

ITIL-aligned solutions

White paper



Tivoli software

**Use product solutions from IBM Tivoli software
to align with the best practices of the Information
Technology Infrastructure Library (ITIL).**

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Introduction

IT has dramatically affected how organizations utilize, organize and leverage information in the modern workplace. But with today's emerging technologies come challenges and questions that organizations and their IT departments face each day. How can I best prepare for frequent changes in technology? What are the best methods to help control rising IT costs? How can I use technology to improve my level of service? How can I maximize my IT investment? More and more organizations are finding answers to these complex questions through the implementation of ITIL.

A process-based methodology used by IT departments around the world, ITIL serves as a roadmap that guides organizations to efficiently and effectively utilize today's technology. ITIL's best-practice approach is outlined in a series of seven books, including:

- *Service Delivery focuses on delivering IT services to IT customers through agreed-upon service levels.*
- *Service Support defines how to maintain the delivery of services by providing user support, managing changes and managing releases within the infrastructure.*
- *ICT Infrastructure Management encompasses IT planning and architecture as well as day-to-day infrastructure operations.*
- *Security Management explains how to best manage defined levels of infrastructure security.*
- *Application Management outlines the entire application life cycle, from requirements to end of life.*
- *Planning to Implement Service Management helps organizations understand, assess and implement service management within an IT organization.*
- *The Business Perspective helps organizations understand and improve IT service provisioning.*

Additional titles, which are not considered a part of the main seven-book series, are also available – including the recent book entitled Software Asset Management.

Using this collection of best practices, ITIL helps align technology services with business needs, while helping you achieve a return on your technology investment. This white paper outlines the primary disciplines of ITIL – Service Support and Service Delivery – and indicates how IBM Tivoli® software solutions can contribute to your efforts to implement ITIL in your environment. By reading this white paper, you will better understand how to leverage the Tivoli software that you already use and incorporate additional Tivoli products to further align IT with your business priorities.

Defining the two primary disciplines of ITIL

Within ITIL, Service Management disciplines are grouped into two areas: Service Support and Service Delivery. Service Support defines how to maintain the delivery of services by providing user support, managing changes and managing releases within the infrastructure. Service Delivery focuses on delivering IT services to IT customers by agreed-upon service levels. There is another complementary discipline called Security Management that describes how to manage IT Security.

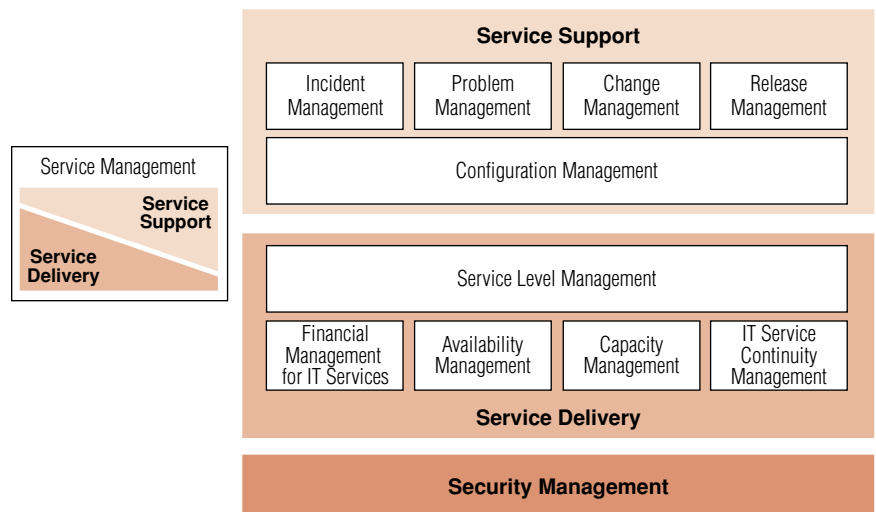


Figure 1: The primary IT service practices defined by ITIL

Highlights

ITIL helps organizations implement processes incrementally following a continuous improvement strategy

ITIL also covers many other aspects of operating and maintaining an IT environment, such as operations, application management and security management. The Service Management processes provide a framework that enables businesses to define the required levels of service based on corporate needs, technology scope and budget parameters. With ITIL in place, organizations can implement processes incrementally using a continuous improvement strategy. At the same time, scalable and easy-to-install tools help manage current processes, while paving the way for future business growth.

Realizing the benefits of ITIL adoption

Incorporating ITIL into your IT infrastructure enables you and your entire organization to:

- *Implement industry-wide best practices in the management of your IT organization.*
- *Provide an overall structure and process for many IT organizations where process definition may be lacking.*
- *Facilitate the use of common concepts and terminology across the organization.*
- *Deliver consistent and repeatable service.*
- *Lower the overall total cost of ownership.*
- *Improve the quality of service.*

In fact, according to a recent report*, one global pharmaceutical company has been able to triple the number of changes made to the infrastructure without adding staff in the four years since it has adopted ITIL. In addition, it has managed to cut the number of unsuccessful changes by 50 percent – even with the threefold increase in changes.

*Adopting ITIL Best Practices Can Lead to Significant Returns, a September 2004 report conducted by AMR Research.

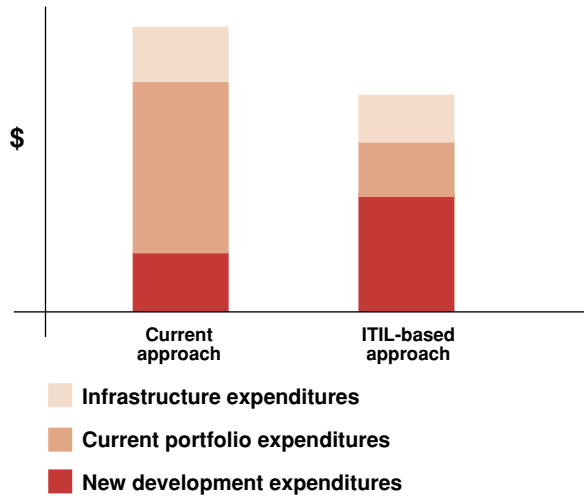


Figure 2: ITIL implementation helps reduce the overall total cost of ownership.

The evolution from Systems Management to Service Management

The general IT management philosophy has evolved over the years. In the past, IT organizations have typically focused on the management of actual systems and resources. Over time, organizations have increasingly redirected their attention to the management of IT services as opposed to systems.

Level	Maturity	Processes
4	Value	Linking IT to business metrics
3	Service	Service Level Management, Capacity Management, IT Service Continuity Management
2	Proactive	Availability Management, Problem Management, Change Management, Configuration Management
1	Reactive	Tactical firefighting, up/down, service desk, Release Management
0	Chaotic	Multiple help desks, minimal standards, user call-driven, Incident Management

Systems Management

Service Management

Figure 3: IT process maturity (Source: Gartner Group)

Highlights

Tivoli products supporting the ITIL Service Management processes can be part of the transition into a Service Management organization

As organizations make the transition from Systems Management to a Service Management model, IT personnel discover the inherent value of ITIL – as well as the benefits of Tivoli software solutions. Tivoli products, which support the ITIL Service Management processes, can be a part of your transition into a Service Management organization.

Mapping Tivoli software solutions to Service Support

The Service Support processes include Incident Management, Problem Management, Change Management, Release Management and Configuration Management.

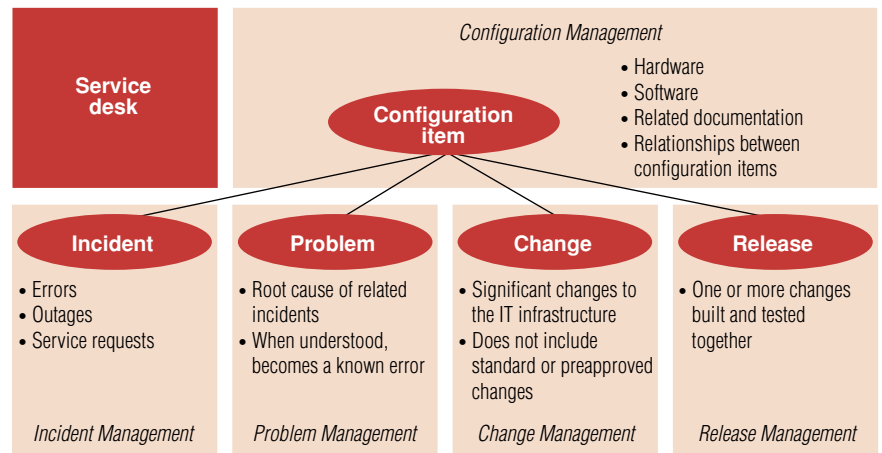


Figure 4: Service Support processes

Highlights

Incident Management involves the rapid handling of incidents reported to the service desks

Incident Management

An integral part of Service Support, Incident Management involves the rapid handling of incidents reported to the service desks – including errors, outages or service requests. Automation of Incident Management encompasses incident recording and tracking, monitoring the status of system resources, fulfillment of standard service requests and knowledge management. The following are examples of Tivoli products that provide support for Incident Management:

- IBM Tivoli Web Access for Information Management – *this extension of IBM Tivoli Information Management for z/OS® provides out-of-the-box services for Incident Management, including incident/service request assignment and tracking.*
- IBM Tivoli OMEGAMON® XE – *helps pinpoint performance problems.*
- IBM Tivoli Remote Control – *allows service desk personnel to remotely exert quick, secure and reliable control over critical resources in the resolution of an incident.*
- IBM Tivoli Monitoring – *identifies operational events that lead to service desk incidents.*
- IBM Tivoli Enterprise Console® – *provides a centralized point of control to monitor and respond to events from across the enterprise and open incidents within the service desk application.*
- IBM Tivoli Provisioning Manager – *automates the manual provisioning of systems, allowing fast fulfillment of service requests.*

Problem Management

Unlike Incident Management, which focuses on short-term fixes, Problem Management analyzes historical data to determine trends, perform root-cause analysis and determine long-term solutions for errors in the IT infrastructure. Automation support for Problem Management includes historical data analysis, problem recording, and tracking and problem diagnosis. The following are examples of Tivoli products that provide support for Problem Management:

- Tivoli Web Access for Information Management – *provides out-of-the-box services for Problem Management, including problem record tracking and assignment.*
- IBM Tivoli Analyzer for Lotus® Domino® – *warns about server problems, determines where problems are occurring and recommends corrective action.*
- IBM Tivoli Switch Analyzer – *helps identify whether a network failure is the root cause of a problem.*
- IBM Tivoli Web Site Analyzer – *captures, analyzes, stores and reports on Web site usage, health, integrity and site content for Web-related problems.*
- Tivoli Data Warehouse – *provides historical data needed for root-cause analysis.*

Change Management

Change Management supports the screening and approval of requests for change as well as the coordination and deployment of approved changes. Tools offered to support Change Management include change approval tracking and change impact analysis. The following are examples of Tivoli products that provide support for Change Management:

- Tivoli Web Access for Information Management – *provides out-of-the-box services for Change Management, including change request tracking and approval.*
- IBM Tivoli Configuration Manager – *allows administrators to schedule software distribution across the enterprise.*

Highlights

Release Management focuses on the process of building, testing and deploying infrastructure changes known as a release

Configuration Management manages information about hardware, software, related documentation in the IT infrastructure and the relationships between the configuration items

Release Management

Release Management is the process of building, testing and deploying a set of infrastructure changes known as a release. The following are examples of Tivoli products that provide support for Release Management:

- Tivoli Provisioning Manager – *automates the manual provisioning and deployment of releases.*
- Tivoli Configuration Manager – *helps deploy software and track hardware and software configurations.*

Configuration Management

Configuration Management manages information regarding hardware, software and related documentation in the IT infrastructure (called configuration items), as well as the relationships between those configuration items. The following are examples of Tivoli products that provide support for Configuration Management:

- Tivoli Configuration Manager – *provides advanced inventory and reporting capabilities to track existing software in the IT infrastructure.*
- IBM Tivoli License Manager – *uses advanced inventory and reporting capabilities to track and determine software licenses in the IT infrastructure.*

Mapping Tivoli software solutions to Service Delivery

An area of IT Service Management that focuses on delivering IT services to IT customers through agreed-upon service levels, Service Delivery encompasses Availability Management, Capacity Management, Service Level Management, IT Service Continuity Management and Financial Management for IT Services.

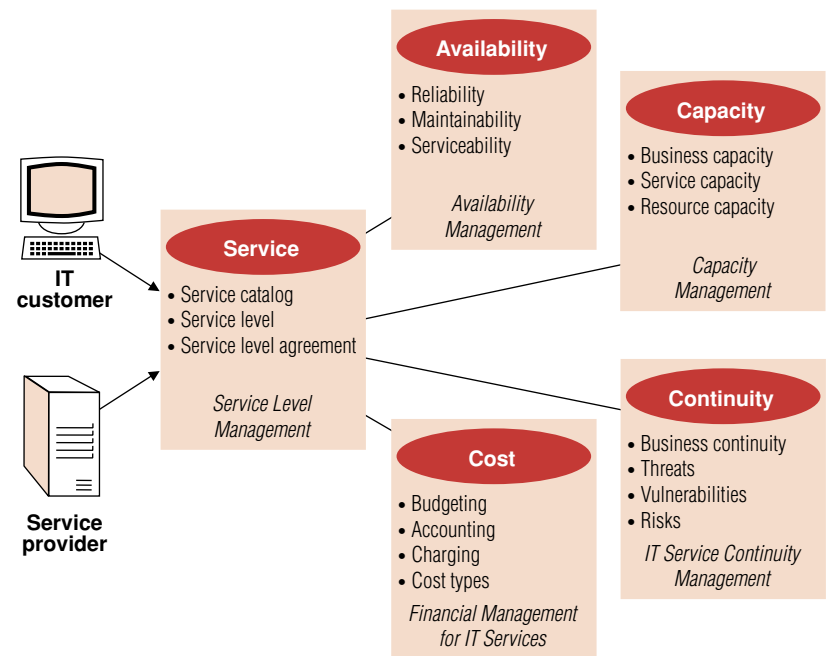


Figure 5: Service Delivery processes

Availability Management

Availability Management involves understanding customer requirements for service availability, assessing the capabilities of the IT infrastructure to provide those levels of availability and taking steps to improve service availability. The following are examples of Tivoli products that provide support for Availability Management:

- Tivoli Analyzer for Lotus Domino – *warns about server availability faults, determines where faults are occurring and recommends corrective action.*
- IBM Tivoli Business Systems Manager – *manages groups of related applications that enable critical business services, such as enterprise resource planning (ERP), customer relationship management (CRM) or On Demand Business environments, allowing a view of the availability of the components that make up a service; related products include IBM Tivoli Business Systems Manager for z/OS.*
- Tivoli Monitoring – *monitors individual service components. Related products include:*
 - *IBM Tivoli Monitoring for Applications*
 - *IBM Tivoli Monitoring for Business Integration*
 - *IBM Tivoli Monitoring for Databases*
 - *IBM Tivoli Monitoring for Messaging and Collaboration*
 - *IBM Tivoli Monitoring for Transaction Performance*
 - *IBM Tivoli Monitoring for Web Infrastructure*
- IBM Tivoli NetView® – *proactively monitors the availability of network resources; related products include IBM Tivoli NetView for z/OS.*
- IBM Tivoli Storage Area Network Manager – *monitors the availability of SAN fabric components.*
- Tivoli Enterprise Console – *correlates and filters system and network events to easily identify resource availability.*

Highlights

Capacity Management involves verifying that sufficient capacity is provided in the IT infrastructure — cost-effectively

Capacity Management

Capacity Management is the proactive process of verifying that sufficient capacity is provided in the IT infrastructure in a cost-effective manner.

The following are examples of Tivoli products that provide support for Capacity Management:

- IBM Tivoli Intelligent Orchestrator – *senses increases in demand for resources and automatically executes actions to reallocate resources where required to meet capacity needs.*
- Tivoli Monitoring for Network Performance – *allows z/OS operations to understand how TCP/IP protocol behavior on their monitored critical systems affects application capacity.*
- IBM Tivoli Performance Modeler for z/OS – *models capacity/performance characteristics for an individual workload or many workloads on a system.*
- IBM Tivoli Storage Resource Manager – *identifies disc storage devices across the enterprise, monitors the filespace consumption and provides detailed reporting and automated actions.*
- Tivoli OMEGAMON XE – *provides a real-time view of system resources in use to help monitor component capacities.*
- IBM Tivoli Workload Scheduler – *automates, monitors and controls the throughput of work in an IT infrastructure with both local and remote systems. Related products include:*
 - *IBM Tivoli Workload Scheduler for Applications*
 - *IBM Tivoli Workload Scheduler for z/OS*

Service Level Management

Service Level Management involves the establishment and monitoring of service level agreements (SLAs). The following are examples of Tivoli products that provide support for Service Level Management:

- IBM Tivoli Service Level Advisor – *automatically analyzes SLAs and evaluates compliance, while using predictive analysis to help avoid service level violations.*
- Tivoli Intelligent Orchestrator – *monitors service levels and initiates actions to provision new system resources to meet demand.*

IT Service Continuity Management

IT Service Continuity Management is the process of planning for recovery from major IT service outages. The following are examples of Tivoli products that provide support for IT Service Continuity Management:

- IBM Tivoli Storage Manager – *automates data backup and restore functions, supports a broad range of platforms and storage devices, and centralizes storage management operations. Related products include:*
 - *IBM Tivoli Storage Manager Extended Edition*
 - *IBM Tivoli Storage Manager for Application Servers*
 - *IBM Tivoli Storage Manager for Databases*
 - *IBM Tivoli Storage Manager for Enterprise Resource Planning*
 - *IBM Tivoli Storage Manager for Hardware*
 - *IBM Tivoli Storage Manager for Mail*
- Tivoli Storage Resource Manager – *manages the capacities of backup and storage resources.*

Financial Management for IT Services

Financial Management for IT Services encompasses the financial stewardship surrounding the management of IT assets and resources. The following are examples of Tivoli products that provide support for Financial Management for IT Services:

- Tivoli License Manager – *uses advanced inventory and reporting capabilities to track and determine software licenses in the IT infrastructure.*
- Tivoli Storage Resource Manager – *identifies disc storage devices across the enterprise, monitors the filespace consumption, provides detailed reporting and automated actions and allows chargeback to end users.*

A comprehensive solution for Security Management

Today's online business environment changes the very nature of how IT organizations view security. In fact, controlling and managing security can be the primary concern IT managers have about online business. To address this issue, the integrated family of Tivoli Security Management products provides a comprehensive, scalable solution for centralized Security Management and access control. Using the Tivoli approach to Security Management, a business can realize immediate return on their online business security investments and consistently enforce security and privacy policies, thereby helping reduce overall security administration costs and ultimately increasing employee productivity and customer satisfaction. Key products within the Tivoli family include:

- IBM Tivoli Access Manager for e-business – *provides security for online business, including Web single sign-on, distributed Web-based administration and policy-based security.*
- IBM Tivoli Access Manager for Business Integration – *provides access control, application-level data protection and centralized security policy management for the IBM WebSphere® MQ environment.*
- IBM Tivoli Access Manager for Operating Systems – *protects individual application and operating system resources by addressing system vulnerabilities surrounding UNIX® and Linux® super-user or root accounts.*

- IBM Tivoli Identity Manager – centrally coordinates the creation of user accounts, workflow for automating the approval process and provisioning of resources.
- IBM Tivoli Privacy Manager for e-business – helps protect consumer trust and brand integrity by implementing privacy policies that guard consumers’ personally identifiable information.
- IBM Tivoli Risk Manager – simplifies events and alerts generated by numerous point products into a single console to help determine the severity of attacks.
- IBM Tivoli Security Compliance Manager – identifies security vulnerabilities and security-policy violations.

Tivoli Access Manager products and Tivoli Identity Manager can also be used to implement Configuration Management, Change Management and Release Management processes in ITIL from a security viewpoint.

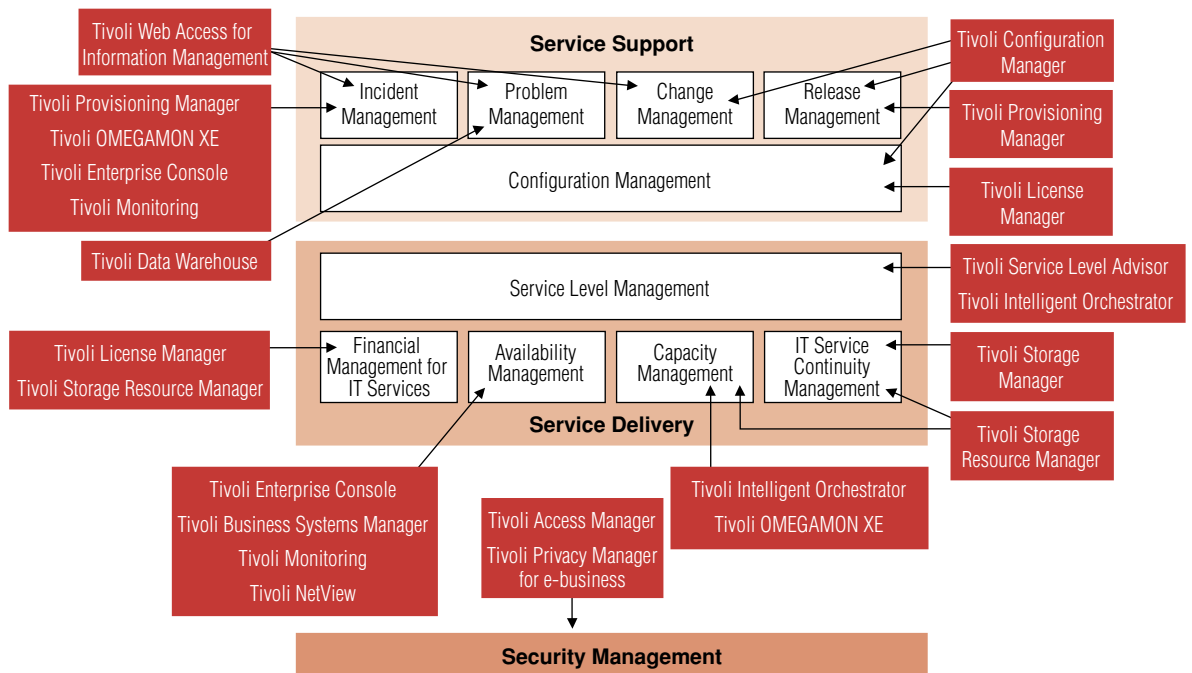


Figure 6: Some of the Tivoli software products that support the ITIL Service Management process.

Highlights

ITIL serves as a starting point for an organization to determine lower-level ITIL workflows and responsibilities

Tivoli software helps you conform with ITIL

Although ITIL is an extremely useful resource to help organizations establish a framework for an IT infrastructure, it is not a step-by-step process for end-to-end implementation. As a high-level guide, ITIL offers a starting point from which an organization can determine lower-level ITIL workflows and responsibilities. No formal standards exist to measure the ITIL compliance of software tools. Vendors, who have their own definition of ITIL compliance software, provide services to measure ITIL compliance primarily in the Service Support arena. IBM has not pursued ITIL certification through certification vendors.

A history of supporting the ITIL model

In the early 1980s, IBM documented the original Systems Management concepts in a four-volume series entitled [A Management System for Information Systems](#). These widely accepted “yellow books,” along with education and expertise provided by IBM, were the foundation for the original ITIL series. In fact, ITIL has continued to use IBM’s experience with Service Management implementation during the 1980s and early 1990s in the ongoing development of current and future ITIL resources.

Additionally, IBM continues to support the creation of new ITIL materials. IBM recently led the project to write the new ITIL [Application Management](#) book and has also participated in the development of the ITIL [Service Delivery](#) and [Software Asset Management](#) series. IBM is active in organizations such as the IT Service Management Forum (itSMF), which seeks to promote ITIL and effective Service Management. In most countries where the itSMF has a national chapter, IBM is an active member.

Highlights

IBM Global Services and Tivoli Services provide assessment services, adoption services and ITIL training

IBM is committed to ITIL

A market leader in IT management research, IBM provided IT solutions to customers decades before ITIL came into existence and continues to adapt IT Service Management products to conform to the ITIL framework. Currently, IBM Global Services provides strategic outsourcing services to customers using ITIL-certified personnel and offers ITIL training and certification for key personnel in a variety of disciplines. For customers implementing ITIL within their IT organization, IBM Global Services and Tivoli Services provide assessment services, adoption services and ITIL training. In addition, IBM provides the following ITIL offerings:

- Infrastructure Resource Management Accelerator suite—*Template-based implementations of ITIL Service Support and Service Delivery processes that speed the actual implementation and time to value. The IBM Infrastructure Resource Management Accelerator suite uses ITIL process definitions and third-party vendor service desk offerings.*
- IBM Accelerator for Availability Management—*An entry-level version of the IBM Event Management and Monitoring Design Methodology that combines ITIL best practices and IBM's patented methodology. This offering enhances the value of Tivoli Monitoring and Tivoli Enterprise Console by providing an ITIL assessment of existing Availability Management processes, recommending improvements and implementing best practices.*

Through Tivoli Services, a business can also take advantage of the following ITIL-related services through the Customer Success Program:

- *Tivoli Assessment Program—Performs an assessment of an IT organization to determine its readiness for ITIL adoption and to determine the best way to proceed in adopting ITIL within the organization.*
- *Tivoli SmartStart Program—Evaluates a customer’s current IT infrastructure and provides recommendations as to how the future operation and infrastructure may be impacted. The evaluation uses ITIL processes as a model to examine the processes and procedures the customer will use in deploying, operating, maintaining and exploiting their future Tivoli solution.*
- *Tivoli QuickStart Services—Facilitates ease of deployment and rapid time to value for Tivoli solutions by helping to rapidly and effectively utilize Tivoli software technology. This proven, step-by-step process of planning, training and implementation allows customers to optimize their solution and effectively prepare for large-scale production.*

IBM ITIL alliances

IBM understands the importance of maintaining and strengthening partnerships with service desk vendors. The essential applications created by service desk vendors enable organizations to administer, manage and track incidents, problems, changes, releases and more. Tivoli products provide the technical capabilities needed to resolve incidents and problems and distribute software releases. Together, IBM and service desk products provide today’s IT departments with the resources needed to successfully implement best-practice approaches as defined by ITIL.

Summary

As the most widely accepted approach to IT Service Management in the world, ITIL provides a comprehensive and consistent set of best practices for IT Service Management – promoting a quality approach to achieving business effectiveness and efficiency in the use of information systems. IBM recognizes that ITIL can be an important element in providing a structured approach to IT Service Management and has made a strategic commitment to promote and enhance the ITIL framework. Tivoli software, the product side to Service Management, delivers the software tools needed to implement ITIL. Backed by a rich history of involvement with ITIL best practices and adoption, IBM offers a variety of services and products to help an IT organization adopt ITIL. As IBM continues to develop new functionality and product offerings, ITIL will be a significant part of the design guidelines.

To learn more

For information on Tivoli software and integrated solutions from IBM, contact your IBM representative or IBM Business Partner, or visit ibm.com/tivoli/features/ITIL



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