# CHANGE, CHOICE, AND INVESTMENT PROTECTION

*Forward-looking strategy for HP NonStop technology*

HP NONSTOP TECHNOLOGY has always been the best at what it does: running the most critical business applications while maintaining the most stringent service levels for the world's most prestigious enterprise customers. And now it's gotten even better.

The first step was the introduction of the Integrity NonStop NS16000 server, built on the industry-standard Intel® Itanium® 2 processor. It delivers a remarkable increase in price/performance over earlier-generation NonStop servers, while maintaining the lowest total cost of ownership (TCO) in the industry for enterprise-class systems. The new architecture was designed to deliver the highest levels of availability, scalability, and data while also leveraging standards-based components for cost savings and investment protection.

But HP didn't stop there. Heeding requests from its customer base for a lower-cost machine, the company launched the Integrity NonStop NS14000 server. Like the Integrity NonStop NS16000 server, this system is based on the NonStop Advanced Architecture (NSAA) and has superior fault-masking capabilities. It provides the same availability options at slightly reduced performance levels, and it scales to 2,040 processors (compared to 4,080 processors with the Integrity NonStop NS16000 server).

So far, so good. But both of these high-end offerings are still beyond the reach of many smaller enterprise customers, not to mention businesses in emerging economies. It's not that a 150-bed hospital has less-critical applications or that the emergency services dispatch center of a small community requires lower reliability than its urban counterparts. But these users simply do not need—and therefore cannot justify—the power and scale of a high-end Integrity NonStop server. So HP developed an entry-level platform to meet the needs of these customers: the Integrity NonStop NS1000 server.

## COMPLEMENTARY PATHS

From a strategy standpoint, HP travels two parallel but complementary paths. On the one hand, the company is committed to ongoing investment in core technology, ensuring a solid growth path and investment protection for existing customers. At the same time, a growing emphasis on extending core technology out to broader markets is taking hold. Nowhere is this dual focus more evident than in HP's NonStop server business.

Bob Kossler, who heads up product management for real-time platform development in HP NonStop systems, points to the Integrity NonStop NS1000 server as a prime example of the "extending the core technology" thought. "By leveraging core technologies developed in other parts of HP—in particular, the rx2620 processor—we were able to deliver an entry-level product in less than six months," he said. "Because we didn't have to

invest in developing every part of the system, we were able to bring the product to market faster and be more responsive to customer needs and expectations."

The Integrity NonStop NS1000 server combines industry-standard hardware components with NonStop software advantages to create the NonStop Value Architecture (NSVA). It provides software fault tolerance and fault isolation, dynamic workload balancing, cluster programming transparency, and a virtual application environment. And it makes Integrity NonStop technology available to a whole new set of users and applications.

In financial services, the Integrity NonStop NS1000 server is ideal for lower-volume payment, point-of-sale, and electronic funds transfer environments. For the telecommunications industry, it offers a low-cost platform for new 3G-based solutions and an affordable infrastructure component for countries that are just starting to develop and grow their telecommunications capabilities. In healthcare, smaller institutions can now afford to deploy their mission-critical applications on a truly fault-tolerant system. In the public sector, the Integrity NonStop NS1000 server supports emergency services and extends the market for digital empowerment solutions. In all industries, it enables innovative real-time solutions.

## THERE'S MORE

Adding an entry-level model to the Integrity NonStop server family clearly made the flagship HP NonStop technology more accessible and affordable, but HP wasn't about to stop there. The next strategic move was to combine elements of this valuable intellectual property with commodity hardware and software to target a very specific market: business intelligence (BI). The result is the fully contained, prepackaged NEOview offering, which delivers the performance, scale, and reliability of high-end BI solutions with the speed and ease of a database appliance, at a fraction of the cost. There are also other "best of both worlds" initiatives in progress.

This kind of forward-looking approach permeates the expanding product strategy of the NonStop Enterprise Division. "We are actively investing in future technology," noted Kossler. "One place where you can see this strategy at work is in our open source efforts. We understand that most developers coming out of the university are trained

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*Bob Kossler, manager,*
*NonStop Enterprise Division*
*Product Management*

on UNIX® systems. Our open source efforts will help customers lower the cost of developing applications and supporting their systems."

Technology from the broader HP is also leveraged to good advantage. One example is the Java™ Virtual Machine, which is used to improve performance in the Integrity NonStop server. In fact, NonStop sources best-of-breed technology wherever it exists: from its own development efforts, from other HP divisions, and even from third-party suppliers. "The idea is to lower the cost of development in places where it makes sense to leverage existing components," said Kossler. "This frees up additional resources for improving and innovating our intellectual property to add greater value for our customers."

Along the same lines, the Integrity NonStop NS16000, NS14000, and NS1000 servers are based on designs from the HP Integrity server line, modified to improve availability, scale, and data integrity. NonStop servers have made extensive use of HP StorageWorks disk technology with the XP Enterprise Storage Array and off-the-shelf Fibre Channel disk modules, while partner technology is leveraged for virtual tape products.

### INCUBATION AND INNOVATION

What's coming up? Continuous improvement in software and system price/performance. A lot of work to fully exploit the dual- and quad-core microprocessor technology that Intel will be providing. A closer look at enabling integrated payments and rich digital media. An evaluation of blade technology for greater application virtualization. Hybrid "super clusters" that utilize NonStop SQL as a database engine for multi-tiered environments and Service-Oriented Architectures. Evolving HP ServerNet interconnect technology toward remote direct memory access (RDMA). The list of planned and "incubating" projects is extensive.

But let's boil the strategy down to a single sentence: HP is continuing to innovate in core Integrity NonStop technology while simultaneously extending the "NonStop system fundamentals" to the broader market. A key benefit of this technology—for both large enterprises with complex data centers and developing and growing smaller enterprises—is the ability to deliver, out of the box, the highest level of standalone application availability and fault tolerance. The operating system, database, and interconnect technology is preintegrated on delivery, so it works immediately with the customer's application. This greatly reduces the complexity of delivering the highest reliability, availability, and serviceability (RAS) levels to complex or critical environments.

"For high-end system customers with mission-critical applications, this strategy translates into maintaining stringent service levels while protecting their existing investment," concluded Kossler. "For smaller companies and government entities, emerging economies, and even large enterprise users with some less-critical applications, it makes industry-leading fault tolerance much more accessible. The bottom line is that customers of every size—and in every industry—can now leverage our premier platforms, technology, and solutions to help turn their forward-looking business vision into reality." ◆

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