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# ITIL - A BEST PRACTICE IN IT SERVICE MANAGEMENT

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# INTRODUCTION

- ITIL – Information Technology Infrastructure Library


- ITIL Owner - The Office of Government Commerce (OGC), UK


**ITIL® is the most widely accepted approach to IT service management in the world. ITIL provides a cohesive set of best practice, drawn from the public and private sectors internationally.**

# BENEFITS

From a business perspective, the adoption of ITIL– ensures many benefits, including:

IT services which **align better with business** priorities and objectives

→ business achieves more in terms of its strategic objectives

- Helps business to plans its finances
- Increased business productivity, efficiency and effectiveness, because IT services are more reliable and work better for the business users
- Financial savings from improved resource management and reduced rework
- More effective change management, enabling the business to keep pace with change and drive business change to its advantage
- Improved user and customer satisfaction with IT


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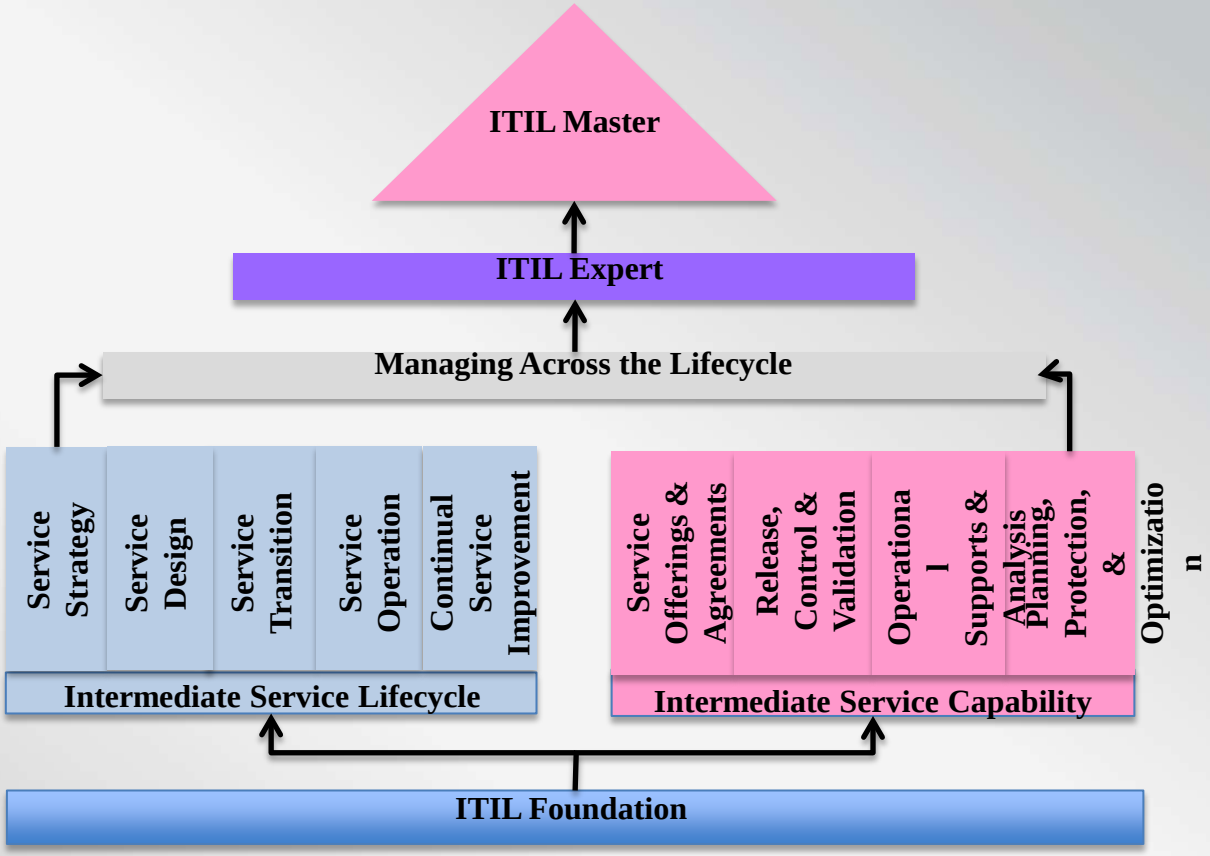
# 5 Levels of Certification



# Benefits of ITSM

- Improved **quality service**
- **Cost justifiable** service quality
- Services that **meet** business, customer and user demands
- **Integrated** centralized processes
- Everyone knows their **role** and knows their responsibilities in service provisions
- KB - Learning from previous experience is captured.
- Demonstrable Key Performance Indicators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# WHAT IS ITIL ?

- ITIL stands for the Information Technology Infrastructure library. ITIL is the de facto management framework describing “best practices” for IT service management.

Five volumes make up the IT infrastructure library:

- Service Strategy
- Service Design
- Service Transition
- Service Operation
- Continual Service Improvement


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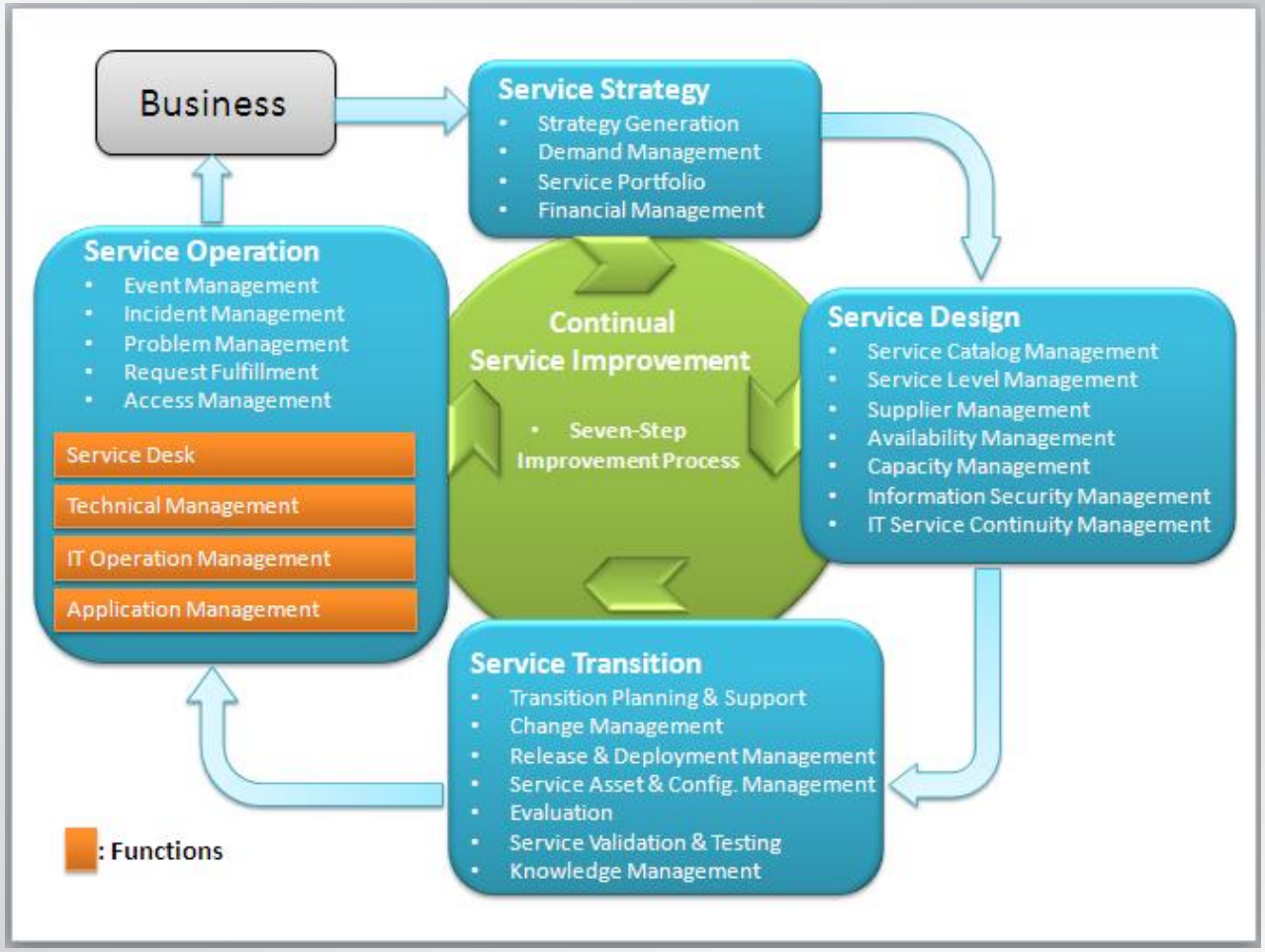
# Mapping the concepts of ITIL to the service lifecycle



# How does the service lifecycle work

| Phase | Deliverables which act as Input to Next Phase |
|---|---|
| Service Strategy | IT Budgets<br>Patterns of Business Activity<br>Service Portfolio Information |
| Service Design | New and Changed Service assets<br>Service Catalogue, SLAs, OLAs, Ucs<br>Testing and Validation Criteria |
| Service Transition | Known Errors from Development<br>Testing and Validation results<br>Change Authorization |
| Service Operation | Incidents & Problems, Events, Service requests.<br>Request for Change<br>Information Collected from Infrastructure monitoring |
| Continual Service Improvement | Service and Process Improvements<br>** This Phase collects information from all the phases and provides inputs to all the phases. |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# SERVICE STRATEGY

- Design, develop and implement service management as a **strategic asset** which helps the organization to grow.
- Improve the IT organization's capability to manage the costs and risks associated with their service portfolios
- Define the strategic objectives of the IT organization

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# Processes found with in the service strategy lifecycle phase are:

- Financial management for IT services
- Service Portfolio management
- Demand management


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# Financial Management of IT services

FMIT (Financial Management for IT) assists in the task of service validation, which is used to help the business and the IT service provider, agree on the value of the IT service. It determines the balance demonstrating the total cost of providing an IT service against the total value offered to the business by the service.

- Budgeting
- IT Accounting
- Charging
  - Charging
  - Notional Charging

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# Service Portfolio Management

A service portfolio describes provider's services in terms of business value

3 categories of services defined in service portfolio:

- Service pipeline (Proposed or in development)
- Service catalogue (Live or available for deployment)
  - Service Description
  - Functional Spec's
  - Business English
  - Options
  - Service Levels (Gold, Bronze etc.)
  - Availability etc.
- Retired services (Decommissioned service)


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# Service investments are split among 3 strategic categories:

- Run the Business (RTB):  Current -- Investments are centered on maintaining service operations.
- Grow the Business - GTB: Grow - Investments are intended to grow the organization's scope if services.
- TTB: Transform the Business – Strategy - Investments for strategic growth. Example moving into a new market etc.


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# Demand Management

To assist the IT service provider in understanding and influencing customer demand for services and the **provision of capacity** to meet these demands

- Demand management is responsible for understanding and strategically responding to business demands for services by
  - Analyzing patterns of activity and user profiles
  - Provisioning capacity in line with strategic objectives
- Two ways to influence or manage demand
  - Physical/Technical Constraints (Ex: restrict number of connection, users, running times)
  - Financial constraints (Ex: using expensive charging for services near full capacity or over capacity quotas)


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# The 4 P's of ITIL Service Strategy

- Perspective : By having a strategic perspective, the company can create a distinctive stance against their competitors.
- Position: A company with a defined position informs their customers their policies and gives them a chance to have an air of distinctiveness against other firms.
- Plan : Plans, methods and forms of execution that the company will likely end up doing.
- Pattern : A company have a consistent pattern of service.


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# OUTPUTS TO OTHER PHASES

| Lifecycle Phase | Inputs from Service Strategy |
|---|---|
| Service Design | IT Budgets: Strategic Objectives, Service Portfolios and Patterns of Business Activity |
| Service Transition | Service Validation Criteria, Cost Units, Priorities and Risks of IT services, Requirements Portfolio |
| Service Operation | Service Models for Support, Service Portfolios, Demand Management Strategies, IT Budgets |
| Continual Service Improvement | Nominated budgets for delivering and supporting services, Process metrics and KPIs, Service Portfolios |

# SERVICE DESIGN

The design of the overarching IT architecture and each IT service to meet customers' business objectives by being both fit for purpose and fit for use

FIT for Purpose - Utility

FIT for Use -- Warranty

Service Warranty + Service utility = Service Value

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# Service Design Lifecycle Phase Objectives

- Convert Strategic objectives defined during service Strategy into Services and Service Portfolios.
- To use a holistic approach for design to unsure integrated end-to-end business related functionally and quality.
- To ensure we follow design standards defined by the organization.

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# Service Design Processes

- Service Level Management
- Capacity Management
- Availability Management
- IT Service Continuity Management
- Information Security Management'
- Supplier Management
- Service Catalogue Management


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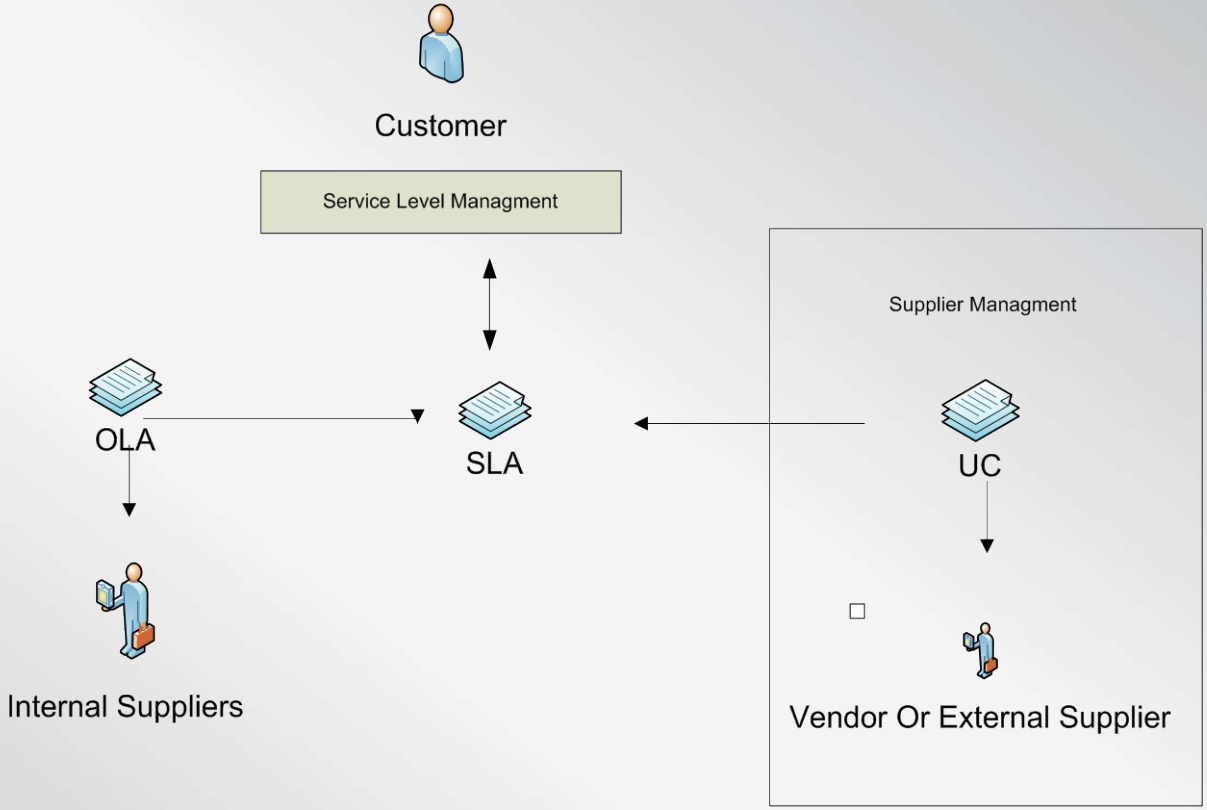
# Service Design Process ONE: Service Level Management



# Service Design Process TWO: Capacity Management:

- **Capacity management is the process that manages:**
  - Right level of capacity
  - At the right location
  - At the right moment
  - For the right customer
  - Against the right costs.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# Inputs to Capacity Management:

- Technology information
- SLA, SLR agreements
- Business Plan and Strategy
- IT Plans (future)
- Business Requirements of the New or Modified service
- Operational Schedules
- Development Plans and Schedule (Project Plans)
- FSC (Forward Schedule of Changes)
- Incidents and Problems
- SLA breaches
- Services reviews
- Financial and Budget plans


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# Outputs of Capacity Management

- Capacity Plan
- CDB (Capacity Management Database)
- Baseline – for the purpose of measuring.
- Thresholds and alarms
- Capacity reports
- SLA and SLR recommendation
- Costing recommendations'
- Proactive changes
- Revised operational schedule (based on re-negotiations)
- Audit reports


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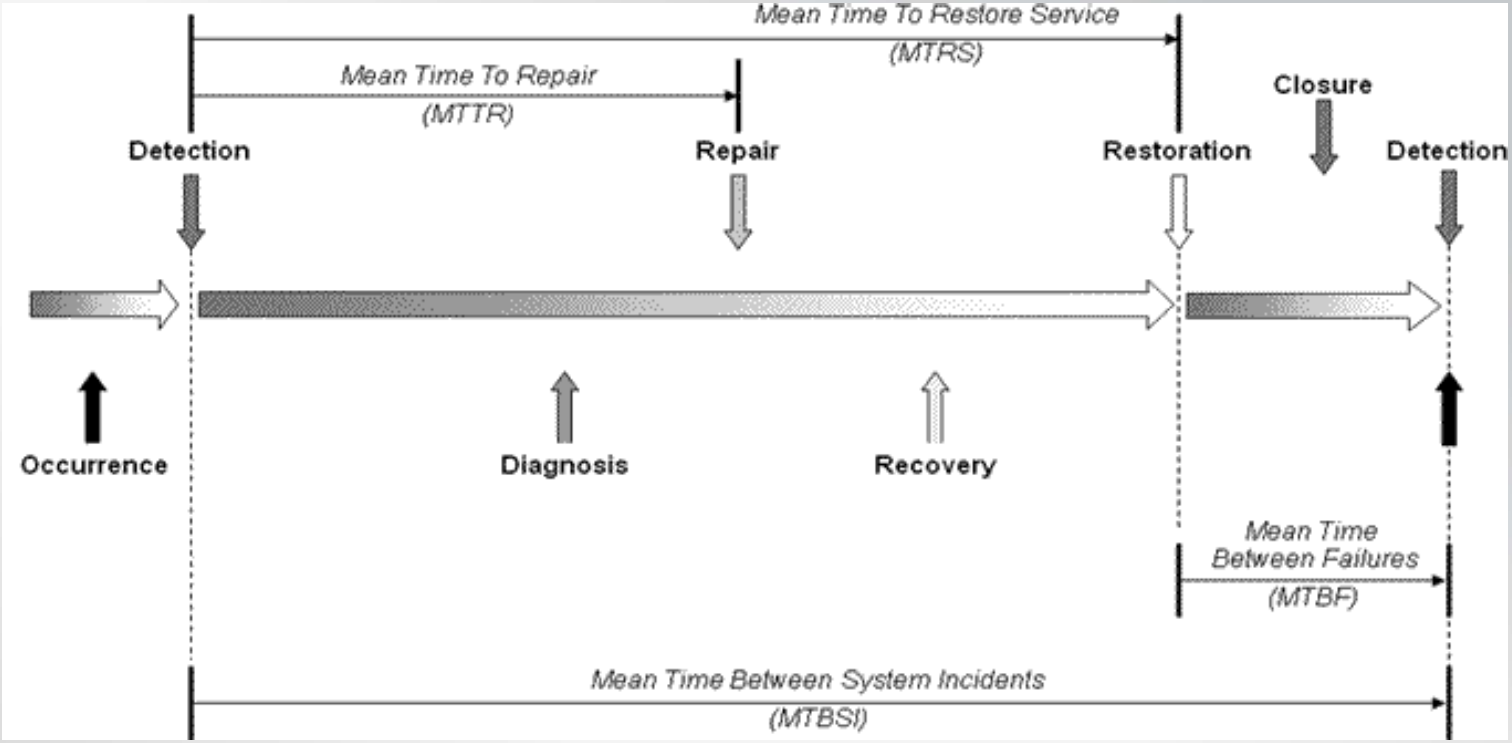
# Service Design Process THREE: Availability Management

30 Min Un-planned Outage --- >

60 Min Planned Outage ---- >

# AVAILABLY MANAGEMENT METRICS:



# Service Design Process FOUR: Service Continuity Management

- Support the overall Business Continuity Management by ensuring that the required IT infrastructure and the IT service provision can be recovered within required and agreed business time scales. Often it is referred as disaster recovery planning.

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# Service Design Process FIVE: Information Security Management

- Security Management ensures that confidentiality, integrity and availability of an organization's assets, information, data and IT services are maintained.

- Information Management is done in four perspectives:
  - Organizational
  - Procedural
  - Physical
  - Technical


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# Service Design Process SIX: Supplier Management

- This process manages suppliers and the services the supply to provide seamless quality of IT service to the business and ensure that value for money is obtained.

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# Types of Supplier Arrangements

| | |
|---|---|
| Co-Sourcing | An informal combination of in sourcing and outsourcing, using a member of outsourcing organizations working together to co-source key elements within the life cycle. |
| Partnership or Multi-sourcing | Formal arrangements between two or more organizations to work together to design, develop, transition, maintain, operate and support IT services. Focus is to leverage critical expertise or market opportunities. |
| Business Process Outsourcing | Formal arrangements where an external org provides and manages the entire or part process. E.g. Call Center |
| Knowledge Process Outsourcing | Enhanced form of Business Process Outsourcing. Leverages specialized skills from the outsourcing organization. |
| Application Service Provision | Ex: External Org providing Cloud computing service. |


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# Service Design Process SIX: Service Catalogue Management

- Business Service Catalog contains details of all the IT services delivered to the customer, with descriptions and details that the customer understands, together with relationships to the business units and the business processes that rely on the IT services.

- Technical Service Catalog which should not be part of the Business View, contains details of all the IT services delivered to the customer, together with relationships to the supporting services, components and configuration items (CIs) necessary to support the delivery of the service to the business.


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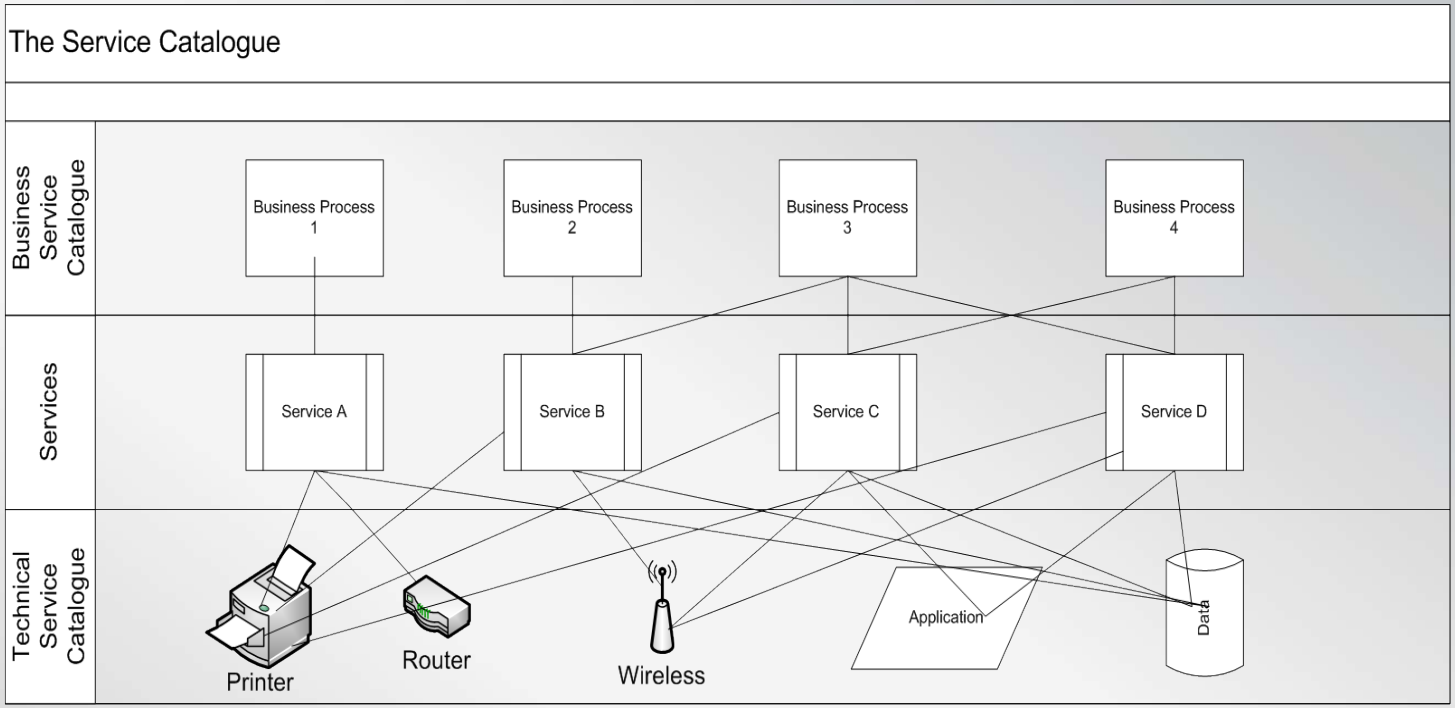
# What is a Service Catalogue ?



# Service Transition

The management and control of changes into the live IT operational environment, including the development and transition of new or changed IT services

Main objects of Service Transition Phase are:

- To ensure the new/changed service meet the customer requirements and do not adversely impact IT infrastructure or business processes.
- To reduce the variation between estimated and actual costs, timeframes, risks and impacts.

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# There are Five Processes

1. Knowledge Management
2. Service Asset & Configuration Management
3. Change Management
4. Release & Deployment Management
5. Validation and Testing Process


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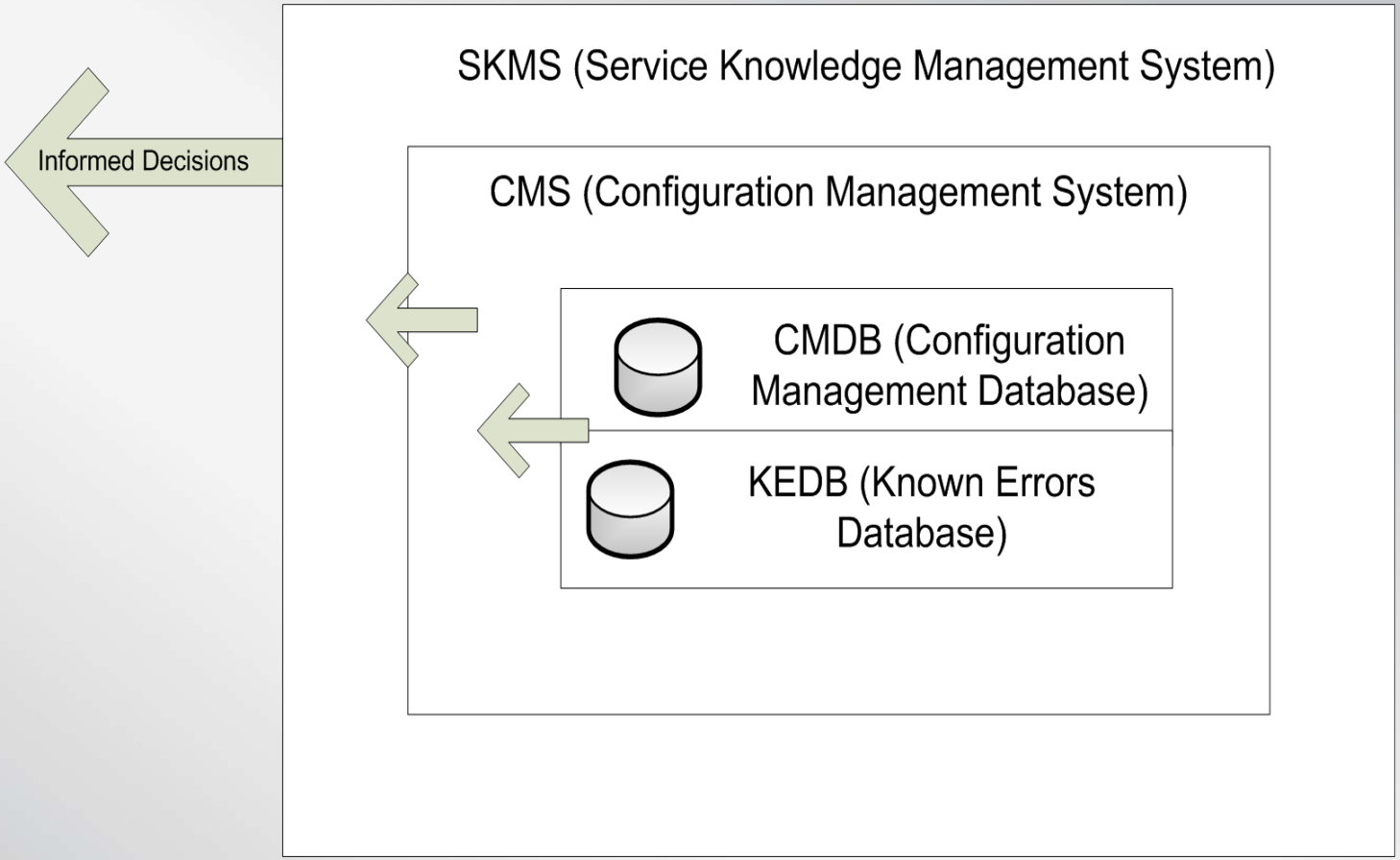
# Service Transition – Components, Tools and Databases



# Service Transition Process One: Knowledge Management

- Goal of this process is to improve the quality of management decision making by ensuring that reliable and secure information is available through the service lifecycle.

- Benefits of having Knowledge Management System:
  - Stop having to continually reinvent the wheel.
  - More efficient use of resources.
  - Enable the organization to continually mature and develop.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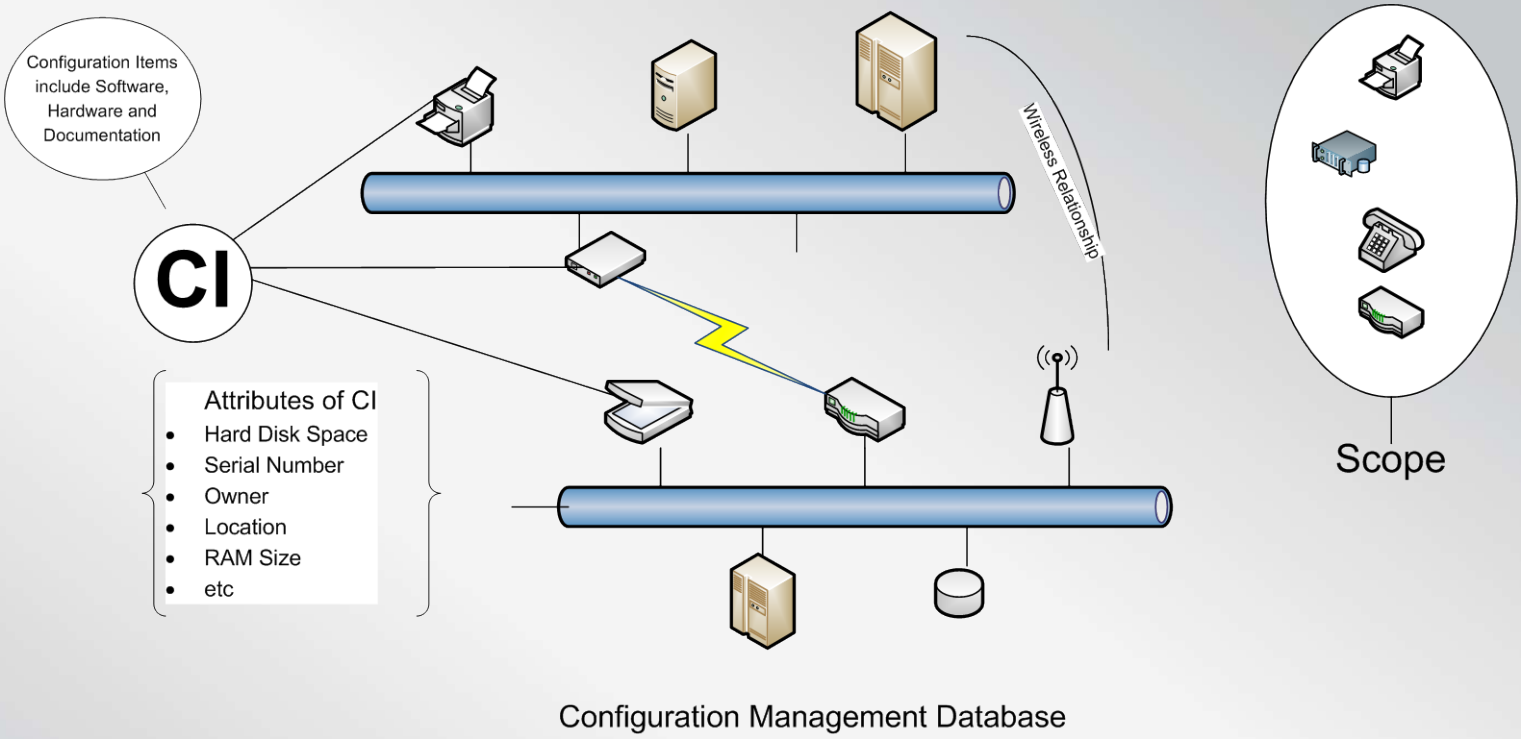
# Service Transition Process Two: Service Asset and Configuration Management



# Service Transition Process Three: Change Management

1. RFC - customers, end users or other processes initiates RFCs.
2. Review of RFC (filtration)
3. RFCs are assessed may require CAB
4. Authorized by Change Manger
5. Work Done (Work is done by Technical areas, Project teams)
6. The change is reviewed
7. Work is Deployed (Work is deployed by Release and Deployment management)
8. The change is closed.

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# The Seven R's of Change Management

1. Who **RAISED** the Change?
2. What is the **REASON** for the change?
3. What **RETURN** will the change deliver?
4. What **RISKS** are there if we do or do not carry out the change?
5. What **RESOURCES** will be required to perform this change?
6. Who is **RESPONSIBLE** for this change being performed?
7. What **RELATIONSHIPS** are there between this and other changes?

# Service Transition Process Four: Release and Deployment Management

- Release and deployment management aims to build, test and deliver services to the customers specified by service design.
- Release and deployment management also ensures handover to service operations takes place and that suitable training and documentation exists to ensure ongoing support of the new service.


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# Service Transition Process FIVE: Validation and Testing

- This process ensures that service we are implementing meets the design specification and will meet the needs of the business.

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# WITHOUT THIS PHASE …

- Incidents – failures in service elements and mismatches between CI s
- Service Desk Calls
- Problem and errors
- Costs related to lost customers or business
- Breaching SLA
- Cost of retrospectively fixing the damage…etc.


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# Inputs to other phases

| Lifecycle Phase | Inputs from Service Transition |
|---|---|
| Service Strategy | FSC, Testing and Validation Results, PIR |
| Service Design | Testing and validation results, changes to IT infrastructure and services, Guidance for SLAs, OLAs, and UCs,CI information to CMDB |
| Service Operation | Initial End User support, Known Errors form Development, Release packages, Change Authorization, CMDB |
| Continual Service Improvement | Testing and Validation results, process metrics for improvements, IT infrastructure audits |


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# Service Operation

The delivery and support of operational IT services in such a way that they meet business needs and expectations and deliver forecasted business benefits

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# Services Operation consists of

| Functions | Processes |
|---|---|
| Service Desk | Incident Management |
| Technical Management | Problem Management |
| Application Management | Event Management |
| IT Operations Management | Request Fulfillment |
| | Access Management |

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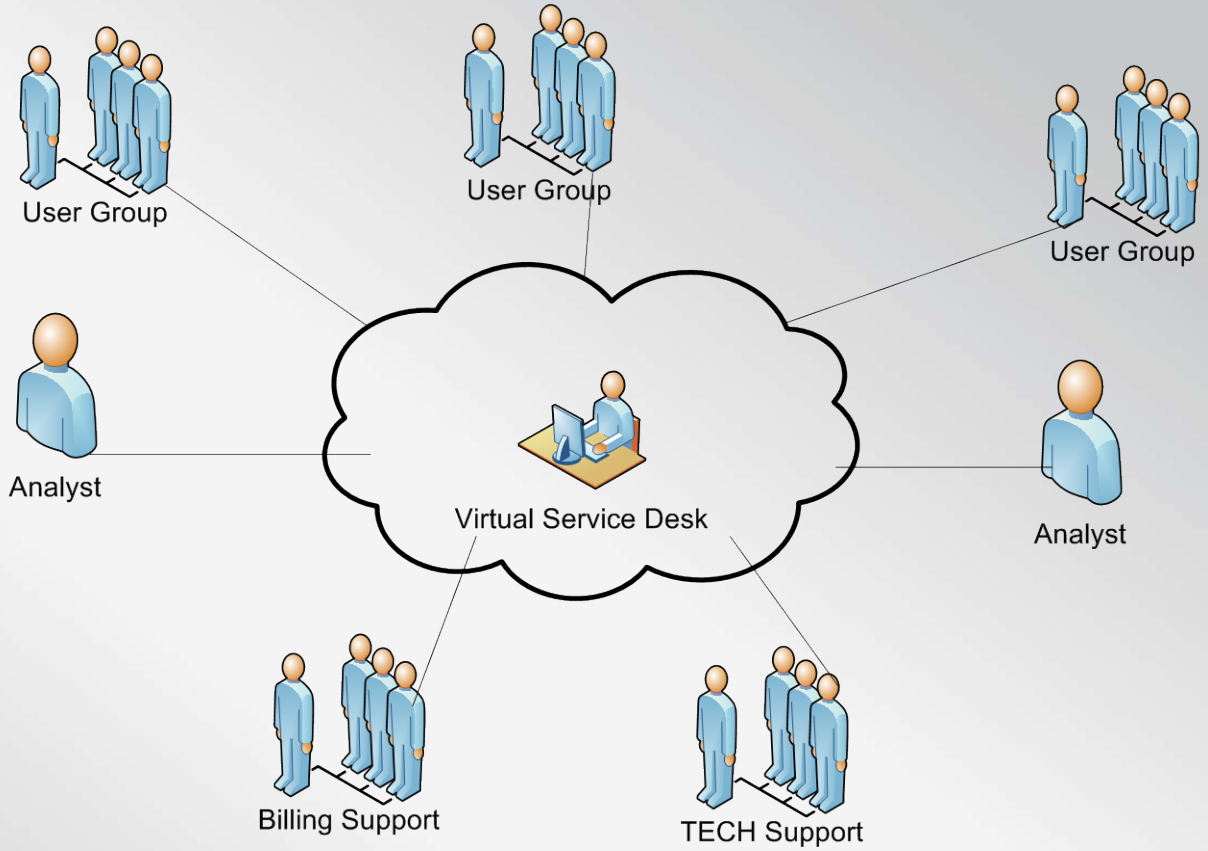
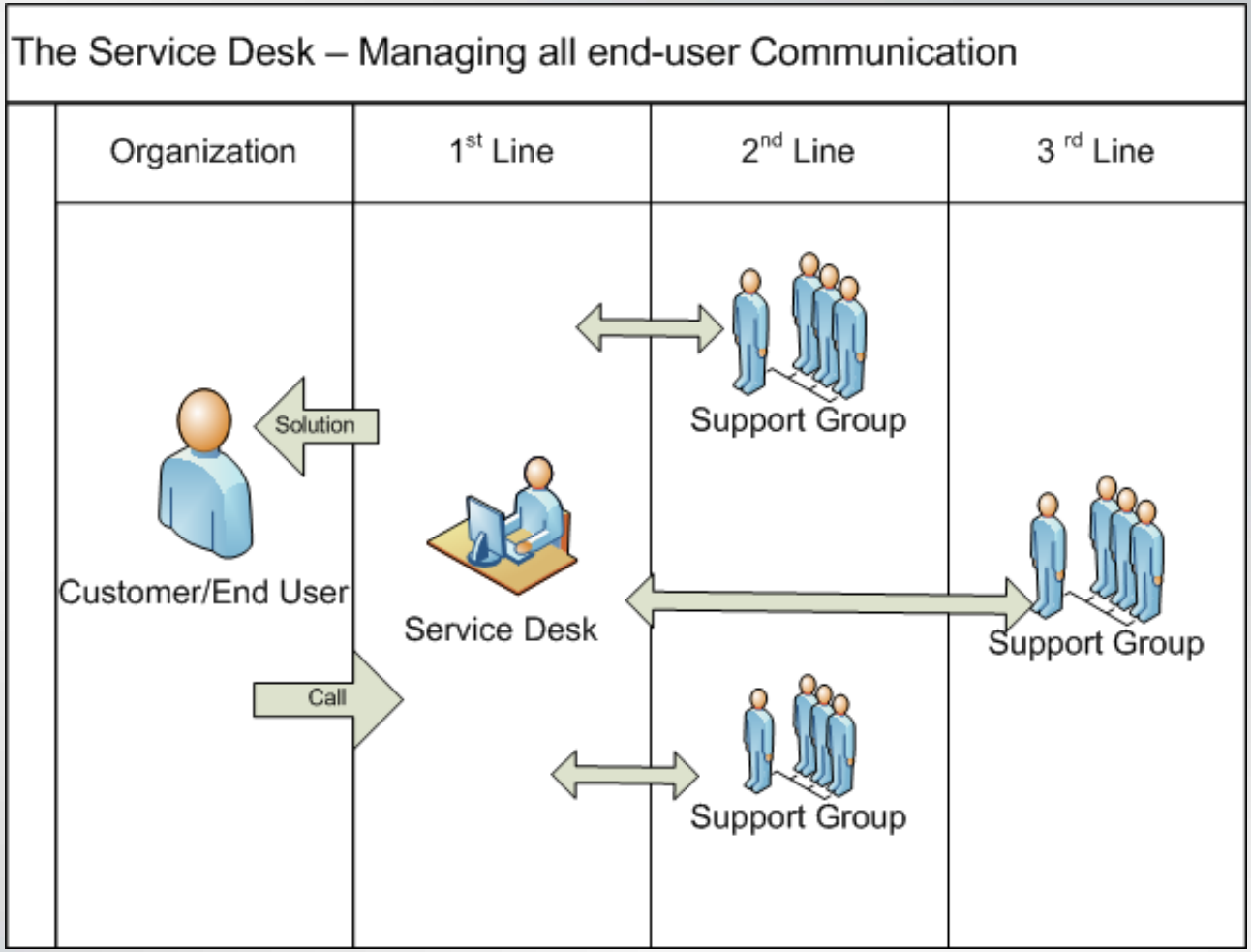
# SERVICE DESK FUNCTION - VIRTUAL




**A Virtual Service Desk Structure**

# SERVICE DESK FUNCTION



# Difference between Call Center, Help Desk and Service Desk

Call Center: Handling/Logging of large volumes of calls. Low first-time resolution rate for calls and requests.

Help Desk: Mange and co-ordinate incidents. Medium first-time resolution rate for calls and requests.

Service Desk: A wide variety of serves offered. High first-time resolution rate for calls and requests.

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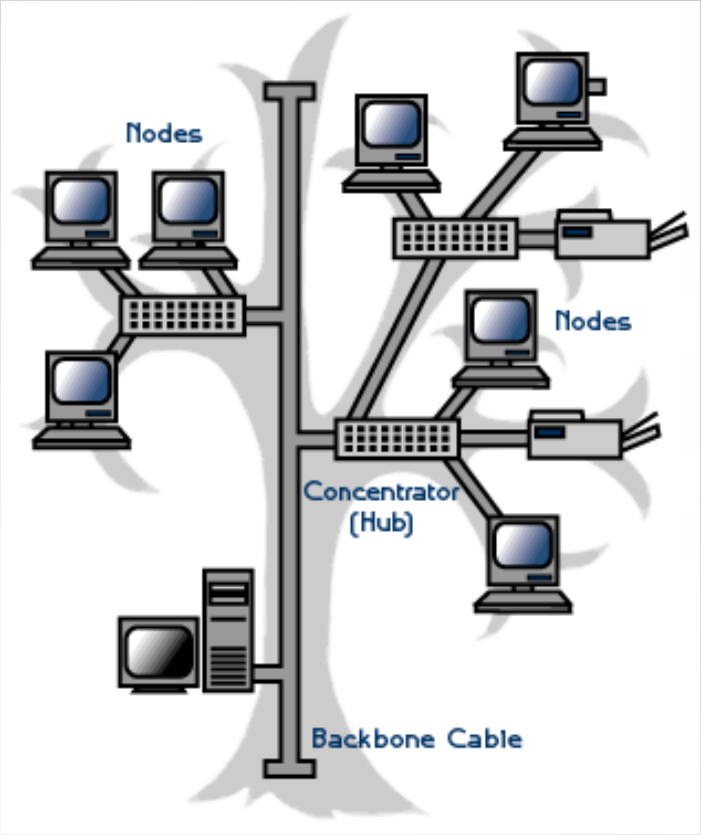
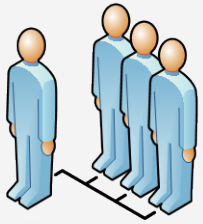
# TECHNICAL MANAGEMENT FUNCTION

- Well-designed and highly resilient cost effective topology.
- The use of adequate technical skills to maintain the technical infrastructure in optimum condition.
- Swift use of technical skills to speedily diagnose and resolve any technical failures that do occur.



# REMEMBER … TM MEANS…



Specialist Technical Architects and Designers

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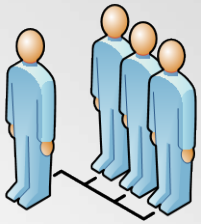

Specialist Maintenance and Support Staff

=

Technical Management

# IT Operations Management Function

- This function is responsible for the daily activities needed to manage the IT infrastructure. This is done according to the performance standards defined during Service Design.

This function is grouped **into two main activities:**

- IT Operations Control: Generally staffed by shifts of operators and ensures that routine operational tasks are carried out. Event Management is a process carried out by IT Operation Control.

- Facilities Management: Management of physical IT environment, usually data centers or computer rooms.

# Application Management Function

- Application Management Function usually performed by different departments, which has expertise a in set of applications. For example ERP Team who is focused in that area may service ERP applications.

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# Event Management Process

ITIL defines an event as "… any detectable occurrence that has significance for the management of the IT infrastructure or the delivery of IT service and evaluation of the impact a deviation might cause to the services."

While it may sound like monitoring, the two are different. Monitoring happens all the time whether an event is present or not. Event management is concerned with understanding the monitored data and taking an appropriate action


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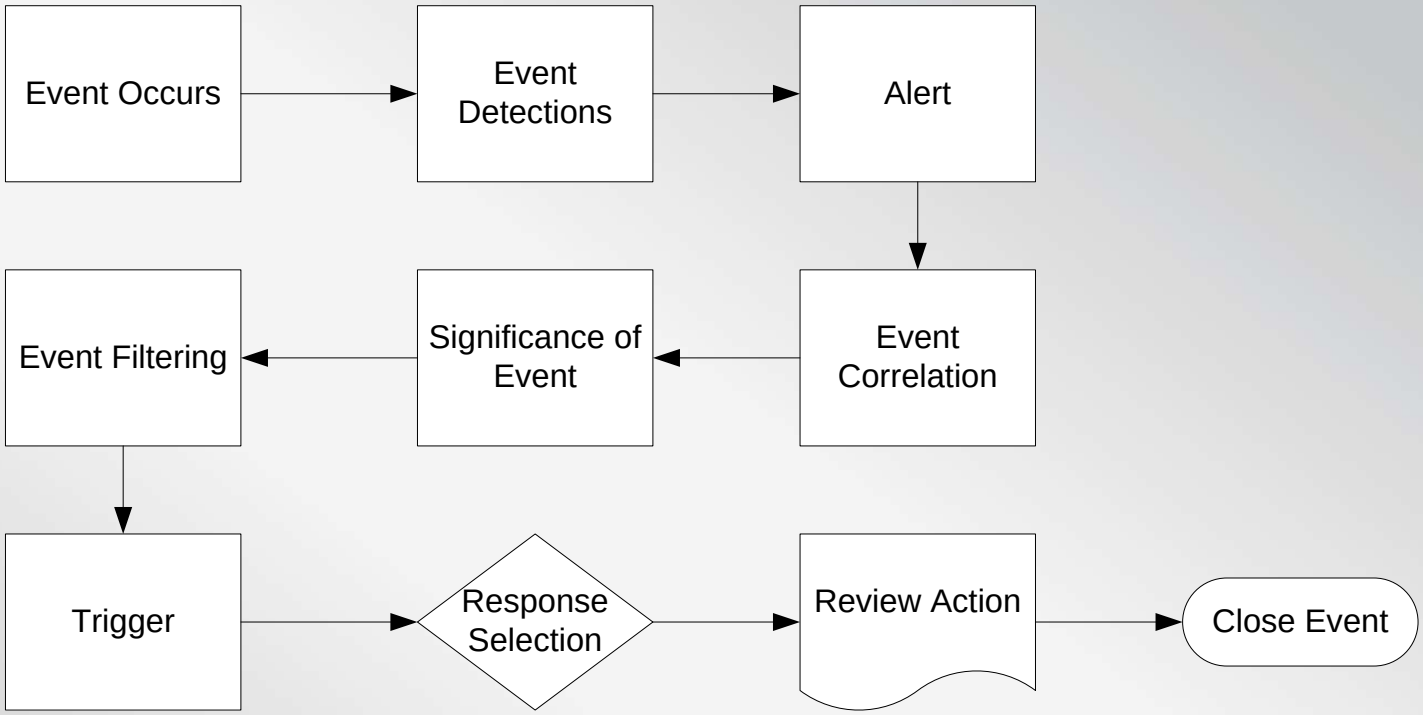
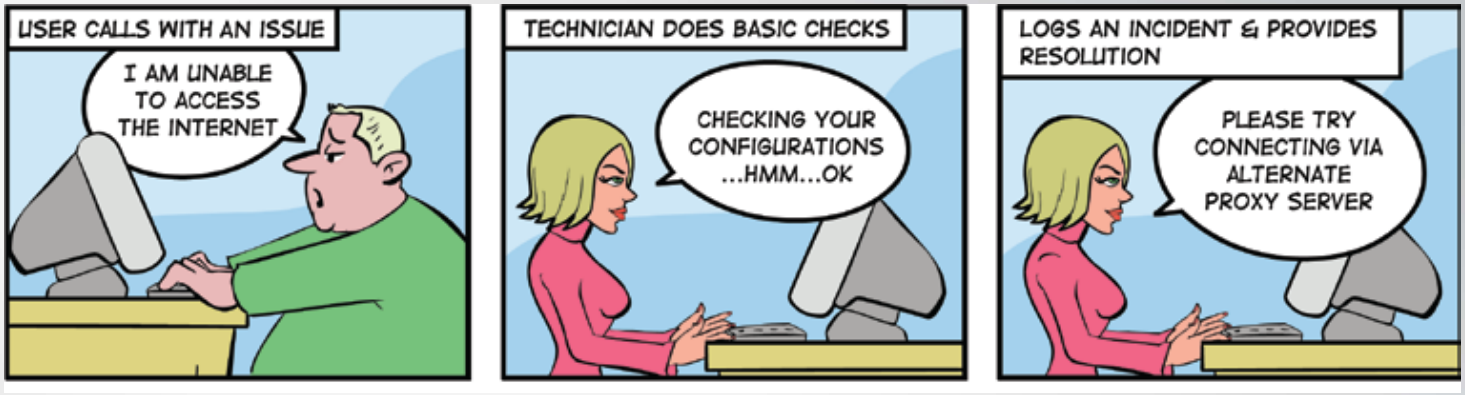
# Event Mgt - Activities

## Activities of Event Management



# INCIDENT


USER CALLS WITH AN ISSUE
I AM UNABLE TO ACCESS THE INTERNET
TECHNICIAN DOES BASIC CHECKS
CHECKING YOUR CONFIGURATIONS ...HMM...OK
LOGS AN INCIDENT & PROVIDES RESOLUTION
PLEASE TRY CONNECTING VIA ALTERNATE PROXY SERVER

# Incident Management Process

- An incident is a disruption of normal service that affects the user and the business. The goal of Incident Management is to restore IT services to the normal state as soon as possible with workarounds or solutions to make sure that it does not affect business.

- An incident is an event that is not part of the standard operation; it is an event that you don't want to happen; however it eventually happens.

- In simple words, Incident Management is a process to manage disruptions in critical IT services and restores them ASAP.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# Incident Categorization

- Impact + Urgency = Priority
  - Impact – Degree to which user/business is affected.
  - Urgency – Degree to which resolution can be delayed.

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# Incident Activities

- Ownership, Monitoring, Tracking and Communication - Service Desk
- Incident Identification and Logging
- Categorization, Initial Support, Prioritization (most Critical activity)
- Investigation and Diagnosis
- Incident Closure

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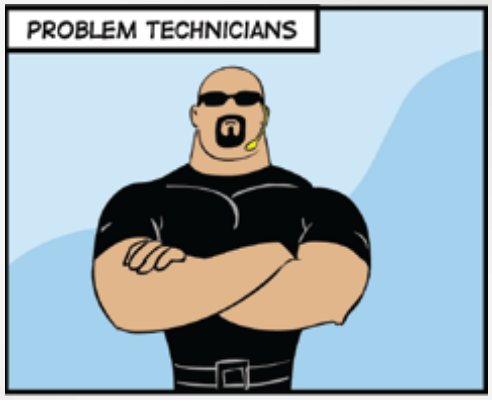
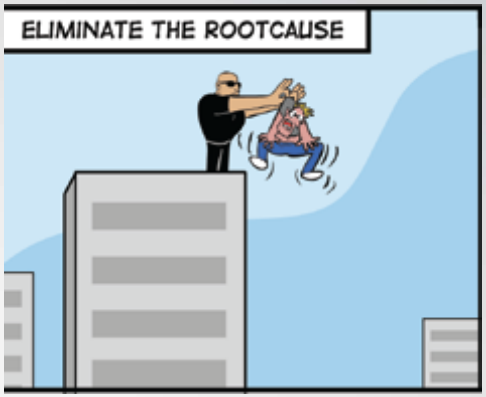
# Problem Management Process

This process ensures to minimize the adverse impact of incident and problems on business that are caused by errors within the IT infrastructure, and to prevent the reoccurrence of incidents related to these errors.

# Sub-Processes of Problem Management

- Reactive Problem Management
  - Saves money when you do not have problems
  - Lose money later
- Proactive Problem Management
  - Costs money and needs management support
  - Could get carried away

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# Main Activities in Problem Management

- Record the Problem and Match with Known Error Database
- Problems that have Workaround/Solution: Known Error
- Classify the Problem to Determine the Right Priority
- Analyze the problem to determine the root cause
- Provide Resolution or Initiate a Request for Change
- Closing the Problem

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# Request Fulfillment Process

To provide effective and efficient channel for users to make requests, gain information and obtain standard services.

A Service request is:

- A request for information or advice
- A request for Standard change – e.g. Password reset
- A request for access to an IT service.

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# Access Management Process

To Grant authorized users the right to use a service while preventing access to un-authorized users in order to protect the confidentiality, integrity and availability (CIA) of information and infrastructure.

Relationships with other processes: Access Management is the execution of polices and actions defined in Information Security and Availability management.

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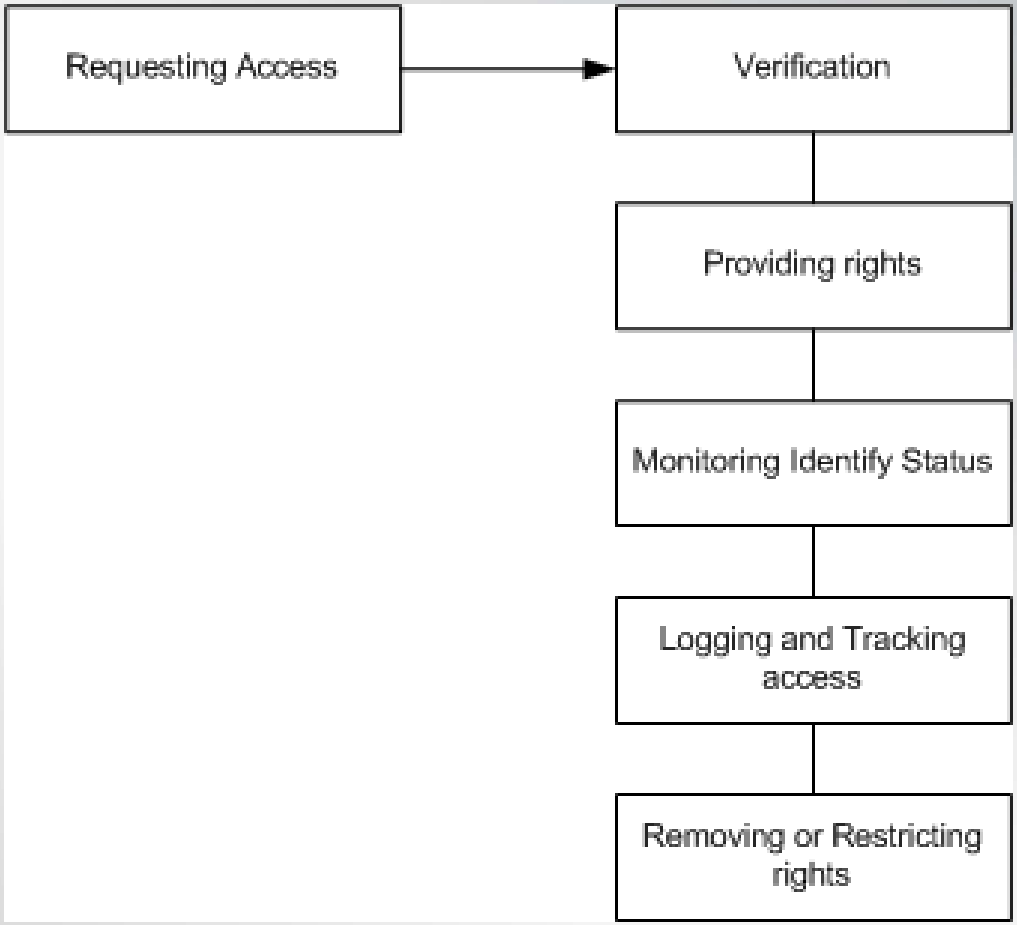
# Access Management Activities



# Input into other phases…

| Lifecycle Phase | Inputs from Service Operation |
|---|---|
| Service Strategy | Infrastructure Utilization and performance reporting, reporting information for IT accounting and charging |
| Service Design | Support Consideration for Service Design, Availability and Capacity and Information Security Historical data, supplier reports |
| Service Transition | Request for changes, Incident and Problem data, known errors input to knowledge bases, CMDB updates |
| Continual Service Improvement | Service Operation reporting, User satisfaction survey feedback, SLR breaches, and process metrics. |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# Continual Service Improvement

The goal of Continual Service Improvement is to align and realign IT Services to changing business needs by identifying and implementing improvements to the IT services that support the Business Processes.

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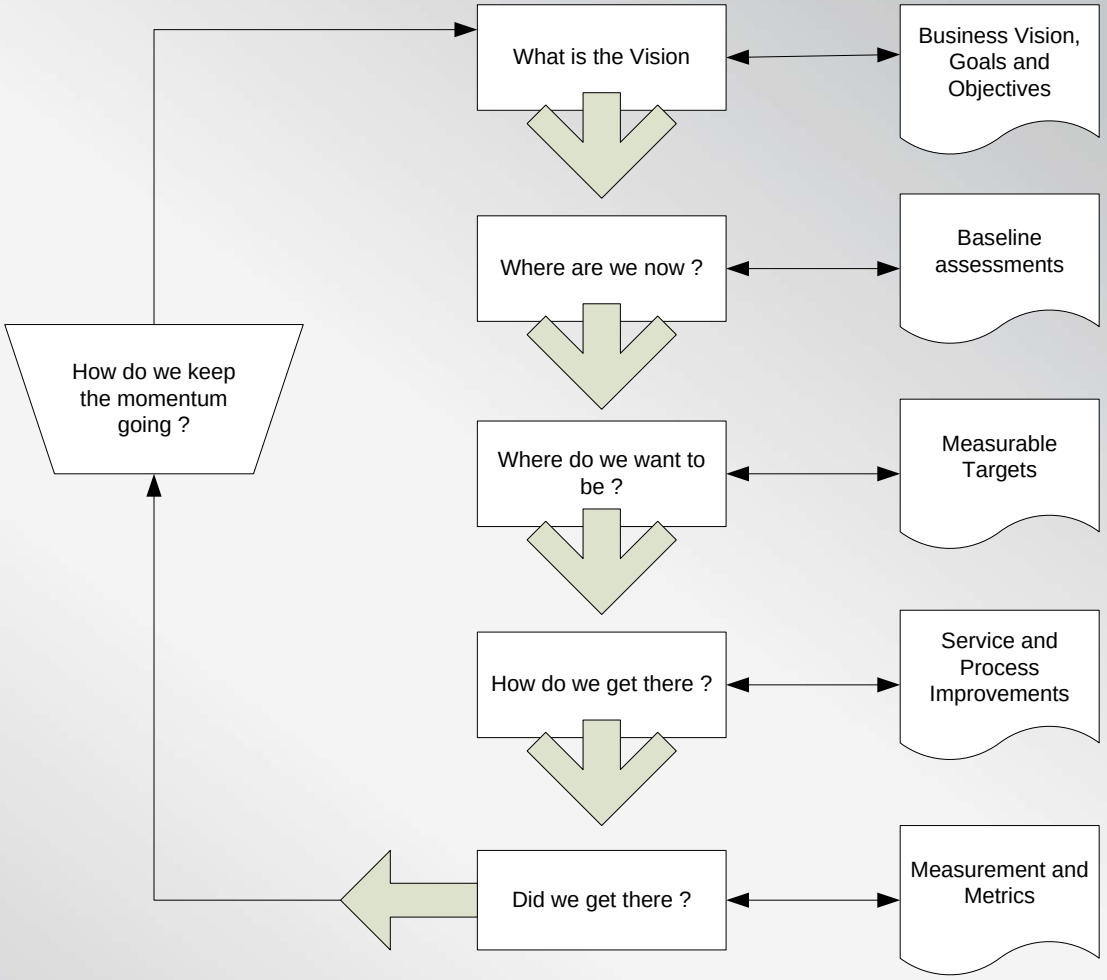
# The continual Service Improvement Model



# RELATIONSHIPS WITH OTHER PHASES..

**What is the Vision:** Service Strategy, Service Portfolio

**Where are we now**: Baselines taken using Service portfolios, Service Level Management, FMIT etc.

**Where do we want to be**: Service Portfolio, Service Measurement and reporting

**How do we get there:** CSI and all ITIL processes

**Do we get there:** Service Measurement and reporting

**How do we keep the momentum going** : CSI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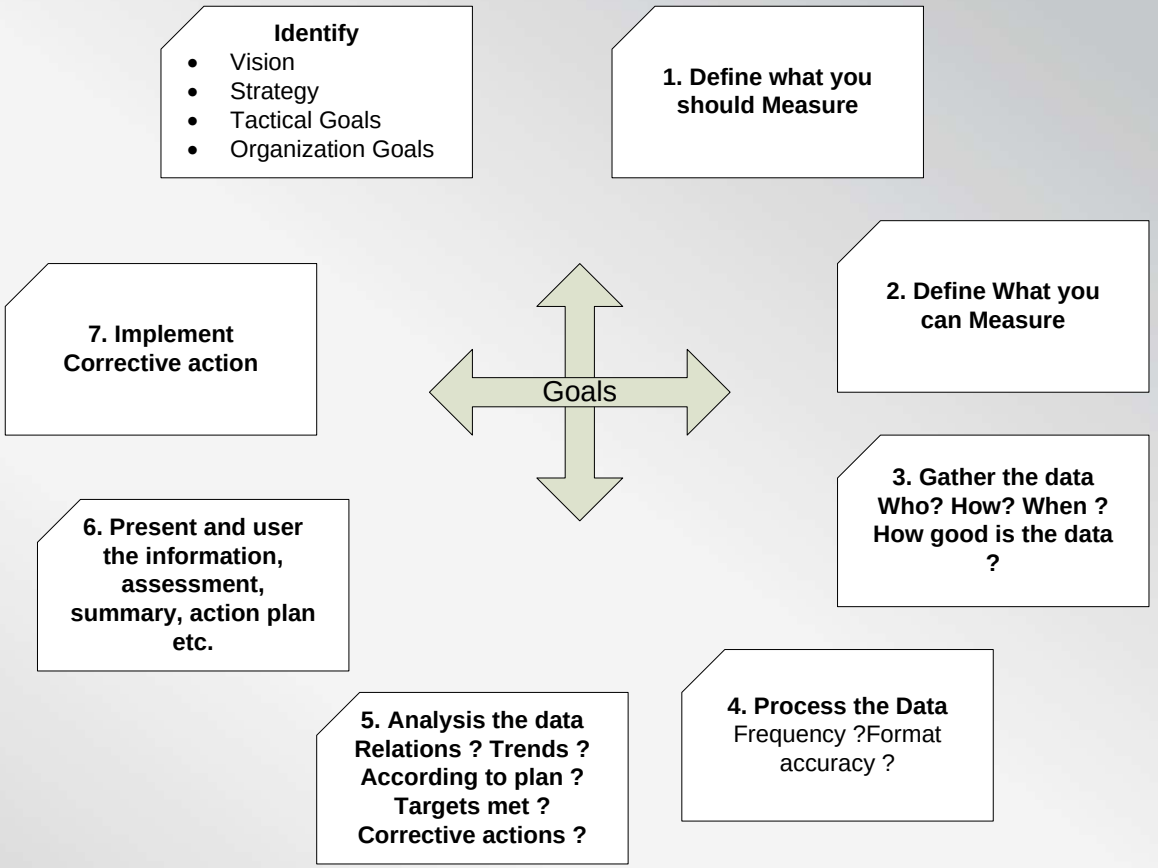
# CSI - IMPROVEMENT PROCESS


**Continuous improvement is part of every process in ITIL. The CSI process is based on the Deming cycle (PLAN, DO, CHECK, ACT)**

# CSI 7 Step Improvement Process



# Input into other phases….

| Lifecycle Phase | Inputs from Continual Service Improvement |
|---|---|
| Service Strategy | Service and Process Improvements, guidance for investments into IT and related Service portfolios. |
| Service Design | Service and Process Improvements, Guidance for KPIs metrics and reporting, refined SLRs , SLAs, OLAs and UCs |
| Service Transition | Request for Changes, Service and Process Improvements, guidance and refinements for testing and Validation |
| Service Operation | Process and Function Organization improvements, refined SLAs and OLAs, guidance for metrics and reporting. |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