



August 3, 2007

Evaluating HP Integrity's Systems Architecture — Itanium's Not The Differentiator

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EXECUTIVE SUMMARY

During the past several years, both the business and competitive technology environment for HP Integrity business has indeed changed, and yet, HP's two most challenging Unix systems adversaries — Sun Microsystems and IBM — are still on the BAFO (“best and final offer”) shortlist for the most demanding technical and commercial application enterprise computing deployments. HP has had to contend not only with the strong virtualization stack and performance capabilities from IBM's System p, but also with a rehabilitated Sun Solaris/SPARC effort, most notably catalyzed by Sun's success with its T1000 and T2000 multicore offerings in both the entry net-edge and midrange server segments. Nevertheless, Forrester believes that many CTOs are now reconsidering HP's Integrity architectural feature/benefits — dismissing last year's concerns over Intel's (and consequently HP's) delay in getting a stronger Montecito-based Itanium 2 offering out in the market. While the competitive pressure from IBM and Sun will remain unabated, HP's Integrity systems business has returned in its previous capacity as a more consistent IT shortlist contender.

QUESTIONS

1. What's the strategic significance of the HP Integrity server's ability to run three core operating systems environments: Linux, Windows, and HP-UX (Unix)?
2. Does HP's support of both a Linux and Windows footprint on its Integrity systems architecture indicate less investment in the HP-UX product road map moving forward?
3. What is the current status of HP's ability to court and grow its ISV portfolio for the HP Integrity systems architecture, and should that be a critical shortlist selection criteria?
4. HP's Integrity product line has not kept up with its stated product road map with the 2005 to 2006 delay in Intel's release of its Montecito processors. With a fully refreshed Montecito-based Integrity offering now out for a year, will the future Itanium 2 road map be consistent and predictable?
5. What Integrity/HP-UX product feature/benefits investments do you feel are critical for HP in maintaining its competitiveness in the classic Unix/RISC enterprise computing segment?



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SHOULD HP'S INTEGRITY STILL GET OUR VOTE FOR SHORTLIST CONTENTION?

To many observers of the high-end server market, Itanium and the HP Itanium-based Integrity line never lived up to expectations. However, during the past year, Forrester's clients have been asking pointed questions about the platform's long-term prospects. This report aggregates the most commonly asked business- and technology-related questions relative to HP's Integrity-based (Itanium 2-based) system architecture and the position of the product in the enterprise computing market.

1. What's the strategic significance of the HP Integrity server's ability to run three core operating systems environments: Linux, Windows, and HP-UX (Unix)?

During the past seven to eight years, HP spent a lot of program and product funds sticking to the core premise that its high-end Integrity (Itanium 2) systems platform needed to create a differentiated systems architecture, offering more versatility in its choice for running a multiplicity of operating systems environments. As HP Integrity passed through each ensuing generation of Itanium microprocessor upgrades — code-named McKinley, Madison, and more recently, Montecito — the performance scalability optimization was not just restricted to its flagship Unix products, but also offered a higher-end performance scalability outcome for Windows-based and Linux-based applications. In all cases, the core value proposition for each operating system in its coupling with the HP Integrity systems architecture is to give the customer a choice of operating system environment. In addition, regardless of the operating system environment and its associated applications affinity, running an application workload on the Integrity systems architecture offers the advantage of the extreme RAS (reliability, availability, and serviceability) functionality not available on commodity-based x86/x64-based servers.

2. Does HP's support of both a Linux and Windows footprint on its Integrity systems architecture indicate less investment in the HP-UX product road map moving forward?

When the Integrity server product line was first introduced, HP stated that all three operating systems were now equally important and that HP's investment would reflect that. Several years ago, HP spent a lot of time and money running a long list of Windows-based performance benchmarks, and many customers inferred that Integrity's future road map was going to be biased toward building the fastest, most mission-critical 64-bit Windows systems architecture. In reality, most of the funding came from Microsoft in an attempt to answer complaints that the Windows operating system could not serve as a strong foundation for the most demanding "scale up" ERP and other DBMS-led application workloads. Most of HP's intellectual property, whether from the storage group, the systems software organization, and/or the services organization, was focused on HP-UX. Most of that enterprise-class technology was first optimized for the HP-UX product road map and customer base. HP hopes that by supporting Linux, Integrity can become the most scaleable and RAS-engaged alternative platform for those customers that want a high-performance platform that can go way beyond a Linux/x64 environment. HP is also positioning Integrity as a consolidation

platform — to provide higher utilization on a more scaleable platform, as an alternative to a larger foot-print of many distributed, underutilized commodity servers, often running still at only 10%-25% capacity utilization rates.

3. What is the current status of HP's ability to court and grow its ISV portfolio for the HP Integrity systems architecture, and should that be a critical shortlist selection criteria?

HP's strongest technology and marketing alliances efforts have historically been directed at the independent software vendor (ISV) community. The company has optimized (relative to each of the three operating systems that are strategic to this server platform) and certified more than 11,000 applications on its Integrity server platform. It is important to note that CIOs will look closely at the interest level that their strategic software vendors have around their investments in optimizing their software portfolio, both relative to operating systems and server systems platforms. Consequently, the continued growth of software — certified and optimized to run on each or all of the operating systems — that is native to HP's Integrity platforms is a critical selection criteria — this is true for the traction of vertical market applications as well as horizontal applications (such as ERP, CRM, and office productivity applications). The growth of this software catalog will determine the ongoing traction and sustainability of HP's Integrity server platform. While more than 7,000 of those applications are ported and optimized for HP's flagship HP-UX operating systems environment, an ever-increasing number of Windows- and Linux-based packaged software applications are being also certified and optimized for HP's Integrity platform. As long as HP can continue to generate a compelling business incentive for software vendors, the size and depth of the software portfolio offered on Integrity will also grow.

The extent to which a software vendor's revenue growth and profitability can be more highly optimized in its placement on an Integrity server platform (versus another server alternative) will help create long-term allegiance. A software vendor's attach rate to the HP Integrity server systems architecture can better optimize the revenue and profitability of a software vendor's license fees and related services through its placement within an Integrity systems offering (versus as resident on other platforms). Finally, any joint marketing and joint sales incentives where HP Integrity program funds are added to the incentive pool, especially for smaller software concerns, are important factors in the courtship of a software vendor and its investment in optimizing its software offering for the Integrity server platform.

4. HP's Integrity product line has not kept up with its stated product road map with the 2005 to 2006 delay in Intel's release of its Montecito processors. With a fully refreshed Montecito-based Integrity offering now out for a year, will the future Itanium 2 road map be consistent and predictable?

HP's decision to put all of its 64-bit systems design — including all of its R&D and human intellectual property — into the hands of Intel was a very high-risk proposition. Why? It puts Intel in the position of determining the pace of HP's ability to refresh and upgrade its Itanium 2-based

systems architecture. In fact, concerns were validated by Intel's delay in releasing the Montecito technology. Consequently, IBM took advantage of this slip with a stronger POWER5-based systems offering during this time frame. These systems had a competitive advantage over the existing Itanium 2-based technology in terms of both performance range and price/performance. To HP's credit, its interim server technology, the Madison-based sx2000 chipset, did allow its Integrity product family to achieve solid applications performance scalability as well as offer improved RAS features. And yet, Intel's year-long slip in releasing Montecito delayed the pace of HP's ability to migrate its HP 9000 (PA-RISC) installed customer.

The end of Q1 2007 has marked a turning point. With the Montecito-based HP Integrity server lines fully refreshed, HP's Integrity server offering is being shortlisted more often, not only for its traditional Unix mission-critical capabilities, but also for consolidation of both Linux and Unix workloads based on the strengths of its virtualization stack (VSE). In February 2007, HP pushed out a barrage of critical systems architecture technologies that brought new and innovative Montecito-based server designs to the platform in the blade and entry workgroup segment of its server family. In addition, the much-anticipated release of HP-UX 11 version 3 rounded out its overall systems architecture improvements. In short, Forrester believes that, after a year of consistent product road map execution and innovation, in particular with the Itanium-based blade announcement, the Integrity server systems family is stronger than it has ever been. These more recent systems architecture refreshes have generated positive response from HP's IT client base and have additionally re-energized HP's position against Sun, giving HP a Linux-led high-performance Integrity blade and entry server offering to challenge Solaris/T2000 servers. In addition, the release of HP-UX 11 version 3 helped close the performance gap with IBM System p in the low-end and midrange part of its server offering, getting Integrity closer to parity in some applications performance results. New operating system optimization features boosted the performance of all Integrity server models by 30%-40%.

Intel's consistency in releasing advanced Itanium-based processors on a more predictable basis is also back on track. Looking to the future, the next-generation dual-core Montvale processors, expected in Q4 2007, should allow HP's Integrity to get closer in keeping pace with the continued extreme performance scalability improvements from competitors like IBM, as it turns over its entire POWER5+ server family to an all POWER6-based microprocessor architecture. In addition, to the extent that HP's (and Intel's) road map can remain on target, HP Integrity should also continue to be on the shortlist for the most performance-sensitive applications workloads versus both Sun's Enterprise T-Class and newly minted SPARC Enterprise M-Class (which was jointly developed by Fujitsu). In addition, after the Montvale processor takes hold, Intel's most important high-end new quad-core Itanium processor, code-named Tukwila, has a late 2008 scheduled release. This will have the most significant performance scalability breakthroughs for HP Integrity moving forward.

5. What Integrity/HP-UX product feature/benefits investments do you feel are critical for HP in maintaining its competitiveness in the classic Unix/RISC enterprise computing segment?

If you were to ask all of the HP Integrity customers today which of the three operating systems was key for running their mainstream applications, about 70% would still say that HP-UX was their strategic first pick, then Linux, and, finally, Windows. HP-UX is the “heavy-lifting” mission-critical operating system of choice. If you look at the functional improvements in HP-UX 11 version 3, the function/benefits are predominantly improvements in functional categories that are already quite advanced.

In fact, the introduction of HP-UX 11 v3 has ushered in more advanced virtualization stack features, adding dynamic memory migration between both HP Virtual Partitions and Integrity Virtual Machines. In addition, new mainframe-class data center availability functionality also improved with the introduction of HP-UX 11 v3, adding hot swap of memory and processors, online patching, and PCI error recovery. More simplified management functionality through Systems Insight Manager — creating the capability for a true single point of console management across multiple networked systems and virtual images — is a significant system administration productivity gain with this HP-UX offering.

Lastly, new packaging of core system software that adds value to the HP-UX kernel has always been a constant differentiator. For high availability, HP Serviceguard adds the capability to cascade disaster tolerance (failover) across three data center sites. New Virtual Server Environment (VSE) Reference Architectures for Oracle 9i RAC environments, SAP, and SAS have demonstrated the decade-long advances HP-UX has made in creating robust mainframe-like virtualization environments for those software suites that are best served by virtualization. It is important to note that almost all of these features point to where HP wants to take HP-UX/Integrity, namely as a “mainframe alternative platform.”