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IDC EXECUTIVE BRIEF

Data Storage at SMBs: The Drive for Efficiency

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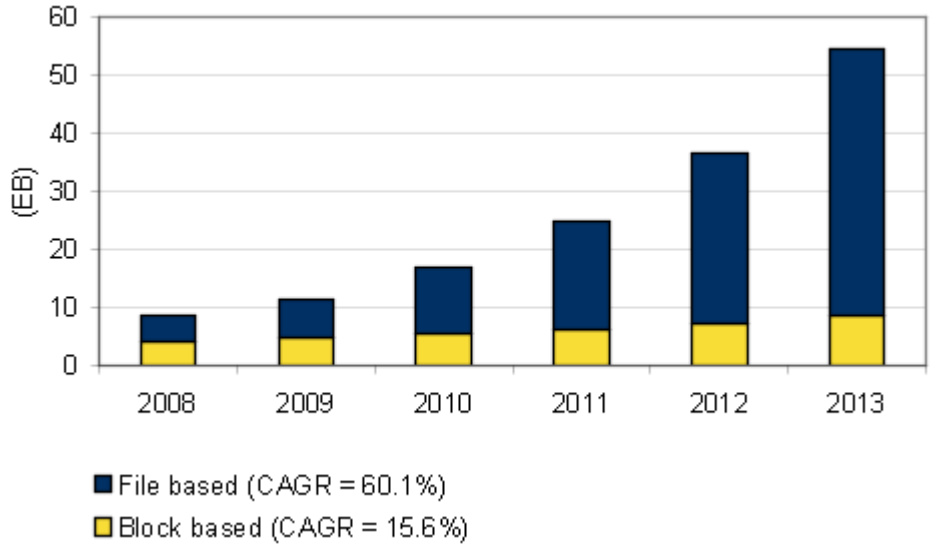
Adapted from *U.S. iSCSI Disk Storage for Virtualized Servers 2008 Vendor Analysis* by Richard L. Villars and Natalya Yezhkova, IDC #218048 and *State of File-Based Storage Use in Organizations: Results from IDC's 2009 Trends in File-Based Storage Survey* by Noemi Greyzdorf, Richard L. Villars, and Jindrich Amaldas, IDC #221138

Introduction

The economic difficulties of 2009 led to a decline in spending on storage assets and an emphasis on boosting the utilization of existing assets. Despite this slowdown, data growth, especially for file-based data, continues at high levels as companies of all sizes digitized applications and expanded archiving of existing data. According to IDC, storage capacity shipped from 2008 to 2013 will experience a compound annual growth rate (CAGR) of 43.6% (see Figure 1).

Figure 1

Worldwide Storage Capacity Shipped by Segment, 2008–2013



Source: IDC's 2009 Enterprise Disk Storage Consumption Model

The growth and the effective use of rich content are the most important information management challenges facing IT organizations in many industries. In the coming years, the need to store and protect content for extended periods of time due to competitive requirements, regulatory compliance, and governance best practices will stress existing storage assets and management practices.

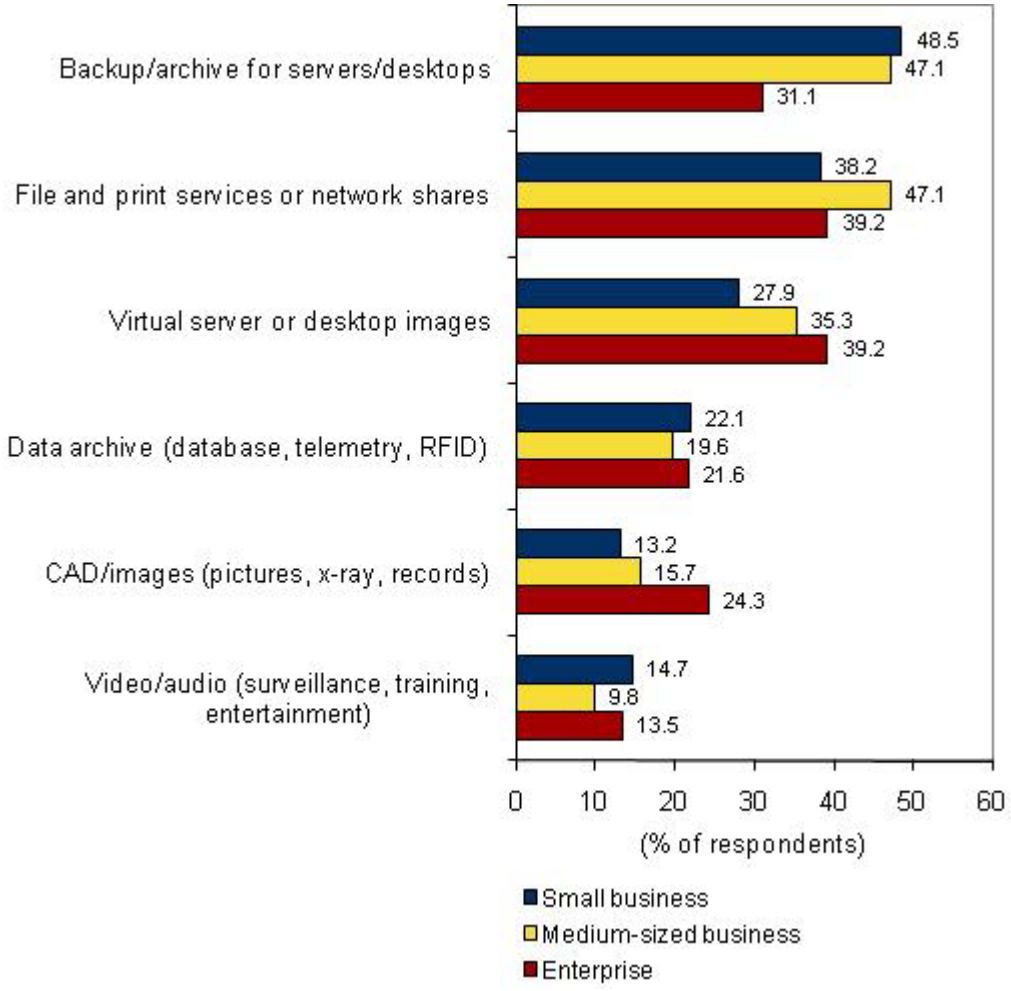
In particular, the growth in file-based data tracked by IDC over the past three years is responsible for a growing portion of storage asset utilization and management. Equally important today is the ever-growing complexity of business demands for block- and file-based data.

In today's challenging macroeconomic conditions, IT managers are required to meet complex business demands using limited IT resources, thus making them push the envelope on maximizing IT resource utilization rates. For medium-sized businesses, this imperative translates into a high level of interest in data deduplication and compression technologies for all storage environments.

For many small and medium-sized businesses (SMBs), backup and archiving are primary drivers of storage growth. The smaller the firms, the less likely they are to invest in separate archiving solutions, and hence they tend to use backups as a means to archive historical data. Given that backup eventually takes up much more space than data stored in archives due to duplication of data, smaller firms also tend to dedicate a higher proportion of their storage resources to storing historical data compared with larger firms. This is a clear indication that data deduplication linked to storage solutions will be of growing interest to SMBs. As illustrated in Figure 2, expected growth of specific data types depends on company size.

Figure 2

Data Types Expected to Grow Fastest in 2010 by Company Size



n = 195

Source: IDC's *2009 Trends in File-Based Storage Survey*

Perhaps the most striking finding IDC research has uncovered regarding storage growth drivers is the growing impact of virtualized server and desktop images. More and more businesses are looking to virtualize their IT infrastructure, which allows them to consolidate IT assets and gives them greater flexibility to add resources on a just-in-time basis. Server virtualization has been a high priority in large businesses for several years and is of growing importance among SMBs.

Benefits

The broader adoption of server virtualization for server consolidation among SMBs is driving a significant acceleration in the shipment of iSCSI storage systems. The server consolidation associated with server virtualization triggered initial adoption of networked storage in many of these organizations, which then expanded its use to nonvirtualized servers as well. A significant and growing portion of IT teams opt to deploy Ethernet and IP-based storage (e.g., iSCSI) to support these efforts.

A growing number of SMBs have recently made, or will soon make, their first move to networked storage as they deploy hypervisor solutions from various vendors. This shift to virtualized server deployments in SMBs will spur continued strong growth in iSCSI storage shipments, with a significant majority of this growth tied to server consolidation efforts.

IDC expects that this will translate into growing customer demand for iSCSI systems that deliver many advanced storage efficiency features such as thin provisioning and volume virtualization. The SMBs deploying these storage systems will demand that they be much easier to deploy and manage than today's typical Fibre Channel (FC) storage systems.

Other important factors are driving the adoption of iSCSI. For SMBs, particularly those that don't already have SANs, the value proposition of iSCSI is that it enables a fully functional network storage environment at a lower price point and with less complexity than FC SANs. It also provides an upgrade path as 10GbE deployment on servers expands.

The availability of advanced software functionality, such as remote replication, storage virtualization, and thin provisioning, often integrated into iSCSI offerings, makes iSCSI a more efficient networked storage choice for larger midsize businesses.

Typically, those SMBs that use basic storage systems must accept that raw capacity shipped is significantly greater than actual capacity used due to multiple factors, including data redundancy and overprovisioning. More advanced iSCSI storage systems that enable functions such as thin provisioning and space-efficient copies provide much higher levels of effective utilization, thereby reducing capacity requirements.

Ultimately, a reduction in capacity requirements will result in reduced management requirements, and both types of reductions will decrease storage-related costs.

Considerations

In the current economic environment, efficiency and utilization capabilities will become even more important competitive differentiators for various storage technologies and vendors.

SMBs are particularly interested in data storage technologies that boost efficiency and availability, improve data integrity and security, and improve data manageability.

Centralized management, and thus governance of data, is crucial to businesses not only for efficiency reasons but also for competitive advantage because data is playing an ever-increasing role today in shaping business strategies. The growing importance of file-based data to the business is becoming more apparent and is driving greater investment in disaster recovery solutions.

Deploying a storage infrastructure in support of virtualized servers will be a critical challenge for SMB organizations over the next three years.

Conclusion

As data growth continues unabated, SMBs need to find more efficient ways to store their data. In particular, the management of storage for consolidated servers' growing sets of files is becoming more and more complex with the ever-increasing number of logical servers, increasing file sizes, and use of disk storage for backup/recovery. Thus, SMBs are striving to mitigate the resulting risks and inefficiencies.

Driven by the goals of consolidating IT assets and achieving more flexibility to add resources on demand, more and more SMBs are looking to consolidate and optimize their IT infrastructure. Server virtualization, file-based storage, and disk based backup — which have been commonplace at large businesses for years — are gaining adherents among SMBs.