Information Lifecycle Management – An IT Service Management Approach

Tivoli Spring Update – 18th May 2006

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ON DEMAND BUSINESS™

Agenda

- **Information On Demand…**
  - **…and how it relates to IBM IT Service Management**
- **An Approach to ILM**
  - **Understanding ILM**
  - **IBM's ILM Solutions**
- **The Next Stage**
  - **Storage Provisioning**
  - **Managing the ILM Process**

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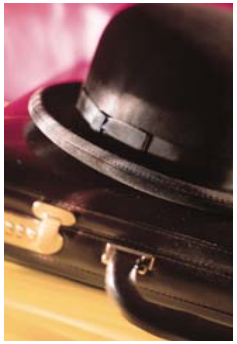
Information is core to today's businesses, driving every decision and process

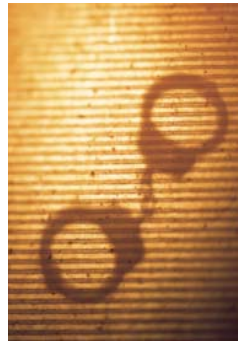


Banking

- *Branch Profitability*
- *Credit Risk Management*
- *Anti-Money Laundering*

Retail

- *Store Performance*
- *Merchandising*
- *RFID*

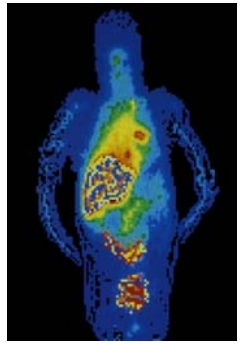


Government

- *Intelligence Fusion*
- *Anti-Terrorism*
- *Police Force Effectiveness*

Telco

- *Churn Management*
- *Revenue Assurance*
- *Wallet Share Analysis*



Health Care

- *Disease Management*
- *Patient Safety*
- *Predictive Medicine*

Automotive

- *Integrated Supply Chain*
- *Quality Insight Early Warning*
- *RFID*

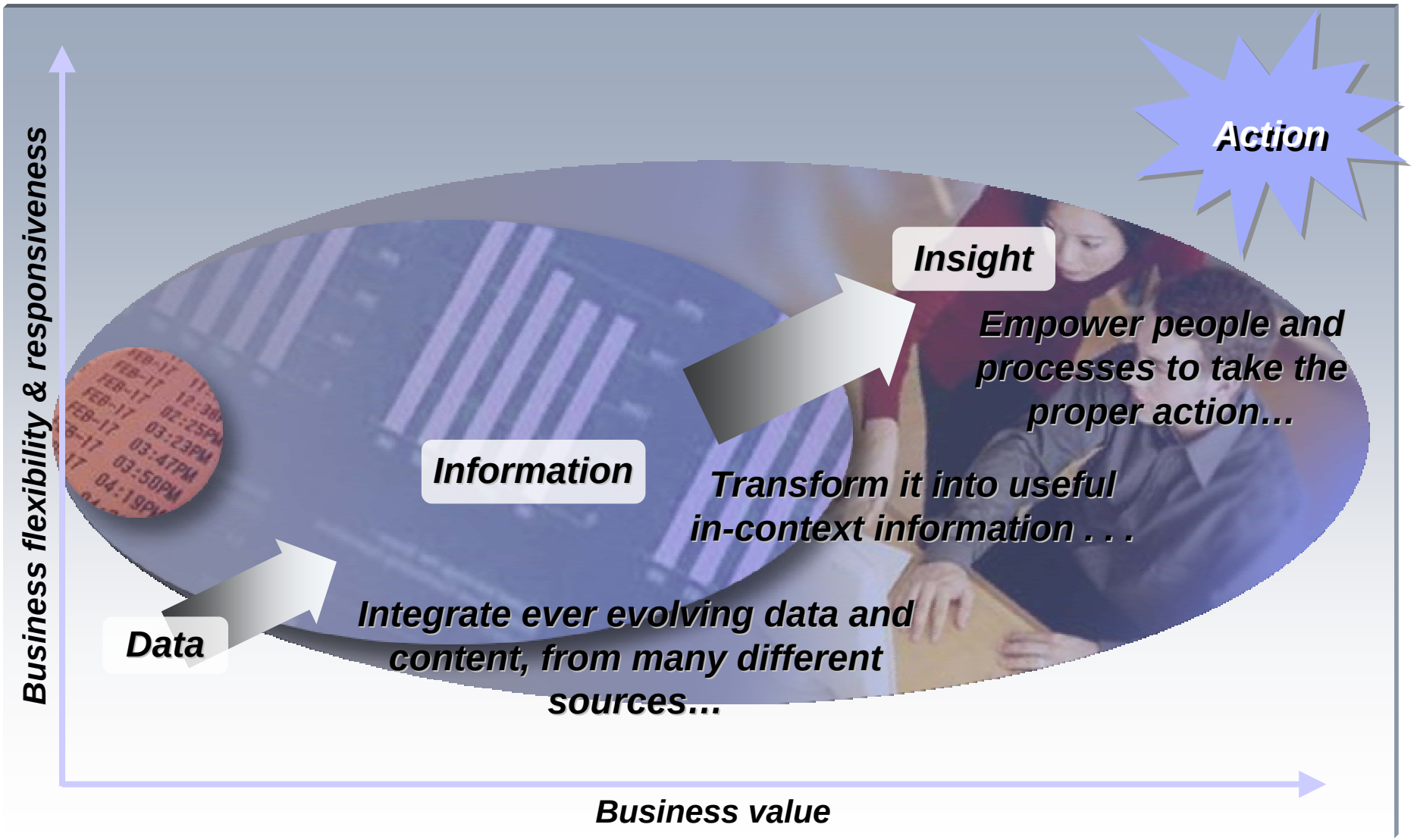
Insurance

- *No-touch Claims Processing*
- *Customer Insight*

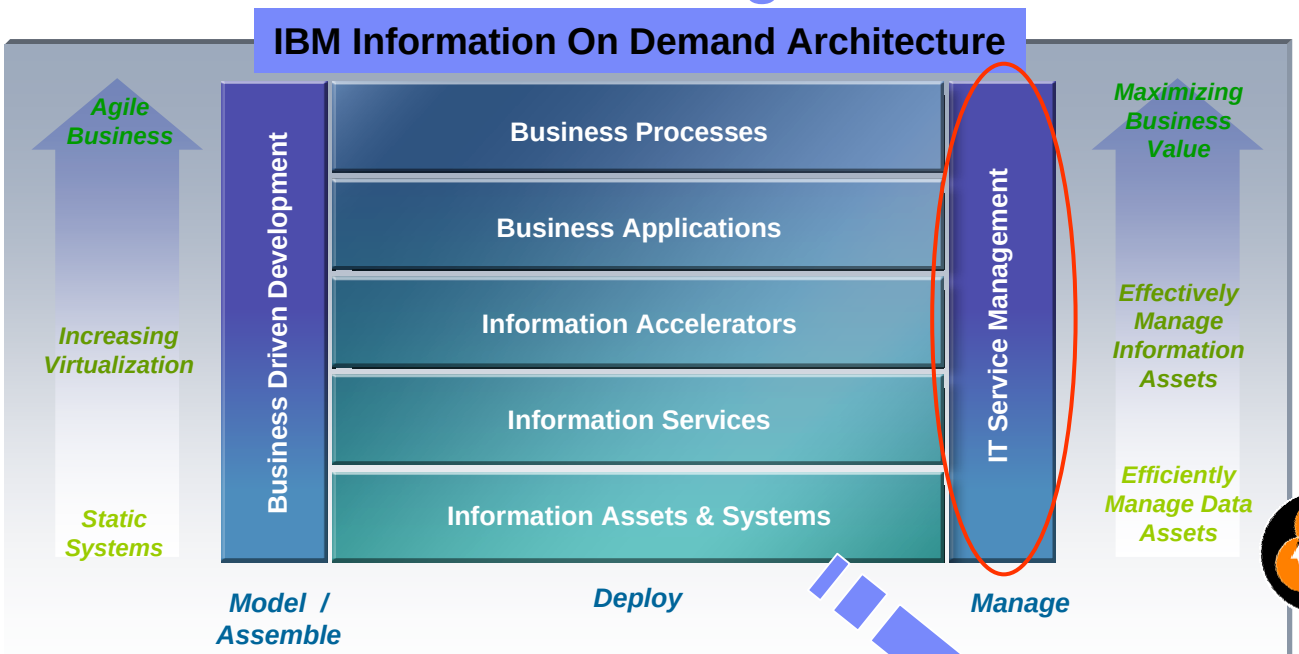
Life Sciences

- *Drug Discovery*

IBM's Information On Demand strategy enables you to extract greater value from your information through its lifecycle



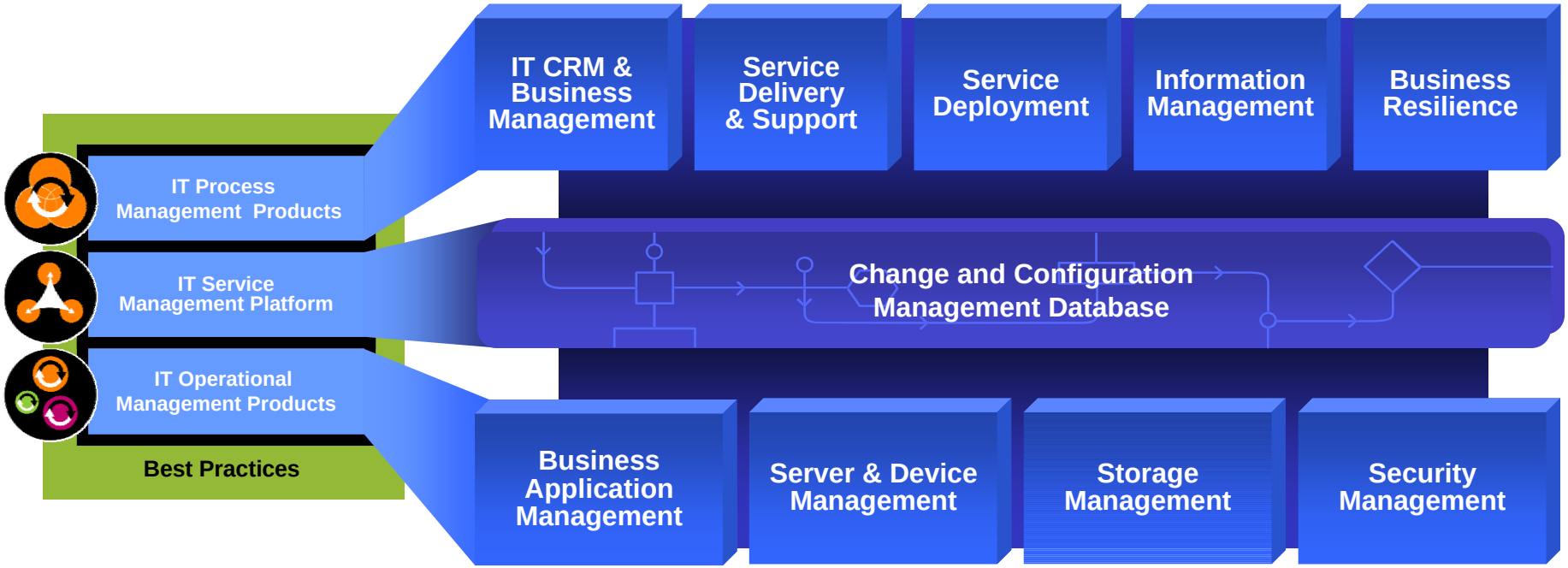
IBM IT Service Management



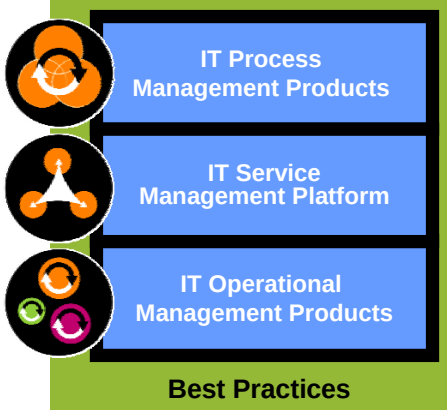
IBM IT Service Management Characteristics:

- Automated ITIL-aligned workflows
- Open, standards-based CMDB and workflow engine
- Automated infrastructure-aligned tasks
- Best Practices and Implementation Support

IBM IT Service Management



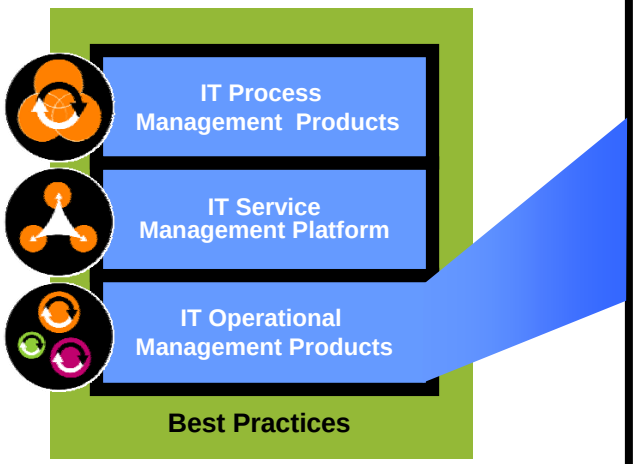
IBM Best Practices Support



- **IBM Tivoli Unified Process**
  - IBM Process Reference Model for IT incorporates ITIL, COBIT and IGS best practice processes in a complete, cohesive model
  - Tools Mentor - make ITIL actionable!
- **Open Process Automation Library (OPAL)**
  - IBM is working with more than 50 partners to expand Tivoli orchestration and provisioning products to include "automation packages" with workflows for automating common IT processes
- **IBM Global Services**
  - Innovation Workshops
  - Infrastructure Services Readiness Engagement
  - IT Service Management Design
  - Implementation Services

http://www.ibm.com/software/tivoli/features/it-serv-mgmt/index.html

IT Operational Management Products



Business Application Management	Server, Network & Device Management	Storage Management	Security Management
Products include: • Tivoli Composite Application Management • Tivoli Business Systems Manager • Tivoli Intelligent Orchestrator • Tivoli Service Level Advisor • Tivoli License Manager • Tivoli License Compliance Manager • Tivoli Decision Support	Products include: • Tivoli Enterprise Console • Tivoli Monitoring • Tivoli Omegamon • Tivoli NetView • Tivoli Remote Control • Tivoli Systems Automation • Tivoli Workload Scheduler • Tivoli Provisioning • Tivoli Configuration Manager	Products include: • Tivoli Storage Manager • Tivoli Continuous Data Protection for Files • Totalstorage Productivity Center • Tivoli Omegamon XE for Storage • SAN Volume Controller	Products include: • Tivoli Access Manager • Tivoli Identity Manager • Tivoli Federated Identity Manager • Tivoli Directory Server • Tivoli Directory Integrator • Security Compliance Manager

Storage Management Uses Best Practices

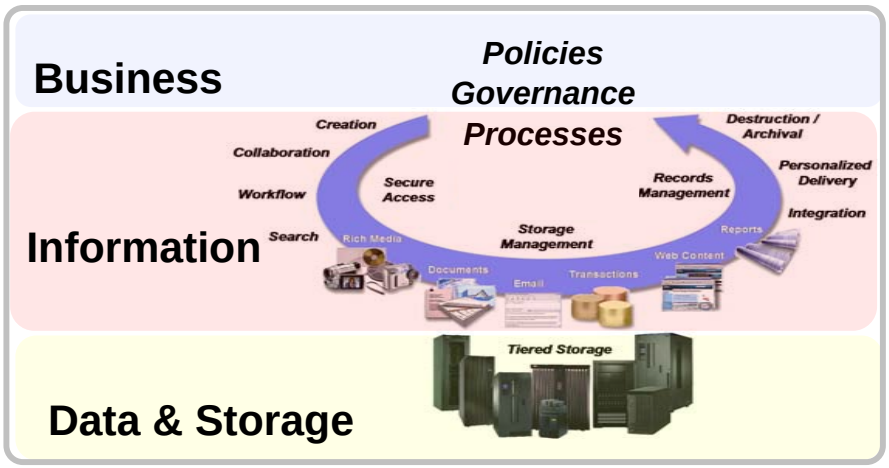
ITIL Process	Service Delivery			Service Support	
	Provisioning Storage Space	Managing Storage Incidents	ILM Data Alignment and Classification	Storage Configuration	Data and Storage Mgmt
Change & Config Mgmt	X	X	X	X	X
Incident & Problem Mgmt		X			X
Release Mgmt	X			X	X
Capacity Mgmt	X		X	X	X
Availability Mgmt		X	X	X	X
IT Service Continuity			X		X
IT Financial Mgmt	X		X		X
Security Mgmt	X				X
Service Level Management	X	X	X		X

ILM Requires Service Management Disciplines

ILM is comprised of the *policies, processes, practices and tools used to align the business value* of information with the most cost effective IT infrastructure from the time information is conceived through its final disposition.

Information is aligned with *business processes* through management of policies and *service levels* associated with applications, metadata, information, and data.

- Storage Networking Industry Association - SNIA



ILM in an Information On Demand Storage Environment

- ✓ Categorizing Data
- ✓ Managing Active Data
- ✓ Managing Inactive Data
- ✓ Managing Changes with No Disruptions
- ✓ Reduce Human Errors

Managing information more effectively and efficiently!

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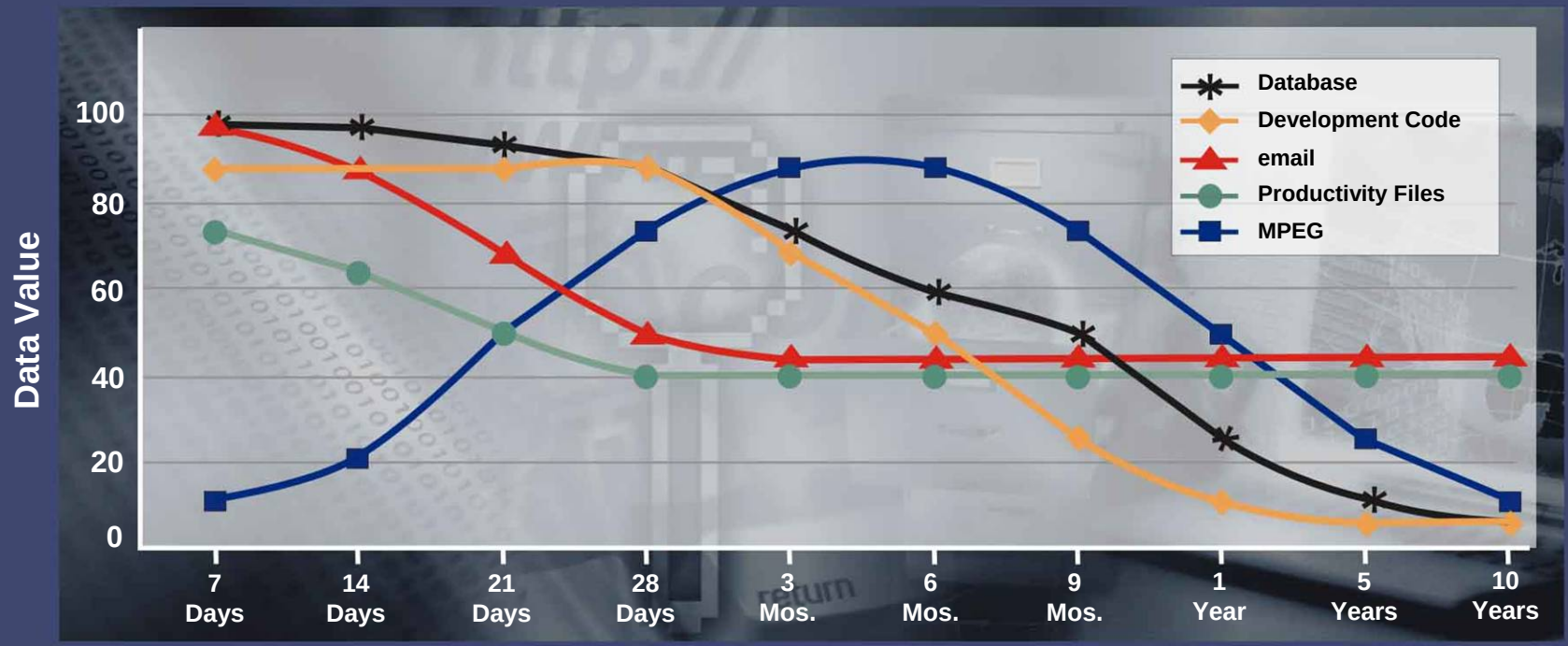
Not All Data is Created Equal…and…
…the Value of that Data Changes over Time



Source of graph: Enterprise Storage Group

Businesses need to align their IT investment with information value

IBM has a Long History in ILM

Tape Storage since 1952 – IBM Tape Drives and Libraries

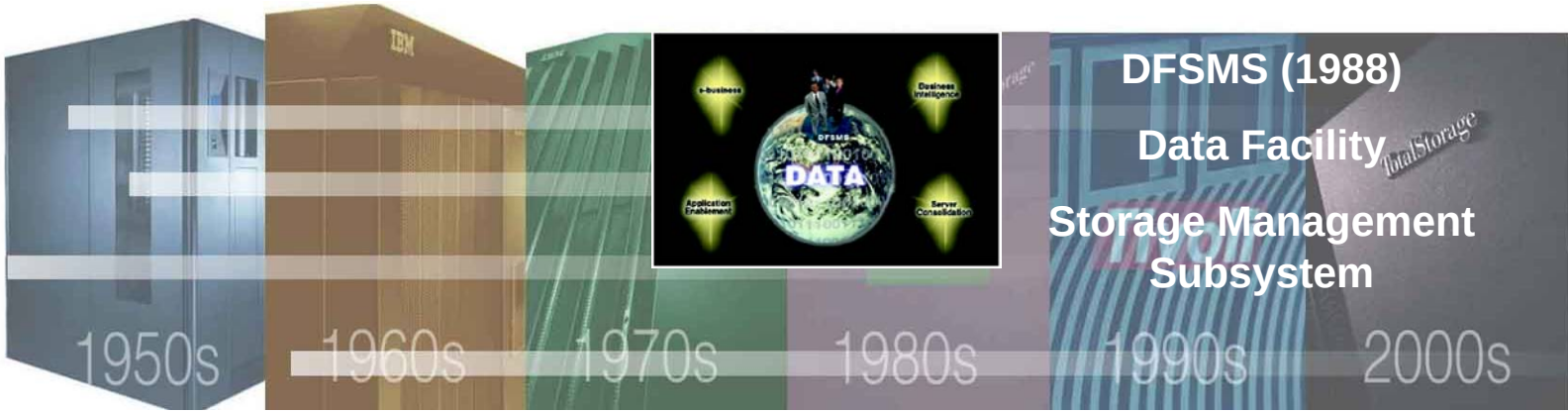
- 3590/3494 Enterprise class tape drives and libraries
- 3584/LTO Midrange class tape drives and libraries

Tivoli Storage Manager

Multi-platform Data Protection since 1993 – IBM Tivoli Storage Manager (TSM)

- Backup, archive, lifecycle management for a wide range of operating platforms
- Data protection for clients, databases, and applications
- Archive API open and based on industry standard
- Supports non-erasable, non-rewriteable disk protection

IBM Information Lifecycle Management



Disk Storage since 1960 – IBM Disk

- DS8000 – The Standard
- DS6000 – Enterprise storage for all clients
- DS4000 – Midrange flexibility
- SAN Volume Controller – Enterprise virtualization

DB2 Content Manager

Content Management since 1988 – IBM DB2 Content Manager (CM)

- Records retention and lifecycle management
- Digital rights and distribution management
- Multimedia streaming

Logical Steps To Implementing ILM

- **Step1: Planning and Assessment**
  - Data categorization
  - Identify, evaluate, control & predict trends
  - Establish policies

Knowing your data

- **Step 2: Active Data Management**
  - Pooling of storage by class of service
  - Virtualize physical storage
  - Policy based file allocation and placement
  - Policy based file migration
  - Simplify and consolidate file systems

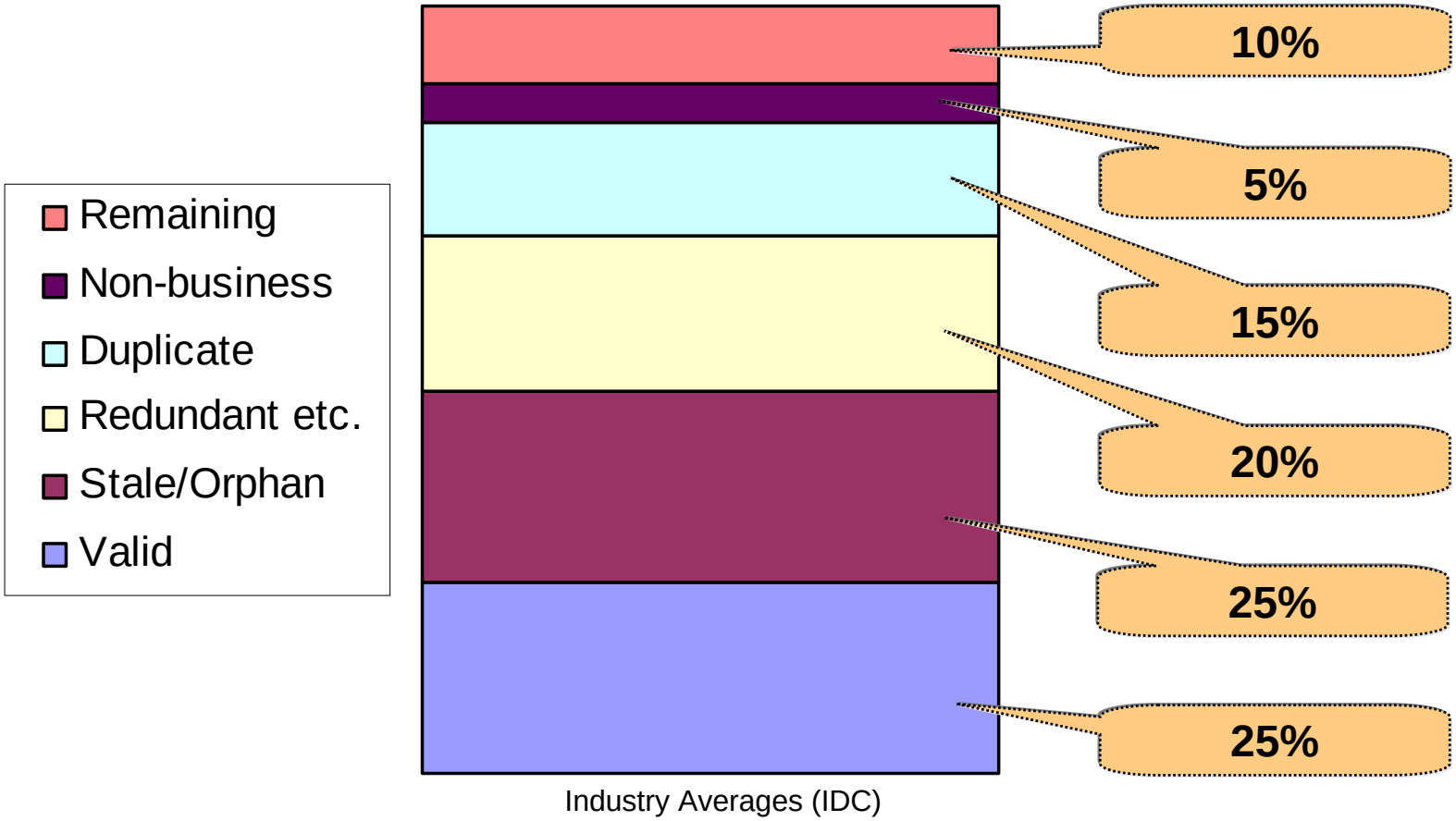
Automation and Efficiency

- **Step 3: Inactive Data Management**
  - Ensure Business Continuity
  - Email, Database, File Archive
  - Retention or destruction
  - Long term retention for compliance

Long Term Disposition

Step 1:

Identify Data Type Distribution



Industry Averages (IDC)

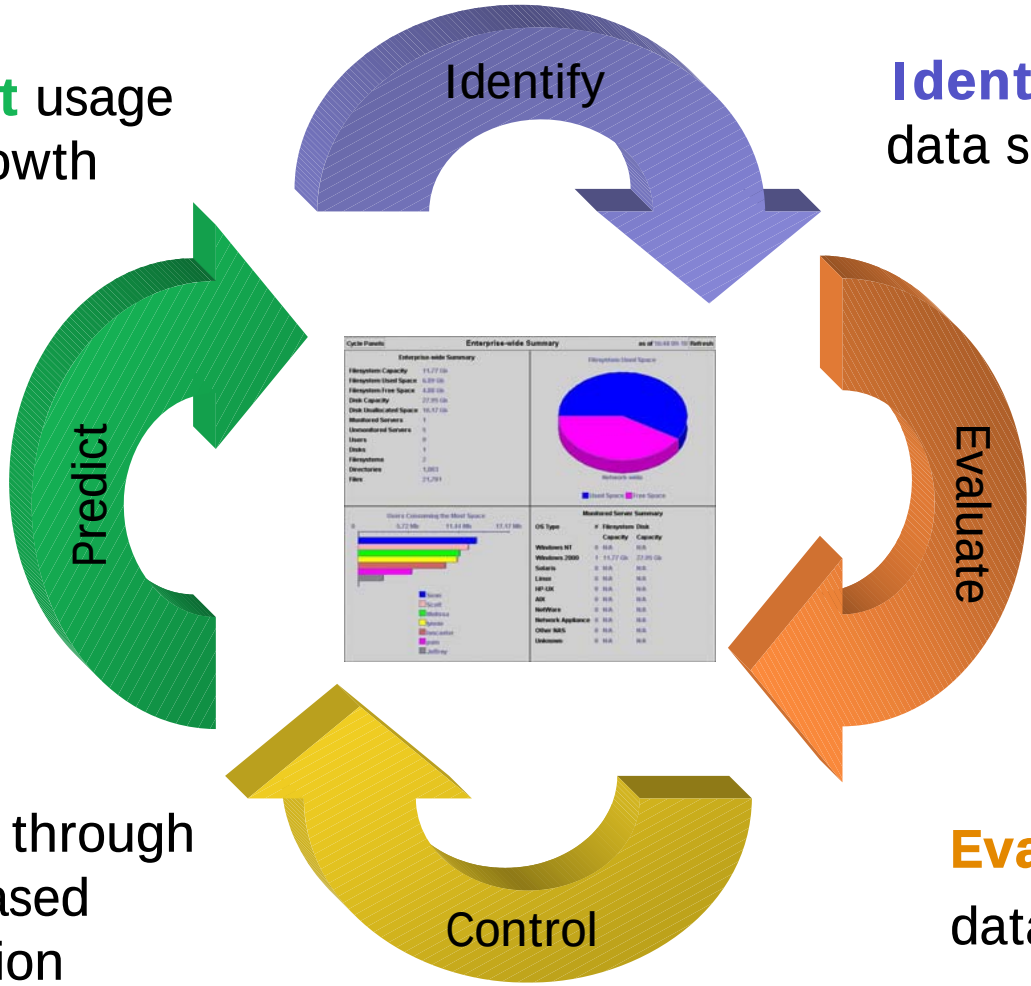
By defining information as “categories” or “classes” of data, ILM enables the creation of effective data management standards and policies

Step 1:

Manage Data Over its Lifecycle

Predict usage and growth

Identify enterprise data storage

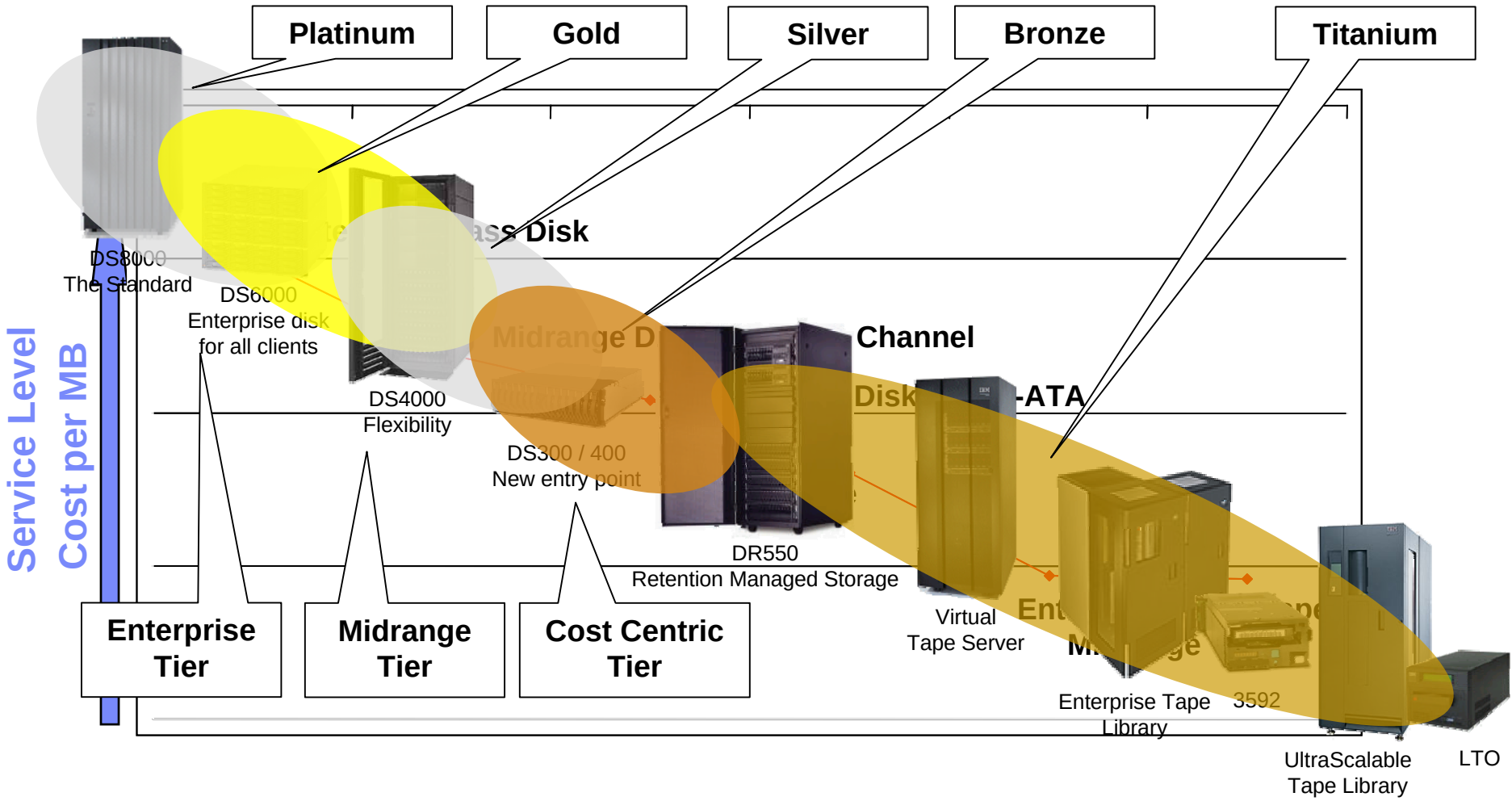


Control through policy-based automation

Evaluate your data

Step 2:

ILM Tiered Storage Hardware Infrastructure



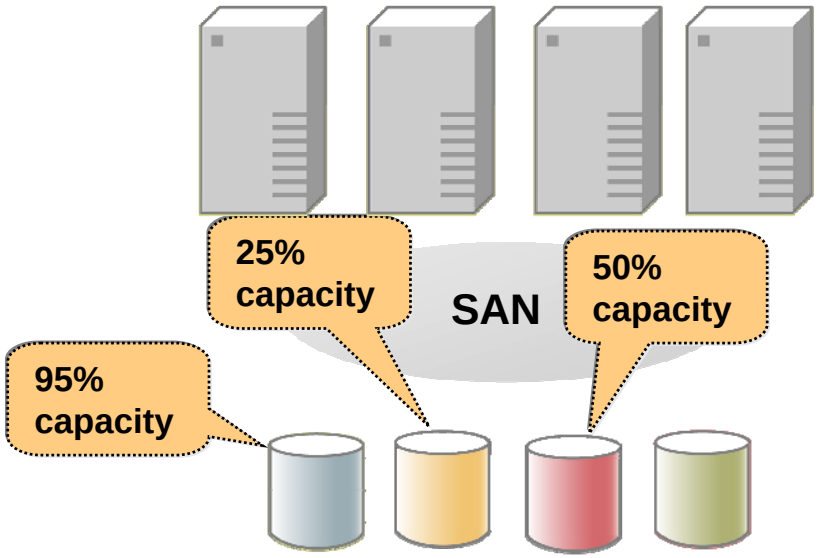
Step 2:

Virtualize Physical Storage…

For Optimized Resource Utilization and Tiered Pooling

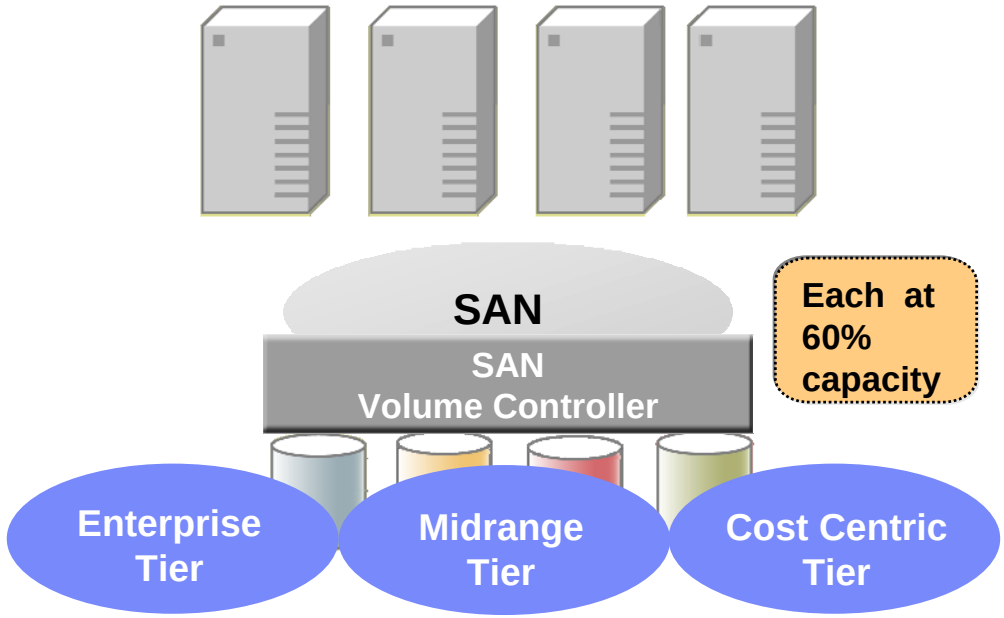
Traditional SAN

- Shared physical network
- Limited capacity sharing
- Capacity purchased for, and owned by individual processors
- Poor capacity utilization



SAN Volume Controller

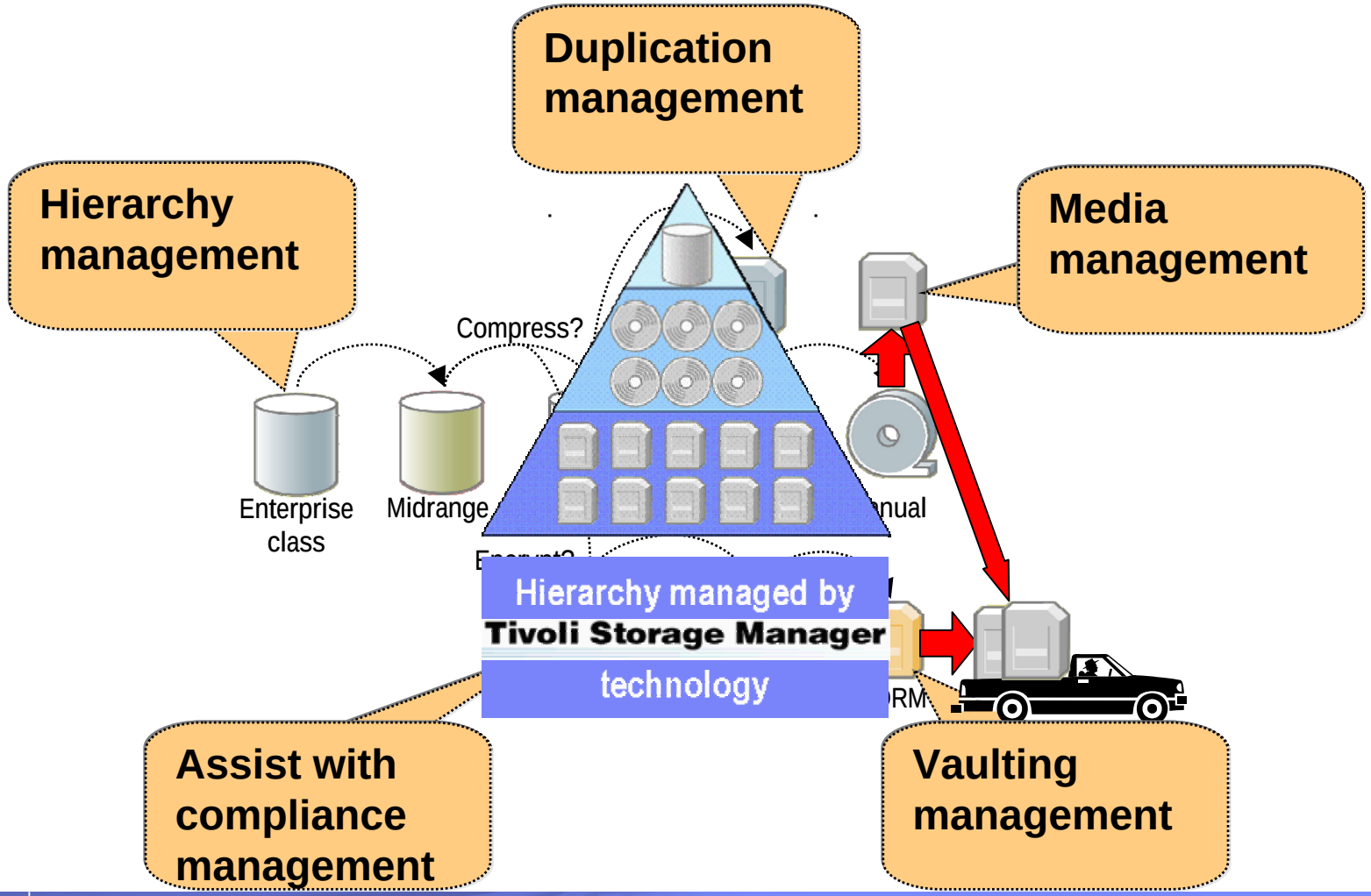
- Hosts own “virtual” disks
- Capacity can be more easily reallocated and tiered
- Capacity purchases can be deferred until the physical capacity of the SAN reaches a trigger point



Step 3:

Manage Inactive Data…

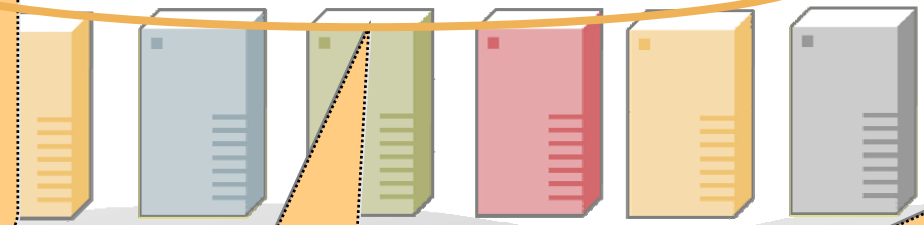
In a variable-cost storage hierarchy



IBM ILM "Eco-System

Analytics
Data asset inventory, utilization, capacity analysis

Multiple OSs / DBs / Emails / Apps



Active Data management
File placement
Tiered file movement
File expiration

Inactive Data management
File placement
Tiered file movement
File expiration
File vaulting

Application-specific Integration/Archive
Data offload for performance and scaling and compliance

Platinum Disk Storage Pool

Silver Storage Pool

Titanium Tape Pool

Enterprise Disk

Virtual Disk

WORM Disk

Enterprise

Virtualized
Physical / Heterogeneous Storage

Tiered Devices
Disk and Tape

Midrange Tier

Cost Centric Tier

Simplifying the management of tiered, heterogeneous storage
One device driver
One management interface

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Storage Provisioning Scenario:
RFC comes to Storage Administrator Requesting New Storage

Create Request for Change

Use this task to initiate a request to make a change to the IT infrastructure.

*Submitter: I. Admin Exchange

*Desired completion: 15-01-2006

*Title: Additional email storage space

Priority: **High**

Description of change: Add 100 GB of space to Server : Hursley Mail

Justification: Require space to increase the mail boxes for 1000 users.

Impact of not implementing change: Potential outage for e-mail users.

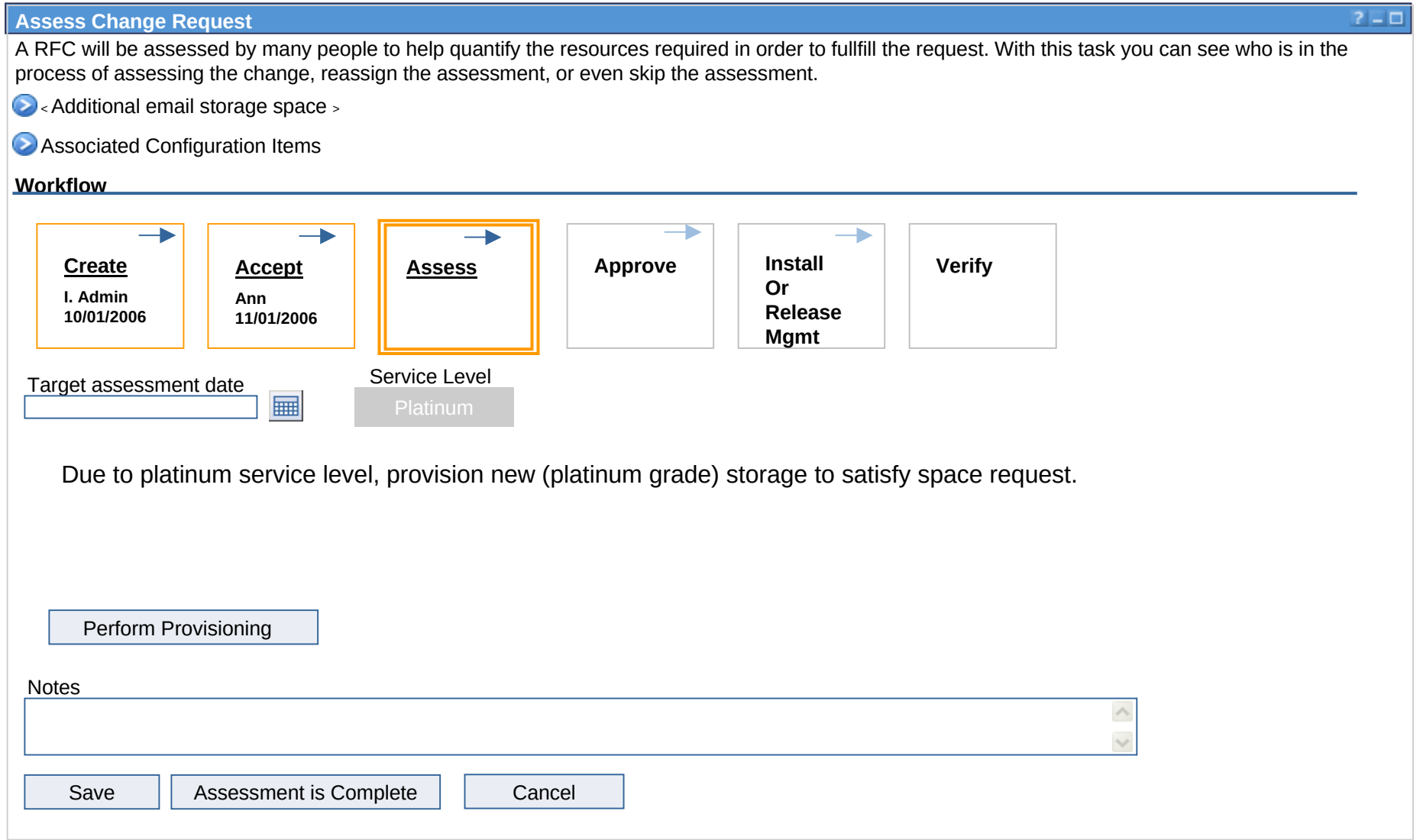
Type of request: **Increase Space**

Amount: **100**

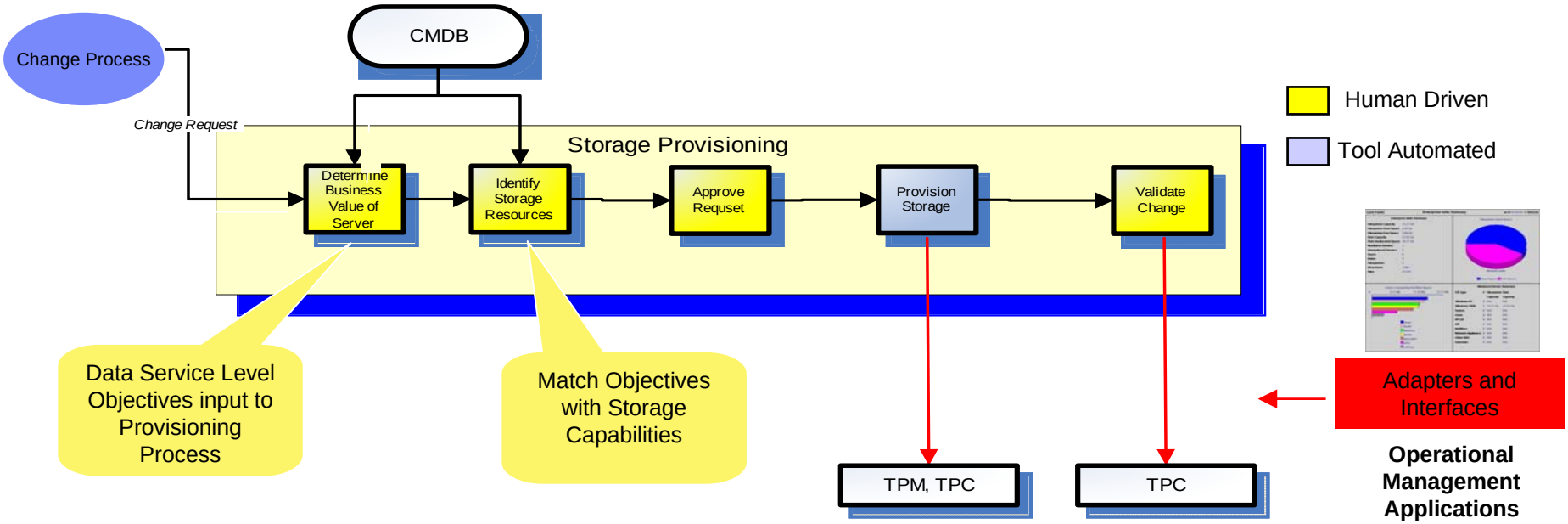
Units: **GB**

Create | Cancel

Storage Provisioning Scenario:
RFC response depends on Service Class

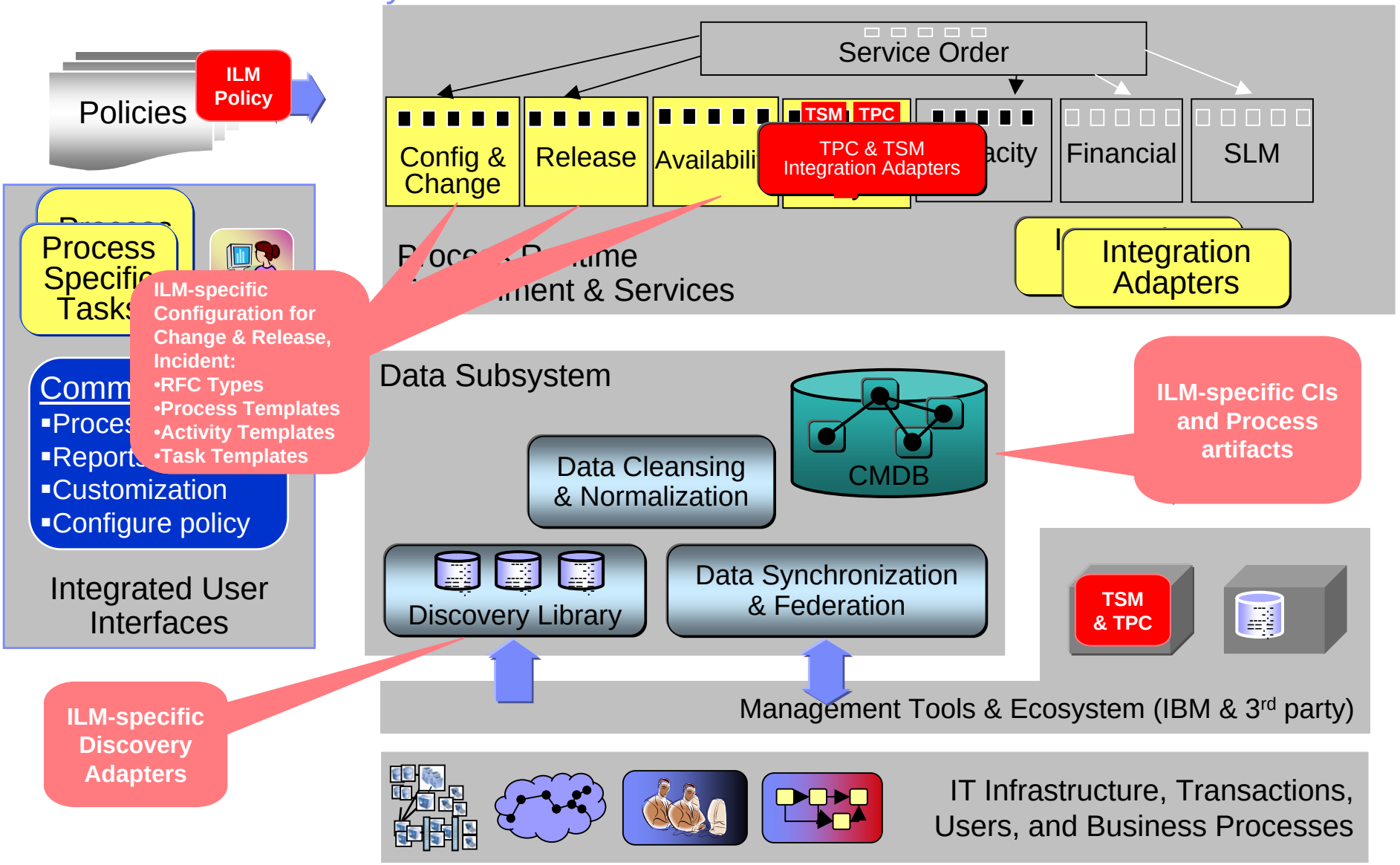


Storage Provisioning Scenario as a Process



- **Benefits:**
  - **Assists customers in selecting appropriate tier of storage for different classes of servers and applications**
  - **Integrates with provisioning and/or infrastructure tools to perform storage provisioning tasks**
  - **Allows for approvals before storage is provisioned**
  - **Allows for validation of the change using Storage Configuration Checker (Future)**
- **Value:**
  - **Improve efficiency in delivering storage services**
  - **Ensure availability of applications and data according to SLA agreements**
  - **Reduced cycle time, reduced release errors due to automated, repeatable actions**
  - **Improved capacity to handle more releases, and fewer business impacting interruptions**

ILM Process Manager: Architecture and Integration with CMDB, Change, Release and Availability



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Thank You

Questions?

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