



THE TOTAL ENTERPRISE SOLUTION
IBM DB2 Universal Database cluster on Linux and IBM @server xSeries





The Total Solution

Organizations today face the challenging job of integrating technologies to pull together a comprehensive solution that fits their business needs and IT budgets.

A complete data center solution consists of enterprise class applications, databases, management tools, network infrastructure and server hardware. Until recently such solutions were based on proprietary systems and involved significant investment in capital, time and resources to assemble, integrate, test, manage and support. This scenario has changed dramatically with Linux® clusters and best-of-breed software, hardware and services from IBM and its partners.

This demonstration is a proof of how even the strictest requirements can easily be satisfied, with the right combination of products, to implement a total data management solution.

SMART database

The benefits of Linux clusters, including superior performance at a low cost, are well known. When you add to the mix the built-in clustering capabilities of IBM DB2® Universal Database™ for Linux, you get a rock-solid foundation for all your enterprise e-business data processing needs.

Powerful hardware

IBM has extensive and proven experience with clustered UNIX® computers. IBM @server xSeries™ has applied that knowledge to produce servers that are armor-plated for Linux, optimized for database workloads, and deliver tremendous power at a fraction of the price.

Demanding applications

The combination of DB2 and Linux on xSeries, with the latest Intel® Pentium, Xeon MP and 64-bit Itanium 2 processors, is powerful enough to run highly demanding business applications, including SAP® R/3, mySAP Customer Relationship Management (CRM), mySAP Business Intelligence (BI) and IBM Websphere Application Server.

Reliable management

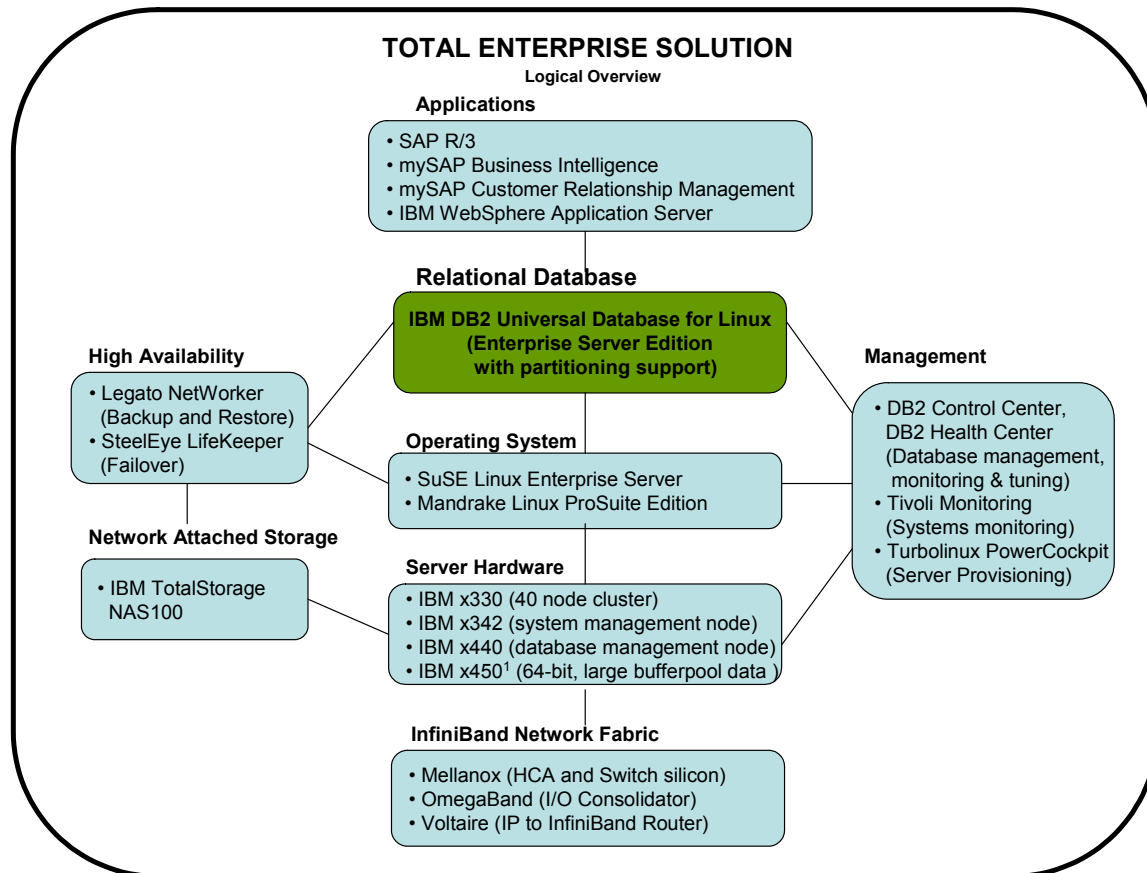
Managing a clustered environment is easy using SMART technologies built into DB2 software and xSeries hardware along with management tools from IBM Tivoli software. The availability and reliability of the solution is further enhanced using Legato NetWorker® and SteelEye LifeKeeper®. Turbolinux PowerCockpit™ facilitates time-saving deployment of servers in the cluster.

High-speed network

Products from Mellanox, OmegaBand and Voltaire, based on InfiniBand architecture, provide the network fabric to meet the high-speed connectivity requirements of database servers and storage within in the cluster.

Platform support and services

You don't have to go at it alone. IBM Global Services Linux professionals help you install, migrate, configure and tune your database solution. IBM's strong relationships with its Linux partners, supplemented by expertise from SuSE Linux and Mandrakesoft gives you the confidence and support to deploy even the most critical solutions.



Scalability pays great returns

Many IT professionals are concerned about whether their relational database system on Linux will be able to scale as workloads increase. DB2 software and xSeries servers for Linux help you avoid large upfront costs as well as migration and training costs later. They can be deployed based on your initial requirements and then scale as large as your business demands.

Managers and IT professionals tasked with selecting and implementing a data management solution that is robust enough for mission critical enterprise needs, yet flexible enough to deliver exceptional value to small businesses, often evaluate technologies based on the following criteria:

- ✓ Scalability
- ✓ Price/Performance
- ✓ Availability
- ✓ Manageability
- ✓ Interoperability

The possibilities are indeed empowering. You can build powerful clusters using IBM @server xSeries servers running Linux. IBM DB2 Universal Database Enterprise Server Edition provides a single database that can be distributed across such a cluster. You can easily scale up by adding a new machine to the cluster, which will trigger DB2 to automatically redistribute data to the new partition.

Proven performance at a low cost

When you run DB2 Universal Database and xSeries servers on the Linux platform, you can expect the high performance your business needs to support its growth.

DB2, running on xSeries server hardware, is a proven leader in several performance benchmarks on Linux.

The performance story gets even better with high-speed InfiniBand network fabric. Host channel adaptors and switches based on Mellanox InfiniBridge silicon, Voltaire's nVigor IP to InfiniBand Router and OmegaBand's I/O Consolidator can meet the most demanding needs for fast, low-latency communication between database partitions in the cluster.

The result of combining these leading technologies is a powerful supercomputer at a fraction of the cost of a special purpose machine with equivalent capabilities.

High levels of availability

DB2 Universal Database is setting the standard for quality and reliability in the database industry. As more mission-critical applications are implemented on Linux, IBM's ability to bring mainframe-level reliability to this environment has become a major factor for customers choosing DB2.

IBM @server xSeries servers offer a reliable foundation for leading Linux-based computing. With the IBM X-Architecture™ advantage, you can feel confident about the availability of the hardware running your core business applications.



“DB2 for Linux lets us maximize our benefit from the economies and performance of the Linux operating system, providing a powerful, cost-efficient data management foundation for our BI cluster.”

- Wolfgang Schlippes-Thiede, BISP Product Manager and Operational Manager of Hosting Center, Triaton

Legato NetWorker protects critical business information by simplifying, centralizing, and automating backup and recovery operations. Legato NetWorker Module for DB2 provides online backup and quick, granular-level recovery, helping to reduce downtime and administrative costs.

SteelEye's LifeKeeper affords increased availability to DB2 operating environments on xSeries hardware by effectively monitoring system and application health. In the event of an outage, LifeKeeper allows applications to automatically failover to other servers in the cluster providing continuous access to DB2 and restored data.

Easily managed

DB2 greatly reduces the complexity of data management by eliminating, simplifying, and automating many tasks traditionally associated with maintaining an enterprise class database. These advances are the first implementation of the Self Managing and Resource Tuning (SMART) project and the first step towards making autonomic computing a reality for database implementations.

Tivoli management products simplify the management of distributed systems. Tivoli Monitoring provides monitoring for essential system resources, to detect bottlenecks and potential problems, and to automatically recover from critical situations. Tivoli NetView extends traditional network management to ensure the availability of critical business systems and to provide rapid resolution of problems.

Turbolinux PowerCockpit dramatically slashes the time required for server provisioning from hours or days to minutes. Using multicast technology, for example, PowerCockpit can get several database servers up and running in just a few minutes.

Seamless interoperability

We recognize that today's business environment is heterogeneous and there is a great need for different technologies to integrate seamlessly. Starting with a vision of making Linux ready for business, coupled with strong relationships, the technology vendors featured here have created a highly capable enterprise class solution.

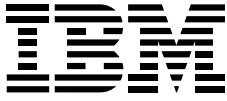
Furthermore, DB2 and xSeries have introduced validation programs designed to set standards in interoperability on Linux.

Conclusion

This demonstration is a proof point for implementing total enterprise solutions on Linux using scalable data management software, running on a powerful server cluster and an extremely fast network fabric, complemented with tools that provide extreme reliability and intelligent management.

The right products working in harmony enhance productivity, reduce costs of deployment and simplify management of critical e-business applications. In other words, they empower you to focus on your business rather than the technology on which it runs.

Solution Architects



DB2 Data Management Software

IBM's DB2 database software is the worldwide marketshare leader in the industry. The integrated strength of IBM's data management products, based on DB2, powers the industry's most demanding solutions.

@server xSeries

The xSeries is IBM's line of scalable industry-standard, Intel-based servers that enable customers to confidently run their e-businesses. The xSeries leverages IBM's X-Architecture leadership to provide highly scalable servers.

Tivoli software

Tivoli software from IBM enables an IT organization to reduce the total cost of ownership and improve service levels by helping manage security, storage, performance and availability, and configuration and operations.



Legato Systems, Inc. delivers worldwide enterprise class software solutions and services that keep the world's business-critical information and applications available. To learn more, visit us at www.legato.com/ibm.



MandrakeSoft offers its enterprise, government and educational customers a set of GNU Linux and Open-Source software and related services, user-friendly and highly competitive information technologies.



Mellanox Technologies is the leading supplier of InfiniBand semiconductors; providing switch, host and target channel adapter (HCA/TCA) devices to the server, communications and storage markets.

OmegaBand

OmegaBand, Inc. is a privately held company developing products that remove the I/O bottleneck of server architectures used in data centers of large corporations, ISPs and small-to-medium enterprises.



Founded in 1972, SAP is the recognized leader in providing collaborative e-business solutions for all types of industries and for every major market.



SteelEye Technology® is a leading provider of enterprise-grade, low cost, high availability clustering, data replication and disaster recovery software that is easy to deploy and operate.



SuSE Linux is the international technology leader and solutions provider in Open Source operating system software. SuSE Linux is a privately held company focused entirely on supporting the Linux community.



Founded in 1992, Turbolinux is a global software company providing Linux operating environments and multiplatform server provisioning and management products that enable true flexible processing power.



VOLTAIRE

Voltaire provides market intelligent connectivity solutions that enable data center managers to take full advantage of InfiniBand, the next generation I/O standard, when connecting to existing networks.



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