Bridging the Hybrid IT Gap with STaaS

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Henry Baltazar is a Research Director for the storage practice at 451 Research, a part of S&P Global Market Intelligence. Henry returned to 451 Research after spending nearly three years at Forrester Research as a senior analyst serving Infrastructure & Operations Professionals and advising Forrester clients on datacenter infrastructure technologies. Henry has evaluated and tested storage hardware and software offerings for more than 15 years as an industry analyst and as a journalist.

Prior to 451 Research and Forrester, Henry spent nearly nine years working as a technical analyst for eWeek Labs, where he covered storage, server hardware and network operating systems. At eWeek Labs, he initiated the testing coverage of various technologies, including data replication, clustering, virtual tape libraries, storage virtualization, SAN management, NAS, iSCSI and email archiving. In addition, Henry was a member of eWeek's editorial board and provided content for the magazine's enterprise storage blog. Henry has been widely quoted in the press, including such media outlets as Silicon Valley Business Journal, Computerworld and SearchStorage.com.

Henry holds a BA in environmental sciences from the University of California, Berkeley.

Executive Summary

Hybrid IT, which blends on-premises, edge and cloud infrastructure services and assets, is the future state of resource consumption for progressive organizations. With any hybrid environment, growing pains are the norm as customers, vendors and service providers look to create a powerful mix of offerings that blend the dynamic provisioning and flexible pricing of cloud with the resiliency and performance that on-premises infrastructure professionals are accustomed to.

Storage as a service (STaaS) is surging in popularity; the opex-based model for acquiring storage infrastructure provides multiple benefits that the traditional capex purchasing model doesn't offer. These include flexibility to get the performance and capacity resources the organization needs in a timely manner, and a less disruptive lifecycle management that isn't impacted by major refresh and retirement events associated with upgrading and replacing arrays. Since customers are concerned not only with acquisition costs but also operational costs for managing and maintaining arrays, STaaS provides an alternative consumption model.

Key Findings

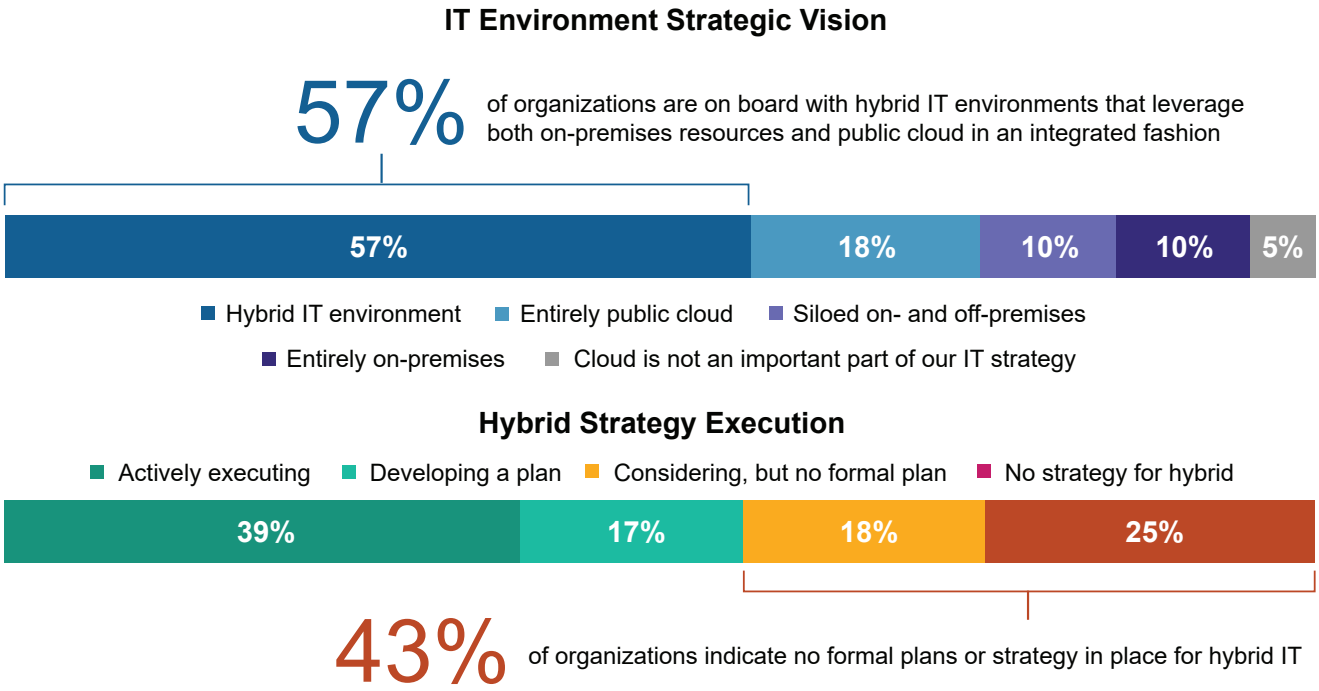
- Hybrid IT is the future of infrastructure.
- Organizations are facing numerous storage challenges.
- The transition from capex to opex is difficult for some.
- STaaS can provide enterprise capabilities with opex pricing.

Hybrid IT and Storage Challenges

Hybrid IT Is on the Rise

Hybrid IT, which allows organizations to leverage on-premises resources and public cloud in an integrated fashion, is the desired future state for many organizations. Although we hear about organizations that are still reluctant to leverage public cloud computing and storage services, a recent 451 Research study found that just 10% of respondents said they would stay entirely on-premises, with an additional 5% reporting cloud was not an important part of their hybrid strategy (see Figure 1 below). Looking at the opposite extreme, just 18% of respondents claimed that their IT environment strategic vision would center entirely on public cloud.

Figure 1: Organizations Are Working Toward a Hybrid IT Reality



Q: Which of the following best describes your organization's existing or planned IT operating environment?
Base: All respondents (n=434)
Q: Which of the following best describes the state of your organization's strategy regarding hybrid IT?
Base: All respondents (n=457)
Source: 451 Research's Voice of the Enterprise: Cloud, Hosting and Managed Services, Organizational Dynamics 2020

In the study, 57% of respondents said they want a true hybrid IT deployment that uses resources from both execution venues in an integrated fashion, and some 56% of the respondents are either actively executing on their hybrid IT strategies or are in the process of developing their plans.

Data Growth Is Driving Storage Challenges

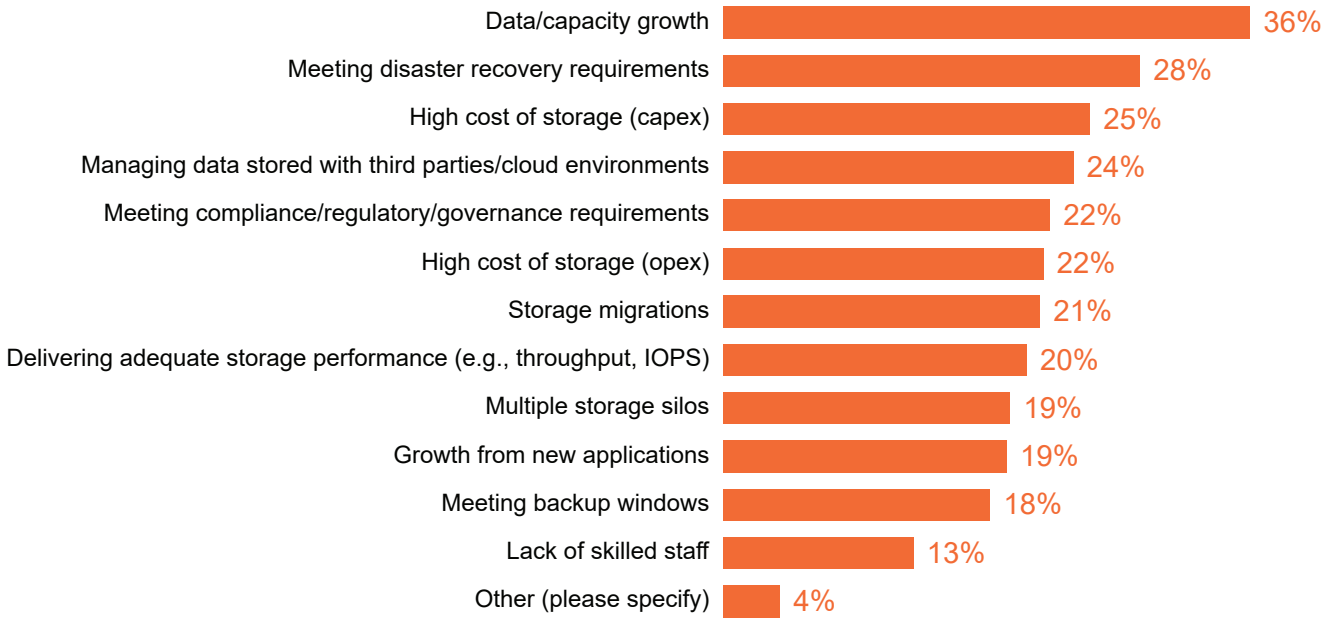
Organizations are facing many storage challenges. These will force them to change how they deploy and maintain storage resources.

Data growth is a top challenge and makes other problems worse. In our Voice of the Enterprise: Storage, Data Management and Disaster Recovery 2021 study, 36% of respondents chose data/capacity growth as one of their top storage pain points. Respondents said they expect their data to grow by 28% over the next 12 months, which will likely make other problems worse, since organizations will have more data to protect and potentially move if they implement an off-site archiving strategy. In contrast, on-premises storage budgets are only expected to grow by an average of 16% in the next 12 months, which means that organizations need to find a way to squeeze additional value out of their storage investments – to do more with less.

Disaster recovery is difficult, and uptime expectations are high. Disaster recovery continues to be a major concern, especially with business stakeholders showing little tolerance for downtime and data loss. Cloud-based DRaaS and managed services are becoming popular options given that organizations are looking to offload this burden when possible, especially if experienced IT staffers are not available at recovery sites.

High capex costs need to be addressed. Almost 25% of respondents to a recent 451 study (see Figure 2 below) reported that high storage costs on a capex basis was a top problem for their organization. Although arrays continue to improve in terms of their performance and storage capacity, they also continue to be quite costly to acquire and maintain. Given that customers typically hold on to their arrays for several years, there is also a tendency to overbuy, since an unplanned replacement and upgrade operation could wind up becoming a major cost if the original array purchased cannot meet future requirements.

Figure 2: Organizations Are Struggling with Many Storage Challenges



Q: What are your organization's top pain points from a storage perspective? Please select top three choices that apply.

Base: All respondents (n=444)

Source: 451 Research's Voice of the Enterprise: Storage: Budgets and Outlook 2021

Performance is still a key concern when planning storage. During interviews, many organizations have expressed that performance improvements in multiple dimensions is important. While transactional performance on an IOPS basis is needed for many conventional applications such as databases, high-throughput performance is also needed to support analytics and for the rapid retrieval of large unstructured files, such as medical images in the healthcare space and video files for media and entertainment customers.

Managing data on clouds and meeting regulatory requirements are challenges. These are interrelated challenges as organization use or consider public cloud as part of their hybrid cloud strategy. Meeting data privacy and security requirements can be difficult when data is stored in public clouds. Organizations seeking to offload data and applications to the cloud run into many regulatory requirements that may inhibit their ability to leverage public clouds for some applications or data.

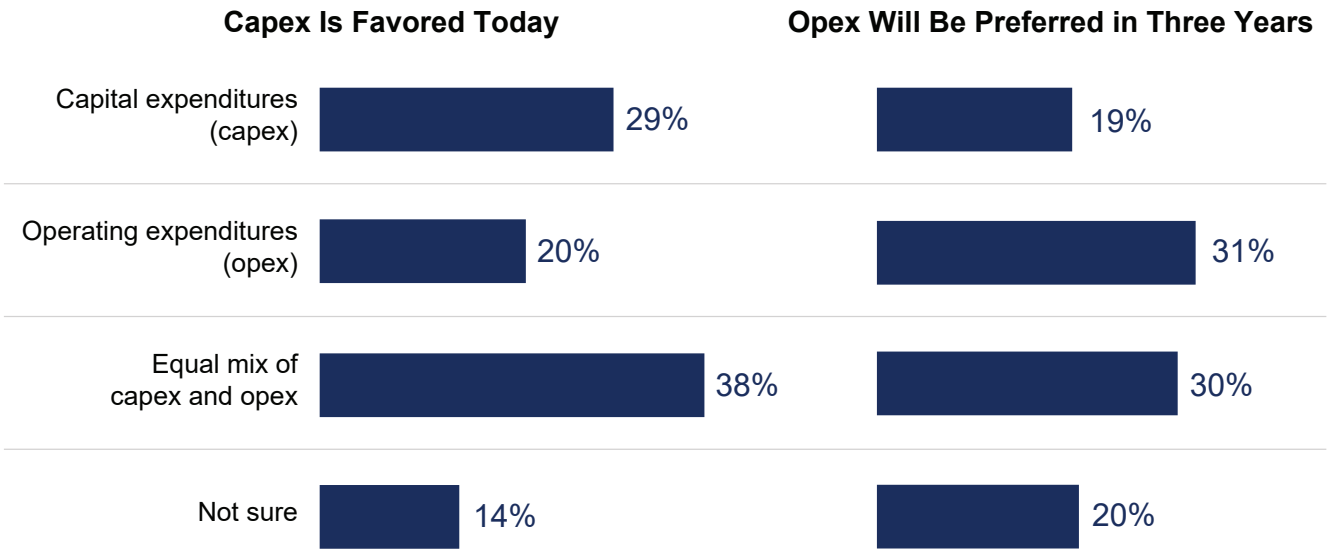
Lack of skilled IT staff will make services more valuable. The lack of skilled staff members was an issue for 13% of respondents (Figure 2). We also note that respondents said they have issues managing multiple storage siloes (19% of respondents) and with storage migrations (21% of respondents), which are two tasks that are resource-intensive from a staffing perspective, and clearly a signal that organizations could use operational assistance to handle their day-to-day storage management burdens.

Spending Is Transitioning Toward Opex

A mix of capex and opex is likely in the future. Just under a third (29%) of respondents to a recent 451 study said they favor capex, though this drops to 19% of respondents for the coming three years (see Figure 3 below). In discussions with end users, the familiarity with capex-based purchasing made it difficult for procurement professionals to switch to an opex model. In some cases, organizations are averse to adding monthly opex costs and prefer to make large capex purchases every few years when array refresh cycles come up.

In the study, 20% said they favor opex, but that increases to 31% of respondents in the next three years. For organizations with stagnant or decreasing budgets, the percentage of respondents that favor opex in the next three years increases to 45%. The rising consumption of public cloud storage has given organizations more experience in how to leverage the elasticity of cloud and manage variable monthly billing (which could become spiky based on utilization), so organizations are better suited to adopt opex consumption models compared to just a few years ago.

Figure 3: Infrastructure Spending Is Trending Toward Opex



Q: How does your organization currently fund the majority of its IT infrastructure systems and/or software?
Base: All respondents
Q: How will your organization fund the majority of its IT infrastructure systems and/or software in three years?
Base: All respondents
Source: 451 Research's Voice of the Enterprise: Storage, Budgets and Outlook 2020

It is important to note that capex vs opex spending is not an all-or-nothing-affair. Some 38% of respondents today plan on using a blend of capex and opex spending – although that drops to 30% when looking three years out – and 14% said they are uncertain whether their organization favors capex or opex spending, which increases to 20% when thinking about three years from now.

Conclusions

Organizations are facing a wide array of problems that are becoming worse with time given that data is growing at rapid rates while budgets are only increasing by modest amounts. This situation is creating an opportunity for companies to explore alternatives to traditional on-premises storage systems, such as public cloud storage and innovative consumption models like STaaS. A key difference between a capex purchase and STaaS is that the vendor not only owns the asset in the deployment, but it also has responsibility for maintaining and optimizing the resources to ensure that customers get the business value they desire. Keeping this and other factors in mind, STaaS has the potential to deliver a variety of benefits, including:

- Lifecycle management from installation to refresh. The installation of a storage array is a time-consuming and tedious process, starting with the physical installation of the system (i.e., rack and stack), cabling and then configuring the system to deliver storage resources to applications and end users.
- In a STaaS implementation, the responsibility for all hardware maintenance tasks and firmware updates shifts from the customer to the vendor. Furthermore, since the vendor is responsible for the performance and reliability of the storage system, technology refreshes and break/fix operations when components fail also shift to the vendor.
- The replacement of an aging system is another time-consuming and potentially disruptive task. In a STaaS deployment, the vendor is responsible for installing the updated system, migrating data to the new system and digitally sanitizing the old system so that it can be safely retired without the threat of potentially leaking the organization's data.
- Offloading day-to-day maintenance and management tasks. Managing multiple data silos is a key operational challenge. Because some companies don't have enough skilled staff to run their storage infrastructure efficiently, there is an opportunity to alleviate management burdens that aren't strategic to the organization.
- Elasticity to both grow and shrink consumption. STaaS vendors provide customers with various storage offerings to match their performance needs. Customers can request and gain access to higher-performance storage tiers to get a boost when a performance-critical task comes in. Likewise, they can shrink capacity or drop down to a lower performance tier when an application no longer needs the high performance. This flexibility can help customers get more out of their storage investments. When negotiating with vendors, it is important to ensure there are no additional premium charges for adding capacity.
- Simple auto-renew at competitive price. Similar to cloud storage, STaaS vendors are expected to deliver cost reductions to customers over time. When shopping for a STaaS offering, it's vital to gain a better view of long-term costs. Given the rapid growth of data, the total data under management could be multiple times bigger than the current footprint in a matter of years.
- STaaS provides cloud-like pay-for-use/opex pricing models combined with on-premises security and governance control. STaaS can help organizations address the related challenge of managing data on clouds and meeting regulating requirements by providing an on-premises cloud-like service with the control needed to meet security and governance requirements. In addition, price points for on-premises STaaS are generally lower than public cloud storage.

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