STUDY:

Hyperconverged Infrastructure Report - Buyer Trends and Use Cases

Excerpts from "Converged and Hyperconverged Infrastructure in the Enterprise 2019"

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PRESENTED BY Evaluator Group

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Executive Summary

This is the third year Evaluator Group has conducted a study into hyperconverged infrastructure (HCI) in the enterprise, based on survey data and interviews with enterprise information technology (IT) professionals. The survey asked for information on the uses and usefulness of HCI technology, including: where these integrated infrastructures were deployed, which products were considered, how they were evaluated, what their relative strengths and weaknesses were, etc. A number of findings came out of this research.

HCI is growing in enterprise IT and being used for more mission-critical workloads than in the past 3 years. Companies using HCI are increasing their commitments to these technologies, with the primary driver for HCI projects being consolidation of IT infrastructures. From a product perspective, the HCI market is also consolidating around the large platform vendors each providing its own HCI solutions, with VMware vSAN software being the most common.

Key Findings

Consolidation: The Primary HCI Driver and Use Case

As a comprehensive compute infrastructure that is flexible and scales incrementally, most companies find that HCI makes a good consolidation play. Last year, this was the #1 choice with just under 40% of respondents choosing it. This year, “consolidation” shot up to over 60%. When asked what the drivers were for their HCI project, again, “consolidation” was listed as the top choice for just over 50% of respondents. However, for companies with HCI in use or in production, consolidation was listed as the primary driver 70% of the time. Both of these results indicate how versatile HCIs are and that HCI is penetrating enterprises and being used for more and more applications.

HCI Products: vSAN the Leading HCI Software Platform

When asked which HCI products were selected for evaluation or deployment, vSAN (including Ready Nodes) was the most common answer among all groups surveyed, followed by Dell EMC VxRail, Nutanix, Cisco HyperFlex, and HPE SimpliVity. This was largely unchanged from 2017, although VxRail moved up from #4 to #2. This is an indication of the continued popularity of vSAN software (VxRail runs on vSAN) and the commitment Dell EMC has made to this technology.

HCI Decision Factors: Economics Most Important

Last year, “performance” and “economics” were essentially equal (with 50% and 48% of respondents, respectively). This year, “economics” is in the top spot with 50% and “performance” has dropped to 38% of respondents. Cost is a universal concern; saving money is always appealing. But the drop in the percentage of respondents picking “performance” as a primary decision factor indicates that enterprise IT feels that more HCI products have enough performance for their needs. The emphasis on all-flash models, plus the rise of NVMe may help explain this.

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HCI Acceptance: HCI is Firmly in the Enterprise Data Center

HCI as an IT infrastructure solution has crossed the threshold into the enterprise data center. Compared with previous years' studies, a number of factors have changed, showing that, overall, enterprise IT now considers HCI a solution for most workloads they have and for many, essentially *any* workload they have. When asked which use cases they would consider not suitable for HCI, "none" was the most common response, up from #4 last year. Last year, "maturity" was the most common drawback given for HCI as a technology alternative, this year "maturity" was tied for fourth.

HCI is also being chosen as a solution for "mission-critical" applications more often than in past surveys. As an example, when asked for which use cases they had deployed HCI or were planning to deploy, "database" (typically a tier-one workload) was tied for third, up from sixth a year ago. "Consolidation" was cited as the primary use case and the most common driver for an HCI project, reflecting the penetration HCI has made in the enterprise, as companies buy HCI clusters for multiple use cases.

Survey Results

HCI Use Increasing

As a maturing technology, HCI is expanding its footprint in enterprises. What typically began as a compute infrastructure for a specific use case, such as VDI or test and development, has spread to other applications (see next section on Use Cases and Workloads). When survey respondents were asked if they were increasing their use of HCI technology—expanding or deploying an additional cluster— a clear majority said they were (see Figure 1).

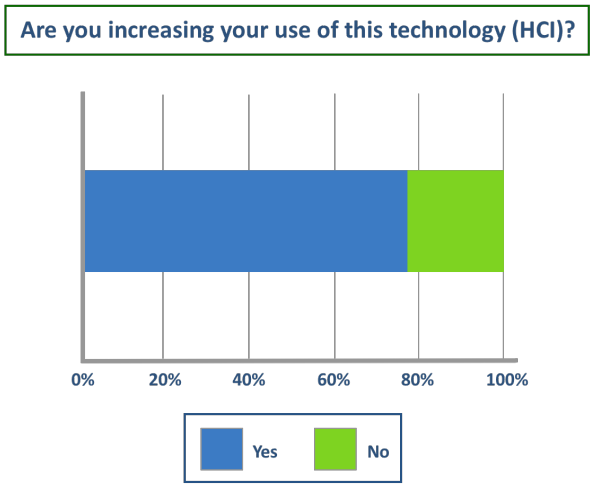

Figure 1: HCI Use is Increasing

HCI Use Cases and Workloads

The chart in Figure 2 shows use cases and workloads based on data from this year's survey and last year's survey. While the order is generally the same, "consolidation" is again the clear favorite, but by an even wider margin than last year. Where HCI has historically been deployed for one primary application (like VDI), this indicates HCI is being used to support multiple applications, as the technology becomes more familiar to IT organizations and more accepted in enterprise data centers.

Of the choices after "consolidation", "database" is up significantly in ranking from the previous survey. Being a common Tier 1 workload, the fact that "database" was chosen in this top group of workloads and use cases is another indication of HCI's acceptance by enterprise IT. "Cloud" is up from fifth place last year into a virtual tie with "VDI".

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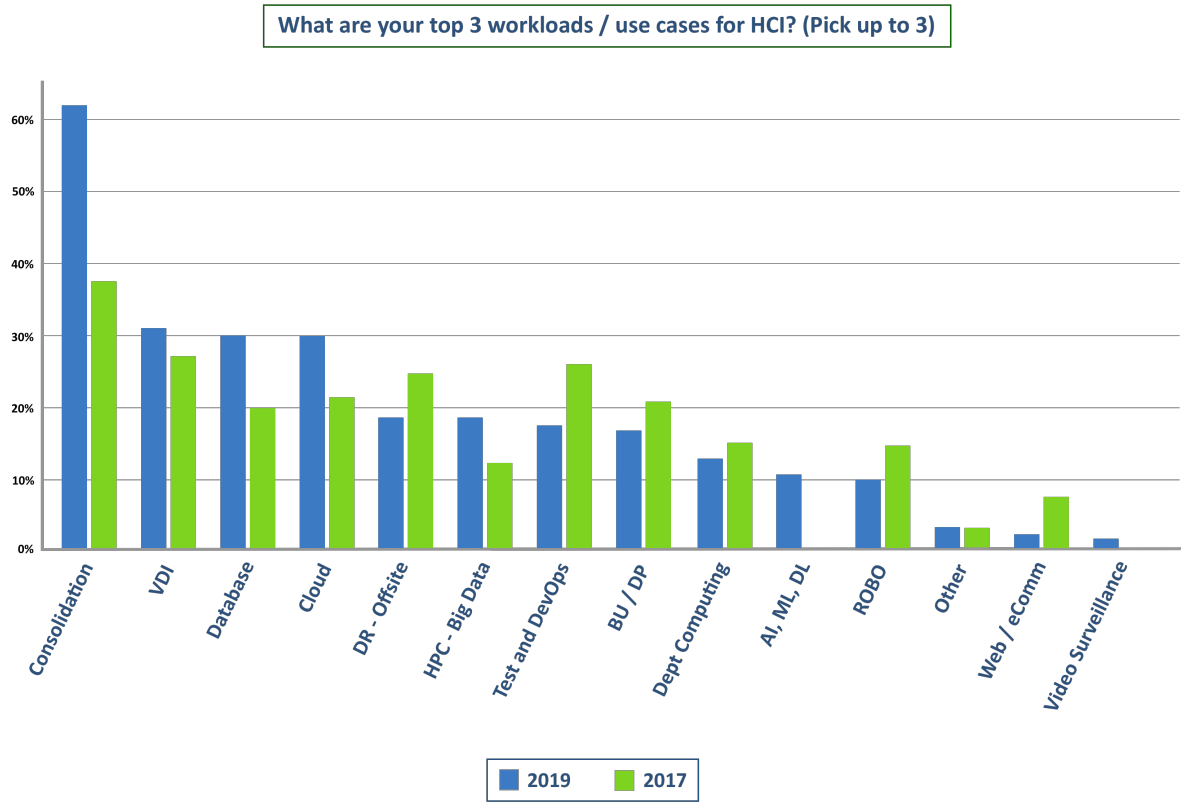

Figure 2: HCI Workloads / Use Cases - 2019 and 2017

HCI Products and Vendors

In this study, respondents were asked to name the HCI products they were using, evaluating, or expecting to evaluate, and allowed to pick all that applied. "VMware vSAN - vSAN ReadyNodes" was the most common choice, as the chart in Figure 3 shows. This was the case in the last two surveys as well, indicating the ongoing strength of VMware vSAN in this market. However, the second most common HCI, Dell EMC VxRail, is also run on vSAN. When combined, these two choices make vSAN the overwhelming favorite HCI software plaform. Also of note is the fact that Dell XC (which runs Nutanix software) is not shown in this graph but captured less than 5% of responses.

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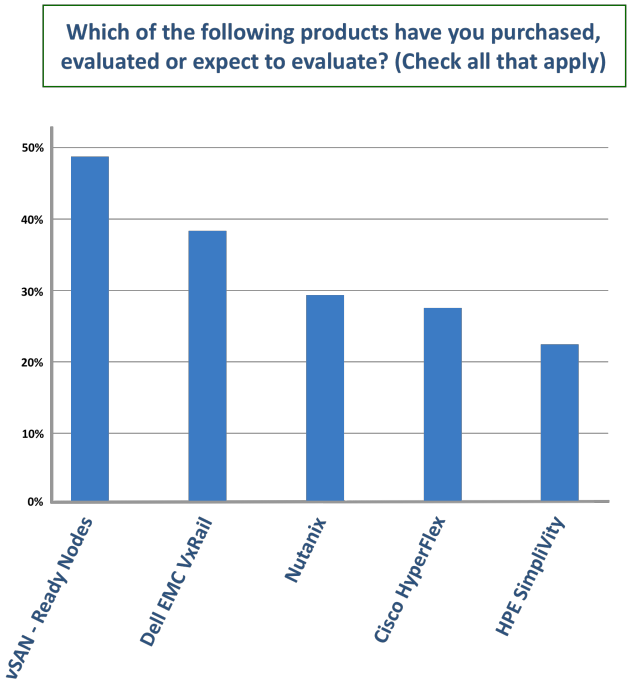

Figure 3: HCI Products Chosen 2019 – Top 5

Product Attributes and Decision Factors

Enterprise IT personnel surveyed were asked to provide up to three product attributes that they used to choose one HCI solution over another. These were fairly consistent with the results from last year, with one exception. "Performance" dropped from the most common response to essentially a tie with "scalability" and "feature set". With the per-gigabyte (GB) cost of solid-state drive (SSD) storage devices dropping, all-flash nodes have become more common in the HCI market. This proliferation of flash, plus the growth of NVMe storage, has made performance less of a concern.

This year, "economics" is at the top, an answer given by half of the respondents, as shown in Figure 4 below. The importance of Cost (Economics) can be another reason for the continued popularity of vSAN and Ready Nodes. These solutions are available from over a dozen different hardware OEMs, giving enterprise IT the ability to leverage existing supplier relationships and better control the cost of their HCI solution.

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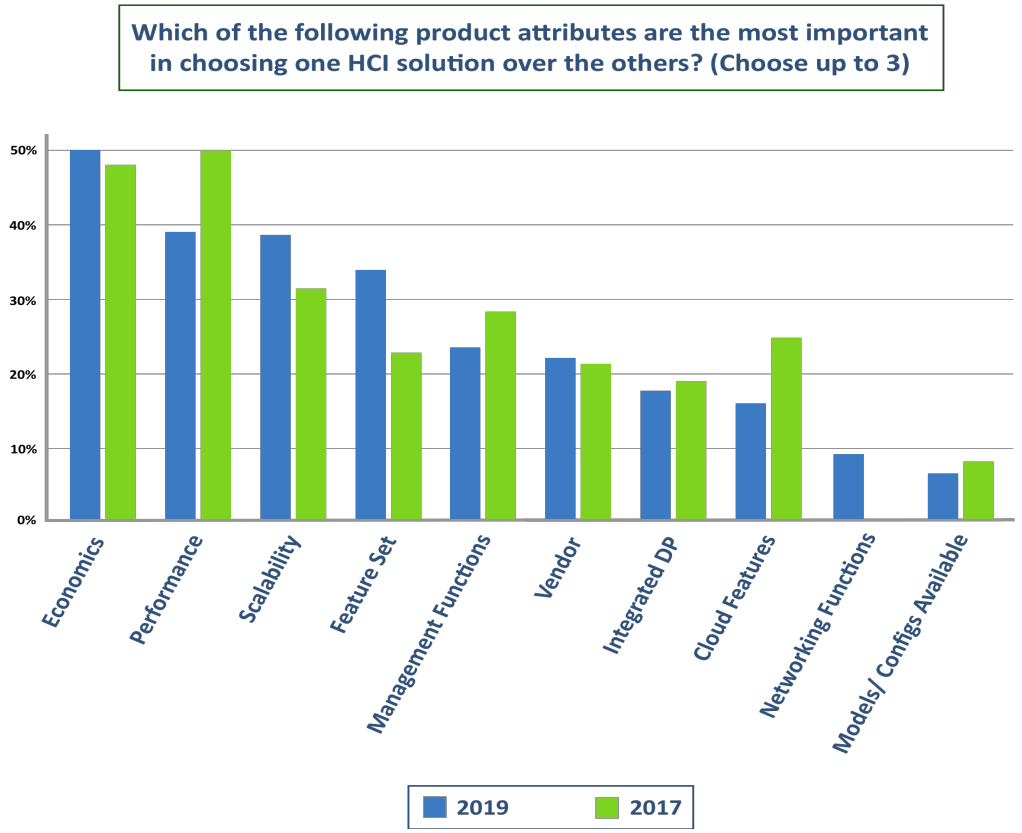

Figure 4: HCI Product Attributes - 2019 and 2017

HCI is Accepted in the Enterprise Data Center

This study focused on the drivers for an HCI project, the products evaluated or chosen, and how those decisions were made, as well as the use cases or workloads most commonly involved. But another objective was to determine how well HCIs were accepted in the enterprise. Since the first edition of this study in 2016, the acceptance of this technology has been growing in enterprise IT. This year, acceptance crossed a threshold, with more companies using HCIs for their most critical workloads. In fact, more than 25% indicated that HCI was appropriate for *any* use case *.

In addition, the most common drawback last year was "Maturity", as shown by the green bar in Figure 5. Many of the IT professionals surveyed thought HCI as a technology was still too new for their most important applications. This year, Maturity is down significantly, dropping from 37% of respondents to 28%. "Vendor Lock-in", a drawback that was given by ~25% of respondents last year, is the biggest concern this year, at over 45%. This could be part of the reason that the HCI solution chosen most often was vSAN, a product available from over a dozen different vendors.

* Footnote and link – Figure 7, "CI and HCI in the Enterprise – 2019"

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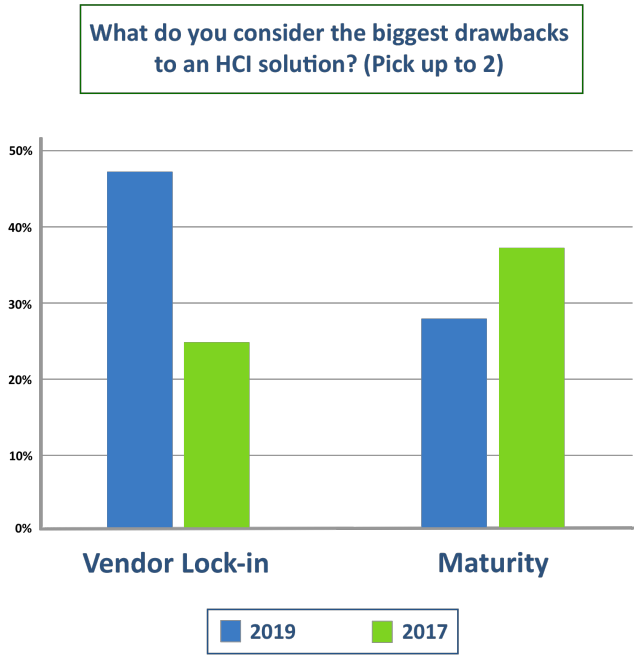

Figure 5: Drawbacks of HCI Products – 2019 and 2017

HCI Deployment Models

HCI solutions were originally deployed as appliances, with the vendor's software running on standard server hardware that was sold with that vendor's nameplate.. A variation on this model had HCI software vendors licensing *server* vendors to sell the HCI appliances under the server vendors' nameplates. An example of this is Dell EMC VxRail using VMware vSAN software, and Lenovo offering HCI products with vSAN software.

As HCI has consolidated, the market has shown an increasing interest in a software-only deployment model in which the solution is assembled by a VAR / integrator or by the customer using HCI software and the appropriate hardware. This model enables the customer to use a familiar server platform and take advantage of existing discounts and supplier relationships. VMware vSAN was the original software-only HCI with its ReadyNodes solution sold by more than a dozen original equipment manufacturers (OEMs), including Cisco, Dell, Fujitsu, HPE, Hitachi, Huawei, Intel, Lenovo, Quanta, and Supermicro.

Hybrid Cloud

The "cloud" has become synonymous with IT agility and scale. Following the model created by large service providers, the "public cloud" defines a way infrastructure can be set up and run in an efficient, service-delivery model that users can control and pay for as they consume. Companies are using the public cloud in different ways: to provide infrastructure to support off-site backup or disaster recovery (DR) or as a platform for development and operation of applications, as examples. While the public cloud has generally become a large part of the corporate IT landscape, most companies still need an on-

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site “private cloud” aspect to their IT infrastructure. They need a private cloud and connectivity to the public cloud, which has come to be called a “hybrid cloud”.

Based on survey results, HCI is popular for running the on-site component of the hybrid cloud. HCI provides a comprehensive compute environment that scales easily and is flexible enough to support a broad range of workloads. It can support a cloud orchestration layer that can enable connection to the public cloud and manage workloads on-site, in the cloud, or between multiple public clouds.

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Appendix

Survey Methodology

Evaluator Group used multiple sources in the process of conducting the research for this report. Development of questions for the survey and interviews was done independently and not sponsored by any outside firms. The data was drawn from 291 completed surveys, conducted over a 1-month period with U.S. and international enterprise IT firms. Vendors, VARs, press, and public relations (PR) firms were excluded from the survey results. Interviews with IT professionals from companies with more than 1,000 employees were conducted by Evaluator Group, selected from the respondents to the survey. Interviews were in-depth, using an open-ended discussion lasting 45 minutes to 1 hour that was designed to clarify the responses, achieve a deeper understanding of the data and uncover new insights where possible. All of the products listed in this report are covered in more depth in the Evaluator Group Series Research.

Survey Demographics

Company Size

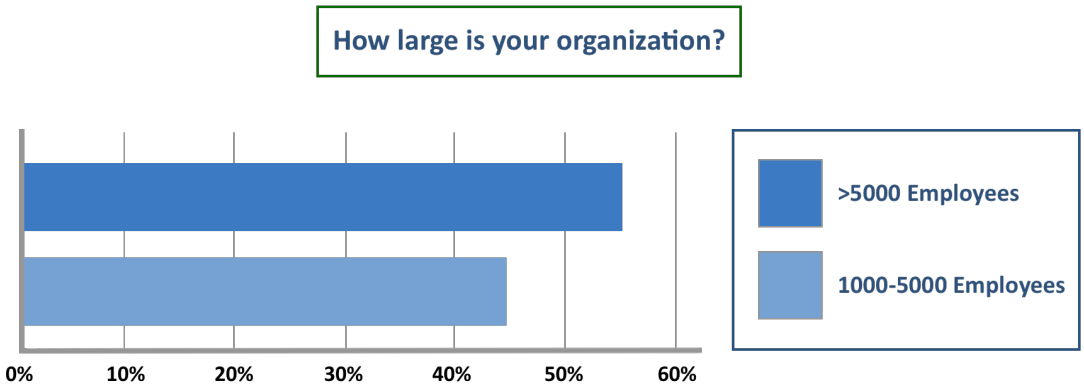

Figure 1: Company Size

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Industry

Which industry is your company most closely associated with?

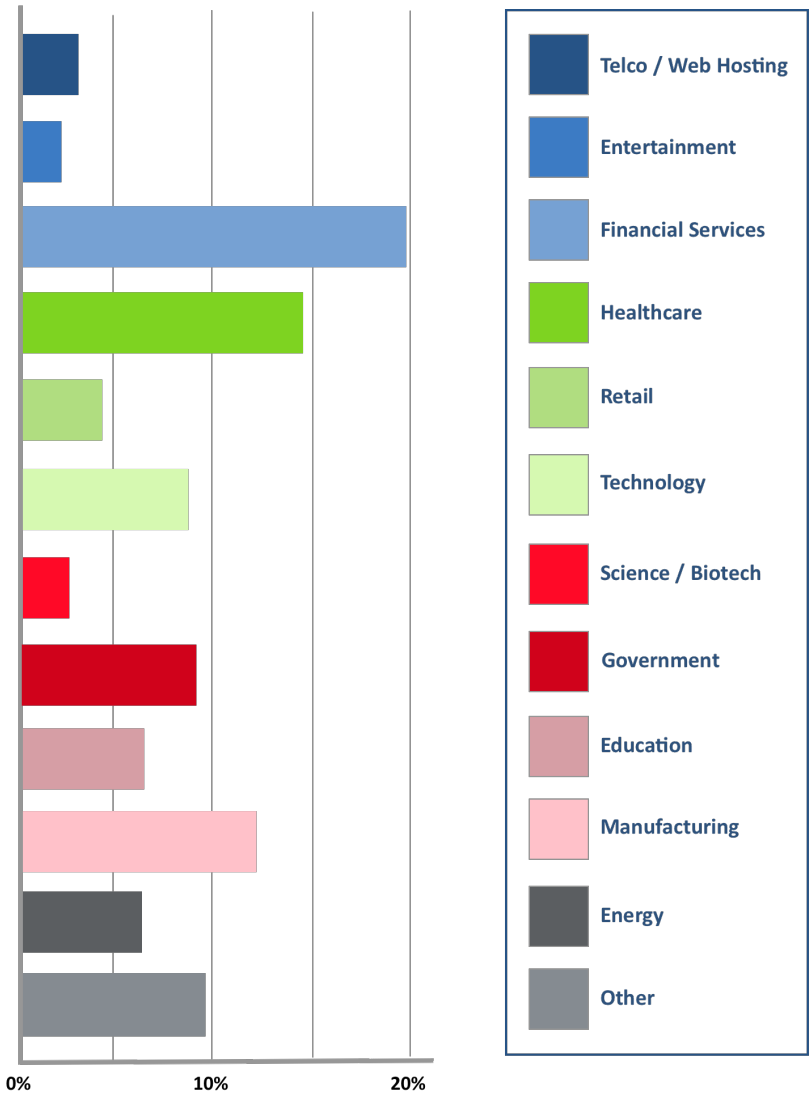

Figure 2: Industries Represented

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Position Title

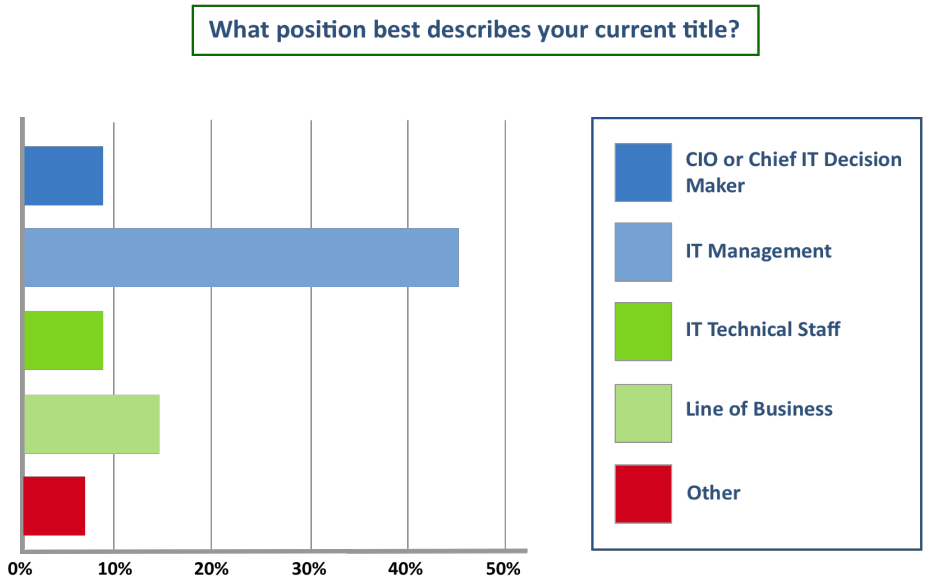

Figure 3: Position Title

Area of Responsibility

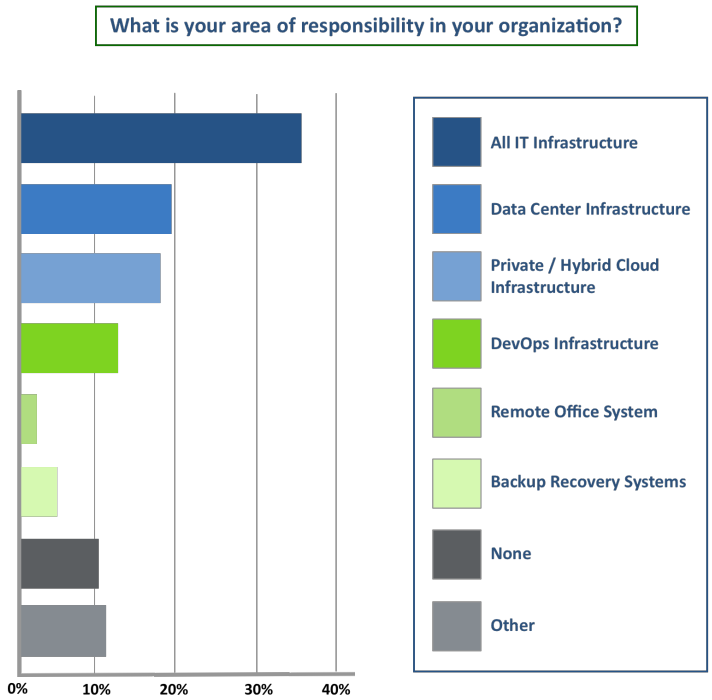

Figure 4: Area of Responsibility

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How Much Data Is Managed?

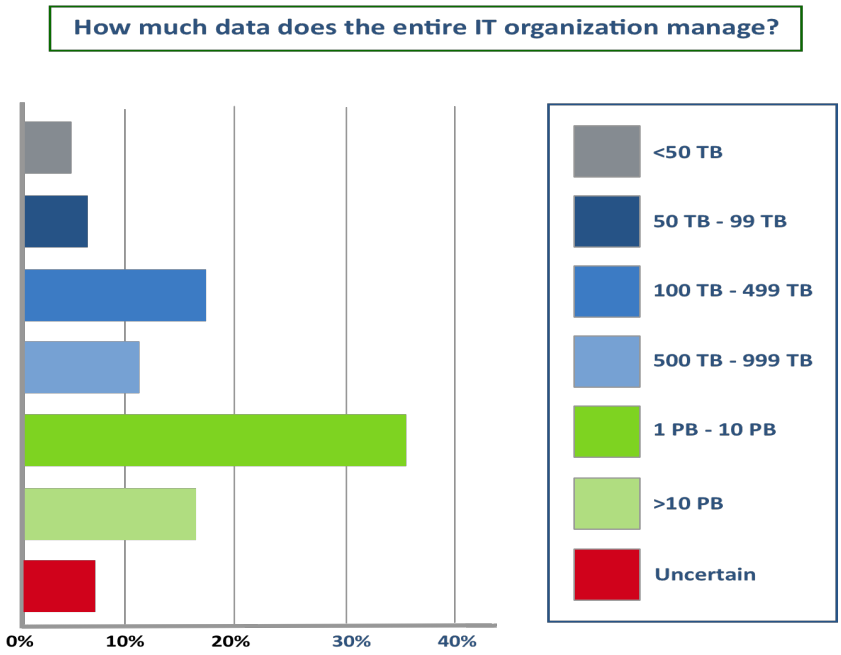

Figure 5: How Much Data Does the Entire IT Organization Manage?

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About Eric Slack

Eric is Evaluator Group's lead analyst on hyperconverged and converged infrastructures. Eric has over 25 years experience in technology companies, including serving as Senior Product Manager at Spectra Logic and Regional Manager for a national storage integrator, managing the design and implementation of storage, networking, and Data Protection solutions. He also has experience in technical and marketing management positions in the digital imaging, telemetry recording, test equipment, PCB manufacturing, and distribution industries.

About Evaluator Group

Evaluator Group Inc., an Information management and data storage analyst firm, has been covering systems for over 20 years. Executives and IT Managers rely upon us to help make informed decisions to architect and purchase systems supporting their data management objectives. We surpass the current technology landscape by defining requirements and providing an in-depth knowledge of the products as well as the intricacies that dictate long-term successful strategies.

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