

# Market Share Analysis: Data Center Hardware Integrated Systems, 1Q11-2Q12

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The market for integrated systems is a key growth area for data center hardware infrastructure. This report sizes the market and profiles early leaders in this important and emerging area.

## Key Findings

- The market for integrated systems is growing strongly, with revenue increasing 53.7% year over year in 2Q12, but it accounted for only 3.5% of the data center hardware total in 2011.
- Large enterprises and service providers are currently the targeted key customers for integrated systems. The small and midsize business (SMB) segment is currently underserved.
- Storage is a key driver for current sales — many integrated systems sales are driven by the installed-base preferences for existing storage architectures.
- Given the current nascent level of the market, there is significant opportunity for overall segment growth, as well as competitive share growth for vendors that can deliver the right combination of technology offering and differentiation.
- All vendors face a challenge in articulating their "better together" message. There is real opportunity for the vendor that can best articulate the benefits of integration while placating concerns about increased wallet share and vendor lock-in.

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## Market Share Data

Although we are looking at each of these three segments to measure the market size in comparison to traditional data center systems, due to the diversity of system types, it is appropriate to look at market shares for the segments individually.

Tables 1, 2 and 3 show system revenue from 1Q11 through 2Q12.

Table 1. Integrated Infrastructure Systems, 1Q11-2Q12 (U.S. Dollars)

	1Q11	2Q11	3Q11	4Q11	1Q12	2Q12	Growth (%)
VCE	107,820,000	146,000,000	161,800,000	224,808,000	197,980,000	222,916,000	52.7
HP	53,500,000	56,600,000	64,100,000	104,800,000	85,200,000	92,500,000	63.4
Hitachi Data Systems	38,030,000	41,280,000	47,850,000	55,350,000	44,860,000	44,860,000	8.7
IBM	-	-	-	-	-	11,007,894	
Dell	-	2,960,000	8,010,000	11,480,000	8,400,000	10,080,000	240.5
Oracle	-	-	-	1,450,000	1,479,652	4,353,424	
Other Vendors	3,693,600	2,880,000	3,600,000	3,600,000	2,880,000	2,880,000	0.0
Total	203,043,600	249,720,000	285,360,000	401,488,000	340,799,652	388,597,318	55.6

Source: Gartner (November 2012)

Table 2. Integrated Workload Systems, 1Q11-2Q12 (U.S. Dollars)

	1Q11	2Q11	3Q11	4Q11	1Q12	2Q12	Growth (%)
Oracle	70,000,000	120,000,000	88,000,000	143,550,000	146,485,534	213,317,767	77.8
Other Vendors	98,050,000	111,300,000	118,560,000	137,700,000	129,850,000	137,200,000	23.3
IBM	17,798,759	14,765,787	16,122,643	31,127,875	18,510,710	20,443,232	38.5
HP	8,500,000	9,500,000	12,500,000	19,000,000	14,000,000	15,000,000	57.9
Total	194,348,759	255,565,787	235,182,643	331,377,875	308,846,244	385,960,999	51.0

Source: Gartner (November 2012)

Table 3. Integrated Reference Architecture Systems, 1Q11-2Q12 (U.S. Dollars)

	1Q11	2Q11	3Q11	4Q11	1Q12	2Q12	Growth (%)
Total	143,200,000	182,100,000	185,600,000	254,400,000	240,160,000	282,200,000	55.0
*FlexPod	118,400,000	153,300,000	146,000,000	201,600,000	195,960,000	210,600,000	37.4
*In the case of FlexPod, this is an integrated reference architecture system with combined hardware revenues from the NetApp and Cisco partnership.							

Source: Gartner (November 2012)

## Setting the Stage: Definitions and Segmentation

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This report is the first view that Gartner has presented on the size of the integrated systems market. It will be updated on a quarterly basis.

As it is the first iteration of this report, it is worth clarifying the scope of our analysis. We have traditionally tracked the server, networking and external controller-based storage areas as discrete markets. Increasingly, though, users are asking for, and vendors are delivering, data center hardware systems that cross these technology silos. These systems can take the form of either horizontally integrated systems, spanning server storage and network hardware, or vertically integrated systems, where the server, storage and network hardware foundation is vertically integrated with the software stack.

So this report represents our first position on what the market opportunity is for server, storage and networking vendors for this cross-hardware-silo trend.

The definition for data center hardware integrated systems is as follows:

"Integrated systems are a class of data center systems that deliver a combination of server, shared-storage and network devices in a preintegrated stack."

This is a deliberately broad definition and one that's not overfocused on the technologies. As it is a nascent market, there are different options that different vendors are taking, so technology-based definitions can make consistency difficult. Also, due to the nascent nature of the market, technology-based definitions can quickly become obsolete.

In spite of the differences between diverse offerings, the common denominator is a preintegrated cross-technology-silo combination.

Simple bundling of separate parts, or custom integration efforts for individual customers, are not considered to be integrated systems.

What we're looking at here is an emerging class of systems, sold as standard SKUs, in which there is preintegration work done to deliver optimization, performance or agility benefits. From a vendor perspective, commonly used terms to describe these products would include "engineered systems," "converged infrastructure" or "expert systems" — all of which we would consider to be "integrated systems." Our revenue estimates include the server, network and storage hardware, plus associated infrastructure software revenue (operating system, hypervisor and element management tools), where included as part of the system. Software revenue (such as database and application software revenue), though a critical part of the "integrated workload systems" segment, is outside the scope of this report, as this report is focused on the impact of integrated hardware stacks. Gartner will examine the market sizing and share trends for fully integrated hardware plus software stacks in a future report in 2013.

## Segmentation

Given the variety of vendor offerings, although it's a nascent market, it's helpful to distinguish between different segments.

We are using the following three segments to better describe this overall market category:

- *Integrated infrastructure systems* — Server, shared-storage and network hardware integrated to provide shared compute infrastructure
- *Integrated workload systems* — Integrated infrastructure systems that are preintegrated with database and/or application software to provide appliance, or appliance-like, functionality
- *Integrated reference architectures* — Products in which predefined, presized components are designated as options for an integrated system, whereby the user and/or channel can make configuration choices between the predefined options

*Expanding on reference architectures*, data center hardware systems have traditionally been certified to operate with other hardware and software offerings of the vendor or third-party vendors. These types of certification were to denote a level of testing and compatibility of the systems and are more limited than the systems that we would consider part of the integrated reference architecture segment. Integrated reference architecture systems go further by branding specific configurations that are predefined and presized to ensure consistency and repeatability. These are also specifically positioned in the market for users making a buying decision against systems that would be found in the "integrated workload" and "integrated infrastructure" segments. For example, a user will often make a similar buying decision when evaluating a system such as a VCE Vblock versus a FlexPod.

The first two categories are what some may consider to be true "integrated systems," as a single vendor will provide the system. Although systems in the "reference architecture" segment are not fully integrated by one vendor and may be built on offerings from multiple vendors with the integration being done by the channel or user, these will serve a similar market with users making similar buying decisions. As a similar market is being served, we feel that these systems need to be included to provide the best perspective on the overall market trends. By seeing them as a separate segment, though, readers will have the flexibility to include or exclude them, as best fits their own market comparison perspective.

In addition, from a revenue measurement perspective, we could consider an additional fourth segment, which would be an expansion of the "integrated workload systems" segment. This would be inclusive of both the hardware and full software (including database and application layer) revenues. As this first report is looking at the market opportunity exclusively from a hardware perspective, though, this fourth category is beyond the scope of this report.

Table 4 contains a number of existing examples of integrated systems organized by segment.

Table 4. Examples of Integrated Systems

System Type	Provider	System Brand
Integrated Application Systems	Oracle	Oracle Exadata
	HP	AppSystem
	IBM	PureApplication
Integrated Infrastructure Systems	HP	CloudSystem
	Dell	vStart
	VCE	Vblock
	IBM	PureFlex
Integrated Reference Architectures	NetApp, Cisco	FlexPod*

\*In the case of FlexPod, this is an integrated reference architecture system built on a NetApp and Cisco partnership.

Source: Gartner (November 2012)

## Overall Market Segment Performance Analysis

Although the \$2.9 billion overall size in 2011 of the integrated systems market is not insignificant, it represents only a small portion of the whole data center hardware market. Of the \$83 billion of combined server, storage and network revenue that constituted the data center hardware total in 2011, integrated systems (including reference architectures) accounted for only about 3.5% of the total.

### Quarterly Revenue by Market Segment

Table 5 presents quarterly revenue by market segment.

Table 5. Quarterly Revenue by Market Segment (Dollars)

System Type	1Q11	2Q11	3Q11	4Q11	1Q12	2Q12	Growth (%)
Integrated Infrastructure Systems	203,043,600	249,720,000	285,360,000	401,488,000	340,799,652	388,597,318	55.6
Integrated Workload Systems	194,348,759	255,565,787	235,182,643	331,377,875	308,846,244	385,960,999	51.0
Integrated Reference Architectures	143,200,000	182,100,000	185,600,000	254,400,000	240,160,000	282,200,000	55.0
<b>Total</b>	<b>540,592,359</b>	<b>687,385,787</b>	<b>706,142,643</b>	<b>987,265,875</b>	<b>889,805,896</b>	<b>1,056,758,317</b>	<b>53.7</b>

Source: Gartner (November 2012)



Table 5 shows the results for integrated systems by system type. This is helpful when considering the positioning of the various platforms in the market. Even within each segment, there can be a wide variety of offerings. For example, in the "integrated infrastructure" segment, VCE's Vblock represents a very high-end offering with average selling prices (ASPs) in the \$1.8 million range during 2011. Dell's vStart, by contrast, which is much more focused on SMBs and the midmarket, had ASPs just below \$100,000.

Given this wide variety of offerings, it's worth considering some of the drivers and inhibitors, as an indication of what may be driving some of the current user behavior.

### Drivers and Inhibitors

Integrated systems promise a number of qualities intended to resonate with user requirements. The key promises are:

- Better performance
- Improved cost/performance ratio
- Simplified deployment
- More optimization
- Increased automation
- Lower cost of IT operations
- Simplified sourcing and support
- Support in moving from IT maintenance to IT innovation

In contrast to these drivers are a number of inhibitors that serve to muddy the value or help ensure that traditional systems remain the preferred option. These include:

- Unclear value proposition
- Concerns about provider lock-in
- Not wanting to overinvest in one particular vendor
- Limited flexibility
- Preference for specialist and best-of-breed offerings
- Upfront investment

A further discussion of the drivers, inhibitors and value proposition around integrated systems will be published in a forthcoming market trends report.

## Segmentation

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Although there are common denominators in each of the vendor offerings, there are also marked contrasts. The segments in Table 5 show our groupings into three distinct categories.

### Integrated Workload Systems

The integrated application systems segment most directly addresses user requirements around optimization and performance. It is led in 2Q12 by Oracle primarily with its Oracle Exadata and Oracle Exalogic platforms, but Teradata, IBM's Netezza and EMC's Greenplum appliance all contribute to this segment. The key drivers here are the software capabilities that enable the hardware to be optimized for particular workloads. This segment is dominated by vendors that own both the hardware and software assets. There is a challenge for vendors that work with third-party independent software vendors (ISVs) to enter this area, although we expect this to be more fiercely contested as we move into 2013.

### Integrated Infrastructure Systems

The integrated infrastructure systems segment is the one that contains the broadest variety of offerings, with prices ranging from \$100,000 to \$2 million. This reflects a variation in end-user company sizes, as well as the types of workloads that are being deployed, from low-end to mission-critical. This category most directly addresses the user requirements of increased automation, lower cost of operations and simplified sourcing and support. VCE is currently the leader here and has had a strong ramp-up during 2011. HP and Hitachi Data Systems were also key vendors in this segment in 2011. With IBM's PureFlex introduction in the second quarter of 2012, this segment in particular is likely to become increasingly competitive in the second half of 2012 and beyond.

### Integrated Reference Architectures

The integrated reference architecture segment is similar in terms of capabilities to the integrated infrastructure systems segment, except that the actual integration of the system is not done by the vendor — it is done by a channel partner (or even, potentially, by the end user). The vendor (or vendors) instead focus on predefining and presizing the systems. The key point here is that these systems have much the same value proposition and address the same user requirements of increased automation, lower cost of operations, and simplified sourcing and support. The FlexPod offering, from the NetApp and Cisco partnership, has driven most of the momentum of this category in 2011. The VSPEX offering from EMC, as well as HP's converged-infrastructure offerings, will add to the competitive mix here in the future, though.

In all cases, the big challenge facing all vendors is how best to articulate the opposing forces at play here. How can vendors demonstrate the "better together" argument while addressing the concerns about overinvesting with one particular vendor or concerns about increased vendor lock-in?

With the market at a fairly nascent level, we currently see the user benefits outweighing the inhibitors. The benefits to users in terms of optimization or performance outweigh concerns such as increased vendor lock-in. Also, the current users are likely to be those with more mature IT practices and aggressive buying behavior — Type A companies. If the market is to continue to grow

and become a more sizeable proportion of total data center purchases, the vendors must refine their messaging and positioning to expand into more-conservative user organizations, where concerns about lock-in will be more pronounced. It is important to note, though, that integrated systems are not driving new growth but instead a transition of existing levels of expenditure — from traditional systems to integrated. Therefore, vendors with large installed bases of existing systems are potentially under the greatest threat from this trend.

## Regional Results

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Table 6 presents results by region.

Table 6. Revenue for Integrated Infrastructure Systems and Integrated Application Systems by Region (Dollars)

Region	1Q11	2Q11	3Q11	4Q11	1Q12	2Q12	Growth (%)
Asia/Pacific	64,948,251	84,402,494	91,925,417	129,291,505	113,703,567	134,287,680	59.1
EMEA	133,866,127	179,795,673	186,383,181	265,579,053	245,488,068	294,451,439	63.8
Japan	66,287,440	72,600,278	77,652,767	99,848,544	89,038,813	106,467,095	46.6
Latin America	14,566,375	18,823,516	18,859,253	27,034,678	24,571,074	30,665,014	62.9
North America	260,924,166	331,763,825	331,322,025	465,512,096	417,004,375	490,887,088	48.0
<b>Total</b>	<b>540,592,359</b>	<b>687,385,787</b>	<b>706,142,643</b>	<b>987,265,875</b>	<b>889,805,896</b>	<b>1,056,758,317</b>	<b>53.7</b>

Source: Gartner (November 2012)

The regional breakdowns in 2011 reflect predominant shipments into the mature markets of Western Europe and North America. As well as having the largest installed base, North America tends to be an early adopter of new technologies. Also, many of the vendors are headquartered in the U.S., and their initial marketing activities and product ramp-ups have tended to have a local geographic focus. We expect to see increased adoption in other geographies as the market evolves.

## Top Vendors Analyzed

### Cisco

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Cisco has been a key driver of the trend toward integrated systems as part of the VCE joint venture and by providing the server and network elements of the FlexPod. VCE and FlexPod combined account for about 45% of total revenue for integrated systems (including reference architectures) in 2011.

Cisco's Unified Computing System (UCS) has given it a strong presence in the server market following its introduction in 2009, complementing Cisco's already very strong position in the networking market. The technology strengths of UCS, as well as Cisco's installed base and reputation, have been a key part in driving these partnerships, which have enabled Cisco to become an important part of the growing momentum toward integrated systems.

### Dell

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Not so long ago, Dell was limited in the integrated systems area, but the company has rapidly and strategically expanded its integrated capabilities in recent years with a wave of acquisitions ranging from Equallogic and Compellent in storage, to Force10 Networks in networking, to Boomi, Scalent and Quest in software. Dell made an entrance into the integrated systems space in mid-2011 with its vStart offering — a preintegrated set of server, storage and network hardware to provide a virtualization platform for customers. Dell achieved a 2.6% share of integrated infrastructure systems revenue in the second quarter of 2012.

Dell's positioning has been somewhat different from others in the integrated systems space and reflects the company's overall focus on the midmarket. Dell's ASPs have hovered slightly below the \$100,000 mark — an indication of the relatively small size of Dell's target customers.

Gartner believes the SMB and midmarket segments have been underserved by most of the integrated systems product offerings. The main value propositions of integrated systems — simplicity, efficiency and ease of deployment — should be a good fit for many SMB and midmarket customers. Dell's offerings could fill a growing requirement that high-end-focused vendors may continue to overlook.

This is a relatively new area for Dell, and a general challenge for the company will be one of market perception and coverage. Dell must raise awareness of its enlarged capabilities as a data center

supplier in the global client base. Dell also needs to continue to transform the sales force to be better equipped to sell data center products.

The vStart is a capable first step, but Dell must augment its integrated systems portfolio with a broader range of solutions.

## Hitachi Data Systems

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Hitachi Data Systems is not one of the most visible vendors but nonetheless achieved a 16.0% share of the integrated infrastructure systems market (excluding reference architectures) in 2011. This share has dropped to 11.5% in the second quarter of 2012, largely due to the strong ramp-ups and acceptance of competitive products during the first half of 2012.

In Japan, Hitachi Data Systems sells a broad portfolio of storage and server offerings, but outside of Japan, it has operated mainly as a storage supplier. It is a company with a strong heritage in high-end technology, particularly in the mission-critical space. Like other vendors, Hitachi Data Systems believes that the market requires more-integrated systems — spanning server, storage and network devices, with embedded and customized software — that will enable customers to deploy more agile and efficient data center infrastructures. Hitachi Data Systems' Unified Compute Platform is the company's response to this growing demand.

During 2011 and the first half of 2012, Hitachi Data Systems positioned itself, from a pricing perspective, close to the ASPs of high-end offerings of FlexPod and low-end varieties of Vblock. Hitachi Data Systems' Unified Compute Platform has been in the \$600,000-to-\$700,000 range.

Given its corporate structure, the geographic splits for Hitachi Data Systems have been different from other vendors. North America is still the largest region but only with about 35% of overall revenue. Japan has been about 29%, and EMEA about 22%.

The main challenges for Hitachi Data Systems will be in sales and marketing — raising the general awareness of Hitachi Data Systems as a potential provider of broad-based data center infrastructures, clearly articulating its points of differentiation, and training its own sales force and partner networks (which to date have been focused on Hitachi Data Systems as a storage vendor) to position and sell the company as a capable and reliable supplier of integrated systems.

## HP

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HP was one of the earliest vendors to enter this space with integrated systems, as well as reference architecture offerings, and also established a "cloud agile" program for its channel partners.

HP has built out a broad portfolio with its CloudSystem, AppSystem and VirtualSystem products. The company's converged-infrastructure strategy has been in place for some time, and it has been consistently building on these capabilities. Another, often understated strength of HP is in its global partner framework — which is of real importance in terms of bringing this portfolio to the widest addressable market.

HP will continue to face challenges in refining its "better together" message to convince customers to invest a larger share of their resources with HP. Obviously, all vendors must face and overcome

this challenge, but there is real opportunity for whoever can get this message across fastest and best.

Given its strength in and commitment to low-cost x86 platforms, HP is also in a position to use its integrated systems strategy to put real price pressure on competitors that are highly reliant on their own proprietary high-end, high-margin products.

HP is well-positioned, but the company must continue to enhance its portfolio and market coverage if it hopes to maintain its strong early market position in the face of increasingly capable competition.

## IBM

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Although having a fairly small market share in 2011 and the first half of 2012, IBM will be a key vendor to watch in the second half of 2012 and beyond. IBM's main offerings during 2011 were around the Netezza platform, which sits in our integrated workload systems segment. IBM's share of this segment was 7.9% in 2011. In early 2012, IBM introduced the first two solutions in its PureSystems family, IBM PureFlex System and IBM PureApplication System. PureFlex System, which began initial shipments in 2Q12, is a preconfigured, preintegrated infrastructure system with compute, storage, networking, physical and virtual management, and entry cloud management. It is designed to streamline deployment and configuration of data center compute resources and to support private infrastructure-as-a-service environments.

PureApplication System, which includes preintegrated infrastructure plus several preinstalled and pre-entitled application infrastructure (middleware) and management components, became available in 3Q12. In early October, IBM extended the PureSystems family with PureData Systems, which includes models optimized for transaction and analytic data workloads. The PureData System for Analytics is the next-generation Netezza offering. As the PureSystems markets expand, IBM will have increased options to compete more directly against platforms such as Oracle's Exadata.

Part of IBM's goal is to encourage third-party ISVs to optimize their solutions to take advantage of PureSystems' capabilities in order to service a wider range of applications and markets. So far, more than 200 ISV applications have been optimized for IBM PureSystems. IBM is one of very few vendors that have the vertically integrated benefit of managing broad hardware and software portfolios with a global range of partners.

With its deep technologies and the enormous size of its installed base, IBM will surely be a formidable competitor in these markets. However, IBM may have difficulty in positioning and prioritizing these new integrated systems within its traditional product hierarchy. Having a broad portfolio brings many positive factors, but also brings the challenge of effectively managing the positioning. IBM, given that it has one of the broadest portfolios, may therefore face positioning challenges, particularly at this nascent stage of the market as users are working out where integrated systems make the most sense.

## NetApp

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Along with Cisco and VMware, NetApp has been driving the FlexPod reference architecture initiative. In contrast to many other vendors in the market, NetApp enables a channel partner (or even potentially the end user) to perform the actual integration of the system. This approach potentially allows greater flexibility for the user, since the system can be built from best-of-breed components rather than having all the elements sourced from a single vendor. Using its channel partners to service the midmarket and low-end enterprise client bases is an integral part of NetApp's strategy.

Introduced in 2010, FlexPod has grown strongly, achieving a share of about 31% of combined revenue for integrated infrastructure systems and integrated reference architecture systems by the second quarter of 2012.

ASPs were in the \$700,000 range during 2011 but declined to \$650,000 in 2Q12, largely due to the introduction of lower-cost configurations aimed at midsize businesses in the EMEA and Asia/Pacific regions during the first half of 2012.

## Oracle

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Oracle was one of the first vendors to drive awareness and momentum in the integrated systems market with the introduction of its second generation of Oracle Exadata Database Machine in 2010. The previous generation had been sold in conjunction with HP, with HP providing the hardware accompaniment to Oracle's software. With the introduction of the Exadata Version 2, Oracle provided a vertically integrated hardware/software stack, all from the same vendor.

Oracle describes this market category as "Engineered Systems," as the hardware and the software are integrated and engineered to work together for optimal performance. Servicing this market has become increasingly strategic for the company. Oracle has expanded its "Engineered Systems" offerings, which now include Oracle Exalogic (an integrated hardware and software combination to run Java and non-Java applications); Oracle Exalytics In-Memory Machine (in-memory business intelligence machine); Oracle Database Appliance; Oracle Big Data Appliance; Sparc SuperCluster (an integrated Sparc processor and Solaris operating system stack); and, more recently, Oracle Network Applications Platform (industry-specific machine for the communications industry announced at Oracle OpenWorld).

Sun's traditional hardware business had faced difficulty in maintaining momentum as the Unix segment in general had faced pressure from the increasing capabilities of x86 platforms. Although it has its own x86 systems, Oracle has stated that it is keen to not simply be a "commodity" x86 supplier. Its Engineered Systems offerings, which leverage x86 hardware platforms with a sophisticated integration of customized software to address specific customer pain points, enabled the vendor to leverage industry trends to drive momentum for its hardware business while avoiding the pressures that its traditional hardware platforms had faced.

With its hardware/software workloads finely tuned to the requirements of specific workloads, Oracle can emphasize performance as a key differentiator. To date, this has translated well into market momentum. Oracle has had year-over-year growth rates of 111% and 81% in the first and second



quarters of 2012, respectively, and achieved the market-leading position for the integrated workload segment in the second quarter of 2012 with a 55.3% share.

The pricing levels are akin to those of traditional midrange Sun systems in the past, with overall ASPs in the \$400,000-to-\$500,000 range. Much of the momentum was initially in the North American and Asia/Pacific markets, but in recent quarters, EMEA in particular has increased its proportional share, rising to just over one-third of Oracle's integrated systems revenue in its fiscal third quarter, according to Gartner's estimates. Latin America has also seen very fast adoption in recent quarters.

## VCE

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VCE is a joint venture between Cisco, EMC and VMware that solely sells integrated systems. The company was formed (as Acadia) in late 2009 but has driven strong results, reaching the lead position for integrated infrastructure systems in the second quarter of 2012, with a 57.4% share.

VCE's value proposition has been in providing the highest levels of integrated software, hardware, service and support from a single source.

The company has achieved rapid expansion with its own sales force and numerous partner relationships, posting revenue exceeding \$600 million in 2011. A strong early footprint in the service provider segment has expanded to become an increasing strength in large accounts, which now account for the majority of the business.

The positioning is at the high end of the market, with large systems carrying high ASPs being typical. Following the introduction of the lower-end 300 series toward the end of 2011, overall ASPs have started to decline, and VCE now has offerings that cater to smaller customers. Pricing for the 300 series is in the \$400,000-to-\$500,000 range, and VCE can now compete directly with FlexPod (the integrated offering from NetApp, Cisco and VMware).

The downside of being in the lead position is that VCE will be the focus of other vendors that aim to increase their share of the integrated systems market. With existing vendors such as HP, Hitachi Data Systems and NetApp expanding their efforts, and IBM entering the market in 2012, the competitive landscape will be much more challenging in the second half of 2012 and beyond.

The other challenge that VCE will face is the perennial one that all technology alliances eventually face. Because it is a joint venture between EMC, VMware and Cisco, the success of the company is largely dependent on the interests of those individual companies remaining aligned.

## Other Notable Vendors

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There are a number of other notable vendors playing a role in the emergence of the integrated systems market.

On the integrated-application side, there are a number of offerings, such as Teradata and EMC's Greenplum, which are important competitors here. The area of business analytics is currently the

main driver for this category, and competition will only increase as more vendors introduce rival platforms.

EMC is an increasingly notable vendor in this space; in addition to selling the Greenplum appliances and the recently introduced VSPEX reference architecture, EMC is one of the foundational elements of VCE.

Fujitsu, with its Dynamic Infrastructures products, is another vendor with a strong presence in the traditional data center areas of servers and storage that is increasing its focus on the integrated systems market.

## Mergers and Acquisitions

There have been a number of related acquisitions during this time period. Of note are the following:

- Dell acquired Force 10 Networks in July 2011 and announced the intention to acquire Gale Technologies in November 2012.
- Oracle entered agreement to acquire Xsigo in July 2012.
- EMC announced intention to acquire Nicira in July 2012.
- Cisco announced the intention to acquire Cloupia in November 2012.

## Recommended Reading

*Some documents may not be available as part of your current Gartner subscription.*

"Vendor Alliances Are a Critical Factor in Fabric-Based Infrastructure Selection"

"Introducing the Technology Dependency Matrix for Fabric-Based Infrastructure"

"Forecast Analysis: Data Center, Worldwide, 2010-2016, 1Q12 Update"

"Marketing Essentials: How Shifts in Buying Centers for Data Center Hardware Infrastructure Will Impact Your Business"

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