Sizing Storage: How to Create Your Ideal Infrastructure

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Overview

This white paper looks at how to match the right storage infrastructure with business size — whether it's 50, 100 or 250 employees. Organizations must consider their needs and future growth in deciding what storage technology to choose. Find out how Dell and Intel technologies can help businesses of these sizes grows.

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Today's Storage Challenges

These days, organizations of all sizes are competing in an always-on, highly available world. In many cases, storage volumes are growing out of control as unstructured data, sophisticated applications and large file types become common. Technology is developing fast, too. Virtualization, cloud computing and other technologies are putting pressure on businesses to keep up. Small businesses often have to compete with bigger ones, even on tight budgets and with small IT teams. And storage technology priorities are similar in many businesses: performance, capacity and scalability.

Why Optimizing for Business Size Matters

Organizations need to size their storage right to stay within budget, but plan for growth. The ideal storage infrastructure lets an organization meet its customer and employee needs. It should be fast enough and flexible enough without going over budget or adding unnecessary complexity. Plus, businesses have to be careful not to buy too much to avoid underutilization. Find the ideal balance of storage utilization and provisioning — and keep finding that balance as business grows. It can help businesses to be able to set policies for utilization and resource allocation, and change those as needed.

Look for a storage technology package that's simple and usable for small IT teams to manage and integrate with other tools, and also powerful enough for a growing infrastructure. With the right technology, small and midsize companies can get enterprise storage features. Those could include cloud computing, virtualization and denser racks of servers.

What Small and Medium Businesses Need for Storage

In a fast-moving business world, organizations of all sizes can use powerful tools. Storage technology that's scalable can help small and midsize businesses that are planning for growth. Choose technology that is easy to implement and manage — smaller businesses don't have the time or resources to get bogged down in a complex implementation. Practical storage solutions can have all necessary features in one. That means a business won't have to spend more money buying add-on or point solutions and worrying about integration issues.

Management help is essential, too. Integrated array software can help eliminate management tasks and offer performance and alert monitoring. Small and medium businesses can find systems that can recover fast from any outages or unplanned downtime. Look for redundant storage boxes with hot-swappable components. And some servers come with RAID support, as well as dynamic power distribution to reduce power consumption and put more servers in a rack. The right servers can also provide built-in failover and automated backups, and adjust server performance to match application needs.

Optimize for Your Size: 50-Person Business

What does storage look like for a 50-person business? It's different for every business, but there are some common considerations. Many 50-person organizations are looking to enter the SAN market for the first time — but within their budget and without the complexity and cabling that Fibre Channel requires. These companies might also be looking at storage and

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SANs that can help consolidate storage from the siloed, direct-attached servers that helped get the business started. And, don't forget some disaster recovery and business continuity capabilities that are easy set up and maintain.

A business with 50 employees might have groups of direct-attached servers or have purchased their first SAN. iSCSI is often the best bet for that first SAN, since Ethernet cabling is already in place, and it's easier to manage. SAS drives can offer performance at a reasonable price. And redundancy and RAID can build the foundation of a business continuity program.

Optimize for Your Size: 100-Person Business

What about the storage needs for a 100-person organization? IT teams at these companies might be thinking about server virtualization as an option to help enable growth while keeping the data center compact and manageable. They're probably also trying to maintain high capacity, adding disks and arrays within budget. Performance improvements are a concern for storage too, especially as the company adds applications, customers and data.

A business with 100 people could be maxing out their SAN and considering ways to get the best utilization out of it. Server virtualization and consolidation can come into play if the company wants to add density, especially if the server room or data center hasn't grown in size as the company has. Look at replication or other redundancy features, and standardizing and auto-mating backups for business continuity planning.

Optimize for Your Size: 250-Person Business

A 250-person business is likely growing into more advanced storage technology needs. The to-do list for IT teams may include adding one or more SAN arrays to the current infrastructure, whether the same arrays they started their business with or more powerful ones. As data grows for these size companies, so does the need to protect it with through possible offsite backups and disaster recovery planning. Remote office needs could be a concern for these businesses, too.

A business of 250 employees is often considering or implementing more SAN arrays. They might be considering ways to speed IOPS for performance, and adding bandwidth and capacity, along with using servers to their best advantage for speed and reliability. Remember to look for flexible storage at this size, and include intelligent data tiering. IT teams at these organizations might be examining new technologies like desktop virtualization and solid-state disks.

Dell/Intel Solutions For Storage

Dell and Intel offer storage technology that's sized for small and medium businesses. The Dell EqualLogic series fits into emerging and growing infrastructures, and offers easy implementa-tion and management. The iSCSI connectivity of EqualLogic SANs depends on Intel technology to offer simple management and easy entry into server virtualization.

Dell PowerEdge servers with Intel Xeon processors work with Dell EqualLogic arrays to provide a faster, more efficient and more cost-effective solution in Windows environments. In one example, the Intel Xeon processor 5600 works with Windows Server 2008 R2 to park unused processor cores, reducing energy costs. And, the 5600 series includes Intel Virtualization Technology to

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support high consolidation ratios. It all drives better efficiency and utilization — both must-haves for smaller businesses on a budget.

Dell EqualLogic SANs use a virtualized, scale-out architecture that grows along with maturing businesses. It's a good fit for server virtualization and the storage consolidation that smaller businesses often need as they're moving from siloed servers and building out their infrastructure. All SANs include enterprise software, such as for replication. And, EqualLogic SANs automatically build RAID sets and do system health checks to help small businesses save time.

The PS4000 series is an ideal starting point for smaller organizations. Its self-optimized performance and automation mean that less storage administration is required — a major bonus for small, busy IT teams. Users can easily group together two arrays as needed for capacity and performance. The PS6000 series of EqualLogic SANs provide even more capacity and performance for growing businesses. Organizations can add these arrays to PS4000 configurations to expand on the original investment. And included software helps manage all boxes in one place. The PS6000 can also let companies use solid-state disk for speed under budget.

Conclusion

Sizing storage right takes careful consideration. Every size business can find their ideal storage infrastructure that offers appropriate capacity and performance, and doesn't overwhelm IT departments. Finding scalability, flexibility and easy management in any solution promises a good start to the right storage solution.

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