



# IT Service Management PV203



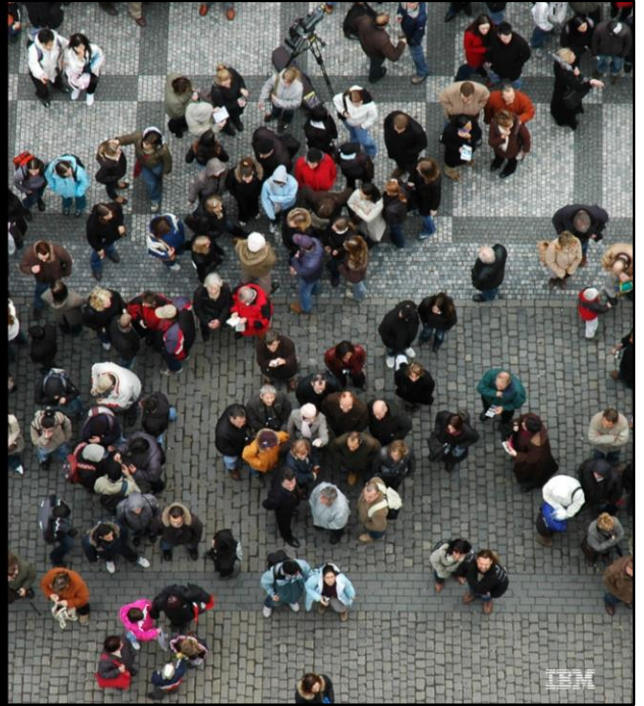
Vladimír Vágner

April 10<sup>th</sup>, 2018

IBM Services



# IT Service Management - ITIL



IBM

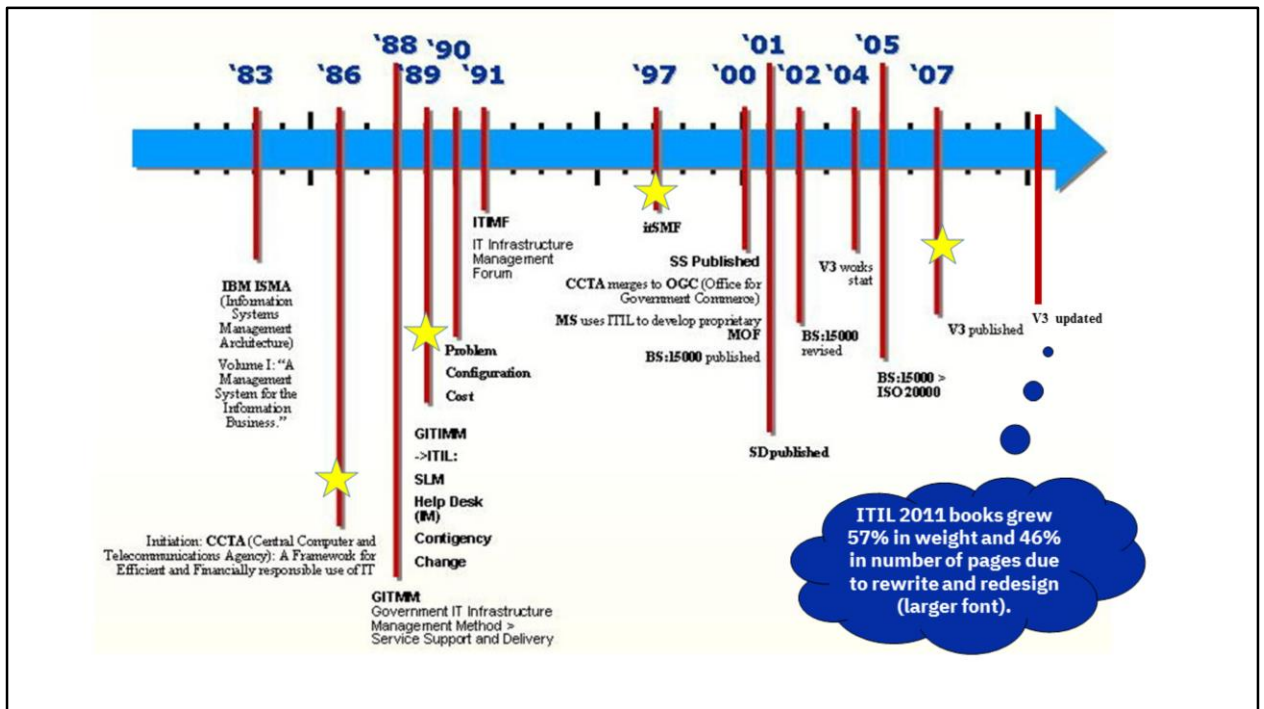
© 2016 IBM Corporation 11 April 2016 IBM Services

# Information Technology Infrastructure Library

IT Service Management ~ ITSM covers IT services, processes, technology and staffing and personnel practices that contribute to the management infrastructure

ITIL® represents the best practices in IT Service Management

- ✓ Becoming international standard
- ✓ Adopt & Adapt to organization's business needs
- ✓ The Client's business enablement is the main focus – not the technology
- ✓ Provides common language for both business and IT to operate from
- ✓ Makes processes consistent



**1972:** IBM starts research on quality service delivery called Information Systems Management Architecture (**ISMA**).

**1980:** IBM publishes Volume I of the IBM Management series titled "**A management System for the Information Business**", first public edition of ISMA.

**1986:** CCTA authorizes a program to develop a common set of operational guidance with the objective of increasing efficiencies in Government IT.

**1988:** "Government Infrastructure Management Method (**GITMM**)", is formalized and issued as 'guidelines' for Government IT operations in the UK focused on Service Level Management. Same year, the development team was expanded and work continued on Cost, Capacity, and Availability.

**1989:** GITMM title is inadequate. It is not a method, (last M), and it should lose its G letter in order to be marketable out of government. Renamed to **ITIL**.

**1989:** First 'ITIL' book published, **Service Level Management**, then **Help**

**Desk** (incorporating the concepts of Incident Management), **Contingency Planning**, and **Change Management**. Books had 50-70 pages.

**1990: Problem Management, Configuration Management and Cost Management for IT Services** published.

**1991:** Published - **Software Control & Distribution**, on 89 pages.

**1992: Availability Management**, 69 pages.

**1996:** (July) First ITIL Service Manager class delivered in US by US company, ITSMI, 16 attended, 10 candidates, nine passes, one distinction, first US company authorized as an ITIL accredited course provider - ITSMI.

**1997:** Customer focused update to the Service Level Management book, 106 pages.

**1997:** ITIMF legally becomes what we know today as the IT Service Management Forum (**itSMF** UK).

**2000: Service Support V2** published, 306 pages.

**2001: Service Delivery V2** published, 376 pages.

**2001:** CCTA became a part of the Office of Government Commerce (**OGC**)

**2002: Application Management**, 158 pages, **Planning to Implement IT Service Management**, 208 pages and **ICT Infrastructure Management**, 283 pages, published.

**2003: Software Asset Management**, 146 pages, published.

**2004: Business Perspective: The IS View on Delivering Services to the Business**, published, 180 pages.

**2006:** (June) **ITIL Glossary V2** published

**2006:** (June) APM Group Limited announced as preferred bidder of ITIL accreditation & certification program, over the itSMF International (expectant winner)

**2007:** (May) **ITIL V3** five core books published.

**2011:** (July) **ITIL 2011** update published.

Let's analyse this timeline a bit:

ITIL V1 was rather similar to IBM's ISMA, especially in support/delivery



domain. Core ITIL V2 books did not differ much from ITIL V1. Only a few processes were altered slightly, but the focus and perspective was pretty much unchanged. And this process lasted for some 20 years.

ITIL V3 approximately doubled the scope, almost tripled the number of processes and functions and introduced a few new dimensions and perspectives. We have the first set of core books now, but a lot of time will be needed to develop all the complementary books, to groom and mature the training materials and to polish best implementation practices.

ITIL 2011 books grew 57% in weight and 46% in number of pages due to rewrite and redesign (larger font).

It all started under Margaret Thatcher, the prime minister of United Kingdom during the eighties. The cost of IT in the government agencies was not in control with disparate processes ruling the roost.

Central Computer and Telecoms Agency (CCTA) was commissioned to bring down the cost and streamline processes across agencies. It took CCTA 4 years and 8 billion pounds to come up with a set of best practices, it was called Government Information Technology Infrastructure Management Method (GITIMM), conceptually similar to ITIL®. Consultants who were taken on board this project visited a number of private institutions (including IBM) to understand their processes, and how they performed their IT related activities. The processes and activities were passed through a sieve, and the best sets of processes were retained to give birth to ITIL®. GITIMM, throughout the eighties and early nineties evolved to become ITIL® v1 which consisted of over 30 books.

In 2000, the United Kingdom's Office of Government Commerce (OGC) took over CCTA, and a year later ITIL® v2 was released. V2 sub divided ITIL® as service support and service delivery. Maintenance of services came under *service support* while putting up a new service or modifying it came under *service delivery*. This version consisted of 8 volumes.

The subsequent version - ITIL® v3 was published in May 2007, and it provides a holistic view of services. It covers the entire lifecycle of a service – from the nascent stages of strategies through design, transition to live environment and support when services are active.

A major difference between v3 and its predecessors is the inclusion of a continuous improvement phase in the former. This phases stresses on the need for continuous improvement throughout the lifecycle of a service – which makes ITIL® much stronger than what it was envisioned to be.

ITIL® v3 further reduced the number of books to 5, called as the core volumes. Sometime last year, there were talks of ITIL® v4, but it turned out to be hoax in the end.

Apart from the ISO/IEC 20000 standard, ITIL is also complementary to many other standards, frameworks and approaches. No one of these items will provide everything that an enterprise will wish to use in developing and managing their business. The secret is to draw on them for their insight and guidance as appropriate. Among the many such complementary approaches are:

**Balanced scorecard:** A management tool developed by Dr Robert Kaplan and Dr David Norton. A balanced scorecard enables a strategy to be broken down into key performance indicators (KPIs). Performance against the KPIs is used to demonstrate how well the strategy is being achieved. A balanced scorecard has four major areas, each of which are considered at different levels of detail throughout the organisation.

**COBIT:** Control Objectives for Information and related Technology provides guidance and best practice for the management of IT processes. COBIT is published by the IT Governance Institute.

**CMMI-SVC:** Capability Maturity Model Integration is a process improvement approach that gives organisations the essential elements for effective process improvement. CMMI-SVC is a variant aimed at service establishment, management and delivery.

**EFQM:** The European Foundation for Quality Management is a framework for organisational management systems.

**eSCM-SP:** eSourcing Capability Model for Service Providers is a framework to help IT service providers develop their IT service management capabilities from a service sourcing perspective.

**ISO 9000:** A generic quality management standard, with which ISO/IEC 20000 is aligned.

**ISO/IEC 19770:** Software Asset Management standard, which is aligned with ISO/IEC 20000.

**ISO/IEC 27001:** ISO Specification for Information Security Management. The corresponding code of practice is ISO/IEC 17799.

**Lean:** a production practice centred around creating more value with less work.

**PRINCE2:** The standard UK government methodology for project management.

**SOX:** the Sarbanes-Oxley framework for corporate governance.

**Six Sigma:** a business management strategy, initially implemented by Motorola, which today enjoys widespread application in many sectors of industry.

## Think of the service management as customer service for IT people

**ITIL – set of publications that provide specific guidance to industry sectors or types and source of best practice for service management**

The benefits of best practice guidance are that it:

- *Can be adopted and adapted:* You can adopt the ITIL processes and practices and adapt them to suit your organization.
- *Improves efficiency:* You can improve efficiencies in your organization.
- *Satisfies customers:* You can increase your organization's ability to provide services that meet the needs of your customers.
- *Is scalable:* One size fits all. It doesn't matter if you have three people in the IT department or 3000, ITIL is just as applicable.



## The general four main elements

---

- **The service lifecycle:** The life of an IT service from inception through a development project and introduction into day-to-day use
- **Processes:** Sets of ways of doing things
- **Functions:** Organizational departments – the source of the people who do the stuff needed to manage IT services
- **Roles:** Sets of responsibilities allocated to people or departments

## Who Provides the IT Services

Type I – internal service provider: An internal IT organization or department that serves one business unit.

Type II – shared services unit: A single internal IT organization or department that serves many business units.

Type III – external service provider: An organization that provides services to external customers. A commercial business.

## ITSM Stakeholders

A stakeholder is someone who has an interest in, or is affected by, whatever you're doing.

## User vs. Customer

The user is a person who uses the IT service on a day-to-day basis

The customer of an IT service provider is the person or group who defines and agrees the service level targets.

## Value = Utility + Warranty

Utility is the functionality offered by a product or service to meet a particular need. Utility is often summarized as 'what it does'.

A service that provides the correct utility is said to be *fit for purpose*.

ITIL defines warranty as 'the assurance that a product or service will meet agreed requirements'. Warranty is often summarized as 'how it does it'.

A service that provides the correct warranty is said to be *fit for use*.

Warranty has four main aspects:

Availability

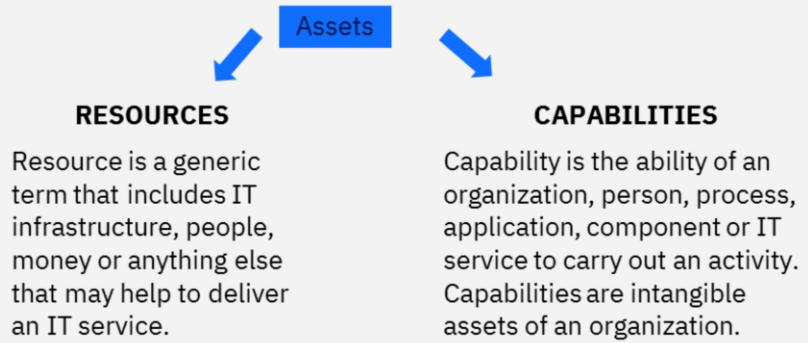
Continuity

Capacity

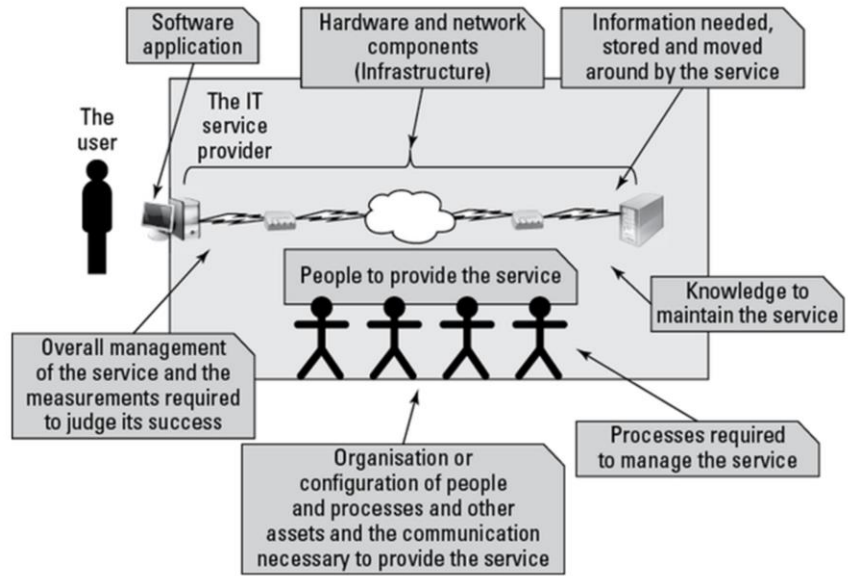
Security

# IT ASSETS

ITIL defines an asset as any resource or capability. The assets of a service provider include anything that may contribute to the delivery of a service. Assets can be management, organization, process, knowledge, people, information, applications, infrastructure, and financial capital.



# IT SERVICE and its Assets



## Process, Function and Role – the organizational aspects of ITIL

### PROCESS

is a structured set of activities designed to accomplish a specific objective.

The **procedure** to tell staff how to perform each activity

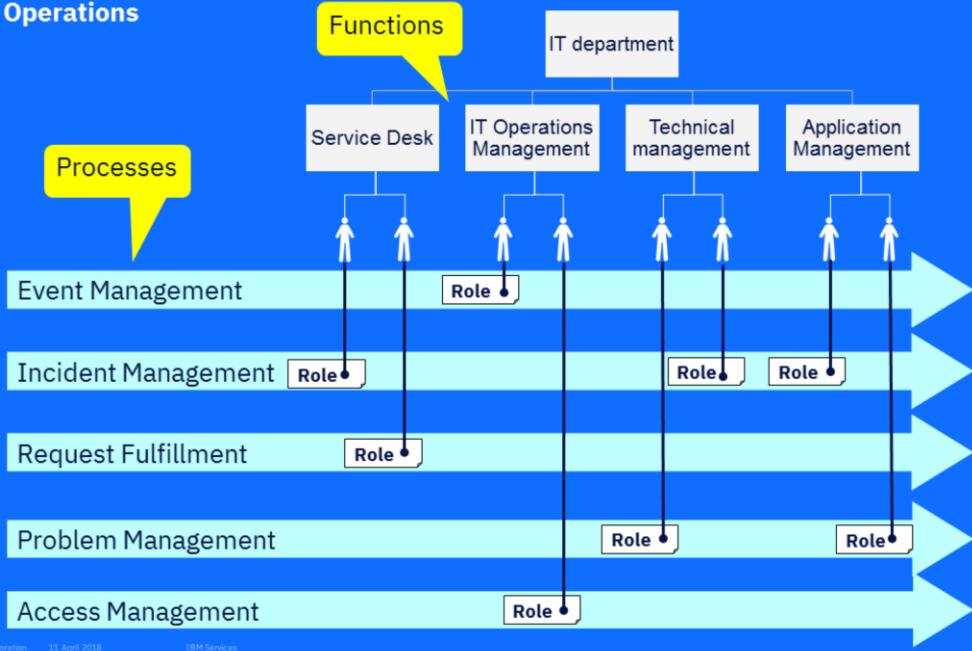
### FUNCTION

is a team or group of people and the tools they use to carry out one or more processes or activities

A **role** is a set of responsibilities, activities and authorities granted to a person or team. A role is defined in a process.



# Service Operations



# Key generic ITIL roles

Accountable for ensuring that process is fit for purpose

• The Service Owner

Accountable for the delivery of the service

• The Process Owner

• The Process Manager

Makes sure that the process is being executed appropriately

Carries out one or more process activities

• The Process Practitioner

In addition to these generic roles every process will have specific and unique roles.

13

© 2010 IBM Corporation 11 April 2010

ITIL Services

IBM

## The service owner

The service owner owns a service. The service owner is usually someone in the IT provider organisation, and the role provides a point of contact for a given service. The service owner doesn't necessarily know everything about the service, but he does know a man (or woman) who does. Here are some responsibilities of the service owner role:

- Participates in internal service review meetings
- Represents the service across the organization
- Represents the service in change advisory board meetings
- Is responsible for continual improvement of the service and management of change in the service
- Understands the service and its components

## The process owner

A process owner owns a process. This role is accountable for the process. For example, if the incident management process doesn't achieve its aim of restoring the service to the user, the process owner gets shouted at (hopefully not literally). The process owner is accountable for the process and is responsible for identifying improvements to ensure that the process continues to be effective and efficient. Here are a few responsibilities of the role:

- Ensuring that the process is performed in accordance with the agreed and documented process
- Documenting and publicising the process
- Defining and reviewing the measurement of the process using metrics such as key performance indicators (KPIs)

Every SM process adopted should have a defined process owner.

#### The process manager

A process owner (see the previous section) is accountable for the process, but may not get involved in the day-to-day management of the process. This is a separate role often allocated to a different person: the process manager. A process manager is responsible for operational management of a process. The process manager's responsibilities include planning and coordination of all activities required to carry out, monitor and report on the process.

Every service management process should have a defined process manager – though this may, of course, be the same person as the process owner.

#### The process practitioner

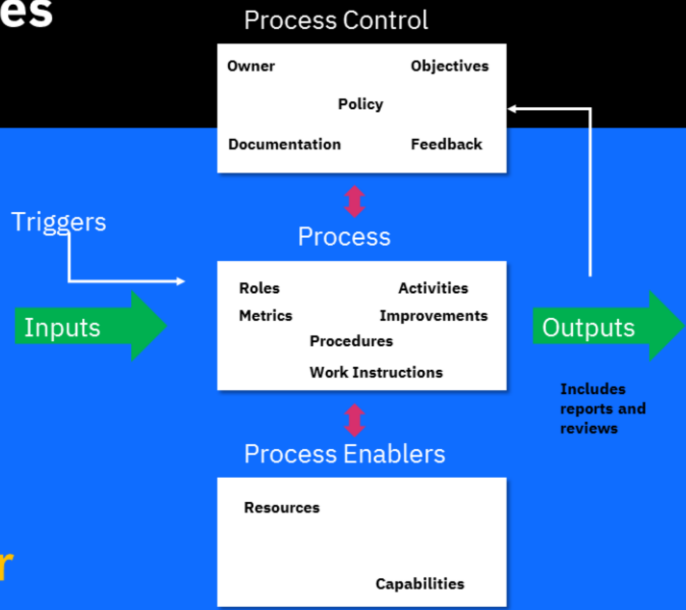
The process practitioner is the role that carries out one or many of the process activities. Basically, these people are the ones who do the work. However, it's important that they have a clear list of responsibilities related to the process that they get involved in.

# Generic Process Roles

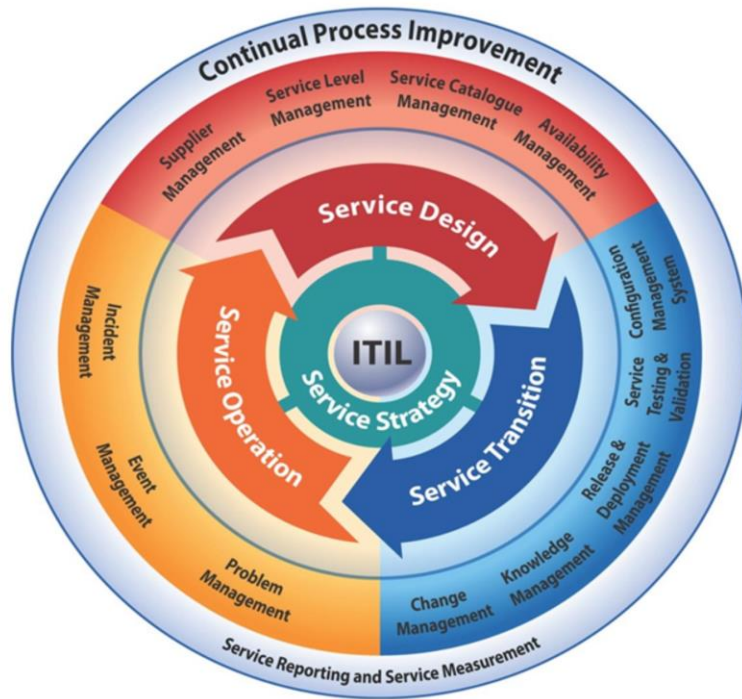
Process Owner

Process manager

Process practitioner



# ITIL v3 (2011 Edition) Lifecycle approach



## Service Strategy

Setting the strategic direction of the IT Services.

- **Business relationship management:** Building a relationship between the service provider and the customers, identifying their needs and ensuring that the provider is able to meet these needs as they change over time and in different circumstances.
- **Service portfolio management:** Managing a provider's set of services throughout the lifecycle and approving business cases for investment in IT services.
- **Financial management for IT services:** Managing budgeting, accounting and charging for IT services, and identifying the cost of providing the IT services.
- **Demand management :** Understanding the patterns of business activity and how these relate to the use of the IT services.
- **Strategy management for IT services:** Identifying, developing and managing a strategy for how a service provider will enable an organization to achieve its business outcomes by providing and managing services that are matched to these outcomes.



## Service Design

The main purpose of the service design stage of the lifecycle is the design of the new or changed services for introduction into the live environment.

- **Design coordination:** Ensuring that the goals and objectives of the service design stage are met, by providing a single point of coordination and control
- **Service level management:** Ensuring that a defined level of service is agreed and delivered
- **Service catalogue management:** Ensuring that a service catalogue exists and is a reliable source of information about live services
- **Supplier management :** Managing third party suppliers and the products and services they supply
- **Availability management :** Managing the availability of services to ensure they are offered to users as agreed
- **Capacity management :** Managing service capacity to ensure it is sufficient, and performance of the services to ensure they work fast enough
- **IT Service continuity management :** Managing the recovery of the services when affected by a disaster or an event with a large impact on the business
- **Information security management :** Ensuring that the integrity of the information and data that is contained in and used by the IT service is maintained at the appropriate level to meet the business needs

## Service Transition

...plans and manages changes to services and deploy releases (install software, hardware and related components and documentation) into the live environment successfully..

- **Transition planning and support** : Providing coordination of all service transition activities
- **Change management** : Managing and controlling changes from request through to closure
- **Service asset and configuration management** : Maintaining a source of information about the services, their component parts, and the other assets required to deliver the services, and the relationships between them
- **Release and deployment management** : Managing the physical introduction of new or changed services and associated equipment into the live environment
- **Knowledge management** : Carrying out a lifecycle-wide process in which you improve the quality of management decision-making by ensuring that the right information and data are available throughout the service lifecycle
- **Change evaluation** : Ensuring that an independent view of any unexpected effects of a change has been evaluated, and that the customer's expectations are met
- **Service validation and testing** : Ensuring that components and services are tested and will provide the value in terms of utility and warranty that has been agreed with the business

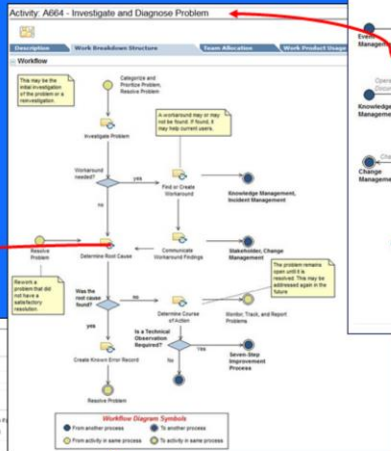
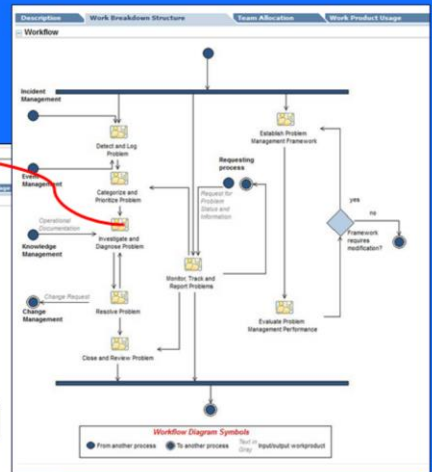
## Service Operations

... coordinates and carries out the activities and processes required to deliver the services to business users and customers and manage them at agreed levels. Service operation also covers the ongoing management of the technology used to deliver and support services.

- **Event management** : Identifying electronic notifications that come from IT equipment and using them to ensure that the services are operating normally, and responding appropriately if services are behaving abnormally
- **Incident management** : Managing interruptions to or reductions in the quality of the services and ensuring that the service is restored within agreed timescales
- **Request fulfillment** : Managing requests that come from users; these may be simple questions about how to use an application, or requests for new equipment or software
- **Problem management** : Investigating and identifying the cause of incidents when considered necessary, and recommending permanent solutions
- **Access management** : Making sure that users have usernames and passwords for the services that they are allowed to use

SO Functions are shown on slide 12

# ITIL Process WBS (example)



**Task: Determine Root Cause**

**Relationships**

Starts	Problem analysis	Problem
Applies to	Problem	General
Outputs	Problem	Final

**Main Description**

Apply the appropriate techniques and analysis methodologies to determine the root cause of the error and identify what would be needed to resolve the error. Include solution options if it may be that the root cause of the problem cannot be identified or cannot be identified within an allotted time period in such cases, root cause determination should be discontinued.

**Properties**

Functionality	Communicate Interim Findings
Active Components	
Event-driven	
Triggered	
Optional	
Planned	
Repeatable	

# Continual Service Improvement

... to continually align and realign IT services to changing business needs, by identifying and implementing improvements to IT services that support the business processes.

## The activities of CSI primarily:

- Identifies or helps others identify opportunities for improvement.
- Prioritizes improvement activities.
- Sets up and runs (or helps others set up and run) improvement projects.

## THE CONTINUOUS VS. CONTINUAL!!!

21

© 2018 IBM Corporation 11 April 2018

IBM Services



Continual - of regular or frequent recurrence; often repeated; very frequent  
Continuous - uninterrupted in time; without cessation:

Although usage guides generally advise that continual may be used only to mean “intermittent” and continuous only to mean “uninterrupted,” the words are used interchangeably in all kinds of speech and writing with no distinction in meaning: The president's life is under continual (or continuous) scrutiny. Continuous (or continual) bursts of laughter punctuated her testimony. The adverbs continually and continuously are also used interchangeably. To make a clear distinction between what occurs at short intervals and what proceeds without interruption, writers sometimes use the contrasting terms intermittent (intermittent losses of power during the storm) and uninterrupted (uninterrupted reception during the storm) or similar expressions. Continuous is not interchangeable with continual in the sense of spatial relationship: a continuous (not continual) series of p

### CONTINUAL CONTINUO (CON INTERRUPCIONES)

Continual indicates duration that continues over a long period of time, but with intervals of interruption. Here are some examples:

- ☒ The **continual** street repair disrupted traffic for nearly two years.
- ☒ I've had **continual** problems with this car ever since I bought it.

- ☒ I'm sorry - I can't work with these **continual** interruptions.
- ☒ In the end, it was the **continual** drinking that destroyed him.

### **CONTINUOUS CONTINUO (SIN INTERRUPCIONES)**

Continuous indicates duration without interruption. Here are some examples:

- ☒ The **continuous** humming of the fluorescent lights gave him a headache.
- ☒ My computer makes a **continuous** low buzzing noise.
- ☒ A **continuous** white line (= line without spaces) in the middle of the road means no overtaking.
- ☒ The tape ran in a **continuous** loop, repeating the same songs over and over.assages.



## 7-STEP IMPROVEMENT PROCESS

*What can't be defined  
can't be measured.*

*What can't be measured  
can't be controlled.*

*What can't be controlled  
can't be managed.*



# Why is ITIL important?

- Reduced disruption to IT Services
- Greater control of IT infrastructure & changes to it
- Lower IT cost – centralized & standardized services
- Connects the IT infrastructure to the business it supports so that IT investment is focused on the highest priority business needs
- Single point of contact for end-users for incidents, service requests, and information – reduces multiple help desks
- Vendor-neutral language to describe IT service management – helps to manage IT support across multiple suppliers
- End-to-end integration of IT management processes
- Supports business controls compliance

**RESULTS IN BETTER QUALITY, LOWER TCO, IT ALIGNMENT TO BUSINESS, AND EASIER SOURCING**

**WHETHER SERVICES ARE BEING PROVIDED BY AN INTERNAL UNIT OF THE ORGANIZATION OR CONTRACTED TO AN EXTERNAL AGENCY, ALL SERVICES SHOULD BE DRIVEN SOLELY BY BUSINESS NEEDS AND JUDGED BY THE VALUE THAT THEY PROVIDE TO THE ORGANIZATION.**

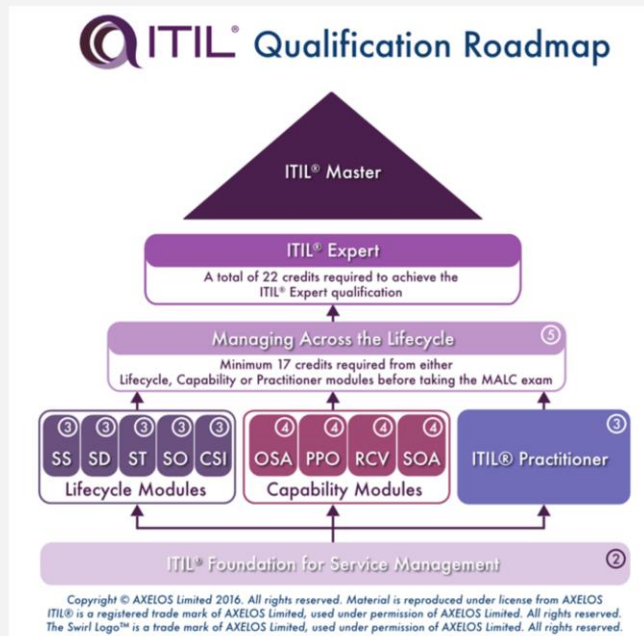
The term 'best practice' generally refers to the 'best possible way of doing something'. As a concept, it was first raised as long ago as 1919, but it was popularized in the 1980s through Tom Peters' books on business management. The idea behind best practice is that one creates a specification for what is accepted by a wide community as being the best approach for any given situation. Then, one can compare actual job performance against these best practices and determine whether the job performance was lacking in quality somehow. Alternatively, the specification for best practices may need updating to include lessons learned from the job performance being graded. Enterprises should not be trying to 'implement' any specific best practice, but adapting and adopting it to suit their specific requirements. In doing this, they may also draw upon other sources of good practice, such as public standards and frameworks, or the proprietary knowledge of individuals and other enterprises.

## Common Misconceptions about ITIL

- Treating ITIL as training only
- Misinterpreting ITIL as the “dogma”
- Thinking ITIL is for the service desk and support staff only
- Believing that processes introduce unnecessary bureaucracy
- Assuming that ITIL uses a lot of time, staff and money

ITIL as the “dogma” – meaning process for process implementation only instead of process supporting business

## ITIL Qualification System



The ITIL certification scheme provides a modular approach to the ITIL framework, and is comprised of a series of qualifications focused on different aspects of ITIL best practice to various degrees of depth and detail.

The tiered structure of the qualification offers candidates flexibility relating to the different disciplines and areas of ITIL and the ability to focus their studies on key areas of interest.

There are five certification levels within the scheme:

### **Foundation**

The ITIL Foundation level is the entry level certification which offers you a general awareness of the key elements, concepts and terminology used in the ITIL service lifecycle, including the links between lifecycle stages, the processes used and their contribution to service management practices.

### **Practitioner**

The ITIL Practitioner level is the next stage in the ITIL scheme. It has been developed to provide a step between Foundation and the Intermediate Level and aims to improve the ability of individuals to adopt and adapt ITIL in their organizations.

### **Intermediate**

The ITIL Intermediate level certification has a modular structure with each module providing a different focus on IT Service Management. You can take as few or as many Intermediate qualifications as you need. The Intermediate modules go into

more detail than the Foundation level and Practitioner, and provide an industry-recognized qualification.

**Expert**

The ITIL Expert level qualification is aimed at those who are interested in demonstrating knowledge of the ITIL Scheme in its entirety. The certificate is awarded to candidates who have achieved a range of ITIL certifications and have attained a well rounded, superior knowledge and skills base in ITIL Best Practices.

**Master**

To achieve the ITIL Master certification, you must be able to explain and justify how you have personally selected and applied a range of knowledge, principles, methods and techniques from ITIL and supporting management techniques, to achieve desired business outcomes in one or more practical assignments.





KEY CAPABILITIES

KEY BENEFITS

SUPPORT BUSINESS OUTCOMES



ENABLE BUSINESS CHANGE



MANAGE RISK IN LINE WITH BUSINESS NEEDS



OPTIMIZE CUSTOMER EXPERIENCE



SHOW VALUE FOR MONEY



CONTINUALLY IMPROVE



WHAT YOU CAN LEARN

WHAT YOU CAN ACHIEVE

IT  
Ke  
capab

# ITIL - Key benefits

**ITIL**

SUPPORT BUSINESS OUTCOMES    ENABLE BUSINESS CHANGE    MANAGE RISK IN LINE WITH BUSINESS NEEDS    OPTIMIZE CUSTOMER EXPERIENCE    SHOW VALUE FOR MONEY    CONTINUALLY IMPROVE

THE ITEMS BELOW ARE ALIGNED TO ALL 6 ITIL KEY CAPABILITIES, WITH THE MOST DIRECT CONNECTIONS UNDERLINED.

KEY CAPABILITIES		KEY BENEFITS
Manage business risk for your services	Minimize service disruption	Quantify and clearly demonstrate the true value of the services you provide
Benchmark services and maximize return on investment	Obtain value for money from your service providers	Support the marketing and consumption of your services
Ensure the quality of services matches customer needs and expectations	Ensure your customers can use the services when and where needed	Ensure the business and your customers are not affected by unexpected service failures
Forecast, respond to and influence the demand for your services in a cost effective way	Support business change at the speed your customer needs while ensuring stable and low-risk environment	Build and maintain positive business relationships with customers and improve customer satisfaction

WHAT YOU CAN LEARN

WHAT YOU CAN ACHIEVE

Want to know more about ITIL?

**PV214 IT Service Management based on ITIL  
(autumn course)**

What shall we  
talk about  
next?

**April 17<sup>th</sup> – visit to IBM CIC**  
**April 24<sup>th</sup> – ITSM in practice**  
**(tools, roles, processes etc.)**

IBM Services

