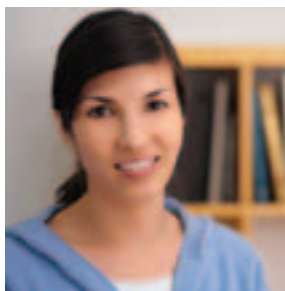


HP and Scali

Scaling the Linux® data center



Scali and HP are revolutionizing the Linux data center to meet customer needs.

We are at the epicenter of an evolution in the High Performance Computing marketplace. This paradigm shift is allowing everyone who may potentially leverage HPC to acquire and operate his or her own personal “supercomputer.” The need for “performance at any cost” is still a requirement, but it can now be met in different, more cost-effective ways.

Today, HP and Scali can build the cost-effective Linux environment you need based on industry-standard servers and storage—providing a total solution that is easy to deploy, use, scale up or out, and manage both locally and remotely. The result? A quality, cost-effective machine for high-performance application processing. Whether you’re running computational fluid dynamics, crash test simulation, seismic research, global weather forecasting, or Monte Carlo simulations, HP and Scali have a solution for you.

The choice is yours.

When it comes to building and managing technical computing applications that will use the computational power of server clusters to solve complex business problems, performance is critical. Today, with advances in computing technology providing far greater efficiencies, supercomputer performance is reaching a whole new class of users.

Engineers and scientists, whose productivity applications could only be addressed by highly specialized, expensive, and proprietary systems in the past, can now choose industry-standard servers that allow more diverse and opportunistic solutions to problems.

HP and Scali are at the forefront of the revolution in the High Performance Computing marketplace, bringing you the power you need to solve your business and technical problems effectively and efficiently—without breaking your budget. How? Through certified, proven, industry-standard components from HP, and Scali system administration tools—tools designed to help you slash acquisition costs, improve price/performance ratios, and achieve a low TCO. Altogether, this means you can

HP and Scali provide a total solution that is easy to deploy, use, scale up or out, and manage both locally and remotely.

focus on solving your business computing issues, improving the time-to-market for your solutions—rather than managing and maintaining your complex computing environment.

Scali—HP's cluster management partner

Scali is a leader in developing advanced cluster management and inter-cluster communication software that is interoperable on the leading network interconnects in the industry. When you need to leverage HPC processing platforms while substantially reducing your initial technology investment and improving your price/performance ratios, Scali's technology is second to none.

That's why Scali and HP have partnered to deliver Scali Manage™ and Scali MPI Connect™. This solution, across HP ProLiant DL Class and BL Blade Servers, provides advanced Linux cluster solutions that improve the performance of numerical- and communication-intensive applications for your technical computing applications. Our companies work together to test, certify, and support Scali cluster solutions on HP ProLiant servers—the world's leading industry-standard servers for Linux.

Some of the major features of this solution directly relate to scalability, including:

- Flexible grouping of nodes
- Enhanced installation and configuration for large systems
- High-performance parallel shell implementation
- Integration with Torque batch queue management
- Flexible floating license system
- GUI enhancements for viewing large cluster installations
- Supports both Red Hat EL3 and 4 and SUSE SLES 8 and 9 Enterprise Editions

For HPC solutions, Scali Manage is the keystone for the Scali and HP cluster management solution, allowing users to install and deploy across a range of clustered servers or nodes. Most clustered solutions are usually homogeneous—using the same type of machines with the same speeds, processors, memory, and disk size. Scali Manage allows users to evolve their computational farm from servers to blades, from 32-bit to 64-bit processors—or from Red Hat Enterprise Linux to Novell SUSE LINUX Enterprise Server.

Scali Manage™—serving at the center of your solution

Scali Manage provides comprehensive administrative tools for system installation, configuration, management, and monitoring—in addition to support for the leading cluster interconnects and platforms. The total solution is a proven computing environment that reduces cost, increases efficiency, and improves the price/performance ratios associated with running high-performance clusters. In addition, Scali Manage provides a rapid, flexible, and easy-to-use system for installing and configuring the operating system, middleware, communication modules, third-party applications, and user data.

Scali Manage also integrates into HP's System Insight Manager, with links to HP OpenView Enterprise Management, and interfaces to HP's Integrated Lights Out (iLO) service co-processor—enabling remote browser-based or telnet-based remote administration for worldwide management from a common focal point.

“Scali software allowed us to complete in a day what took our existing cluster management processes a week to complete. The software ensures the cluster is stable and runs smoothly so it has greatly improved our productivity.”

Dr. Robert J. Woods,
Complex Carbohydrate Research Center,
University of Georgia

Scali MPI Connect™—your connection to peak performance

Scali MPI Connect is a fully integrated message-passing interface (MPI) solution that enables companies to take advantage of diverse high-performance interconnects and utilize demanding application software capabilities. Scali MPI Connect highlights include:

- High-bandwidth, low-latency performance
- Ease of installation and management
- Interconnect interoperability
- High reliability and system scalability

Scali MPI Connect is a universal MPI layer, which is an optional interface used only for MPI applications—or where the customer needs to interface with other MPI-based machines as a portable link between different vendor-based machines using MPI.

Scali MPI Connect has been tested across a complete range of MPI-based devices, including Gigabit Ethernet, Myrinet, and all InfiniBand offerings: Mellanox, TopSpin, Infinicon, and Voltaire, providing universal interconnectability.

Why Linux? Why now?

For many years, building supercomputer, massively parallel, and large-scale symmetric multiprocessing (SMP) environments with expensive, proprietary UNIX® systems was your only choice. If you wanted the performance, you had to pay the price. All that has changed now. Linux is the fastest-growing operating system, and as it matures, users are making more and more demands of Linux across the enterprise.

It only makes sense to leverage your UNIX knowledge base in any new solution, and Linux allows you to do that. But moreover, by combining Linux with industry-standard cluster solutions from HP—managed by Scali—you receive an outstanding platform to build, manage, and deploy your most demanding applications faster and more cost-effectively than you may ever have imagined.

For example, when Fraunhofer IFAM—a leading organization for Institutes of Applied Research in Europe for the manufacturing engineering and applied materials sectors—needed to acquire high-performance clusters with a rapid install time, ease of use, and reduced cluster administration requirements, they turned to an HP and Scali solution running Linux. Not only were all of IFAM’s TCO and ROI requirements more than satisfied, but it took only four hours to install the solution—a fraction of the five days an alternative solution was expected to take.

HP, Scali, and the Novell Validation Suite

Scali is a charter member of the Novell Validation Solution Suite for High Performance Computing—partnering with HP to bring certified, integrated solution stacks for computer-aided engineering, electronic design automation, life and materials sciences, petroleum and seismic engineering, and financial services computing.

HP Financial Services helps the power of HP’s portfolio work for you.

In addition to having the industry’s strongest portfolio of products, services, people, tools, methodologies, and world-class partnerships, HP makes it easy on the balance sheet to put the power of the HP portfolio to work for you through HP Financial Services.

For more information, please visit:

www.hp.com/go/hpfinancialservices

Rock-solid support from HP Services

HP Services supports your entire Linux environment and cooperates with Scali worldwide support. In fact, HP has over 6,500 Linux-trained services professionals in more than 160 countries, supporting solutions for our customers' Linux-based application environments. We have more than 20 years of experience in providing comprehensive service portfolios regardless of the business size or type, and we're recognized worldwide as an industry leader in provisioning multivendor hardware and software support services for open IT environments. We offer a single point of contact for the hardware and Linux operating system, and HP works closely with Red Hat and Novell to provide fast resolution for problems and to support a smooth update process for Linux deployments.

HP's comprehensive Linux solutions, built on inherent technology expertise and industry-leading partnerships, let customers focus on their business while HP keeps their Linux environment flexible and stable—cost-effectively. HP also provides rapid access to high-level, proven Linux support expertise worldwide.

For more information, please visit: www.hp.com/hps

Why HP and Scali on Linux?

Through preferred partnerships with best-of-breed software and solution providers, HP has a longstanding commitment to develop robust solutions based on the HP ProLiant and Linux platform. As the industry's market-share leader, HP is well-known for its support of Linux and open source computing solutions based on industry-standard platforms—particularly across heterogeneous compute environments.

With the growing demand for Linux in the marketplace, the requirements for HPC Linux solutions will only grow. Together, HP and Scali enable even the most complex compute environments to fully leverage any Linux data center investment—and realize a higher ROI through a continuing commitment to the open source benefits of Linux.

By empowering you to respond more quickly to evolving business requirements and the new computational challenges facing HPC users, HP and Scali can help you develop better applications and solutions for the real world. And by reducing the cost and complexity of your IT environment, you can put more resources into your work rather than into your systems.

With an accelerated time to production, better system health and availability, maximum productivity—and simple, flexible server consolidation or server scaling—the argument for HP and Scali running Linux becomes even stronger.

Proprietary UNIX and SMP solutions can no longer compete in the HPC space. However, the trust you put in these systems to perform at high levels is well placed in a Linux-based Scali HPC cluster solution. You can deploy with confidence, because HP is the market leader in deploying Linux cluster solutions, with hundreds of successful installs.

The broad range of HP hardware, software, and applications that run Linux allow you to experience the fullest spectrum of solutions possible—whether you need to fully commit to a new Scali-based management system on ProLiant servers, or to incorporate it within a heterogeneous HPC environment. Also, with integrated management from HP for your Scali HPC cluster solution, you can take Linux servers off-line, troubleshoot, reload, install new software across the cluster, and power-up locally or remotely. Other solutions cannot match this capability.

Scali HPC clustering solutions running Linux are an integral part of HP's Adaptive Enterprise strategy that strives to simplify customers' compute environment, lower overall costs, provide value for every IT dollar spent—and keep them agile to respond to changing business conditions.

To learn more

For more information on the full set of Linux and HPC solutions from HP, please visit: www.hp.com/go/linuxclusters

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