

# 2015 State of SMB IT Infrastructure Survey Results

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# Introduction

Demands on IT in small and medium businesses (SMBs) continue to rise exponentially. Budget changes, increased application and customization demands, and more are stretching IT administrators to the limit. At the same time, new technologies like hyperconverged infrastructure bring light to the end of the strained-resources tunnel through improved efficiency, scaling, and management breakthroughs. More and more, IT groups at SMBs are being pushed to "do more with less," as the unwelcome saying goes. So, in order to meet these challenges, some SMBs leverage new technology.

But how wide is such adoption, and what is the current state from which the SMBs must evolve? How heavily virtualized are SMBs? What hypervisors do they use? What is their virtual machine consolidation ratio? How much storage are they using for virtualization? What are their greatest technology challenges? And how much are they spending?

Inquiring minds want to know.

In order to answer these question and more, we at ActualTech Media surveyed 1,227 technologists in early 2015 as a part of our State of SMB IT Infrastructure Survey. The responses to this very popular survey yielded some surprising results!

Since the intent of this report is to focus on the SMB, of the 1,227 responses, we will focus this report on only the 578 respondent organizations that reported having fewer than 500 total employees. The remaining 649 responses came from those with over 500 employees. Including such responses skewed the overall results of the report in ways that were not demonstrative of the reality in the SMB. Read on to discover the current state of SMB Infrastructure.

## Demographics

The first step to understanding the state of SMB infrastructure is to understand more about the companies that were surveyed. To gain understanding about their perspective, we asked a series of demographics questions, including, how many people work in their company, how large the IT staff is at their company, and what industry vertical their company is in.

### Company Size

The survey showed that of the 578 respondent companies, there is great variety in the number of employees at each company (shown in Figure 1). For example, the single largest group of those

surveyed said that their companies had between 101–500 employees, although smaller organizations are well-represented.

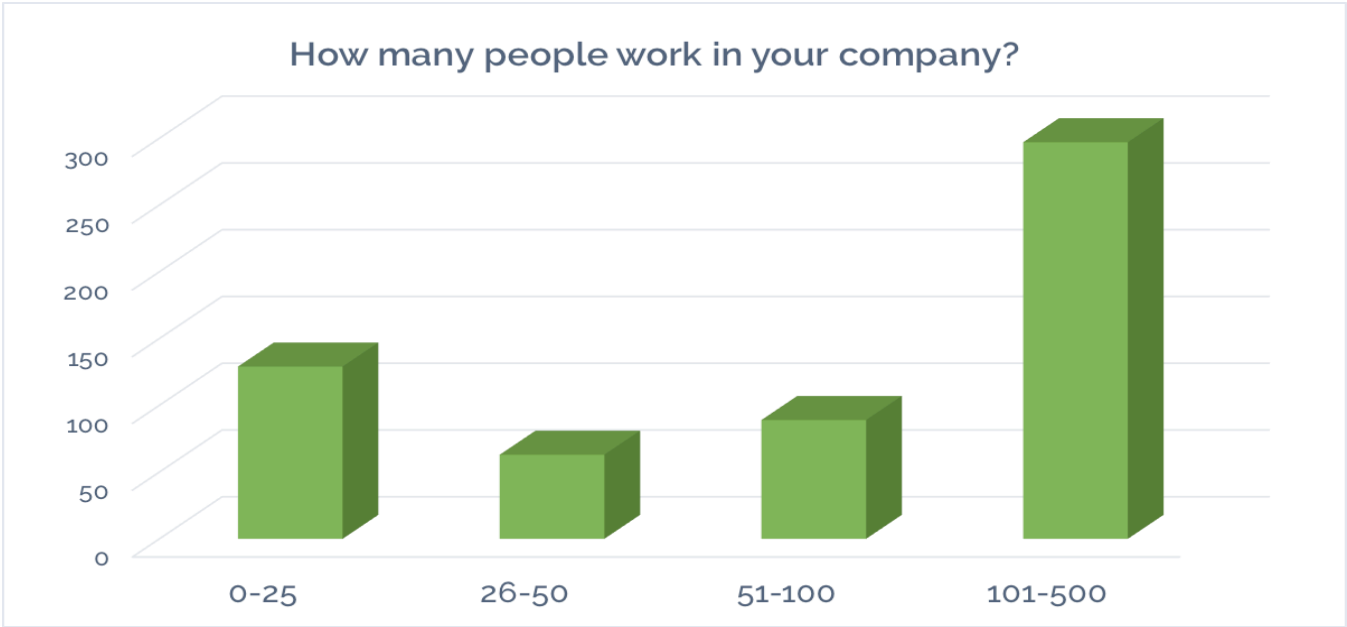


Figure 1

### IT Infrastructure Staff

In Figure 2, below, you can see that with a wide-variety of company sizes in the survey response pool, there is also a wide range when it comes to the size of IT infrastructure staff. It comes as no surprise to discover that the vast majority of respondents have very few staff dedicated to IT infrastructure. In such organizations, staff are required to assume multiple roles, often being responsible for many areas of the environment, including networking, servers, storage, and virtualization. One of the promises of a hyperconverged infrastructure is the simplification of the data center environment, making it easier for smaller numbers of staff to better support the entire environment.

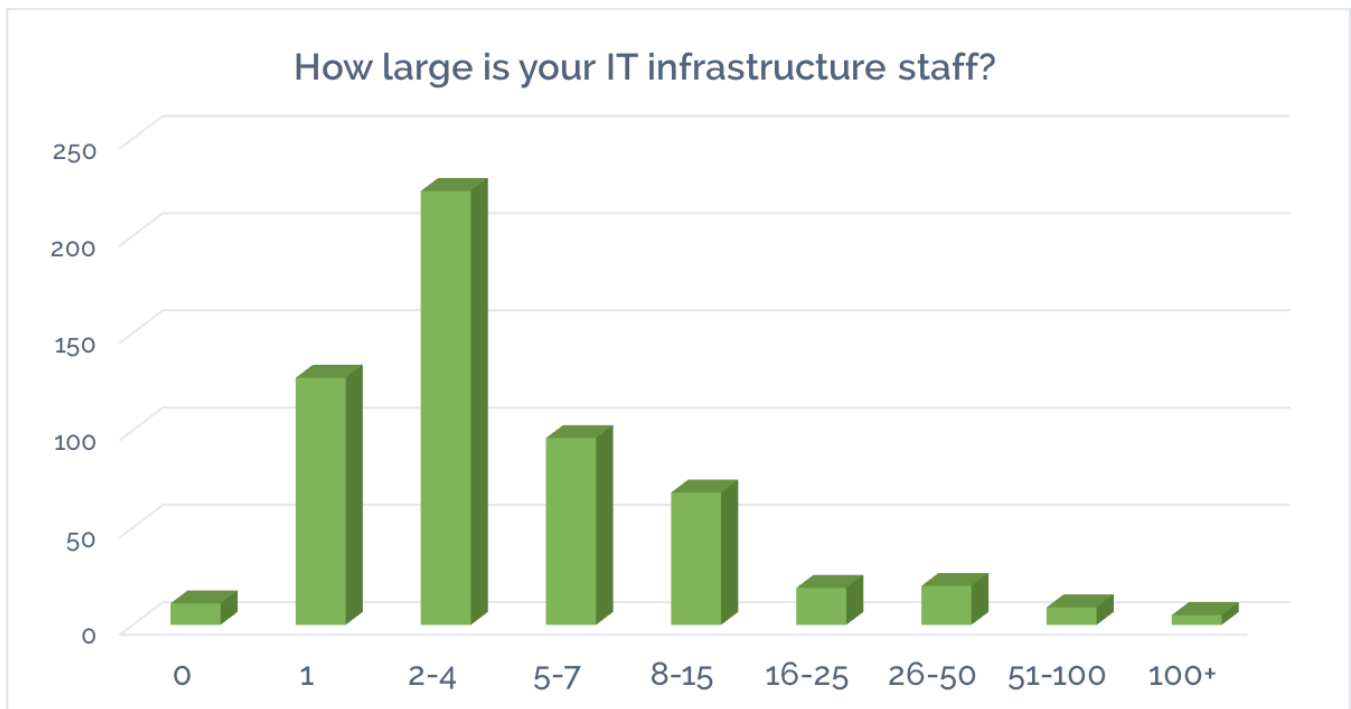


Figure 2

## Industry Verticals

The last of the demographic data show, when correlated with survey responses later in this results report, that IT infrastructure struggles appear no matter the industry vertical that a company is in (Figure 3). We found that survey respondents work for education, manufacturing, energy, high tech, government, transportation, travel, finance, retail and a mixture of other companies.

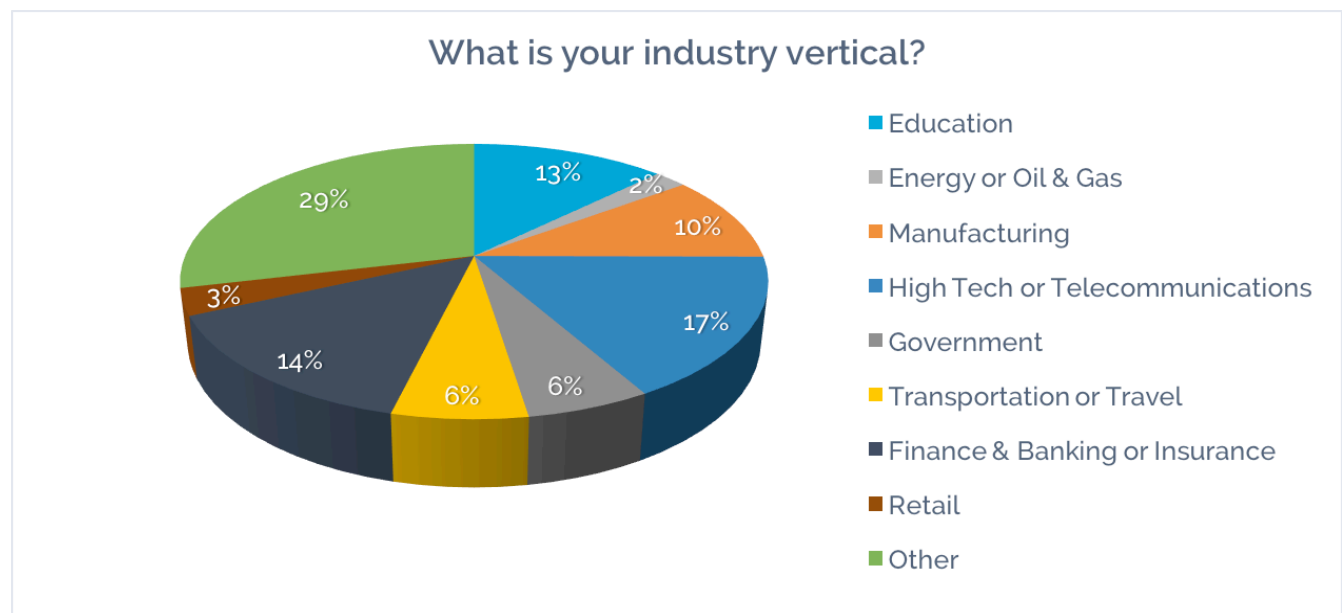


Figure 3

# State of Virtualization

Next, we polled respondents on the state of their virtual infrastructure. It's well known that the virtualization of physical servers into virtual machines is on the rise; however, the percentage of servers virtualized across all companies varies greatly. Once again, the survey shows that a solid cross-section of all companies are in varied states of virtualization, with the largest group of respondents already having virtualized 70% or more of their servers (Figure 4).

What is very surprising in these results is the fact that almost a full quarter of respondents are less than 10% virtualized, while a full 50% of respondents remain less than 50% virtual. However, it's also well-known that not every workload is easily virtualized, and some organizations are still reluctant to move their mission critical applications to such environments.

We believe that this data point presents an opportunity for SMB-focused infrastructure and hyperconvergence vendors to help customers better understand that even the most demanding workloads are well-supported with modern hypervisors and related tools. This also presents an opportunity for SMB-focused hyperconverged infrastructure vendors to have a significant impact when it comes to improving overall operational efficiency.

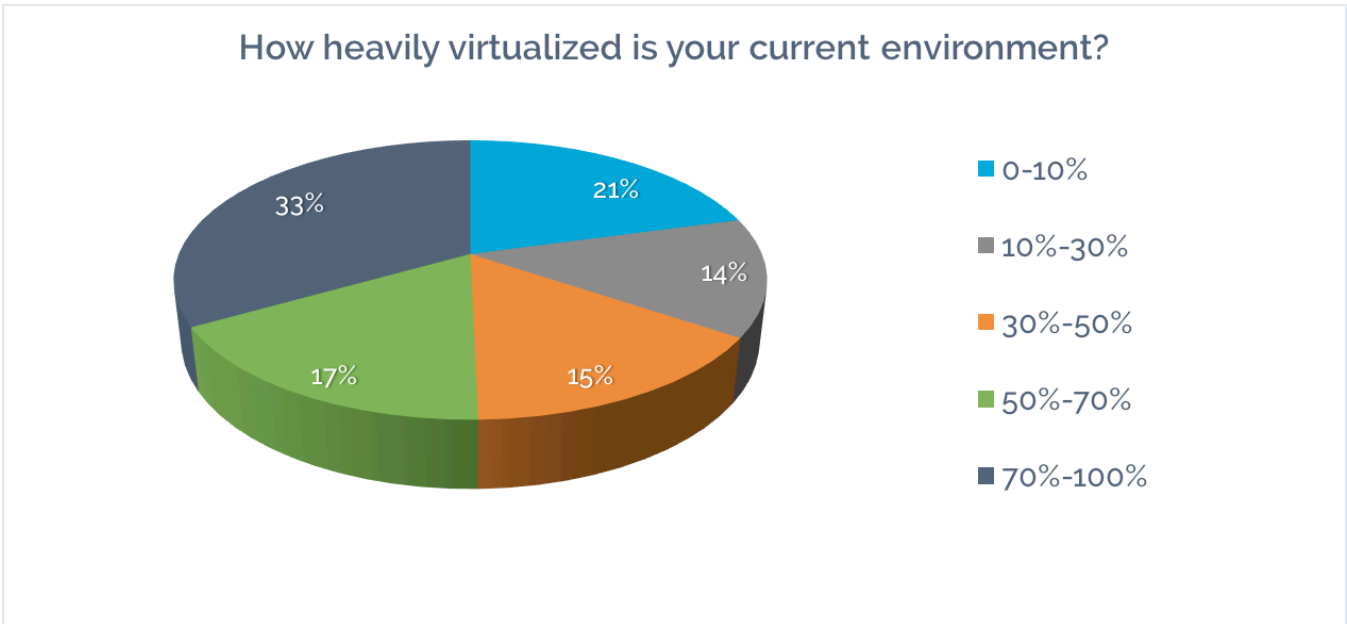


Figure 4

## Hypervisors

So what are most companies using to virtualize their servers? Figure 5 shows that approximately 46% of those surveyed use VMware vSphere, with Microsoft Hyper-V coming in second at 25%, and KVM being used in 6% of all data centers.

**“VMware vSphere is the preferred hypervisor in ~46% of all data centers”**

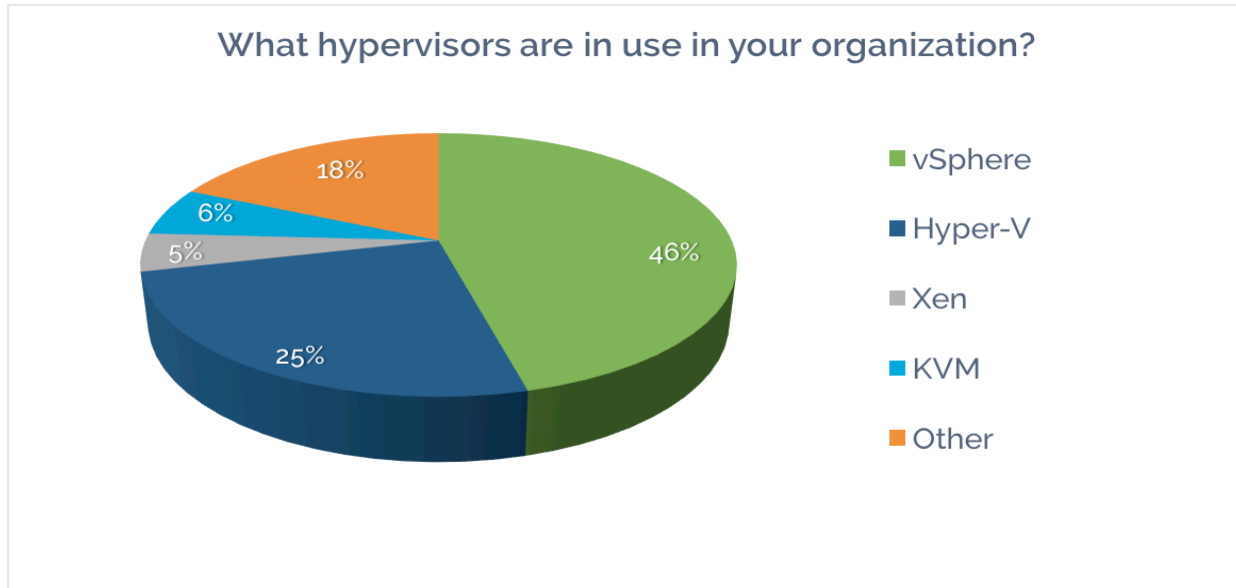


Figure 5

## Virtualization Hosts and Machines

With so many companies polled and so many different states of virtualization consolidation, how many hosts and virtual machines do these companies run in their virtual infrastructures? As Figure 6 shows, the majority of companies polled had between 4 to 10 virtualization hosts. When it comes to the number of virtual machines running in these virtual infrastructures, the single greatest response was from those companies running just 1 to 10 virtual machines, however (Figure 7). Given the number of organizations that have either not begin virtualizing any workloads or that have very low levels of virtualization, the low number of virtual machines is not all that surprising.

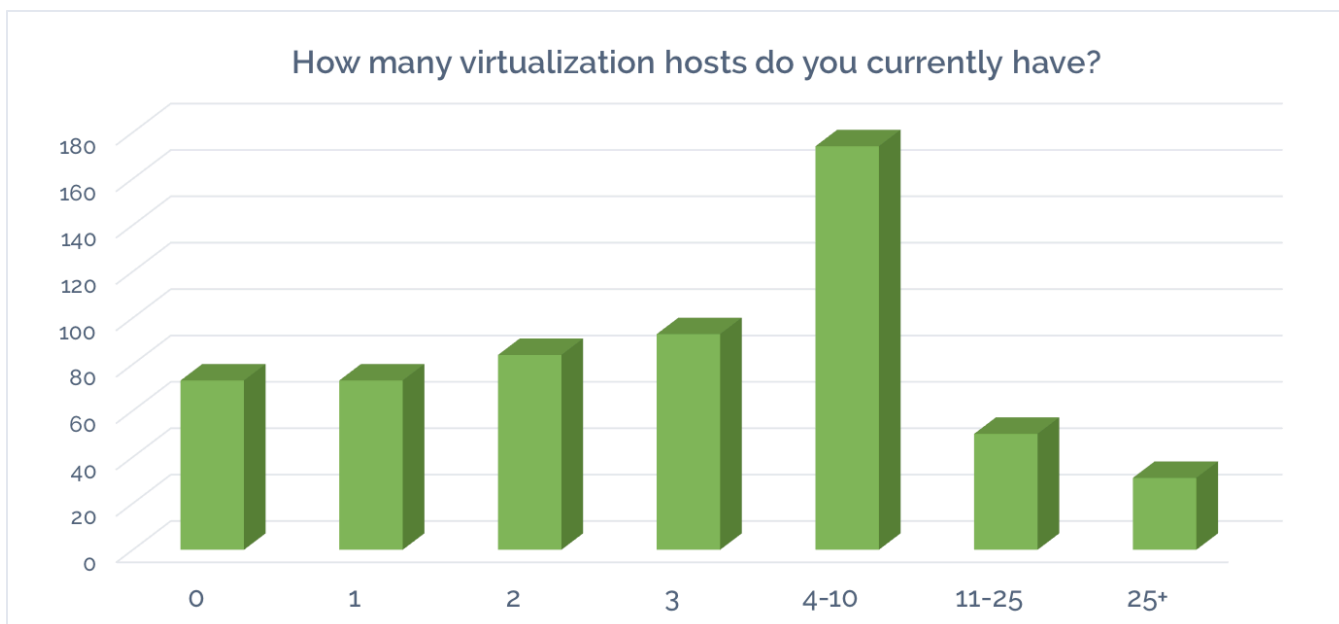


Figure 6

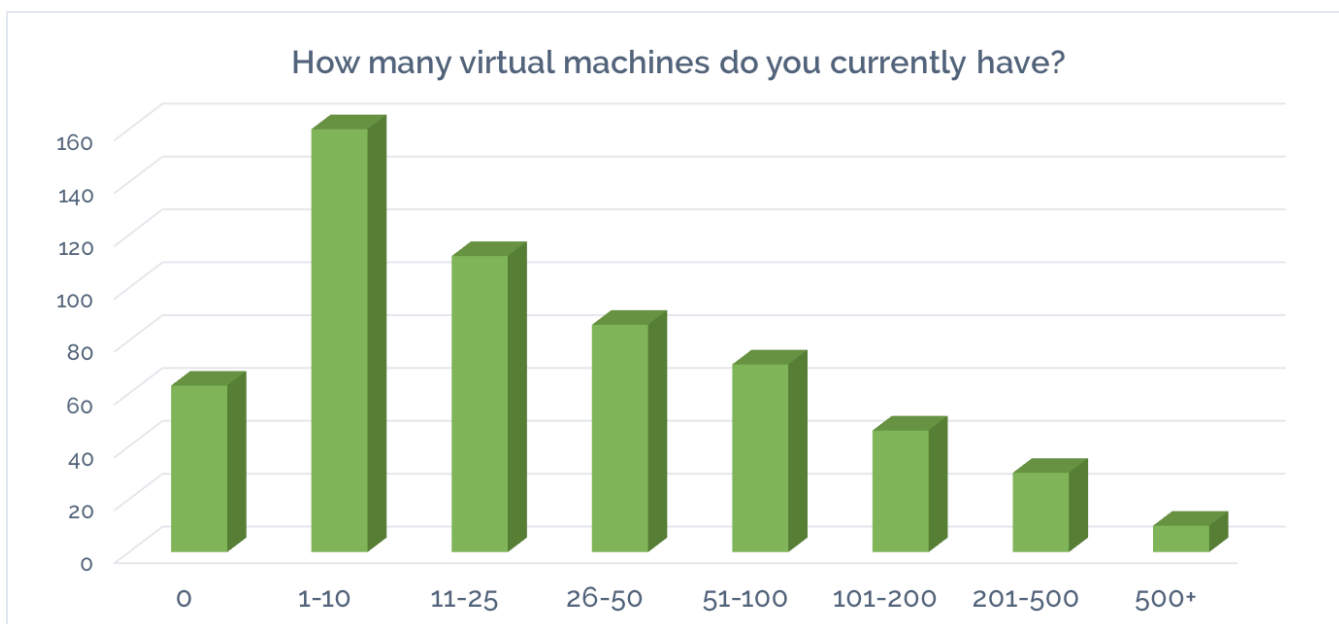


Figure 7

## Storage Demographics

Storage is one of the most critical resources of any virtual infrastructure. Without solid and predictable storage performance, all virtual machines in the virtual infrastructure can grind to a halt resulting in critical tier 1 apps going down. Because of this, it was important to find out what companies are doing with storage in their virtual infrastructures. The largest respondent groups, totaling 50%, stated that they had dedicated less than 10 TB to server virtualization (Figure 8). Given the SMB focus of this report, and the fact that many respondents appear new to virtualization,



seeing 50% of respondents managing less than 10 TB of capacity dedicated to virtualization is somewhat expected.

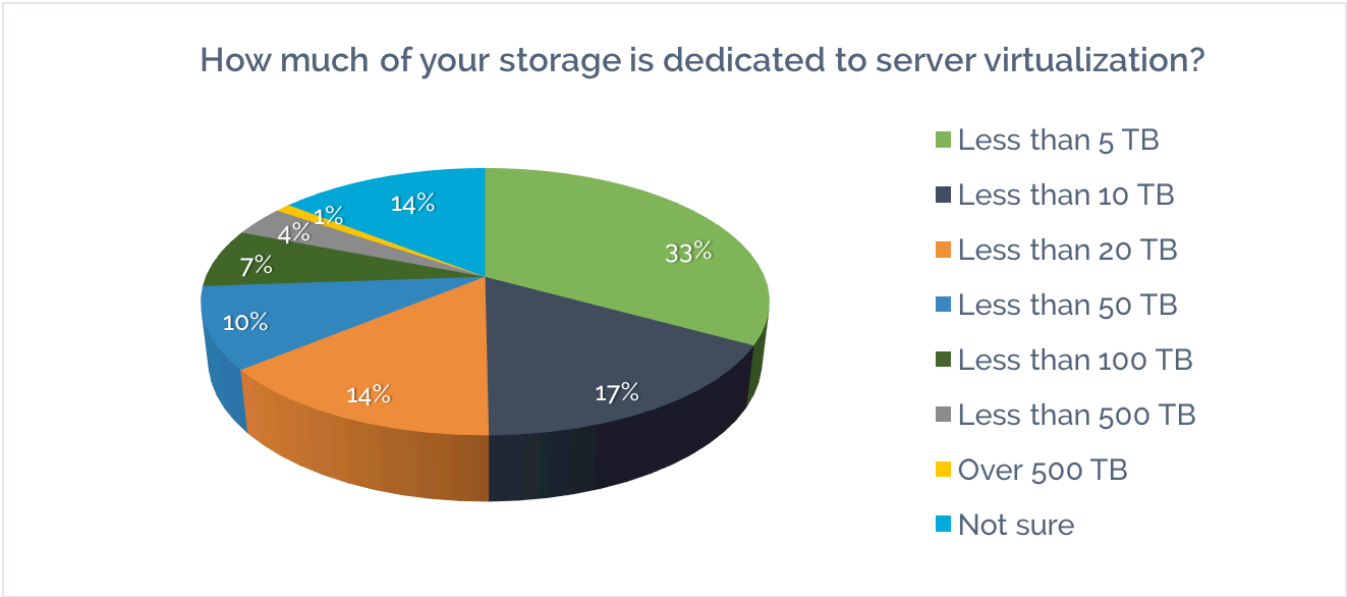


Figure 8

### Storage Capacities

So what does this tell us? First, the survey showed that the companies polled were in a variety of different states of server consolidation, and, not surprisingly, had a variety of different storage capacities dedicated to their virtual infrastructure (Figure 8). The single greatest percentage of respondents — 33% — said that they had less than 5TB of storage dedicated to virtualization. These are likely the small businesses that are getting started with virtualization.

Figure 9 shows that these companies also have a variety of different total storage capacities in their data center with the single greatest response being from those managing less than 20 TB. However, the total storage capacities are spread relatively evenly across all the possible storage capacities.

Therefore, when it comes to hyperconverged infrastructure in the SMB, these kinds of capacity figures are a sweet spot for the technology.

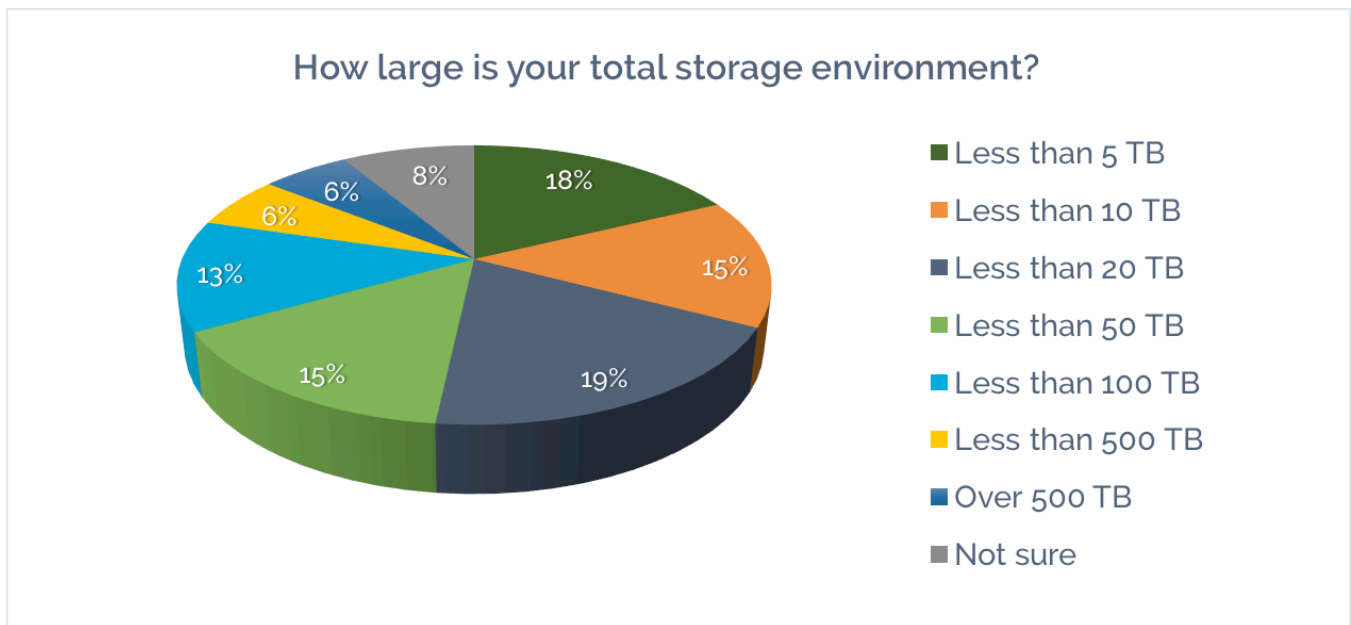


Figure 8

## Infrastructure Refresh

As quickly as new technology is being innovated, data center technology, much like consumer technology, is outdated as quickly as it can be implemented. For this reason, it was important to find out about the percentage of data center infrastructure that these companies will need to replace or refresh in 2015, what the cost is to do so, and the time required.

As Figure 10 shows, roughly 30% of respondents said that they would need to replace between 0-10% of their infrastructure, followed by almost the same percentage of respondents who said that they will need to replace between 10% and 50% of their server/storage infrastructure in 2015. Roughly 15% of all companies will need to replace 30-50% of their infrastructure in 2015.

Surprisingly, about 5% of all companies will have to replace 70-100% of their server and storage infrastructure in 2015! These infrastructure replacements will require significant amounts of time and IT budget.

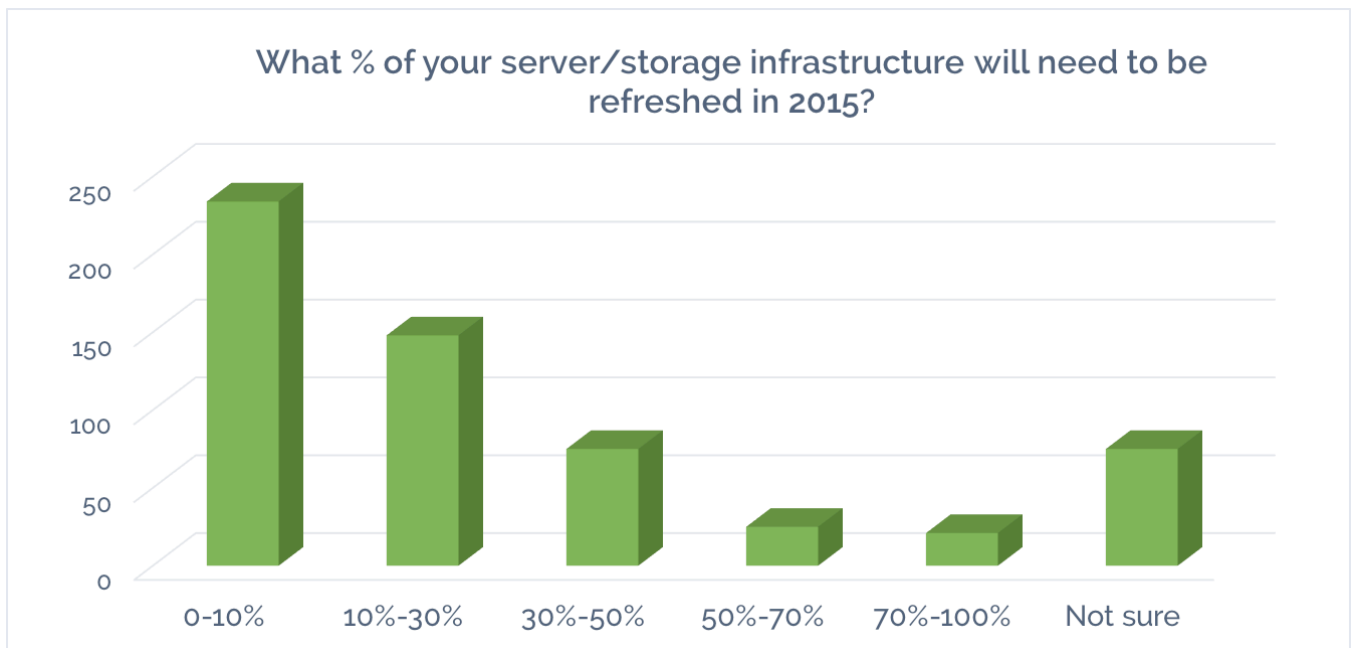


Figure 9

Just how much money will these infrastructure replacements cost? In Figure 11, you can see that the majority of companies plan to spend between \$0 and \$50,000 replacing their server or storage infrastructure in 2015. With that said, a significant number of respondents also indicated that they plan to spend anywhere from \$50,000 to more than \$250,000 on such endeavors.

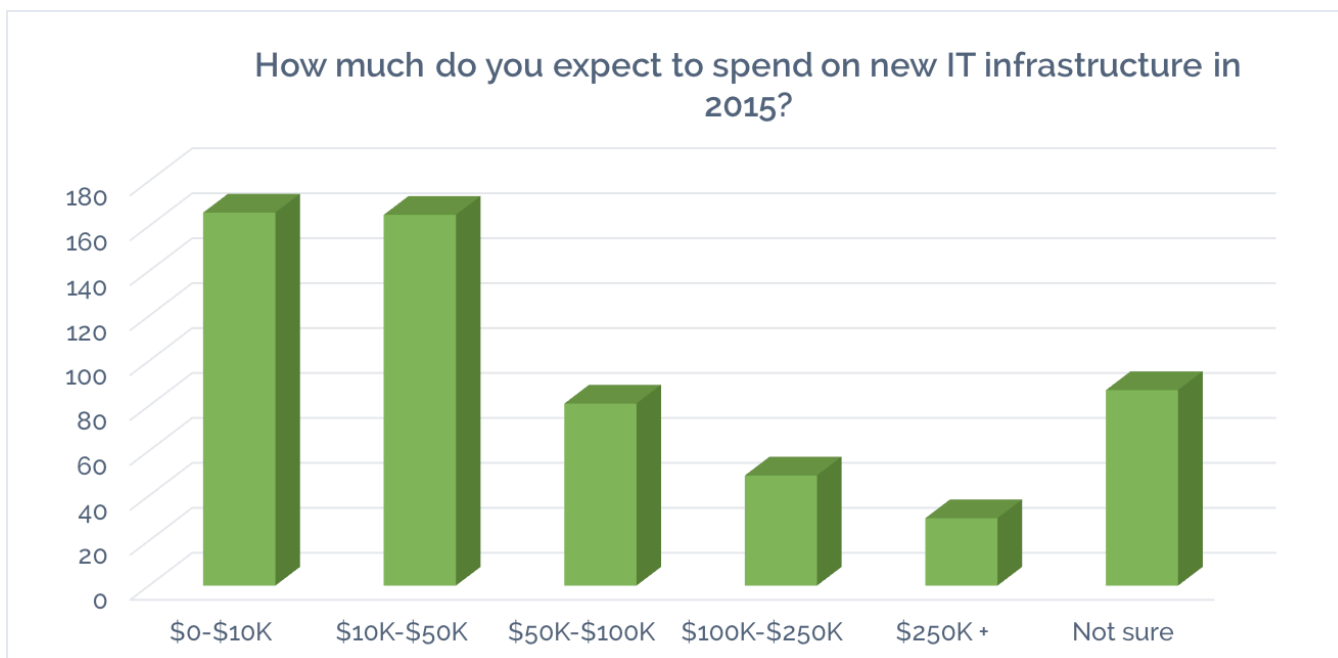
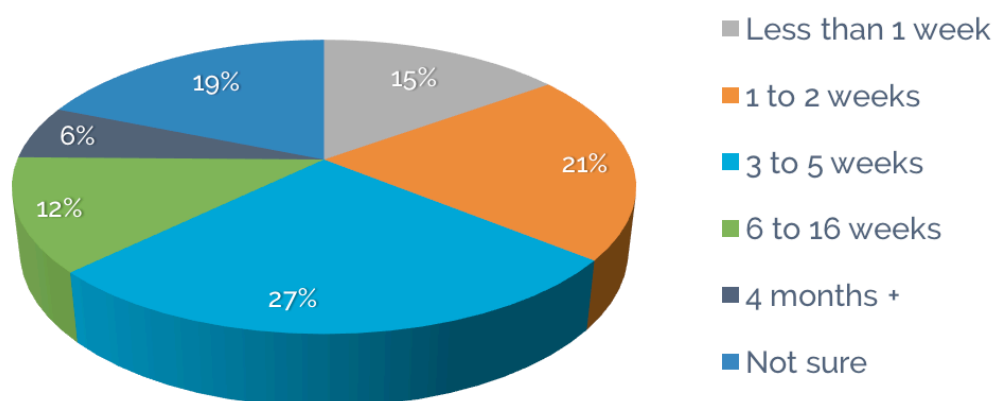


Figure 10

What about the time requirements to keep the infrastructure current?

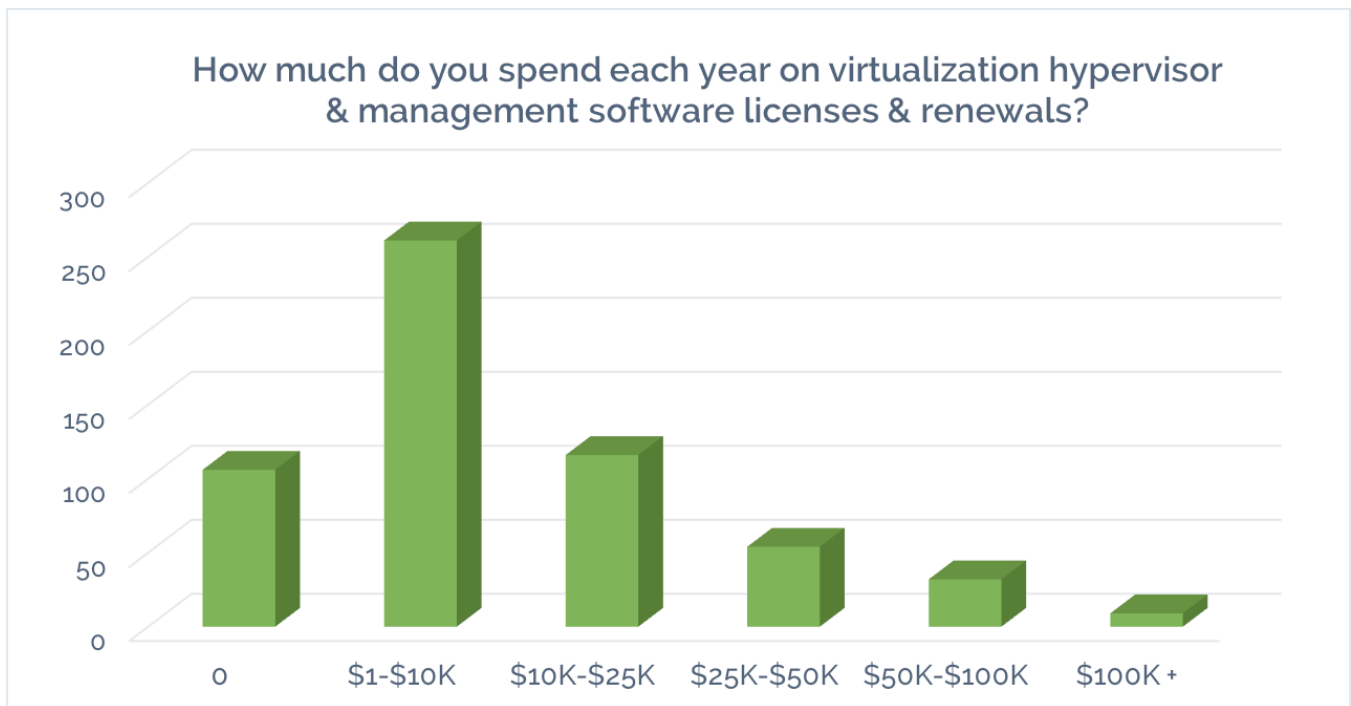
As you can see in Figure 12, the time spent keeping infrastructure up to date varies greatly from company to company. However, the important thing to notice here is that, for SMBs, the amount of time invested to keep their infrastructure up to date can be significant. For example, 12% of respondents say that they will spend 6 to 16 weeks a year keeping their infrastructure up to date, while 6% of companies said that they will spend more than 4 months per year just to keep their servers and storage "current."

### How long would you/team need to keep your infrastructure up to current during 2015?



**Figure 11**

Besides the cost to keep infrastructure up to date, companies must budget for and spend money each year just to renew their existing hypervisor and keep management software up to date. Figure 13 shows that most respondents indicated that they will spend less than \$10,000 for virtualization software. In the grand scheme, this is a very low number, partially supported by the previous response indicating that many respondents have very low levels of virtualization. When considered in that context, this number begins to make more sense.



**Figure 12**

At most companies, the single most expensive piece of data center infrastructure is the storage area network (SAN) or network attached storage (NAS). When a company needs to replace their SAN/NAS, they should invest significant time to consider all the options that are available. The typical SAN/NAS refresh is done every 3 to 5 years. For the companies that we polled (shown in Figure 14), roughly 15% of them have a SAN/NAS replacement that needs to be done this year (2015), 18% will refresh their SAN/NAS in 2016, and 19% will refresh in 2017 or later. Additionally, 13% of the companies we polled said that they don't currently own a SAN/NAS. Well over one-third of respondents have no plans to replace their storage.

### When is your next SAN/NAS storage infrastructure refresh expected to happen?

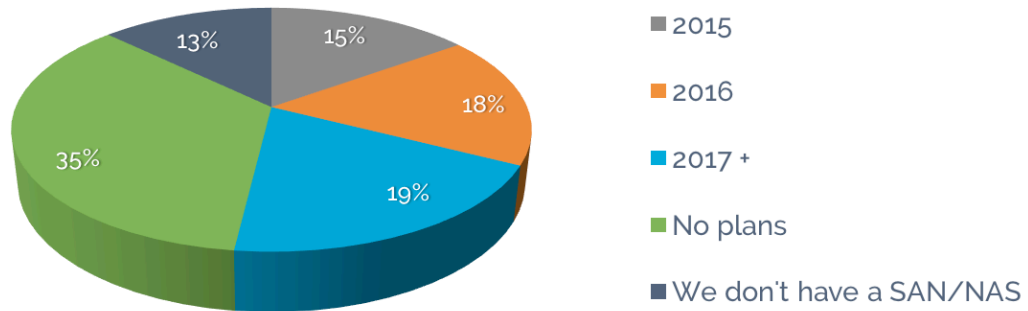


Figure 13

For most SMBs, when they purchase at least 2 new servers at a time, they have the opportunity to consider a number of new technology options (such as hyperconvergence). For this reason, we wanted to ask how soon they plan to purchase at least 2 new servers. The results (Figure 15) show that roughly 30% of companies plan to purchase at least 2 new servers in the next 6 months and another roughly 20% plan to purchase at least 2 new servers in the next 12 months.

### How soon do you expect to be purchasing at least 2 new servers for your company?

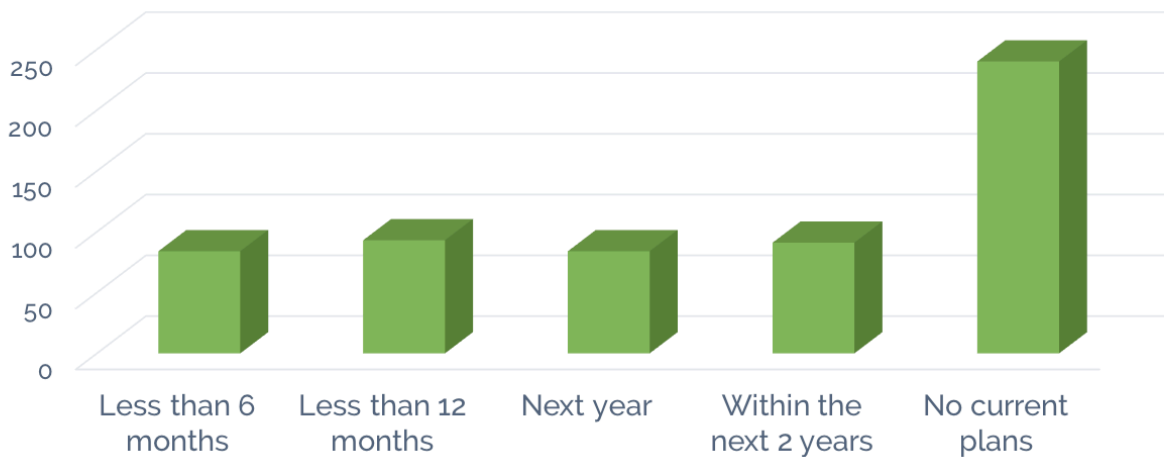
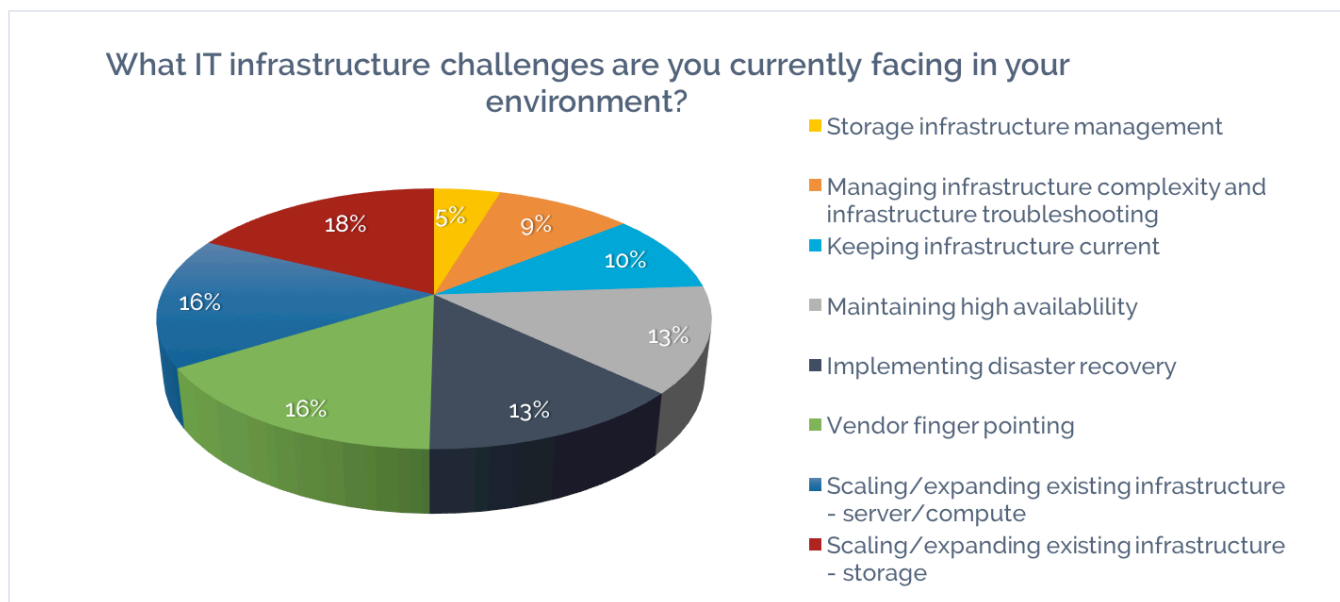


Figure 14

## Data Center Challenges

The need to constantly refresh data center infrastructure is one challenge that IT pros face, there are numerous other challenges. According to the responses shown in Figure 16, some of the top IT infrastructure challenges facing companies today are scaling the environment and, unfortunately, vendor finger pointing, which seems to be a perennial problem.



**Figure 15**

So, what about hyperconvergence? Hyperconvergence can eliminate the SAN/NAS infrastructure and many of the challenges that we talked about above. So are companies migrating to hyperconvergence? As you can see in Figure 17, roughly 97% of companies polled haven't yet adopted hyperconvergence. Likely this is because of the newness of hyperconvergence and that most administrators still haven't yet learned the benefits that hyperconvergence can offer them.



### Have you adopted a hyperconverged infrastructure solution?

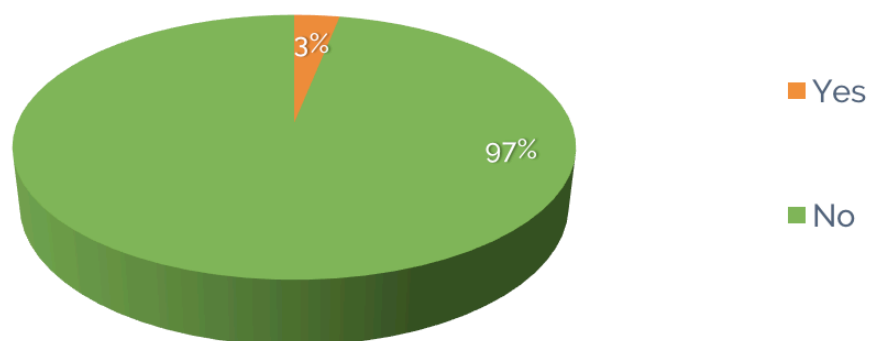


Figure 17

One of the advanced features that is usually offered as part of a hyperconverged infrastructure is replication. As you can see in Figure 18, 20% of companies feel they need a better solution than what they have, whereas 49% of companies have no replication in place and would like to leverage it.

### Do you currently replicate data to a secondary location?

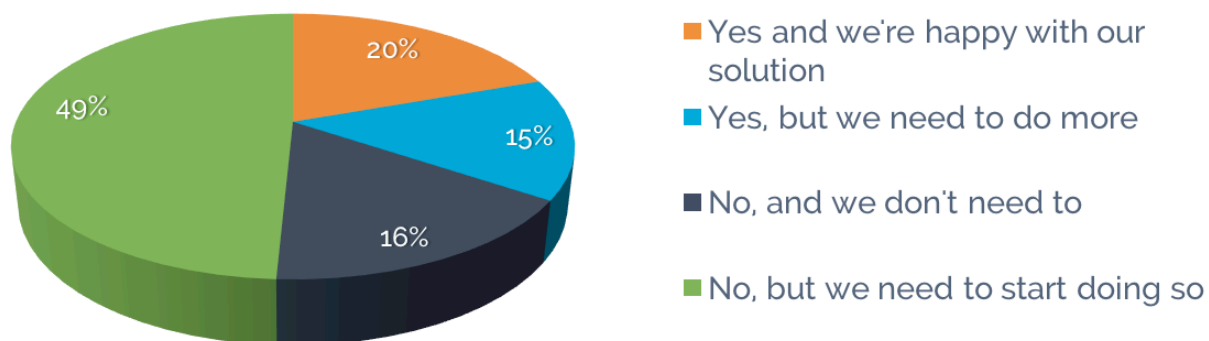


Figure 18

Lack of replication is absolutely a major issue in the SMB space, especially when the chart shown in Figure 18 is contrasted with a chart that includes the responses from organizations with more than

500 employees. Once larger organizations are thrown into the mix (Figure 19), we see that only 13% aren't doing any data replication to a secondary location. We see this is a major opportunity for hyperconvergence to add tremendous value and data protection opportunities that SMB simply are not getting right now.

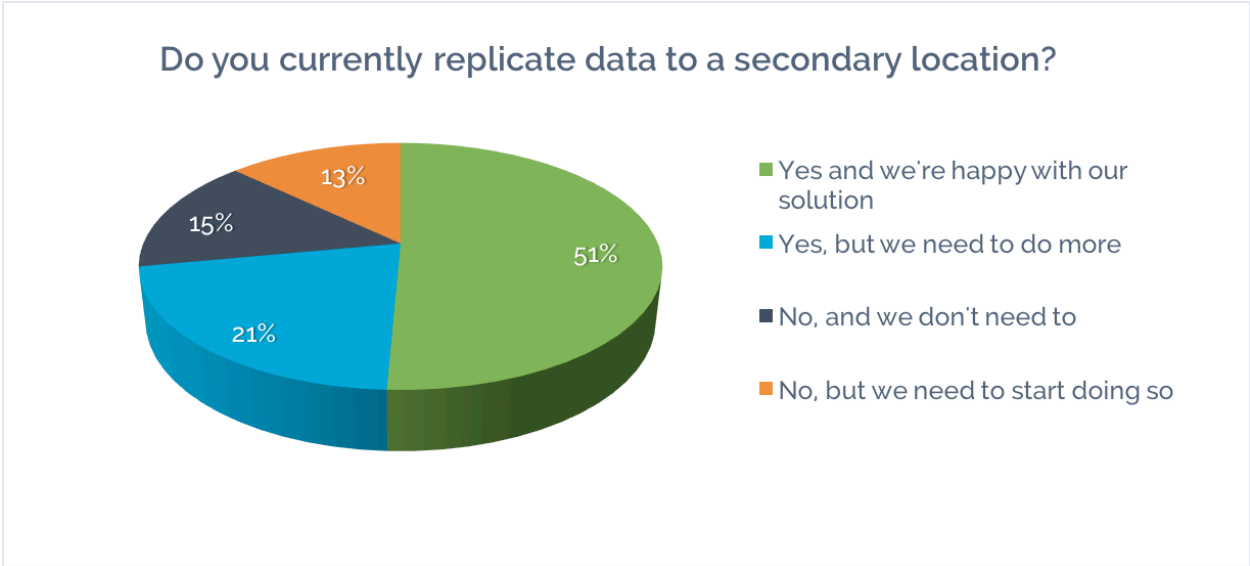


Figure 19

Finally, what about service and support? How do SMBs rate their server and support experience? Figure 20 shows us that roughly 66% of all respondents say that they are pleased with the service and support that they receive from their vendors. Only about 15% said that they need better service and support from their products.

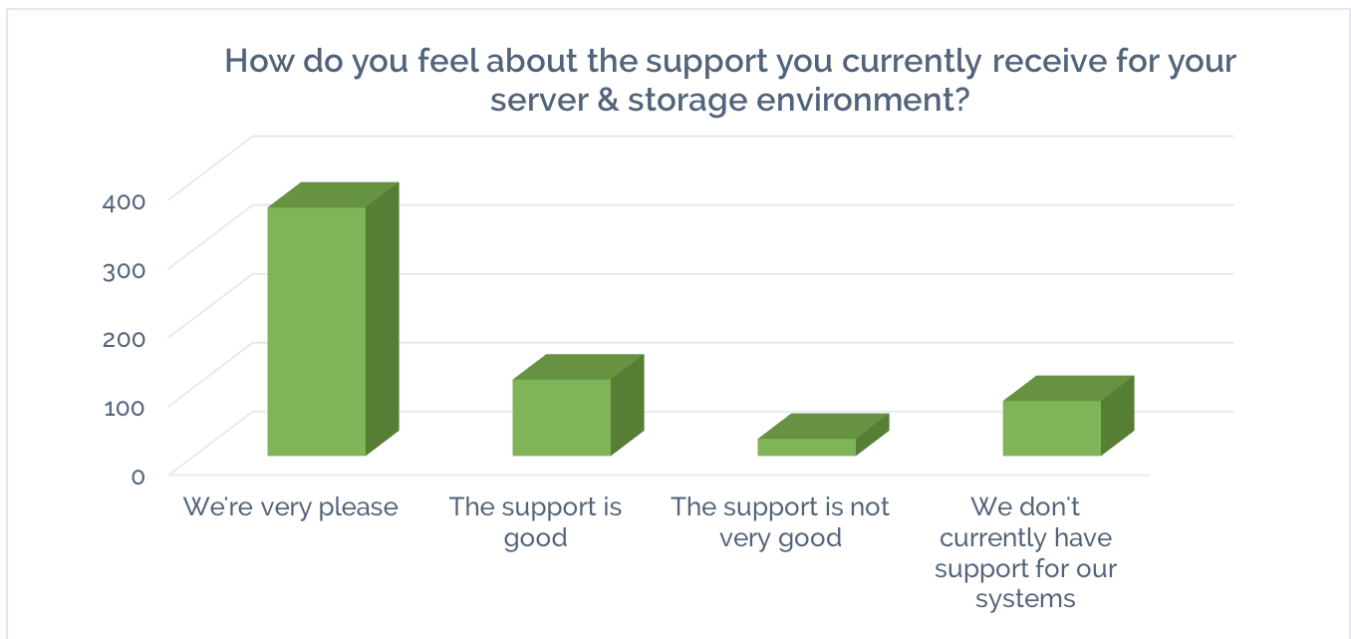


Figure 16

## Conclusion

Companies of all sizes struggle to keep their data center up to date. Infrastructure refresh is one of the greatest challenges that they face, but there are numerous others. In this survey we learned that storage complexity, data center complexity, cost, and time investments are what "keep data center admins up at night." Overall, companies of all sizes are moving faster to virtualize their servers but very few are taking advantage of hyperconvergence and all that it offers.

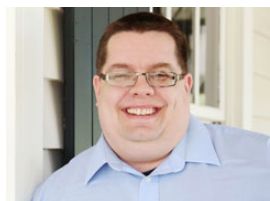
Want to learn more about how hyperconvergence and how it can help you?

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## About the Authors



David Davis is a well-known virtualization and cloud computing expert, author, speaker, and evangelist. David's library of popular virtualization video training courses can be found at [Pluralsight.com](http://Pluralsight.com). He holds several certifications including VCP5, VCAP, CCIE, and has been awarded the VMware vExpert award 6 years running. His website, covering the latest in virtualization is [VirtualizationSoftware.com](http://VirtualizationSoftware.com).



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