

Scali MPI Connect for Linux on POWER, Intel and AMD processor-based systems

Optimize Linux clusters using a single MPI across leading platforms and interconnects



Optimize system performance and reliability

High performance computing (HPC) applications require professional interconnect technologies that allow you to scale computing capacity and capabilities to reflect changing business needs. Scali MPI Connect™ provides a fully integrated message passing interface (MPI) solution that enables you to build high-performance Linux® clusters using your choice of server platforms and interconnect technologies. The unique interconnect-independent nature of Scali MPI Connect offers a transparent layer between the applications and interconnects. Users achieve high performance and the unique flexibility to mix, merge and expand clusters running different hardware platforms. Cluster utilization is increased as applications are not locked to a single system, but can be run across a variety of available clusters.

Highlights

- ***Build high-performance clusters using a commercially developed and supported MPI***
- ***Leverage a cross-platform MPI to streamline application testing, tuning and delivery***
- ***Take advantage of the unique flexibility of interconnect and platform independence***
- ***Deploy the solution quickly and scale to thousands of nodes as your needs grow***



Scali MPI Connect responds to the demands of high performance computing applications with low message latency and high bandwidth performance for Linux clusters. Designed to support scalable systems, the solution is focused on sustained performance and failover capabilities. In addition, it helps users achieve extremely low latency and high bandwidth performance in a thread-safe environment. Scali MPI Connect helps organizations:

- *Reduce overhead and reduce latency with highly optimized algorithms and tuning mechanisms*
- *Leverage demonstrated scalability to thousands of nodes*
- *Enable application compatibility through full compliance with the MPI 1.2 specification*
- *Optimize processes using built-in tracing and timing analysis*
- *Maximize resilience to network failures with runtime interconnect failover*

Support leading interconnects with MPI interoperability

Many organizations are often faced with the challenges associated with using different interconnects for one or several applications. The optimal

return on investment often requires the use of different interconnects for different applications or codes. The interconnect-independent Scali MPI Connect implementation helps answer this challenge by providing the unique ability to run multiple and mixed interconnect environments, including Gigabit Ethernet, TCP/IP, Myrinet®, InfiniBand® and SCI® on one or several clusters.

Choose the platform that best meets your needs

Scali MPI Connect offers a truly platform-independent architecture, compatible with IBM POWER™, Intel® and AMD® processor-based servers. Organizations can merge and/or mix servers and clusters for increased performance and system utilization, independent of the underlying processor platform. IBM is the only vendor today offering all three processors and a single MPI within its family of servers, including:

IBM @server Linux Cluster 1350

This fully integrated and tested solution features a choice of either SUSE LINUX Enterprise Server or Red Hat® Enterprise Linux, IBM @server and IBM TotalStorage® options, high-speed network interconnects and IBM Cluster Systems Management (CSM) for Linux to easily maintain and manage the cluster.

Intel processor-based

IBM @server xSeries® systems

These highly scalable servers provide outstanding availability, price/performance and effective system management tools to help manage and provision the IT environment.

AMD processor-based

IBM @server systems

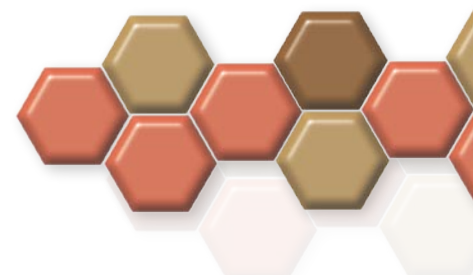
These servers, including IBM @server 326, provide high compute capabilities and an integrated memory controller to help alleviate the bottlenecks of processor-to-memory bandwidth.

Linux on IBM POWER

processor-based systems

Linux on POWER systems include IBM @server BladeCenter™, pSeries®, iSeries™ and OpenPower™ systems, offering flexibility and efficiency in serving multiple workloads to fuel the on demand business generation. This family of servers can help lower costs and improve flexibility and manageability through:

- *Cost-effective, highly scalable tower servers ranging from 2-way to 16-way to fit a range of computing needs*
- *High-bandwidth memory ranging from 32GB to 512GB to accommodate many levels of applications and rates of use*



- *Micro-partitioning, virtual LAN and I/O technologies, enabling you to run disparate applications on the same server to improve system utilization and increase return on investment*
- *Workload management features designed to free staff from repetitive administrative activities*

This wide range of processor offerings gives IBM the ability to provide optimized and scalable systems for Scali customers who may need to run different applications on different servers while maintaining cohesive, integrated systems management.

Get applications to market faster

Scali MPI Connect provides a single, intuitive interface that helps reduce the time and costs associated with application testing. By using dynamically loaded shared libraries, applications can be distributed independent of the specific Scali MPI Connect release or interconnect. Software developers can dramatically decrease the burden of application development, testing and MPI-related support by standardizing on a single MPI middle layer and reducing the number of supported application versions. Companies can increase the overall efficiency of application development and reduce their critical time to market.

“In our computer environment we need Linux clusters that are flexible, powerful and robust. Scali MPI Connect was painless to install and configure and is showing us excellent performance gains on the IBM POWER platform over open source alternatives.”

*– Henry Tufo, associate professor,
computer science department,
University of Colorado*

“In the oil and gas industry, we are continually expanding our support of applications running in complex clustering environments. Scali MPI Connect streamlines the work and time traditionally spent testing and developing applications for each new hardware platform. This benefits both Schlumberger and our customers by allowing us to bring software applications with support for new hardware platforms to market more quickly.”

*– Rick Owen, commercialization manager,
Schlumberger Information Solutions*

For more information

Scali MPI Connect for Linux on IBM POWER, Intel and AMD processor-based servers offer technologies from two leaders in the field: Scali, with vast experience in developing high-performance clustering solutions and IBM, with leading-edge servers optimized for Linux. Both IBM and Scali back their offerings with comprehensive support that can include installation, configuration, customization and consulting. And Scali solutions on IBM servers are easy to order and price for your application offerings with IBM part numbers available for Scali solutions based on xSeries servers.

To learn more about Scali solutions, or to order Scali MPI Connect for Linux on an IBM server, visit: www.scali.com/ibm

To learn more about Linux on IBM POWER processor-based systems, visit: ibm.com/servers/eserver/linux/power

To learn more about Linux on IBM Intel or AMD processor-based cluster systems, visit: ibm.com/servers/eserver/clusters/



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