**Information Technology Infrastructure Library (ITIL) Guide**

**Category:** [Corporate Management](http://www.itinfo.am/eng/corporate-management/)

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**Introduction**

IT Infrastructure Library (ITIL) provides a framework of Best Practice guidance for IT Service Management and since its creation, ITIL has grown to become the most widely accepted approach to IT Service Management in the world.

This compact guide has been designed as an introductory overview for anyone who has an interest in or a need to understand more about the objectives, content and coverage of ITIL. Whilst this guide provides an overview, full details can be found in the actual ITIL publications themselves.

This guide describes the key principles of IT Service Management and provides a high-level overview of each of the core publications within ITIL.

**What is an ITIL?**

ITIL is a public framework that describes Best Practice in IT service management .It provides a framework for the governance of IT, the ‘service wrap’, and focuses on the continual measurement and improvement of the quality of IT service delivered, from both a business and a customer perspective. This focus is a major factor in ITIL’s worldwide success and has contributed to its prolific usage and to the key benefits obtained by those organizations deploying the techniques and processes throughout their organizations.

Some of these benefits include:

* increased user and customer satisfaction with IT services
* improved service availability, directly leading to increased business profits and revenue
* financial savings from reduced rework, lost time, improved resource management and usage
* improved time to market for new products and services
* Improved decision making and optimized risk.

It was originally developed in the late 1980s by Britain’s Central Computer and Telecommunications Agency (CCTA), now known as the Office of Government Commerce (OGC).

Rather than a rigid set of rules, ITIL provides a framework that companies can adapt to meet their own needs. Organizations need not implement every process, just those that make sense and fit into the way the organization wants to do business in the future. Some processes may be abandoned later when post-implementation reviews show limited value, while others may be implemented as gaps are uncovered or needs change.

ITIL breaks down IT functions into discrete, full-function components that span the enterprise, called services. These services have been designed in a building block manner so they can be provisioned easily either internally or through the use of an external service provider. In each case, best practices for the delivery of the service are identified and they are addressed at three different levels:

* **Strategic** - Long term goals of the particular service and high level activities needed to accomplish them.
* **Tactical** - Specific processes that guide the tasks and activities needed to perform and provision the service.
* **Operational** - Actual execution of the processes to provide the service to the customer and end users. Successful completion of the Operational tasks means that Strategic goals are accomplished within the expected time frames.

**ITIL Versions**

ITIL was published between 1989 and 1995 by Her Majesty’s Stationery Office (HMSO) in the UK on behalf of the Central Communications and Telecommunications Agency (CCTA) – now subsumed within the Office of Government Commerce (OGC). Its early use was principally confined to the UK and Netherlands. A second version of ITIL was published as a set of revised books between 2000 and 2004.

The initial version of ITIL consisted of a library of 31 associated books covering all aspects of IT service provision. This initial version was then revised and replaced by seven, more closely connected and consistent books (ITIL V2) consolidated within an overall framework. This second version became universally accepted and is now used in many countries by thousands of organizations as the basis for effective IT service provision. In 2007, ITIL V2 was superseded by an enhanced and consolidated third version of ITIL, consisting of five core books covering the service lifecycle, together with the Official Introduction.

**ITIL Version 2**

ITIL Version 2 consists of the following ten titles:

1. Introduction to ITIL

2. Service Support

3. Service Delivery

4. Planning to Implement Service Management

5. Security Management

6. Business Perspective

7. ICT Infrastructure Management

8. Application Management

9. Software Asset Management

10. Small-Scale Implementation

**ITIL Version 3**

ITIL Version 3 Portfolio includes:

* The OGC required products. These are the OGC Core Reference material and a range of OGC derived products. All products that are OGC-required are "Crown copyright - value-added".
* Complementary material from the Official Publisher, Official Accreditor and web based complementary products.

**Core Reference Material**

* Service Strategy
* Service Design
* Service Transition
* Service Operation
* Continual Service Improvement
* ITIL Lifecycle Publication Suite

**OGC Derived Products**

* The Introduction to ITIL Service Lifecycle
* Passing Your ITIL Foundation Exam - The ITIL Foundation Study Aid (2nd Edition)
* Passing Your ITIL Intermediate Exams - Study Aid from the Official Publisher of ITIL
* Key Element Guides

**Complementary Products**

* ITIL V3 Foundation Handbook – Pocketbook from the Official Publisher of ITIL
* ITIL V3 Guide to Software Asset Management
* ITIL V3 Small-Scale Implementation
* ITIL Lite: A Road Map to Implementing Partial or Full ITIL
* Agile Project and Service Management - Delivering IT Services using PRINCE2, ITIL and DSDM Atern
* Building an ITIL based Service Management Department
* Release, Control and Validation ITIL V3 Intermediate Capability Handbook
* Operational Support and Analysis ITIL V3 Intermediate Capability Handbook

**The Structure of ITIL Version 2**

ITIL version 2 is delineated in a set of seven volumes. An eighth describes how to implement ITIL. Each of these volumes is described in more depth below. Version 2 focuses on aligning business units with the IT organization using technology-oriented processes.

As mentioned above, the current iteration of ITIL breaks down IT services into seven components.

These are:

|  |  |
| --- | --- |
| 1. Business Perspective 2. Service Delivery 3. Service Support 4. Application Management  5. Security 6. ICT Infrastructure Management  7. Software Asset Management | IT services seven components |

**4.1. Business Perspective**

IT’s activities have value only to the degree they support the organization’s business goals. This area covers the interaction between Business and IT and how business requirements are gathered and translated into IT resource requirements. Business Perspective owns the processes that ensure all work performed by IT has been reviewed, approved by management and prioritized. The major disciplines in this area are:

|  |  |
| --- | --- |
| 1. Business Relationship Management  2. Supplier Relationship Management  3. Liaison, Education and Communication 4. Planning, Review and Development | Business Perspective |

**4.2. Service Delivery**

Service Delivery breaks down into the following major sub disciplines:

|  |  |
| --- | --- |
| 1. Service Level Management  2. Financial Management for IT Services  3. Capacity Management  4. IT Service Continuity Management  5. Availability Management | Service Delivery |

**Service Level Management**

Perhaps the most important set of processes in ITIL, Service Level Management (SLM) processes establish clear service delivery standards, providing the means to objectively measure how well IT is meeting business requirements. The major components of SLM are the Service Catalogue, Service Level Agreements (SLAs) and Operational Level Agreements (OLAs). The foundation of SLM is the Service Catalogue, which defines each service provided by the IT organization, including the deliverables, the details of each service provided, and how service delivery performance is measured. The Catalog services form the basis for generating the SLAs and OLAs, and provide the foundation for building the infrastructure services .

**Capacity Management**

Once an organization has defined the services it needs, it can then begin calculating exact items it needs to achieve those service levels. This leads into the next area: Capacity Management .Together with the business units, finance, and service support, the capacity planners build the annual infrastructure growth plan. Capacity planning gets involved very early in the application life cycle to assist in determining the implementation and ongoing support costs of applications or releases. Activities in this area are proactive rather than reactive. The discipline is further broken down into three areas following the Strategic/Tactical/Operational model:

**Strategic  
Business Capacity Management** - Looks at understanding future business requirements and growth, and how they impact SLAs and infrastructure resources.

**Tactical  
Service Capacity Management** - Looks at applications and the business processes they support from an enterprise perspective, examining resource consumption patterns and cycles to ensure services can meet SLAs.

**Operational  
Resource Capacity Management** - Looks at resources from an individual infrastructure component perspective.

**Financial Management for IT Services**

These processes are directed toward the financial aspects of running the business of IT .This includes:

* **Budgeting** - Short- and long-term planning of the expenditures needed to maintain and improve services that align with business plans.
* **IT Accounting** - Cost analyses of future projects, gaining approval of expenditures and staying on budget.
* **Chargeback** - Recovering costs from Customers for services provided.

**Availability Management**

This area reviews business requirements for availability of business systems, catalogues them and ensures proper contingency plans are in place and tested on a regular basis to ensure business services are restored as quickly as needed in the event of an IT infrastructure component failure. It includes establishing high-availability, redundant systems to support mission critical applications, but not overspending on less-critical systems.

**IT Service Continuity Management**

IT Service Continuity Management is concerned with managing an organisation’s ability to continue to provide a pre-determined and agreed level of IT Services to support the minimum business requirements following an interruption to the business.

**4.3. Service Support**

Another major discipline in Service Management is supporting those services that were established by the Service Delivery crew. This includes:

|  |  |
| --- | --- |
| 1. Incident Management  2. Problem Management  3. Change Management  4. Configuration Management  5. Release Management  6. Service Desk | Service Support |

**Incident Management**

This set of processes address the identification of service anomalies and restoration of application or systems functions as quickly as possible to mitigate the impact to the business and bring the services back up to the levels outlined in the SLAs and OLAs. These real-time processes are strictly focused on restoration of services, not cause and effect so should not be confused with Problem Management .

**Problem Management**

While the Help Desk service relates to the interaction between users and IT ,these processes describe what the IT staff does in resolving the problems. It includes the recording, management and escalation of service problems, as well as preventing future problems by analyzing historical data to identify and eliminate the underlying causes. Problem Management is an after-the-fact set of processes and should not be confused with IncidentManagement .

**Change Management**

Following these practices avoids future problems by ensuring that no changes are made without proper testing, risk assessment and scheduling.

**Configuration Management**

These processes are concerned with the recording and management of all operational data relating to the setup and operating parameters of individual IT infrastructure components.

**Release Management**

The close cousins of Change Management ,Release Management processes govern large-scale projects such as installing the latest Windows version or a new enterprise application.

**Help Desk or Service Desk**

These best practices guide those on the front lines of IT, acting as the liaison between IT and the business units or end users. They are responsible for logging problem reports or service requests, forwarding them to responsible services ,tracking progress, reporting status to requesters and management escalation if necessary, and closing requests when the work has been completed.

**4.4. Application Management**

The fourth ITIL service describes an approach to the Software Development Lifecycle. It covers creating the application specifications; designing the application; writing and testing the code; deploying the application; routine operation of the application; and, finally, reviewing the application once it is in operation to determine ways to improve its efficiency and cut costs.

|  |  |
| --- | --- |
| 1. Requirements 2. Design 3. Build 4. Deploy 5. Operate 6. Optimize | Application Management |

**4.5. Software Asset Management**

This service overlaps Application Management and most of the other services in the ITIL. Software is a major asset for a company when looking at its cost, and an even greater one when looking at its ability to forward business objectives. But, when outdated, misconfigured or unpatched, it can also be a huge liability. This service covers processes to maximize software as an asset while minimizing its risks.

**4.6. Security**

Security has become a key concern of everyone in the IT field and there are many organizations and consultants offering their opinions on best practices in this arena. What sets ITIL’s Security processes apart from others is that it is part of an overall management scheme covering the IT enterprise, rather than a set of isolated practices. This makes it easier for security experts to interface with others in the IT area. ITIL Security practices outline a continuous improvement process to identify risks to information and the processing infrastructure, establish security processes and procedures to mitigate them, communicate them to the affected areas in the organization, train people how to use them, monitor them, report anomalies for enforcement/corrective activities and review existing policies and procedures for improvement.

|  |  |
| --- | --- |
| 1. Policy 2. Risk Analysis 3. Planning and Implementation 4. Operation 5. Evaluation and Audit | Security |

**4.7. ICT Infrastructure Management (ICTIM)**

The final set of processes, ICT Infrastructure Management ,lies at the opposite end of the spectrum from Business Perspective. It forms the bridge between Service Management and Technology. The goal of this area is to use proven, repeatable processes to provide a stable operating environment for all IT functions. The four areas that make up this service are:

**Design and Planning**

This process guides the development of technology plans including the frameworks and technologies to be employed in delivering IT services, including specifying a centralized Enterprise Architecture.

**Deployment**

While Service Support handles the deployment of application upgrades, ICTIM covers the rollout of technological changes such as a new wireless network or a Storage Area Network (SAN).

**Operations**

This set of processes covers normal day-to-day computer operations such as job scheduling, backup and recovery, network and systems management ,and hardware maintenance.

**Technical Support**

These processes cover the actions of the highly trained technology specialists who provide technical assistance and problem resolution to other IT service areas.

**The Structure of ITIL Version 3**

Version 3 of ITIL was released in spring of 2007 and differs from Version 2 in it approach. Where Version 2 focuses on aligning business units with the IT organization using technology-oriented processes, Version 3 has a much stronger business focus and promotes IT integration into the business units.

As mentioned above, the ITIL Version 3 represents an important evolutionary step in ITIL's life with five core components.

These are:

|  |  |
| --- | --- |
| 1. Service Strategy 2. Service Design 3. Service Transition 4. Service Operation 5. Continual Service Improvement | The Structure of ITIL Version 3 |

**5.1. Service Strategy**

At the core of the Service Lifecycle is Service Strategy.

Service Strategy provides guidance on how to view service management not only as an organizational capability but as a strategic asset. Guidance is provided on the principles underpinning the practice of service management which are useful for developing service management policies, guidelines and processes across the ITIL Service Lifecycle.

Topics covered in Service Strategy include the development of service markets, characteristics of internal and external provider types, service assets, the service portfolio and implementation of strategy through the Service Lifecycle. Financial Management, Demand Management ,Organizational Development and Strategic Risks are among other major topics.

Organizations already practicing ITIL use Service Strategy to guide a strategic review of their ITIL-based service management capabilities and to improve the alignment between those capabilities and their business strategies. This ITIL volume encourages readers to stop and think about why something is to be done before thinking of how.

**5.2. Service Design**

For services to provide true value to the business, they must be designed with the business objectives in mind. Service Design is the stage in the lifecycle that turns Service Strategy into the blueprint for delivering the business objectives.

Service Design provides guidance for the design and development of services and service management practices. It covers design principles and methods for converting strategic objectives into portfolios of services and service assets. The scope of Service Design is not limited to new services. It includes the changes and improvements necessary to increase or maintain value to customers over the lifecycle of services, the continuity of services, achievement of service levels, and conformance to standards and regulations. It guides organizations on how to develop design capabilities for service management .

Among the key topics in Service Design are Service Catalogue, Availability, Capacity, Continuity and Service Level Management .

**5.3. Service Transition**

Service Transition provides guidance for the development and improvement of capabilities for transitioning new and changed services into live service operation. This publication provides guidance on how the requirements of Service Strategy encoded in Service Design are effectively realized in Service Operation while controlling the risks of failure and disruption.

The publication combines practices in Change, Configuration, Asset, Release and Deployment, Programme and Risk Management and places them in the practical context of service management .It provides guidance on managing the complexity related to changes to services and service management processes; preventing undesired consequences while allowing for innovation. Guidance is provided on transferring the control of services between customers and service providers.

Service Transition introduces the Service Knowledge Management System, which builds upon the current data and information within Configuration, Capacity, Known Error, Definitive Media and Assets systems and broadens the use of service information into knowledge capability for decision and management of services.

**5.4. Service Operation**

Service Operation embodies practices in the management of the day-to-day operation of services. It includes guidance on achieving effectiveness and efficiency in the delivery and support of services to ensure value for the customer and the service provider. Strategic objectives are ultimately realized through Service Operation, therefore making it a critical capability. Guidance is provided on how to maintain stability in service operations, allowing for changes in design, scale, scope and service levels. Organizations are provided with detailed process guidelines, methods and tools for use in two major control perspectives: reactive and proactive. Managers and practitioners are provided with knowledge allowing them to make better decisions in areas such as managing the availability of services, controlling demand, optimizing capacity utilization, scheduling of operations and fixing problems. Guidance is provided on supporting operations through new models and architectures such as shared services, web services and mobile commerce.

Among the topics in this book are Event, Incident, Problem, Request, Application and Technical Management practices. This book discusses some of the newer industry practices to manage virtual and service-oriented architectures.

**5.5. Continual Service Improvement**

Continual Service Improvement provides instrumental guidance in creating and maintaining value for customers through better design, transition and operation of services. It combines principles, practices and methods from quality management ,change management and capability improvement. Organizations learn to realize incremental and large-scale improvements in service quality, operational efficiency and business continuity. Guidance is provided for linking improvement efforts and outcomes with service strategy, design and transition.

**Summary**

ITIL implementation is not a quick fix, nor is it easy. It takes a lot of thought, commitment and hard work to successfully change the way an IT organization does business. There will be things that you do today that you will not do afterwards and vice-versa. Most people will continue to do what they do today, but they will become more productive as a result of using more efficient, repeatable processes.

Remember that ITIL is a framework, so it is designed for creativity to be built around the base set of best practices. One need not employ them all, just those that make sense and fit into the way the organization wants to do business in the future. Some processes may be abandoned when post-implementation reviews show limited value, and others may be implemented as gaps are uncovered and solutions found.

Implementing ITIL will improve service delivery by improving and building business partnerships as a result of changing to an enterprise business focus. Processes and procedures will be streamlined to ensure consistent, efficient services are delivered to the customer. IT will use cost-effective, easy-to-use tools to automate processes, directing staff energies to focus on problem areas and performance improvement opportunities. Meaningful and measurable metrics will reveal IT service performance.

The bottom line is that ITIL improves functions throughout the enterprise. Customers will be delighted with the improved quality of IT services through execution of consistent, repeatable processes. IT staff will welcome the improved organizational efficiency through use of ITIL processes and well-defined and roles and responsibilities. Finance will value the lower unit costs achieved by leveraging efficiencies to improve productivity of IT staff and infrastructure resources. And management will appreciate finally having meaningful and measurable metrics that gauge IT service performance in business terms.

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