

Red Hat: Leadership and Innovation for High Performance Computing

Commodity-based, ultra-scale platforms based on open source software have proven to be a powerful approach to solving large-scale, complex simulations and virtual prototyping. The open development model gives the High Performance Computing (HPC) community the best chance for driving technical innovations and rapidly addressing issues resulting in the betterment of the Community.

As an innovator and collaborator in the open source community, Red Hat plays a leadership role in some of the most crucial Linux kernel, development tool chain, and open source application projects. Red Hat delivers open source innovations through stable and scalable products that deliver excellent performance in some of the largest high performance clusters. The Red Hat Enterprise products have been enthusiastically adopted by hardware and software vendors for all major platforms and are available in certified configurations with extensive support options.

Reliable products, coupled with Red Hat's open source leadership gives the HPC community the best approach to achieving rapid software innovation while reducing time to production. And with Red Hat Network a management platform for achieving production sustainability. Choosing Red Hat Enterprise product and services customers are realizing the following key benefits:



Industry Leadership

Red Hat continuously delivers successful open source innovations like the RPM Package Manager, Red Hat Network, Pluggable Authentication Module (PAM), GNU C Library (Glibc), Native POSIX threading library (NPTL), asynchronous I/O and the O(1) scheduler.

HPC-Class Reliability

Beyond traditional Linux usability, Red Hat Enterprise Linux offers true mission-critical stability and performance. This enterprise-class reliability is the product of an extensive six-month testing and beta cycle, involving customers as well as hardware and software partners.

Extensive Platform Options

Partnerships with all the major hardware OEMs and platform providers, including IBM, HP, Dell, Sun, AMD and Intel ensure that today's decision to deploy on Red Hat Enterprise Linux is a sound long-term investment.

Influence and Accelerate Innovations

Red Hat makes significant investments in the underpinning of today's Linux and open source initiatives. Red Hat pursues opportunities to accelerate Linux operating system capabilities to meet the needs of the HPC community.

Open Development Environment

The open source development model allows the high performance technical community to directly participate in the development, testing, and platform integration, reducing time to production. Access to the operating system and tools source code for root analysis and debugging contribute improvements and fixes back into the community for the betterment of all.

Linux Innovation

Red Hat Enterprise Linux is a fully open source platform, incorporating innovations and best practices from a large community of contributors including the High Performance Technical Community.



Red Hat offers high performance computing solutions built on the benefits of an open source. Red Hat enterprise products and services include:

Red Hat Enterprise Linux Products

Red Hat Enterprise Linux creates a reliable, secure, high performance platform designed for today' s demanding HPC environments--with capabilities, tools, and compilers that match or surpass those of proprietary operating systems. Sold in three products that span client systems to the largest servers, Red Hat Enterprise Linux delivers a consistent application, management, and user environment.

Red Hat Enterprise Network

Red Hat Network allows administrators to efficiently manage the systems on their network. Through a simple user interface, administrators can perform patch management, updates, monitoring, and maintenance. Satellite or Proxy server options provide advanced capabilities and the ability to get updates directly from Red Hat with even greater levels of security and reduced network bandwidth.

Red Hat Professional Services

Offers a full-range of consulting engagements, from the complete Linux migration to focused, client-directed engineering, and software customization. Red Hat' s experienced Linux and Open Source consultants and engineers bring substantial experience in a number of areas of expertise.

Red Hat Enterprise Linux 3 – High performance computing capabilities

Red Hat Enterprise Linux 3 brings the following new Linux capabilities to high performance computing environments.

- Major platform support including Intel x86, Intel Itanium, AMD AMD64, IBM zseries, iSeries, pSeries, and S/390 systems.
- 4GB kernel/4GB userspace memory model increases address space for x86 systems, allowing support for 64 GB of main memory and larger user applications.
- Native Posix Thread Library support provides new high-performance multi-threading capability improving performance for multi-threaded applications
- Support for larger SMP, memory and I/O systems improves scalability.
- Improved development tool chain
- Supports deployment of diskless clients.

Contract Schedules

GSA Schedule - GS-35F-454-3G

SEWP III - NAS5-02143

ECS III - 263-03-D-0565

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