INFORMATION TECHNOLOGY INFRASTRUCTURE LIBRARY (ITIL) - FOUNDATION

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Contents

INTRODUCTION TO SERVICE MANAGEMENT

Service and Service Management

- SERVICE
  - Means of delivering value to customers; by facilitating the outcomes customers want to achieve without the ownership of the specific costs and risks
- OUTCOME
  - The result of carrying out an activity or following a process

Service Types

- Internal Customer-facing Service
  - Directly supports a business process managed by another business unit
- External Customer-facing Service
  - Directly provided to an external customer
- Supporting Service
  - IT service not directly used by the business unit but required by IT service provider to do their job

Core, Enabling And Enhancing Services

- Core Services
  - Deliver basic outcomes desired by the customer
- Enabling Services
  - Needed to deliver a core service
- Enhancing Services
  - Added to a core service to make more attractive to customer

Service Packaging

- Collection of two or more services that have been combined to offer a solution to a specific type of customer need
- Using different ‘packages’ for customers
  - Specialised for higher paying
  - Generic to reach broader range

Service Value: Utility And Warranty

- Services don’t have much intrinsic value

- Contributes value when its 'value' is perceived to be higher than the cost of the obtaining the service
- UTILITY
    - Functionality offered by a product or service to meet a particular need
- WARRANTY
    - Assurance that a product or service meets agreed requirements

Service Composition

- Business Process
    - Defines the functional needs of the service being provided
- Service
    - What is being delivered to the customer
- Service Design Package
    - Defines all aspects of a service and its requirements through each stage of its lifecycle
- Business Care
    - Justification for service investments and expenditures
- Service Level Agreements/Service Level Requirements (SLA/SLR)
    - Specify level, scope and quality of service to be provided
- Infrastructure
    - All IT equipment necessary to deliver the service
- Environment
    - Place to secure and operate the infrastructure
- Data
    - Supports the service and provide information required by the business process
- Applications
    - Software required to manipulate the data

- Integration
    - Unified view of applications and data
- Operational Level Agreement (OLAs) and Contracts
    - Agreements necessary to deliver the quality of service agreed in SLA
- Supporting Services
    - Necessary to support the operation of the delivered service
- IT Processes
    - Ensures successful provision of the services
- Functions
    - Any internal team providing support for any of the components required to provide the service

- Roles
    - Responsibilities, activities, and authorities granted to a person or team that control and deploy the resources engage in the service
- Suppliers
    - External third parties necessary to provide support so we can provide the service

Service Management

- Service Management
    - Set of specialised organisation capabilities for providing value to customers in the form of services
- IT Service Management (ITSM)
    - Implementation and management of quality IT services to meet the needs of the business
- Enables a service provider to understand the services they are providing
- To understand and manage all the costs and risks associated
- Understand the value of the services
- Ensuring the services are really what the customer wants

Stakeholders in Service Management

- Have an interest in an organisation, project or service
- Could be:
    - Customers, consumers, users, partners, employees, shareholders, owners, organisations, service providers and suppliers

Service Providers

- Each IT organisation should act as a service provider

- Service provider:
    - An organisation supplying services to one or more internal or external customers
- 3 main types of Service Providers
    - Type I – Internal Service Provider
        - Embedded within a business unit
    - Type II – Shared Services Unit
        - Internal provider that provides shared IT services
    - Type III – External Service Provider
        - Provides IT services to external customers

Customers

- Somone who buys goods or services
- 2 types:
    - Internal Customers
        - Work for same business as the IT service provider
    - External Customers
        - Work for a different business from the IT service provider

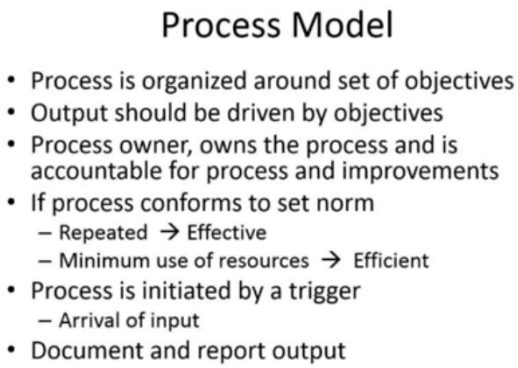
Users and Suppliers

- User
    - Person who used the service on a day-to-day basis
- Supplier
    - Third party responsible for supplying goods or services that are required to deliver services

Service Management Processes

Processes, Functions and Roles

- Process
    - Structured set of activities designed to accomplish a specific objective
        - Define actions, dependencies and sequence
        - May define policies, standards, guidelines, activities and work instructions if they are needed
        - Can improve productivity if well-defined
        - Once defined, can be repeated and managed



Process Characteristics

- Measurability
  - Ability to measure the process in a relevant manner
- Specific Results
  - Reason a process exists it to deliver a specific result
- Customers
  - Process delivers its primary results to a customer or stakeholder
- Responsiveness to Specific Triggers
  - Should be traceable to a specific trigger

Functions

- Team or group of people and the tools or other resources they use to carry out one or more processes or activities
- Can be broken out in departments, teams and groups
- Tend to optimise work methods locally
- Poor coordination can lead to functional silos

Roles

- Set of responsibilities, activities and authorities assigned to a person or team
- All specific roles require specific skills, attributes and competences
- 2 main roles categories:
  - Generic and Specific

Roles' Attributes

- Awareness of the business priorities, objectives and drivers
- Awareness of the role IT plays in enabling the business objectives to be met
- Customer service skills
- Awareness of what IT can deliver
- Knowledge, competence and information
- Ability to use, understand and interpret the best practices, policies and procedures

RACI

Roles need to be clearly defined!

- RESPONSIBLE
  - Person or people responsible for getting the job done
- ACCOUNTABLE
  - Person who has ownership of quality and the result (only one)
- CONSULTED

    - People who are consulted and whose opinions are sought
- INFORMED
    - People who are kept up to date on progress

Service Owner

- Accountable for a specific service within an organisation no matter what
- Service ownership is critical to Server Management
- Crosses multiple vertical silos or departments

Process Owner

- Accountable for ensuring that a process is fit for purpose
- Usually same person as Process Manager
- Ensures that their process is performed according to the agreed and documented standard and meets the goals of the process definition

Process Manager

- Accountable for operational management of a process
- Could be several process managers for one process
- Could be the same as Process Owner

Process Practitioner

- Responsible for carrying out one of more process activities
- Could be combined with Process Manager role
- Could be many practitioners carrying out parts of the process

Competence and Skills Framework

- Standardising job titles, functions, roles and responsibilities can simplify service and human resource management
- Can create a framework for reference to measure competence and skill requirements

Service Management Best Practices

- Benchmarking
- Best Practices – proven practices that have been successfully used by multiple organisations
- Sources of best practice:
    - Standards
    - Industry practices
    - Internal experience
    - Public framework
    - Academic research

    - Training and education

ITIL AND THE SERVICE LIFECYCLE

Service Management Practices

- ITIL is a widely know framework for IT Service Management
    - Has changed over the years to what it is now, a holistic service lifecycle
- Not standard to be followed but more like guidelines
- 5 lifecycle stages

Why ITIL?

- "Do what works" approach
- Teach how to deliver benefits, get a return on investment and sustain success
- Vendor-neutral – no specific platform or technology
- Non-prescriptive – can adjust and adapt to your needs
- Best practice – collection of experiences worldwide

The Service Lifecycle

- 5 stages of service:
    - Service Strategy
    - Service Design
    - Service Transition
    - Service Operation
    - Continual Service Improvement
- Hub and spoke design
    - Service strategy at the centre
    - Design, transition and operation revolving around strategy
    - Continual service improvement surrounds and supports all stages
- All rely on one another for input and feedback
- SERVICE STRATEGY
    - Provides guidance on how to view Service Management (SM)
    - Describes the principles of SM which are useful for developing SM policies, guidelines and processes
- SERVICE DESIGN
    - Provides guidance for the design and development of services, service management capabilities and practices
    - Design principles
    - Methods for converting objectives into portfolios of services and assets
- SERVICE TRANSITION

    - Provides guidance for the development and improvement of capabilities for introducing new and changed services into supported environments
    - Explains controlling risk and support while changing states in an organisation
    - Takes strategy and design values to transition them into operations
- SERVICE OPERATIONS
    - Provides guidance on how to maintain stability in service operation, while allowing for change
    - Process guidelines, methods and tools
    - Better decision making process is for those in need/charge
- CONTINUAL SERVICE IMPROVEMENT
    - Provides guidance on achieving incremental and large scale improvements in service quality
    - Operation efficiency and business continuity
    - Best practises for ensuring that the service portfolio continues to be aligned to business needs
    - PDCA; Plan-Do-Check-Act cycle will be established

SERVICE STRATEGY

Service Strategy Purpose and Objectives

Service Strategy

- Establishes an overall strategy for services and service management
- How are we going to do…?
- What are we going to do to offer or provide…?

Purpose and Objectives

- Define perspective, plans, position and patterns needed to execute to meet outcomes
- Main objectives of service strategy are to provide:
    - Understanding of what strategy is
    - Understanding of services and customers
    - Define how value is created and delivered
    - Identify opportunities to provide service
    - Understand organisational capability required
    - Model on how services will be delivered, funded and to whom they will be delivered to and why

    - Document and coordinate service assets
    - Process that defines the strategy or the organisation
        - What services will achieve
        - What level of investment
        - Levels of demand and working relationships

Service Strategy Scope

- Service strategy covers generic principles and processes of SM and how to apply
- Used by internal and external providers
- 2 strategies covered:
    - Define a strategy whereby a service provider will deliver services to meet a customer's business outcomes
    - Define a strategy for how to manage those services

Business Value Stubble

- We can add value by adopting and implementing consistent approaches for service strategy
    - Link a service providers activity to the outcomes for customers. Prove your worth
    - Put yourself in a position to understand and help
    - Respond quickly and effectively to changes
    - Support creation and maintenance of a portfolio of services
    - Facilitate functional & transparent communications

Key Principles

Value

- Level to which that service meets a customer's expectations
    - Value of a service come from what it enables someone to do. Not much intrinsic value
    - Defined by the customer
    - Changes over time and according to circumstances
    - Customers select services that give them the most for their money
    - Customers measure service value by seeing if they get what they expected to receive to achieve goal
- Need to understand 3 pieces:
    - What services does IT provide?
    - What do the services achieve?
    - How much do the services cost?
- Customers don't buy services; they buy the fulfilment of a need. QUALITY!

- What the customer wants, what they see and what they get determines value of a service
- Service provider doesn't decide value of a service directly; they can influence how it is perceived by customers
    - Starting point for customers perceptions
        - Reference value
            - What they have heard about the service
            - Current experiences; currently engaged in that activity
            - Previous experience
- Positive vs Negative
    - How do customers perceive value?
    - Positive difference
        - Additional benefits and gains provided
        - Additional warranty and utility
    - Negative difference
        - Perceptions of what the customer would lose by investing
            - Quality issues or hidden costs
- Actual perception that the customer has of how much better, or worse, the service compared to the reference value
    - Will they invest or not?
- Economic value – total value that the customer perceives the service to deliver

Patterns of Business Activity (PBA)

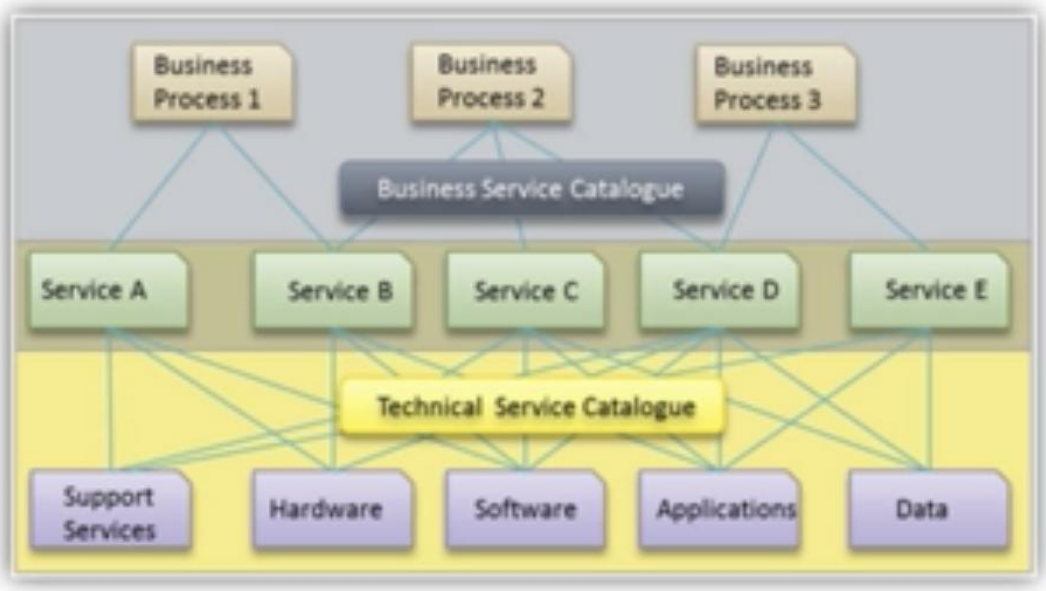
- A workload profile of one or more business activities
    - Patterns are used to help IT SP understand and plan for different levels of business activity
- Once a pattern is identified a PBA should be created and documented
- PBA Documentation
    - Classification
        - Type of PBA and where it came from
    - Attributes
        - Frequency, volume, location and duration
    - Requirements
        - Performance, security, availability, privacy, latency or tolerance for delays
    - Service asset requirements
        - once a utilisation profile is created, ensure resources are available to meet the demand

Service Portfolio

- Complete set of services that are managed by a service provider
    - Companies' commitments and investments
- Portfolio management helps managers prioritise investments and resource allocation
    - Service pipeline
    - Service catalogue
    - Retired services
- Also includes 3rd party services not always seen by customers
- Service portfolio should answer:
    - Why should the customer buy these services?
    - Why should they buy from us?
    - What are the pricing or chargeback models?
    - What are our strengths and weaknesses, priorities and risks?
    - How should our resources and capabilities be allocated?

Service Catalogue

- Database or structured document with information about all live IT services, including those ready to be deployed



- Published to customers
- Supports sales and delivery of IT services
- Prices, contacts, ordering requests, deliverables
- Should contain info on 2 types of IT service
    - Customer-facing services
    - Supporting services

Business Case

- Justification for a significant item of expenditure. Includes info about costs, benefits, options, issues, risks and possible problems
- Decision support and planning tool
    - Where and how are going to invest?
- A way of identifying business objectives that are dependent on service management

Governance

- Ensures that policies and strategy are implemented, and that required processes are correctly followed
    - Defines roles and responsibilities
    - Measuring and reporting
    - Taking actions to resolve any issues identified
- Ties the business and IT together
    - Common directions, policies and rules that both used to conduct business

Management of Risk

- Risk assessment and management are identified to mitigate risks within all parts of the service lifecycle

Risk

- Possible event that could cause harm or loss, or affect the ability to achieve objectives
- Measured by possibility of a threat and impact

Risk Assessment

- Gathering information about exposure to risk so that the organisation can manage appropriately
- Analysing the value of assets to the business
    - Quantitative – based on a number or numerical data
    - Qualitative – what it means to the business

Risk Management

- Having processes in place to monitor risks, information about risks and how to deal with those risks
- Identify – Analyse – Manage

Service Strategy Processes

Service Portfolio Management

- Ensures that the service provider has the right mix of services to meet the required business outcomes at an appropriate level of investment
- Responsible for managing the service portfolio

Purpose and Objectives

- PURPOSE
  - Ensures that the service provider has the right mix of services to balance the investment in IT with the ability to meet the business outcomes
- OBJECTIVES
  - Provide a process and mechanism to enable, to investigate and decide on which services to provide
  - Maintain a definitive portfolio of services provided, articulate the needs each service meets
  - Control which services are offered, under what conditions and at what level of investments
  - Analyse what services are no longer available

Scope of Service Portfolio Management

- All services a service provider plans to deliver
- Internal providers work within the company before comparing returns on investments
- External is more clearly defined
- SPM must be able to appraise what's new compared to retired

Financial Management

- Purpose – secure the appropriate level of funding to design, develop and deliver services that meet the strategy of the organisation
- Objectives:
  - Defining and maintaining a framework to identify, manage and communicate costs
  - Secure funding
  - Forecasting
  - Accounting for money spent
  - Executing the financial policies and practices
  - Evaluating the financial impact
  - Inform stakeholders on expenditures

- Scope:
    - Financial management for IT requires business and IT knowledge
    - 3 main processes:
        - Budgeting
            - Predicting and controlling income and expenditures
        - Accounting
            - Identifying costs by consumer, by service or activity
        - Charging
            - Billing customers for services rendered

Business Relationship Management

- PURPOSE
    - Establish and maintain a business relationship between the service provider and the customer based on understanding the customer and their business needs
    - Identify customer needs and ensure that the provider understands the changing needs
- OBJECTIVES
    - Ensure that the provider understands the customers perspective
    - ensure high level of customer satisfaction
    - identify changes to the customers environment
    - mediation during conflicts
    - Establish formal complaint and escalation processes
    - Establish relationships between customer and service provider
- SCOPE
    - Understanding how services meet customers' requirements
    - Usually between senior representatives from service provider and business units being supported
    - Align business with the service provider
    - Focus on relationship between the SP and customers and levels of customer satisfaction

SERVICE DESIGN

Service Design Purpose and Objectives

Service Design Purpose

- Takes business requirements and create services

- To design its services to realise the service providers strategy ensuring quality service delivery, customer satisfaction and being cost effective

Service Design Objective

- The main objective of service design is to design IT services so effectively that minimal improvement during their life cycle will be required

Scope of Service Design

- Principles of service design
- Alignment of IT services and solutions with business requirements
- The concept of service design package
- Methods, practises and tools to achieve excellence and service design

Business Value for Service Design

- If we do it “right”
    - Reduce total cost of ownership
    - Improve quality and consistency of service
    - Ease implementation of new or changed services
    - Improve effectiveness of services management and IT processes
    - Improve service alignment

Service Design Key Principles

The 4 P’s

- PEOPLE
    - Culture, organisation, skills
- PROCESSES
    - how, where, when
- PRODUCTS
    - services, technology, tools
- PARTNERS
    - suppliers, manufacturers, vendors

5 Aspects of Service Design

- Service solutions for new or changed systems
- Management information systems and tools
- Technology and management architectures
- Process is required to identify, design, transition, operate, support and maintain services
- Measurement methods and metrics for the services

Service Design Package

- Document(s) defining all aspects of an IT service and requirements throughout lifecycle
- Produced during:
    - Design stage of new product
    - Major changes to current product
    - Changes to the SDP itself
- Contains everything for testing, introduction and operation of a service
    - Business requirements
    - Service functional and level requirements
    - Service and operational management requirements
    - Service design and topology
    - Organisational readiness assessment
    - Service transition and operational acceptance plan
    - Service acceptance criteria

Service Design Processes

Design Coordination

- Responsible for coordinating all service design activities, processes and resources
- ensure effective and consistent design

Purpose

- Ensure goals and objectives are met
- coordination with a single point of contact

Objectives

- Plan and coordinate the resources and capabilities
- Produce the SDP
- Manage the quality criteria
- Ensure that all parties adopt a common framework
- Monitor and improve service design
- Coordinate all design activities
- Improve the effectiveness and efficiency of service design activities and processes

Scope

- All design activity, particularly all new or change service solutions that are being designed for transition into the live environment

Service Catalogue Management

- Process responsible for providing and maintaining the service catalogue and its availability

Purpose and Objectives

- Provide and maintain a single source of consistent information on all operational services and those being prepared
- Manage the information
- Ensure the accuracy and reflecting the current details, status, interfaces and dependencies
- Made available to those approved to access

Scope

- Provided maintain accurate information on all series that are being transitioned or have been transitioned to the live environment

Service Level Management

- Process responsible for negotiating service level comments and ensuring those are met

Purpose and Objectives

- Ensure that all current and planned IT services are delivered to agreed achievable targets
- Define, document, agree, monitor, measure, report and review the level of IT services provided and take corrective measures
- Provide and improve the relationship and communication with customers
- Ensure that specific and measurable targets are developed
- Monitor and improve customer satisfaction

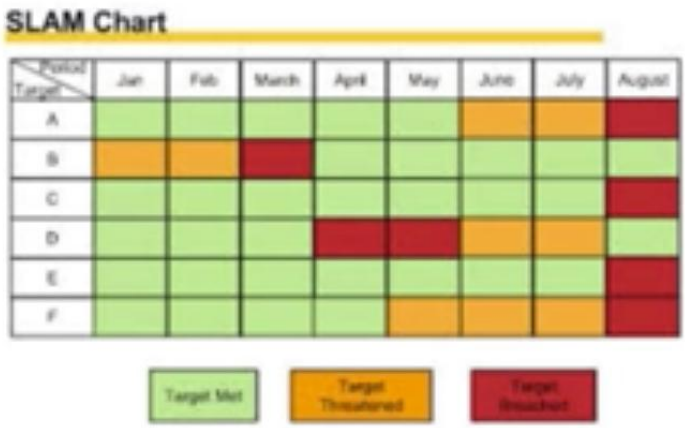
Scope

- Provide a point of regular contact and communication to the customers and business managers

Basic Concepts

- SERVICE LEVEL AGREEMENT (SLA)
    - Agreement between an IT SP and customer
    - Defines the key service and responsibilities of both parties
- SERVICE LEVEL REQUIREMENTS (SLR)
    - Customer requirement for an aspect of a service
- SLA FRAMEWORK
    - Service based SLA
        - Covers one service, for all the customers of that service

- Customer based SLA
  - Agreement with one customer group, covering all the services required
- Multi-level SLA
  - Corporate level
    - Generic – covering everyone in the organisation
  - Customer level
    - Relevant to the customer group or unit
  - Service level
    - Relevant to the specific service



- OPERATIONAL LEVEL AGREEMENT (OLA)
  - Agreement between an IT service provider and another part of the same organisation that assist with the provision of service
- UNDERPINNING CONTRACT
  - Contract between IT service provider and 3rd party supplier
- SERVICE LEVEL AGREEMENT MONITORING
  - Chart used to help monitor and report achievements against service level targets
    - Sometimes called RAG charts to colours used

- SERVICE IMPROVEMENT PLAN & SERVICE REVIEW
    - Formal plan to implement improvements to a process or service
    - Meetings to make sure we're on target
    - Not on target, create a plan to get back on track

Interfaces

- Business relationships management
- Financial management for IT services
- Service catalogue management
- Incident management
- Supplier management
- Other design processes/coordination
- Availability and capacity management

Supplier Management

- Process responsible for obtaining value for money from suppliers
- Ensuring that all contracts and agreements with suppliers support the needs of the business
- All suppliers meet their contractual commitments

Purpose and Objectives

- Obtain value for money from suppliers and to provide seamless quality of IT service
- Obtain value for money from suppliers and contracts
- Ensure that contracts with suppliers are aligned to business needs
- Manage relationships with suppliers
- Manage supplier performance
- Negotiate and agree

Scope

- The management of all suppliers and contracts needed to support the provision of IT services to the business

Availability Management

- Process responsible for ensuring that IT services meet the current and future availability needs of the business

Purpose and Objectives

- Ensure that the level of availability delivered in all IT services meets the agreed in a cost effective and timely matter

- Produce and maintain an appropriate and up-to-date availability plan that reflects current and future needs
- Provide advice and guidance
- Ensure that achievements meet all agreed targets
- Assist incident management, problem management and change management
- Ensure that proactive measures are implemented

Scope

- Design, implementation, measurement, management and improvement of IT services and component availability
    - Reactive activities
        - Monitoring, measuring, analysis and management of all events, incidents and problems concerning unavailability
        - Part of operational roles
    - Proactive
        - Proactive planning, design an improvement of availability
        - Part of the design and planning roles

Basic Concepts

- Service availability
    - All aspects of availability an unavailability of the service an impact of component availability
    - The whole from pieces (components)
- Component
    - All aspects of availability and unavailability of components
    - Individual pieces
- Availability
    - Ability of a service or component to perform its agreed function when required
- Reliability
    - Measure on how long a service or component can perform its agreed function without interruption
- Maintainability
    - Measure on how quickly and effectively a service or component can be restored to normal after a failure
- Service Ability
    - Ability of a third party supplier to meet the terms of its contract
- Vital business function
    - Part of the business process that is critical to the success of the business
    - How important is that process?
        - High availability

        - Minimised or hides component failure
    - Fault tolerance
        - Operates correctly after failure of component part
    - Continuous operation
        - Try to eliminate downtime
    - Continuous availability
        - Achieve 100% availability

Capacity Management

- Process responsible for ensuring that the capacity of IT services and the IT infrastructure can meet agreed capacity and performance related requirements
- 3 sub-processes
    - Business capacity management
    - Service capacity management
    - Component capacity management

Purpose and Scope

- Ensure that the capacity of its services and the IT infrastructure of meets the agreed capacity and performance related requirements in a cost effective and timely manner
- Focal point for all IT performance and capacity issues. Considering all resources required to deliver the IT service and plans for short, medium and long term business requirements

Objectives

- Produce and maintain an appropriate and up-to-date capacity plan, which reflects the current and future needs of the business
- Provide advice and guidance to all other areas of the business and it on all capacity and performance related issues
- Ensure that service performance achievements met all the agreed targets
- Assist with the diagnosis and resolution of performance and capacity related incidents and problems
- Ensure that proactive measures to improve the performance of services are implemented

Basic Concepts

- 3 supporting sub-processes:
    - Business capacity management
        - Translate business needs and plans into requirements for service and IT infrastructure
    - Service capacity management

        - Focus on the management, control and prediction of the end to end performance and capacity of live, operational IT services usage and workloads
    - Component capacity management
        - Focus on the management, control and prediction of the performance, utilisation and capacity of individual IT technology components
- Capacity Plan
    - Used to manage the resources required to deliver IT services
    - Used by all areas of the business and IT management and is acted on by the IT service provider to plan the capacity of the IT infrastructure

IT Service Continuity Management

- Process responsible for managing risks that could seriously affect IT services

Purpose and Scope

- Support the overall business continuity management process by ensuring that, by managing the risks that could seriously affect IT services, the provider can always provide a minimum agreed business continuity related levels
    - Reduce risks
    - Plan and prepare recovery

Objectives

- Produce and maintain a set of IT service continuity plans that support the overall business continuity plans of the organisation
- Complete regular BIA exercises
- Conduct regular risk assessments
- Provide advice and guidance on all continuity related issues
- Ensure that appropriate mechanisms are in place to meet or exceed agreed continuity targets
- Ensure that proactive measures are implemented
- Negotiate and agree contracts with suppliers for the provision of necessary recovery capability

Basis Concepts

- Business Impact Analysis (BIA)
    - Activity in business continuity management identifies vital business functions and their dependencies
    - Identifies:
        - Form that the damage or loss may take
        - How the degree of damage or loss is likely to escalate
        - Time within which minimum level should be recovered

        - Time within which all required business process should be recovered
        - Relative business recovery priority
- Risk Assessment
    - Analysing the value of assets to the business
    - Identifying threats to our assets
    - Evaluating how vulnerable each asset is to those threats
    - Assessment of the level of threat and the extent to which an organisation is vulnerable to that threat

Information Security Management

- Process responsible for ensuring that the confidentiality, integrity and availability of an organisation assets, information, data and IT service match the agreed needs of the business

Purpose and Scope

- Align IT security with business security and ensure that the confidentiality, integrity and availability matching the agreed needs of the business
- Focal point for all IT security issues and must ensure that information policy is produced, maintained and enforced

Objectives

- Confidentiality
    - Information is observed by or disclosed to only those who have the permission

  Integrity
    - Information is complete and unchanged
- Availability
    - Information is usable and available when needed
- Authentication and Non-Repudiation
    - You are who you say you are and can be trusted
    - Business can be trusted

Basic Concepts

- Information Security Policy should cover these areas:
    - Overall IT security policy
    - Acceptable use policy
    - Access control policy
    - Password control policy
    - E-mail policy
    - Internet policy
    - Antivirus policy

  - Information and document classification policy
  - Remote access policy
  - Policies for suppliers, information and components

SERVICE TRANSITION

Purpose and Objectives

- Ensure new, modified or retired services meet the expectations of the business
- Plan and manage service changes effectively and efficiently
- Manage risks
- Successfully deploy service releases
- Set expectations on the performance and use
- Ensure changes create expected value
- Provide knowledge and information about assets

Scope

- The transition of new and unchanged services into supported environments

Business Value

- Enable projects to estimate the cost, timing, resource requirements and associate risks
- Result in higher volumes of successful change
- Enable assets to be shared and reused
- Reduce delays from unexpected clashes
- Increase confidence that the new or changed service can be delivered to specification

Release Policy

- Formal policies for service transition should be defined, documented and approved, including the release policy
  - Roles and responsibilities at each stage
  - Unique identification, number and naming conventions
  - Requirement to only use software assets from library
  - Expected frequency for each type of release
  - Approach for accepting and grouping changes into a release
  - Details of how the CFG baseline for release is captured
  - Exit and entry criteria

Service Transition Processes

5 Main Processes:

- Transition planning and support
- Service asset and configuration management
- Change management
- Release and deployment management
- Knowledge management

Transition Planning and Support

- Ensures the planning and coordination of resources to realise the specification of the service design
- Plans change and ensure that issues and risks are managed

Basic Concepts

- Release Types:
    - Major Release
        - Important deployment of new hardware or software with considerable expansion of the functionality
    - Minor Release
        - Usually contain several smaller improvements; some of these improvements were previously implemented as quick fixes but are now included in the release
    - Emergency Release
        - Usually implemented as a temporary solution for a problem or known error

Activities

- Support
    - Service transition advises and supports all stakeholders. The planning and support team will provide insight for the stakeholders regarding service transition processes and supporting systems and tools
- Service transition activities are monitored; the implementation of activities is compared with the way they were intended

Service Asset and Configuration Management

- Manages the service assets and configuration items to support the other service management process is
- Ensures that assets required to deliver services are properly controlled and that accurate and reliable information about those assets is available

Basic Concepts

- Service Asset
  - Any resource or capability of a service provider
- Configuration Item
  - Any component or other service asset that is managed to deliver an IT service
- Attribute
  - Piece of information about a configuration item
- Relationship
  - Link between 2 configuration items that identifies a dependency or connection between them
- Logical Model
  - Created by maintaining relations between configuration items
- Configuration Structure
  - Shows the relations and hierarchy between configuration items that comprise a configuration
- Snapshot
  - State of a configuration at a certain point of time
- Baseline
  - Snapshot that is used as a reference point
- Classified
  - Assigning a category to a configuration item to help manage and trace them throughout their lifecycle
- Configuration Management Database (CMDB)
  - Database used to store config records of config items
  - One or more can be part of a config management system
- Configuration Record
  - Contains details of a CI
- Libraries
  - Secure Library
    - Collection of software and electronic Cis of a known type and status with limited access
  - Secure Store
    - Secure location where IT assets are stored
  - Definitive Media Library (DML)
    - Secure store where the definitive, authorised versions of all media CIs are stored and monitored

Activities

- Management and Planning

    - Decide on what level of configuration management is needed and how this level will be achieved
    - Documented in the configuration management plan
- Configuration Identification
    - Focuses on establishing a CI classification system
        - Determines naming conventions, labels, relationships etc...
- Configuration Control
    - Ensures that the Cis are adequately controlled. Must follow agreed procedures
- Status Accounting and Reporting
    - Lifecycle of a component is classified into different stages. Must be documented and tracked
- Verification and Audit
    - SACM conducts audits to ensure that there are no discrepancies between the documented baselines and the actual situation

Change Management

- Primary objective is to enable beneficial changes to be made, with minimal disruption to IT services
- Ensures changes are deployed in a controlled way

Basic Concepts

- Request for Change (RFC)
    - Formal request to change one or more Cis
        - May be proceeded by a Change Proposal
- 3 types of change request
    - Normal change
        - Addition, modification or elimination of anything that could influence IT services
    - Standard Change
        - Pre-approved, low-risk and relatively common change
            - Change model used --> steps to perform change
    - Emergency Change
        - Introduced as soon as possible
- Change Advisory Board (CAB)
    - Body or group that meets to help the change manager/authority to assess, prioritise and schedule the changes
- Post-implementation Review (PIR)
    - Determines if the change was successful and to identify opportunities for improvement

Activities

- Create and Record the RFC
    - All RFCs are registered and must be identifiable
- Review the RFC
    - Is it illogical, unfeasible, unnecessary or incomplete or has it already been submitted
- Assess and evaluate the change
    - Is the change moving forward?
- Authorise the change build and test
    - We're a go
- Coordinate Change Build and Test
    - Technical groups have for building the changes
- Authorise Change Deployment
    - Proof that the result of the change was properly built and tested. Formal report
- Coordinate Change Deployment
    - Part of the release and deployment management process. Remediation procedures should be prepared and documented in advance
- Review and Close Change Record
    - Deployed changes are evaluated after some time, if successful can be finalised and closed

Release and Deployment Management

- Aimed at building, testing and delivering the capability to provide the services specified by service design
- Plan, schedule and control the build, test and deployment of releases and to deliver new functionality required by the business while protecting the integrity of existing services

Basic Concepts

- Release
    - One or more changes to an IT service that are built, tested and deployed together
        - Changes to hardware, software, documentation, process
- Release Unit
    - Part of the service or infrastructure that is included in a release, in accordance with the organisations release guidelines

- Release Package
    - Single release unit or collection of release units that will be built, tested and deployed together as a single release

- The V Model
    - Convenient tool for mapping out the different configuration levels at which building and testing must take place

Activities

- Release and deployment planning
    - Prior to deployment into production different plans are formulated
        - Type and number depend on size and complexity
        - Logistics and delivery plans should be prepared
- Release Build and Test
    - The release package is built, tested and checking into the DML
- Deployment
    - Test package in the DML is deployed or released to the live environment
        - Transfer of financial assets
        - Transfer of service management resources
        - Transfer of service
        - Deployment of service
- Review and Close
    - Review of deployment
        - Transfer and training adequate?
        - Fixes and changes are completed?

Knowledge Management

- Share perspectives, ideas, experience and information; to ensure that these are available in the right place at the right time to enable informed decisions
- Improves quality of decision making by ensuring that reliable and safe information is available during the service life cycle

Basic Concepts

- Often visualised using the DIKW structure
    - Data-Information-Knowledge-Wisdom
        - Quantitative data from metrics is transformed into qualitative information
        - Information combined experience, context and interpretation become knowledge
        - Knowledge can be used to make the right decision which comes down to wisdom

- Service Knowledge Management System (SKMS)

    - Set of tools and databases that is used to manage knowledge, information and data
    - Formed by a considerable amount of data in one or more configuration management databases, part of the CMS

Activities

- Knowledge Management Strategy
    - Focuses specifically on identifying and document relevant knowledge, and on the data and information that supports the knowledge
- Knowledge Transfer
    - Challenge that requires, first, an analysis to determine what the knowledge gap is between the 2 parties
    - Based on outcome, plan is put in place to facilitate transfer
- Managing Data, Information and Knowledge
    - Establishing data and information requirements
    - Defining the information architecture
    - Establish data and information management procedures
    - Evaluation and improvement
- Use of the SKMS
    - Develop and maintain SKMS system that is available to all stakeholders and suits all information requirements

SERVICE OPERATION

Intro to Service Operation

- Involves coordinating and carrying out activities and processes required to provide and manage services for business users and customers within a specified agreed service level
- Responsible for management of the technology required to provide and support the services
- Without operations, planning and designing is worthless

Basic Concepts

- Responsible for the fulfilment of processes that optimise the service costs and quality in the service management lifecycle
- Effective communication is necessary to execute standard activities in delivering IT services

- Handling conflict between maintaining their current situations and reacting to changes in the business and technical environment
- Achieving an IT organisation in which stability and response are in balance
- Achieving an optimal balance between cost and quality
- Achieving a proper balance in reactive and proactive behaviour

Service Operation Processes

5 main processes:

- Event Management
- Incident Management
- Request Fulfilment
- Problem Management
- Access Management

Event Management

Purpose

- Process responsible for managing event throughout their lifecycle
- A main activity of IT operations
- Detects events, make sense of them and determines the appropriate action

Scope and Objectives

- Any aspect of service management that needs to be controlled and which can be automated
- Detect all changes of state that have significance to CI management
- Determine the appropriate control action
- Provide the trigger for operation processes and activities
- Provide means to compare actual performance against standards
- Provide a basis for service assurance and reporting

Basic Concepts

- Event
    - Any change of state that has significance for the management of a CI or service
        - Informational events
        - Warning events
        - Exception events

- Alert

- Notification that a threshold has been reached, something changed, or a failure has occurred

Incident Management

Purpose

Restore normal service operation as quickly as possible and minimise the adverse impact on business operations

Scope

Any event which disrupts, or could disrupt a service

Objectives

- Enhance business perception of IT
- Align incident management activities and priorities with those of the business
- Maintain user satisfaction with the quality of IT services
- Ensure the standardised methods and procedures are used for efficient and prompt response, analysis, documentation and ongoing management and reporting of incidents
- Increase visibility and communication of incidents

Basic Concepts

- Incident
  - Unplanned interruption to an IT service or reduction in the quality of an IT service
- Workaround
  - Way of reducing or eliminating the impact of an incident or problem without full resolution
- Priority
  - Category used to identify the relative importance of an incident
    - Based on urgency of the incident and level of impact
- Incident Model
  - Way of predefining the steps that should be taken to handle a process for dealing with a particular type of incident in an agreed way
    - Steps to be taken
    - The order of steps
    - Responsibilities for the steps
    - Any precautions to take before resolving
    - Timescales and thresholds
    - Escalation procedures

Necessary evidence-preservation

Processes

- Incident identification
    - Detection of the incident, logs, calls, staff
- Incident logging
    - Logged and time stamped ad other relevant information
- Incident categorisation
    - Identify the type of incident
- Incident prioritisation
    - Based on urgency and impact to users
- Initial diagnosis
    - Solved on the phone without escalation to higher tier
- Incident escalation
    - Functional escalation
        - To a higher level of expertise
    - Hierarchic escalation
        - Perhaps to managers for resolution
- Investigation and diagnosis
    - What happened and what went wrong
- Resolution and recovery
    - Fix is tested, applied and documented
- Incident closure
    - Fully resolved and everyone is satisfied

Request Fulfilment

Purpose

- Responsible for managing the lifecycle of all service requests from the users

Scope

- The process needed to fulfil a request which will vary depending upon exactly what is being requested, but can usually be broken down into a set of activities that have to be performed

Objectives

- Source and deliver the components of requested standard services
- Assist with general information, complaints or comments
- Maintain user and customer satisfaction through efficient and professional handling of all service requests
- Provide a channel for users to request and receive standard services for which a predefined authorisation and qualification process exists
- Provide information to users and customers

Basic Concepts

- Service request
    - Request, sometimes formal, from a user for something to be provided
        - Password reset
        - Installation of equipment
        - Informational

Problem Management

Purpose

- Manage the lifecycle of all problems from first identification through to further investigation, documentation and eventual removal
- Minimise the impact of incidents and proactively prevent re occurrence of incidents

Scope

- Activities to diagnose the root cause of incidents and to determine the resolution to those problems

Objectives

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

Basic Concepts

- Problem
    - Cause of one or more incidents
- Known Error
    - Problem that has a documented root cause and workaround
- Resolution
    - Action taken to repair the root cause of an incident or problem or implementation or a workaround
- Known Error Database (KEDB)
    - Used during an incident to try and speed up the resolution
    - New records are added for newer issues along with the resolution
    - Part of the service knowledge management system (SKMS)

Processes

- Reactive problem management
    - Solving issues in response to an incident
- Proactive problem management
    - Solving before further related incidents can occur again
- Problem detection

    - Triggers, reported, technical staff, monitoring tools
- Problem logging
    - All details of problem and links to which incident
- Problem categorisation
    - Frequency and impact of related incidents
- Problem investigation and diagnosis
    - Figures out the root cause of the problem
- Workarounds
    - Way of reducing the impact of problem
- Raising a known error record
    - Recorded in know error database for future problems

Access Management

Purpose

- Provide the right for users to be able to use a service or group of service. Execution of policies and actions defined in information security management

Scope

- Enable the organisation to manage the confidentiality, availability and integrity of the organisations data and intellectual property

Objectives

- Manage access to services based on policies and actions defined in the information security management
- Oversee access to services and ensure rights being provided are properly used
- Efficiently respond to requests for granting access to services, changing access rights or restricting access, ensuring that the rights being provided or changed are properly granted

Basic Concepts

- Access
    - Level and extent of a service's functionality or data that is a user is entitled to use
- Identity
    - Unique name that is used to identify a user, person or role
    - Used for permission granting or denial
- Rights
    - Entitlements or permissions granted to a user or role

Service Operation Functions

4 main functions:

- Service desk
- Technical management
- IT Operations Management
- Application Management

Service Desk

- Staff responsible for dealing with a variety of service activities
- Provide a single point of contact between services being offered and the users

Structures

- Local service desk
    - Co-located within or physically close to the user community using the service
- Centralised service desk
    - All helpdesk staff are in one location to be more efficient and cost effective
- Virtual service desk
    - Home working, outsourcing or combination
    - Looks like “centralised service desk”
- Follow-the-Sun
    - 24/7 help desk by employing the above

Technical Management

- Custodian of technical knowledge and expertise related to managing the IT infrastructure
- Provide the actual resources to support the service lifecycle
- Well designed and highly resilient, cost-effective topology
- Adequate technical skills

IT Operations Manager

- Execute the ongoing activities and procedures required to manage and maintain the IT infrastructure so we can deliver and support IT services at the agreed levels
- IT Operations Control
    - Overseas the execution and monitoring of the operational activities and events in the IT infrastructure

- Facilities management
    - Management of the physical IT environment, typically a data centre or computer room with all the power and cooling equipment

Application Management

- Custodian to technical knowledge and expertise related to managing applications
- Provide the actual resources to support the service lifecycle
- Integrates the application management lifecycle into the service life cycle
- Need adequate technical skills
- Create highly resilient, cost effective apps

CONTINUAL SERVICE IMPROVEMENT

Purpose and Scope

- Align IT services with changing business needs by identifying and implementing improvements to IT services that support business processes
- You cannot manage what you cannot control
- You cannot control what you cannot measure
- You cannot measure what you cannot define

Objectives

- Review, analyse and make recommendations on improvement opportunities
- Improve the cost effectiveness of delivering IT services without risking customer satisfaction
- Understand what to measure, why and what a successful outcome should be
- Identify and implement activities to improve IT service quality
- Review and analyse server level achievement results
- Ensure applicable quality management methods are used to support continual improvement activities

Key Principles

- Deming Cycle
    - Plan
        - Establish goals for improvement, action steps and measures
    - Do
        - Develop and implement a project to close the gap
    - Check
        - Compared implemented environment with the measure of success from Plan phase
    - Act

        - Determine weather further work is required to close any remaining gaps
- Continual Service Improvement Approach
    - What is the vision? (business vision, goals, mission)
    - Where are we now? (baseline)
    - Where do we want to be? (measurable targets)
    - How do we get there? (process improvement)
    - Did we get there? (measurements and metrics)
    - How do we keep the momentum going?
- Measurement
    - Metrics define what is to be measured
- Vision
    - Description of what an organisation intends to become in the future
- Mission statement
    - Short description of the overall purpose and intentions of an organisation
- Goal
    - Helps to decide on a course of action
- Objective
    - Defined purpose or aim of a process
- Critical success factor (CSF)
    - Something that must happen if a process, project, plan or service is to succeed
- Key performance indicator (KPI)
    - Metric that is used to help manage a process, service or activity
- Metric
    - Something that is measured and reported to help manage a process, service or activity
- Types of metrics
    - Technology metrics
        - Associated with component based and application based metrics
    - Process metrics
        - Captured in the form of critical success factors (CSFs), KPIs and activity metrics for the server management process
    - Service Metrics
        - Results of the end-to-end service
        - Component metrics used to compute

Processes

- 7 step improvement process

- Identify
  - Vision, business need, strategy
- Define
  - What will we measure?
- Gather
  - Who? How? When? Operation goals
- Process
  - Process the data in alignment with CSFs and KPIs
- Analyse
  - Trends? Targets? Any improvements?
- Present
  - action plans, assessment summary
  - did we get there?
- Implement
  - Improve and correct services and processes

SERVICE MANAGEMENT TECHNOLOGY

- The use of technology playing a major role in service management
- Need to have mechanisms for maintaining and maximising benefits in place for the technology

Use of Technology

- SMT enables communications between service providers and customers
- 5 models to follow on how that interaction takes place:
  - Technology free
    - Tech is not involved in the service provision
  - Technology assisted
    - Only the service provider has access to technology
  - Technology facilitated
    - Both the service provider and customer have access to the same technology
  - Technology mediated
    - The service provider and the customer are not in physical proximity
  - Technology generated
    - The SP is represented entirely by technology, commonly known as self-service

Service Automation

- Automation should be considered to improve the utility and warranty of services
- Need to talk about “reasons for automation” and “preparing for automation”
- Reasons for automation:
    - Automated resources can be more easily adjusted in response to variations
    - Automated resources can handle capacity with fewer restrictions on time of access
    - Automation is a means of capturing the knowledge required for a service process

Service Analytics

- Information is static
- We look for patterns and implications then it becomes knowledge
- Use this knowledge for predictability and reliability
- Then we can answer ‘how’ questions
- How does this incident affect the service?
- How is the business impacted?
- How do we respond?
- With service analytics:
    - Operations can do a better job of identifying and correcting problems from the user’s standpoint
    - Also predict the impact of changes to the environment
    - Turn the model around and it can show the business demand for IT services

HOW IT ALL FITS TOGETHER

- Each lifecycle stage is dependent on input from and provides output to the other stages in the lifecycle

Integration Across the Service Lifecycle

- Stages of the lifecycle work together as an integrated system to support the objective of service management
- The SKMS enables integration across the lifecycle

Specialisation and Coordination

- Organisations need a collaborative approach for the management of assets

- These assets are used to deliver and support services for their customers
- Specialisation
    - Allows for expert focus on components of the service
- Coordination
    - Creates an environment focused on business and customer outcomes

Monitoring and Control

- Ensures that the process or service performs as specified
    - Maintaining the service quo
- Service transition provides a major set of checks and balances for control
- Change management provides control for existing services

Continual Service Improvement

- Feedback throughout each stage is the strength of the lifecycle
- The lifecycle is not linear in design
    - Each one feeds into another in the lifecycle
    - Changes can be made at any point in the lifecycle if identified