

STORAGE MARKET OUTLOOK BOOKLET

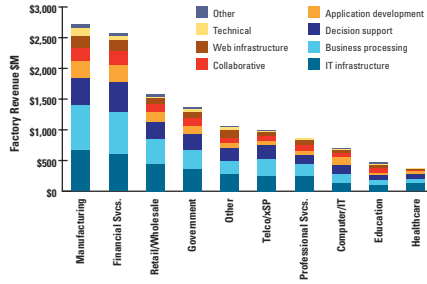
(This PDF contains six pages including this introduction)

Section III: Region, industry and workload segmentations >

Worldwide 2004 external RAID revenue by workload and industry

In this chart workload refers to the applications that use the disk.

Four of ten industries consume 65% of total disk



Source: StorageTek Market Opportunity Finder

- > Four of ten industries: manufacturing, financial services, retail/wholesale and government consume 65 percent of total disk.
- > Three of eight workloads: IT infrastructure (primarily file & print), business processing (primarily ERP, OLTP and batch) and decision support (data warehousing) consume 68 percent of the disk.
- > Manufacturing, financial services and telco/xSP each consume a higher than average proportion of disk for business processing. Retail has a higher proportion of IT infrastructure and Telco has a higher proportion of decision support.

22 >

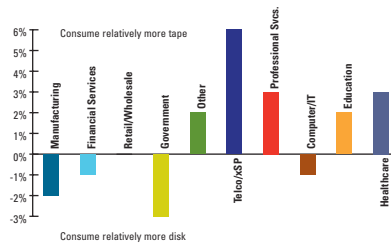
STORAGETEK INTERNAL StorageTek Corporate Marketing - Market Strategy and Research

Section III: Region, industry and workload segmentations >

Industries' relative consumption of tape versus disk

Tape versus disk consumption variation from average

Telco/xSP consumes the highest proportion of tape



- > Industries that consume a relatively higher proportion of tape than disk are: Telco/xSP, healthcare, professional services, other (which include scientific and engineering), education and retail/wholesale.

Storage Market Outlook >

Q3 2003



STORAGETEK

This is a 24-page booklet put out by StorageTek that talks about trends in the data storage industry. Each page features a graph of some sort along with supporting text. I created all graphs using the graphing function in Illustrator from data points provided by the client.

See the following pages for booklet highlights >>

Storage Market Outlook

Q3 2003



> Section I: The overall IT and storage markets

This second update to the *Storage Market Outlook* contains revised forecasts, market shares and analysis. The intent is to provide a short quantitative reference for selected market data and analysis.

For updated market data and analysis, please visit the new market intelligence site [www.???.](http://www.???) Note that data on this site is updated quarterly based on industry analyst publishing cycles. The *Storage Market Outlook* is published twice per year.

Definitions

CAGR: compound annual growth rate

Market revenue: Revenue that is generated by the end customer including indirect channel markups.

Factory revenue: Revenue that goes to the factory which excludes any indirect channel markups.

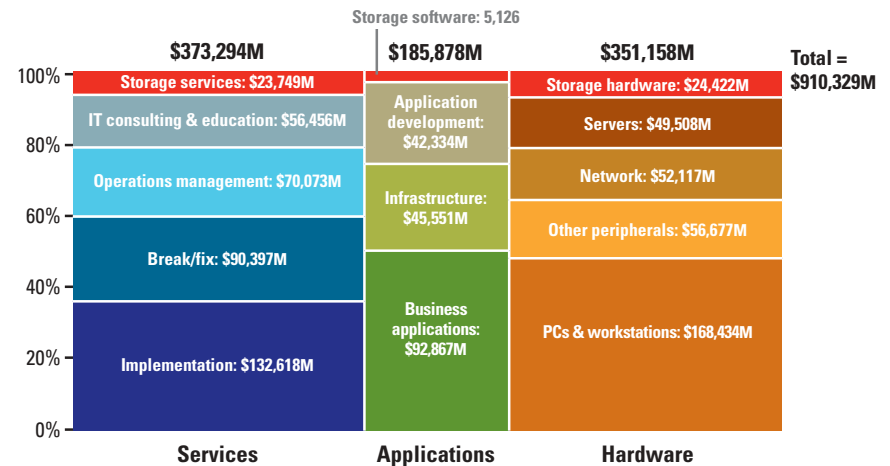
Workloads: Applications like ERP, decision support, file & print

This guide is not intended to be used as a sales presentation, but as a tool to support your efforts.

2004 Worldwide Total IT Market

This chart includes all external IT spending.

Total IT industry spending approaches \$1 trillion

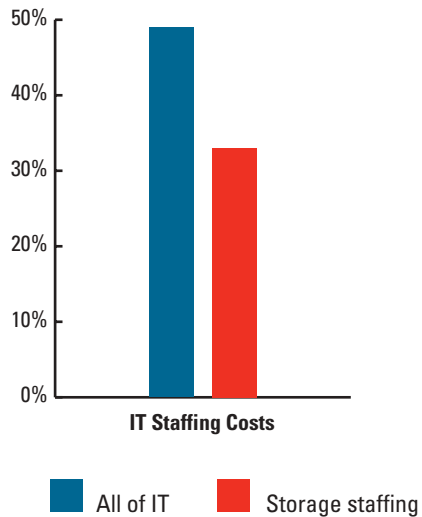


Source: IDC Worldwide Black Book 2003, StorageTek

- > Of the total 2004 IT market, services represents 41 percent, software/ applications 20 percent and hardware 39 percent.
- > Software and services have the strongest forecasted growth through 2006 (6 percent and 7 percent growth respectively).
- > Storage represents 7 percent of total hardware spending and 6 percent of services, but only 3 percent of software.
- > Hardware segment growth is slightly slower through 2006 (5.5 percent growth).

Total Storage Costs

Internal staffing costs represent a much higher proportion of storage TCO than total IT TCO

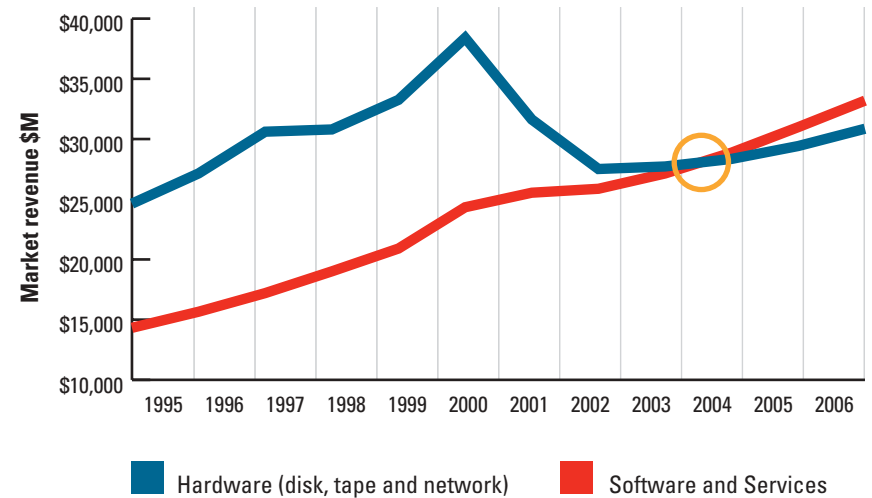


Source: IDC, Garner/Dataquest, Freeman

- > Total cost of ownership (TCO) represents the total costs, including internal staffing, involved with buying, installing and operating a system. Internal staffing represents 33 percent of total IT TCO compared to 49 percent for storage TCO. Further, software represents only 5 percent of storage TCO versus 14 percent for total IT. In other words, customers use more people and less software to manage storage compared to other IT systems.
- > This means that there is an opportunity for customers to use software to improve storage staffing productivity.

Storage at a crossroads

In 2004, the amount spent on storage software and services will exceed that spent on hardware.



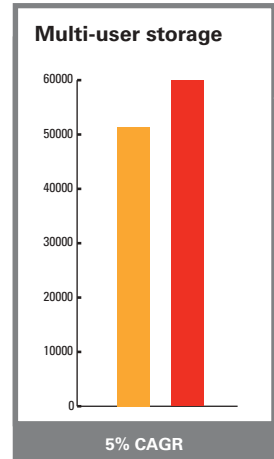
- > After decades of storage hardware sales exceeding combined storage software and services, 2004 marks the first year where hardware represents a smaller share of the total storage spend. This trend will continue through the forecast period.
- > After two years of double digit declines in storage hardware sales, hardware gradually recovers to a 2-4 percent CAGR.
- > Storage software and services growth flattened but did not decline during the previous two years and is now forecasted to increase at a 7 percent CAGR.

Storage Taxonomy (Market size and growth %)

The total storage market will be \$51 billion in 2003 and will grow at 5 percent CAGR.

> The total storage market is segmented into 5 main markets which are further segmented in 17 sub-markets.

STORAGE MARKET

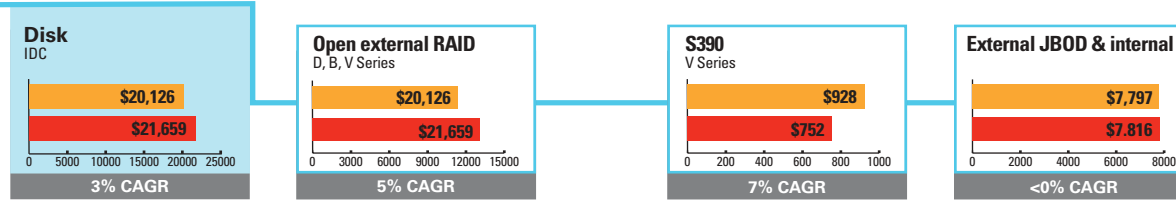


Legend

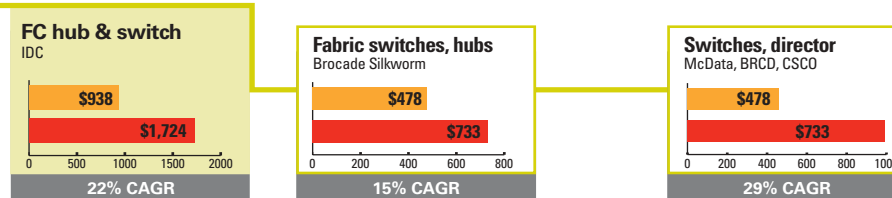
- 2003 revenue \$M
- 2006 revenue \$M

Source: IDC, Dataquest, Freeman
Current: 8/8/2003

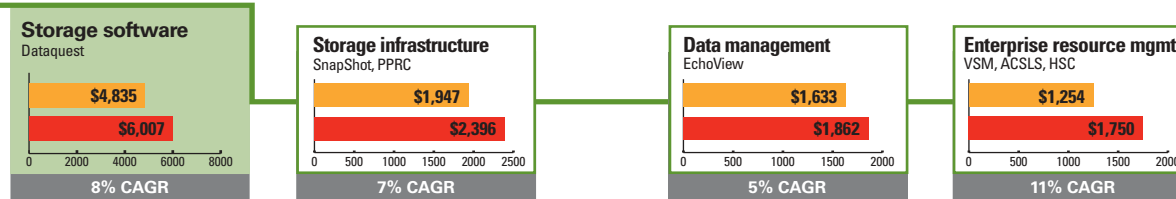
DISK



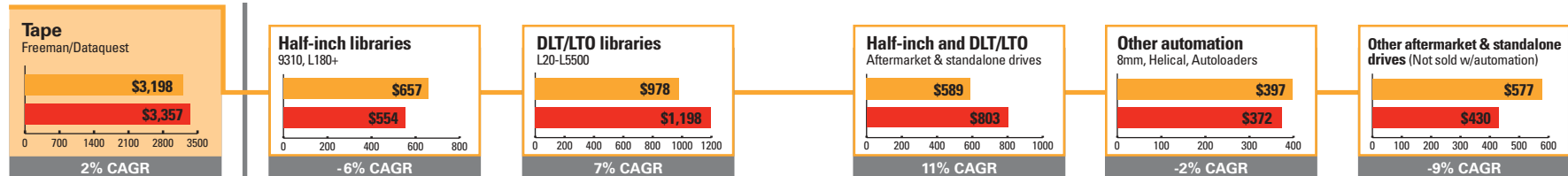
STORAGE NETWORKING



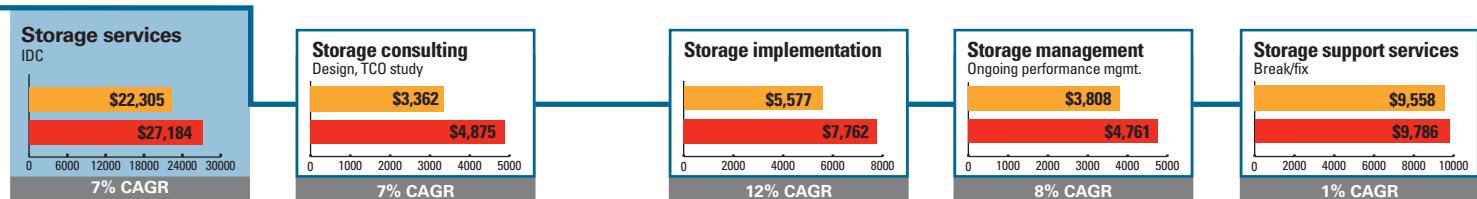
SOFTWARE



TAPE LIBRARIES AND DRIVES



GLOBAL SERVICES

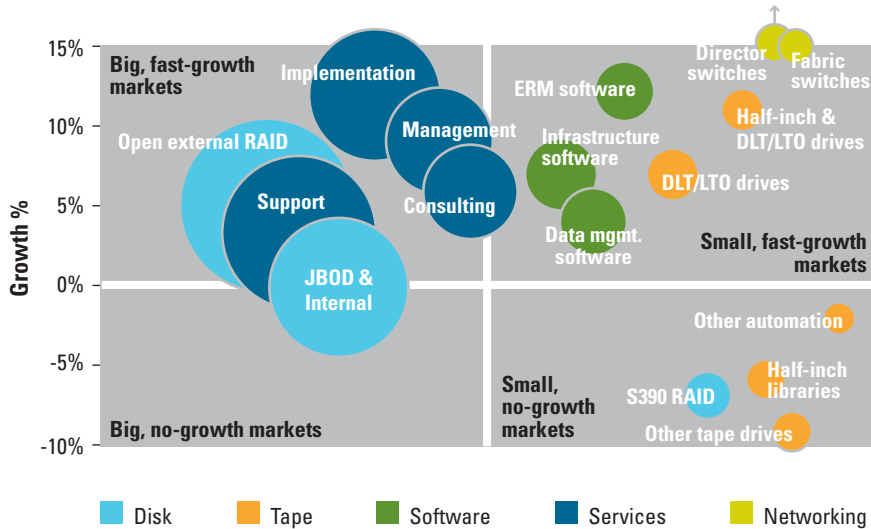


Section I: The overall IT and storage markets >

Market growth versus size

Comparison of the size and growth of each storage sub-market

Segments that are growing are at the top. Segments that are large are on the left.



- > Three storage services segments including implementation, management and consulting are both large and forecasted with higher growth. Support services is the largest service segment but is forecasted to grow at a slower rate than the other three service segments.
- > All three software segments are large with good growth but particularly Enterprise Resource Management (ERM).
- > Fabric and director switches are both small markets but forecasted to grow quickly.
- > S390 RAID, half-inch libraries and other tape drives are small and forecasted to shrink further.

> Section II: Market shares and revenue forecasts

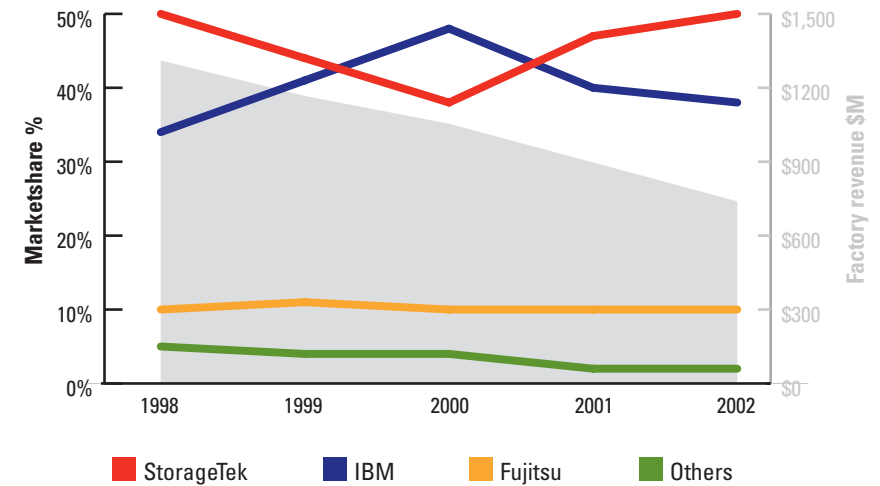
The following section includes actual revenue, market share and forecasted revenue for disk, tape, software and services.

Half-inch tape library

Half-inch tape library actual revenue and market share

StorageTek products in this segment are: Powderhorn/9310, L700, L180 libraries with 9840/9940 drives. Includes tape drive revenue

StorageTek dominates this segment with 50 percent share.



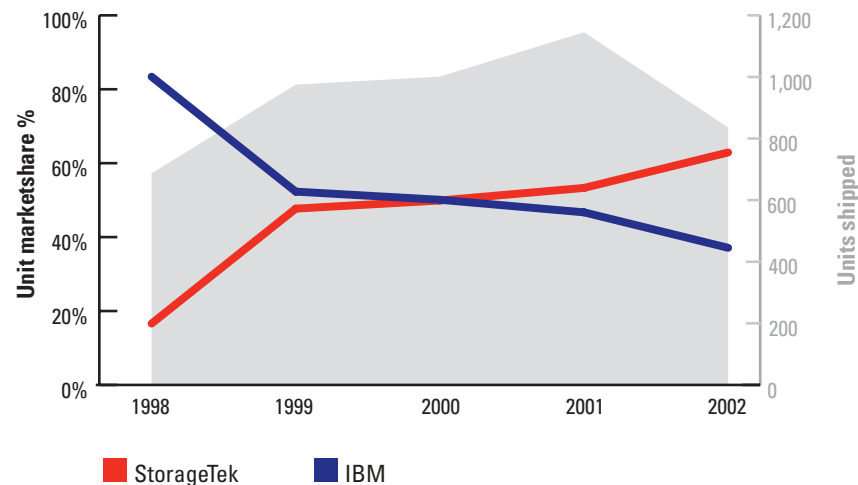
Source: Freeman

- > StorageTek recaptured the lead in this market in 2001 and increased share to 50 percent in 2002.

Section II: Market shares and revenue forecasts >

> A related segment of this market is virtual tape which includes disk, software and tape libraries. StorageTek's VSM has also been gaining share in this segment and is the market leader, shipping almost 63 percent of the virtual tape systems in 2002.

Virtual tape unit shipments



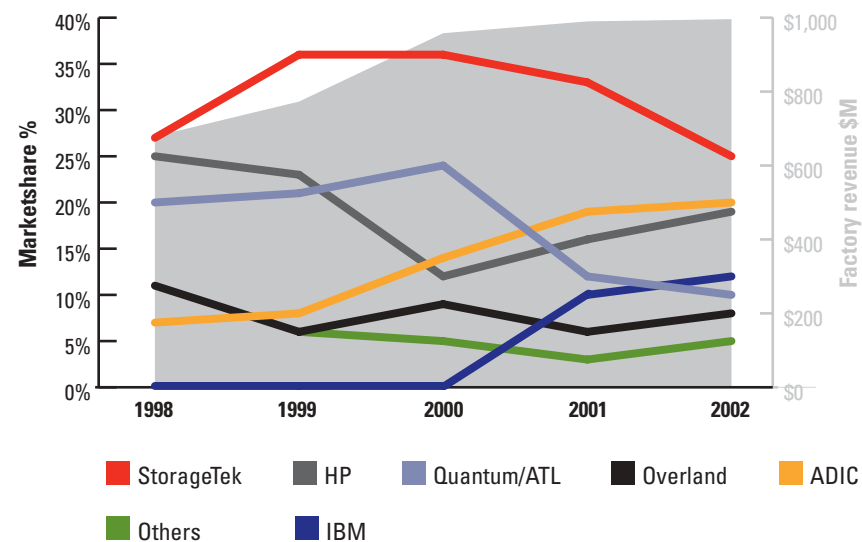
Source: Dataquest

Section II: Market shares and revenue forecasts >

DLT tape library

DLT/LTO library actual revenue and market share

StorageTek products in this segment are: L20, L40, L80, L180, L700, L5500 with DLT/LTO drives. Includes drive revenue



Source: Freeman, Dataquest

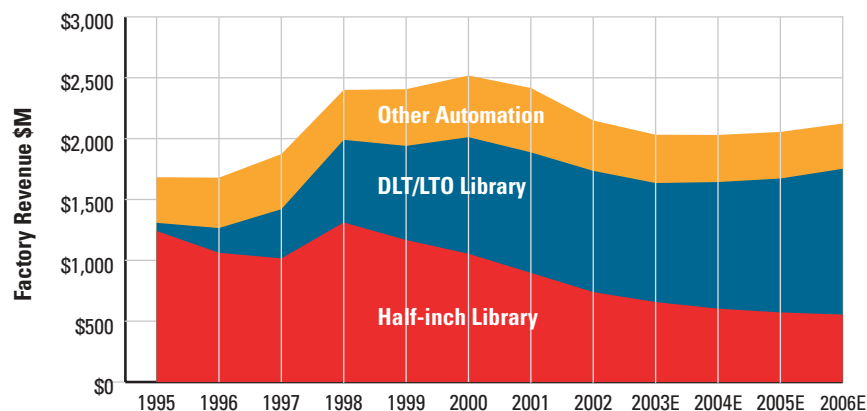
> StorageTek has maintained the lead market share position in each of the last five years.

> Recently, competition has increased in this segment with ADIC holding the lead in units-shipped and IBM growing from 0 percent to 12 percent share in two years.

Tape automation revenue forecast

Tape automation revenue forecast

Includes robotics and drive revenue. Does not include media.
Other category includes 8mm, autoloaders.



Source: Dataquest, Freeman

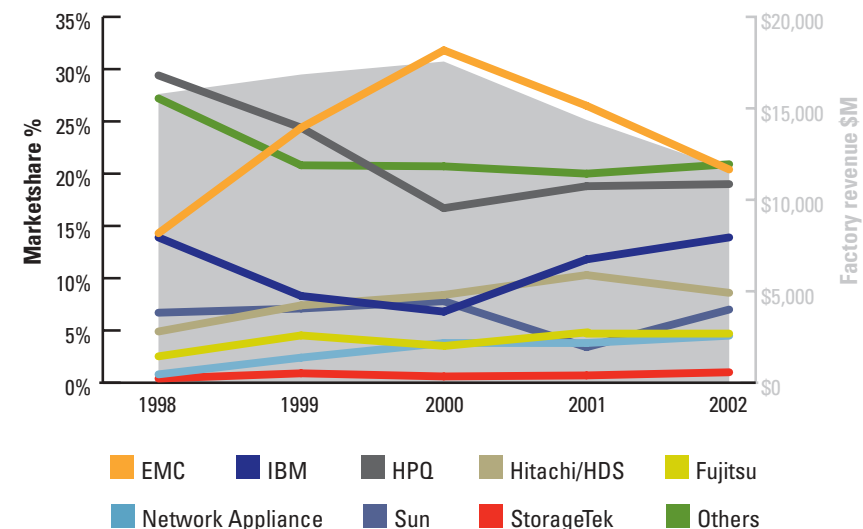
> Libraries using half-inch tape are sold into both mainframe and open environments. Today three-out-of-four half-inch libraries are sold into mainframe environments. By 2007, the split will be about equal.

> DLT/LTO libraries are sold into open environments. DLT/LTO libraries show the strongest growth and with total revenue surpassing the half-inch library market in 2001.

External RAID

External RAID actual revenue and market share

StorageTek products in this space: D-, B- and V-Series.



> This segment includes both open and S390 RAID.

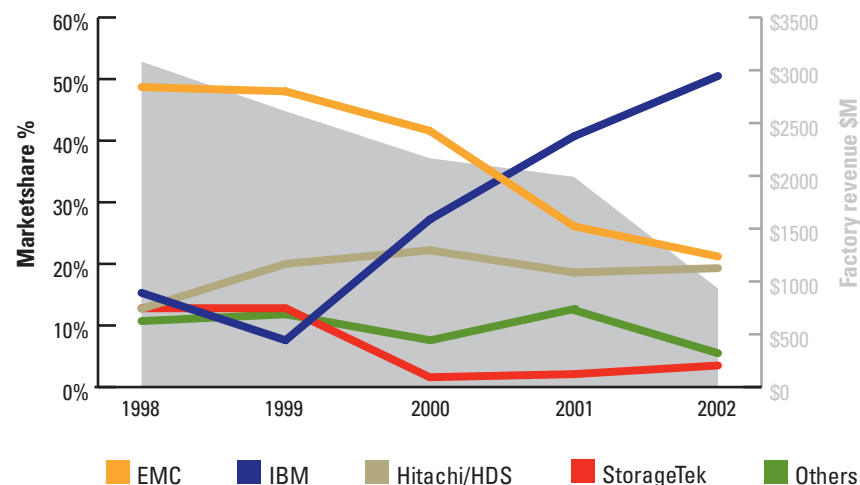
> The strongest players in this market are EMC, HPQ and IBM but the market is fragmented with 50 plus small suppliers ("others") representing 21 percent total market share.

> HPQ (combining HP and Compaq disk revenue) will likely surpass EMC in 2003 as the market share leader in this segment.

> StorageTek increased market share 43 percent in 2002 to 1 percent.

S390 disk actual revenue and market share

StorageTek products in this segment: V series.

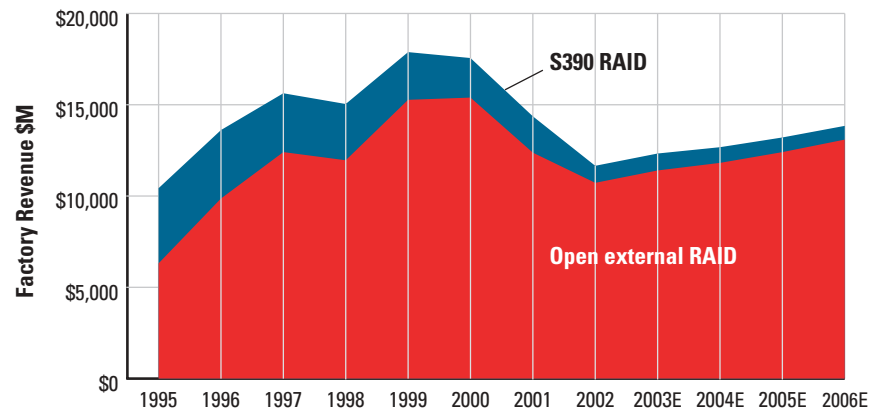


Source: IDC

- > This segment is a small but strategic sub-segment of external RAID and includes only external RAID that attaches to S390 environments.
- > IBM has strongly gained share in this segment since 1999 (particularly against EMC) and shipped over 50 percent of the revenue in this segment in 2002.
- > StorageTek's market share shows a decline in the year immediately following the end of the IBM OEM relationship in 1999. However, it has been growing steadily since then increasing 67 percent in the last year to capture a 3.5 percent share in 2002.

Open external RAID dominates future disk revenue

External RAID revenue forecast



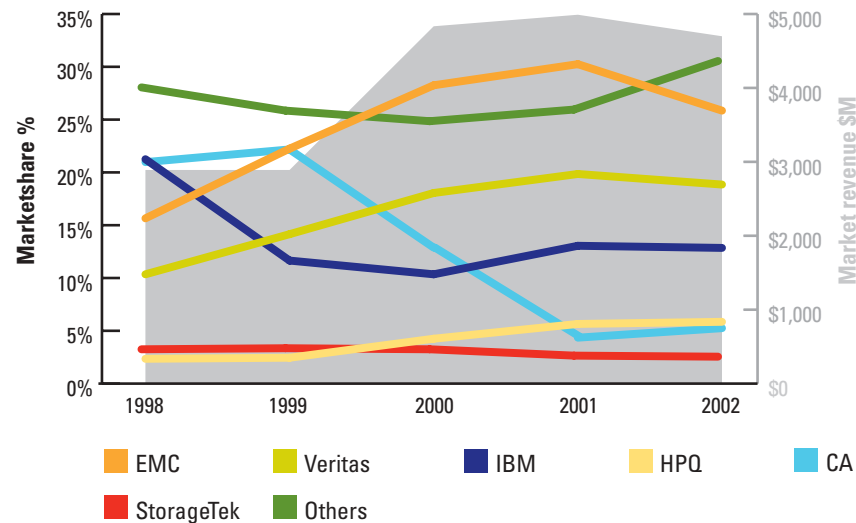
Source: IDC

- > After two years of double-digit revenue declines, the external RAID market is forecasted to grow at a 6 percent rate in 2003 and moderating to 5 percent growth through 2006.
- > In 2004, S390 RAID will represent about 7 percent of the total external RAID market.
- > Disk capacity shipped per year is increasing at a 50-60 percent rate which when added to the existing installed base – less attrition – means that customers are managing 30-40 percent more disk storage each year.

Storage software

Storage software revenue market share

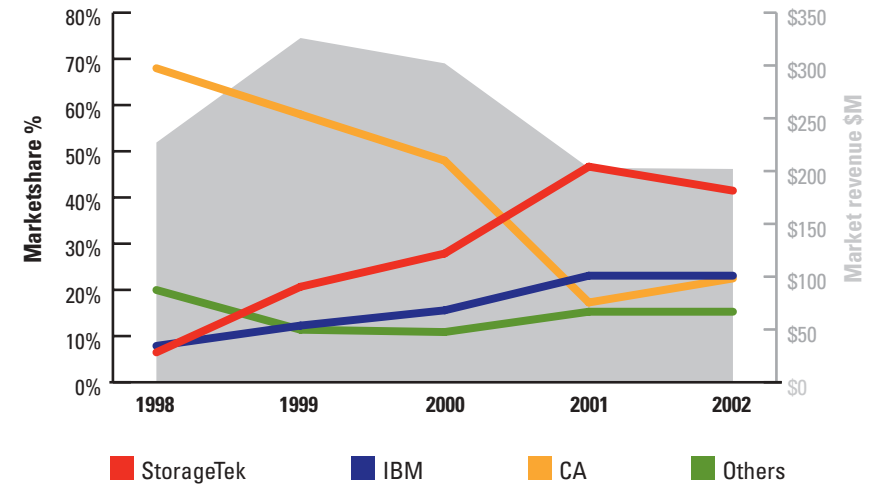
StorageTek's products in this segment: VSM, Echoview, ACSLS, HSC, PPRC, Snapshot.



Source: Dataquest

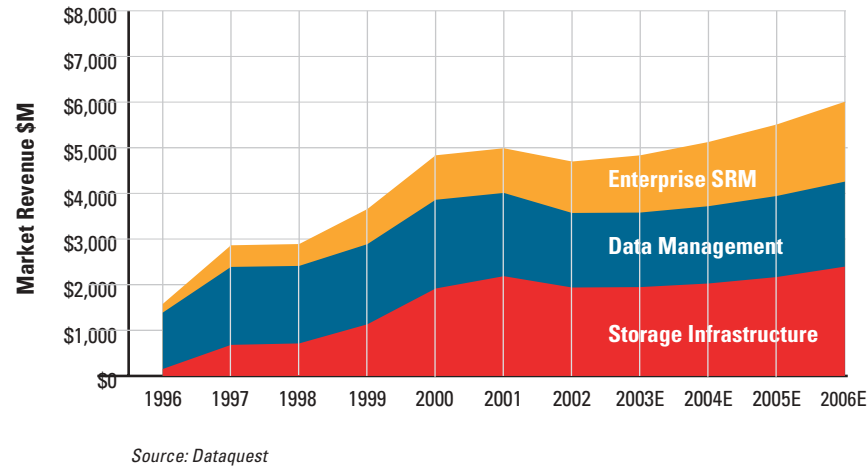
- > EMC and Veritas dominate this market with consistent growth since 1998.
- > StorageTek's market share in this space is 2.3 percent most of which is from VSM revenue.
- > In the \$200M media/library management sub-segment StorageTek has consistently grown market share and leads this market with 40 percent share in 2002 (primarily from VSM revenues).

Media/library management software market share



Source: Dataquest

Storage software revenue forecast



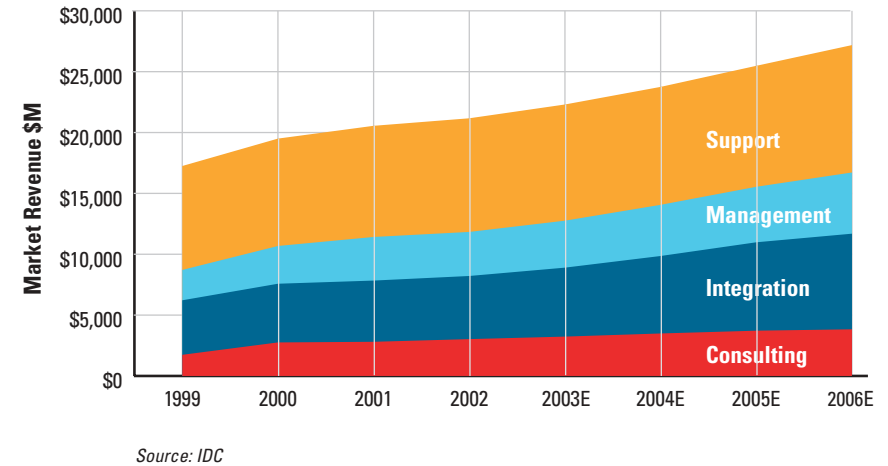
> After stalling since 2001, the storage software segment is forecasted to now grow at 8 percent through 2006.

- > Key corporate needs driving storage software growth:
- Information Lifecycle Management.
 - Data availability and protection requirements as the value of information increases.
 - Pressure to reduce internal storage management staff costs.
 - Enabled migration from Direct Attached Storage (DAS) to Fabric Attached Storage (FAS).
 - Multi-platform environment integration

Support services is the largest segment but with the slowest growth

Services forecast

StorageTek has 80+ offerings in this segment.



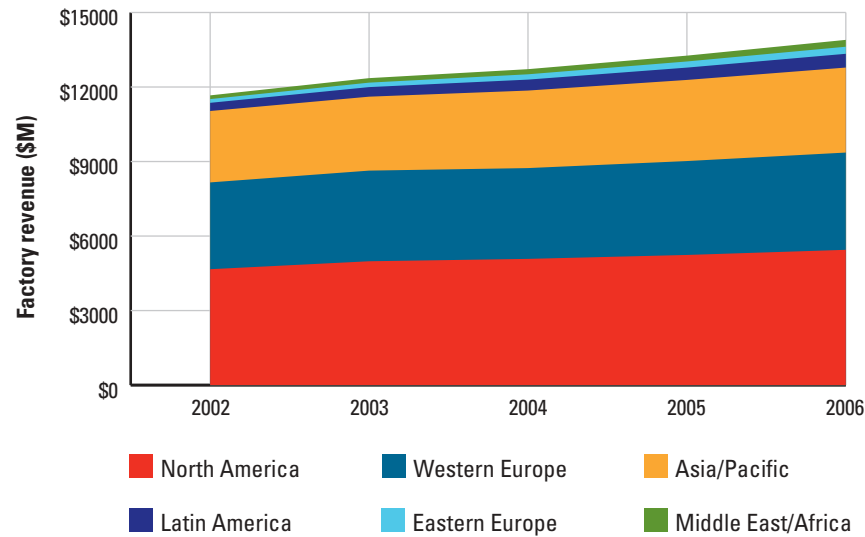
> Integration/implementation services is the second largest services sub-segment with 27 percent of the total revenue and the fastest forecasted growth at 15 percent.

> Support services (break/fix) is the largest segment with 41 percent of the revenue but the slowest forecasted growth at 3 percent.

> Section III: Region, industry and workload segmentations

Worldwide external RAID revenue by region

Includes open and S390 external RAID



Source: IDC, StorageTek

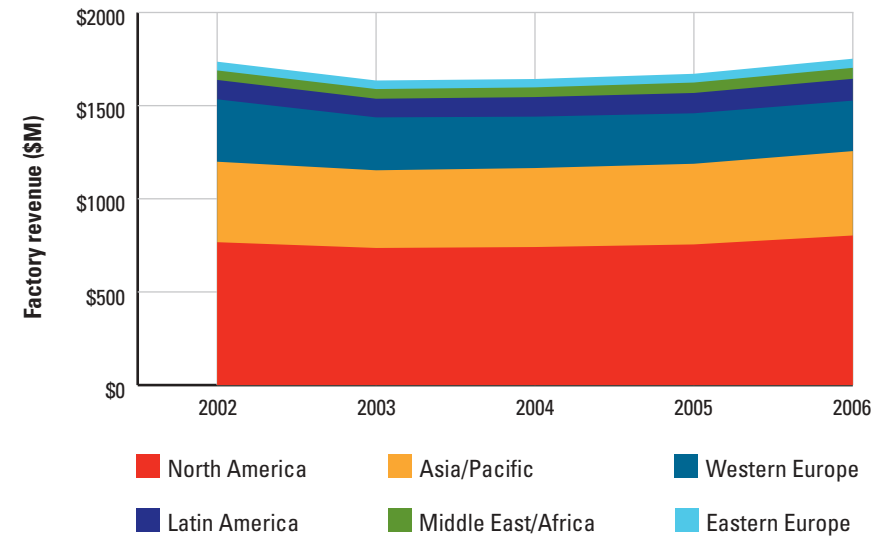
> North America, Asia/Pacific and Western Europe combined consume 95 percent of worldwide external RAID but are forecasted to grow in the low single digits.

> Eastern Europe, Latin America and Middle East/Africa represent 5 percent of total worldwide external RAID revenue but forecasted to grow in the mid-teens.

Section III: Region, industry and workload segmentations >

Worldwide tape library revenue by region

(Half-inch and DLT/LTO Libraries including robotics and drives)



Source: IDC, Dataquest, StorageTek

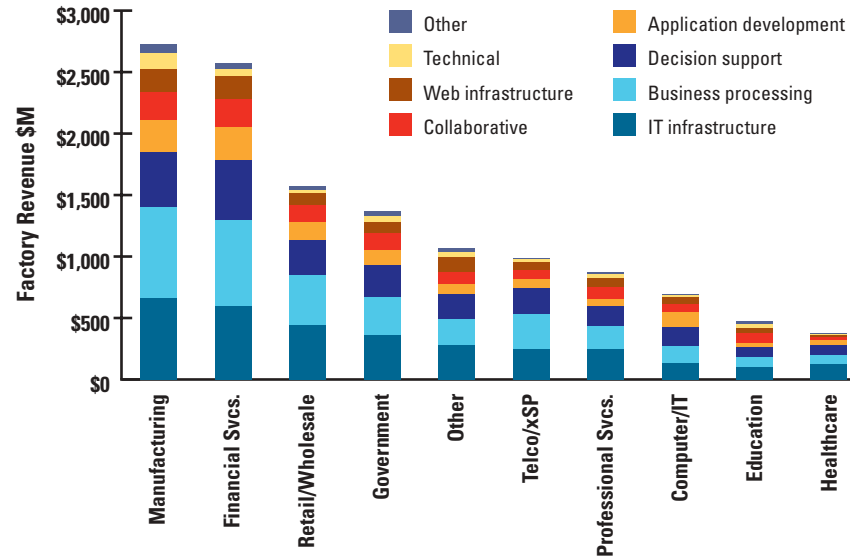
> North America consumes a greater revenue share of tape libraries (45 percent of the world total) than external RAID (40 percent of the world total). Asia/Pacific consumes a greater share of external RAID (25 percent of the world total) than tape libraries (17 percent of the world total).

> Tape library revenue declined slightly in North America in 2003 but recovers in 2004.

Worldwide 2004 external RAID revenue by workload and industry

In this chart workload refers to the applications that use the disk.

Four of ten industries consume 65% of total disk



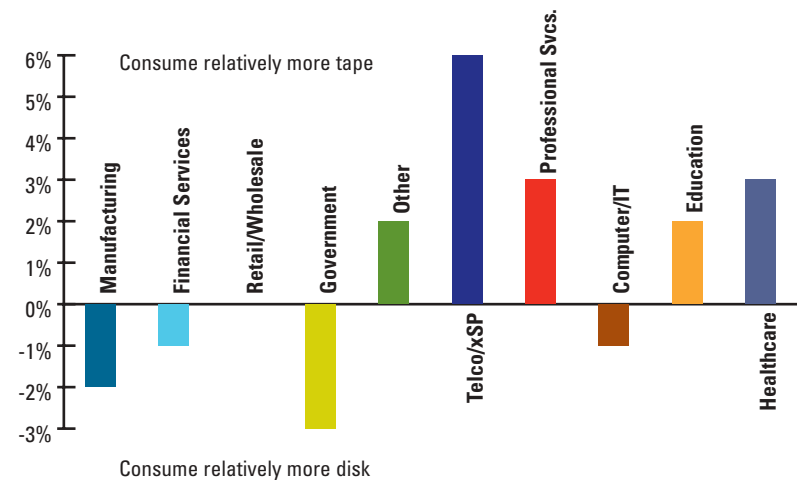
Source: StorageTek Market Opportunity Finder

- > Four of ten industries: manufacturing, financial services, retail/wholesale and government consume 65 percent of total disk.
- > Three of eight workloads: IT infrastructure (primarily file & print), business processing (primarily ERP, OLTP and batch) and decision support (data warehousing) consume 68 percent of the disk.
- > Manufacturing, financial services and telco/xSP each consume a higher than average proportion of disk for business processing. Retail has a higher proportion of IT infrastructure and Telco has a higher proportion of decision support.

Industries' relative consumption of tape versus disk

Tape versus disk consumption variation from average

Telco/xSP consumes the highest proportion of tape



- > Industries that consume a relatively higher proportion of tape than disk are: Telco/xSP, healthcare, professional services, other (which include scientific and engineering), education and retail/wholesale.

For updated market information, please visit Sales Community and click on Market Information under the heading “Competition.” Note that data is updated quarterly based on industry analyst publishing cycles.

© 2003 Storage Technology Corporation, Louisville, CO. All rights reserved. Printed in USA. StorageTek and the logo are trademarks of Storage Technology Corporation. Other product names mentioned may be trademarks of Storage Technology Corporation or other vendors/manufacturers.

MZ 9321 B 10/03

