

ITIL BEST PRACTICES FOR IT AND BUSINESS ALIGNMENT

ABSTRACT

Toward the goal of aligning IT with business goals and priorities, the Information Technology Infrastructure Library (ITIL®) offers the world's most widely accepted approach to IT Service Management. ITIL provides frameworks for both the organization of IT Service Management (ITSM) as well as a cohesive set of industry best practices. As a result, IT organizations can focus on integrated IT processes throughout the application and infrastructure lifecycle.

Digitization is ultimately required to make business and IT processes repeatable and enforceable, and Mercury's Business Technology Optimization (BTO) solutions are uniquely positioned to help organizations successfully implement and enhance the guiding principals of ITIL. As the global leader in BTO, Mercury helps organizations successfully implement these key principals, combining innovative and industry-leading technology, proven best practices, and expert services that help align IT with the needs and focus of the business.

TABLE OF CONTENTS

| | | | |
|-----------------------------------------------------------------|----|-----------------------------------------------------|----|
| Abstract | 2 | Mercury BTO and ITIL Service Delivery | 14 |
| Aligning IT and Business Priorities with ITIL | 3 | Service-Level Management | 15 |
| A Functional ITIL Overview | 3 | Availability Management | 16 |
| Challenges in the Modern Data Center | 4 | Capacity Management | 18 |
| Leveraging ITIL to Reduce Complexity and Increase Agility | 4 | Financial Management for IT Services | 19 |
| Mercury BTO Provides a Unique Approach to ITIL Adoption | 5 | IT Service Continuity Management | 20 |
| Mercury BTO and ITIL Service Support..... | 7 | Mercury BTO and the ITIL Business Perspective | 21 |
| Service Desk | 8 | Mercury BTO and Application Management | 22 |
| Incident Management | 9 | Mercury Consulting Services | 23 |
| Problem Management | 10 | Mercury Managed Services | 23 |
| Change Management | 11 | Conclusion | 23 |
| Release Management | 12 | | |
| Configuration Management | 13 | | |

Aligning IT and Business Priorities with ITIL

Today there is no more significant trend than the desire to maximize the business value of IT by aligning IT infrastructure with business goals and priorities. With up to 90 percent of business processes now enabled by applications and services, their smooth operation is vital to sustain the business, reduce costs and risks, and drive future competitiveness. With growing complexity and constant change, the importance of service availability, functionality, and manageability cannot be overstated. The benefits of tightly aligned IT infrastructure can be profound. A Hackett study in 2002 showed that well-aligned business service management can save an average of 17 percent per user while providing up to a 28-percent improvement in IT project completion rates.

“ITIL has gained significant traction in the past 12 months.”
 “About a third of \$1 billion-plus companies are starting to implement ITIL.”
 - Carnegie Mellon

A Functional ITIL Overview

As the most widely-accepted de facto global approach to IT Services Management, ITIL provides a welcome challenge to the chaos that often thrives in modern data centers. Started in the mid-1980s by the United Kingdom’s Office of Government Commerce (OGC), formerly known as the Central Computer and Telecommunications Agency (CCTA), ITIL is now a mature, non-proprietary IT process framework that is industry- and technology-independent. ITIL is not prescriptive, but a collection of industry best practices organized as a set of books (a library) that provides an integrated framework (Figure 1).

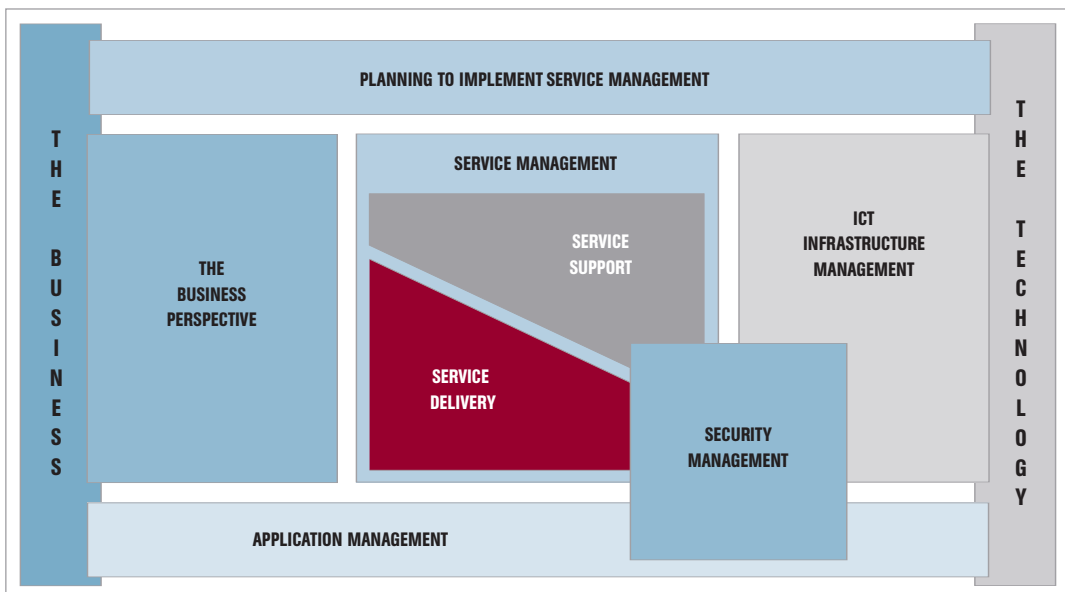


Figure 1: ITIL guidelines and best practices relate the needs and goals of the business to underlying information technology.

Challenges in the Modern Data Center

Growth, past IT spending, and the evolving nature of applications and services have all contributed to today's extremely complex modern data centers. This complexity remains a major impediment to success and agility, with an ever-expanding list of heterogeneous hardware and software to manage and monitor both the legacy and new application deployments. In addition, the pace and volume of change needed to keep IT infrastructure current with business requirements is increasing rapidly. In this environment, small, seemingly unrelated changes in one area of the data center can have wide-spread ramifications for application performance or functionality.

Echoing the trend towards ITIL adoption, META Group anticipates that through 2005, more than half of IT organizations will invest in formalized IT business plans governed by service-level agreements (SLAs). Unfortunately, fewer than 10 percent of IT organizations have a well-defined service-level management process in place today that can accurately and consistently communicate relevant service levels to the business units. The need to fill this void is driven by the increasing dependency on IT Services and its underlying applications and IT infrastructure. Businesses are faced with the need to compete, manage outsourcers, and ensure IT services support the business.

Leveraging ITIL to Reduce Complexity and Increase Agility

Organizations today recognize modern data-center challenges require a comprehensive approach to process and best practices. Though ITIL is not new, it is increasingly popular with organizations striving to get a handle on their IT operations. The benefits of business-aligned IT services include:

- Sustainable business-critical services.
- Increased agility to respond to new business challenges.
- Minimized risk and reduced operational and support costs.
- The ability to anticipate and respond to changing internal and external conditions.
- An increased ability to predictably meet deployment targets.
- An increased ability to meet SLAs.
- Reduced technical support staff requirements.
- Increased customer satisfaction.

A 2004 META Group study showed that 75 percent of Global 2000 organizations are expected to use some portion of ITIL by 2006. In another META Group survey performed in February 2004, one-third of the responses indicated that the most strategic issues facing IT were the implementation of standards-based processes. Unfortunately, many existing silo- and system-management tools are unable to deliver ITIL's service-centric and process-centric approach while coping with modern data-center complexity. While applications represent an automated, efficient mechanism for accomplishing tasks, their management is manual and inefficient.

Mercury BTO Provides a Unique Approach to ITIL Adoption

ITIL is a process framework, and Mercury is unique in its ability to customize, automate, and digitize ITIL processes to make them enforceable and repeatable. This shared focus on process makes ITIL and Mercury BTO a natural fit. While ITIL defines a set of best-practice IT processes, Mercury BTO enables organizations to customize these processes for their own needs, at the same time digitizing, enforcing, and automating the processes so they can be measured and continually improved.

Mercury’s BTO offering aligns IT with business priorities and, as illustrated in Figure 2, focuses on three critical IT functions: Mercury IT Governance, Mercury Application Delivery, and Mercury Application Management.

- Mercury IT Governance Center™ optimizes IT business processes from demand through production – ensuring that both strategic projects and “keep-the-lights-on” IT activities are aligned with business goals.
- Mercury’s Application Delivery offerings, Mercury Quality Center™ and Mercury Performance Center™, provide a business-centric, lifecycle approach to optimizing quality and performance during pre-production.
- Mercury’s Application Management offering, Mercury Business Availability Center™, enables a top-down approach that can greatly enhance performance and availability of applications, help IT control the business impact of change, and ultimately benefit the bottom line.

Together with ITIL guidance, these products and services can contribute directly to tightly aligned IT strategies that deliver business value with greatly reduced costs and risks.

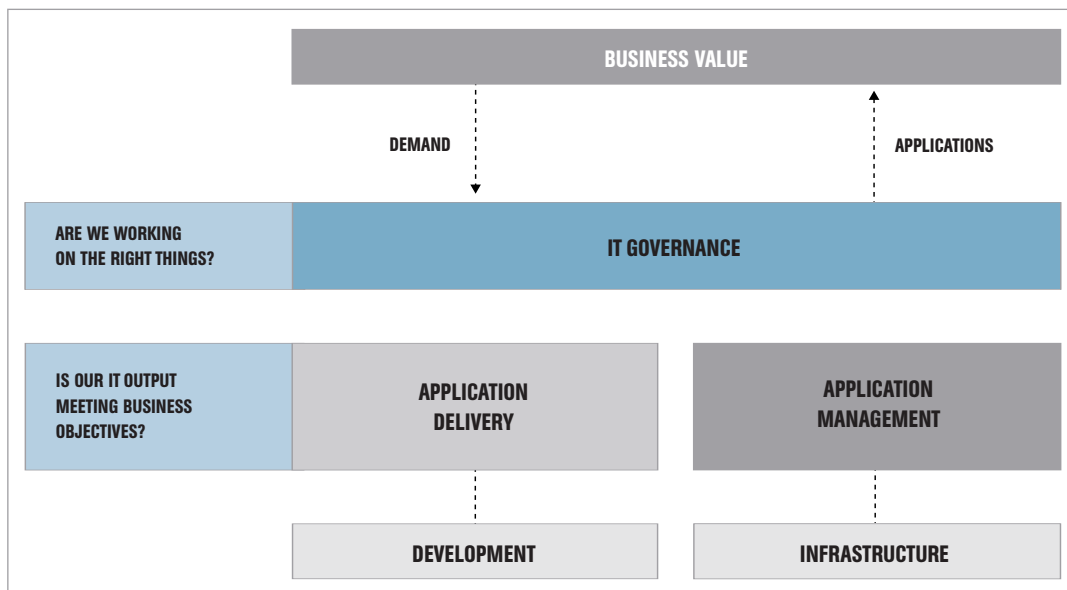


Figure 2: The integrated Mercury BTO suite.

ITIL recognizes that just as IT services and resources have become virtualized, the development, deployment, and management of these IT services must become automated to ensure efficiency, cost-effectiveness, and high quality. This automation can be achieved by digitizing key IT processes to make them enforceable and repeatable. To this end, organizations need advanced, high-level tools that understand the interdependencies and complexities of IT services, along with their supporting applications and underlying IT infrastructure. More than endless screens of events generated by a collection of legacy event-monitoring tools, those implementing ITIL need state-of-the-art technology that provides real correlation to business priorities.

Mercury’s approach lets organizations stay focused on the IT service, the application, and the user experience – ultimately driving the business. Mercury’s tightly integrated BTO suite unifies IT management and provides automated collaboration between groups responsible for different aspects of the business. With role-based views, individuals see just the information they need, based on the jobs they must perform. Figure 3 shows the mapping of Mercury BTO solutions to key ITIL disciplines and their respective processes.

| ITIL DISCIPLINE | ITIL PROCESSES | MERCURY SOLUTIONS |
|---------------------------------|----------------------------------|---------------------------------------|
| SERVICE SUPPORT | Service Desk | IT Governance |
| | Incident Management | IT Governance, Application Management |
| | Problem Management | IT Governance, Application Management |
| | Change Management | IT Governance, Application Management |
| | Release Management | IT Governance, Application Delivery |
| | Configuration Management | Application Management |
| SERVICE DELIVERY | Service-Level Management | Application Management |
| | Availability Management | Application Management |
| | Capacity Management | Application Delivery |
| | Financial Management | IT Governance |
| | IT Service Continuity Management | Application Management |
| THE BUSINESS PERSPECTIVE | Service-Level Management | IT Governance |
| | Financial Management | IT Governance |
| | Change Management | IT Governance, Application Management |
| | Release Management | IT Governance, Application Delivery |
| APPLICATION MANAGEMENT | Application Development Phases | IT Governance, Application Delivery |
| | Service Management Phases | IT Governance, Application Management |

Figure 3: Digitizing ITIL processes with Mercury workflow.

Mercury BTO and ITIL Service Support

ITIL defines the Service Support discipline as shown in Figure 4. To this advanced-process model Mercury adds the fundamental ability to digitize the Service Support lifecycle, automating processes and tracking key performance indicators (KPIs). This approach accelerates the diagnosis and resolution of incidents while promoting an understanding of the underlying root-cause problems. In addition, Mercury’s offerings help enforce repeatable change processes to automate testing and the release process. All of this technology works with Mercury’s unique application mapping technology to discover and map complex application and infrastructure relationships into a dynamic and continually updated Configuration Management Data Base (CMDB).

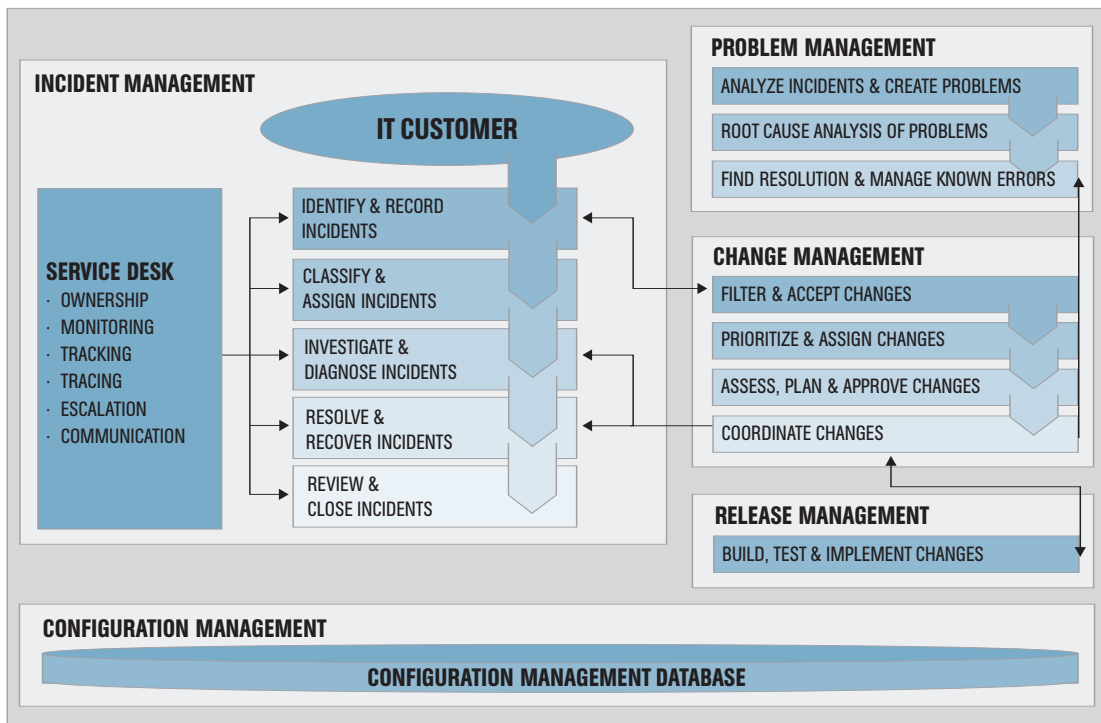


Figure 4: ITIL Service Support discipline.

Mercury BTO provides real business benefits when implementing service-support processes, including reduced operational costs and increased IT productivity along with reduced risk and cost of service downtime. Each ITIL service-support process and the Mercury BTO solution advantages are discussed in the following sections.

Service Desk

In ITIL terminology, a “Service Desk” is defined as: *“The IT provider’s organizational unit, function, or process that creates a single contact point between customers, users, and third-party support organizations.”* Beyond providing a single point of contact, the primary goal of the IT Service Desk is to facilitate the restoration of normal service with minimal business impact.

SERVICE DESK

- OWNERSHIP
- MONITORING
- TRACKING
- TRACING
- ESCALATION
- COMMUNICATION



Figure 5: Service status and work queue views of the service desk.

The concept of a Service Desk is central to ITIL. It is important to note that this Service Desk extends well beyond the normal concept of a “help desk” and represents a both a single point of contact for users and the vehicle for delivering high-quality support. Unlike other ITIL practices, the Service Desk is a function, not a process.

Instead, the Service Desk acts as a repository or foundation that maintains service-oriented data while other ITIL processes change and operate on that data. Each of the separate ITIL practices interacts with the Service Desk to provide an integrated, functional system.

Illustrated in Figure 5, Mercury’s Service Desk offering digitizes the complete IT service request lifecycle, letting organizations monitor and manage status, service levels, and incident trends while making the process repeatable and trackable.

Table 1 describes key Mercury Service Desk capabilities and the benefits they provide.

| KEY MERCURY CAPABILITIES | BENEFITS |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • Integrated Service Desk offering that provides a single point of contact for the customer for both tactical and strategic business demand | <ul style="list-style-type: none"> • Provides a holistic view of all IT demand to ensure the optimal use of IT resources, enabling efficient and effective service support and service delivery |
| <ul style="list-style-type: none"> • Helps enable digitization of the complete IT Service Request and the underlying processes to provide a holistic catalog of IT services | <ul style="list-style-type: none"> • Facilitates customer self-service, improved customer service, and data quality along with reduced operational costs, by enforcing repeatable processes to support the IT service catalog |
| <ul style="list-style-type: none"> • Monitors and manages status, service levels, and incident trends through personalized dashboard portlets or reports | <ul style="list-style-type: none"> • Measures KPIs against SLAs and identify trends in order to optimize service support processes |
| <ul style="list-style-type: none"> • Published and open APIs that offer broad integration capabilities including integration with Mercury and third-party monitoring solutions | <ul style="list-style-type: none"> • Helps establish a proactive Service Desk that will detect and validate incidents before customer or business impact while automating resolution |

Table 1: Mercury BTO Service Desk advantages.

Incident Management

ITIL defines an ‘Incident’ as: “Any event which is not part of the standard operation of a system that causes, or may cause, an interruption to, or a reduction in, the quality of service.” The primary goal of the ITIL Incident Management process is to restore normal service operation as quickly as possible and to minimize the adverse impact on business operations – helping to ensure that the highest possible levels of service quality and availability are maintained.

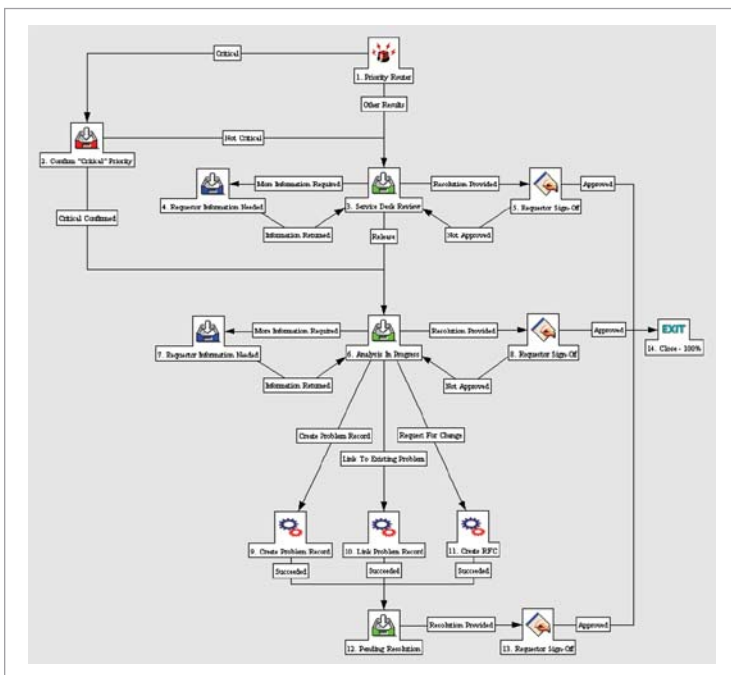
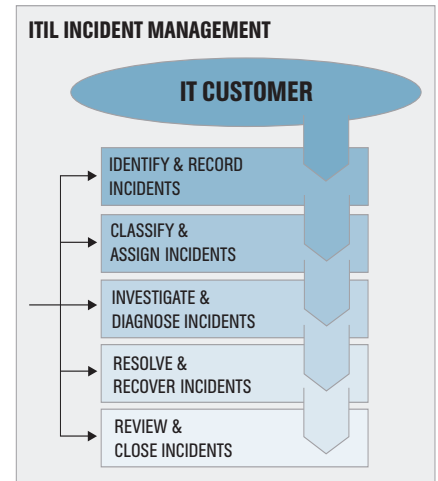


Figure 6: Digitized Incident Management workflow with Mercury BTO.

Mercury BTO enables the digitization of the entire incident management workflow, (Figure 6) allowing organizations to automate resolution while capturing and defining the logic for how an incident is handled. Digitized workflows allow first-level (Tier-1) operations and support personnel to quickly resolve or triage incidents in an educated fashion while leaving silo specialists to concentrate on issues that are related to their expertise. The result can be a significant reduction in time-to-repair.

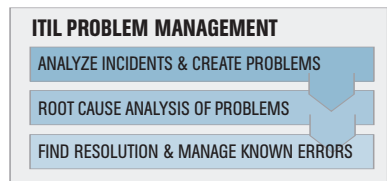
Table 2 describes key Mercury capabilities in Incident Management and the benefits they provide.

| KEY MERCURY CAPABILITIES | BENEFITS |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> Proactively detects and validates incidents before they impact the end user or line of business | <ul style="list-style-type: none"> Reduces customer and business impact and provides higher customer satisfaction |
| <ul style="list-style-type: none"> Automates the incident management processes to establish repeatable procedures | <ul style="list-style-type: none"> Provides more cost-efficient resource utilization by empowering Tier-1 analysts to perform accurate incident triage and escalation |
| <ul style="list-style-type: none"> Automates recovery actions for routine incidents based on known errors and workarounds | <ul style="list-style-type: none"> Reduces customer impact and improves service levels with quicker resolution of routine incidents |
| <ul style="list-style-type: none"> Enhances incident triage by correlating end-user and system performance trends, and providing detailed transaction breakdown | <ul style="list-style-type: none"> Helps yield improved incident resolution performance against SLAs with shorter incident resolution and improved data quality |

Table 2: Mercury BTO Incident Management advantages.

Problem Management

In ITIL, a “Problem” is defined as: “An unknown underlying cause of one or more incidents.” The primary goals of the ITIL Problem Management process are to minimize the adverse impact of errors within the IT infrastructure and to prevent recurring incidents related to these errors. The reactive aspect of these goals is to quickly solve problems in response to one or more incidents. The proactive aspect of these goals is to reduce the overall number of incidents.



Mercury BTO helps resolve problem root causes on a consistent basis by providing an integrated problem management workflow. In addition, Mercury BTO provides an innovative root cause analysis reporting capability that can actually help Tier-1 and Tier-2 support personnel isolate problems automatically based on actual user and system data. Mercury BTO supplies deep diagnostic solutions for complex J2EE, .NET, and ERP/CRM environments. Designed for advanced Tier-3 specialists, these sophisticated tools help isolate even the most complex problems and speed their resolution. J2EE and other specialists and application developers can drill deep into application components to resolve the root cause of problems (Figure 7).

Figure 7: Mercury BTO Problem Management solutions provide deep diagnostic tools for complex environments such as J2EE.

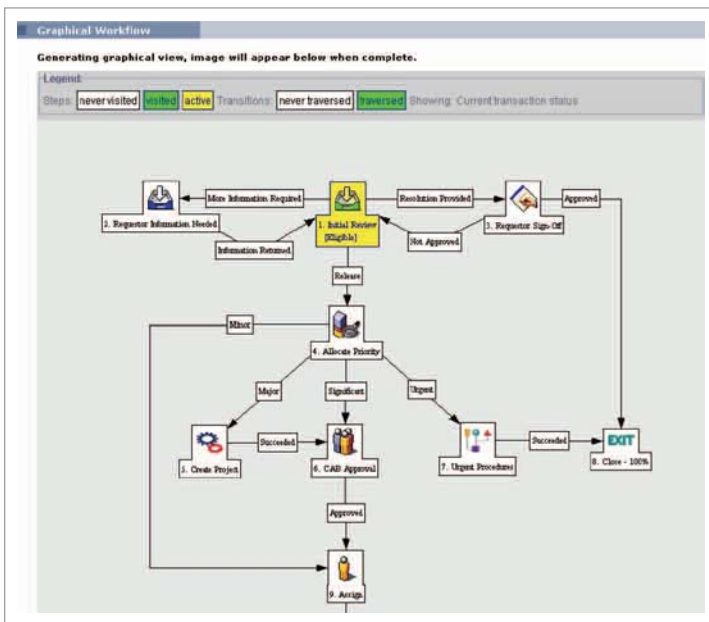
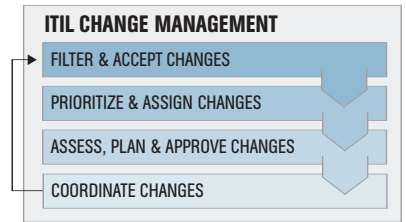
Table 3 describes key Mercury capabilities and benefits in Problem Management.

| KEY MERCURY CAPABILITIES | BENEFITS |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> Automates problem management processes to establish repeatable procedures that identify, classify, record, and diagnose problems | <ul style="list-style-type: none"> Provides faster root-cause diagnosis of problems on a consistent basis, to reduce the number of related incidents |
| <ul style="list-style-type: none"> Provides comprehensive diagnostics to perform component isolation, triage, and root-cause analysis | <ul style="list-style-type: none"> Helps achieve proactive problem management to prevent potential incidents and ensure higher service levels |
| <ul style="list-style-type: none"> Offers proactive analysis of load, performance, availability, and service-level trends to uncover potential problems | <ul style="list-style-type: none"> Reduces customer impact with faster resolution of routine incidents |
| <ul style="list-style-type: none"> Helps establish and manage a repository of known errors for use by incident management, and creates related RFCs if appropriate | <ul style="list-style-type: none"> More effective collaboration with other support teams for incident management and change management |

Table 3: Mercury BTO Problem Management advantages.

Change Management

In ITIL, a “Change” is defined as: “The addition, modification, or removal of approved, supported, or baselined hardware, network, software, application, environment, system, desktop build, or associated documentation.” The primary goal of the Change Management process is to ensure that standardized methods and procedures are used for efficient and prompt handling of all changes in order to minimize the impact of change related incidents upon service quality. Although changes often arise as a result of unplanned problems, the majority result from planned requests for change from the business or IT organization.



Beyond merely automating Change Management, Mercury BTO helps ensure that change happens as part of an enforced and repeatable process, with the right people involved at the right time and at the right place. Once established, Mercury BTO turns digitized workflows into a repeatable and enforceable change process, providing notification, review, and approval processes. With its powerful application mapping capability, Mercury BTO provides a dynamically updated Configuration Management Database so that the latest changes are readily understood by other processes in the Service Support discipline. Figure 8 illustrates a sample Change Management workflow.

Figure 8: Repeatable and enforceable Change Management workflow with Mercury BTO.

Table 4 describes key capabilities and benefits for Mercury Change Management solutions.

| KEY MERCURY CAPABILITIES | BENEFITS |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> Helps establish repeatable change notification, review, and approval processes through digitized workflows | <ul style="list-style-type: none"> Improves the efficiency and effectiveness of the change management process to optimize collaboration and reduce cost |
| <ul style="list-style-type: none"> Enforces change control with automated change workflow across the change lifecycle from initial request through approval, testing, and release | <ul style="list-style-type: none"> Reduces business downtime risk and improves service levels by ensuring that all changes are approved and tested before implementation in production systems |
| <ul style="list-style-type: none"> Helps analyze change risk and impact on business and IT infrastructure dependencies | <ul style="list-style-type: none"> Provides proactive analysis of change on the business, helping to prevent adverse impacts on related components |

Table 4: Mercury BTO Change Management advantages.

Release Management

ITIL defines a “Release” as: “A collection of new and/or changed components that are tested and introduced into the live environment together.” The ITIL Release

Management process helps to design and implement efficient procedures for the distribution and installation of changes. This process includes coordinating build and testing activities to help ensure that only the authorized and tested versions of changes are implemented in production.

ITIL RELEASE MANAGEMENT

BUILD, TEST & IMPLEMENT CHANGES

| Seq | Object Name | Object Type | 1: Accept into Testing | 2: Migrate to UNIT TEST | 3: Passed UNIT TEST |
|-----|----------------------------|--------------------------|------------------------|--------------------------|---------------------|
| 1 | Create_table.sql | SQL Script | Approved | Succeeded | Approved |
| 2 | cinsdora | Forms 4.5 | Approved | Succeeded | Approved |
| 3 | TextScroll.java | Java File | Approved | Succeeded | Approved |
| 4 | CINSODORA | AOL:Function | Approved | Succeeded [ConcReq:2107] | Approved |
| 5 | KINTANA_PHYSICAL_INVENTORY | AOL:GLUI Menu | Approved | Succeeded [ConcReq:2108] | Approved |
| 6 | POWFOBA | OrasApps Oracle Workflow | Approved | Succeeded | Approved |

Figure 9: Automated software distribution provided by Mercury BTO Release Management.

Ultimately, releasing a change requires developing the change; testing it for functionality, quality, and performance; and finally pushing the change into production. With core capabilities in software testing, Mercury provides advanced testing solutions that can automate functional and

performance testing as a part of this process. Mercury BTO provides the ability to push tested changes into production, with detailed audit trails to support regulatory compliance. Figure 9 illustrates automated software distribution as a part of Mercury’s Release Management capabilities.

Table 5 describes key Mercury capabilities for Release Management.

| KEY MERCURY CAPABILITIES | BENEFITS |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> Automates the release and migration of key application components from development, to staging, to production | <ul style="list-style-type: none"> Reduced downtime risk due to human errors in deployment Lower cost of release distribution due to higher staff productivity |
| <ul style="list-style-type: none"> Enforces release policy and provides a complete audit trail to support problem management and regulatory compliance | <ul style="list-style-type: none"> Consistency of release processes provides more efficiency and control of the mission-critical production environments and applications |
| <ul style="list-style-type: none"> Integrated business process, functional, and performance testing along with end-to-end tuning | <ul style="list-style-type: none"> Helps ensure a stable production environment due to higher quality of releases |

Table 5: Mercury BTO Release Management advantages.

Configuration Management

According to ITIL, “*Configuration Management provides a logical model*

of the infrastructure of a service by identifying, controlling, maintaining, and verifying the versions of Configuration Items (CIs) in existence.” The goal of Configuration Management is to help enable organizations to achieve efficient and effective control of IT infrastructure and services.

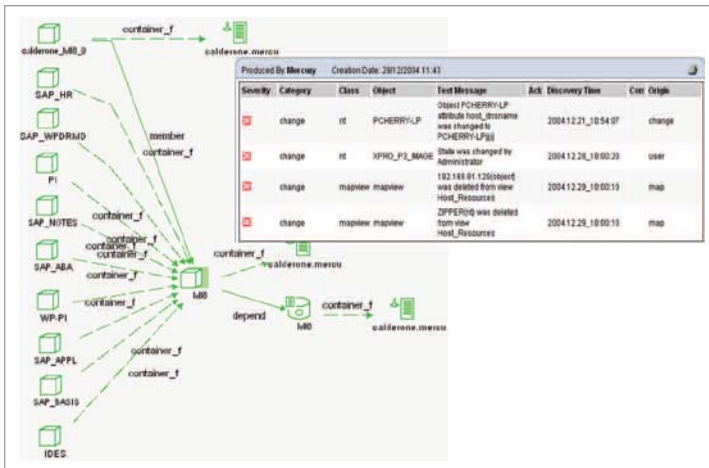


Figure 10: SAP application map and change report.

The value of ITIL is sometimes overshadowed by the perceived difficulty of managing complex environments such as data centers in the context of the business service and the user. Mercury BTO specializes in Configuration Management technologies that can map applications to the underlying infrastructure and understand complex dependencies. Topology-based analysis can be used to quickly and accurately identify root-cause problems while automatically providing business impact analysis. With these capabilities, customers can dramatically reduce the time and resources required to manually map and maintain complex, dynamic service definitions. Figure 10 illustrates an SAP application map and change report.

Table 6 describes key Mercury capabilities in Configuration Management.

| KEY MERCURY CAPABILITIES | BENEFITS |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> Comprehensive, scalable, and automated discovery and identification of all IT Service layers (OSI 2-7) | <ul style="list-style-type: none"> Automates configuration management to significantly reduce the resources required |
| <ul style="list-style-type: none"> Mapping of complex application and service relationships | <ul style="list-style-type: none"> Automates detection of change in IT service or CIs to ensure IT service quality and control |
| <ul style="list-style-type: none"> Analyzes assets, configurations, and changes for differences in CIs to support problem management and policy compliance | <ul style="list-style-type: none"> Simply and easily captures ongoing baselines and snapshots of IT services and configurations |
| <ul style="list-style-type: none"> Next-generation, object-oriented and extensible Configuration Management Database (CMDB) | <ul style="list-style-type: none"> Allows proactive analysis of the business impact of change before changes are approved |
| <ul style="list-style-type: none"> Continuous identification and automated audit process to keep CMDB up-to-date | <ul style="list-style-type: none"> Reduces the resources required to produce asset and configuration management reports |
| <ul style="list-style-type: none"> Base-line snapshot and capture of service, application, and infrastructure for analysis | <ul style="list-style-type: none"> Improves collaboration to streamline current configuration management practices |
| <ul style="list-style-type: none"> Comprehensive reporting on assets, dependencies, configurations, and change | <ul style="list-style-type: none"> Reduces the overall cost of managing IT operations |

Table 6: Mercury BTO Configuration Management advantages.

Mercury BTO and ITIL Service Delivery

While ITIL Service Support’s services are already in production, Service Delivery addresses the processes involved with bringing a service online to address a particular business requirement. These processes range from defining business needs and functional descriptions, to specifying (and managing) service-level requirements between the business and IT, including factors such as availability, performance, and response times.

Beyond capturing these metrics, ITIL and Mercury are both concerned with monitoring and carefully executing on those requirements to provide effective contracts between IT and the business. Measuring objectively requires a detailed Service Quality Plan, and the ability to track the progress of the plan at each stage to make sure that requirements are met and SLAs are not breached. Tracking includes performance and availability metrics as well as cost management, backup plans, and failover solutions.

Mercury BTO complements ITIL Service Delivery best practices by allowing organizations to manage business-centric IT service levels while providing visibility into IT services from an end-user perspective. Availability has never been more important to production services and Mercury BTO improves availability through capacity planning and automatically generated configuration baselines. With a wealth of sophisticated tools, Mercury BTO can help ensure that IT service plans are delivered on-budget and on-time. ITIL defines the Service Delivery discipline as shown in Figure 11.

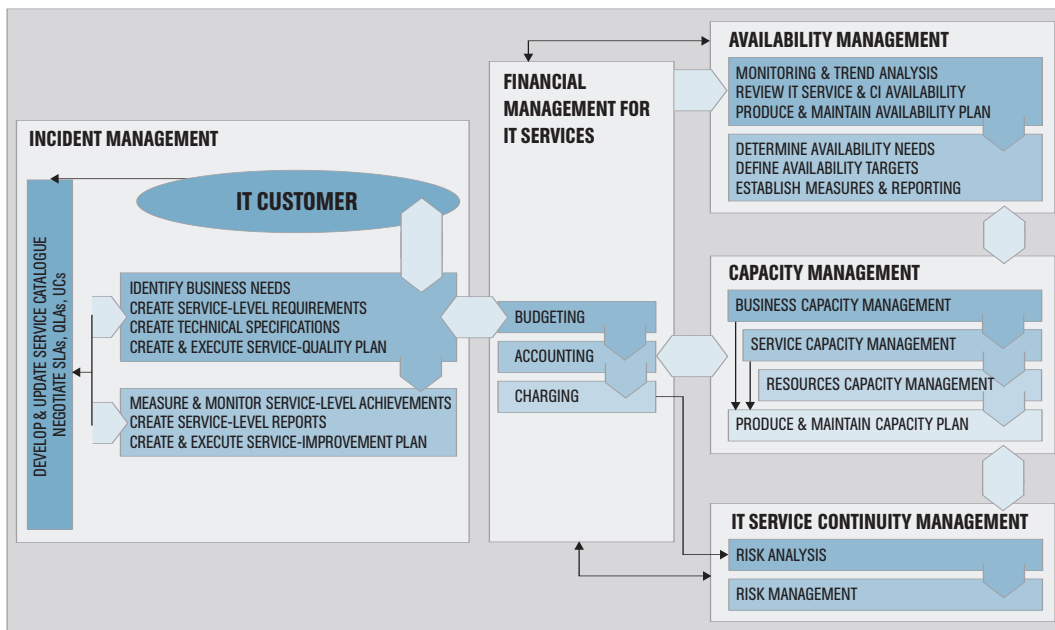


Figure 11: Relationship of the ITIL Service Delivery processes.

Implementing the ITIL Service Delivery discipline with Mercury BTO helps improve the critical alignment between IT and the business, while providing higher levels of customer satisfaction and optimizing service delivery and costs. Each ITIL process in the Service Delivery discipline along with specific Mercury BTO solutions are discussed in the sections that follow.

Service-Level Management

ITIL defines a “Service-Level Agreement” to be: “A written agreement with a customer(s) that documents agreed service levels delivered.”

Service Level Management seeks to maintain and improve IT service quality, through a constant cycle of agreeing, monitoring, and reporting upon IT service achievements along with instigation of actions to

eradicate poor service.

While most competitors manage service levels from system metrics alone, Mercury BTO enables organizations to

proactively manage service levels from the business perspective. In fact, Mercury’s BTO offering helps translate business goals into IT operational levels and Service Quality Plans, literally digitizing business objectives in the process. Service-level factors such as availability and response time can be directly monitored and reported upon with real-time visibility into current service levels, reducing the likelihood of SLA breaches. Organizations can define realistic and quantifiable

service-level objectives that reflect business goals, and track performance both on a real-time basis and for off-line planning purposes. Mercury’s real-time SLA dashboard is shown in Figure 12.

Table 7 lists Mercury capabilities and advantages in ITIL Service-Level Management.

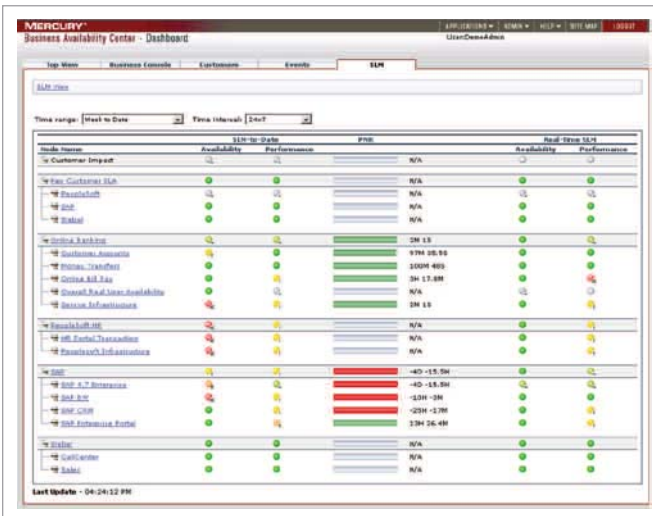
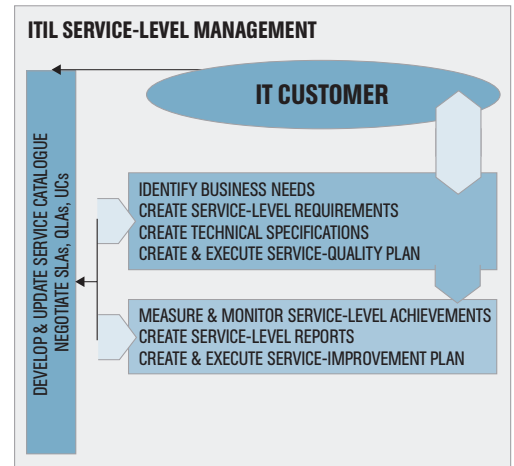


Figure 12: Mercury real-time SLA Dashboard view of Service-Level Management.

| KEY MERCURY CAPABILITIES | BENEFITS |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> An extensive web-based real-time SLA dashboard with historical reporting | <ul style="list-style-type: none"> Measures and monitors service levels from the business and end-user perspective, not simply from infrastructure |
| <ul style="list-style-type: none"> Creates a service catalog of available services | <ul style="list-style-type: none"> Prevents service breaches by understanding the impact on SLAs in real-time |
| <ul style="list-style-type: none"> Documents SLAs and OLAs and their key performance indicators (KPIs) | <ul style="list-style-type: none"> Provides differentiated levels of service or measurement of shared services |
| <ul style="list-style-type: none"> Facilitates setting mutually agreed-upon hours of service and maintenance periods | <ul style="list-style-type: none"> Enables collaboration to streamline current availability management practices |
| <ul style="list-style-type: none"> Proactively monitors SLAs in real-time and predicts time remaining before service breaches occur | <ul style="list-style-type: none"> Reduces the overall cost of managing IT operations |
| <ul style="list-style-type: none"> Shares service-level data across one or multiple SLAs with identical, different, or weighted KPIs | <ul style="list-style-type: none"> Improves business alignment through managing from the user perspective |
| <ul style="list-style-type: none"> Report on and analyze service-level achievements, outages, individual KPIs, and their trends in real-time or over-time | <ul style="list-style-type: none"> Uncover opportunities for service improvement to ensure efficient, effective, high-quality IT services |

Table 7: Mercury BTO advantages in Service-Level Management.

Availability Management

Availability Management seeks to “*optimize the capability of the IT infrastructure, services, and supporting organization to deliver a cost-effective and sustained level of availability that enables the business to satisfy its business objectives.*”

Availability Management is concerned with the design, implementation, measurement, and management of IT services to ensure that the stated business requirements for availability are consistently met.

Mercury BTO addresses Availability Management by providing an extensive, integrated real-time dashboard. With this offering, organizations can capture availability and performance thresholds from both end-user and system monitors while the real-time dashboard displays the entire availability of the business in terms that the business can understand (Figure 13). This approach allows organizations to assess business impact directly while correctly prioritizing resolution efforts according to business goals. As Mercury BTO proactively monitors application availability in real time from the end-user perspective, issues can be addressed *before* customers experience problems.

Table 8 describes key Mercury Capabilities in Availability Management.

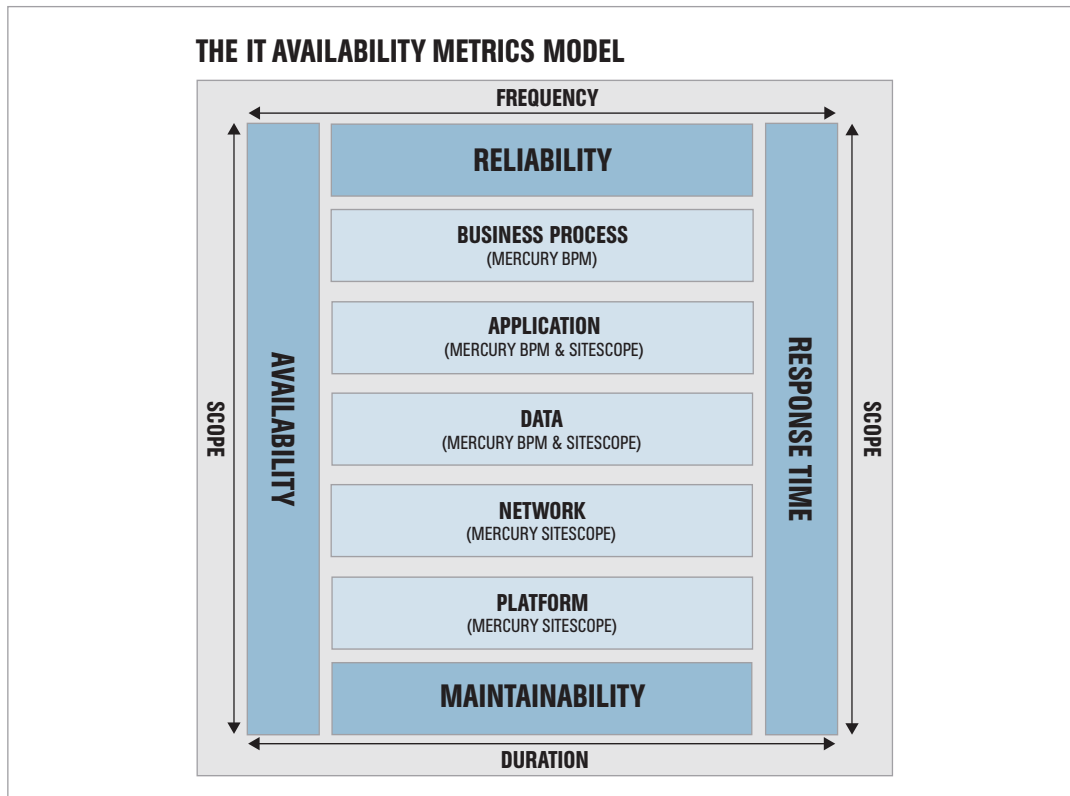


Figure 14: The IT Availability Metrics Model and appropriate Mercury BTO offerings.

Mercury leads the industry with its innovative approach top-down approach to managing IT availability from a business perspective. The IT Availability Metrics Model (ITAMM) is the recommended reference model for measuring the availability of services end-to-end. Mercury provides leading support for ITAMM by measuring availability, response times, reliability, and maintainability across all layers of the model.

Capacity Management

According to ITIL, “Capacity Management is responsible for ensuring that the capacity of the IT infrastructure matches the evolving demands of the business in the most cost-effective and timely manner.” Capacity Management is directly related

to the business requirements and is not simply a measure of the system’s components, individually or collectively. Capacity Management activities raise Requests for Change (RFCs) to ensure that appropriate capacity continues to be available.

Mercury BTO is the only solution that conducts business transaction-oriented capacity modeling and planning for distributed systems. With this advanced capability, customers can model application capacity based on experimental constraints and explore multiple what-if scenarios before committing to a deployment configuration. For example, Mercury BTO could be used to determine the number of servers required to handle a

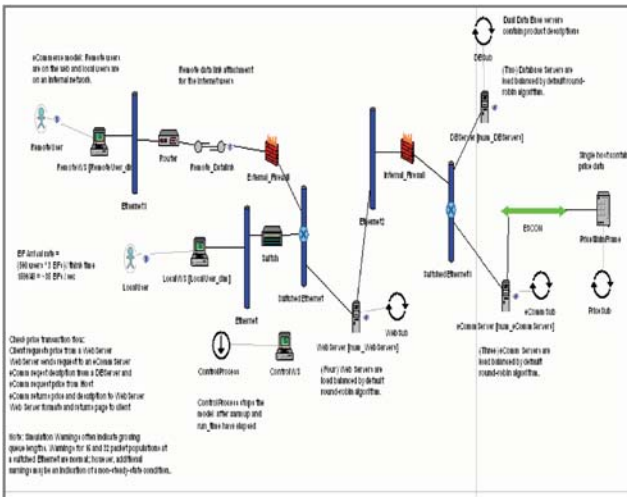
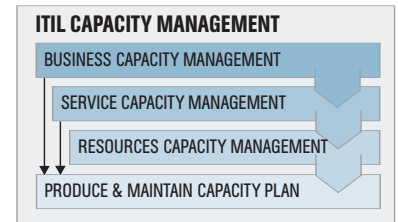


Figure 15: Mercury BTO providing Capacity Management.

certain high-intensity load. By analyzing the results of different scenarios, it is possible to select the best possible deployment model that meets business requirements for cost and performance. Figure 15 illustrates Mercury BTO used in Capacity Management.

Table 9 describes key Mercury capabilities and benefits in ITIL Capacity Management.

| KEY MERCURY CAPABILITIES | BENEFITS |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • Lifecycle approach to capturing business demand requirements as part of project inception | <ul style="list-style-type: none"> • Facilitates better strategic IT purchasing decisions by providing more accurate information |
| <ul style="list-style-type: none"> • Comprehensive monitoring of service, application, and infrastructure resource performance and capacity | <ul style="list-style-type: none"> • Helps enable the establishment of optimized application configurations and removes bottlenecks in production • Verifies that new or upgraded applications and third-party services meet business requirements |
| <ul style="list-style-type: none"> • Single enterprise data repository for performance, utilization, and third-party data | <ul style="list-style-type: none"> • Helps improve predictability of application and infrastructure behavior in production environments |
| <ul style="list-style-type: none"> • Service, application, and infrastructure resource trend analysis and reporting | <ul style="list-style-type: none"> • Increases the success of IT consolidation and infrastructure change initiatives/projects |
| <ul style="list-style-type: none"> • End-to-end tuning of IT services, applications, and their supporting infrastructure in staging or production | <ul style="list-style-type: none"> • Isolates and helps resolve infrastructure bottlenecks • Proactively analyzes the business impact of change before changes are approved |
| <ul style="list-style-type: none"> • Application sizing and validation of requirements in testing and pre-production | <ul style="list-style-type: none"> • Reduces the resources required to perform capacity planning and management |
| <ul style="list-style-type: none"> • Predictive modeling of business, IT service, and infrastructure resource capacity and behavior | <ul style="list-style-type: none"> • Improves collaboration to streamline current capacity management practices • Reduces the overall cost of managing IT operations |

Table 9: Mercury BTO Capacity Management advantages.

Financial Management for IT Services

The principal goal of the ITIL Financial Management for IT services is to “provide cost-effective stewardship of the IT assets and resources used in providing IT services.” This includes support for a solid investment strategy and provides measurable financial targets for the performance of IT services. To accurately account for the costs of providing IT services and arrange for recovering those costs, Financial Management interfaces closely with Capacity Management, Configuration Management, and Service-Level Management.

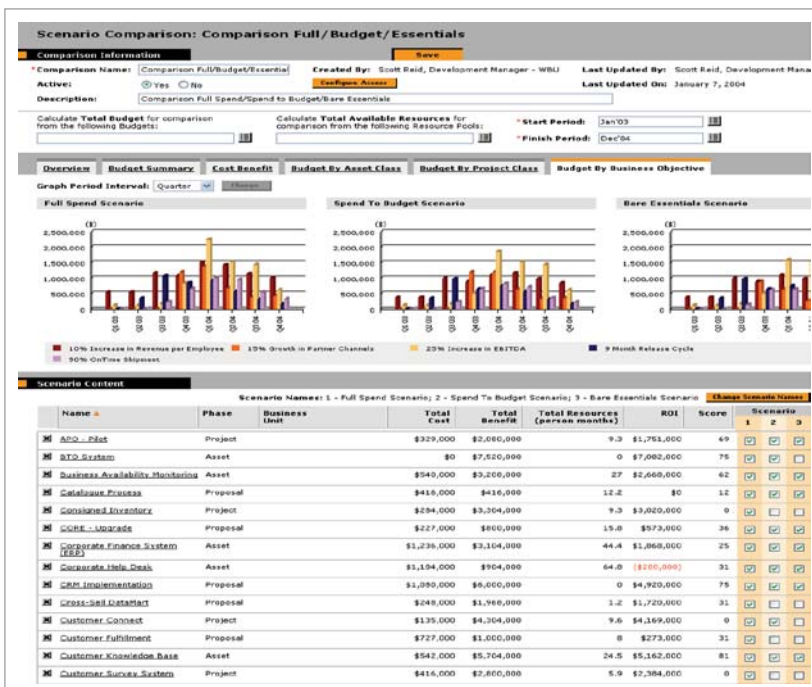
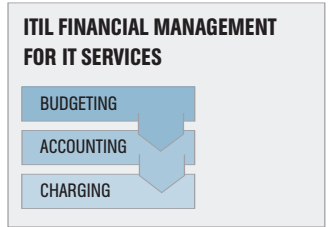


Figure 16: Financial Management for IT Services using Mercury BTO.

Mercury BTO lets organizations examine their portfolio of projects (in the form of IT Service Quality Plans) to let them choose the most optimal plan (Figure 16). For example, an organization might want to analyze and compare the costs of outsourcing, in-house deployment, or a packaged application using objective criteria. Beyond mere budgeting, Mercury BTO lets organizations capture and track the costs associated with a project. The result is key visibility into actual versus expected spending for IT service requests.

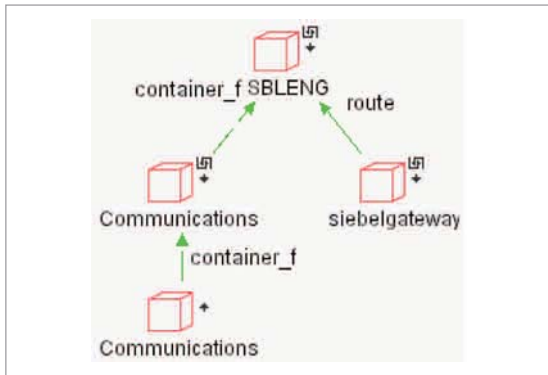
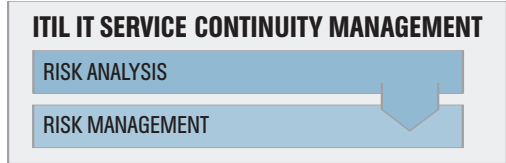
Table 10 describes key capabilities and benefits that Mercury BTO delivers in ITIL Financial Management for IT Services.

| KEY MERCURY CAPABILITIES | BENEFITS |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> Analyzes a portfolio of IT Service Quality Plans (projects) and changes by objective financial and non-financial criteria to identify the most optimal IT services | <ul style="list-style-type: none"> Helps ensure alignment between IT and the business in terms of business justification for all IT services that are planned and delivered |
| <ul style="list-style-type: none"> Captures and assigns human and asset costs to measure project cost against IT budgets | <ul style="list-style-type: none"> Helps ensure a more efficient use of IT resources throughout the organization |
| <ul style="list-style-type: none"> Records, reports, and projects costs and provides staff utilization estimates | <ul style="list-style-type: none"> Helps enable cost-effective business decisions based on actual costs and resources available |
| <ul style="list-style-type: none"> Real-time visibility into IT service requests to track actual versus expected spending | <ul style="list-style-type: none"> Helps establish a foundation for charging for IT services based on actual spending tied to each delivered service |

Table 10: Mercury BTO Financial Management for IT services advantages.

IT Service Continuity Management

According to ITIL, “IT Service Continuity Management supports the overall Business Continuity Management process by ensuring that the required IT technical and services facilities (including computer systems, networks, applications, telecommunications, technical support, and Service Desk) can be recovered within the required, and agreed, business timescales.”



Mercury BTO lets organizations understand the infrastructure that supports the application along with the potential effects of significant events. Figure 17 illustrates a Siebel application map using Mercury BTO.

Figure 17: A Siebel application map using Mercury BTO.

Table 11 lists key Mercury capabilities and benefits for IT Service Continuity Management.

| KEY MERCURY CAPABILITIES | BENEFITS |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> Maps complex application and service relationships and dependencies | <ul style="list-style-type: none"> Lets organizations understand the effect of significant business-impacting events, helping to ensure that appropriate contingency plans are in place |
| <ul style="list-style-type: none"> Eliminates single points of failure that exist in current environments to ensure business continuity | <ul style="list-style-type: none"> Reduces the risks associated with current data center and IT service architectures and designs |
| <ul style="list-style-type: none"> Validates ongoing compliance with corporate policies in order to manage and minimize vulnerabilities | <ul style="list-style-type: none"> Lets organizations proactively analyze the business impact of change before changes are approved, to ensure business continuity |
| <ul style="list-style-type: none"> Provides modeling, simulation, and analysis of different risks and events that could affect the business | <ul style="list-style-type: none"> Improves collaboration to streamline current IT service continuity practices |
| <ul style="list-style-type: none"> Service, application, and infrastructure base-lining and snapshot capture to compare primary and secondary disaster recovery sites | <ul style="list-style-type: none"> Reduces the overall cost of managing IT operations |

Table 11: Advantages of using Mercury BTO for IT Service Continuity Management.

Mercury BTO and the ITIL Business Perspective

The ITIL Business Perspective (Figure 18) is focused on improving the alignment between IT and the business, enhancing communications, and reducing the cost and risk of service delivery. The main objectives of the ITIL Business Perspective are:

- Business needs are identified and translated into IT services.
- The design and implementation of these IT services are managed in a Service Quality Plan (project).
- Project activities are managed and executed under control of Change and Release Management.

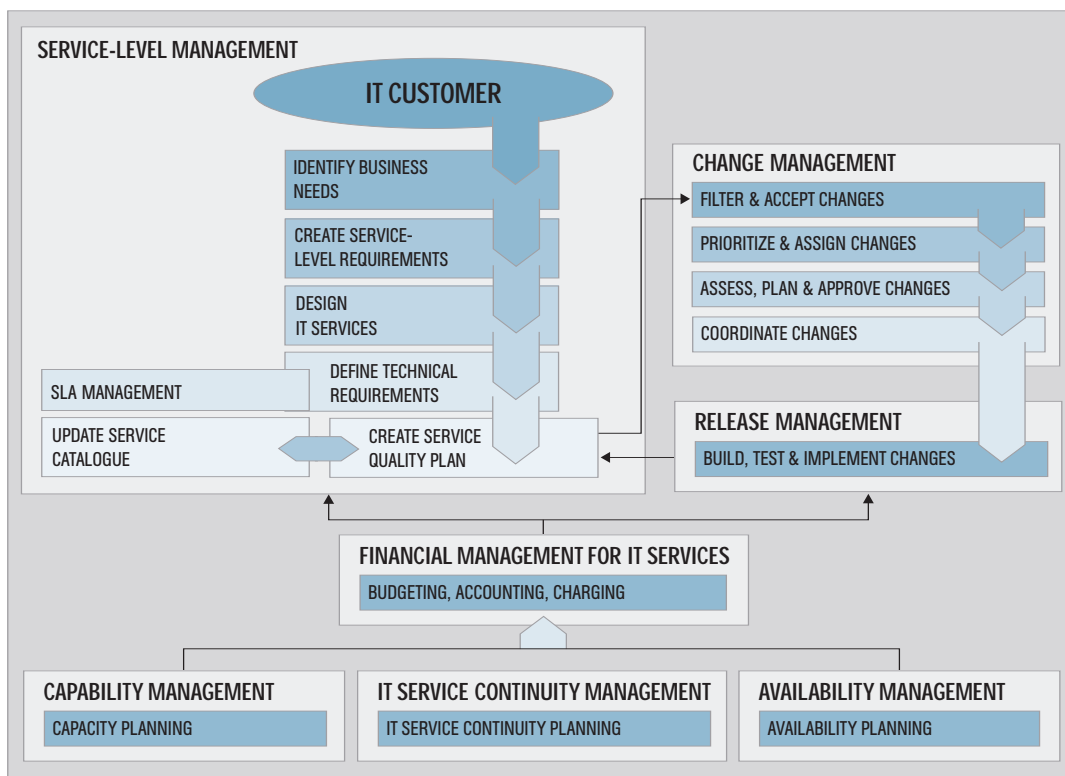


Figure 18: The ITIL Business Perspective.

Mercury BTO has particular advantages that speak directly to the ITIL Business Perspective. Mercury BTO can help by:

- Digitizing the service design and implementation lifecycle.
- Helping to ensure that IT service plans are aligned with business objectives.
- Providing real-time visibility to help ensure on-time, on-budget project delivery.
- Enforcing repeatable change processes to automate testing and release.

Mercury BTO and Application Management

ITIL divides Application Management into two phases consisting of *Service Management* and *Application Development* (Figure 19).

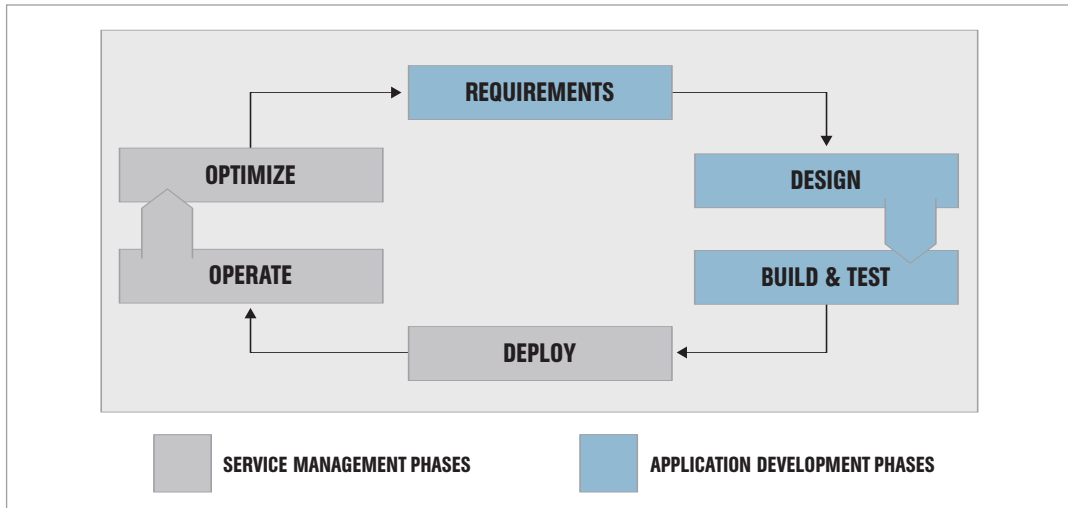


Figure 19: ITIL Application Management.

Mercury BTO offerings for IT Governance, Application Delivery, and Application Management serve to digitize the entire application management lifecycle (Figure 20). These products help optimize application quality, performance, and availability with functional and performance testing. Monitoring and managing applications from an end-user perspective helps ensure high levels of customer satisfaction.

| | | |
|---------------------------------------|----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| APPLICATION DEVELOPMENT PHASES | IT GOVERNANCE Demand Management | Digitize the process across application management lifecycle from initial business requirements to rollout |
| | IT GOVERNANCE Portfolio Management | Capture business requirements for applications as proposals and evaluate application viability based on objective value to business |
| | IT GOVERNANCE Project Management | Provide real-time visibility into application projects to ensure projects are completed on-time and on-budget |
| | APPLICATION DELIVERY Quality Center Performance Center | Automate functional and performance testing to complete the application development phase |
| SERVICE MANAGEMENT PHASES | IT GOVERNANCE Change Management | Automate software deployment to production environments with audit-trail to support regulatory compliance |
| | APPLICATION MANAGEMENT Business Availability Center | Real-time dashboard and alerts provide service availability visibility and notification to the business |
| | APPLICATION MANAGEMENT End User Management System Availability Management | Monitor and manage true customer availability and performance from a end-user and system perspective |

Figure 20: Key Mercury capabilities for Application Management.

Mercury Consulting Services

Mercury Consulting Services™ offers extensive onsite experience and a proven methodology to dramatically improve your project's success rate and quickly identify and resolve issues. We ensure your successful deployment with expertise from Mercury best practices, which follow ITIL philosophy, and are derived from working with tens of thousands of customers.

Mercury Consulting provides assistance on the product, people, and process aspects of all deployments. Our consultants help create the appropriate strategy for your situation and provide project management to ensure a smooth implementation, plus they provide hands-on training and knowledge transfer.

Mercury Managed Services

For organizations that want to move toward adopting ITIL best practices, Mercury Managed Services™ can help them get there quickly. With Mercury Managed Services, you can achieve BTO objectives by speeding your deployment while reducing costs. When you choose Mercury Managed Services, we work with your team to drive success. Mercury Managed Services hosts your Mercury products, plus we provide full 24x7 expert support tailored to your specific situation. Further, we proactively work with you to ensure you receive maximum value, providing as-needed training and mentoring.

Because Mercury Managed Services provides the required infrastructure, resources, and expertise for successful deployment, you can focus internal resources on strategic projects – not operating, administering, and maintaining the software.

Conclusion

Adoption of ITIL guidance and best practices will surely increase as organizations struggle to cope with complex data centers and applications, limited IT budgets, and increasing demands from their clients and customers. Unlike many competitors that offer only a disparate set of legacy management tools, Mercury BTO represents a comprehensive and complete management system that covers a broad base of ITIL functionality while delivering the very latest technology.

Beyond simply reporting and managing incidents, Mercury BTO combines end-user and system perspectives to proactively resolve and respond to problems. By managing to business-centric service levels, Mercury helps tie IT to business needs and business results. The ability to digitize key ITIL processes enables enforcement, while allowing organizations to measure key performance indicators that can impact business services. Providing a solid foundation, Mercury's unique application mapping technology provides a CMDB that is constantly up-to-date so that organizations can better understand and leverage their existing infrastructure while they understand the consequences of change.

Like ITIL, Mercury BTO solutions are centered on applications, people, and processes, providing an essential focus on the customer and the end-user experience that can drive real results for the business.

MERCURY[™]

Mercury is the global leader in business technology optimization (BTO). We are committed to helping customers optimize the business value of IT.
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