ITG Executive Summary

October 2007

BUSINESS CASE FOR IBM SYSTEM STORAGE DS8000 TURBO SERIES: REDUCING THE COSTS OF ENTERPRISE DISK STORAGE

At the end of 2001, the average U.S. Fortune 1000 corporation contained around 20 terabytes (TB) of server disk storage. By yearend 2006, this had increased to more than 112 TB. On current trends, it will reach more than 828 TB by yearend 2011.

Managing growth has become the central challenge of enterprise storage strategy. As organizations seek to meet it, new approaches are being adopted. Storage resources are being managed as networked infrastructures of multimedia systems and software. New tools and practices are being applied to handle replication, protection and recovery of increasingly diverse types of data.

These shifts are paralleled by technological change. New generations of storage platforms deliver unprecedented levels of scalability and functionality. Virtualization, as well as tiered storage structures, automated provisioning, integrated storage management systems, and other new technology solutions are becoming widely adopted. Change has become the norm.

With one exception. In many organizations, financial practices have not evolved to deal with high-growth, technologically dynamic storage environments. Focus on purchase costs means that broader total cost of ownership (TCO) issues are neglected. Short-term planning cycles, and an emphasis on one-time deals, undermine the potential for more effective, longer-term cost management strategies.

As a result, customers often pay a great deal more for their storage resources than they need to. As capacities continue to increase, the bottom-line impact will expand. The effects of today's cost inefficiencies may, after even a few years of high double-digit or triple-digit growth, impose a serious drain on the financial resources of many organizations.

This report deals with these effects for high-end disk array systems. Specifically, it compares the cost implications, over a four-year period, of employing the systems of two vendors – EMC and IBM – with significantly different pricing policies.

Four-year costs of employing EMC Symmetrix DMX-4 and IBM System Storage DS8000 Turbo systems and software are compared for three large installations – a diversified financial services company, a global manufacturing company, and a government IT services agency – experiencing high levels of capacity growth. Installations are composites based on the experiences of multiple companies.

One conclusion emerges immediately. The majority of costs are incurred after systems are installed. For the three installations, ongoing costs (costs incurred after initial system installation) averaged 72.8 percent of overall four-year costs for DMX-4 systems, and 63.0 percent for DS8000 Turbo systems. Many organizations are clearly focusing on the wrong cost variables.

This ITG EXECUTIVE SUMMARY is based upon results and methodology contained in a Management Brief released by the International Technology Group.

Significant differences between cost structures for DMX-4 and DS8000 Turbo systems also became apparent. This was particularly the case in two areas:

1. ***System costs***. These include hardware acquisition and maintenance costs, as well as license and support fees for EMC and IBM suites of point-in-time copy, real-time replication and multipathing software. Costs allow for hardware and software upgrades to handle growth.

   Four-year costs for use of DS8000 Turbo systems and software range from 32.7 percent to 40.1 percent less than those for DMX-4 equivalents in individual installations, and average 36.5 percent less overall. Costs were calculated using "street" prices; i.e., discounted vendor prices.

   Lower DS8000 Turbo costs are due to lower hardware and software costs, particularly for upgrades, and to longer IBM warranty periods.

   EMC offers two-year hardware and 90-day software warranties, while IBM offers one- to four-year hardware and software warranties. Four-year warranties were used as the basis of calculations for use of DS8000 Turbo systems. As a result, significant hardware maintenance and software support costs are incurred for DMX-4 systems, while there are no corresponding DS8000 Turbo costs.

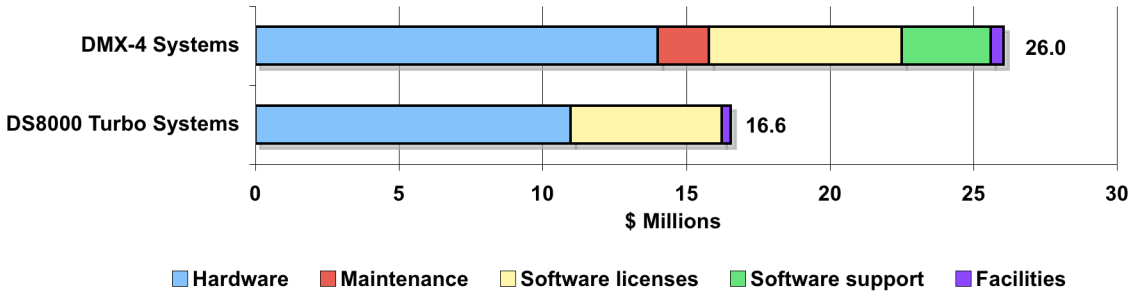
   (The term "software support," as employed in this report, refers to the same set of costs as "software maintenance." Vendor nomenclatures vary.)

2. ***Facilities costs***. Four-year costs for data center occupancy and energy consumption for DS8000 Turbo systems range from 26.5 percent to 27.8 percent less than those for DMX-4 equivalents in individual installations, and average 27.1 percent less overall.

   Energy costs for DS8000 Turbo systems average 29.8 percent less than those for DMX-4 equivalents. Occupancy costs average 10.6 percent less than those for EMC equivalents. Facilities costs were calculated based on vendor specifications and industry norms.

   Combined system and facilities costs for use of DS8000 Turbo systems range from 32.6 percent to 39.8 percent less than those for DMX-4 equivalents in individual installations, and average 36.4 percent less overall. Figure 1 summarizes average results.

Figure 1
Four-year Combined Costs for EMC DMX-4 and IBM DS8000 Turbo Systems: Averages for All Installations



Details of installations, configurations and cost structures, along with sources of data and methodology employed for calculations may be found in the Detailed Data section of the report.

For all system and software offerings included in calculations, EMC and IBM discount extensively on a case-by-case basis, and may offer pricing arrangements to individual customers that differ from those employed for calculations presented in this report. Facilities costs may also differ between organizations.

The principle is nevertheless demonstrated. Organizations that base their financial planning on more granular cost measurements over longer periods, and purchase accordingly, may realize significantly greater cost savings than those that continue to employ traditional methods.

Many organizations have targeted innovation as core goals of their business and IT strategies. But innovation is not simply a technical matter. It is also about approaching challenges in new ways. The largest gains may come not from laboratory breakthroughs, but from simply examining and changing assumptions that have been held for too long.

Additional Information

This ITG Executive Summary is based upon results and methodology contained in a Management Brief released by the International Technology Group.

For copies of this Management Brief, please email requests to info-itg@pacbell.net.

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