



IDC MarketScape

IDC MarketScape: Worldwide Hyperconverged Systems 2014 Vendor Assessment

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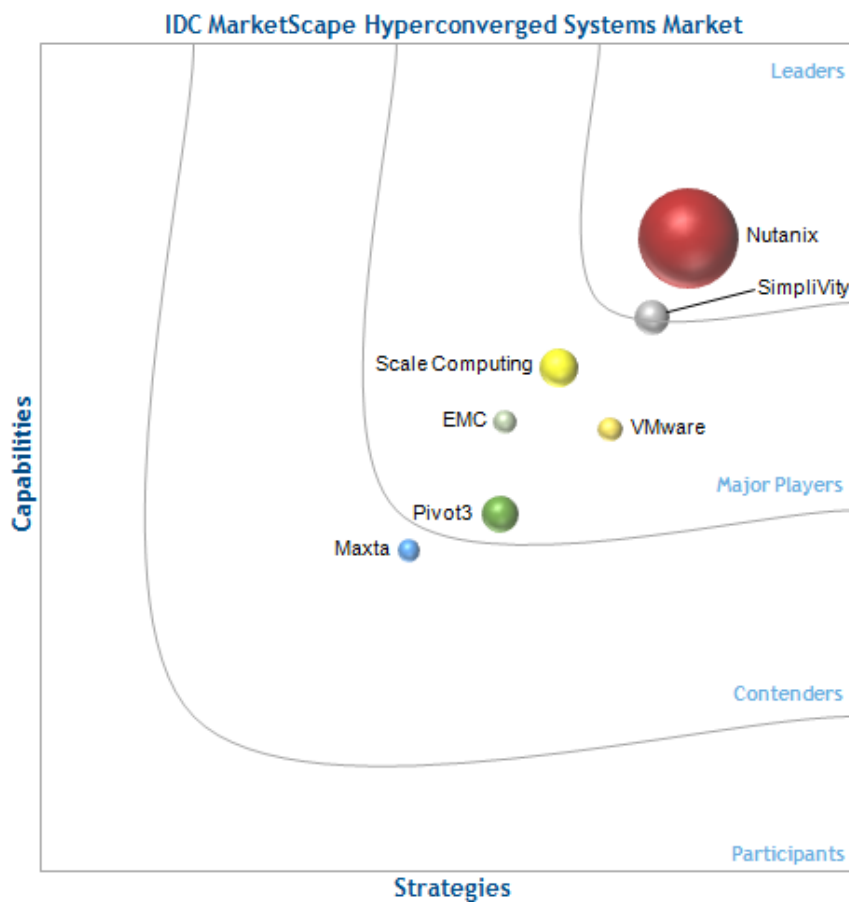
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THIS IDC MARKETSCAPE EXCERPT FEATURES: NUTANIX

IDC MARKETSCAPE FIGURE

FIGURE 1

IDC MarketScape Worldwide Hyperconverged Systems Vendor Assessment



Source: IDC, 2014

Please see the Appendix for detailed methodology, market definition, and scoring criteria.

IN THIS EXCERPT

The content for this excerpt was taken directly from IDC MarketScape: Worldwide Hyperconverged Systems 2014 Vendor Assessment (Doc #253267). All or parts of the following sections are included in this excerpt: IDC Opinion, IDC MarketScape Vendor Inclusion Criteria, Essential Guidance, Vendor Summary Profile, Appendix and Learn More. Also included is Figure 1.

IDC OPINION

Over the past several years, the IT infrastructure market has been on a path of rapid evolution and consolidation. As customer priorities shift from a more singular (and siloed) focus on compute, networking, or storage infrastructure to a broader set of requirements around cloud computing, application modernization, and workload management, vendors have been forced to innovate and expand their product portfolios. One area of such innovation has been in integrating compute and storage services so that they run adjacent to each other on the same physical hardware. Increasingly, the ability for storage, computing, and network software to be decoupled from the underlying infrastructure and run on industry-standard x86 components has cleared the way for a new set of software-defined infrastructure. And as more workloads continue to be run on virtual infrastructure, the comingling of storage and compute on a common set of physical resources is a natural outcome in the evolution of a software-defined infrastructure. Findings include:

- Today, hyperconverged infrastructure solutions natively collapse core storage, computing, and storage networking functions into a single software solution or appliance. The hyperconverged appliance (or solution) thus comprises of a distributed (and often a shared nothing) software stack, which runs on a single or multiple server nodes that constitute a cluster. Each node in the cluster runs the hyperconverged software stack that includes a distributed file system or object store – a hypervisor stack that bootstraps the hardware and provides abstraction of physical resources such as CPU, memory, and disk and additionally provides cluster management functionality. The nodes in the hyperconverged cluster communicate over a built-in (via an Ethernet or InfiniBand) switch or plug into a customer-provided back-end network. While the network is used for internode communications, it is not used to bridge the compute and storage layers together as both services run on the same physical node. Rather, this network is used for creating a homogeneous, highly available, and resilient pool of storage and computing resources that leverage distributed software-based algorithms.
- Similar to the integrated infrastructure systems and platforms market segments, the hyperconverged infrastructure market segment integrates a collection of technologies that span across the functional areas of storage, computing, networking, hypervisor-based virtualization, containers, and infrastructure management. IDC estimates the market for hyperconverged infrastructure is in a nascent state of development and penetration, and we believe the opportunity for this market to be quite significant. Innovators with hyperconverged infrastructure offerings enjoy the benefit of at once participating in two industry disruptions – software-defined infrastructure and convergence/integration of compute, networking, storage and management.

IDC MARKETSCOPE VENDOR INCLUSION CRITERIA

Hyperconverged systems are an emerging breed of solutions that natively collapse core storage, compute, and storage networking functions into a single software solution or appliance. This is in contrast to traditional integrated platforms and systems in which autonomous compute, storage, and networking systems are integrated at the factory by the vendor or by resellers. In addition to integrating storage and compute functions into a single node (or a cluster of nodes, each offering compute and storage functions), all hyperconverged systems employ:

- A distributed file system or an object store that serves as the data organization, management, and access platform
- A hypervisor that provides workload adjacency, management, and containerization in addition to providing the hardware abstraction layer (Further, the hypervisor hosts essential management software needed to manage the platform and is also used to bootstrap the server hardware.)
- An (optional) Ethernet switch to provide scale-out and/or high-availability capabilities (However, switching and/or networking is not used to bridge the compute and storage layers together but rather to provide high-availability and resiliency capabilities to the storage and computing stacks.)

Because of the nascent and emerging stage of the hyperconverged systems market and the lengthy IDC MarketScape process, a number of vendors announced offerings after the research for this study began. Such vendors are excluded from the IDC MarketScape graph but may be mentioned in this study. IDC invited vendors to participate based on one key criterion:

- The vendor had a hyperconverged offering that was generally available (GA) and shipping as of spring 2014.

In addition to the companies that met the criteria for this year's study, there are also a number of other companies that play in this space that may qualify for future IDC MarketScape documents on this market segment. For the purposes of completeness, IDC also includes vendor profiles on those companies that have hyperconverged offerings but elected not to participate in or did not qualify for this IDC MarketScape. These vendors include HP, NIMBOX, and Compuverde. Suppliers with hyperconverged solutions that are covered in this IDC MarketScape include Nutanix, Scale Computing, SimpliVity, Pivot3, Maxta, EMC, and VMware.

ESSENTIAL BUYER GUIDANCE

All companies, small and large, grapple with infrastructure growth. As businesses become data driven to survive in the new economy, they will seek more data sources, collect more data, and look to analyze and store this data. For many such companies, the infrastructure is an essential part of an on-demand opex-driven cloud for internal and external consumption. Both traditional and newer use cases, especially highly scalable workloads, will require nontraditional approaches to infrastructure, and hyperconverged storage solutions fit that profile very well. While a traditional storage area network (SAN) or NAS infrastructure that is connected via Fibre Channel or IP networks to a compute

environment still has a place in the modern datacenter, hyperconverged solutions provide a different level of simplification, scalability, and agility. Buyers should look for the following key characteristics when evaluating hyperconverged solutions:

- **Platform scalability – hardware and software scalability, for the storage and computing stacks:** Both computing and storage stacks should be able to scale in performance and capacity independent of each other.
- **Data management:** Data layout and organization is an important piece as it may have performance, efficiency, and availability implications. Over time, as data grows, organizations will face the need to mine existing data for patterns that may build new business cases around new findings.
- **Storage efficiency:** The larger the data set and bigger the hyperconverged system, the greater the need of data management and reduction techniques (data deduplication, compression, thin provisioning, etc.). Data optimization technologies (automated data tiering) will also be essential. A solution appropriate for a given environment will allow many, if not all, of the previously mentioned features to be implemented and recalibrated without major disruptions.
- **Data resiliency:** Resiliency capabilities (like replication and erasure coding) and the granularity with which such capabilities can be applied (i.e., whether policies can be applied at an account, container, or object level) will be important considerations. Data resiliency should also incorporate application consistency, availability, and partition tolerance (CAP theorem).
- **Workload adjacency and quality of service:** Since the entire premise of hyperconverged solutions is to support workload adjacency (which includes storage as a workload), it is important that the solution supports mixed workloads, which include transactional and batch workloads (like databases and analytics workloads), spiky workloads (like virtual desktop infrastructure [VDI]), and user applications (like Exchange, SharePoint), in the same cluster. A highly capable system needs to support quality of service for both computing and storage functions.

In addition to the platform characteristics, buyers should look for the following vendor attributes:

- **Vendor's commitment to the platform now and for the future:** Strong road map, customer support and service, and overall track record on incorporating new features into the platform are some of the attributes buyers should look for in a vendor.
- **Partner ecosystem for applications and on-ramping:** The more comprehensive the ecosystem, the better placed the vendor in offering an end-to-end workload-optimized or use case-focused solution.

This study, while an independent evaluation from a market research firm, should not be considered as a "final judgment" on vendors when considering their respective offerings for a particular project. The specific objectives and requirements of any end-user company will play a significant role in determining the vendors that can be considered as candidates for an engagement.

VENDOR SUMMARY PROFILES

This section briefly explains IDC's key observations resulting in a vendor's position in the IDC MarketScape. While every vendor is evaluated against each of the criteria outlined in the Appendix, the description here provides a summary of each vendor's strengths and opportunities.

The hyperconverged market is predominantly made up of two go-to-market models. The first is an appliance delivery model, which is deployed by vendors such as Nutanix, SimpliVity, or Pivot3. The other is a software-only delivery model, which is deployed by vendors such as EMC, Maxta, and VMware. In the case of vendors that offer a software stack, it is common that these vendors offer a reference architecture that allows VAIs and SIs to build the turnkey solution at the customer premises. Examples of such reference architectures include EMC VSPEX and VMware EVO programs. Regardless of the delivery model, with only minor exceptions, it is the hyperconverged software that has the center of all the vendors' intellectual property (IP).

Another go-to-market approach employed by many vendors is the affinity/support for multiple-party hypervisors. While suppliers like Scale Computing and VMware bundle their own hypervisor (and provide no customer-selectable option), others like Nutanix and EMC claim to be more hypervisor agnostic. Yet other suppliers like SimpliVity support only a single hypervisor (like VMware ESXi/vSphere) today and claim that support for other hypervisors like KVM and Microsoft Hyper-V is on their road map.

Vendors Included in This Study

The sections that follow discuss the vendors included in this study.

Nutanix

Founded in 2009 by a team that built scalable systems such as Google File System and Oracle Exadata, Nutanix is based in San Jose, California, and has more than 800 employees. The company has raised \$317 million in funding from top-tier investors, including Fidelity, Wellington Management, Lightspeed Venture Partners, Riverwood Capital, and Khosla Ventures. Like other hyperconverged offerings, Nutanix doesn't make use of external SAN/NAS storage but rather virtualized internal SSD + HDD storage within its server hardware and its distributed file system technology to decrease cost and latency. With an appliance strategy, Nutanix nodes are preinstalled with core software and with little need for storage specialist IT staff onsite.

Nutanix Virtual Computing Platform utilizes industry-standard x86 server nodes bundled with hypervisor software in a 2U, SAN-less server appliance. The Nutanix appliance portfolio consists of six different platforms that offer different resource configurations (e.g., CPU, HDD, and flash storage capacity) depending on the workload profile and can be mixed and matched within a cluster. Nutanix provides a single pane of management for storage and compute through its user interface called Prism. Deployments can start small with just three nodes and can scale out to thousands of nodes. All workloads running on these systems must be virtualized to make use of the distributed storage infrastructure. The company currently supports VMware vSphere, KVM, and Microsoft Hyper-V on its clusters. 100% of the company's products are sold through the channel, with considerable lead

generation and technical support provided by Nutanix. Early customer uptake was strongest in government, financial services, and education, but this has since expanded considerably into a broad range of industries. Geographically, Nutanix started with the bulk of its sales within North America, but here too we see expansion as the company moves at a rapid pace to expand its sales force and support centers in Asia/Pacific, EMEA, and Latin America markets. Today, 30-40% of Nutanix's sales are from outside of the United States.

Nutanix has been a key player in the emergence of the hyperconverged market and was early to demonstrate demand for the technology. The result has been a leading position in mindshare, as well as market share. The company generated 52% of all global hyperconverged revenue during the first half of 2014 and has clearly been planting the seeds for future growth. Most notably, Nutanix partnered with Dell to provide its software for Dell's newly announced XC web-Scale Converged Appliances. This is expected to further increase awareness in the Nutanix technology and accelerate its reach into new markets.

Over the past 18 months, the types of workloads running on Nutanix systems have diversified from targeted or specialized workloads like VDI to tier 1 applications and highly virtualized general business workloads like SAP, Oracle, Microsoft Exchange, SQL Server, SharePoint, Splunk, and unified communications (UC) applications.

IDC has placed Nutanix in the Leaders category of this IDC MarketScape. This placement reflects Nutanix's overall strengths and challenges as outlined in the sections that follow.

Strengths

Nutanix has material market momentum with over 1,000 customers worldwide and many Global 2000 companies. The company is taking advantage of its early success and customer knowledge to build new partnerships with key OEMs like Dell and to expand the capabilities of its solutions. This is expected to ultimately contribute to a continued shift into larger organizations, new geographic markets, and additional mission-critical workloads.

Challenges

Like many of the hyperconverged platforms, Nutanix requires an underlying hypervisor to virtualize and pool the compute and storage infrastructure. As a result, bare metal server configurations are not supported. This means that Nutanix will always have to function as a hyperconverged platform and may not work well for businesses that require a (bare metal) storage-only configuration. Nutanix's most pressing challenge will be to defend the company's market leader position with many new vendors entering the hyperconverged market within a very short period of time.

APPENDIX

Reading an IDC MarketScape Graph

For the purposes of this analysis, IDC divided potential key measures for success into two primary categories: capabilities and strategies.

Positioning on the y-axis reflects the vendor's current capabilities and menu of services and how well aligned the vendor is to customer needs. The capabilities category focuses on the capabilities of the company and product today, here and now. Under this category, IDC analysts will look at how well a vendor is building/delivering capabilities that enable it to execute its chosen strategy in the market.

Positioning on the x-axis, or strategies axis, indicates how well the vendor's future strategy aligns with what customers will require in three to five years. The strategies category focuses on high-level decisions and underlying assumptions about offerings, customer segments, and business and go-to-market plans for the next three to five years.

The size of the individual vendor markers in the IDC MarketScape represents the market share of each individual vendor within the specific market segment being assessed.

IDC MarketScape Methodology

IDC MarketScape criteria selection, weightings, and vendor scores represent well-researched IDC judgment about the market and specific vendors. IDC analysts tailor the range of standard characteristics by which vendors are measured through structured discussions, surveys, and interviews with market leaders, participants, and end users. Market weightings are based on user interviews, buyer surveys, and the input of a review board of IDC experts in each market. IDC analysts base individual vendor scores, and ultimately vendor positions on the IDC MarketScape, on detailed surveys and interviews with the vendors, publicly available information, and end-user experiences in an effort to provide an accurate and consistent assessment of each vendor's characteristics, behavior, and capability.

Market Definition

Hyperconverged systems are an emerging breed of solutions that natively collapse core storage, compute, and storage networking functions into a single software solution or appliance. This is in contrast to traditional integrated platforms and systems in which autonomous compute, storage, and networking systems are integrated at the factory by the vendor or by resellers. In addition to integrating storage and compute functions into a single node (or a cluster of nodes, each offering compute and storage functions), all hyperconverged systems employ:

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LEARN MORE

Related Research

- *Worldwide Storage and Virtualized x86 Environments 2014-2018 Forecast* (IDC #250720, September 2014)
- *Worldwide Storage Market Overview, 2Q14* (IDC #251591, September 2014)
- *IDC's Worldwide Storage Software Taxonomy, 2014* (IDC #249822, July 2014)
- *IDC's Worldwide Software-Defined Storage Taxonomy, 2014* (IDC #247700, July 2014)
- *VMware Announces GA of Virtual SAN 5.5 – Moves Closer to the Vision of a Software-Defined Datacenter* (IDC #247727, March 2014)
- *IDC Worldwide Storage Predictions 2014: Storage Disruption – Flash, Cloud, and Software-Based Storage* (IDC #WC20140109, January 2014)

Synopsis

This IDC study represents a vendor assessment model called the IDC MarketScape. This study is a quantitative and qualitative assessment of the characteristics that assess a vendor's current and future success in the said market or market segment and provide a measure of their ascendancy to become a leader or maintain a leadership. IDC MarketScape assessments are particularly helpful in emerging markets that are often fragmented, have several players, and lack clear leaders.

The (scale-out) hyperconverged market subsegment, which is part of the file system and hyperconverged market, is an example of an emerging market. In this IDC MarketScape, IDC attempts to assess the capabilities and strategies of key vendors of hyperconverged solutions. IDC expects that market forces such as fierce competition and buyer demand will accelerate the metamorphosis of this market into a mature market with only a few dominant vendors. Open source-based stacks will create an additional dimension of complexity and challenges. In all likelihood, the only survivors in this market may be vendors with robust partner ecosystems and/or vendors with commercial variants of open source platforms.

"As businesses embark on a transformation to become data-driven entities, they will demand a data infrastructure that supports extreme scalability and flexible acquisition patterns and offer unprecedented economies of scale," said Eric Sheppard, research director Storage Software.

"Hyperconverged systems hold the promise and the potential to assist buyers along this data-driven journey. Vendors offering hyperconverged platforms with the most compelling value proposition will survive. Others will perish. This is a race to the finish."

About IDC

International Data Corporation (IDC) is the premier global provider of market intelligence, advisory services, and events for the information technology, telecommunications and consumer technology markets. IDC helps IT professionals, business executives, and the investment community make fact-based decisions on technology purchases and business strategy. More than 1,100 IDC analysts provide global, regional, and local expertise on technology and industry opportunities and trends in over 110 countries worldwide. For 50 years, IDC has provided strategic insights to help our clients achieve their key business objectives. IDC is a subsidiary of IDG, the world's leading technology media, research, and events company.

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