

Magic Quadrant for Blade Servers

Gartner RAS Core Research Note G00207244, Andrew Butler, George J. Weiss, 17 January 2011, V3RA4 01202012

This Magic Quadrant for Blade Servers focuses on a market that is growing in complexity and sophistication, due to the emergence of related form factors, such as skinless servers, and the fast-growing interest in cloud computing, virtual input/output and fabrics.

WHAT YOU NEED TO KNOW

Blades represent an important stage in the evolution of servers as separate, discrete platforms give way to modular designs, and the boundaries between servers, storage and networking become increasingly blurred. This creates an increasing overlap of functionality between product categories that were previously more clearly delineated. These boundaries will be further tested as fabric-based computing becomes more prevalent, and all blade servers are examples of a fabric-enabled architecture, due to the switch-based backplane or midplane that they exploit. Blades represent a more proprietary investment, due to the lack of hardware form factor interoperability standards and the growing dependence on proprietary management tools and virtual input/output (I/O) solutions.

Due to their modular nature, blades offer compelling operational benefits, such as improved cabling, rapid hardware provisioning, high compute density, energy-efficient design and increasing management automation. However, blades deliver few, if any, incremental application benefits, compared with their rack- and tower-based peers. Blades are not the only choice for modular deployment; rack-optimized servers deliver some modularity benefits, and skinless servers now represent an even more extreme class of high-density deployment. Because many vendors position their blade and skinless servers as part of a standard “modular server” portfolio, the nascent market status of skinless servers is reflected in this year’s blade server Magic Quadrant.

Blade servers represent a much greater lock-in effect than regular rack servers impose, and ROI calculations need to be more stringently applied. Users should carefully match their blade needs and investment objectives to vendor portfolios, product life cycles and vendor strategies for modular architectures as a whole.

MAGIC QUADRANT

Market Overview

The overall server market is gradually transitioning toward fabric-based data center infrastructure that will mask, and ultimately remove, the barriers between discrete compute, storage and networking technology classes. Blades are not an essential part of this technology convergence, but the modular nature of blades makes them a natural fit for the trend, and the blade market is growing rapidly as a result.

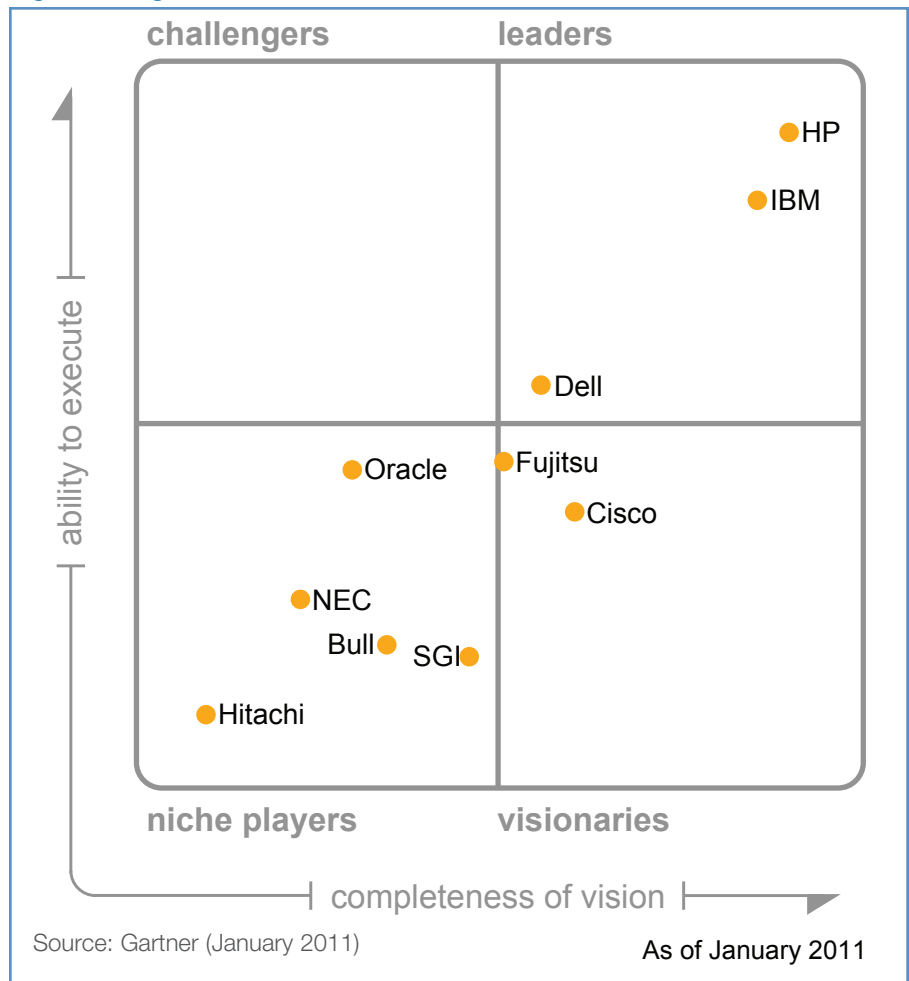
Market Definition/Description

A blade server is a modular platform that fits, together with other blades (which may not all be servers), into a custom-designed chassis to create a fully functioning system; multiple chassis may then combine within a rack to create a larger system, and multiple racks may also be combined to create a large system that could consume a whole aisle or container. In all cases, the blades become the individual building blocks. The chassis provides power and cooling provisioning to all blades, plus various common management functions. Via the backplane, blades can also provide connectivity from server to server, or from server to storage or the network, but network and storage I/O can also be directly routed to the blades. Blade servers can have onboard storage or can be completely diskless, with OS booting done from the storage area network (SAN). Most blade chassis are designed for blades to be vertically mounted, but this is not essential and there are exceptions. Blades can, in theory, have any number of processors from any processor type, although it is normal for blade servers to be low-end devices, with no more than four processors. Some blade vendors can combine two or more blades to become a larger, logical computer. It is common for blades with higher complements of processors or storage to be wider, so that two or more chassis slots are consumed. Such blades are sometimes known as "bricks." Blade chassis capacity can vary, and may be populated with blades of different types, including additional memory, storage devices, and network switches or other I/O modules for added connectivity. Most blade chassis are designed to fit within standard 19-inch racks, but some enterprise blade platforms are based on other dimensions. Blades are not the only form of modular server; skinless servers are an even more rack-dense form factor that has emerged in the past two years to address many of the extreme scale-out workload requirements that blades were first designed to cover.

The original concept of blade servers was introduced to the market more than a decade ago by small, specialist companies, such as RLX Technologies and FiberCycle Networks. The target market for this first generation was large Internet data centers, and early demand was driven by the ill-fated dot-com boom. When the service provider market collapsed, mainstream server vendors started to introduce blades for the broader enterprise data center

market. The most-prevalent applications for blade servers tend to fall into the front end and midtier of the data center. Front-end Web tier applications depend more on fast throughput than on raw processing power, so they may be installed on blade servers with just one or two processors. Blade servers for front-end applications may need just one internal disk, or perhaps two for mirroring. Midtier application logic usually requires more-powerful blade configurations, with more memory and I/O capacity. These larger blade servers can support transaction processing applications or small database applications, and they can be a suitable basis for virtualization hosting. Larger blade servers may require more internal disk space on the blade server, but they are increasingly likely to rely on data stored on a SAN. Early examples of blade-based data center fabrics generally depend on the ability to boot from a SAN, with the role of onboard storage declining as a result.

Figure 1. Magic Quadrant for Blade Servers



The market for hosted virtual desktops (HVDs) is another fast-growing segment where the use of blades is viable. Blade servers may also be clustered to form a high-performance computing (HPC) cluster. Users have frequently regarded blades and server virtualization as alternative methods to gain more-granular resource utilization, but the modern generation of blades is as well-suited to the use of virtualization tools as any other form factor.

As the addressable market for blade servers evolved toward more-sophisticated and diverse workloads, a vacuum in the server market was created, and blades were unable to address their original market objectives. Skinless servers were developed to fill that vacuum. Skinless servers are designed with a reduced amount of rack, chassis and, in some cases, motherboard components, to maximize server density potential and reduce material use and power consumption. Typical designs involve a lack of outside sheet metal coverings (hence, the term “skinless”) over individual servers, as well as shared power and cooling resources within the rack frame. Google’s server designs actually started the skinless server trend, and the company’s innovations in this area continue to influence introductions of skinless servers. At first glance, skinless servers share many common attributes with blades, which explains why some vendors regard the markets for blade servers and skinless servers as synonymous. For example, skinless servers are designed to slide into a common chassis, enabling the quick and easy addition of new components, and the replacement of failed components. They rely on common components, such as power supplies, cooling fans and I/O, which are functions of the chassis, not the skinless server. And, like blades, skinless servers are highly proprietary. Although they will usually be based on a standard x86 architecture, run a regular Windows or Linux workload, and conform to the 19-inch-rack-width standard, the mounting technology for skinless servers will be dictated by the server manufacturer. Workloads and situations that lend themselves well to skinless server approaches include applications that share server resources across a network, including HPC, cloud and Web 2.0 environments. Skinless servers offer an additional benefit: Because they use less material in the server infrastructure, less material needs to be replaced and/or recycled. Most of the blade vendors referenced in this research are actively marketing skinless server designs alongside or integrated with their blade server strategies.

Until the advent of the recent recession, the blade server market was growing at 20% compound annual growth rate (CAGR), compared with low single-digit growth for other server form factors. Although growth has slowed, demand for blades remains strong, and blades comprise an ever-growing proportion of total server sales. However, it must be remembered that blades still represent only about 15% of the total server market. Because they favor smaller and less-challenging workloads, the majority of blade deployments favor x86 architectures; however, vendors such as HP, IBM and Oracle ship non-x86 blades, primarily targeted at Unix users. Blade servers are well-suited as test and development platforms in Unix organizations. During 2010, HP transitioned its entire Itanium-based Unix strategy to blades, where the high-end Superdome 2 platform outperforms its rack-optimized predecessor by a wide margin. Similarly, HP’s NonStop fault-tolerant platform is also blade-based, demonstrating that blade technology can be deployed for even continuous availability workloads. As a result,

we are seeing more adoption of blades in production environments for complex applications, such as high-end database serving, data warehousing, ERP and CRM. This will lead to an increasing technology overlap between blade servers, skinless servers and rack-optimized servers, driving a need for vendors to be more transparent about workload optimization for each competing form factor. We recommend that customers continue to demand valid references and proof points for all workload scenarios that push the boundaries of established blade implementation.

Due to a focus on the market by IBM and HP — which has been sustained for several years — the blade server market is very skewed, with 70% of revenue achieved by these two vendors. Cisco’s more recent entrance into the market stimulated and challenged the market during 2010. While considerably behind in volume, Cisco’s entrance into the blade server market is causing confusion and unease among the installed base and channel of established blade market vendors. With so much investment in the concept, and with a strong CAGR that will erode the market for other server form factors, the blade server market offers a compelling opportunity for most server vendors — particularly those that focus on more-specialized geographic, verticalized or workload niches. The emerging market potential for private and public cloud server infrastructure also provides a natural opportunity for blade (and skinless) servers, as most cloud infrastructures are likely to be based on highly virtualized x86 platforms that are well-suited to rapid hardware provisioning.

Inclusion and Exclusion Criteria

Blades and skinless servers constitute a segment of the overall server market that is defined by its modular deployment, and most (but not all) server vendors invest in one or more modular server technologies. The main catalysts for inclusion in this Magic Quadrant are active international market presence and sales volume of at least \$5 million during 2010. That means obvious inclusion for the two vendors (HP and IBM) that represent the majority of blade shipments worldwide, plus eight vendors that have a strong commitment to the market, albeit sometimes in niche deployments. A small number of blade vendors have been excluded either because their market presence is geographically very narrow (that is, they support just one or two countries), or because they are legacy vendors that mainly address an installed base market where there is little or no new business that we can evaluate.

Added

Sun Microsystems was a participant in the inaugural 2009 version of this Magic Quadrant, and its platforms are now included under the Oracle brand.

Dropped

Verari Systems and Liquid Computing have been dropped for the 2010 Magic Quadrant, as both ceased trading during the past year. Both vendors were strong innovators, and we will consider reinstatement in the future, if they or their intellectual property re-enter the market.

Evaluation Criteria

Ability to Execute

Until recently, blades had been regarded as a distinct server form factor that addressed different market needs, compared with tower-, rack- and frame-based servers. But all blades, by definition, leverage a rack-based topology (usually based on the standard 19-inch form factor). With each generation, the distinction between blades and conventional rack-based servers becomes more blurred. The distinction is even harder to maintain with the advent of skinless servers, which, like blades, utilize common system components, such as shared power supplies and cooling fans, and also enable easy hardware provisioning. Unlike blades, skinless servers are usually deployed horizontally in trays that fit into the rack, but connectivity is equally proprietary. Thus, the provisioning similarities with blades are obvious. Blades (and skinless servers) become hybrid solutions that exploit the standardization of the 19-inch rack form factor, while imposing proprietary integration within the chassis.

Blade market execution is achieved through one or both of two methods. Large, established vendors with a strong installed base of rack-optimized servers are in a natural position to advocate the use of blades as a mainstream evolution, while smaller vendors are able to leverage the advantages of blades for certain workload requirements, where they can excel in a more niche-oriented market. This creates a polarized market that is reflected in the Magic Quadrant, where every vendor is pursuing a blade server strategy that yields profitable business. For the larger vendors, blades introduce a new positioning challenge that can impact execution effectiveness, while more niche-oriented vendors must work to evolve their target markets and maintain added value (see Table 1).

Completeness of Vision

It is Gartner's position that data center infrastructure will become steadily more granular and component-based, and blades are the natural steppingstone toward this state. Vendors currently at the leading edge of data center fabrics are typically using blades as the foundation for their work (although it is not inevitable that

all fabric-based computers will be blade-based). Blades put an additional onus on the functionality and close integration of server management tools, which favors vendors that are leaders in this field or have strong management tool integration with third-party partners.

The latest generations of x86, reduced instruction set computer (RISC) and Itanium processors are enabling blades to address more-challenging workloads. In 2010, there was the introduction of individual x86 blade servers with up to four sockets and 32 cores; even larger non-x86 blades have been introduced. This, in turn, puts pressure on the I/O capabilities of blades — be it server-to-server connectivity for increased scaling, or storage/network connectivity. Workload scaling is further enhanced by increased memory capacity and innovations like solid-state drive (SSD) support. Leading-edge vendors will be investing in more processor and memory aggregation to address larger and more-complex workloads, with multichassis and even multirack aggregation as the ultimate manifestation. By aggregation, we mean the logical and scalable integration of multiple components, such as CPU and memory. Meanwhile, skinless server designs offer some vendors an even more dense approach that suits extreme scaling workload requirements. Where absolute maximum throughput, at lowest cost of deployment and with minimum demand for sophisticated management tools or hardware resilience, is king, even blade servers can be overengineered for the task (see Table 2).

Leaders

After a decade of shipments and product evolution, blade market Leaders will typically need to have built an enduring track record across multiple geographies, vertical markets and workload scenarios. This is a highly polarized market, where two entrenched vendors already command more than 70% of worldwide business by revenue and units. Although we predict organic growth for the market, the polarized nature presents a challenge to other vendors seeking significant volume growth, as sustained achievement can only come from the failure of one or both of the top Leaders.

Table 1. Ability to Execute Evaluation Criteria

Evaluation Criteria	Weighting
Product/Service	high
Overall Viability (Business Unit, Financial, Strategy, Organization)	high
Sales Execution/Pricing	standard
Market Responsiveness and Track Record	high
Marketing Execution	standard
Customer Experience	high
Operations	high
Source: Gartner (January 2011)	

Table 2. Completeness of Vision Evaluation Criteria

Evaluation Criteria	Weighting
Market Understanding	high
Marketing Strategy	standard
Sales Strategy	standard
Offering (Product) Strategy	high
Business Model	standard
Vertical/Industry Strategy	low
Innovation	high
Geographic Strategy	standard
Source: Gartner (January 2011)	

Challengers

Challengers are likely to be vendors with a strong global presence that are focusing their blade strategies on a broad set of target clients, rather than on pure innovation. As the markets for rack-optimized servers and blade servers gradually converge, and new market opportunities such as skinless servers emerge, mainstream server vendors with a strong natural ability to execute will increasingly target the modular server market.

Visionaries

While this is a market that will always attract innovators, the primary blade market is stabilizing and maturing rapidly. Visionary vendors in this market will either represent the discontinuous leading edge of the market or will be large vendors with a plan to drive market success through technology innovation and a narrower product portfolio.

Niche Players

The early pacemakers in the blade server market have all either been acquired or have suffered as a result of the recent recession. But this is a market that addresses specialized “edge” niches of the broader server market well, and this will naturally drive innovation by small vendors that may only address certain geographies, verticalized markets (such as HPC or cloud infrastructure) or specific workload situations. Consequently, this is a Magic Quadrant that will always have a strong complement of Niche Players that drive innovation, but whose small size or narrower geographic focus force them to target their energies to maintain relevance and deliver business value.

Vendor Strengths and Cautions

Bull

Bull Blade Series Enterprise family comprises both x86 and Power-based blades, with chassis options spanning 7U and 9U blade form factors. These are targeted at business computing needs. Bull also launched its bullx skinless server design in 2009. This platform is primarily targeted at HPC and other extreme scaling requirements, and forms the centerpiece of Bull’s new “extreme factory” strategy for HPC-oriented public cloud services.

Strengths

- Bull has a strong presence in Western Europe, in addition to verticalized niches across multiple geographies in industries such as financial services and the public sector.
- The company is a well-established HPC market contender with a strong (and growing) presence.
- The company is extending its geographic reach through OEM agreements in emerging markets.
- Bull is committed to technology innovation, especially energy efficiency and cluster management.

Cautions

- The company’s restricted regional presence limits its potential as a partner for multinational implementations.
- The bullx server design is a new and specialized platform that has relatively few deployments to date.
- Bull has a limited channel presence.

Cisco

While maintaining a strong and viable presence in the networking infrastructure of most data centers, Cisco’s track record as a blade server vendor is still young. The company only entered the market in 2009, via technology gained as a result of the acquisition of Ethernet switch vendor Nuova. Cisco’s Unified Computing System (UCS) is highly innovative, and is particularly targeted at highly integrated and virtualized enterprise requirements, along with a growing focus on cloud and other service providers. The launch of UCS has strained the relationship between Cisco and a number of vendors. Most UCS business will be additive to the ongoing deployment of current server platforms (at least initially); as a result, Cisco shares a degree of mutual responsibility with more-established server vendors to maintain support and interoperability between Cisco networking technology and third-party platforms. Cisco is a founding member of the Virtual Computing Environment (VCE) alliance, which has developed into a joint venture funded primarily by Cisco, EMC and VMware, with additional minority funding from Intel. VCE is responsible for engineering a vertically integrated solution based on UCS called VBlock, which targets multiple workload requirements for a highly integrated converged infrastructure platform. Cisco has also developed similar vertically integrated solutions with NetApp (FlexPod), Citrix (VXI) and other vendors, to target specific end-user workload and application needs. While still relatively new to this market, Cisco has created a great deal of awareness, and is aggressively driving its blade strategy to increase wallet share in accounts where Cisco has established a strong influence. To overcome its inexperience and lack of peripheral components in a mature server market, Cisco has chosen to target channel partners with a history of selling servers. This is designed to help Cisco overcome the fact that its traditional buying center in the data center is a different audience from those that have historically been responsible for server procurement. With bold ambitions in place to achieve volume market acceptance, Cisco is working to build cogent alliances with independent software vendors (ISVs), integrators and channel partners to overcome buying behavior that has tended to favor traditional market leaders.

Strengths

- Cisco is a global corporation with a presence in most data centers due to its strong market share in networking.
- UCS is a fabric-enabled, enterprise-class platform with good integration of networking, virtualization, management tools and storage.

- Solutions like VBlock and FlexPod provide Cisco with cross-selling opportunities to the broader combined installed bases of partner organizations, such as EMC, NetApp, Citrix and VMware.
- Cisco has strong partnerships with virtualization and management tool vendors, as well as with integrators.

Cautions

- Despite a strong data center pedigree, Cisco lacks an extensive server product history, a market track record and an installed base to leverage.
- The company's strategy is dependent on alliances with management tool vendors and storage vendors to create a complete offering.
- Strategic alliances with key OS and application vendors are relatively untested in an environment where Cisco is a server vendor.
- While extending its x86 server range to include rack-optimized servers and target the midmarket, Cisco's portfolio remains more targeted toward specific customer segments, rather than the broader market scope of more-established server vendors.

Dell

Dell's current M-Series blade generation was launched in 2007, and enabled Dell to achieve steady market growth throughout the next two years. To extend its fabric computing scope, Dell developed a collaborative relationship with Egenera, and has further extended its strategy during 2010 by acquiring Scalent Systems. The PowerEdge C line is a recently launched skinless server design, and Dell's Data Center Solutions (DCS) division has been created to target cloud service providers and other buying centers for extreme scaling with customized designs. Dell offers Intel Xeon and AMD Opteron blade servers that are well-engineered, enterprise-class platforms that fit well with the rest of Dell's x86 server portfolio. These innovations have helped the company maintain its market share during 2010. Dell targets a broad range of market needs and geographies.

Strengths

- As a mainstream, x86 server market leader, Dell has extensive cross-selling opportunities.
- The Scalent Systems acquisition strengthens Dell's fabric computing message, and positions Dell with good support potential for third-party hardware.
- Dell has an aggressive pricing policy and a strong midmarket presence.
- Dell has focused innovation in areas such as memory aggregation, general-purpose graphics processing units (GPGPU) support, cooling and virtual I/O — and now, skinless servers.

Cautions

- Consistent execution is required to maintain Dell's No. 3 server market position, and to defend Dell from the growing presence of Cisco. Meanwhile, Dell has been unable to close the gap with IBM and HP.
- Dell must achieve and sustain clear messaging around its fabric-based computing strategy to better leverage blade market opportunities.

Fujitsu

Fujitsu restructured its global sales and marketing operations in April 2009, which has led to more-consistent sales execution and product branding across all geographies. The company offers a broad range of blade offerings, including the high-end Primergy BX900 Dynamic Cube platform and an established marketing and support relationship to OEM Egenera's blade platforms in EMEA. The new CX1000 is a skinless server design targeted at cloud and other rack-dense requirements.

Strengths

- The company has good technology innovation, especially in the Primergy BX900 Dynamic Cube server, which will compete with Cisco's UCS and HP's BladeSystem Matrix, and the CX1000.
- Fujitsu has vertical market strength, and a strong regional presence in Western Europe and Japan.
- The new global organization provides Fujitsu with more-consistent product and branding strategies, and the lines of business have more-obvious responsibilities.

Cautions

- While Fujitsu's new global structure is welcome, the organization is still nascent and relatively unproven.
- The company has a limited track record as a volume supplier outside Japan and Western Europe.
- Fujitsu has a limited channel presence, especially in North America.

Hitachi

Although less known outside Japan, Hitachi's BladeSymphony blades are well-established and address a broad set of requirements. Hitachi is a technology innovator, especially in the field of blade aggregation and highly integrated virtualization.

Strengths

- Hitachi has a well-proven platform with a strong Japanese installed base.

- The company offers chassis options that address enterprise and workgroup/departmental/branch requirements.
- Hitachi is committed to technology innovation, particularly in I/O and memory aggregation, as well as hardware-embedded virtualization.

Cautions

- Hitachi's sales and marketing execution in Western markets is geared more toward its storage business. Consequently, server market initiatives are passive and less proven.
- Hitachi has a limited account presence outside Japan.
- Hitachi has a limited channel presence, especially in EMEA and North America.

HP

Building on the acquisitions of Compaq and RLX Technologies, and the strength of the ProLiant range in the x86 market, HP has been a blade market leader throughout the past decade. Since the 2006 introduction of its latest chassis generation, HP has steadily asserted market leadership, and now sells more blade servers than the rest of the market combined. With a broad range of Intel Xeon, AMD Opteron and Intel Itanium blades around two chassis form factors, plus more-specialized NonStop blades for continuous availability, HP's blade strategy is the centerpiece of the company's Converged Infrastructure strategy and vision. As a result, in 2010, HP created a unified blade architecture across its entire server line — from ProLiant to Integrity and Integrity NonStop. The HP BladeSystem Matrix is a fabric-enabled offering aimed at a variety of solution-oriented and private-cloud implementation needs, where strong integration of compute, network and storage is an asset. During 2010, HP extended its VirtualConnect strategy with the introduction of the new FlexFabric module, which is pre-enabled in all new-generation blades. HP has also introduced the ProLiant SL skinless server design and a new accelerated implementation program for blade-based cloud infrastructure deployment called CloudStart. Finally, HP has more recently concentrated its entire Unix market focus around blades, with the ability to integrate Integrity and ProLiant blades in the same enclosure. The new blade-based Superdome 2 platform aggregates multiple Itanium blades to deliver superior vertical scaling, compared with its rack-optimized predecessor.

Strengths

- As the blade market volume leader in all geographies, HP has extensive cross-selling opportunities, both as the leading x86 server vendor and a major Unix vendor.
- HP's blade strategy benefits from a strong investment in management tools that enables a single point of management across multiple virtualization technologies (VMware, Microsoft and HP-UX-based virtualization), and manages physical and virtual infrastructure.

- HP has chassis options that address data center, workgroup/departmental/branch and continuous availability requirements.
- HP is committed to blade innovation, particularly around virtual I/O, cooling, infrastructure autoprovisioning, blade aggregation and fabric-enabled infrastructure convergence.

Cautions

- HP has an extensive portfolio of rack and blade servers that requires careful market positioning to avoid the impression of complexity (especially with the new push into extreme scaling workloads with the ProLiant SL skinless server design).
- Customers should ask HP to be more open about the assets it offers in the emerging market for converged infrastructure and fabrics. Furthermore, HP blade users and prospects that are also Cisco networking customers should push both HP and Cisco to clarify how their products (blades and networking) coexist.

IBM

IBM and Intel entered the blade market in 2002, with a joint collaboration effort that saw IBM target its blade strategy toward enterprise clients, while Intel resold the technology through various hardware partners. Since the original launch of IBM's blade platform, the company has extended its portfolio constantly and rapidly achieved volume market leadership, which has only recently been overtaken by HP. But IBM still maintains a strong No. 2 position in the blade server market. After a sharp reduction in market share during 2007 and 2008, IBM has been refocusing its efforts on recovery. During 2009, IBM put new initiatives in place to regain market share, including supply chain enhancements, dedicated sales resources and new channel programs, and these have contributed to strong growth during 2010. The recent acquisition of Blade Network Technologies signals an intention to further strengthen IBM's networking presence, which should, in turn, help strengthen its infrastructure convergence strategy. With five different enclosures, IBM can address a broad set of requirements that includes extreme scaling, direct current (DC) power and Network Equipment-Building System (NEBS) compliance; yet, all IBM blades are interoperable among all five chassis options. IBM introduced many blade server innovations during 2010, including in-chassis Fibre Channel over Ethernet (FCoE) support, MAX5 memory aggregation, SSD support and blade server aggregation for enhanced scaling, plus zBX support for the latest System z mainframe generation.

Strengths

- The company has extensive cross-selling opportunities in all geographies, as IBM is a mainstream, x86 server market leader.
- IBM has the broadest set of blade chassis options (five in all) that address enterprise and workgroup/departmental/branch requirements, as well as more-specialized needs, such as NEBS compliance.

- IBM supports x86 and RISC (Power)-based blades, and has now committed to support blade-based infrastructure within the System z architecture.
- IBM's blade strategy benefits from the company's extensive portfolio of end-to-end management tools.
- The company is committed to blade innovation, particularly around cooling and specialized workloads, as well as memory/processor aggregation.

Cautions

- With such a comprehensive portfolio of offerings, IBM also has the most complex positioning challenge.
- The strength and effectiveness of IBM's Power7 market execution imposes additional positioning challenges for IBM's x86-based platforms.
- IBM has not articulated its message around fabrics and infrastructure convergence as strongly as vendors like Cisco and HP have to date.

NEC

NEC, like Hitachi, frequently lacks recognition in Western markets for the breadth and sophistication of its blade server portfolio and corporate strengths. NEC blade server offerings address a broad range of needs through two chassis designs, Sigmablade-H (for enterprise needs) and Sigmablade-M (for midmarket and departmental needs). NEC continues to gradually expand its local sales and marketing focus in EMEA and North America.

Strengths

- NEC has a very strong Japanese installed base, with potential to cross-sell through international subsidiaries of those client organizations.
- The company has chassis options that address enterprise and workgroup/departmental/branch requirements.
- NEC is committed to technology innovation.

Cautions

- NEC holds a dominant market position in Japan, but has limited account presence in most Western markets.
- The company's international sales and support infrastructure is still at a nascent stage for server deployments.
- NEC has a limited channel presence, especially in EMEA and North America.

Oracle

By acquiring Sun Microsystems, Oracle inherited the 6000 blade family, which was launched in 2007. This platform replaced the older 8000 blade family, and Sun was able to grow its blade market share aggressively until the market slowdown of 2009. The 6000 chassis supports x86 and UltraSPARC CMT processors. Oracle now also promotes the 6048 blade chassis, with support for more than 1,000 cores, for HPC and other extreme scale-out workload requirements. Market confidence in Sun fell in 2009, and the company's revenue suffered more than most during the recession. This has created doubts over platform longevity that the new organization is only now starting to dispel, through timely publication of ratified product road maps and refreshed sales initiatives.

Strengths

- The Oracle 6000 blade family addresses a broad range of blade offerings that include Intel x86 and UltraSPARC CMT variants.
- While targeted at commercial enterprise workloads, the 6000 is able to address more-specialized blade markets, such as NEBS compliance, while the 6048 chassis addresses HPC and other extreme scaling opportunities.
- Oracle is committed to technology innovation, particularly around energy management, hardware resilience, virtualization and management tools, as well as flash memory integration.

Cautions

- Oracle is implementing sales and marketing initiatives to rebuild client and channel confidence in many Sun technologies (including blades), which was eroded prior to the acquisition. Those initiatives are now well under way, but at too nascent a stage to demonstrate empirical evidence of a market recovery.
- Oracle particularly needs to dispel doubts over the strategic role of Solaris (especially the x86 variant).
- With the blade market mainly centered on x86, market results also challenge Oracle's desire and potential to be a volume x86 vendor.

SGI

The acquisition of SGI by Rackable Systems in 2009 brought together two companies with very different, but ultimately complimentary, modular server strategies. The Altix ICE technology is based on SGI technology, and primarily addresses the HPC market, where SGI has an enviable market track record. The Altix 4700 platform extends scalability for extreme vertical scaling needs using SGI's NUMAflex architecture. Meanwhile, the CloudRack skinless server family builds on the traditional scale-out strengths of Rackable Systems. Recognizing that SGI had better global brand recognition (the Rackable Systems brand was little known outside North America), the company made the bold decision to adopt the SGI name in all markets. Consequently, the new SGI is able to leverage both installed bases, albeit with the challenge of educating the market that the SGI brand has meaning for more than just HPC users.

Strengths

- SGI is one of the most established and recognized HPC leaders, with a significant installed base across many geographies and vertical markets.
- SGI has new cross-selling opportunities among the Rackable Systems installed base.
- The company is committed to technology innovation, particularly around extreme vertical and horizontal scaling.
- Ownership by Rackable Systems should dispel most user fears about SGI's financial viability.

Cautions

- The convergence of SGI and Rackable Systems technology requires comprehensive positioning of modular product lines to avoid confusion.
- End users should ensure that integration of Rackable Systems and SGI sales and support organizations does not create localized quality-of-service issues.
- The new organization must dispel the myth that SGI's market presence is mainly limited to HPC and markets with similar workload characteristics.

Vendors Added or Dropped

We review and adjust our inclusion criteria for Magic Quadrants and MarketScopes as markets change. As a result of these adjustments, the mix of vendors in any Magic Quadrant or MarketScope may change over time. A vendor appearing in a Magic Quadrant or MarketScope one year and not the next does not necessarily indicate that we have changed our opinion of that vendor. This may be a reflection of a change in the market and, therefore, changed evaluation criteria, or a change of focus by a vendor.

Evaluation Criteria Definitions

Ability to Execute

Product/Service: Core goods and services offered by the vendor that compete in/serve the defined market. This includes current product/service capabilities, quality, feature sets and skills, whether offered natively or through OEM agreements/partnerships as defined in the market definition and detailed in the subcriteria.

Overall Viability (Business Unit, Financial, Strategy, Organization): Viability includes an assessment of the overall organization's financial health, the financial and practical success of the business unit, and the likelihood that the individual business unit will continue investing in the product, will continue offering the product and will advance the state of the art within the organization's portfolio of products.

Sales Execution/Pricing: The vendor's capabilities in all pre-sales activities and the structure that supports them. This includes deal management, pricing and negotiation, pre-sales support and the overall effectiveness of the sales channel.

Market Responsiveness and Track Record: Ability to respond, change direction, be flexible and achieve competitive success as opportunities develop, competitors act, customer needs evolve and market dynamics change. This criterion also considers the vendor's history of responsiveness.

Marketing Execution: The clarity, quality, creativity and efficacy of programs designed to deliver the organization's message to influence the market, promote the brand and business, increase awareness of the products, and establish a positive identification with the product/brand and organization in the minds of buyers. This "mind share" can be driven by a combination of publicity, promotional initiatives, thought leadership, word-of-mouth and sales activities.

Customer Experience: Relationships, products and services/programs that enable clients to be successful with the products evaluated. Specifically, this includes the ways customers receive technical support or account support. This can also include ancillary tools, customer support programs (and the quality thereof), availability of user groups, service-level agreements and so on.

Operations: The ability of the organization to meet its goals and commitments. Factors include the quality of the organizational structure, including skills, experiences, programs, systems and other vehicles that enable the organization to operate effectively and efficiently on an ongoing basis.

Completeness of Vision

Market Understanding: Ability of the vendor to understand buyers' wants and needs and to translate those into products and services. Vendors that show the highest degree of vision listen to and understand buyers' wants and needs, and can shape or enhance those with their added vision.

Marketing Strategy: A clear, differentiated set of messages consistently communicated throughout the organization and externalized through the website, advertising, customer programs and positioning statements.

Sales Strategy: The strategy for selling products that uses the appropriate network of direct and indirect sales, marketing, service and communication affiliates that extend the scope and depth of market reach, skills, expertise, technologies, services and the customer base.

Offering (Product) Strategy: The vendor's approach to product development and delivery that emphasizes differentiation, functionality, methodology and feature sets as they map to current and future requirements.

Business Model: The soundness and logic of the vendor's underlying business proposition.

Vertical/Industry Strategy: The vendor's strategy to direct resources, skills and offerings to meet the specific needs of individual market segments, including vertical markets.

Innovation: Direct, related, complementary and synergistic layouts of resources, expertise or capital for investment, consolidation, defensive or pre-emptive purposes.

Geographic Strategy: The vendor's strategy to direct resources, skills and offerings to meet the specific needs of geographies outside the "home" or native geography, either directly or through partners, channels and subsidiaries as appropriate for that geography and market.