Today, *every* enterprise is a real-time enterprise

Once upon a time, building an infrastructure that could support real-time operations was viewed as a luxury appropriate for only a small number of IT operations—usually at large banks, stock exchanges, and a few other specialized organizations. But times have changed. Today, every enterprise has to be a real-time enterprise. The competition is just a click away, and you can't afford to miss a beat—no matter the day or the hour.

The right stuff for the real-time enterprise

The real-time enterprise is here now! Compaq's NonStop Division, with its ground-breaking *NonStop*™ *Himalaya*™ server, created *NonStop* technology for the real-time enterprise. But this technology is no longer for "some other company," no longer for the few. The tempo of business has changed, and performance requirements are ever more stringent, making the need for *NonStop* technology inescapable.

No matter what kind of business you are running, days-old or weeks-old information is ancient. Even information that is minutes slow is often nearly valueless. In short, "good enough" doesn't cut it anymore. Customers expect ultra-personalized service, effective Web-based interactions, mutually visible global supply chain management, and more—at all times, everywhere. In a business environment in which the Web has paved a path to your global competitors, you need technology to keep your customers loyal and to expand your business. You need consolidated, up-to-the-second information available at every customer touchpoint—24 hours a day, 7 days a week.

However, affordable real-time computing solutions don't come out of thin air. They are born of experience and technology that is a cut above that of competitors. We know this because we pioneered the real-time enterprise, launching our customers into the new millennium with benchmark-setting availability and scalability—not to mention a compelling total cost of ownership (TCO).

Consider a few real-time facts

In the telecommunication sector

- More than 135 public telephone companies currently rely on *NonStop* technology from Compaq.
- More than half of all 911 calls in the United States, and the majority of wireless calls worldwide, depend on *NonStop* servers.

Similarly, in the financial sector

- 80 percent of all ATM transactions worldwide and 66 percent of all point-of-sale transactions worldwide are handled by *NonStop* servers.
- *NonStop* technology powers 75 percent of the world's 100 largest electronic funds transfer networks and 106 of the world's 120 stock exchanges.

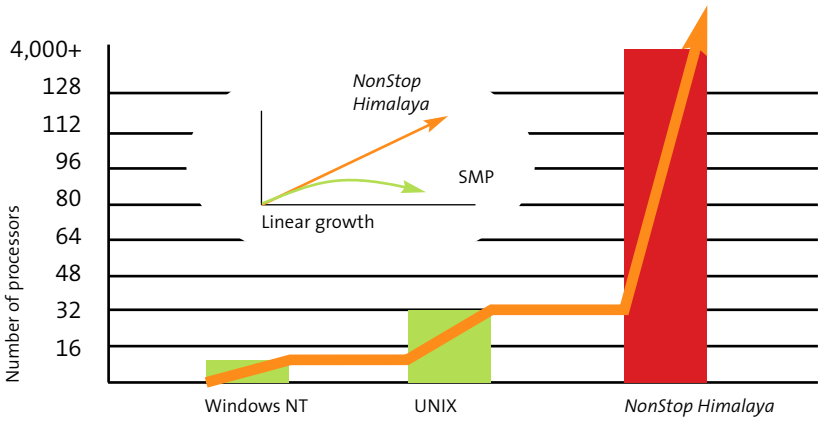
No compromises: Combining availability and scalability

What sets *NonStop* technology apart—and enables it to deliver on the promise of the real-time enterprise—is its unique, loosely coupled architecture (not a symmetric multiprocessing, or SMP, architecture), designed from the ground up to provide unprecedented reliability, manageability, and scalability. What's so special about *NonStop* technology? First and foremost, it provides "hot" redundancy and parallelism in every element—not just for storage or processors, but for every imaginable point of possible failure. And nearly three decades of evolution and a tireless pursuit of perfection means that *NonStop* technology is the ultimate known quantity. The only surprise is how affordable it is and how easy it is to migrate to or incorporate in existing infrastructures.

Whereas SMP systems are based on a shared-memory model, the *NonStop* server's loosely coupled, shared-nothing parallelism provides cost-effective, linear scalability (and, as a result, predictable response times) in the face of swelling data volumes, expanding user populations, and a growing number of concurrent queries. Each processor has its own dedicated resources, and each added processor provides a full processor's worth of performance. All *NonStop Himalaya* servers can scale linearly from 2 to 4,080 processors, and the integrated Compaq *ServerNet*™ technology enables companies to add virtually unlimited processing, storage, and I/O capacity in cost-effective increments.

The advantages of the *NonStop* platform's scalability, availability, and data integrity derive not just from the parallel hardware architecture but also from a parallel software architecture, which provides the highest levels of availability and data integrity. Translation: It's got everything you need to become a real-time enterprise. In the event of hardware or software failure, for example, work is immediately redistributed to other processor nodes for rapid and transparent takeover, with no lost sessions or lost messages. Data is checked and verified any time it is moved, providing the data integrity for which the *NonStop* server is legendary. All of these features mean that open files remain open, data is not corrupted, and even complex transactions execute without interruption so your enterprise—and your customers—can operate in real time.

Symmetric multiprocessing is often presented as the standard answer to scaling issues, but SMP products are not linear. They demonstrate what we call "SMP droop": Each additional processor provides a sharply reduced benefit compared to the previous processor. Indeed, SMP systems can become impractical with as few as eight processors. By contrast, *NonStop* servers can scale linearly to more than 4,000 processors. Talk about scalability!



SMP systems can become impractical, even with as few as eight processors. By contrast, NonStop Himalaya servers can scale linearly to more than 4,000 processors.

Common standards, uncommon advantages

Getting to the real-time enterprise is easier than you think. Although the benefits of *NonStop* technology are unique, the way you work with it is familiar. *NonStop* products use almost all of the common standards and products you know—Java, Tuxedo, CORBA, and others—which simplifies development, maintenance, migration, and everyday operations.

NonStop servers provide UNIX, Java, CORBA, Tuxedo, and Web Services application program interfaces (APIs), which fully integrate with other servers running open standards.

You can run Java applications unchanged, without special programming, on Compaq's highly scalable, standards-based *NonStop* systems. The infrastructure of these systems includes scalable and transparent mechanisms to support Java servlets, Enterprise JavaBeans (EJB) technology, and Java Object Request Broker technology, plus scalable support for network servers written in Java programming language. Typical Java Virtual Machines (JVMs) may not be scalable, but *NonStop* systems are. By joining the ease and portability of Java programming to the scalability, availability, and other fundamental advantages of the *NonStop* platform, Compaq has made the workings of its platform completely transparent to Java developers. Developers building new Java applications targeted at *NonStop* servers use standard programming interfaces, including CORBA and Java 2 Platform, Enterprise Edition (J2EE) interfaces. Existing Java applications run with no (or extremely minor) modifications.

CORBA is firmly established as one of the pillars of enterprise-level distributed object computing. In the past several years, CORBA has emerged as the infrastructure of choice for implementing enterprise-class Java applications. The latest manifestation of Compaq's commitment to distributed object computing is *NonStop* CORBA 2.3 software. Furthermore, whereas SMP systems do not offer linear scalability or application persistence that transcends system failures, *NonStop* systems do.

Maybe you are using BEA Tuxedo, an industry-leading enterprise transaction processing monitor, as a development platform for building and deploying business-critical applications. *NonStop* Tuxedo Release 6.5 software is the Compaq implementation of the BEA Systems Tuxedo product on *NonStop* systems. Because this product's external interfaces are identical to those of BEA Tuxedo, customers can use the same APIs and the same development, management, and administrative tools in creating applications for either product. BEA Tuxedo software is designed for networks of heterogeneous systems. It is ported to more than 70 hardware platforms and several operating systems.

Businesses know how important the Internet will be to their future. The Internet is spawning a new set of standards including several within the catch phrase *Web Services*. Businesses will be able to advertise and to make use of business services through the Web, using simple common standards that include XML, Simple Object Access Protocol (SOAP), XML Stylesheet Translation (XSLT), and Web Services Definition Language (WSDL). Web Services is a simple way for companies to promote their legacy applications (as well as new applications) into the Web world and to do business more economically. Just as *NonStop* systems support UNIX, Java, CORBA, and Tuxedo application services, they also support the complete line-up of open Web Services.

NonStop technology uses familiar APIs and standards

- ANSI SQL
- BEA Tuxedo
- CORBA
- Enterprise Java Beans (EJB)
- XML
- Java
- Java 2 Platform, Enterprise Edition (J2EE)
- Java Object Request Broker
- JavaServer Pages (JSP)
- Java servlets
- Simple Object Access Protocol (SOAP)
- Web Services Definition Language (WSDL)
- XML Stylesheet Translation (XSLT)

Superior value

The total cost of ownership (TCO) of *NonStop* servers demonstrates the value of this flagship product. Consider the results of a study by The Standish Group International, Inc., an independent research and advisory firm that conducts technical research for users and vendors in the mission-critical marketplace. In its report, *TCO in the Trenches,* The Standish Group focused on top-name enterprise servers and performed a detailed analysis of experience at a range of companies with revenues exceeding US$500 million. Standish looked at system costs, mission-critical application costs, utilization, downtime, and quality of service, as well as the costs of hardware, human resources, electricity, and so on. The results established the clear advantages of *NonStop* technology.

"We have looked at the cost of more than 3,000 installations over the past two years. In our estimation, Compaq *NonStop Himalaya* servers have the best overall total cost of ownership for transaction processing applications when considering staff and software infrastructure," says Jim Johnson, chairman, The Standish Group.

Johnson notes, furthermore, "If you add the cost of downtime into your TCO, it becomes very clear that *NonStop Himalaya* servers offer exceptional value."

When it comes to availability, *NonStop* systems set the standard. "We track system availability on a monthly basis for a number of different systems. Compaq's *NonStop Himalaya* server consistently has the best peak period uptime—period," concludes Johnson.

Get real

You know your business challenges and you know they won't go away. *NonStop* computing can empower and enable all kinds of real-time enterprises, including yours. Consider what it has done for RadioShack Corporation, one of America's most enduring retail successes.

Compaq servers are the backbone of the company's real-time computing network. *NonStop Himalaya* S7000 servers stand behind several key functions including RadioShack Online (for corporate-to-store communications), RadioShack.com (online retail sales), inventory management, data warehousing, development, testing, and in-store point-of-sale systems tied to corporate headquarters.

The decision to go with *NonStop* servers was a "hands-down" one, according to RadioShack. Evelyn Follit, senior vice president and CIO, recalls, "There was no doubt that Compaq *NonStop Himalaya* servers outperformed all others. . . . We set up a decision matrix based on price/performance, total cost of ownership, and return on investment. Compaq was clearly the winner."

Of course, *NonStop* technology's real-time enterprise capabilities include more than just hardware and software—more than specialized tools, massive scalability, and compelling TCO. *NonStop* technology is about solving business problems, and the people at Compaq's NonStop Division do just that. Our experience and depth of industry knowledge shine through, from the moment we begin interacting with customers. Compaq Global Services and the NonStop Division team will help you and your enterprise "get real." To learn more about *NonStop* technology and the future of your real-time enterprise, visit **compaq.com/nonstop** or, from North America, call **1 (800) AT COMPAQ.**

This chart shows the cost to produce a bill on each of four platforms. The costs were calculated using The Standish Group's VirtualADVISOR cost assessment model. The application profile includes ten transactions per second at peak times of 3,000 hours per year and one transaction off peak. According to the VirtualADVISOR cost assessment model, Compaq's NonStop Himalaya servers scored the lowest cost per transaction. (Courtesy of The Standish Group, 2002)

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