

Improve Service Delivery with ITIL

Use *the go-to solution for IT service management in your shop*

by Russ Bartlett

The world of IT infrastructure has never been more complex than it is today. CIOs, IT directors, and other IT service providers now must not only deliver and support sophisticated ERP, data warehouse, and CRM-type solutions, but they must also deliver and support a hardware infrastructure that is efficient, reliable, and cost effective. From mainframe class servers and desktop publishing systems to complex telephony systems, the last 10 years have seen the IT industry focus shift to a more holistic view—that of IT service management and service delivery. In this new world, the IT Infrastructure Library (ITIL) has become the go-to solution for IT service management.

This article will provide a detailed overview of ITIL's five core services and take an in-depth look at both transition and operation services.

ITIL: Historical Fact and Fiction

Contrary to urban myth, ITIL was not created as a result of the British Falklands war with Argentina back in the early 1980s. Actually, its roots probably go back to the early 1970s, when IBM conducted research into quality IT service delivery and, a decade or so later, published "A Management System for the Information Business." By the mid-80s, the U.K. Government's Central Computer and Telecommunications Agency (CCTA) authorized the development of a set of common operational guidelines to improve efficiencies within the government, and ITIL was born. Today, ITIL has become widely accepted as the industry standard and has in turn become the basis for certification programs, consultancy, education, and software tool sets.

ITIL Service Categories

ITIL (pronounced "eye-till") is a set of processes based on industry best practices. Version 3 (published in 2007) is the latest release and consists of

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

These five publications cover each stage of the service lifecycle. Note that ITIL is only a framework describing the outlying structure for organizing service management. The various models show the interface points, goals, general activities, inputs, and outputs of the various processes. IT organizations can incorporate these in a variety of ways to meet their needs.

Because the framework ITIL is scalable, it provides a framework in which to place existing methods and activities in a structured way. By emphasizing the relationships between the processes, ITIL minimizes any lack of communication or cooperation between IT functions.

ITIL contains a large number of terms in a standard way that when used correctly can help people to understand one another within IT organizations. They also help to communicate in terms that the business understands. ITIL focuses on continual process improvement; the Plan, Do, Check, and Act portions of the Deming Wheel (Figure 2 on page 15) are therefore critical. The Deming Wheel is a term popularized by Dr. W. Edward Deming. It's an iterative process addressing quality control and improvement.

Service Strategy. In 1980, I worked for a Swedish company where I was introduced to the (then-new) concept of treating users as customers and focusing on being a service provider to both internal and external customers. That company was way ahead of its time! Service Strategy focuses on the alignment of IT with the needs of the business; this sits at the core of ITIL V3. ITIL's Service Strategy framework aims to provide a clear insight into the relationships between the various processes, systems, services, and business models. It asks the user to consider how

- services are to be offered and to whom.
- internal and external market forces should be developed.
- existing and potential competitors in those marketplaces differ in offerings.
- IT creates a value to the business.
- to define and measure quality of service.
- to choose the differing paths for improving service quality.
- to allocate and reallocate service resources.
- to handle conflicting demands placed against the available resources.

Find Out More

Resource Type	URL
ITIL Office of Government Commerce	itil-officialsite.com
Pink Elephant Leading ITIL Resource Site	pinkelephant.com/home/?LangType=1033
ITSM	itil-itsm-world.com/
ITIL V3 – A Pocket Guide	itsmfi.org/category/publisher/itsm-library
ITIL V3 Foundation Handbook	itsmf.co.uk/Shop/Products/ITIL_V3_Foundation_Handbook.aspx
ITIL V3 Small-scale Implementation	best-management-practice.com/?DI=591269

Service Design. As the name suggests, the Service Design Phase of the ITIL lifecycle address the design of IT Services. It sets about creating Service Design Packages (SDP) for each and every IT service (whether new, modified, or even retired). The SDP defines how companies can implement and operate the service. It also demonstrates the value provided to the company by the service. The SDP may be viewed as a conduit between the “Plan” aspects contained within Service Design and the “Do” aspects of Service Transition. Service Design includes

- Service Catalog Management
- Service Level Management
- Risk Management
- Capacity Management
- Availability Management
- IT Service Continuity Management
- Information Security Management
- Compliance Management
- IT Architecture Management
- Supplier Management

Everyone wants cost-effective ways to provide quality services to the business in a standard and consistent manner. Service Design therefore focuses on reducing total cost of ownership while producing service consistency, improvement, and quality. This is a shift from the past, when the design of a system or service was purely related to functional requirements. The current (and industry best practice) view is to take a holistic and result-driven stance. The process should be iterative and incremental to address the dynamics of the business.

Service Transition. Central to the service lifecycle is Service Transition, which provides guidelines for the development and improvement of new or existing services. It also provides a set of best practices in the following areas: transition planning and support, change management, service asset and configuration management, release and deployment

management, service validation and testing, change evaluation, and knowledge management.

Change Management. Its purpose is to ensure that any changes made to infrastructure are recorded and prioritized in a formal and structured manner. Key activities include:

- Recording the request for change
- Evaluating the request for change
- Prioritizing the request
- Authorizing the change after review by a Change Advisory Board (CAB)
- Planning the change
- Testing the change
- Implementing the change

Changes may be viewed as being preventive (prevents future failure), adaptive (introduces new functionality), corrective (fixes a known error), or perfective (improves current infrastructure).

ITIL V3 introduced the ability to categorize changes into emergency, standard, and normal. As its name suggests, an emergency change takes an accelerated path with a review by an emergency CAB rather than the normally-scheduled CAB. A standard change is one that is considered safe and therefore pre-authorized. Normal changes are subjected to a scheduled CAB review and approval process. ITIL also includes a back-out plan in case the change fails. Typically, different groups, such as the network team, may implement changes over a weekend, causing issues for Monday users. The ability to review the implemented changes within a particular time window greatly assists in isolating and resolving the incidents quickly. Often, there is little or no communication between

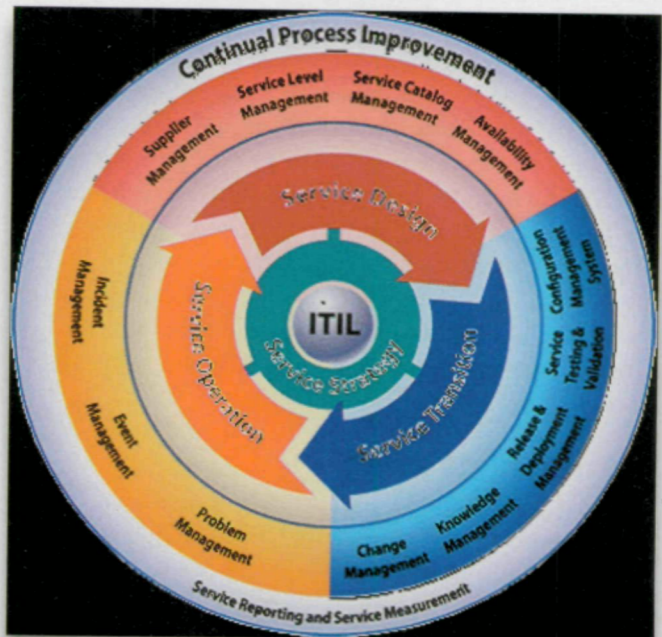


FIGURE 1
ITIL categorization of incidents

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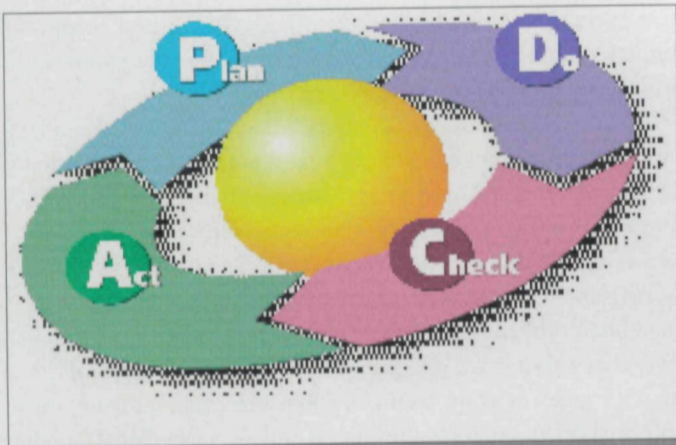


FIGURE 2

Plan, Do, Check, and Act portions of the Deming Wheel

the service desk and those responsible for implementing the changes. This is even more apparent in large IT departments or those that cover multiple locations.

Service Asset and Configuration Management. The Configuration Management Database (CMDB) is central to Service Asset and Configuration Management and is made of Configuration Items (CI), which may be routers, switches, or large servers such as an IBM i. A CMDB may also be a

complex set of federated databases. ITIL's Service Asset and Configuration Management offers a logical model of an organization's infrastructure by identifying, controlling, maintaining, and verifying versions of all the organization's CIs to support other Service Management processes.

Knowledge Management. The purpose of Knowledge Management is to ensure that the right person possesses the right knowledge at the right time to deliver and support the services that are required by the business. With Knowledge Management, a company has more efficient services with improved quality, clear and common understanding of the value provided by services, and relevant information that's always available.

Service Operation. Service Operation delivers agreed-to service levels to everyone involved in service delivery. Service Operation is concerned with providing a stable day-to-day operational environment covering changes in demand, design, scope, or service levels. These agreed-to service levels are documented in the form of Service Level Agreements (SLA). Put succinctly, ITIL Service Operation provides guidance on achieving effectiveness and efficiency in the delivery and support of IT services to the customer (the end user). Delivering services to the end user is the area that most of us are familiar with in the form of the Service Desk.

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Glossary

CAB—Change Advisory Board. A group of appointed individuals who meet on a regular basis to assess, prioritize, and plan the implementation of changes.

CI—Configuration Item. A fundamental component that is controlled, or about to be controlled, by Configuration Management. Examples of CIs include: a large server, a set of requirements, a printer, or a Data Center.

CMDB—Configuration Management Database. A repository used to hold CIs. The database may be federated. The CMDB comes under the control of Asset and Configuration Management.

KEDB—Known Error Database. A database that contains all known error records. The KEDB is created by Problem Management.

SLA—Service Level Agreement. A formal, documented negotiated agreement between the customer and service provider as to the service level expected and agreed to.

The Service Desk

Most IT departments operate some form of Service or Support Desk, whether staffed by one person or many. The increasingly complex IT infrastructure and the Windows-type environments' lack of stability ensures the Service Desk is here to stay. ITIL segregates the functions of the Service Desk into a number of distinct areas: Incident Management, Request Fulfillment Process, Problem Management, and Release Management.

Incident Management. As Samir in the movie *Office Space* said, "Why does it say paper jam when there is no paper jam?!" This scene is the epitome of an IT incident. ITIL defines an incident as "an event which is not part of the standard operation of a service, which causes or may cause an interruption to, or a reduction in, the quality of the service." Incident Management's goal is to get the users back up and running as quickly as possible with minimal disruption. Event management detection or user complaints to the Service Desk are usually the first indication of an incident. ITIL categorizes incidents based on urgency and impact (Figure 1). SLAs often have guidelines for the speed of this categorization. Availability Management, which I discuss later, uses information gathered within Incident Management to determine true availability. Incident Management either resolves the incident or escalates it to the next level, where specialist resources, such as application specialists or network engineers, resolve the incident. Note that these other resources may be performing a number of other duties, so careful resource allocation is important. Failure to act promptly and within the agreed timeframe may well result in a negative impact on the business and may breach the SLA agreements that have been established.

Request Fulfillment. Request Fulfillment enables users to request, receive, source, and deliver standard services. It also provides info to both users and customers about services and procedures for obtaining them, and assists with general information, complaints, and comments related to services. Requests

may include anything from password resets to printer access. All requests should be logged and tracked. Additionally, approval may be required prior to fulfillment.

Problem Management. Contrary to popular belief, the Apollo 13 mission did not "have a problem." In fact, the astronauts Swigert and Lovell were reporting an incident. In ITIL Problem Management terms, a problem is the cause of one or more incidents with an unknown cause. Whereas Incident Management's focus is to resolve the incident as quickly as possible, Problem Management's focus is to understand the underlying root cause and prevent or reduce the impact of another incident or problem. Problem Management maintains information about known problems and associated workarounds (referred to as "known errors") in the Known Error Database (KEDB). Problem Management categorizes problems in much the same way as Incident Management. A problem may require a change, and, therefore, Problem Management interfaces with Change Management. Problem Management also takes on a proactive role, analyzing existing incidents and recognizing categorization trends to prevent future problems.

Release Management. Release and Deployment Management manages and implements the deployment of changes into the IT environment in a controlled manner. Its primary focus is protecting the production environment and its services by using formal procedures and checks. The Release Management, Change Management, and Service Asset and Configuration Management processes work together to ensure all processes are in sync and fully knowledgeable of scheduled changes.

Service Operation

Service Level Management. Service Level Management (SLM) ensures all operational services and their performance are measured in a consistent way throughout the IT organization and that services and reports produced meet the needs of the business and customers. To accomplish this goal, it negotiates, maintains agreement, and documents IT service targets. It also, in turn, monitors and produces reports on delivery against SLAs.

The main information provided by the SLM process includes SLAs, Operational Level Agreements (OLA), and other support agreements, as well as the production of the Service Improvement Plan (SIP).

Capacity Management. The aim of Capacity Management is to provide the correct capacity in terms of both storage and data processing. It involves a number of concepts.

- **Performance Management:** Monitoring the performance and measuring against requirements and tuning to achieve optimal performance.
- **Modeling:** Using analytical simulations or trending models to determine capacity requirements for current or future systems.
- **Application Sizing:** Determining the hardware or network requirements for current or future systems.
- **Capacity Planning:** Developing a formal plan by analyzing the current situation and predicting future needs.

Availability Management

In today's IT climate, computer downtime seriously impacts a business's profitability and public image. The reliability of IT services determine a customer's perception of your organization. The goal of Availability Management is to provide cost-effective and defined levels of service that enable the business to reach its objectives. Availability Management ensures that availability relating to services, components, and resources is measured and adhered to according to previously established SLAs. If there is a difference between the demand for services and those supplied, then Availability Management provides the solution.

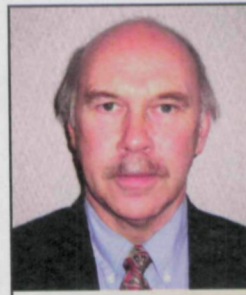
Continual Service Improvement

Continual Service Improvement (CSI) forms the fifth and final ITIL publication. It provides guidance on creating and maintaining IT service value for customers. It assesses and maintains IT services by a process of quality improvement. CSI uses a five-step model, which is repeated continuously to stay current:

1. What's the vision? (defined with the mission statement, business goals, and objectives)
2. Where are we now? (set the baseline)
3. Where do we want to be? (set measurable targets)
4. How do we get there? (define service processes)
5. Did we get there? (determined with metrics)

Summary

While ITIL is large, don't let that deter you from embarking on a path that promotes and elevates the services your IT team provides. This is a roadmap for implementing ITIL in small IT shops (see the Find Out More box on page 14). I didn't cover all the areas of ITIL because I want to provoke thought and question current practices. The biggest mistake is that companies try to implement too much at once—a sure way to fail. Start small; pick and choose those areas where you can realize the biggest benefits. Solicit input from your users and take any criticisms constructively. Lastly, don't try and implement any ITIL processes while you have a major initiative under way—unless you feel you are absolutely certain you have the capacity. ■



About the Author:

► **Russ Bartlett** has worked in information systems for 41 years. He holds an IEEE CSDP and has experience in all areas of system development, having been responsible for implementing systems in many different organizations, including ERP solutions in major Fortune 500 companies.

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