StorHouse®

Active Archive

VLDB 99
Problem Statements

- The total cost of disk storage limits the amount of data retained.
- Some data retained for accessing that has an access rate that begs for more cost effective storage than disk.
- Retaining infrequently accessed data impacts performance to all data.
- Data is archived to insure against loss.
FileTek developed an Active Archive to address the problem.
Product Overview

- Combines hierarchy of storage and RDBMS
- Uses direct access to secondary storage
- Orders access to serial devices (magnetic tape) for one pass operation
- Orders use of removable volumes for single mount per volume operation
- Optimum use of high speed search or full scan on a row access basis
Data Structure

Non-System Table

Table Data

Index 1

Index n

Range Index

Value Index

Hash Index

Table Segment 1

Table Segment n

Index Segment 1

Index Segment n

Hash Index Segment 1

Hash Index Segment n
Data Duplexing Protects Against

- Robotic library failures
- Unreadable media
- Non-shareable characteristics of tape
- Non-optimum use of medium
Other Requirements

- Terabytes of inexpensive disk in a persistent cache
- High system availability (>99.9%)
- Automated system management to minimize administrative cost
- Disaster recovery support
Tape Storage –

StorageTek 9840 and IBM Magstar Define New Generation:

- Fast access – Average mount, load, position and read of first record in less than 20 seconds
- Average search of less than 12 seconds
- Transfer rates with typical compression approaching 20 MB/Second
- Compressed volume capacity exceeding 20 Gbytes
Tape Storage –

StorageTek 9840 and IBM Magstar Define New Generation:
(continued)

- Capacity and transfer rate improve at rates equivalent to magnetic disk
- Library capacity will soon reach Pbytes
- LTO and Super DLT to arrive soon
- Cost from 1/10th to 1/100th of magnetic disk depending on library sizes
Optical Storage

- Has direct access performance advantage over tape (Sub-second versus 10+ seconds)
- Has not maintained cost advantage versus magnetic disk and tape to justify wide use
- Multi-layer technology from Lucent and/or Siros may enable a new generation
- DVD volumes may lead to competitive costs (no more than double tape)
- Now in a wait and see mode