HP WORLD 2004
Solutions and Technology Conference & Expo

Information Lifecycle Management and Database Archiving

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Today's Agenda

- ## ILM Concepts
  - What is ILM?
  - What factors are driving ILM?
  - How is ILM is accomplished?

- ## Database Archiving in ILM
  - Current Approaches
  - Alternative: Active Archive Solutions
 - Automated Data Management and Storage Optimization

Information Lifecycle Management

- All data has a lifecycle from acquisition through disposal

- Parameters differ over time
  - Retention Requirements
  - Access Requirements
  - Business value

- Store and manage accordingly

Acquisition

Frequent Access

Sporadic Access

Minimal Access

Disposal
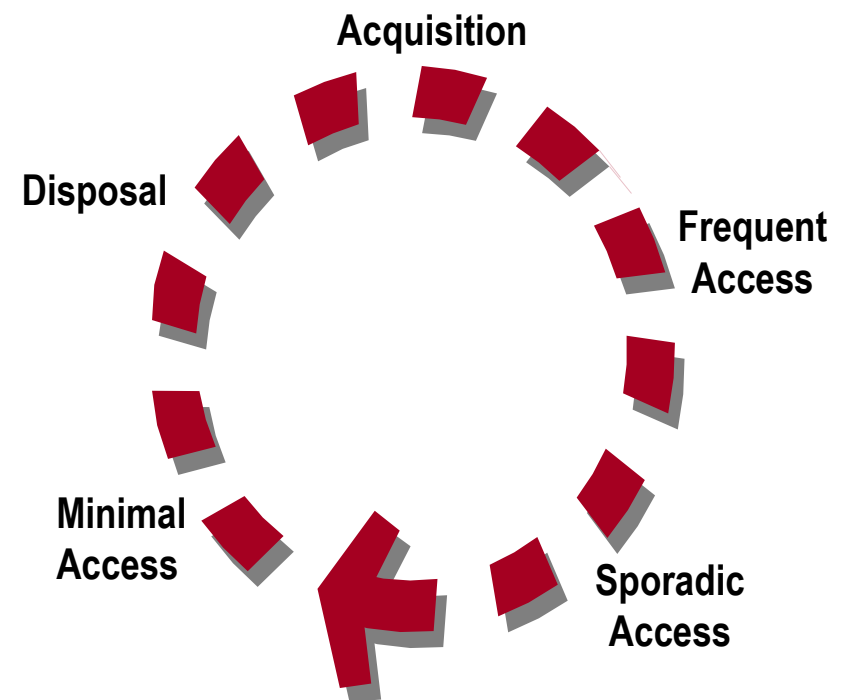
What's Driving ILM?

- Data Growth
  - Business Imperatives
  - Compliance

- Infrastructure ROI
  - Cost Savings
  - Resource Optimization
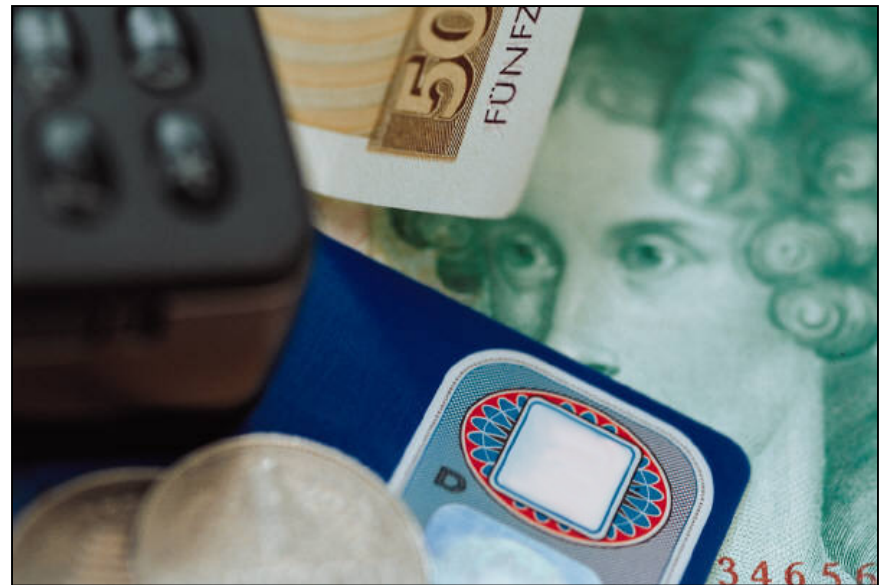
Database Growth Causing Problems

Business Operations Risk

- Compliance to new regulations
- Longer work cycles
- Disaster Recovery process

Business Service Levels Missed

- Longer response times
- Decreased productivity
- Frustrated customers

Skyrocketing IT Costs

- Hardware upgrades
- Software upgrades
- Opportunity costs

Database Growth Must Be Managed

"…databases will grow 30x during the next decade, or roughly 40% annually."

Source: Meta Group

40% CAGR may be a conservative estimate!

"With growth rates exceeding 125%, organizations face two basic options: continue to grow the infrastructure or develop processes to separate dormant data from active data." Source: Meta Group 2003

Compliance to new regulations compounding management problems.

■ **Active Data**
■ **Inactive Data**

2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011
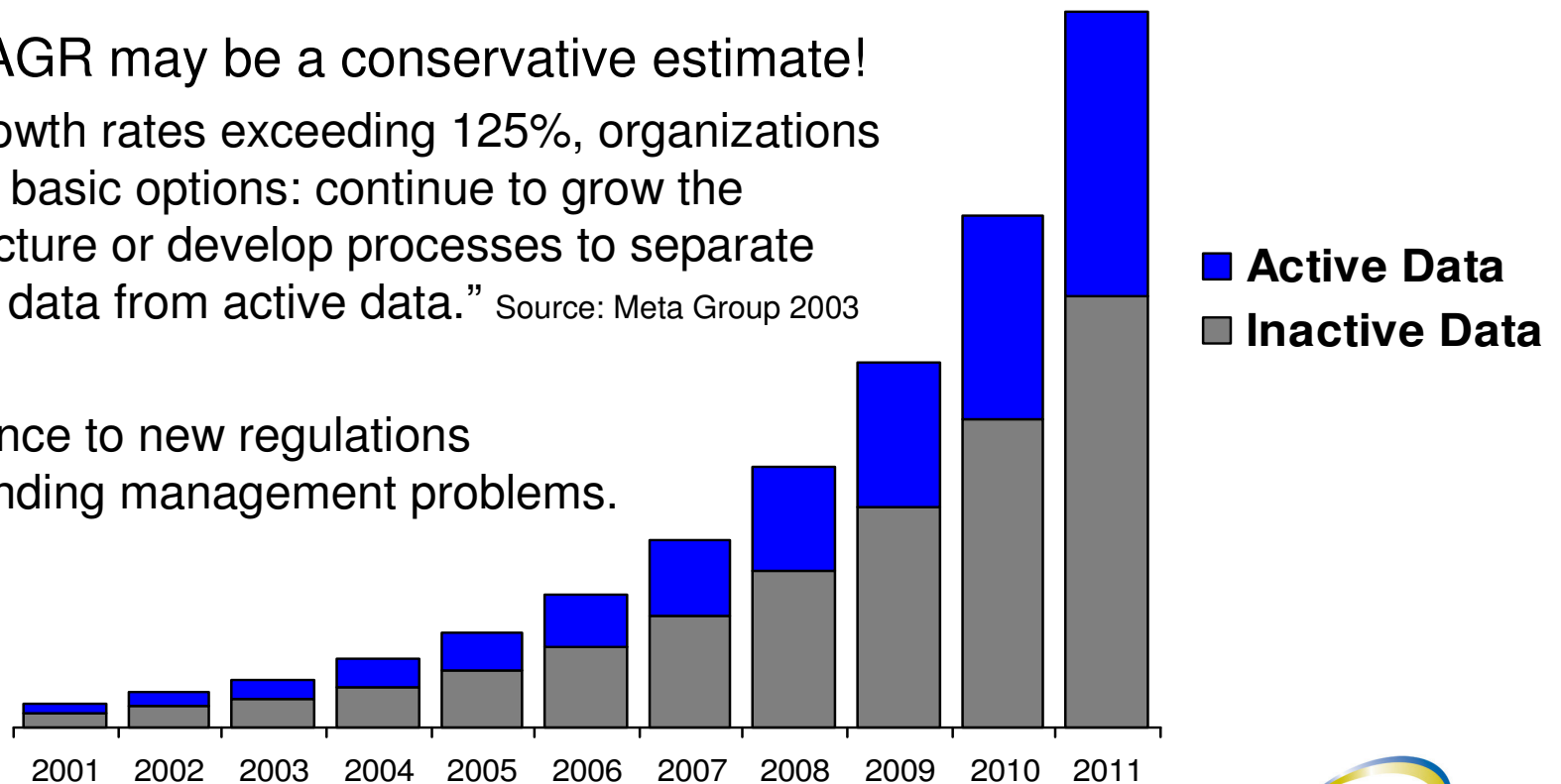
Regulations Require Data Retention Policies

➢ Increased data retention regulations in industries such as financial services, healthcare, telecommunications, life sciences, and government.

➢ Highly visible in the United States and now a global issue

➢ Trend is more regulations across more industries across more geographies…
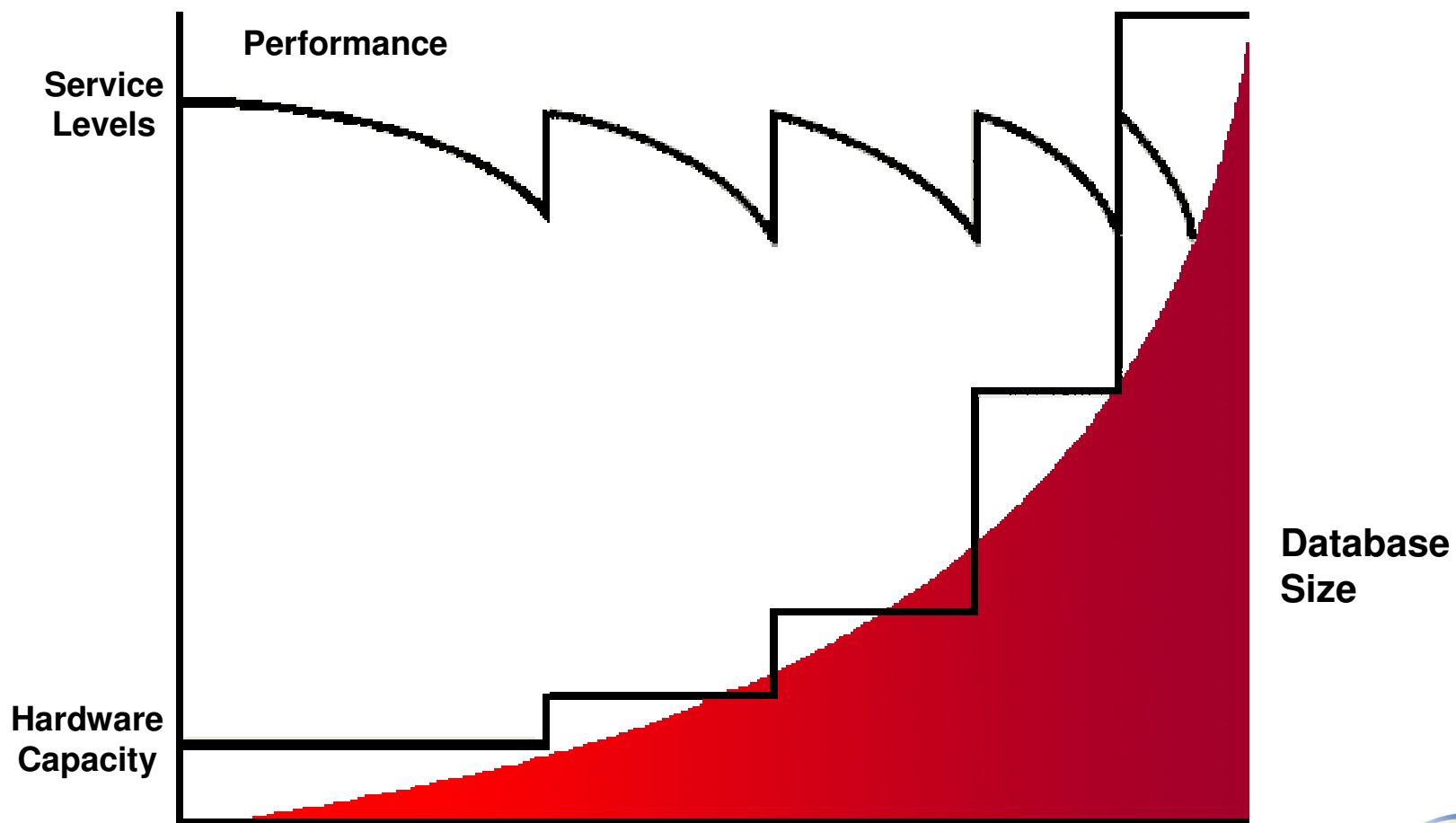
Bottom line: Data retention regulations are increasing the risk and also the value of information

Data Explosion

Performance

Service
Levels

Database
Size

Hardware
Capacity

How is ILM Accomplished?

- Assess enterprise data
  - Business needs
  - Retention requirements
  - Access requirements

- Derive business "value"

- Define storage strategies

- Set (then automate) migration policies

Evolving Business Value

Align Storage Costs with Information Value

Active Data

Inactive Data

Historical Data

Access

Value

Online Storage

Nearline Storage

Offline Storage
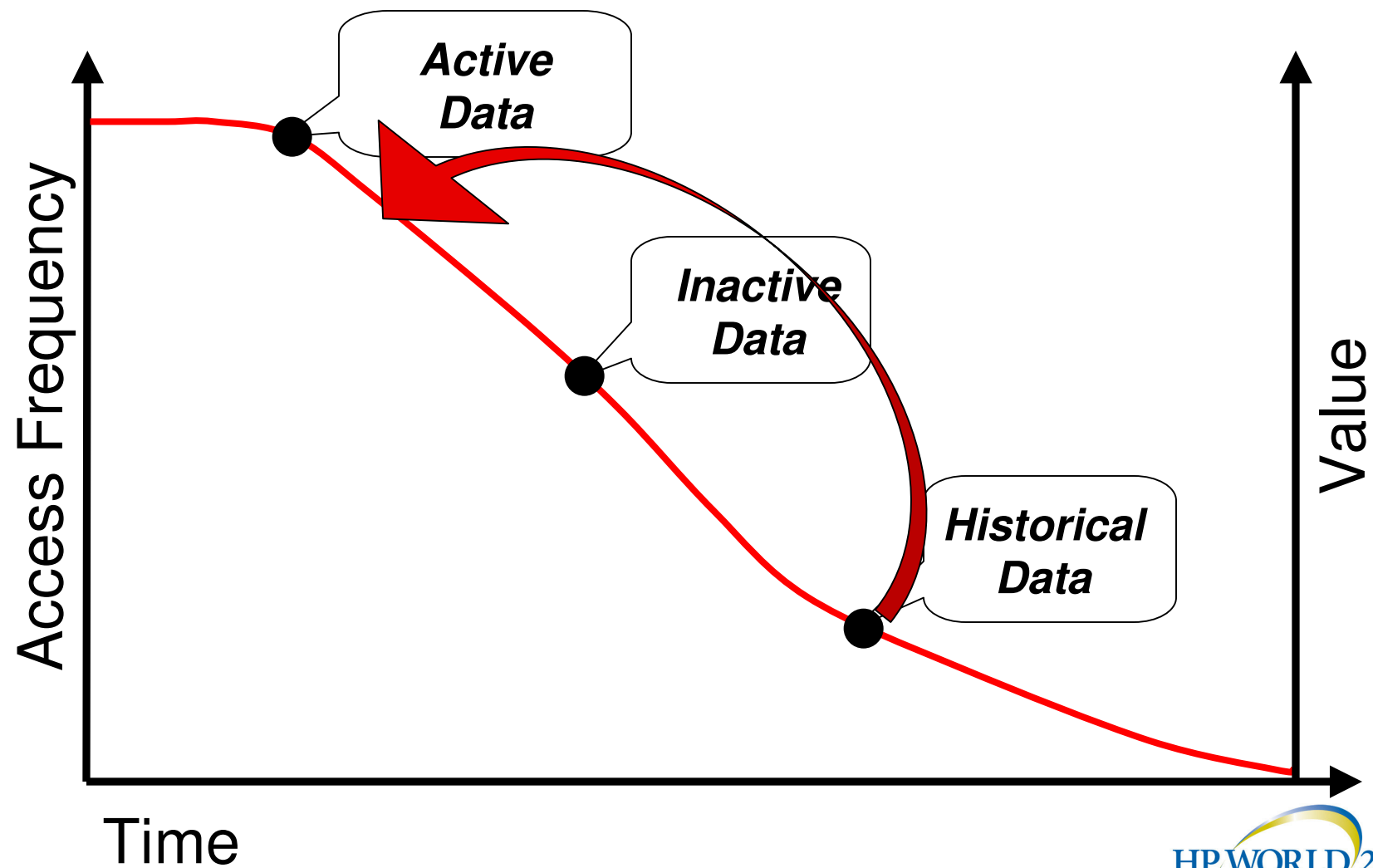
Time
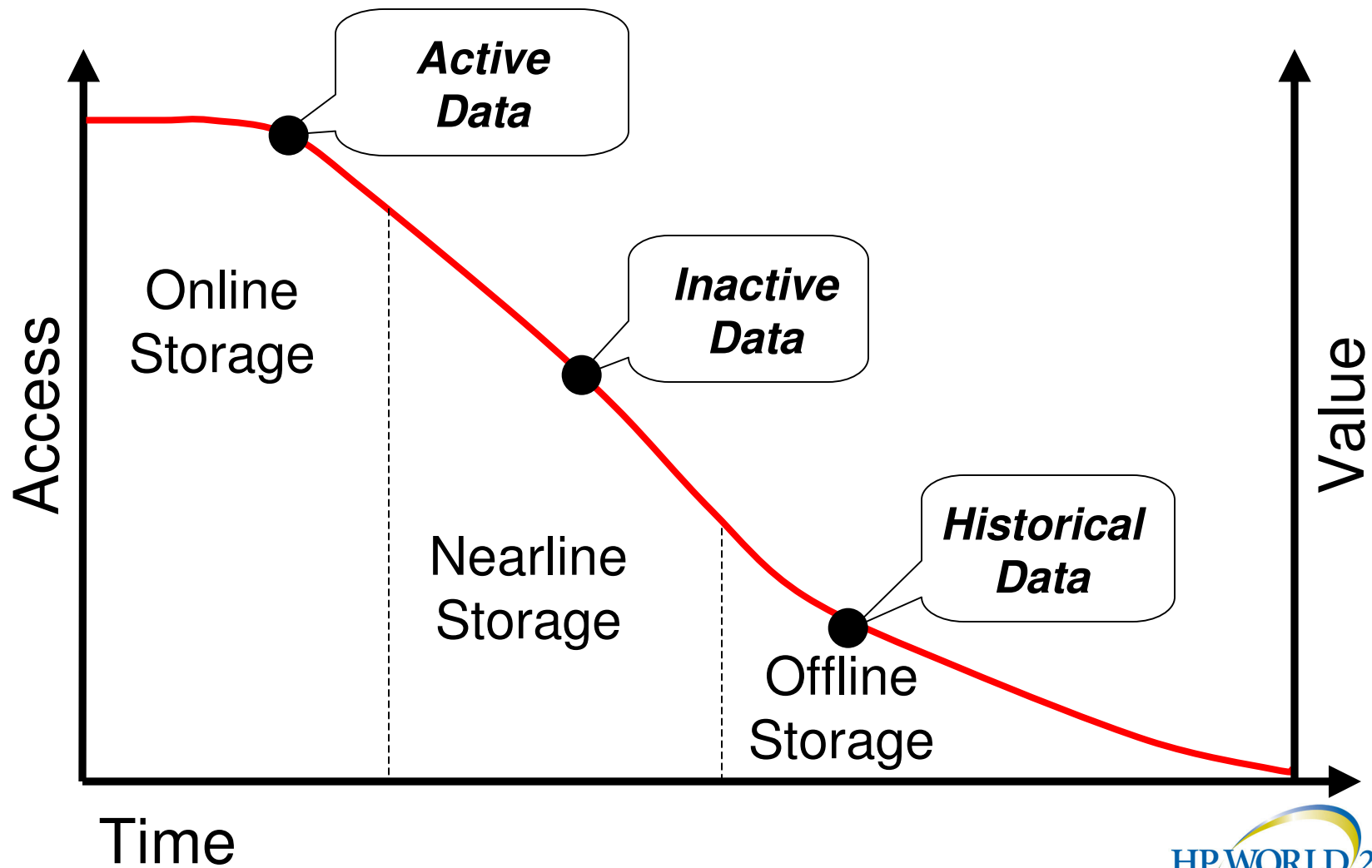
Set Migration Policies
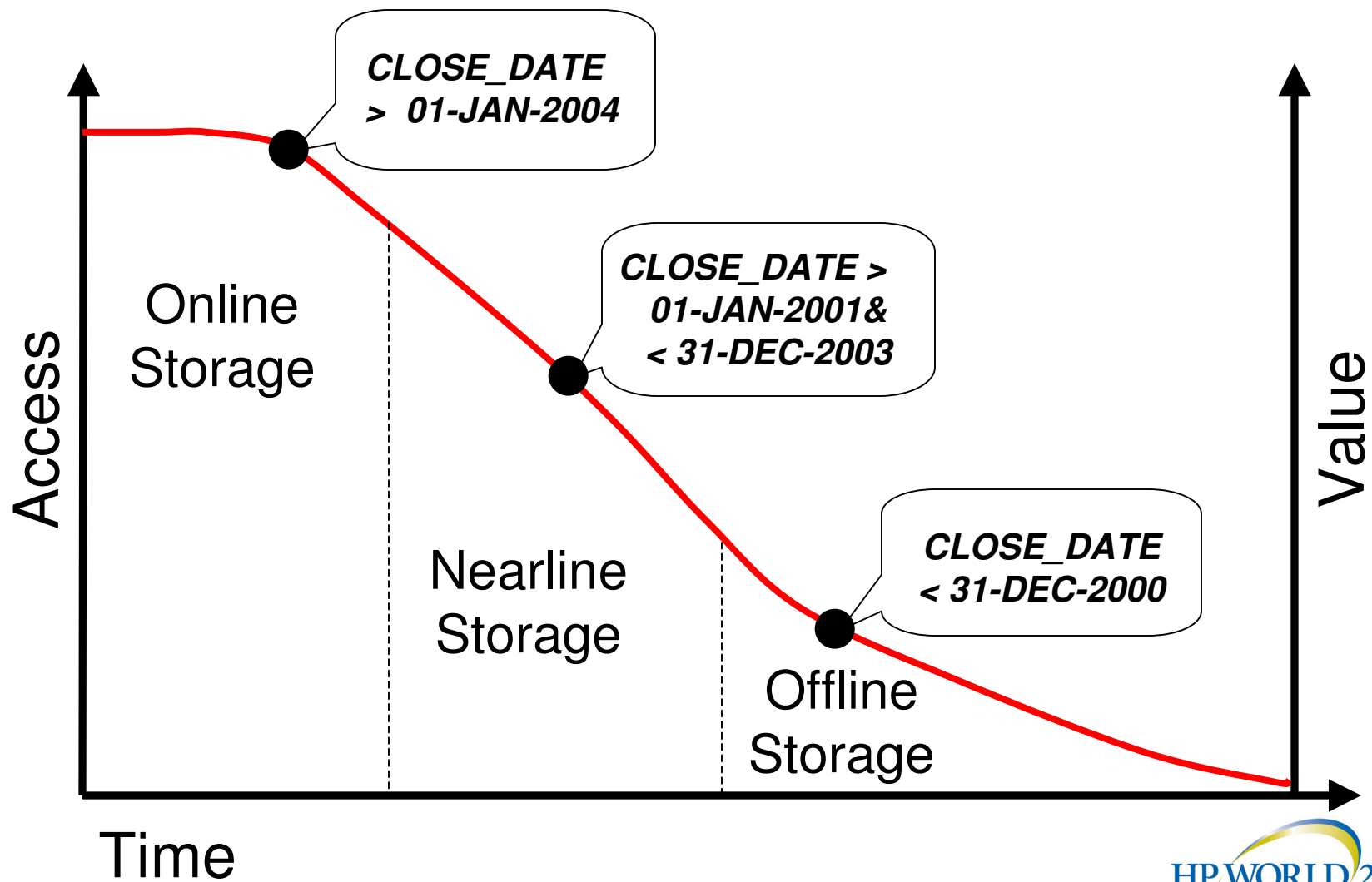
Traditional Approaches

- **Add More Capacity**
  - Bottom line impact
  - Uncontrolled continuous cost

- **Delete Data**
  - Legal and retention issues

- **In-house Development**
  - Complex undertaking
  - Application specific
  - Support / upgrade / maintenance / opportunity cost

Define Storage Strategies

New Data

Primary Data-Store

Total Data

Access

Time

Align Storage Costs with Information Value

New Data

Total Data

Time

Primary Data-Store

Secondary / Nearline

Archive / Removable Media
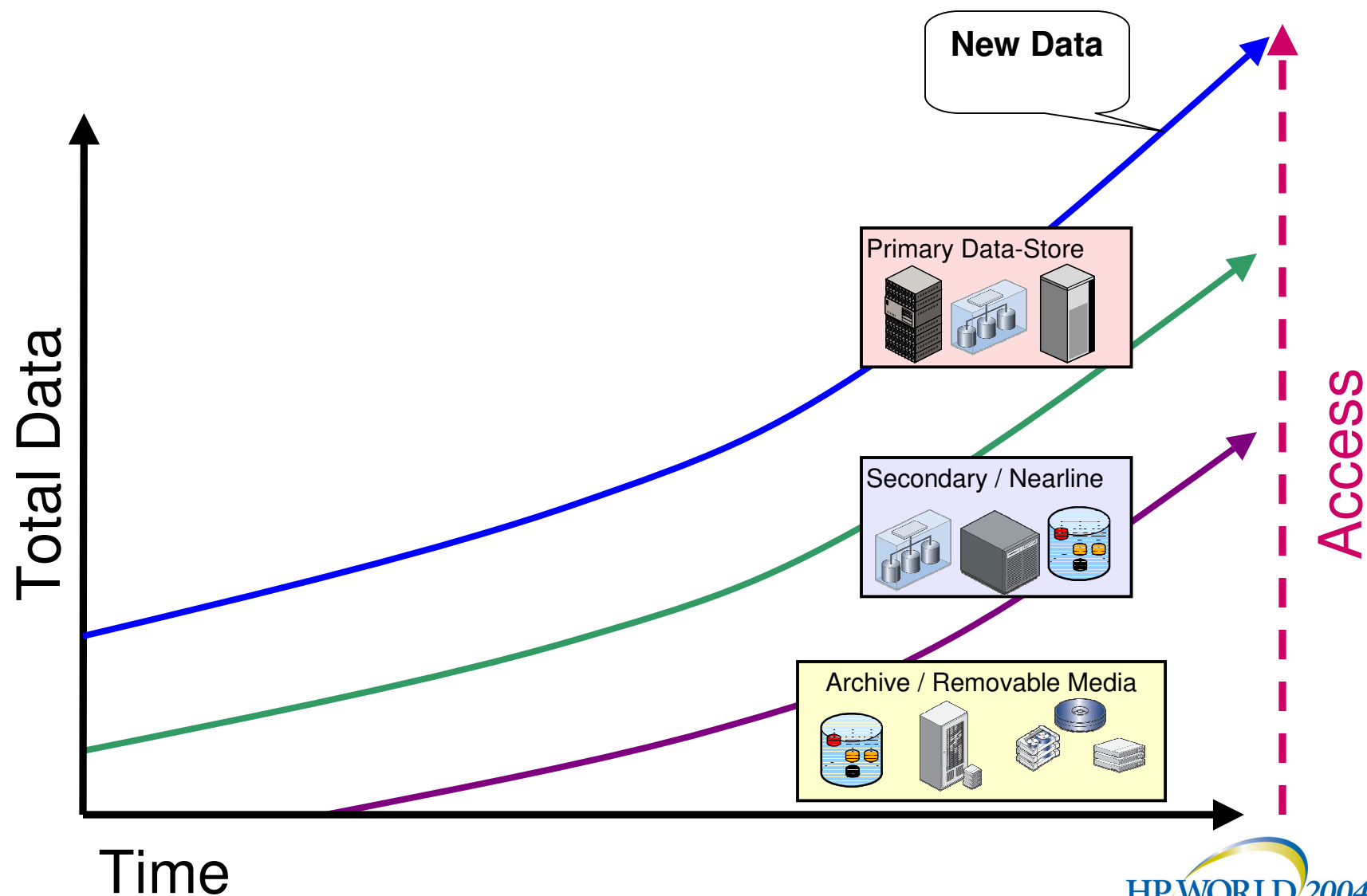
Access

Database Archiving
Key Part of an ILM Solution

Financials	CRM	E-Commerce	Data Warehouse

Storage Resource Management	Backup and HSM	Archiving

Database Management System

Snapshots	Replication and Clustering

File System

SAN/Volume Manager

Operating System and Storage Hardware Device Drivers

ILM Policy Manager

Storage Subsystem (Primary, Secondary, or Off-line)
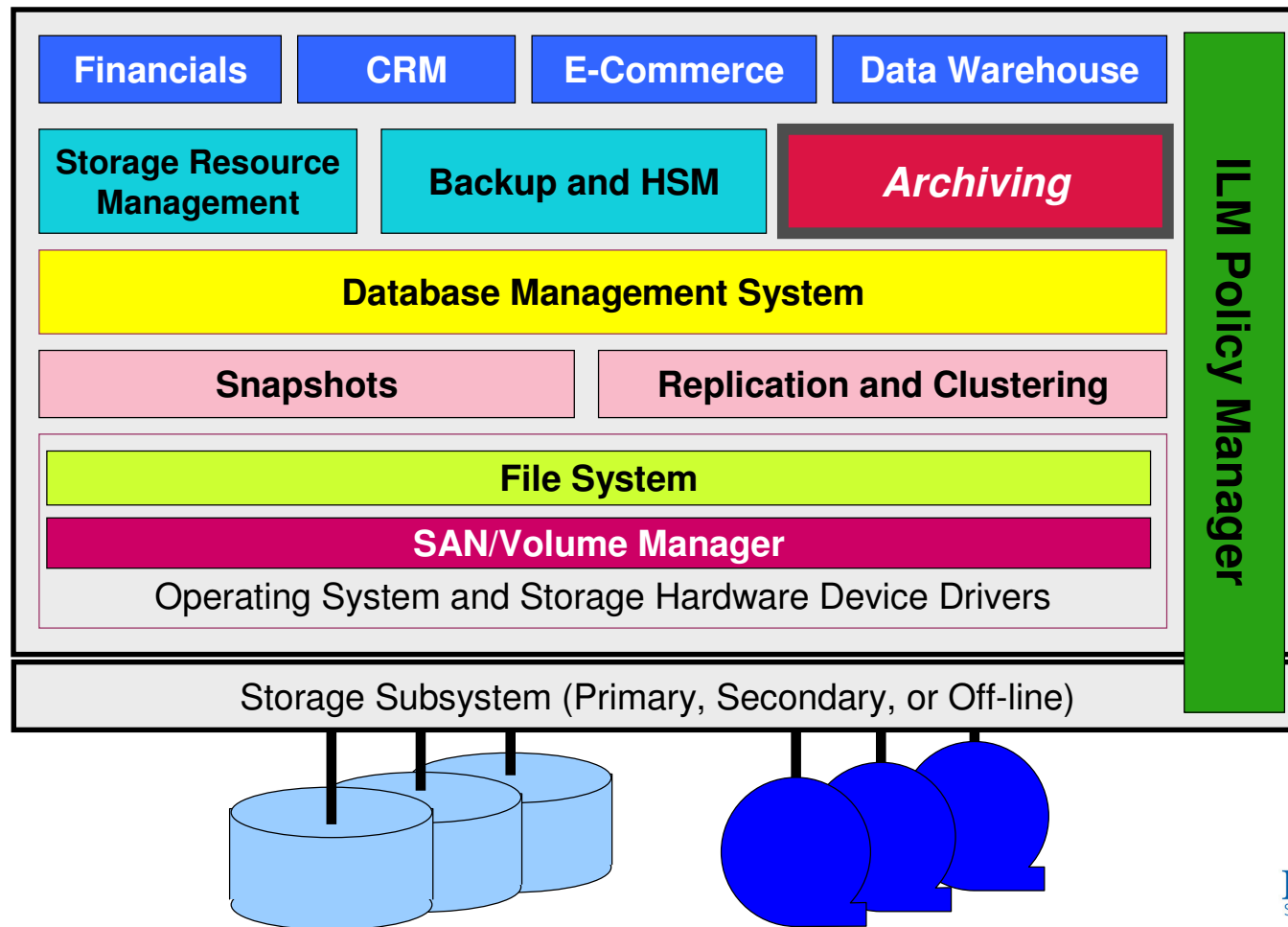
How Does Database Archiving Fit In?

- Streamline application database
  - Remove infrequently used data
  - Archive relational subsets
  - Maintain business context

- Maintain access to archived information
  - View, research, restore
  - Comply with retention requirements

- Store archived data cost-effectively
  - Migrate to lower-cost tiers based on business value

Who Needs Database Archiving?

➢ Companies processing high volumes of online transactions :
 - ERP, CRM, SCM applications
  - eCommerce & customer facing applications

➢ Companies which need to comply with record retention regulations:
  - Healthcare – HIPAA
  - Pharmaceutical – 21 CFR 11
  - Basel II
  - Sarbanes-Oxley Act
  - Financial – IRS and SEC Rule 17a-4

➢ Companies needing to enhance their disaster recovery capability :
  - Active archiving reduces data volume - less data to recover
  - Recover mission-critical data first and rarely used data later
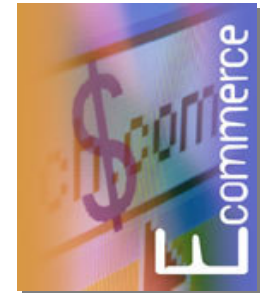
Benefits of Database Archiving

- Improve application performance and availability
  - Optimize transaction and query processing
  - Speed upgrades

- Ensure appropriate access to data
  - Customer inquiries
  - Internal audit
  - Compliance requests

- Lower total cost of ownership (TCO)
  - Applications
  - Databases
  - Storage infrastructure

Princeton Softech's Active Archive Solutions

Initiate Archiving

Production Database

Active Archive Database

Archive File

Archive File

Restore on Demand

Data Access Locate, Browse, Query, Report

Application and Query Tools **Archive Admin**
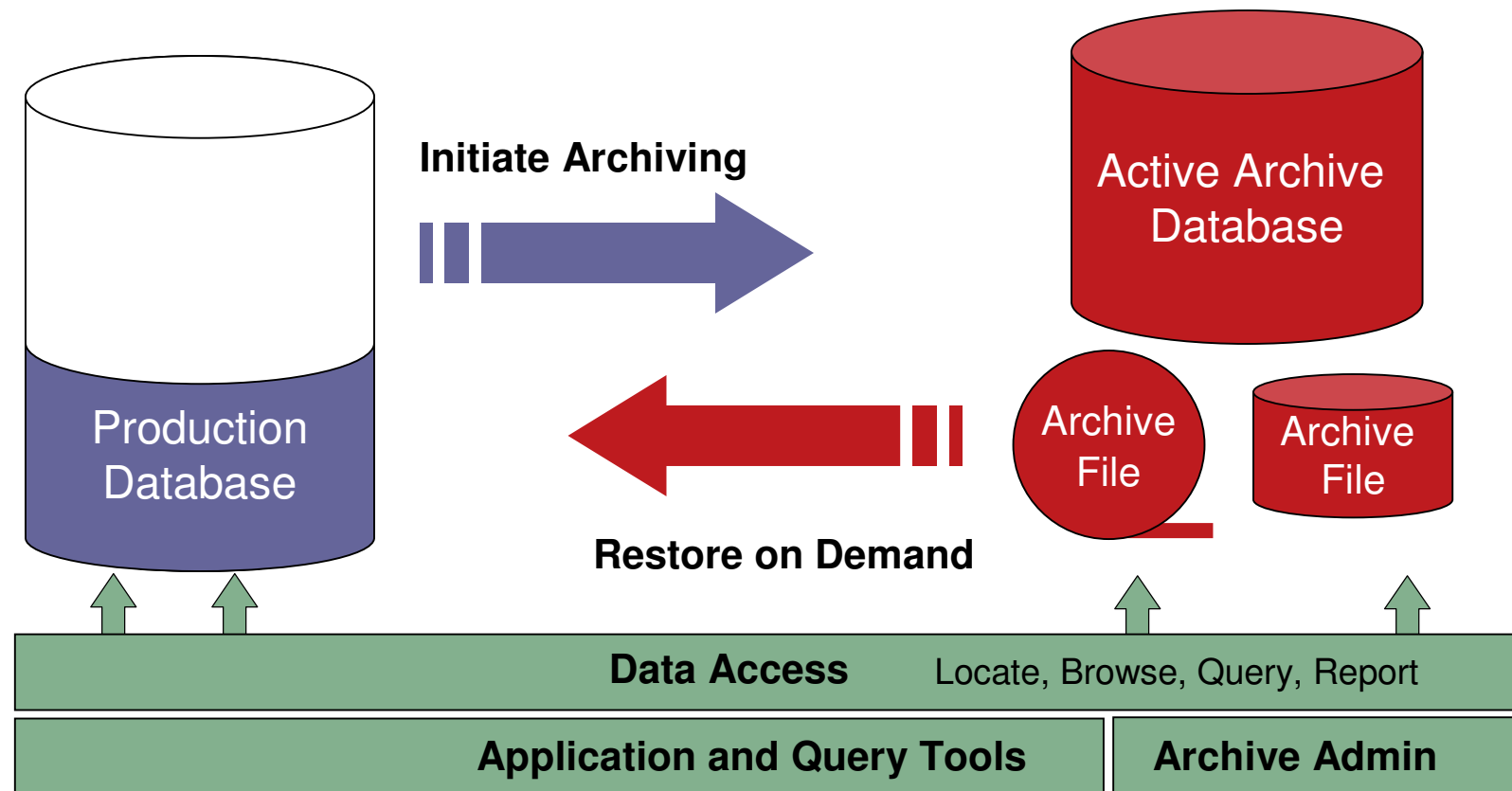
Performance and Availability Benefits
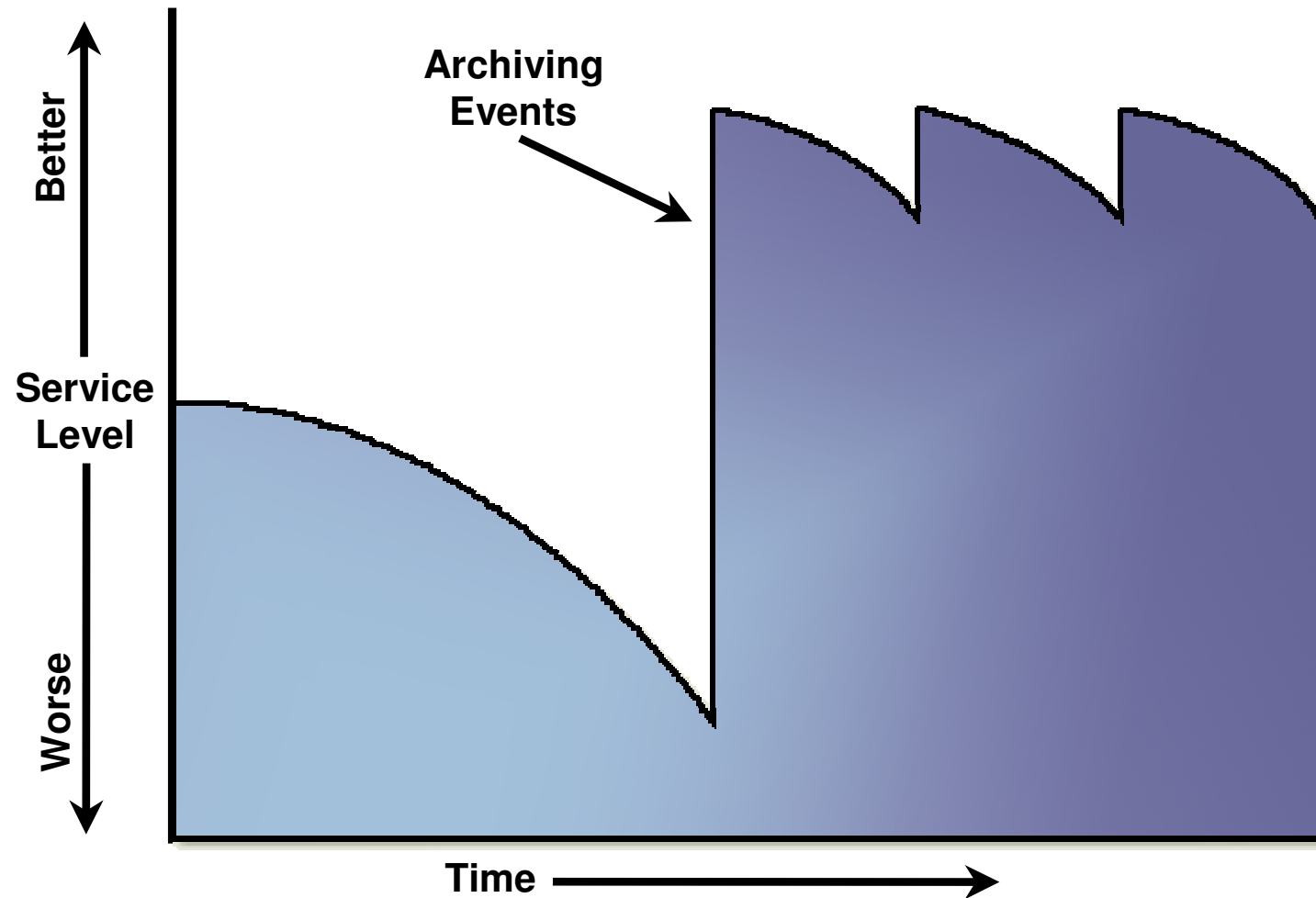
Solution Requirements

- Archive referentially intact subsets of application data

- Selectively delete inactive data from production

- Locate and browse archived data

- Selectively restore data

- Store data on cost-effective media

- Automate migration of Archive Files

- Provide scalable, enterprise support

Ensure Referential Integrity

Delete Inactive Data from Production

Production Database

Customers

DVD World
Movie Mania
Cinema Spot

Orders

04-1210-7899
04-8293-2887

Details

The Two Towers
Dude, Where's My Car?
Lawrence of Arabia

Archive File

✓ **Customers**

✓ **Orders**

✓ **Details**
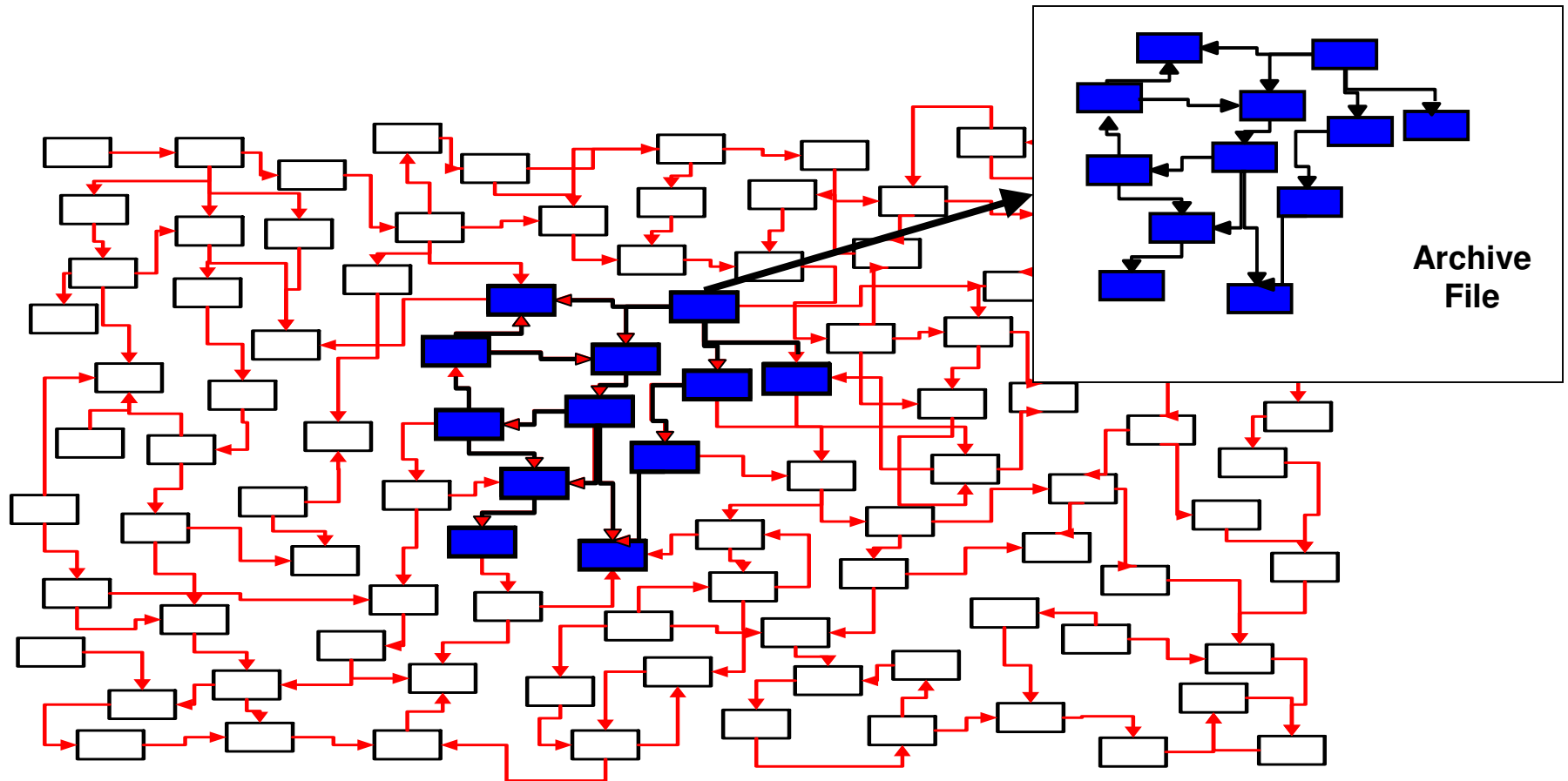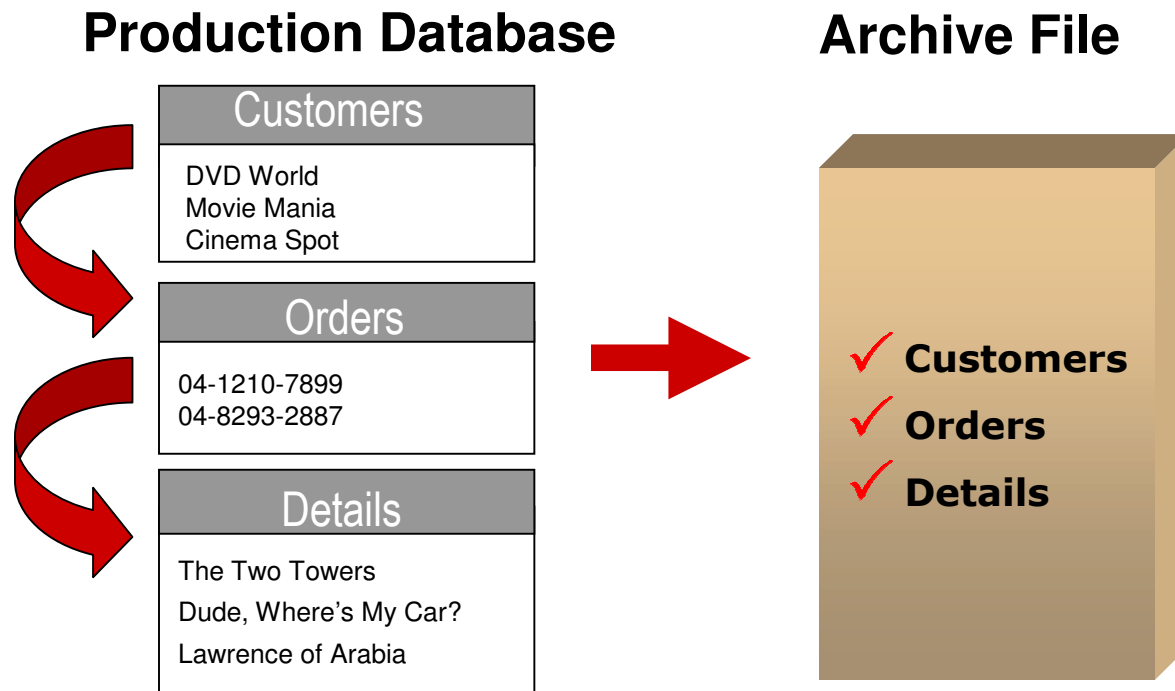
- Immediate or deferred delete
- Specifications define which data to delete
  - Can differ from Archive criteria

Browse Archived Data

Archive File

Customers
DVD World
Movie Mania
Cinema Spot

Orders
04-1210-7899
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Details
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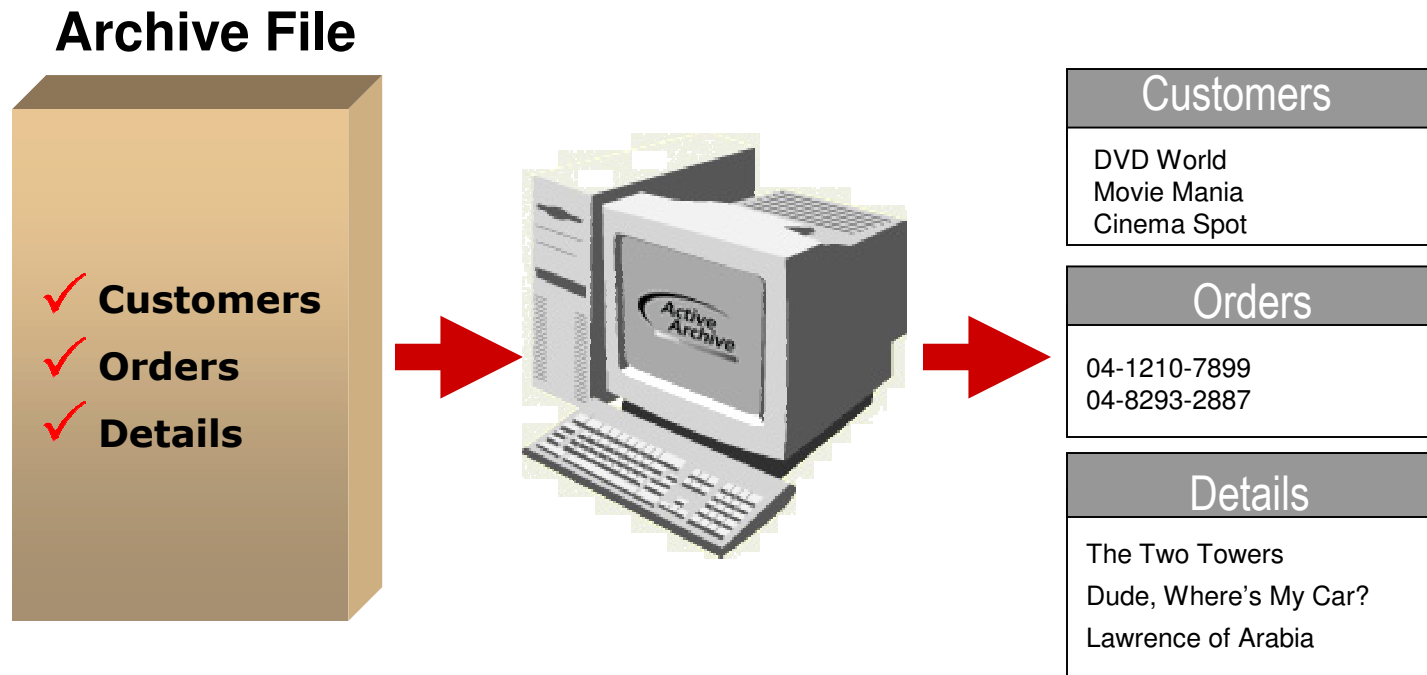
✓ **Orders**

✓ **Details**

- Browse Archive Files

- JOIN to view related archive data

- Create hardcopy reports

Selectively Restore Archived Data

Production Database

Customers
DVD World Movie Mania Cinema Spot

Orders
04-1210-7899 04-8293-2887

Details
The Two Towers Dude, Where's My Car? Lawrence of Arabia

Archive File

✓ **Customers**

✓ **Orders**

✓ **Details**

Insert / Update

Load

Prod DB

Customers
DVD World Movie Mania Cinema Spot

Orders
04-1210-7899 04-8293-2887

Details
The Two Towers Dude, Where's My Car? Lawrence of Arabia

Staging DB

Customers
DVD World Movie Mania Cinema Spot

Orders
04-1210-7899 04-8293-2887

Details
The Two Towers Dude, Where's My Car? Lawrence of Arabia

- Full or selective restore

- Choose destination environment

- Accommodate data model or DB version changes

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Princeton Softech – HP Integrated Solutions

**Application/DB Server
MVS**

**Application/DB Server
UNIX**

**Application/DB Server
Windows**

**Princeton Softech
Archive Server**

Database

Database

Database

*Selective
Restore* *Data Extract*

*Selective
Restore* *Data Extract*

*Selective
Restore* *Data Extract*

*Data Extract +
Meta Data*

Archive Files

*Archive
Directory*

Storage Network

Selective Restore

*Selective
Restore* *Archive Files*

*Selective
Restore* *Archive Files*

**HP
Storageworks
MSA**

**HP Storageworks
EVA**

Princeton Softech at a Glance

Our Company

- A leader in Global Enterprise Data Management software solutions since 1989

- Market leader in Database Archiving: 56% market share (Gartner Group)

- Over 2100 customers in 30+ countries

- Focus on the Global 2000

- Global Sales, Support and PS organization

- Headquartered in Princeton, NJ.

- 200 employees

Issues Addressed

- Unmanaged growth of critical application reference data residing in production database environments

- While required for long-term retention, active reference data is not required for day-to-day operations

- Provide a single enterprise-wide archiving platform to address long-term data accessibility and compliance needs

Solutions/Benefits

- Database Archiving:
  - Archives production data to lower cost environment
  - Supports all databases and all applications
  - Provides easy data accessibility with complete business context

- Benefits:
  - Improves application performance and availability
  - Reduce TCO of production environment

Scalable, Enterprise Capabilities

- ## Databases Supported:
  - Oracle, Sybase, SQL Server, UDB, Informix, DB2
  - Complete heterogeneous interoperability

- ## Platforms Supported:
  - UNIX, Windows, OS/390

- ## Active Archiving Solutions:
  - Archive™ for DB2
  - Archive™ for Servers
  - Archive™ for Servers – ClarifyCRM™ Edition
  - Archive™ for Servers – PeopleSoft® Edition
  - Archive™ for Servers – Oracle® Applications Edition
  - Others TBA

Active Archive Success Story Examples

- Bank of New York –
    - Saved over $50,000 per month
    - Reduced resource consumption by 20%
- Volt Information Sciences –
    - PeopleSoft upgrade time reduced from 140 to less than 50 hours
    - Improve performance on average by 50%
- Tier 1 Large Computer Manufacturer
    - Reduce disaster recovery time from 48 to less than 10 hours

Active Archive Success Story Examples

- Bausch & Lomb –
    - Improved PeopleSoft performance by 50%

- Norwich Union –
    - Improved transaction response time by up to 50%
    - Reduce costs by 15%
    - Eliminate costs through application decommission

- AXA Insurance -
    - Reduce operating costs
    - Standardized solution
    - Consistent application performance

Benefits Summary

**Improved
Availability**

- **Faster batch cycles**
- **Ready for business**
- **Increased sales**

**Improved
Performance**

- **Faster response times**
- **Increased productivity**
- **Satisfied customers**

Cost Containment

- **Optimize storage utilization**
- **Postpone hardware upgrades**
- **Execute ILM strategy**

Thank You

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