**What does ITIL mean?**

ITIL stands for Information Technology Infrastructure Library. The acronym was first used in the 1980s by the British government's Central Computer and Telecommunications Agency (CCTA) when it documented dozens of best practices in IT service management and printed them for distribution.

**What is an ITIL?**

ITIL is a library of best practices for managing IT services and improving IT support and service levels. One of the main goals of ITIL is to ensure that IT services align with business objectives, even as business objectives change.

One of the most essential parts of ITIL is the **configuration management database** (CMDB), which provides the central authority for all components—including services, software, IT components, documents, users, and hardware—that must be managed to deliver an IT service. The CMDB tracks the location of, and changes to, all of these assets and processes, along with their attributes and relationships to each other.

Adhering to ITIL principles helps ensure you can get to the root cause of problems in your environment as quickly as possible and that you have the right visibility into the systems and people to prevent future problems.

***Foundations:***

The ITIL framework is administered and updated by AXELOS. ITIL version 3, released in 2007, is the current version of the standard. Version 3 improved on the previous version of ITIL by adding process improvement, a stronger lifecycle approach, and more processes for aligning business and IT.

At this writing, AXELOS is updating ITIL to version 4, which will focus on fostering digital transformation, artificial intelligence, [cloud computing](https://www.ibm.com/cloud/learn/cloud-computing-gbl), and [DevOps](https://www.ibm.com/cloud/learn/devops). Some modules of ITIL 4 have already been released, with the rest planned to roll out during 2019. The Foundation level of ITIL 4 certification is already available, and the rest is coming during the second half of 2019.

**Five key stages, comprising 26 processes:**

**1. Service Strategy**

This stage focuses on the ITIL service lifecycle and describes how to design, develop, and implement IT Service Management. It includes the following processes:

* *Strategy Management for IT Services*: Assessment and measurement of IT strategy
* *Service Portfolio Management*: Defining and documenting IT services
* *Financial Management for IT Services*: Determining IT service costs and budgeting
* *Demand Management*: Forecasting future demand for IT services and budgeting resources
* *Business Relationship Management*: Managing the feedback and improvement of the IT services

**2. Service Design**

This stage describes how to design services and processes. Processes include the following:

* *Service Catalog Management*: Define services available in a service catalog
* *Availability Management*: Processes around management and monitoring of IT services
* *Information Security Management*: Creation, management, and assessment of Information Security services
* *Service Level Management*: Creation, management, and feedback process for SLA's
* *Capacity Management*: Monitoring and optimizing the service capacities
* *Design Coordination*: Coordination of process and policy designs
* *Supplier Management:* Selection and management of vendors as well as performance monitoring
* *IT Service Continuity Management*: Development, implementation, and maintenance of BC/DR services

**3. Service Transition**

This stage explains how to manage the transition of a new or changed service with a focus on ensuring that all service management processes balance. It includes the following processes:

* *Transition Planning and Support*: Responsible for moving a new service into production
* *Change Management*: Overall responsibility of change requests and risk management of change
* *Change Evaluation*: Measure the impact and performance increase/decrease of a change
* *Release and Deployment Management*: Codifies the lifecycle of IT service updates
* *Service Asset and Configuration Management*: Monitors the asset lifecycle of IT services and related hardware
* *Service Validation and Testing:* Tests the impact and benefit of an IT service before release
* *Knowledge Management*: Responsible for documentation and curation of support documentation for the IT services

**4. Service Operation**

This stage guides you in ways to ensure that services are delivered and are running smoothly and reliably. It includes the following:

* *Access Management*: In relation to data and physical access, controls the rights assignments of people
* *Event Management*: Coordinates with incident and problem management to manage the entire event
* *Service Request Fulfillment*: Manages the lifecycle of a service request, from definition to closing it out
* *Incident Management:* Triage and resolution of individual service disruption events
* *Problem Management*: Defines causal relationships between incidents and finds/resolves root cause issues

**5. Continual Service Improvement**

This stage covers how to re-align IT services as business needs change. CSI consists of seven steps that cover what can and should be measured; gathering, processing and analyzing data; and presenting and using information.

**ITIL Managements :**

1. **Problem:** Multiple re-occuring of incidents is nothing but Problem and the main advantage of raising the problem is to reduce the redundant incidents.

**Problem Stages:**

Open 🡪 In Progess 🡪 Know Error 🡪 Resolved 🡪 Closed

**Problem management:**

ITIL makes a distinction between “incident management” and “problem management.” Incident management is the individual problem that your users deal with, such as an offline printer, for example. Problem management examines root cause of a problem, what can be done, and which resources can be engaged to prevent it from happening again.

Problem management steps include:

* Raise a problem management case
* Categorize and prioritize issues
* Systematically investigate (root cause analysis)
* Identify changes needed to resolve and work with Change Management
* Verify the problem resolution
* Close out the problem

1. **Incident:** Unexpected thing happening in normal workflow

**Incident Stages:**

Open 🡪 In Progress 🡪 Pending 🡪 Resolved 🡪 Closed

**Incident management:**

An ITIL incident is an unplanned interruption in service, and incident management is used to restore service. For example, if a [network](https://www.ibm.com/cloud/learn/networking-a-complete-guide) node fails and reduces throughput, that would be classified as an incident. The goal of incident management is to restore service as quickly as possible.

The incident management process focuses on determining the root cause of an incident. If multiple events are occurring simultaneously, incident management can help determine if all of those events are part of the same incident or distinct from each other.

Implementing ITIL Incident Management will help you improve service levels, and meet service level availability requirements or a specified service level agreement (SLA).

*Incident Models*

There are always some incidents which are not new. They may happen again over a period of time. Therefore, it is a best practice to have pre-defined model to handle such incidents.

An incident model should include −

* Steps that should be taken to handle the incident
* Chronological order these steps should be taken in, with any dependences or co-processing defined.
* Responsibilities − who should do what
* Timescales and thresholds for completion of the actions
* Escalation procedures; who should be contacted and when
* Any necessary evidence-preservation activities

*Incident Logging:*

All incidents should be fully logged and date/time stamped.

*Incident Categorization:*

It is important later when looking at incident types/frequencies to establish trends for use in Problem Management.

*Incident Prioritization:*

It deals with severity of an incident − Low, Medium or High & Critical.

*Incident Diagnosis:*

Service Desk analyst must carry out initial diagnosis while the user is on call and try to discover the full symptoms of the incident and to determine exactly what has gone wrong and how to correct it.

*Incident Escalation:*

Various aspects of incident escalation are as follows −

*Function escalation:*

When it becomes clear that Service Desk is unable to resolve the incident or target time for Service Desk has been exceeded, the incident must be escalated immediately for further support.

*Hierarchic escalation:*

Hierarchic escalation is done when either incident is serious in nature or ‘Investigation and Diagnosis’ is taking too long time.

*Investigation and diagnosis:*

It includes the following activities −

* Understanding what exactly has gone wrong.
* Understanding chronological order of the events
* Confirming the full impact of the incident
* Identifying any events that could have triggered the incident
* Searching for previous similar kind of incidents

*Resolution and recovery:*

A potential resolution need to be identified, applied and tested.

*Incident closure:*

Before closing an incident, Service desk should ask the user whether he is satisfied and agree to close the incident.

1. **Request Management:**

A request from a user or a user’s authorized representative that initiates a service action which has been agreed as a normal part of service delivery.

(or)

Seeking / gathering information or data is nothing but ServiceRequest.

**Request Stages :**

Draft 🡪 Open 🡪 In Progress 🡪 Pending 🡪 Fulfillment 🡪 Closed

Examples:

1. Providing a particular report
2. Resetting a users password
3. A new hardware component
4. Access to applications
5. New starter set us
6. A new software licence
7. **Change Management:**

**Change** in IT service refers to commissioning, decommissioning or upgradation of configuration of servers. (or)

Planned or unplanned authorized approval activities like addition, deletion, modification of the code impacts IT services directly or indirectly.

**Change stages:**

Registration 🡪 Review 🡪 Task Assessment 🡪 Approval 🡪 Implementation 🡪 Closed.

All changes are required to be implemented with minimum disruption of IT services.

Change Management process deals with following aspects while implementing a change −

* Study the adverse impact of change and minimize it
* Create and maintain change management process
* Prevent unauthorized changes in the environment
* Maintain record of all the changes
* Post implementation review of all changes

Change is not implemented by change management team rather it is implemented by a technical team. Change management team only reviews and approves the change.

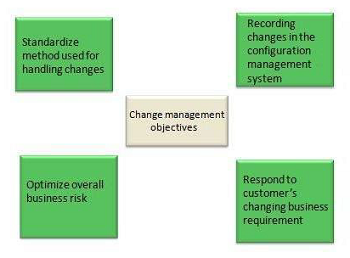
***Change Manager is the process owner of this process.***

Key Points

* Change manager is the person who approves the changes and closes it. He also checks whether it meets the desired result.
* Change coordinator raises change requests.
* Change coordinator has to send screen shots after the change in **Post Implementation Report (PIR)**.

**Objectives:s**

The objectives of change management process are as shown below −



***Standard change model:***

This model is used for pre-authorized repetitive, low risk and well tested changes.

***Normal change model:***

In this model any change must go through certain steps such as assessment, authorization, and Change Advisory Board (CAB) agreement before implementation.

***Emergency change model:***

This change model deals with highly critical changes needed to restore failed high availability service failure.

Change Advisory Board (CAB) is a body to authorize the changes and assist change management in assessing and prioritization the changes.

### Service Level Agreement (SLA):

It is an agreed document assuring the warranty with regard to the level of service quality delivered by the service provider. It is between service provider and the customer.

### Operational Level Agreement (OLA):

Unlike SLA, it is an agreement within the organization.

Priorities & SLAs:

|  |  |  |
| --- | --- | --- |
| **Priority** | **Category** | **SLA** |
| 1 | Critical | 1 Hour |
| 2 | High | 6 Hours |
| 3 | Medium | 24 Hours |
| 4 | Low | 48 Hours |