standard programming environments such as OpenMPI and MPI, together with a comprehensive set of parallel programming tools that support familiar programming languages.

The productivity of individuals and workgroups in HPC environments depends on the availability of full-featured, out-of-the-box HPC solutions that are affordable, space-saving, scalable, easily integrated with existing infrastructure and HPC applications, and easy to deploy and manage.

Windows HPC Server 2008 complements the Cray CX1 system by delivering Cray performance in an office environment with the ease-of-use provided by Windows HPC Server 2008.

WINDOWS HPC SERVER 2008

Windows HPC Server 2008 combines the power of a 64-bit Windows Server platform with rich, out-of-the-box functionality to improve productivity and reduce the complexity of your HPC environment. Windows HPC Server 2008 enables broader adoption of HPC and increases productivity by providing numerous end-user, administrator and developer features and tools, including:

- A rich and integrated end-user experience scaling from the desktop application to the clusters.

Windows HPC Server 2008

- Support for key industry independent software vendor (ISV) applications for manufacturing, computer-aided engineering (CAE), life sciences, technical computing, oil and gas, financial services, and more. Many ISVs have integrated their mission-critical applications to work seamlessly with Windows HPC Server 2008.
- Microsoft management tools that you can leverage to centrally manage the Windows Server infrastructure, including support for command-line interfaces for administrators.
 - Support for familiar development tools, such as the native parallel debugger in Microsoft Visual Studio®, to develop and troubleshoot parallel programs.

BENEFITS

Affordable, accessible, fully featured HPC

The Cray CX1 hardware platform combined with Windows HPC Server 2008 gives your organization access to 'right-sized' (physical and computational) HPC resources, and guarantees a full-featured HPC cluster without costly acquisition and maintenance costs.

Performance and tools to accelerate time to insight

Windows HPC Server running on Cray CX1 hardware provides a superior out-of-the-box HPC experience that allows you to continue running your existing applications, use management tools to deploy and manage the cluster, use a sophisticated job scheduler for allocating and tracking jobs in the cluster, and use Visual Studio to develop and test your programs.

Furthermore, all drivers for the Windows platform are tested, delivering the reliability expected by Windows-based users.

Optimized infrastructure value

Windows HPC Server 2008 running on the Cray CX1 system leverages existing corporate and commercial capabilities. The Cray CX1 supercomputer easily and securely connects to the corporate network with the Microsoft Active Directory® directory service, and will run most HPC ISV applications out of the box without costly integration development and consulting.

A single integrated system for HPC

Windows HPC Server 2008 running on a Cray CX1 provides a single integrated system that gives you the ability to deploy, manage, schedule and enable high-performance networking through the Microsoft-MPI stack.

Support for leading HPC applications

Combined, Windows HPC Server 2008 and the Cray CX1 system provide support for industry-leading applications in the manufacturing, CAE, life sciences, technical computing, oil and gas, and financial services industries, allowing you to deploy mainstream applications with a broad base of support.



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