Le soluzioni IBM per l'Information Lifecycle Management

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Storage Platform Leader

Information management and storage challenges are impacting the ability to optimize information value
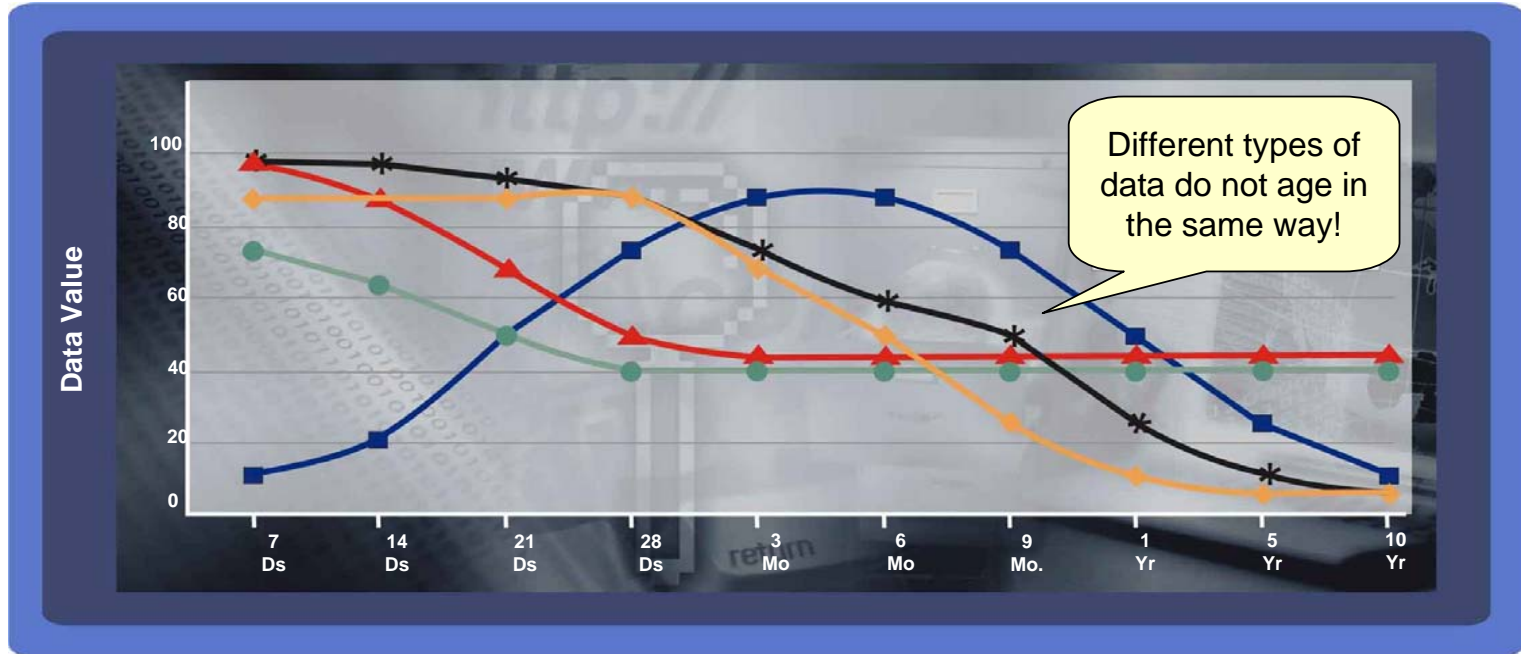
- Surge in criticality, value and volume of data -- outpacing IT's ability to collect, store and manage it by traditional means

- Excessive storage costs and missed service level objectives

- Compliance with regulatory requirements and audit procedures

- Ability to effectively access and gain insight from information once stored
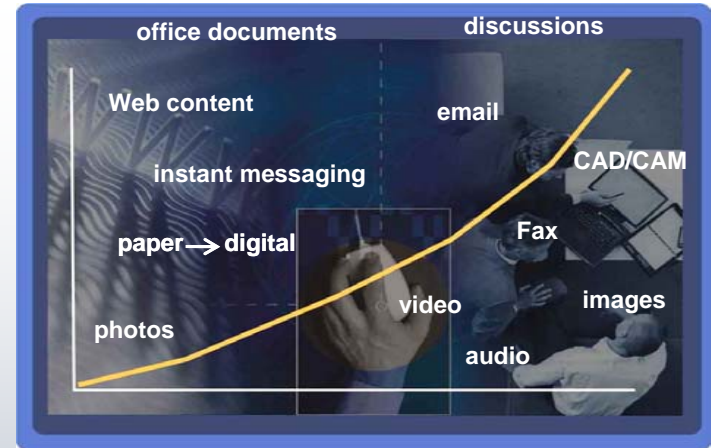
- **Storage now accounts for >15% of total IT budgets**
- **Data growth is now estimated at >25-50% annually**
- **Effective disk utilization is <50%, with 20-40% wasted space**
- **There are over 20,000 regulations worldwide**

Four Fundamental Truths About Data - A Basis for ILM

The chart shows "Data Value" on the Y-axis (0 to 100) versus time on the X-axis: 7 Ds, 14 Ds, 21 Ds, 28 Ds, 3 Mo, 6 Mo, 9 Mo., 1 Yr, 5 Yr, 10 Yr.

Callout: *Different types of data do not age in the same way!*

- **All data, when created, does not have equal value**
- **Data changes in business value and in service level requirements over time**

- **IT resources should be allocated according to the value of data**
- **Data must be managed and leveraged effectively throughout its entire lifespan** *… data outlives media*

Our clients typically define specific objectives to support and improve their information management and storage environments

•Reduce Cost and Simplify

- – Controlling demand for storage
- – Improving asset utilization
- – Reducing hardware / software / storage personnel costs
- – Reducing data migration effort

•Improve Efficiency

- – Maximizing and sustaining efficiency by improving the current people, processes, and technologies being utilized to deliver storage services to the business
- – Defining and implementing the appropriate storage strategy to address current and future business requirements
- – Enhancing systems/Email performance
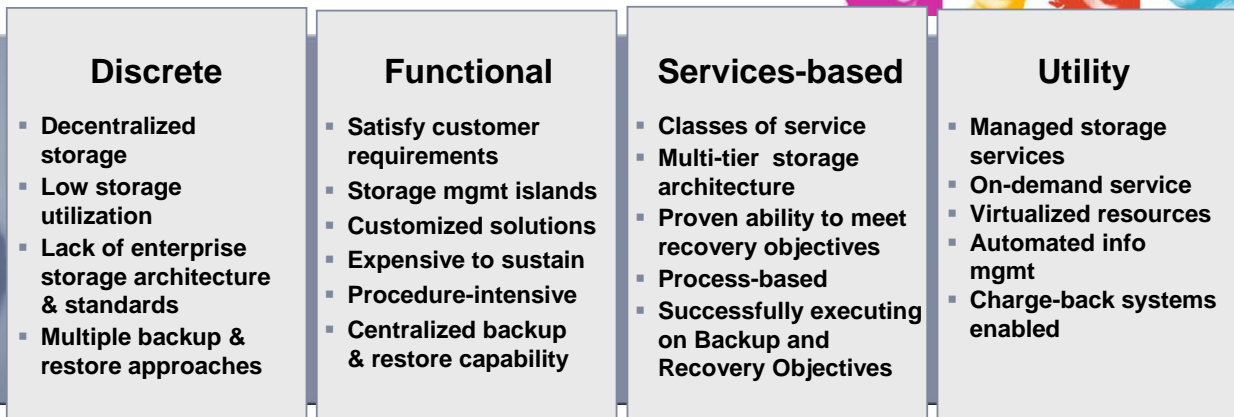- – Making better use of existing information and assets

•Manage Risk and Streamline Compliance

- – Reducing organizational risk
- – Complying with governmental regulations
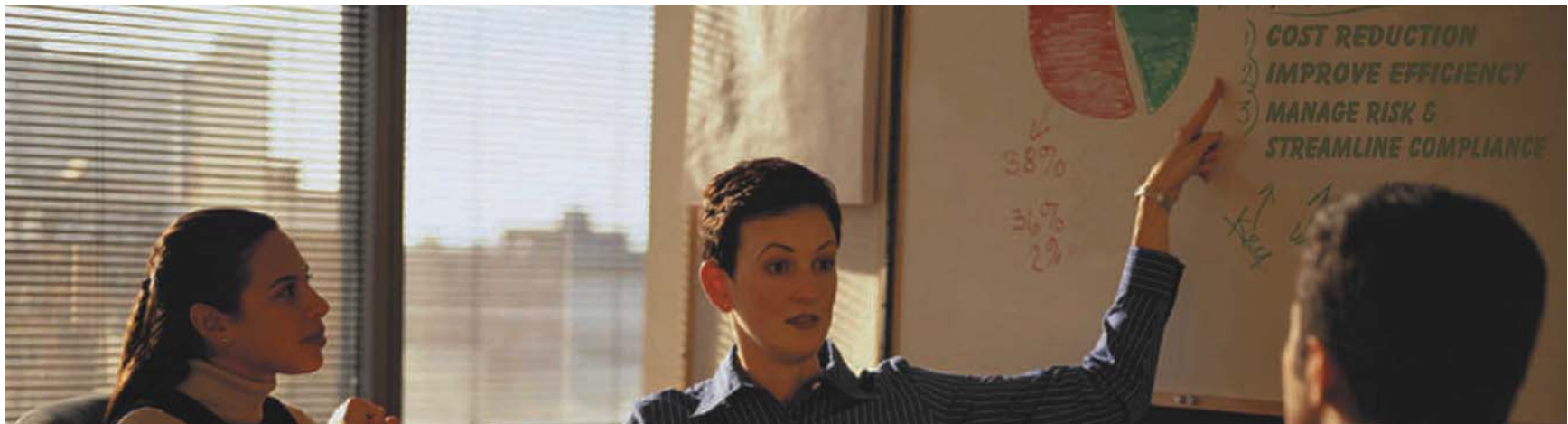
Deploying these best practices and moving to an enhanced storage environment and ILM strategy is an incremental evolution

ILM Maturity

Discrete
- Decentralized storage
- Low storage utilization
- Lack of enterprise storage architecture & standards
- Multiple backup & restore approaches

Functional
- Satisfy customer requirements
- Storage mgmt islands
- Customized solutions
- Expensive to sustain
- Procedure-intensive
- Centralized backup & restore capability

Services-based
- Classes of service
- Multi-tier storage architecture
- Proven ability to meet recovery objectives
- Process-based
- Successfully executing on Backup and Recovery Objectives

Utility
- Managed storage services
- On-demand service
- Virtualized resources
- Automated info mgmt
- Charge-back systems enabled

Efficiency & Effectiveness

Where Are You Positioned?

Data Rationalization

Storage Virtualization

Tiered Storage Environment

Information Management

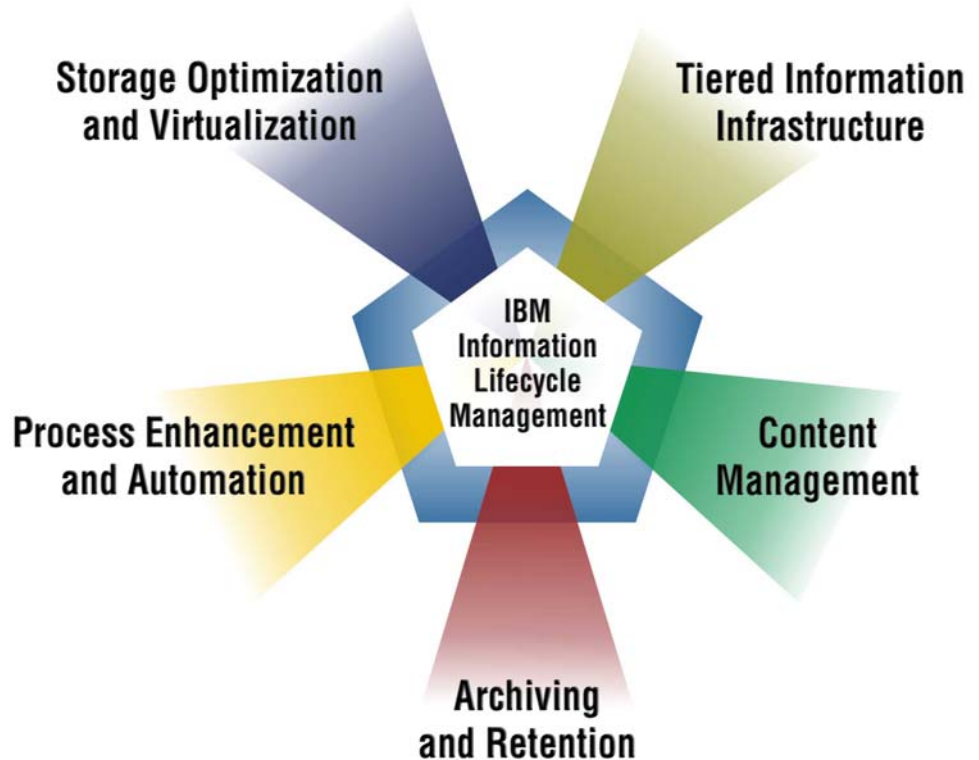Storage Process, Organization, Technology, and Governance Model

Archiving and Information Retention

The IBM offering portfolio offers a flexible approach to implementing ILM based on customers' tactical and long term business needs
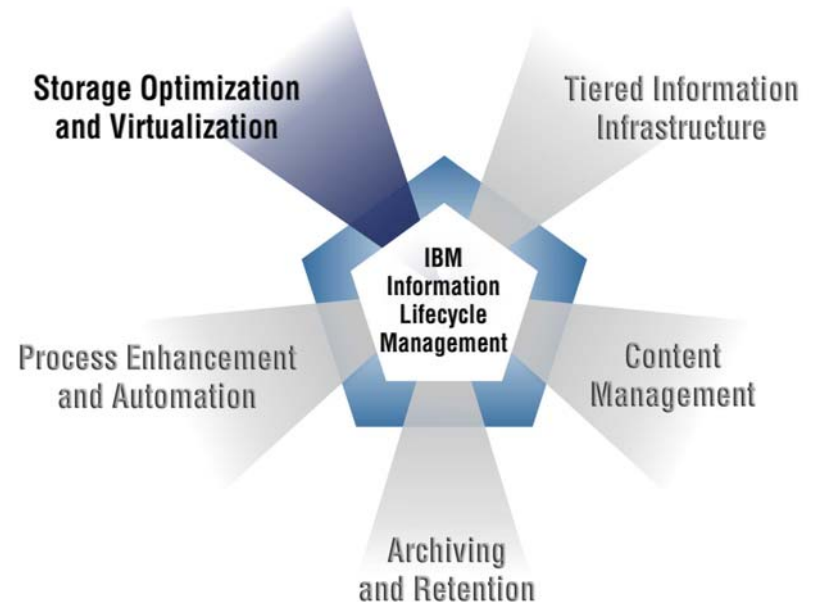
- **Integrates policies, processes, practices and tools**

- **Aligns business value of information with IT infrastructure**

- **Manages information from creation to final disposal**

- **Offers five flexible entry points**

Storage Optimization and Virtualization

Tiered Information Infrastructure

IBM Information Lifecycle Management

Process Enhancement and Automation

Content Management

Archiving and Retention

Storage Optimization and Virtualization

- Customer Objective
  - **Reduce Cost and Simplify**

- Tactics
  - Reclaim/consolidate storage space
  - Identify initial storage management inefficiencies
  - Combine heterogeneous physical storage capacity from multiple disk and tape devices into logical pools for centralized management
    - Accelerate data migration
    - Increase storage infrastructure utilization
    - Enable changes to the physical storage with minimal or no application disruption
    - Simplify management

Storage Optimization and Virtualization

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Archiving and Retention

Sample Offerings
- Storage Virtualization for Storage Management Planning & Design
- SAN Volume Controller (SVC)
- TotalStorage Productivity Center
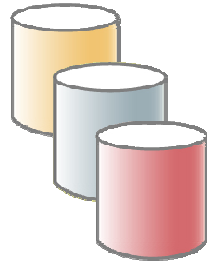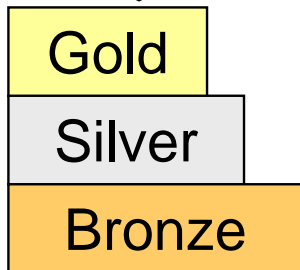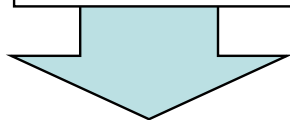
IBM SAN Volume Controller (SVC)
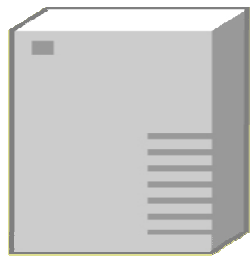
Hosts see thousands of disks

- One device type
- One multipathing driver
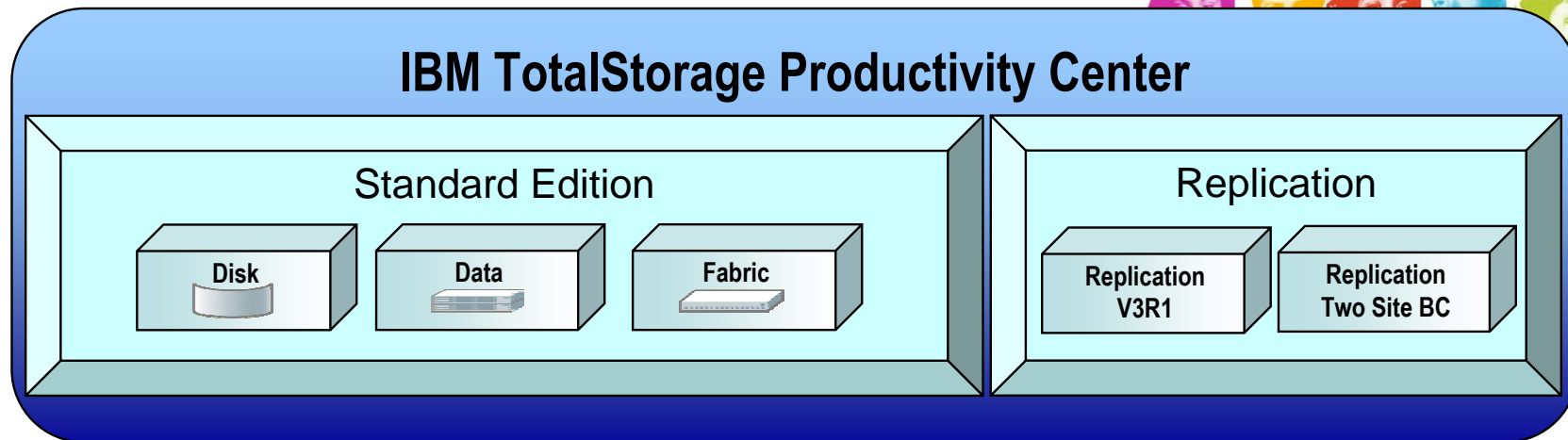- One management interface

SAN Volume Controller

Gold

Silver

Bronze
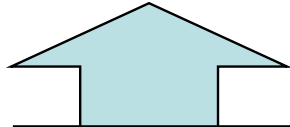
Disks from different vendors

- Different device types
- Different multipathing drivers
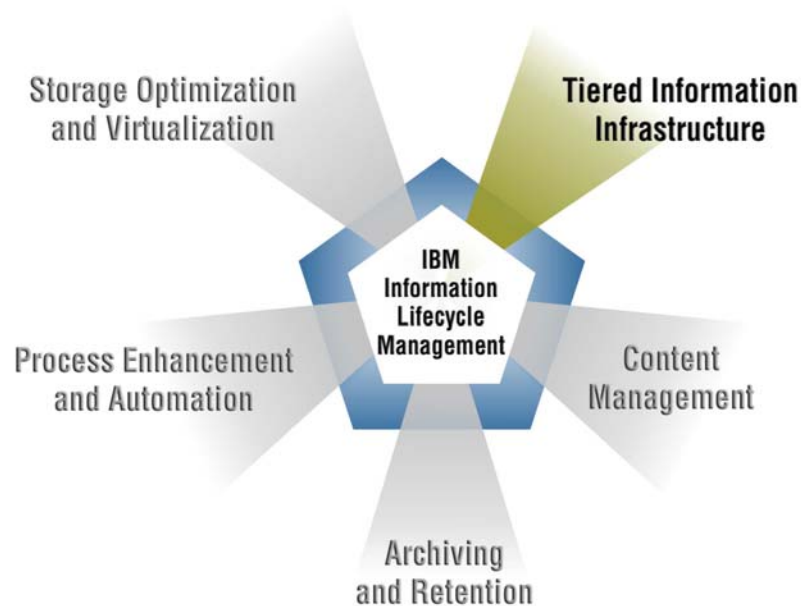- Different management interfaces

IBM TotalStorage Productivity Center

Standard Edition

Disk

Data

Fabric

Replication

Replication V3R1

Replication Two Site BC

- Enable end-to-end storage management with a single tool
  - Extends storage configuration management across the SAN
  - Centralizes management of storage
- Improve storage utilization, performance and service levels
  - SAN Topology end to end views and management
- Reduce storage complexity to make your team more productive
  - Storage Reporting across host file systems, data bases and storage
  - Correlation to host usage
- Ties to Tivoli Storage Manager and ITSM for complete information life cycle management

Tiered Information Infrastructure

- ## Customer Objectives
  - Reduce Costs and Simplify
  - Improve Efficiency

- ## Tactics
  - Create a robust storage governance model which defines target service levels, policies, organization, processes and architectures
    - Classify and manage information
  - Leverage tiered storage environments
    - Align variable cost hardware with information classes and service levels

Storage Optimization and Virtualization

Tiered Information Infrastructure

IBM Information Lifecycle Management

Process Enhancement and Automation

Content Management

Archiving and Retention

Sample Offerings

- IBM Systems Mgmt Consulting & Design Services for ILM

- Tivoli Storage Manager

- IBM disk & tape families

Tiered Information Environment

A tiered information environment aligns variable cost hardware types with Information Classes and Classes of Service to create a variable cost storage environment
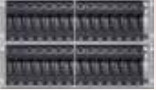
Best Practices

1. Align information with business requirements to accelerate movement of data off of enterprise tiers where it can be more cost efficiently stored and managed at the appropriate service level

2. Define variable cost technology types with corresponding information management policies

3. Establish well differentiated storage tiers and classes of service for greatest cost savings
   - Leverage Tape
   - Consider more than just hardware characteristics
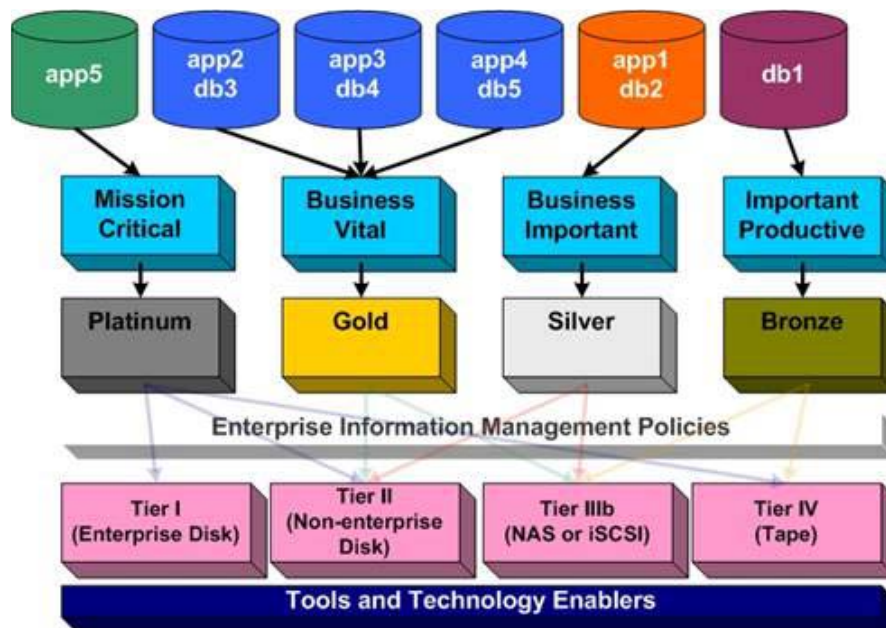
IBM System Storage Disk Systems

	Entry Level	Midrange	Enterprise Class
SAN Volume Controller	2-node	4-node 6-node	8-node
DS Family	DS3200 DS3300 DS3400	DS4200 DS4700 DS4800	DS8000 DS6000
N series	N3300 N3600	N5200 N5500 N5600	N7700 N7900

Construct a Variable Cost Hierarchy of Storage

Duplication management

Hierarchy management

Media management

| Enterprise class | Mid-range | Low-cost | Automated | Manual |

Hierarchy managed by **Tivoli Storage Manager** technology

WORM   WORM   WORM

Assist with compliance management

Vaulting management

Content Management
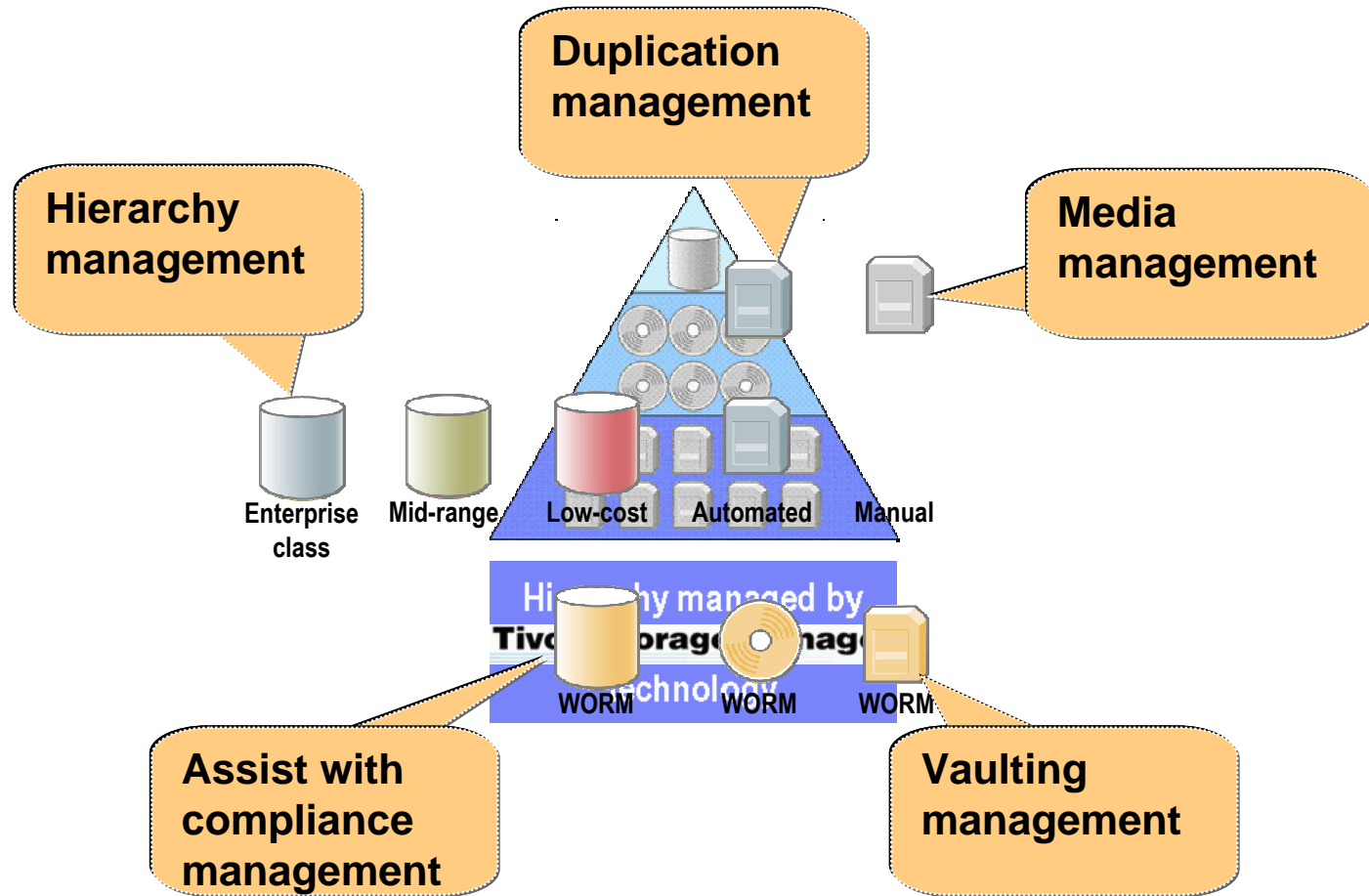
- Customer Objectives
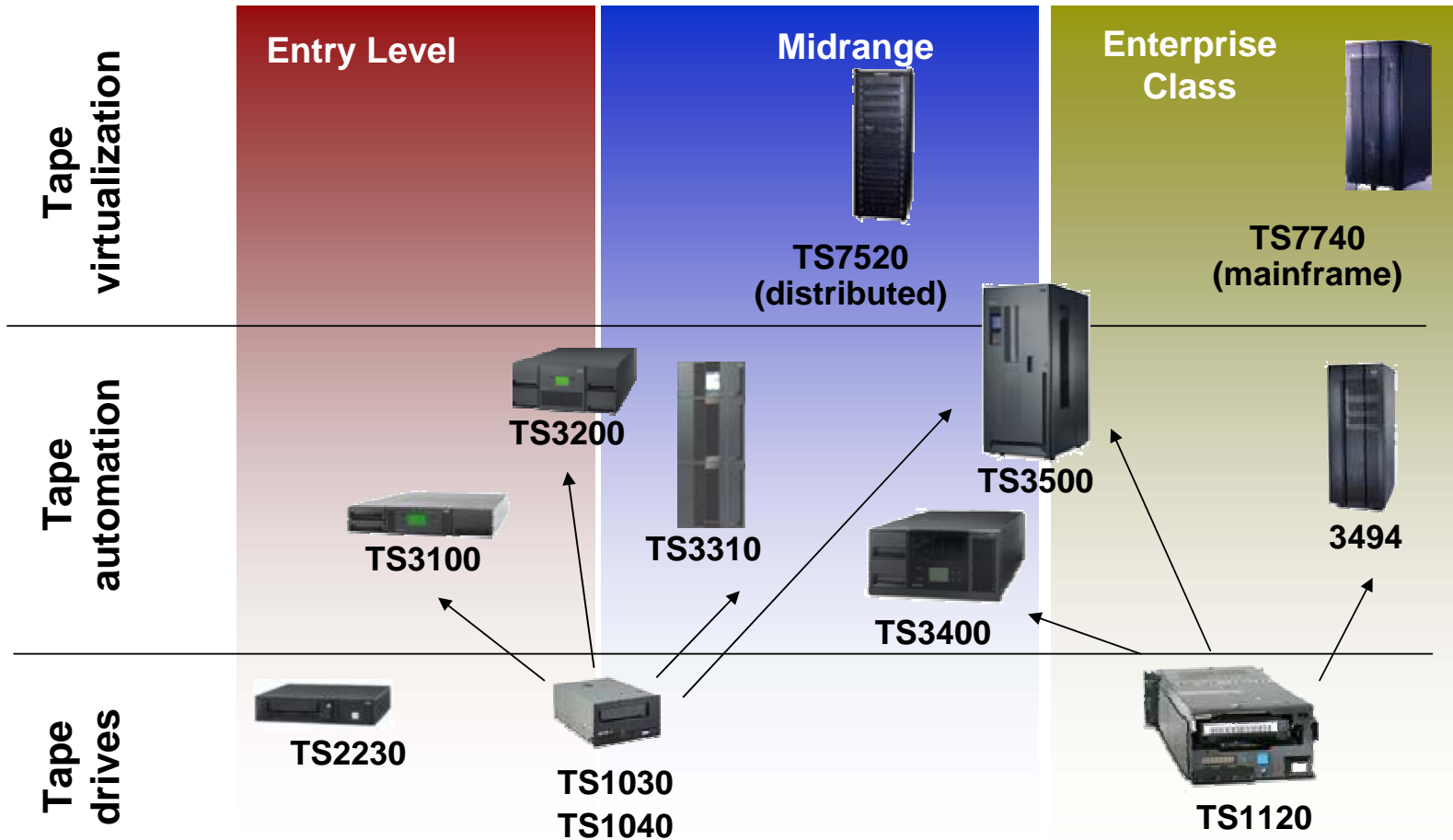 - **Improve Efficiency**
  - **Manage Risk and Streamline Compliance**

- Tactics
  - Reduce or eliminate paper handling to improve efficiency of business tasks
  - Improve ability to access and gain insight from information once stored
  - Link knowledge of business information to policies to drive data movement within storage tiers
  - Implement and enforce retention periods for compliance

Storage Optimization and Virtualization

Tiered Information Infrastructure

IBM Information Lifecycle Management

Process Enhancement and Automation

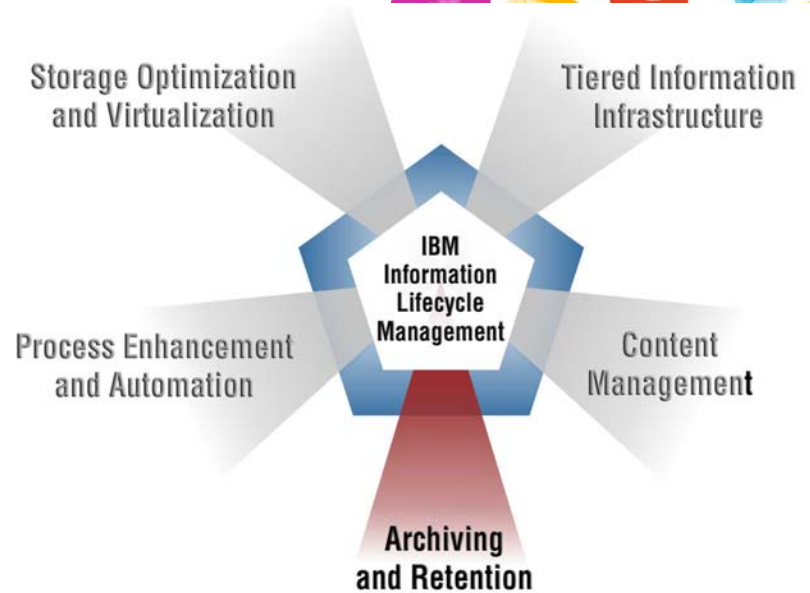Content Management

Archiving and Retention
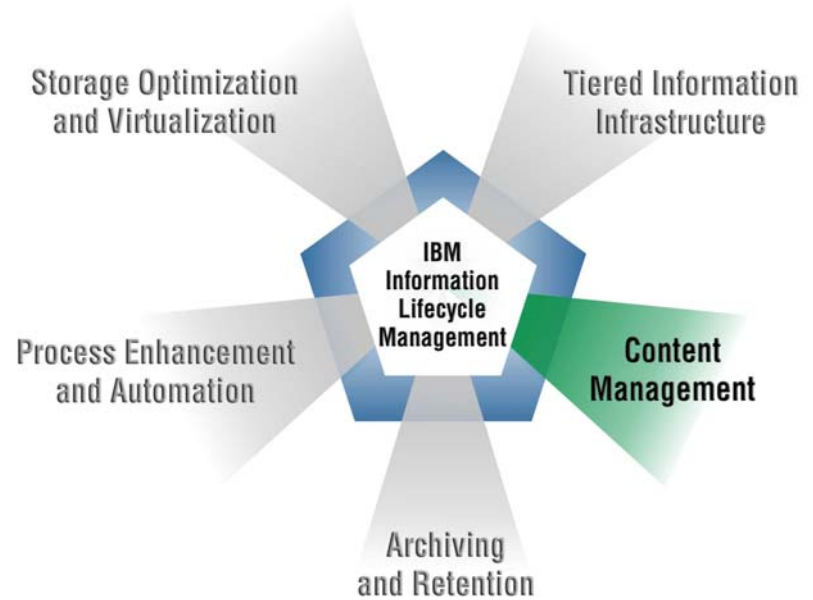
Sample Offerings

- Content Management Assessments
- IBM Content Manager, IBM CommonStore, Filenet P8
- IBM disk & tape families

IBM System Storage Tape Systems

Entry Level

Midrange

Enterprise Class

Tape virtualization

TS7520
(distributed)

TS7740
(mainframe)

Tape automation

TS3200

TS3310

TS3500

3494

TS3100

TS3400

Tape drives

TS2230

TS1030
TS1040

TS1120

Archiving and Retention

- ## Customer Objectives
  - Reduce Costs and Simplify
  - Reduce Risk and Streamline Compliance

- ## Tactics
  - Implement and enforce retention policies
  - Leverage lower cost tiered storage environments
    - Dynamically place and move information according to its changing value and service level
  - Address compliance requirements by protecting information held in non-erasable, non-writable storage
  - Improve infrastructure performance by reducing production pool size

Sample Offerings

- Archival and Retention Assessment Planning, Design, and Implementation

- IBM Content Manager, CommonStore, Filenet P8 email Manager,…

- IBM System Storage DR550, N series

The two faces of archiving

Space Management

move old, inactive files to less expensive storage, resulting in reduced backup windows and reduced storage costs

Enterprise Content Management
▪DB2 Content Manager, FileNet Image Manager and P8 Content Manager, Hyland OnBase, EMC Documentum

e-mail
▪IBM CommonStore for Exchange/Domino, FileNet Email Manager, Symantec/KVS Enterprise Vault, Zantaz, AXS-One, EMC MailXtender

Databases
▪CommonStore for SAP, FileNet Application Connector for SAP, Princeton Softech Optim, Solix, EMC DatabaseXtender

File Systems
▪Tivoli Storage Manager (TSM), Symantec/KVS Enterprise Vault, EMC DiskXtender

Data Retention

Protect your data for the long term with non-erasable, non-rewriteable storage solutions and demonstrate compliance to regulations

Comply with regulatory and security requirements

1. Non-erasable, Non-rewriteable storage for data retention and regulatory compliance requirements
   - **WORM tape media (LTO and 3592)**
   - **DR550 disk-and-tape storage virtualization**
   - **N series with SnapLock™ Compliance and SnapLock™**
   - **Grid Medical Archive Solution (GMAS)**

2. Industry-standard encryption for disk and tape data
   - **Industry's first encrypted tape drive: TS1120**
   - **LTO-4 Encrypting tape drive**
   - **DR550 and DR550 Express offerings**
   - **System Storage Archive Manager**
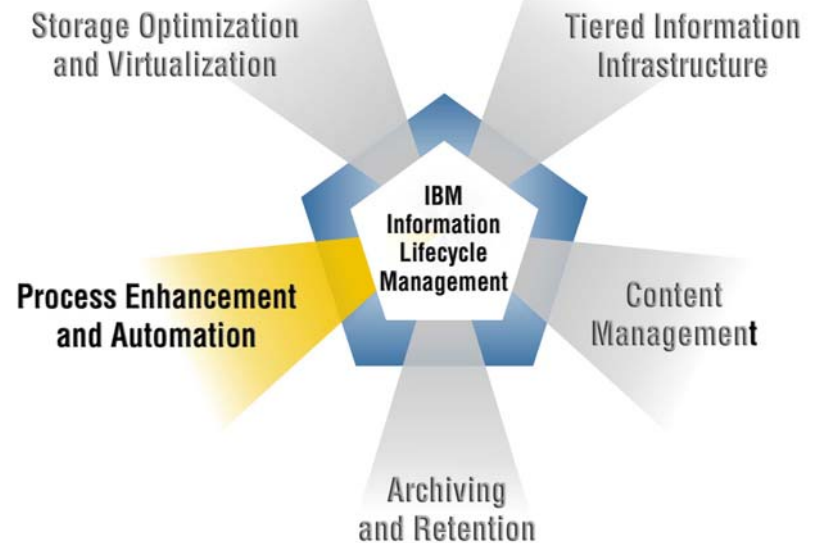   - **Tivoli Storage Manager**

Process Enhancement and Automation

- ## Customer Objective
  - – Improve Efficiency

- ## Tactics
  - – Improve efficiency by implementing out-of-the box automated storage processes for change, configuration and Incident management.
  - – Improve effectiveness by managing storage as an IT service with customizable ITIL aligned storage processes.
  - – Leverage existing investment in existing storage management tools
  - – Support of compliance and governance by providing storage processes related audit reports


Sample Offerings
- IBM Tivoli Storage Process Manager
- IBM Tivoli Change and Configuration Management DB
- IBM Systems Mgmt Consulting and Design Services for ILM

IBM System Storage - Strategy
Intelligent Management. Protected Information. Smarter Insights.

Leverage Information
- ✓ **Capitalize on data sharing for collaboration**
- ✓ **Align storage investment, information value**
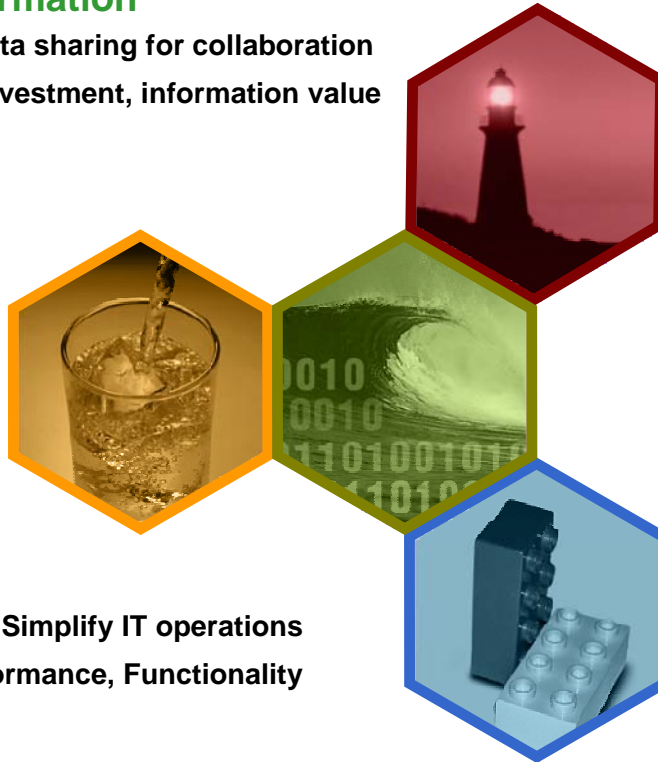
Mitigate Risk
- ✓ **Address regulatory, security requirements**
- ✓ **Keep your business running continuously**

Optimize IT
- ✓ **Automate and Simplify IT operations**
- ✓ **Optimize Performance, Functionality**

Enable Business Flexibility
- ✓ **Flexible, On Demand IT infrastructure**
- ✓ **Protect your IT investment**

Get the most value from your information

Disk Systems

- SAN Volume Controller
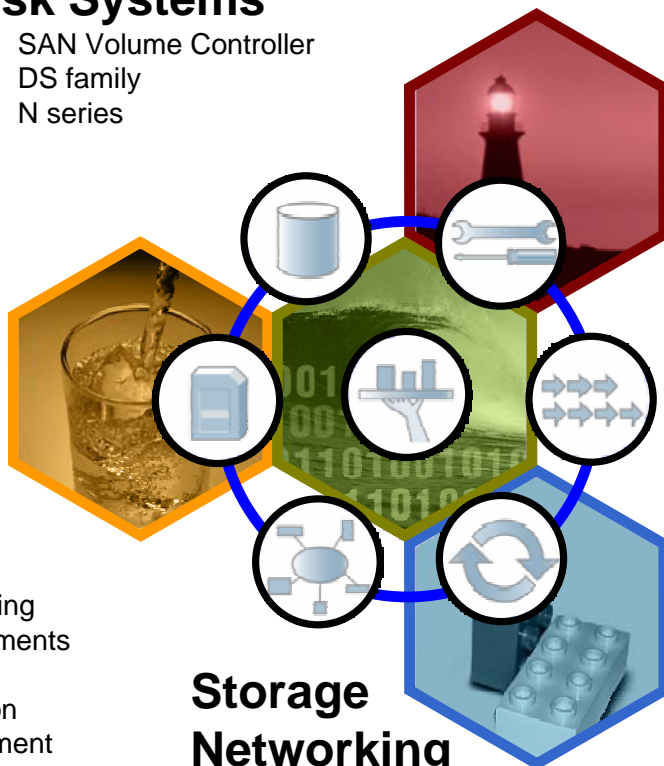- DS family
- N series

Tape Systems

- TS family of drives, libraries and virtualization

Services

- Consulting
- Assessments
- Design
- Migration
- Deployment
- Outsourcing
- Hosting

Storage Networking

- Switches
- Directors
- Routers

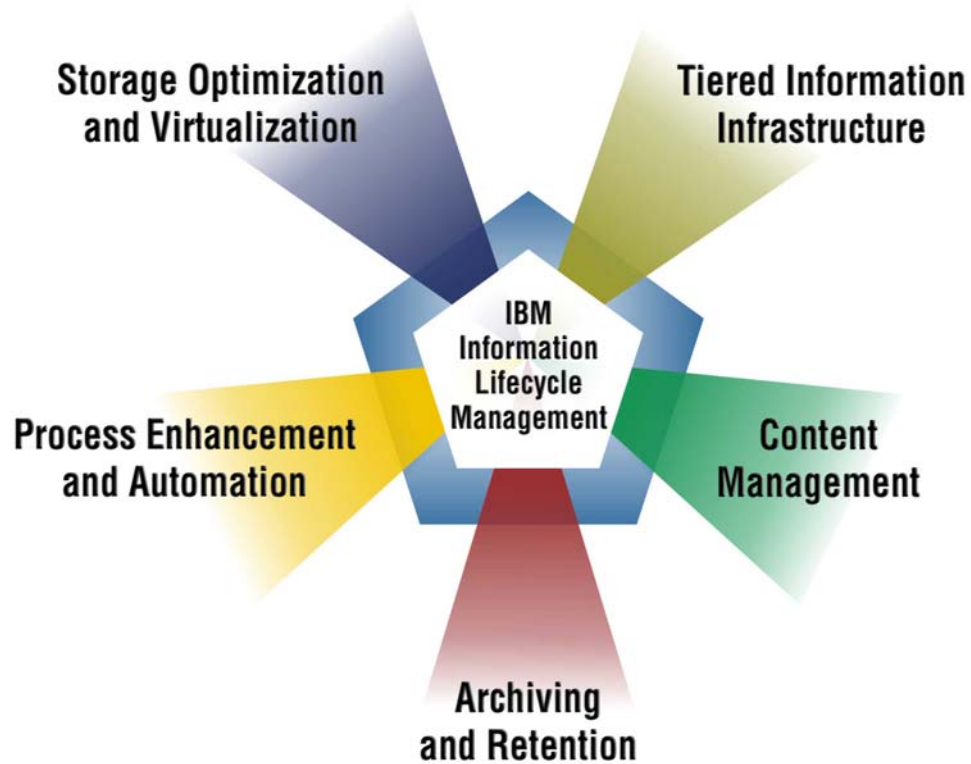## Infrastructure Management

- TotalStorage Productivity Center
- SAN Fabric Management software
- Tivoli Provisioning Manager
- Tivoli Storage Process Manager
- IBM Systems Director family

Business Continuity

- Productivity Center for Replication
- Advanced copy services
- Tivoli Storage Manager (TSM) family
- Tivoli Continuous Data Protection (CDP)
- Tape cluster grids and Peer-to-Peer
- GDOC, GDPS

Lifecycle and Retention

- DR550, DR550 Express, FS gateway
- Grid Archive Manager, GMAS
- TSM Space Management for Unix/Windows
- GPFS, DFSMS
- N series with SnapLock™
- WORM tape support