

# **Introducing ITIL**

## **Best Practices for IT Service Management**

Presentation will begin at 9:00 am



Service & Operations Management Work Group



# ITIL Overview

Mary Lou Alter, Director  
EMC Professional Services  
April, 2015

# Agenda

## ITIL Basics

- A. Purpose & Objectives
- B. What ITIL Is & Why It Matters
- C. The ITIL Framework
- D. ITIL in an ITaaS World
- E. Questions & Answers

## Appendix: Service Level Management Deep Dive

- A. Service Level Management 101
- B. Glossary of Terms

# Part 1 Purpose & Objectives

- Provide a high level introduction to the ITIL framework to:
  - enable participants to better anticipate and understand processes that affect them
  - understand relationships among deployed processes
- Following this session, attendees will:
  - Know what ITIL is, what it is used for, and how it was developed
  - Understand common ITIL concepts
  - Be familiar with the 5 phases of the ITIL Life Cycle and the processes in them
  - Have a better understanding of how ITIL will affect them and their customers

# What is ITIL?

## ITIL Defined:

- Information Technology Infrastructure Library (ITIL)
- ITIL is a set of efficient, interrelated processes for delivery and support of IT services
- Is documented by a set of books, supporting materials, and training certifications
- Provides a common language for discussing IT services across all IT departments and with customers
- Provides an holistic, integrated view of IT processes
- Is a framework, not a standard

# Improving IT Service Through Process Maturity

- Define and document best practice processes that are:
  - Unified
  - Consistent
  - Repeatable
  - Supported by clear definitions of roles and responsibilities
  - Integrated with related processes
- Establish IT-business partnership
  - Service level objectives/agreements
  - Clearly defined single points of contact for customer engagement
- Process and data management automation
- Performance tracking against process Critical Success Factors
  - Continuous process improvement
  - Service quality reporting
- Decisions supported by analysis of costs and benefits
  - Results tracked

# The ITIL Value Proposition

Defined best practice processes with a good supporting IT service management toolset yields tremendous benefits in quality, cost, efficiency and customer satisfaction.

**Benefits are derived as depicted below.**

Traditional IT Characteristics		ITIL Process Characteristics	Value Proposition
Technology focus	➔	Process focus	Business aligned decisions; cost
“Fire-fighting”	➔	Preventative	Stability; quality of service; cost
Reactive	➔	Proactive	Quality of service; cost of service
Users	➔	Customers	Customer satisfaction
Isolated, silos	➔	Integrated, enterprise-wide	Efficiency; quality; cost of service
“One off”, adhoc	➔	Repeatable, accountable	Efficiency; effectiveness; cost of service
Informal processes	➔	Documented best practices	Scalability; quality; cost of service
IT internal perspective	➔	Business perspective	Customer satisfaction; effectiveness
Operational specific	➔	Service orientation	Customer satisfaction; quality of service

# ITIL History

- Originated by the United Kingdom government to set guidelines for delivering IT services efficiently
- Has become a standard adopted by companies worldwide
- Evolved into a cohesive, integrated set of IT process best practices that outlines the steps needed to:
  - Set policies and deliver effective services from a business perspective around the performance of various IT processes
  - Monitor IT activity for efficiency
  - Establish Service Lifecycles in order to increase efficiency, effectiveness, and cost effectiveness
- Rationalizes and simplifies much of what we already know about how IT gets done

# ITIL Tenets

- Service Orientation
- Business Alignment
- Single Points of Contact
- Defined, Documented, Interrelated Processes
- Coordinated Repositories
- Clear Roles & Responsibility
- Performance Measurement
- Continuous Service Improvement

# Defining Service

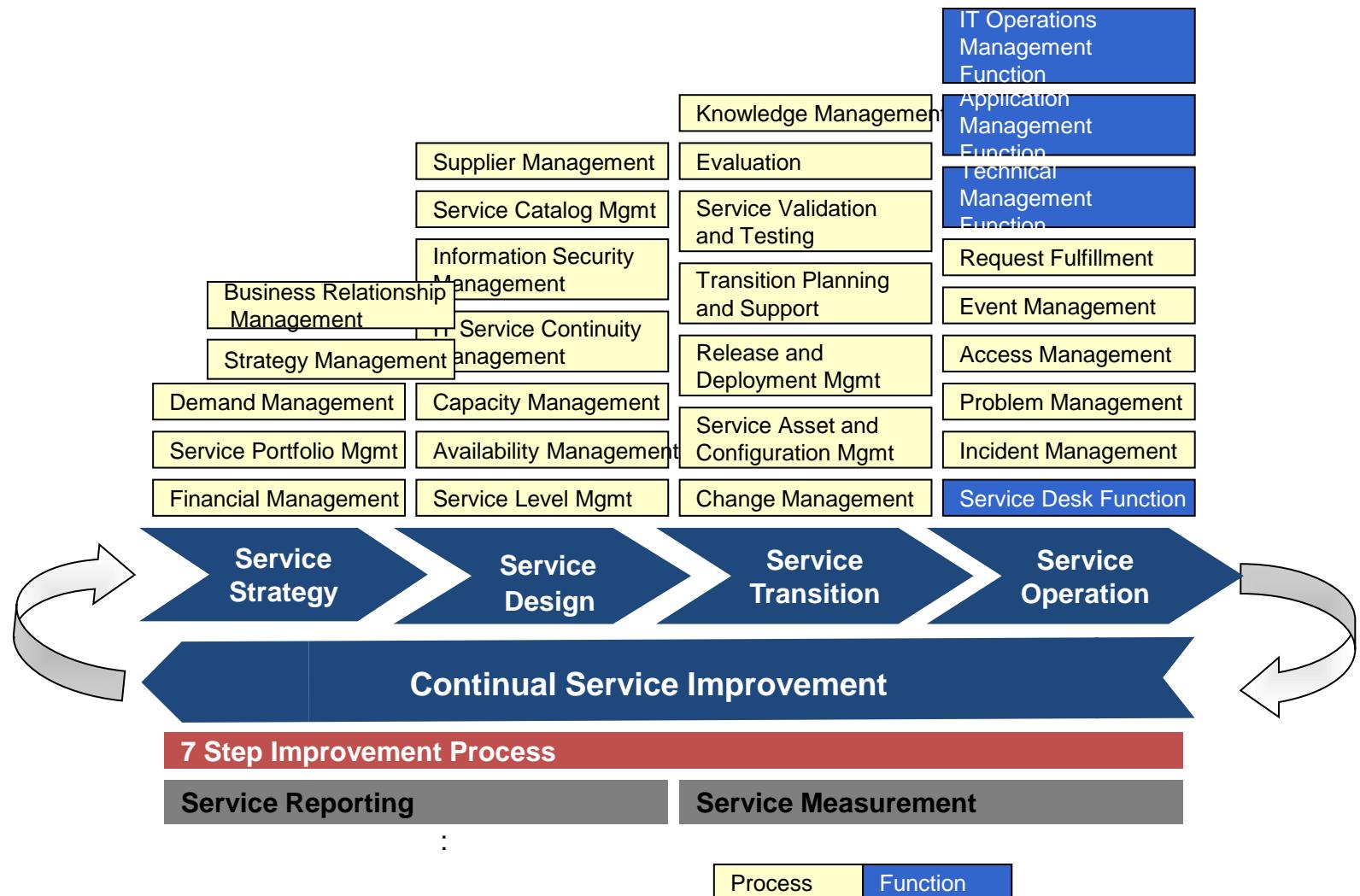
- Service
  - A means of delivering value to customers by facilitating outcomes customers want to achieve without the ownership of specific costs and risks*
- Service Provider
  - Provides IT services to a customer within a business*
- Service Management
  - A set of specialized organizational capabilities for providing value to customers in the form of services*

# Key Roles throughout Service Lifecycle

- Service Owner
- Process
- Process Owner
- Functions
- Role

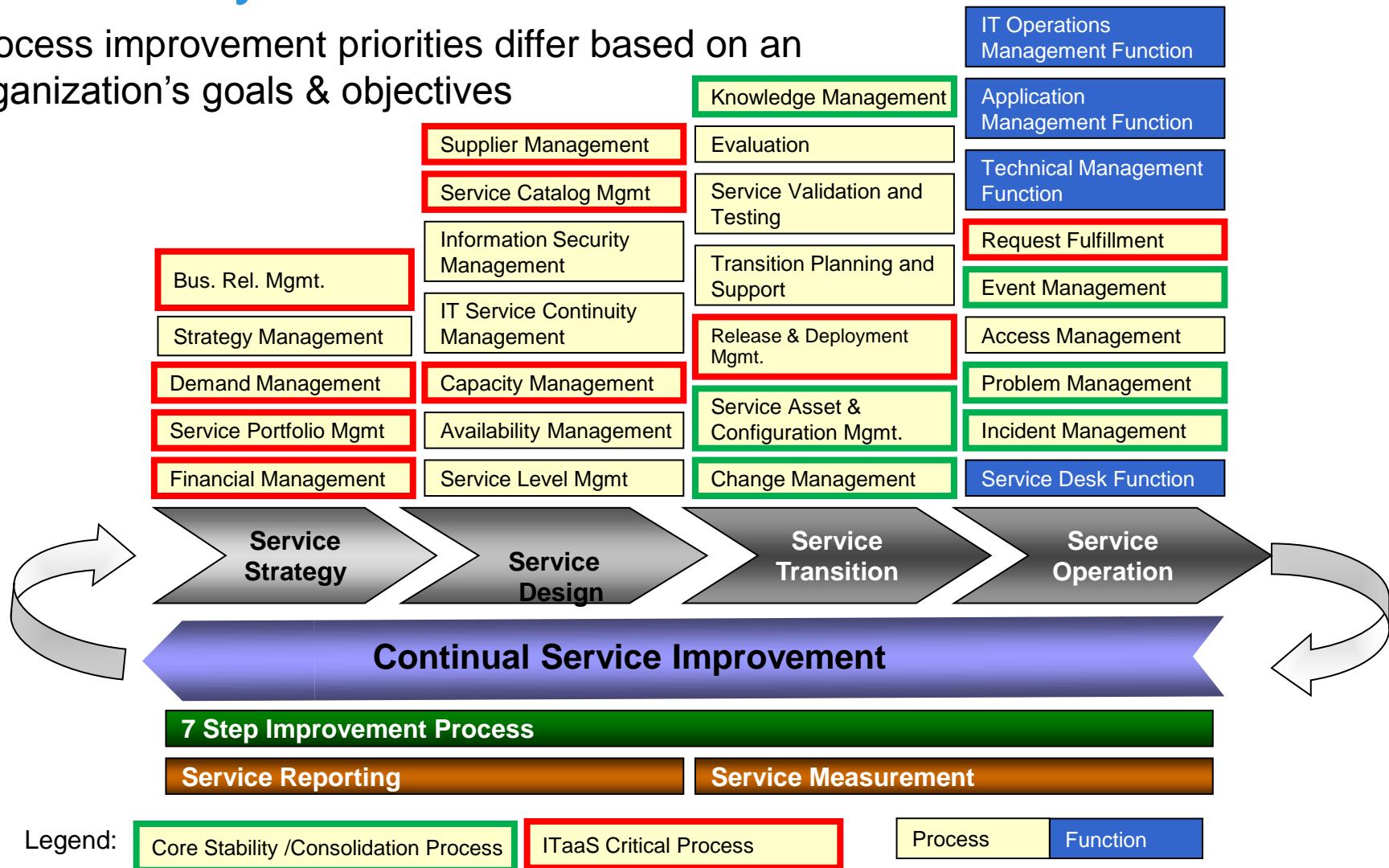
# ITIL Lifecycle

ITIL has been adopted by more than 95% of Fortune 1000 companies



# ITIL Lifecycle

Process improvement priorities differ based on an organization's goals & objectives



# Service Strategy

## Objectives

Know what is offered and to whom

Understand the competition

Offer value

Service quality

Allocate resources

Handle demand

## Processes

Business Relationship Management

Strategy Management

Demand Management

Service Portfolio Management

Financial Management

## Output

Satisfaction

Provide value

# Service Strategy – The Processes

- Business Relationship Management
- Strategy Management
- Financial Management
  - Budgeting
  - Accounting
  - Charging
- Service Portfolio Management
  - Manage the complete set of services offered (Service Portfolio)
    - Future, current & retires service offerings
- Demand Management
  - Control risk (too much capacity creates cost without creating value)
  - Patterns of business activity

# Service Design Snapshot

## Gather Information

**Business Requirements**

## The Four Ps



## Design Activities

New or changed services

Service Portfolio  
(and Service Catalog)

Technology Architecture  
Management Systems

Processes, Roles,  
Responsibilities, and Skills

Measurement Methods

## Design Results

**Service Solution**

**Service Design Package**

# Service Design – The Processes

## Service Catalog Management

- Service Catalog produced
- Negotiates and agrees with the business
- Ensures adequate capacity, cost efficiency, that meets current and future needs of the business
- Ensures the level of service availability is delivered
- Ensures IT technical and service facilities can be resumed
- Aligns IT security with business security
- Manages the suppliers and the services they supply

## Service Level Management

## Capacity Management

## Availability Management

## IT Service Continuity Management

## Information Security Management

## Supplier Management

# Service Transition

## Service Transition Snapshot

### Purpose

### Goals

### Objectives

### Scope

Deliver Service  
Design Package to  
Service Operations

Enable  
change or  
integration

Manage  
resources

Plan

If changes were  
made, then ST  
makes modifications

Minimize  
risk

Minimize  
impact

Build

Implement  
Services

Ensure  
the service  
can be used

Increase  
satisfaction

Test

Proper use  
of services

Evaluate

Clear plans

Deploy

Retire

Review

Close

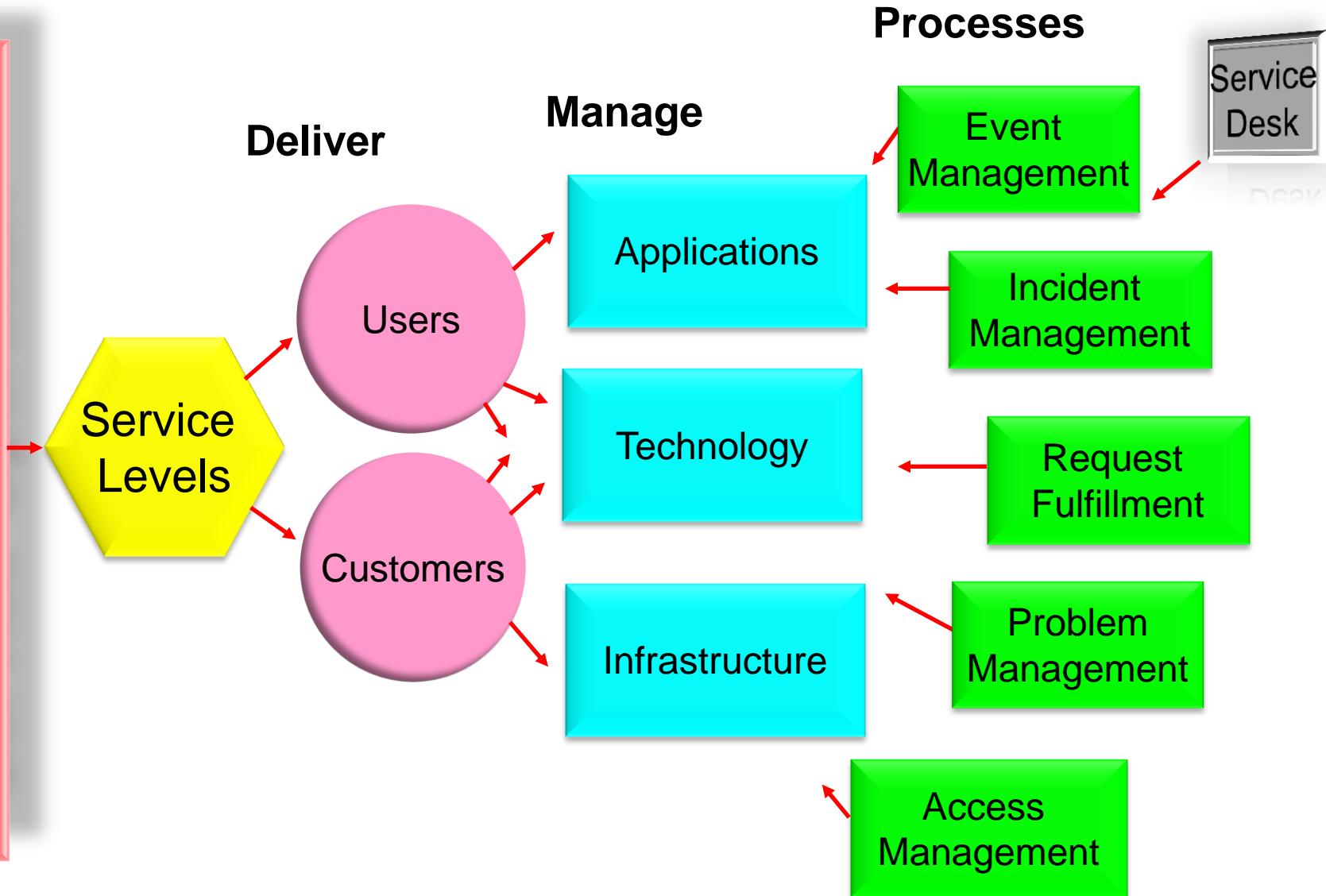
→

# Service Transition – The Processes

- Change Management
- Service Asset & Configuration Management (SACM)
- Release and Deployment Management
- Knowledge Management
- Service Evaluation
- Service Validation and Testing
- Transition Planning

# Service Operation

## Service Operation Snapshot



# Important Service Operation Concepts

- **Event** – A change of state
- **Alert** – A warning or failure
- **Incident** – An unplanned interruption
- **Problem** – The unknown cause of one or more incidents
- **Service Request** – A request from a user for information, or advice, or for a Standard Change or for access to an IT Service

# Service Operation – The Processes

- Event Management
- Incident Management
- Request Fulfillment
- Problem Management
- Access Management

# Service Operation – Functions

- Service Desk
- Technical Management
- IT Operations Management
  - IT Operations Control
  - Facilities Management
- Application Management

# Service Operation

## Service Operation

### Achieving the Right Balance

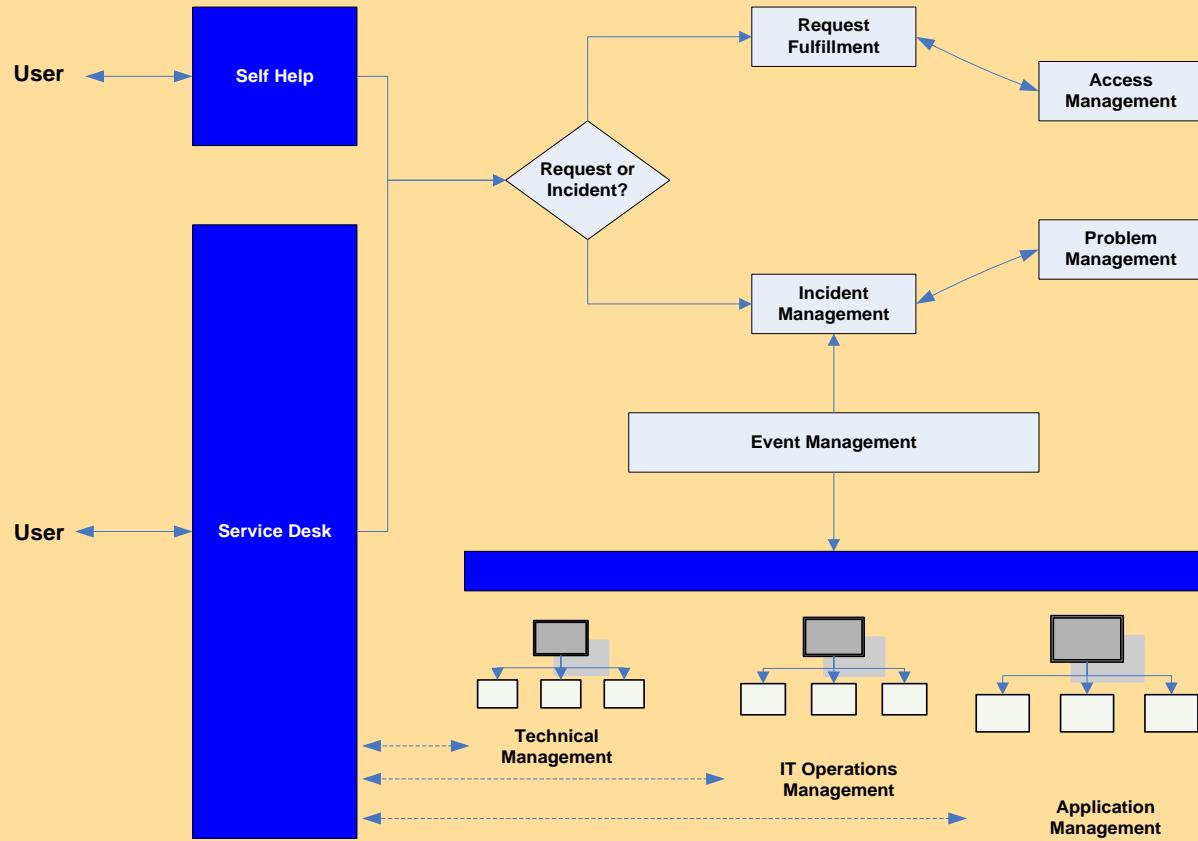
- Internal IT View vs. External Business View
- Stability vs. Responsiveness
- Reactive vs. Proactive
- Quality vs. Cost

### Function

- Service Desk
- Technical Management
- IT Operations Management
- Application Management

### Processes

- Event Management
- Incident Management
- Problem Management
- Access Management
- Request Fulfillment



# Continual Service Improvement

## Goals and Objectives

Review, analyze, and make recommendations

Review and analyze Service Levels

Identify and implement activities to improve service quality

Customer satisfaction

Quality management methods

## Scope

Overall Health

Alignment to Business needs

Maturity

# Questions & Answers



# Appendix

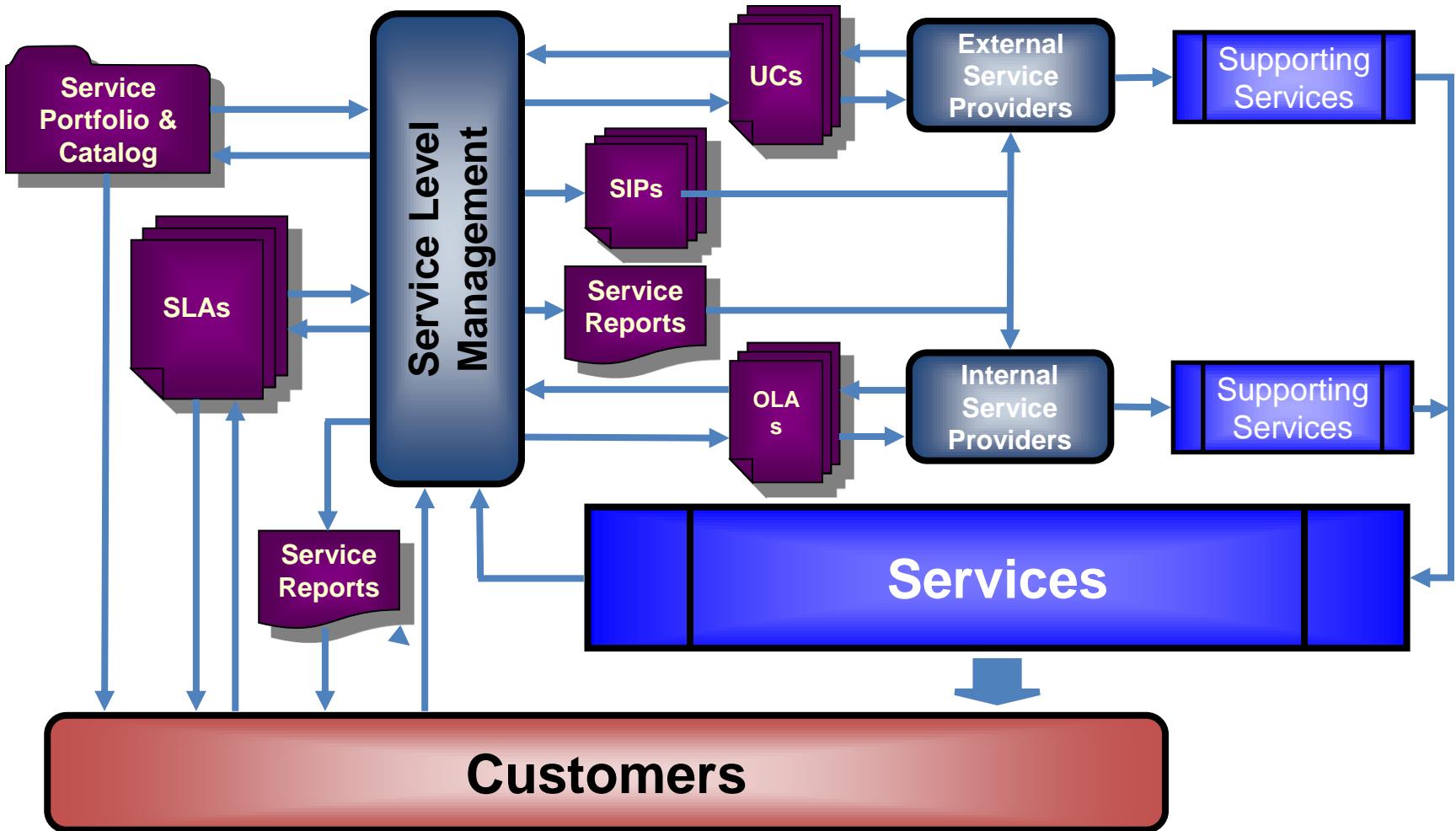
## Service Level Management Deep Dive

# Appendix Contents

## Service Level Management Deep Dive

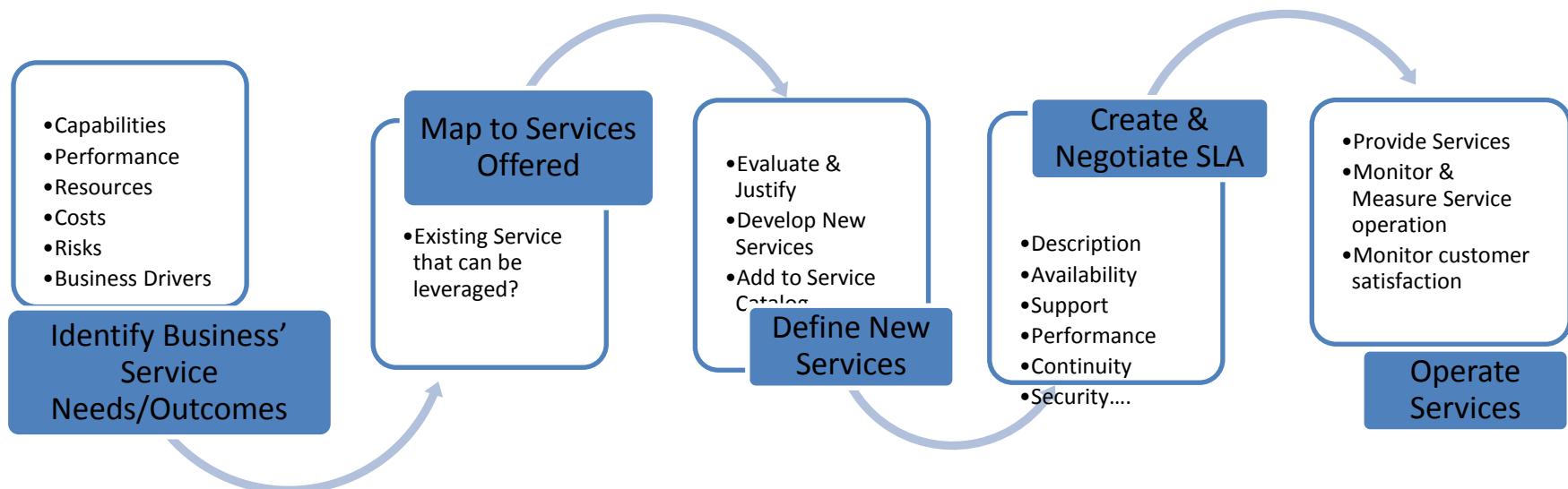
- A. Purpose & Objectives
- B. Service Level Management 101

# Service Level Management



# From Business Need to Service Offering

The service life cycle includes identifying business needs, mapping to existing service and technology capabilities, developing new services, and finally delivering services at agreed levels



# Defining Business Facing Service Levels

## Business Service Agreement

Select Target  
Business Area  
•ID Business Services

Define & Document  
Service  
Requirements

Develop Service  
Level Agreements/  
Objectives

Implement

Expand to  
Other Services

Measure  
& Report

## Service Level Infrastructure

Build Business Service  
Tiered Model

Define & Document  
Business & Component  
Services

Service Catalog

SLA

Develop Operating  
Level Agreements

Expand to  
Other Services

Measure  
& Report

# Example IT Service Model

Business Services

CRM

Manufacturing

R&D

Sales and Marketing

...

*Desktops, Laptops, Monitors*

Desktop Services

Electronic Messaging Services

Line of Service

E-mail Service

Instant Messaging Service

Mobile Messaging Service

Service Offerings

IT Services

IT Infrastructure Components

Outlook

Web Services

BlackBerry Services

Service Offerings

MS Exchange Server

Apache

BBIS BBES

Applications

OSS  
V-hosts  
P-hosts

Windows Server

VMware ESX

Server H/W

Hosting Services

Database Services

ITSCM Services

...

# Service Portfolio Management

- **Definition**

The dynamic method for governing and managing service management investments for value. The Service Portfolio describes services in terms of business value.

- **Purpose**

To maximize the return on IT service investments, while maintaining an acceptable level of risk.

- **Scope**

- Service Pipeline
- Service Catalog
- Retired Services

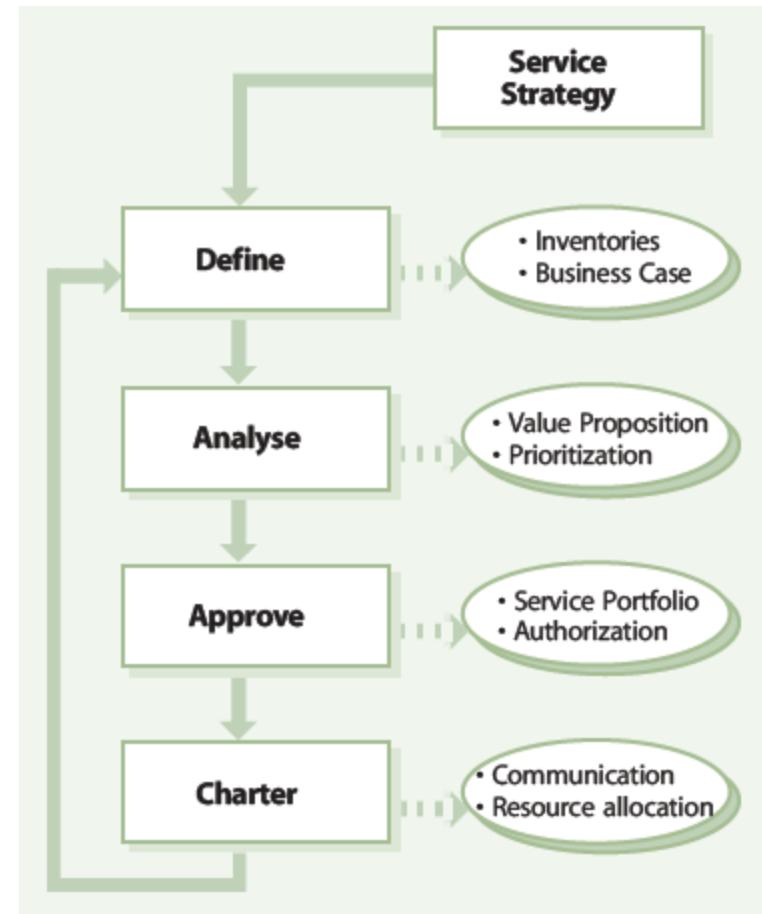
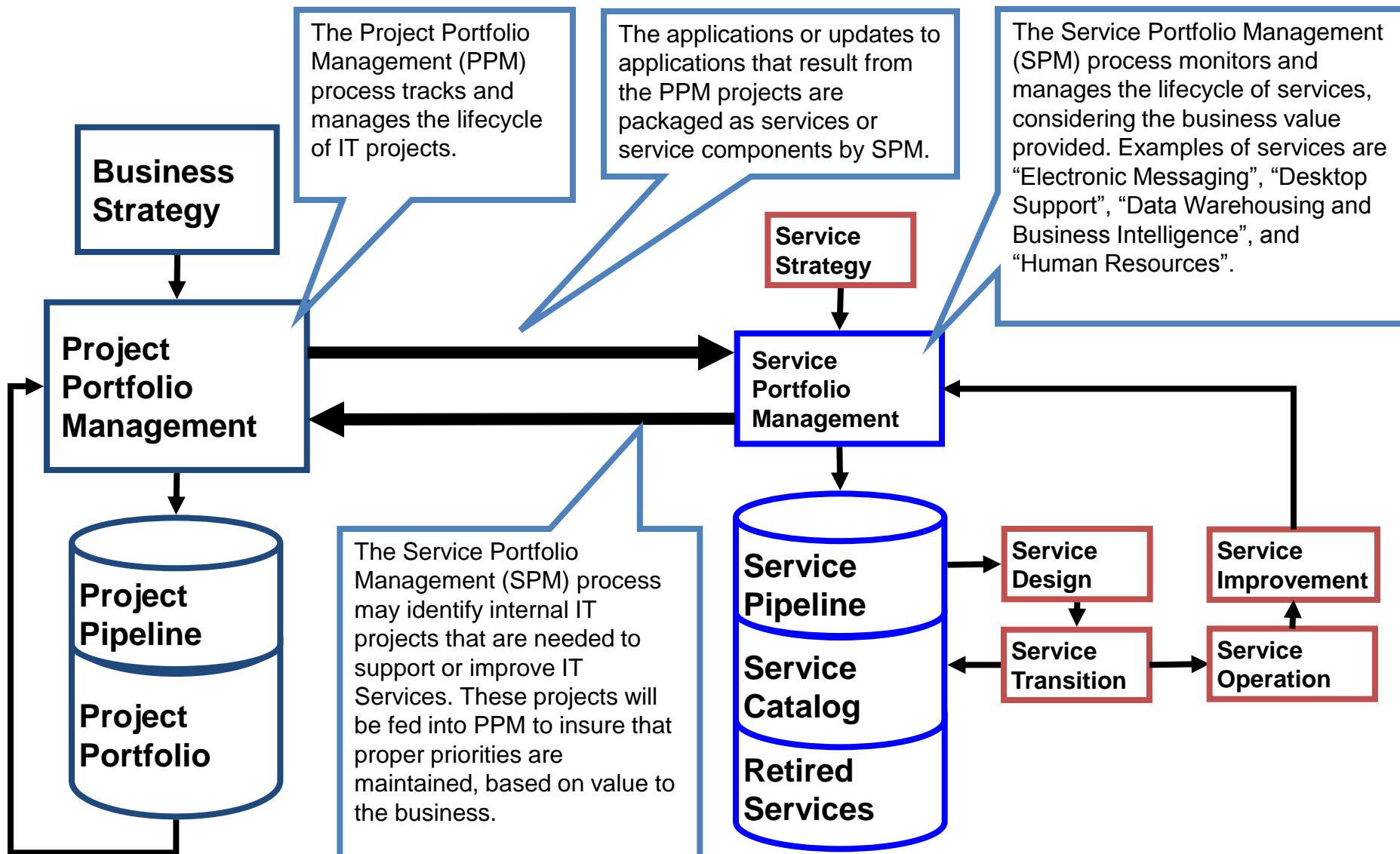


Figure 5.17 Service Portfolio process

# Service Portfolio Management



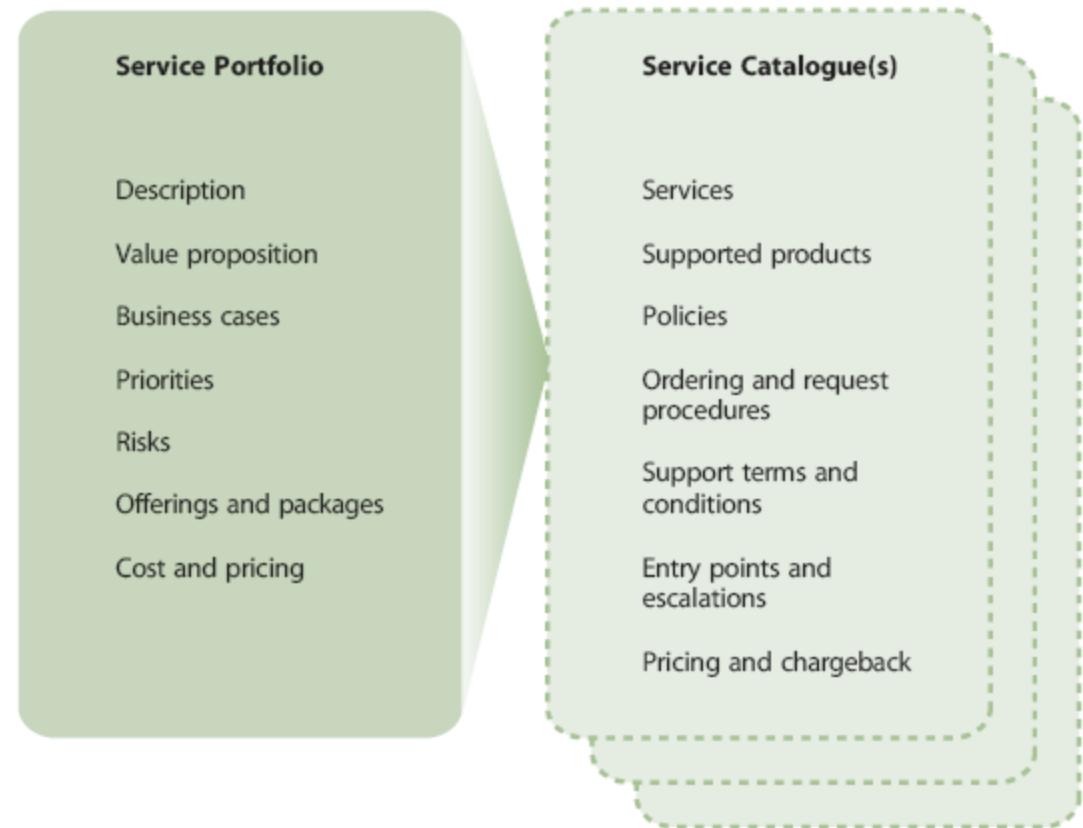
# Service Catalog Management

- **Definition**

The process that ensures that a Service Catalog is produced and maintained, containing accurate information on all operational services and those services that are being transitioned to operational status.

- **Purpose**

To provide a single source of consistent information on all of the agreed services, and ensure that it is widely available to those who are approved to access it.



# Elements of a Best Practices Service Catalog

- Services are defined in clear, easy-to-understand language
- All significant services are defined
- Entries define or support SLAs and/or SLOs
- Entries include or link to:
  - service description
  - customer
  - service components
  - levels of service
  - cost
- Accessible by all who use, provide or support services
- Reporting facilitates continuous process improvement through use of KPIs
- Process is linked to other processes:
  - Service Level Management
  - Financial Management
  - Infrastructure Management
  - Capacity Management
  - Configuration Management

# Glossary of Service Management Key Terms

# Key Terms in Service Level Management

- **Operational Level Agreement (OLA)**

An agreement between an IT service provider and another part of the same organization. An OLA supports the IT service provider's delivery of IT services to customers. The OLA defines the goods or services to be provided and the responsibilities of both parties. See also Service Level Agreement.

- **Service Design Package (SDP)**

Document(s) defining all aspects of an IT service and its requirements through each stage of its lifecycle. A Service Design Package is produced for each new IT service, major change, or IT service retirement.

- **Service Improvement Program/Plan (SIP)**

A formal plan to implement improvements to a process or IT service.

- **Service Level**

Measured and reported achievement against one or more Service Level Targets. The term Service Level is sometimes used informally to mean Service Level Target.

- **Service Level Agreement (SLA)**

An agreement between an IT service provider and a customer. The SLA describes the IT service, documents Service Level Targets, and specifies the responsibilities of the IT service provider and the customer. A single SLA may cover multiple IT services or multiple customers. See also Operational Level Agreement.

- **Service Level Management (SLM)**

The process responsible for negotiating Service Level Agreements, and ensuring that these are met. SLM is responsible for ensuring that all IT Service Management processes, Operational Level Agreements, and Underpinning Contracts, are appropriate for the agreed Service Level Targets. SLM monitors and reports on Service Levels, and holds regular customer reviews.

# Key Terms in Service Level Management

- **Service Level Package (SLP)**  
A defined level of utility and warranty for a particular Service Package. Each SLP is designed to meet the needs of a particular pattern of business activity.
- **Service Level Requirement (SLR)**  
A customer requirement for an aspect of an IT Service. SLRs are based on business objectives and are used to negotiate agreed Service Level Targets.
- **Service Level Target**  
A commitment that is documented in a Service Level Agreement. Service Level Targets are based on Service Level Requirements, and are needed to ensure that the IT Service design is fit for purpose. Service Level Targets should be SMART, and are usually based on KPIs.
- **Service Quality Plan**  
The written plan and specification of internal targets designed to guarantee the agreed Service Levels.
- **SMART**  
An acronym for helping to remember that targets in Service Level Agreements (and Project Plans) should be Specific, Measurable, Achievable, Relevant and Timely.
- **Underpinning Contract (UC)**  
A contract between an IT service provider and a third party. The third party provides goods or services that support delivery of an IT Service to a customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.

# Key Terms in Configuration Management

## Configuration Item (CI):

- Any component that needs to be managed in order to deliver an IT service.
  - CIs typically include IT Services, hardware, software, buildings, people, and formal documentation.
  - CI information is stored in a CMDB and is under the control of Change Management

## Configuration Management Database or CMDB:

- A database used to store Configuration records throughout their Lifecycle.

## Configuration Management Systems or CMS:

- A set of tools and databases that are used to manage an IT Service Provider's Configuration data.
  - Includes information about Incidents, Problems, Known Errors, Changes and Releases
  - May contain data about employees, Suppliers, locations, Business Units, Customers and Users
  - Includes tools for collecting, storing, managing, updating, and presenting data about all Configuration Items and their Relationships.
  - Maintains one or more CMDBs, and each CMDB stores Attributes of CIs, and Relationships with other CIs

# Other Key Terms

- **Access**

The level and scope of the functionality of a service or data that a user is allowed to use.

- **Event**

A change of state that has significance for the management of a Configuration Item or an IT Service. This term also is used to mean Alert or notification created by any IT Service, Configuration Item or Monitoring tool.

- **Identity**

A unique name that is used to identify a User, person or Role. The Identity is used to grant Rights to that User, person or Roles.

- **Rights**

Entitlements, or permissions, granted to a User or Role. Rights would include the Right to modify certain data, or to authorize a change.

- **Service Request**

A request from a user for information, advice, a standard change or access to a service. Examples include password resets and provisioning standard IT services to a new user. Service Requests do not require an RFC.

- **Standard Change**

A pre-approved change that is low risk, relatively common and follows a procedure. RFCs are not required to implement a Standard Change and they are logged and tracked using a different mechanism, such as a Service Request.

**EMC<sup>2</sup>**  
®

# Using ITIL Framework for Cloud Projects

accenture

High performance. Delivered.

Carl A Winchester  
[carl.a.winchester@accenture.com](mailto:carl.a.winchester@accenture.com)



Service & Operations Management Workgroup

# Agenda

- Paradigm Shift
- ITIL Lifecycle From a Cloud Perspective
  - Service Strategy
  - Service Design
  - Service Transition
  - Service Operation
  - Continuous Improvement
- An Agile IT Roadmap

# Paradigm Shift

- Managing a network of in-house and external service providers, without suffering a loss of control
- Managing user expectations
- Controlling and eliminating the manual handoffs
- Documenting and verifying compliance with service levels in a multi-vendor environment

# Cloud Based Service Strategy

Cloud computing forces an upfront analysis of your portfolio of services

- You must clearly understand how each particular service adds value to customers and the business
- Examine the relative level of investment made for each service in relation to its value and determine how to best source it
- Demand management becomes critical in providing on-demand cloud services
- Chargeback and allocation of cloud-service costs in a multi-sourced environment need to be handled differently

# Cloud Based Service Design

In the world of cloud computing, service design focuses on integrating services from multiple suppliers (internal and external) into bundled service packages ready for consumption. This implies the need for a renewed effort in supplier management and related processes to enable smooth end-to-end service delivery. Timely reporting and clear, objective contract language helps ensure that terms, conditions, and service level agreements are met.

# Cloud Based Service Transition

The cloud, especially in a multi-sourced environment, requires shared responsibility between internal and external service providers. A structured transition planning and support process is critical. The involved parties must coordinate and agree on roles and responsibilities as they all participate in major changes. Cloud service providers need to integrate with key service transition processes like change, release, and deployment management to protect the integrity of the live environment.

# Cloud Based Service Operation

In a cloud environment, ensuring the reliability and availability of services and their underlying applications and infrastructure calls for continuous monitoring against agreed service levels and well-defined integrated processes. The goal is to understand and develop practices to cope with the challenges of security compliance, privacy, and access.

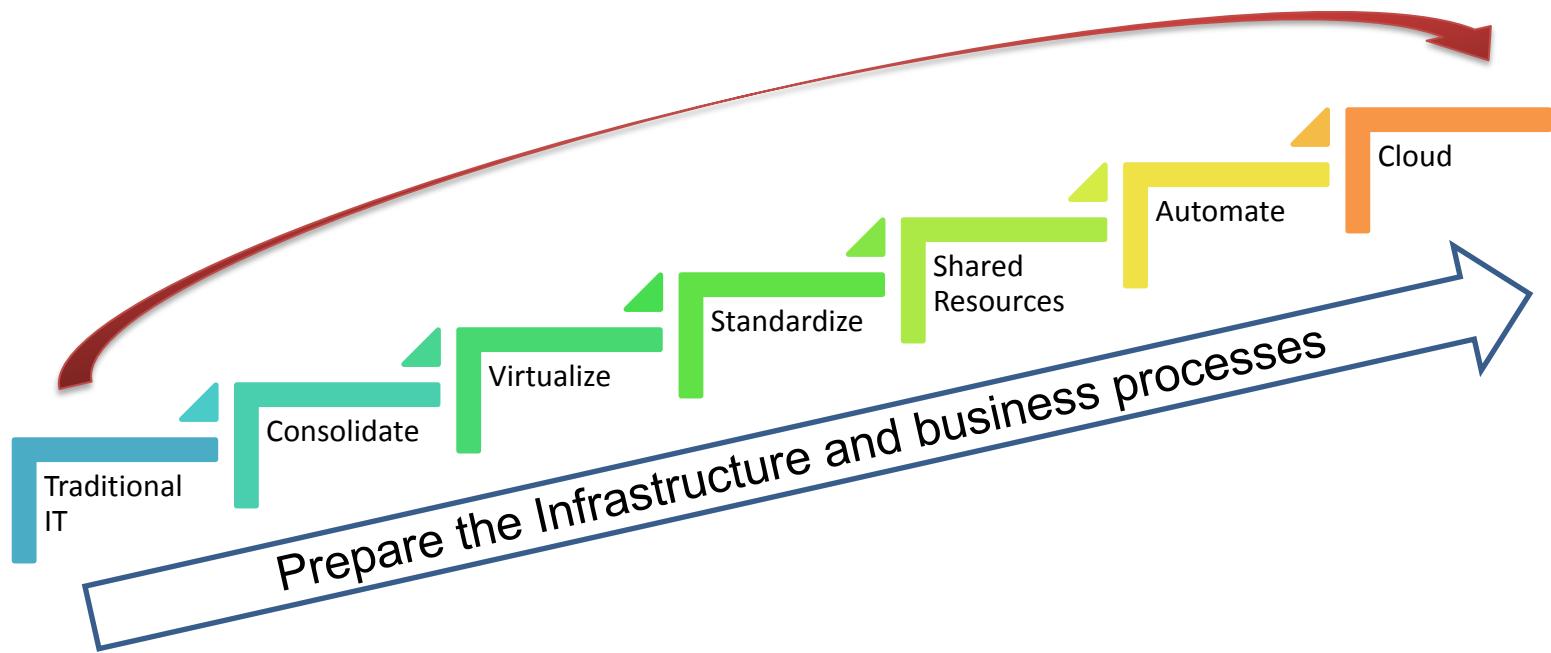
# Cloud Based Continual Service Improvement

Cloud computing done poorly has a tendency to introduce misalignment between business needs and technical capabilities. Establishing key performance indicators (KPIs) and SLAs with cloud service providers helps both parties communicate and agree on mutual expectations concerning time, quality, and cost.

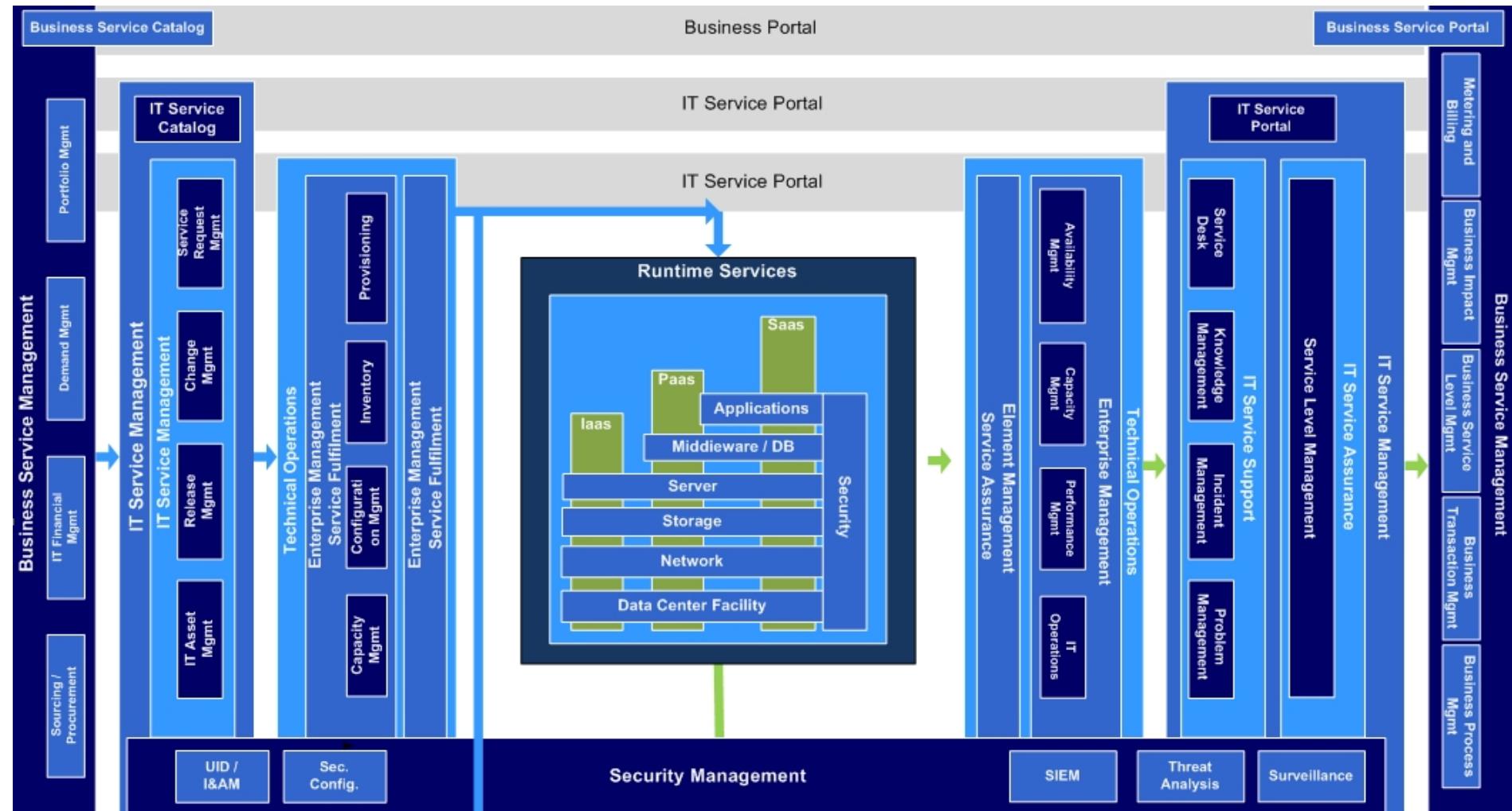
# Why It Matters

Reducing costs and increasing agility are key IT objectives and drivers for adopting cloud computing. The cloud's ability to help IT dynamically balance demand with resources results in better resource sharing, utilization, and an increase in savings.

# Why It Matters



# ITIL Supports Agile IT



# Questions



accenture  
High performance. Delivered.

Carl A Winchester  
[carl.a.winchester@accenture.com](mailto:carl.a.winchester@accenture.com)

# Database-as-a-Service: Transforming the IT Service Delivery Model for the State of Texas

Paul Andres, Enterprise Architect  
Oracle Corporation

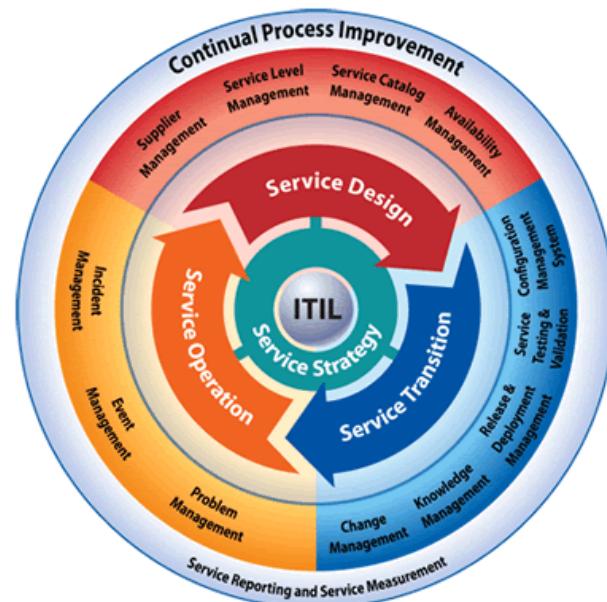


Service & Operations Management Workgroup

# Applied ITIL: Delivering Database-as-a-Service

## Leverage Best Practices

- Clarify stakeholders, use cases, and business value
- Structure service lifecycle management
- Leverage ITSM best practices
- Work iteratively
- Continuously improve



## Business Needs . . .



I need to increase my citizen services access, including via mobile technology

I need to roll out new citizen services, but my budget continues to be reduced

I need to respond quickly to changes in demand from business users

I need a more efficient, cost-effective, and secure way to collaborate with other agencies

Employee productivity is bogged down by slow and outdated applications



I need to increase capacity, elasticity, high performance and efficiency in my infrastructure .

I need to consolidate and standardize technologies

I need to upgrade and replace old technologies

I need to automate and simplify the deployment of new IT capabilities

I need a secure and highly available architecture

I need increased agility while lowering the cost of IT



## . . . Drive and Support the IT Agenda

# Why Database-as-a-Service?

## On Demand, Self-Service Provisioning

- Faster Time to Value, Business Agility

## Resource Pooling

- Increased Utilization, Efficiency, Lower Costs

## Predefined DB configuration

- Quality of Service, Productivity, Lower Risks

## Metering of Usage

- Transparency, Predictability

## Standard Technologies & Best Practices

- Higher Reliability, Simplification, better Support

## Elasticity

- Agility, Rapid Respond to Change, Scalability

# Case Study: Texas DIR



## Challenges

Legislative Mandate to consolidate and reduce IT Costs

Hundreds of databases statewide, Multiple Vendors/versions

New database, Updates, Upgrades requests can take weeks to fill.

## DBaaS Benefits

Simplified, consolidated, shared Database Environment

Easy and fast to deploy, more options available statewide, higher availability and performance. Scalable

No Capex, lower cost, better support.

## Lessons Learned

Plan for Migration from legacy Infrastructure process & tools

Articulate Value for every stakeholder - Relinquished control may be hard

Service catalog alignment with business needs

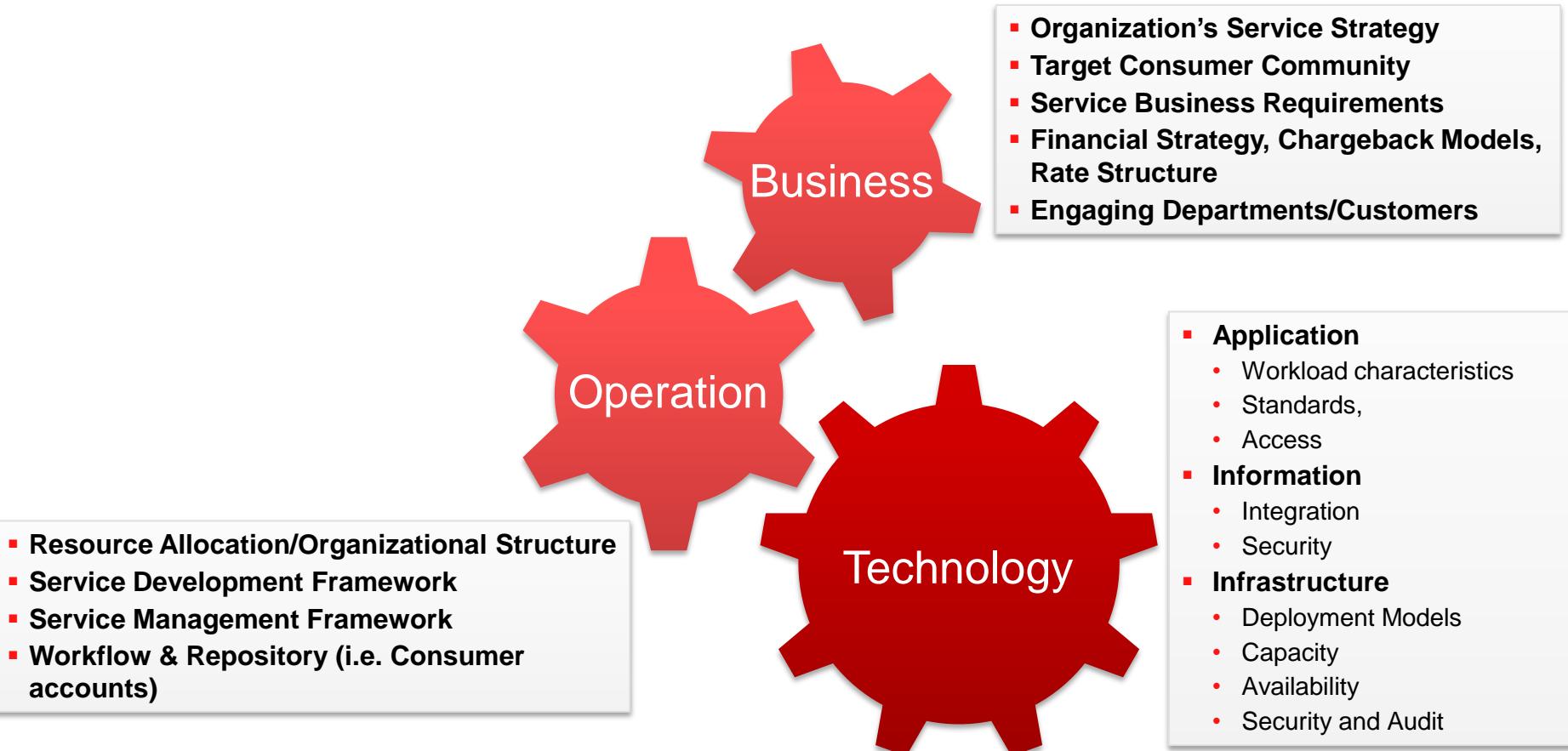
# Texas State Govt Capability Model\*

BUSINESS	Driver's License Issue and Renewal	Public Transit (Bus,Rail)	Welfare Payment	Food Stamp distribution	Criminal / Corrections	Voter Registration	Taxation	Grants and Subsidies
APPLICATIONS	Voter Portal	Income and Property Tax App	HHS App	JPS App	CAPPS – ERP/HCM	Business Analytics and Reporting	Metro Portal	State Content Portal
INFORMATION	360-degree view of the citizen	State Data Model	Federal Data integration	EFT Financials data model	State/Local Financial Data Model			
TECHNOLOGY	Infrastructure-aaS Linux-aaS Solaris-aaS	Platform-aaS DB-aaS, MW-aaS, IDM-aaS, Content-aaS, GIS-aaS	Software-aaS PSFT HCM-aaS PSFT Financials-aaS Social Media-aaS					

\* Partial List



# Architecting DBaaS: Considerations





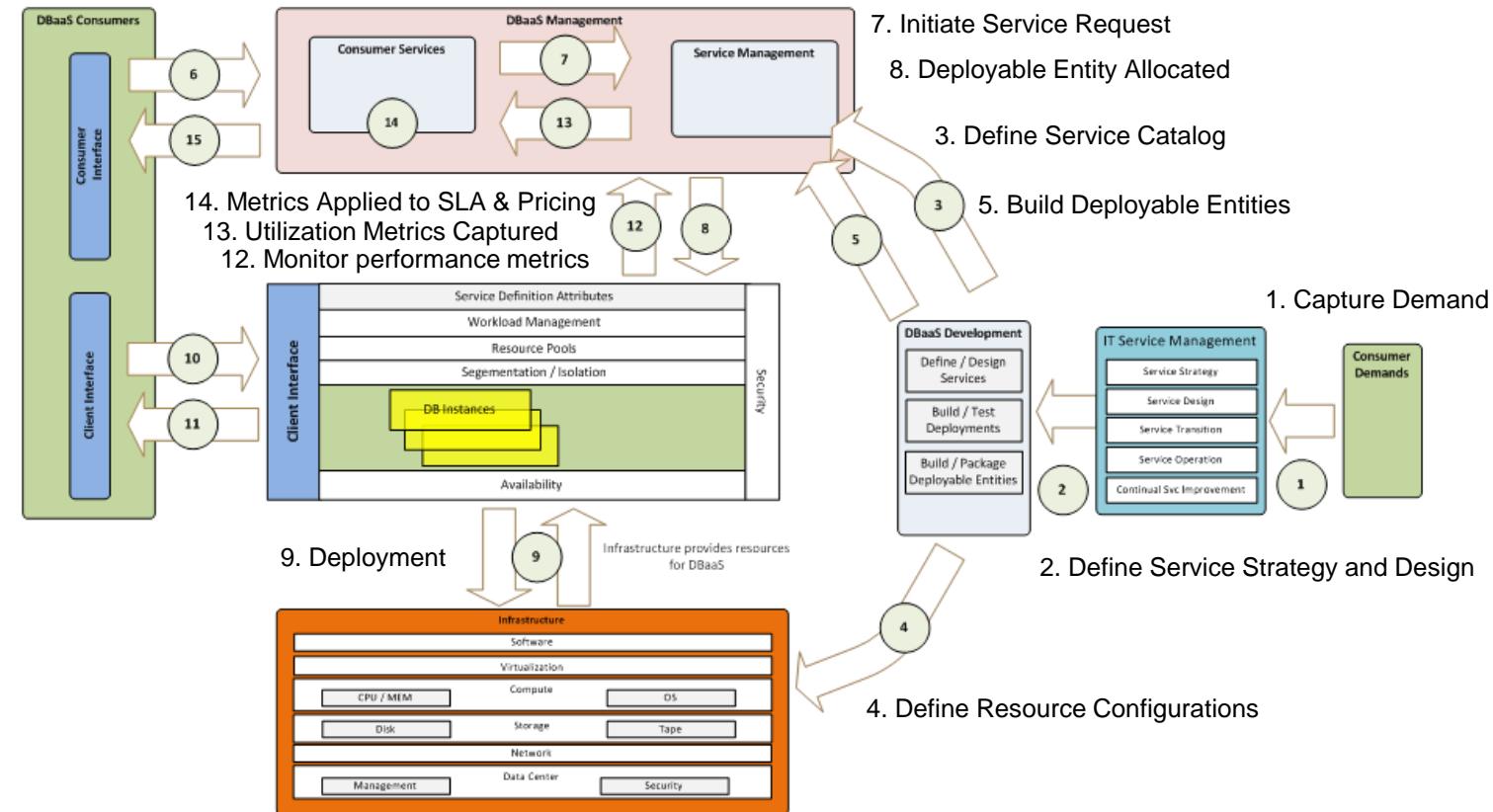
# Database-as-a-Service Process Model

6. Consumer purchase

15. Perf, Util, & Cost Provided to Consumer

10. Consumer operates Svc

11. Client App Utilizes Svc





# Private Cloud Service Delivery Model

## Cloud Consumers



Citizens



Texas Agencies



Business Partners



IT / SDLC

## Texas DIR Enterprise Cloud

### Software-as-a-Service

#### PeopleSoft-as-a-Svc



### Platform-as-a-Service

#### Database-as-a-Svc

#### BI-as-a-Svc

#### SICAM-as-a-Svc

#### GIS-as-a-Svc

#### IDM-as-a-Svc

### Infrastructure-as-a-Service

#### UNIX-as-a-Svc



### IT Front Office

## Austin and San Angelo Data Centers



### Security, Compliance, and Governance

### Performance, Availability, & Elasticity

### Incident Response & Event Management

### Virtualization & Isolation

### System & Change Management

### Provisioning, Metering & Chargeback

### Service Portfolio Management

## IT Back Office



# DBaaS Service Definitions

DBaaS SIZE	Extra Small	Small	Medium	Large	Extra Large
Processor Cores	1	2	4	8	16
Memory	2	8	16	32	64
Storage Capacity (GB)	200	500	1000	1500	2000
Adders	\$ per Core / \$ per GB RAM / \$ per 500 GB Storage				

SERVICE DEFINITIONS		Bronze	Silver	Gold	Platinum	Titanium
Database H/A Level	Local Primary	1-node DB	2-node DB	2-node DB	2-node DB	2-node DB
	Local Failover	No	No	No	No	2-node DB
	Remote Failover	No	No	1-node DB	2-node DB	2-node DB
Disaster Recovery	RTO	Best Effort	8 hr	4 hr	2 hr	~0
	RPO	Best Effort	24 hr max	8 hr max	4 hr max	1 hr max
Data Files H/A	DB Files Mirror	Dual	Dual	Dual	Triple	Triple
Database Backup	Tape / Disk	Tape	Tape	Disk	Disk	Disk
DBaaS Service Uptime		Best effort	99%	99.9%	99.99%	99.999%
DBaaS Service Access (Business Availability)		8x5	24x5	24x7	24x7	24x7
Database Deployment		Shared OS; VM	Shared OS; VM	Shared / Ded OS; VM	Shared / Ded OS; VM	Shared / Ded OS; VM
Database Isolation		Instance; Schema; PDB	Instance; Schema; PDB	Instance; Schema; PDB	Instance; PDB	Instance; PDB
Data Security/Privacy		Access Control / Disk, Network, Tape Encryption / Masking / Authentication / Authorization / Audit				
Data Retention		1 yr	2 yr	5 yr	10 yr	Lifetime
Database Version		10g, 11g, 12c	10g, 11g, 12c	11g, 12c	11g, 12c	11g, 12c
Operating System		Windows, OEL, Solaris	Windows, OEL, Solaris	OEL, Solaris	OEL, Solaris	OEL, Solaris



# DBaaS Service Catalog

## Product Catalog

Block Size	Cores	RAM (GB)	Storage (GB)	Adders
Small	4	8	500	\$ Per Core / \$ Per GB RAM / \$ per GB Disk
Medium	6	16	1000	\$ Per Core / \$ Per GB RAM / \$ per GB Disk
Large	8	32	2000	\$ Per Core / \$ Per GB RAM / \$ per GB Disk

## SPARC DB Options

DB Version	Solaris Version
Oracle 9i	Solaris 9, 10 , 11
Oracle 10g	Solaris 10, 11
Oracle 11g	Solaris 11

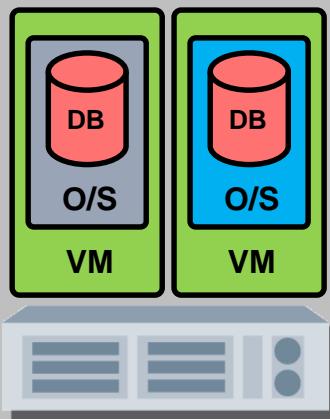
## Service Level Catalog

Service Level	Local Primary Instance(s)	Remote Failover	Storage	Backup	DR	Outage RTO (estimate)	DR RPO
Bronze	1 Node DB	N/A	Local Disk Mirror	Tape	D4-D3	48 Hr Max	+72 Hr
Silver	2 Node RAC	N/A	Local Disk Mirror	Tape	D4-D2	24 Hr Max	+24 Hr
Gold	2 Node RAC	1 Node DB (50 % Remote Site)	Remote Replication	Disk	D4-D0	8 Hr Max	+12 Hr
Platinum	2 Node RAC	2 Node RAC (100% Remote Site)	Remote Replication	Disk	DP-D0	1 Hr Max	+2 Hr

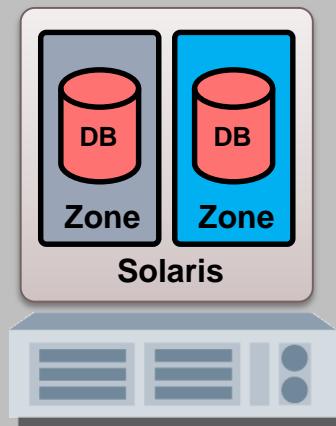


# DBaaS Deployment Models

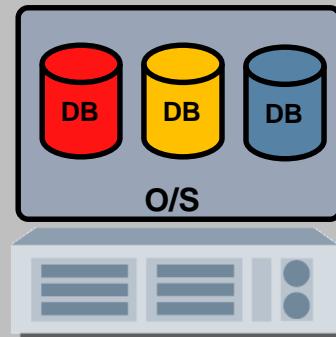
Isolated O/S



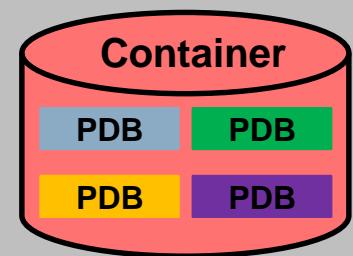
Partitioned O/S



Shared O/S  
("Bare metal")



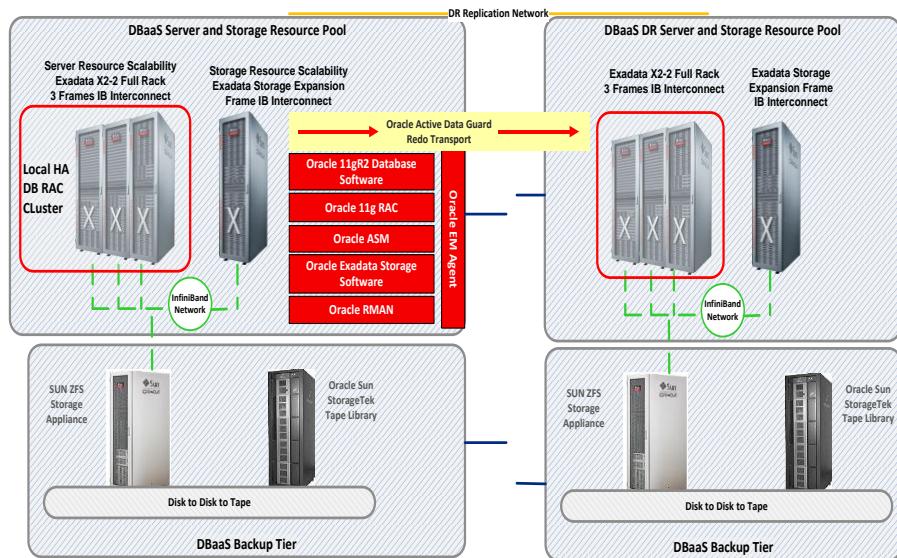
Pluggable Databases



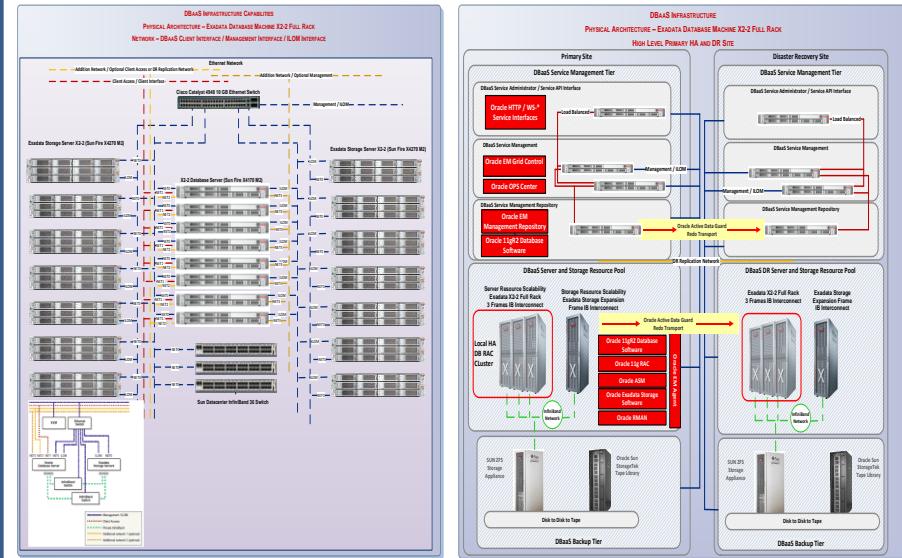


# DBaaS Physical Architecture

# DBaaS H/A and Multi-site Failover



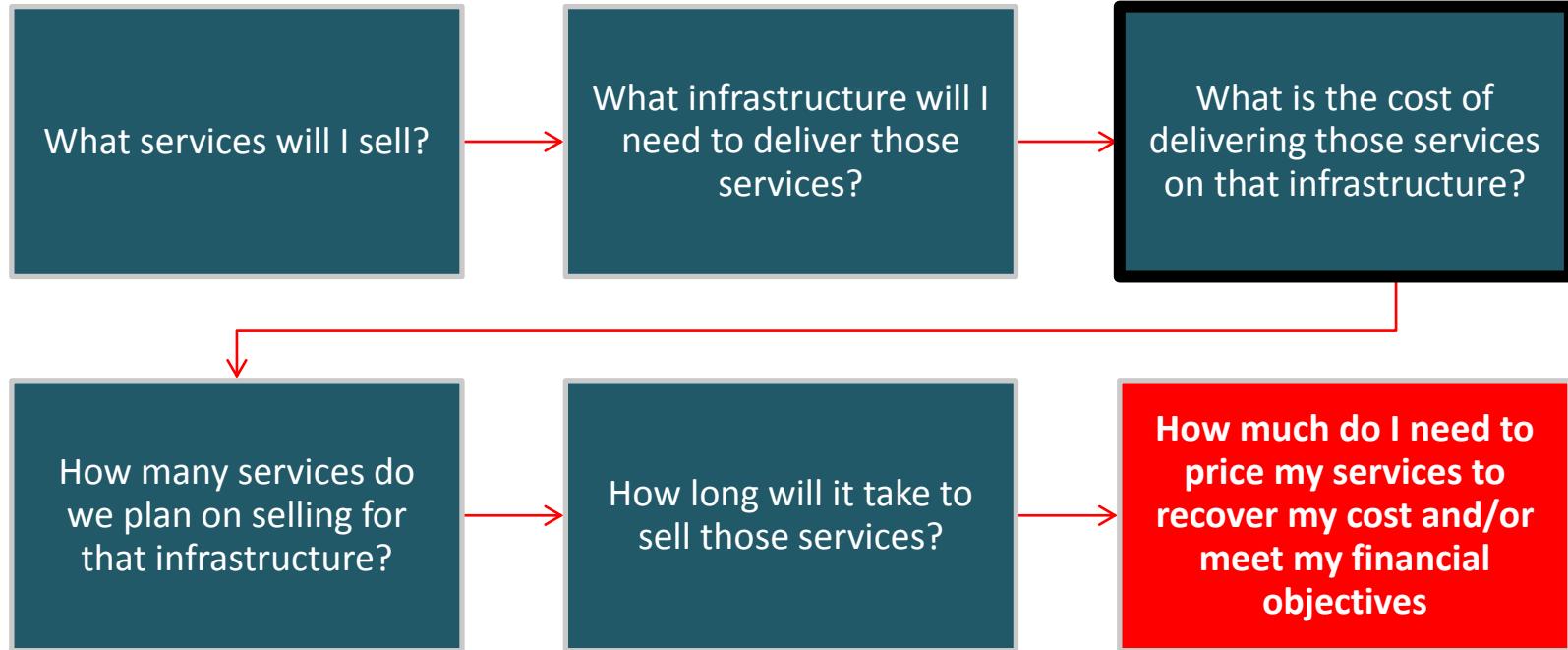
# DBaaS Backup and Recovery



# Service & Operations Management Workgroup



# DBaaS Cost Recovery and Chargeback





# DBaaS Cost Recovery and Chargeback Model

**Cost Recovery / Charge Back Calculator**

CONFIGURATION		TOTAL COST OF OWNERSHIP	
Configuration	Exadata Half Rack X2-2 HCxmemory	X2-2 Half Rack 5 Years Annual TCO:	\$339,574
Total Cores (fc):	48	5 Year Cost Analysis includes:	
Total Mem (mb):	144 GB	Oracle Database Machine	Hardware Maintenance (5 years)
Total Usable Storage (tb):	112 TB	Exadata Software License	Software Maintenance (5 years)
vCPU factors:	30%	Environmental Costs	Sys Admin Staff Costs
Other Requirements/restrictions:		DB License 5 Year Annual TCO:	\$342,000 Options: \$870,000
Max # of DB Instances/Compute Node:	8	Options Included:	EE, RAC, Partitioning, Diagnostic Pack, Tuning Pack, Lifecycle Management Pack, Advanced Security, Data Vault, Cloud Management Pack, Active Data Guard, RAC
		Yearly, Fully Loaded, Labor Cost:	\$130,000 Hourly Rate:
			\$62.50

**SERVICE CATALOG**

Base Services	Rack 1			Rack 2			Labor (H)						COOP			License		
	Cores	Memory	Storage	Cores	Memory	Storage	Set up	Architecture	Tuning	Migration	Back Up	DR	DB	Options	DEM Packs			
Small	1	3	0.5	0	0	0	4	0	0	0	0	0	0	0	0			
Medium	3	6	1	0	0	0	4	0	2	0	0	0	0	0	0			
Large	6	8	2	3	4	2	4	4	6	0	0	0	0	0	0			
Extra Large	12	24	6	6	8	6	4	16	12	0	0	0	0	0	0			

**PROVISIONING MODEL**

Qty	Products	Rack 1			Rack 2			
		Cores	Memory	Storage	Cores	Memory	Storage	
6	Small	6	18	3	0	0	0	
4	Medium	12	32	4	0	0	0	
3	Large	18	24	6	3	4	1	
1	Extra Large	12	24	6	4	8	3	
14	TOTAL	48	98	19	7	12	4	
	Max	62.4	144	112	62.4	144	112	

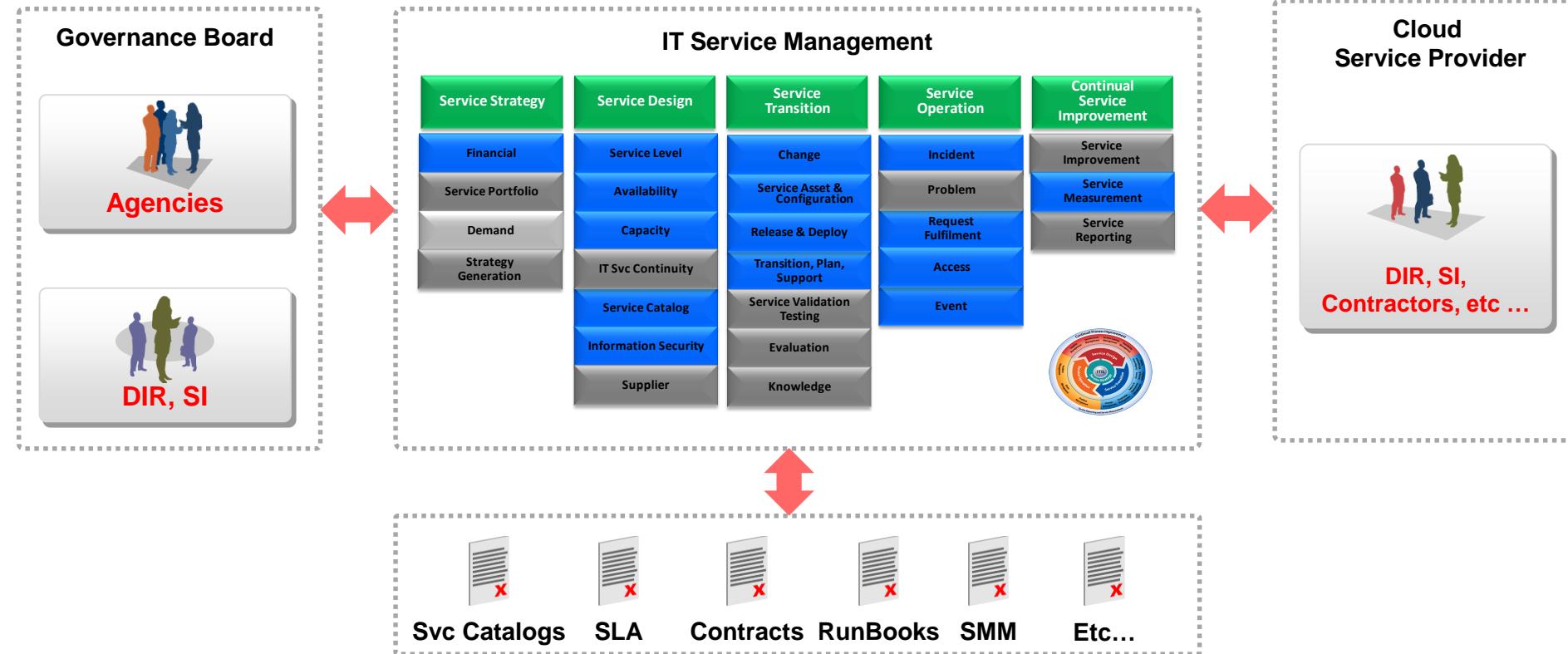
**SERVICE INFRASTRUCTURE SHARING RATIO**

Products	Rack 1			Total	% Cores
	% Cores	% Memory	% Storage		
Small	9.6	12.5	2.7	24.8	0.1
Medium	19.2	22.2	3.6	45.0	0.1
Large	28.8	16.7	5.4	50.9	2.1
Extra Large	19.2	16.7	5.4	41.3	5.4
Total	76.9	68.1	17.0	161.9	8.3
				/300%	



- ✓ Design
- ✓ Transition
- ✓ Operations

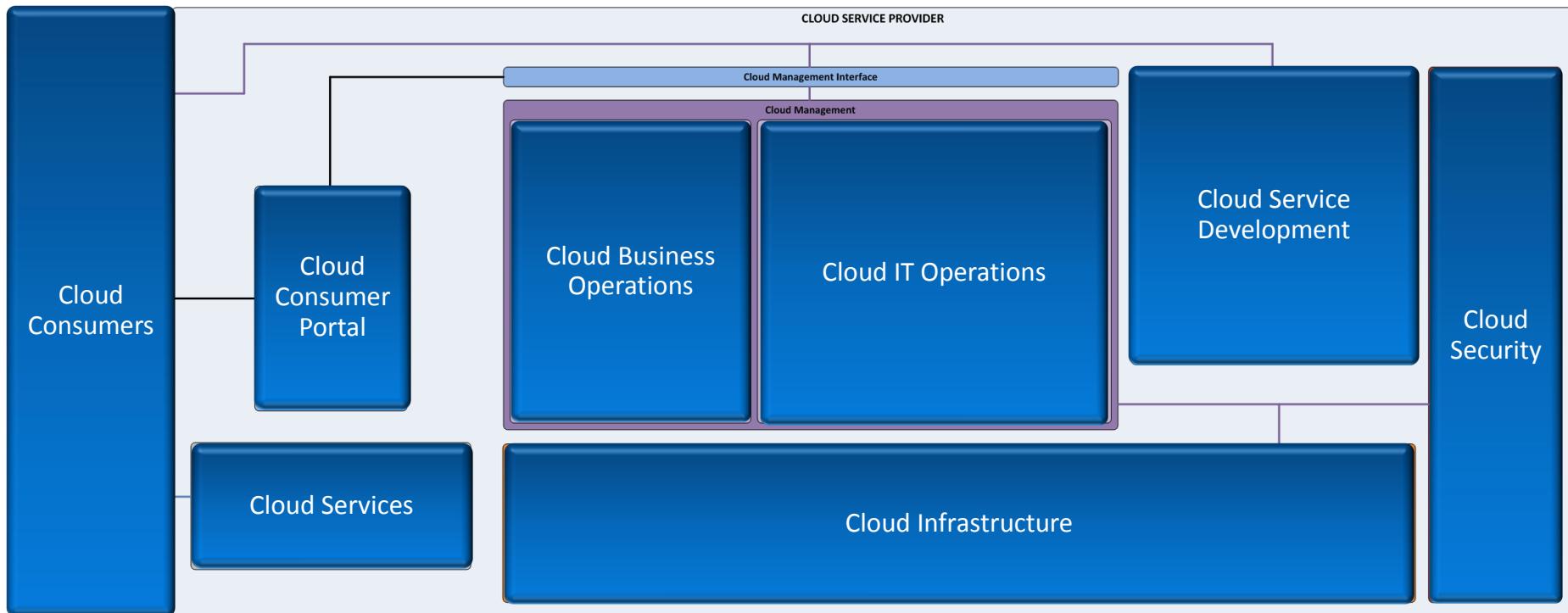
# ITIL-Based Governance and Service Management Framework





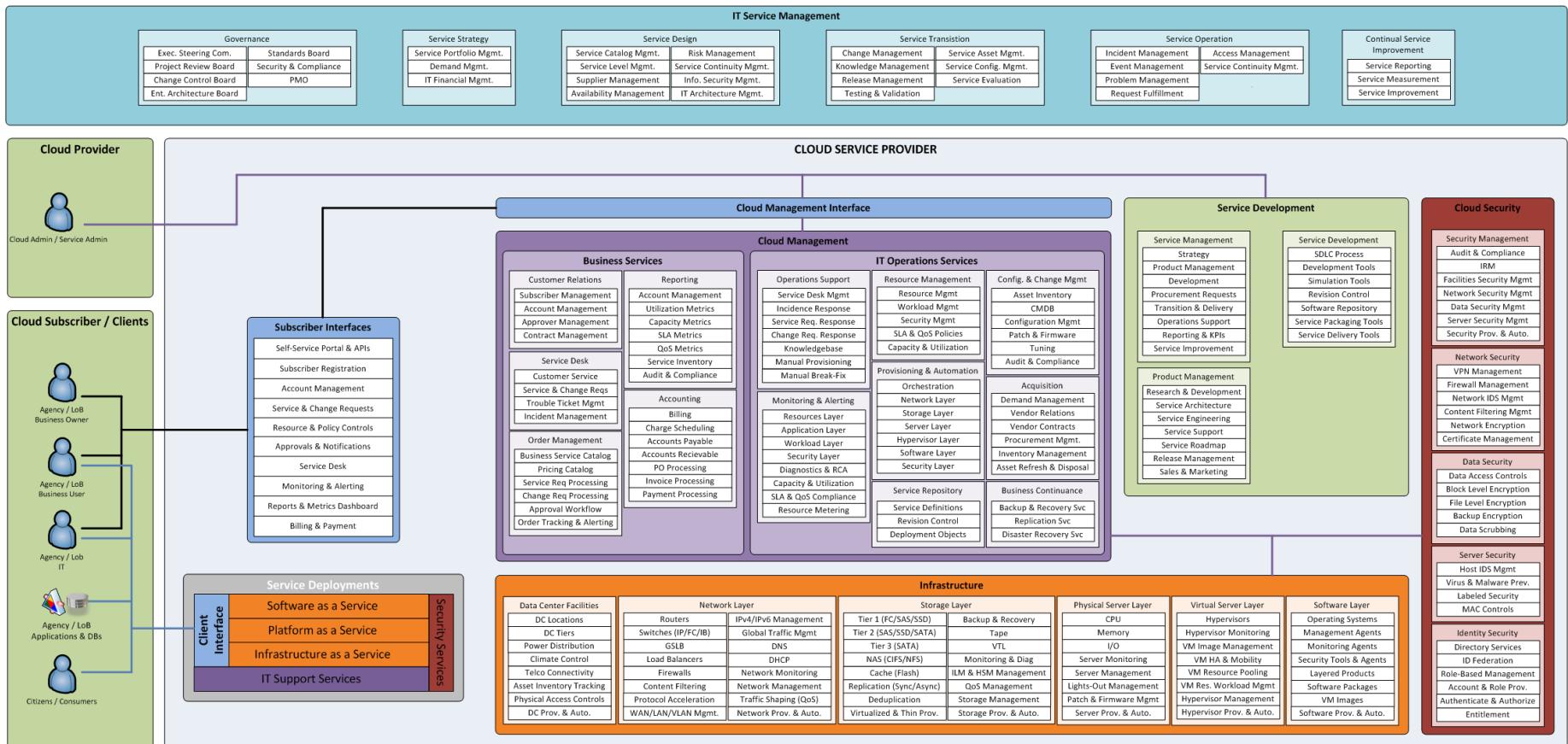
# Private Cloud Capability Model

## Cloud Service Management and Governance Model

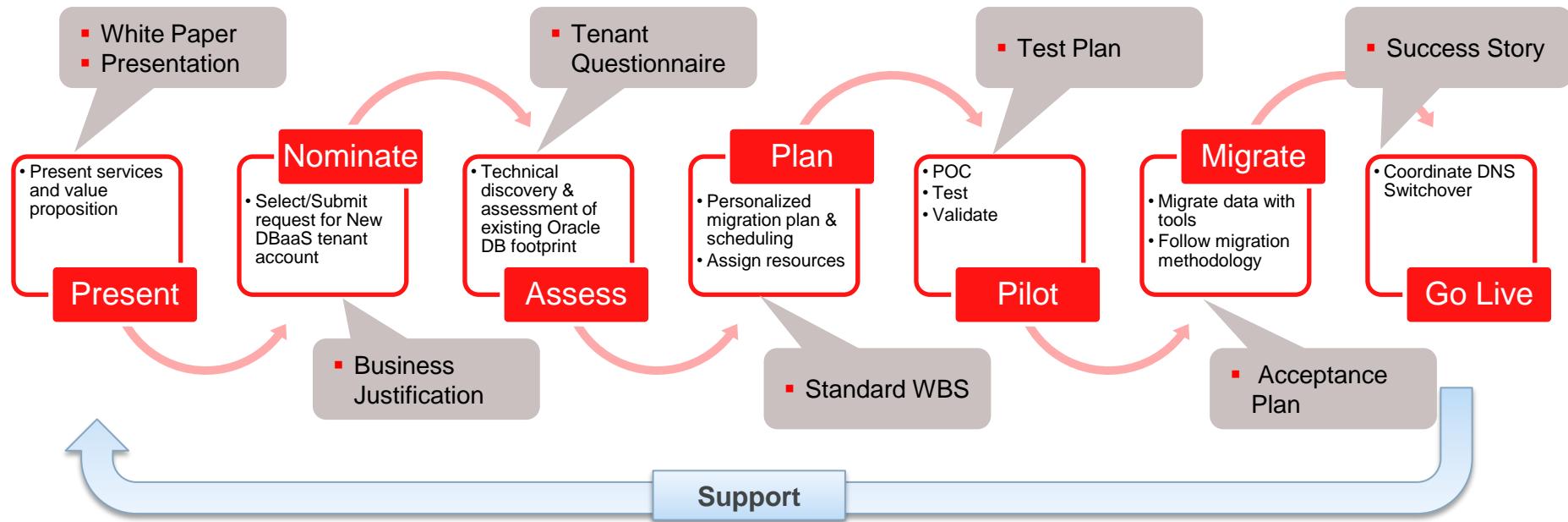




# Private Cloud Capability Model



# Agency Engagement Model



# Summary

- ✓ DBaaS is Service Delivery Model, not a Product
- ✓ DBaaS is about People, Process, then Technology
- ✓ DBaaS must provide Business Value

# **Ray Rose**

## **Chief Operations Officer**

New York State  
Office of Information Technology Services



**Office of Information  
Technology Services**

# **Carol Bentley**

## **Change Management Process Owner**

New York State  
Office of Information Technology Services



**Office of Information  
Technology Services**

# Why is Change Management Important?

- The Change Management process is used to plan and manage changes to the IT Infrastructure or any aspect of IT services to promote business benefit while minimizing the risk to services.
- The primary objective of Change Management is to enable beneficial changes to be made, with minimum disruption to IT Services.
- Change management increases the success of change by applying a structured framework of methods, tools, and processes managing the change.



Office of Information  
Technology Services

## What We Were

- Disparate groups using multiple Change tools
- Unable to produce meaningful Change metrics
- Unable to successfully communicate on Change across the enterprise

## What We're Becoming

- One cohesive organization
  - Common Change tool – ITSM/ServiceNow
    - Utilized by all EO groups
    - Clusters currently being on-boarded
  - Common process – one EO Change Process
  - Common metrics – Measure IT



Office of Information  
Technology Services

# How Are We Getting There?

- Setting expectations
  - Documenting processes and responsibilities
  - Common terms and definitions
- Focus on Planning
  - Increasing required lead time on Changes
  - Producing 30, 60, 90 day Change Calendars
  - Shared Business Calendar of maintenance windows, cluster requests for limits on Change
- Vetting and approval of requested Changes
  - Cluster Change Managers participating in EO Change Review meetings
  - Pilot CAB EC meetings



Office of Information  
Technology Services

# How Are We Getting There? (continued)

- Improving communication with customers and ITS peers regarding Change
  - End user notifications
  - Cluster notifications: cluster change managers, cluster management
  - Service Desk notifications
- Training/Knowledge share
  - ITSM Team providing additional classes on Change Management
  - Video training
  - Cluster Change Managers sharing information and experiences as clusters are on-boarded to ITSM
  - Weekly Change Management process discussions at Pilot CAB EC meetings



Office of Information  
Technology Services

# Change Management

## Benefits Realized

- Fewer Sev 1 incidents caused by Change
- More planning / less reactive (COO teams driving higher quality)
- Communications are improving (cross cluster sharing)
- Communications improving among Operational teams / Service Desk (i.e.; Improved change awareness enables Desks to better relate incidents to changes, helping incident resolution)

## Next Steps / Continuous Improvement

- Better define Change impacts (Build out CMDB)
- Improve classification of Changes (Common definitions)
- Evaluate the Change approval process (EO CAB, CAB EC)
- Customer Notifications: Define notification types, when needed, correct audience



Office of Information  
Technology Services

# Azim Ahmed Service Catalog Development

New York State  
Office of Information Technology Services



**Office of Information  
Technology Services**

## **ITIL Service Catalog:**

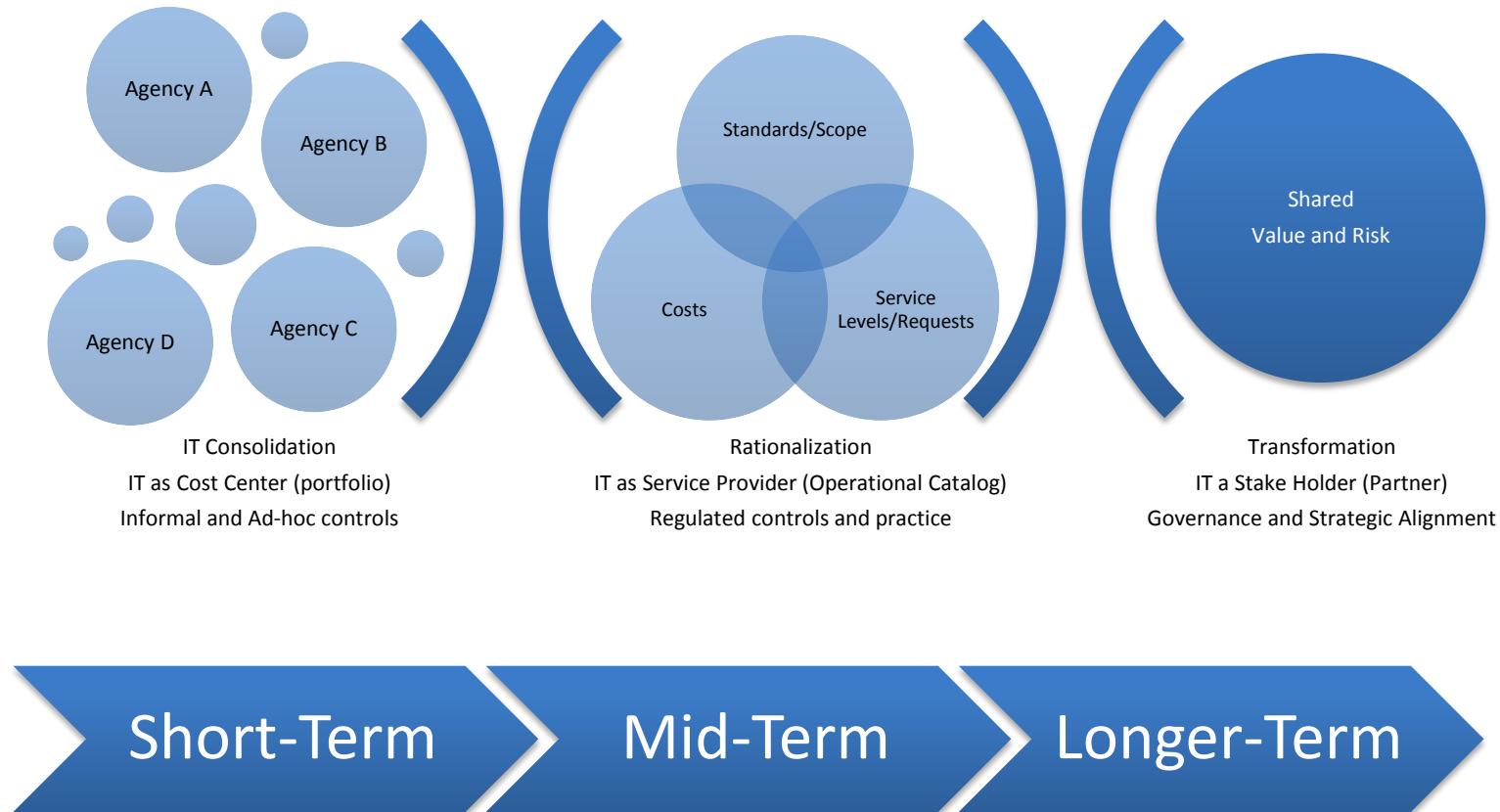
**“Provide a single source of consistent information on all the agreed services, and ensure it is widely available to those who are approved to access it.”**



**Office of Information  
Technology Services**



# ITS Service Catalog Journey:



**Office of Information  
Technology Services**

# **ITIL Does Not Tell You How To Succeed**

## **Key Success Factors for Any Initiative**

- ✓ **Clear Strategy**
- ✓ **People (Team Focused on Business)**
- ✓ **Executive Commitment (Resources)**
- ✓ **Execution**



**Office of Information  
Technology Services**

# **Steve Spalten**

## **Director End-User Services**

New York State  
Office of Information Technology Services



**Office of Information  
Technology Services**

# Problem Management

## Primary Objectives

- Prevent problems and resulting incidents from happening
- Eliminate recurring incidents
- Minimize the impact of incidents that cannot be prevented



Office of Information  
Technology Services

# Scope

Activities include:

- Diagnose Root Cause of Incident
- Determine the resolution
- Ensure the resolution is implemented with appropriate control procedure (change management for example)
- Update Knowledge Management



Office of Information  
Technology Services

# RCA

## 5 Why's

The vehicle will not start. (the problem)

- **Why?** - The battery is dead. (first why)
- **Why?** - The alternator is not functioning. (second why)
- **Why?** - The alternator belt has broken. (third why)
- **Why?** - The alternator belt was well beyond its useful service life and not replaced. (fourth why)
- **Why?** - The vehicle was not maintained according to the recommended service schedule. (fifth why, a root cause)



Office of Information  
Technology Services

