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# IT Asset Management, ITIL, And The CMDB: Paving The Way For BSM

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# TRENDS

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## IT Asset Management, ITIL, And The CMDB: Paving The Way For BSM

by **Robert McNeill and Thomas Mendel, Ph.D.**

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### EXECUTIVE SUMMARY

The journey toward running IT more like a business through business service management (BSM) requires the data feeds and processes that enable BSM — IT asset management data, ITIL processes, and application dependency auto-discovery technologies that populate configuration management databases. It also requires an understanding of the journey that organizations must make to improve infrastructure management. BSM initiatives will fail if organizations skip investing in building blocks like the development of an accurate IT asset management system. Organizations embarking on the journey to BSM should ensure that they take manageable steps, with clear ROI targets and cyclical measurement intervals along the way.

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Forrester interviewed vendor and user companies, including BMC Software, Computer Associates, Hewlett-Packard, IBM, Managed Objects, and Peregrine.

#### **Related Research Documents**

"Market Update: SLM/BSM Technologies"  
November 9, 2004, Market Overview

"Change And Configuration Management"  
November 8, 2004, Market Overview

"Building IT Asset Management Integrity With Outsourcers"

July 12, 2004, Best Practices

## ORGANIZATIONS BUILD VALUE THROUGH THE DELIVERY OF SERVICES

Since IT's inception as a support function, many IT organizations have ignored the first essential step toward IT customer satisfaction — clearly defining what it is you are providing to end users and the line of business. This is now starting to change:

- **Operational services consume the majority of the IT budget.** While companies are eager to become more responsive to business change, they continue to suffer from significant internal resource and budget constraints. The underlying issue at stake? On average, 76% of the IT budget is spent on continuous IT operations and maintenance.<sup>1</sup> IT organizations have traditionally not focused enough on aligning operations with business services, leaving the perceived creation of value almost solely focused on application projects.
- **IT as a service aggregator is emerging.** The growing maturity of IT organizations as service aggregators, essentially balancing a host of insourced and outsourced services to deliver value to the business, is one of the key reasons why IT organizations are now building service-level agreements (SLAs) and service catalogs. These deliverables represent the depth and breadth of the IT services offered to the lines of business, and they can be used not only to align and communicate the value of IT to the business but also to ensure accountability and service assurance.
- **The end-to-end service paradigm is becoming a reality.** Organizing IT around services means focusing on what IT delivers, not the platforms being used. To do this, organizations need to understand the dependency of applications and services on the platforms in order to control both service delivery cost and quality. This means moving away from a siloed view of IT and technologies toward an end-to-end view of IT service delivery through business service management (BSM) (see Figure 1).

### Take An Inventory Before Building Services

To reach BSM, IT organizations must sort out the basics like IT asset management first. The reason is very simple: If you don't know what you have, you can't build and deliver sophisticated service levels. IT asset management processes support the collection and provisioning of information about an organization's IT portfolio. It is important because IT asset management:

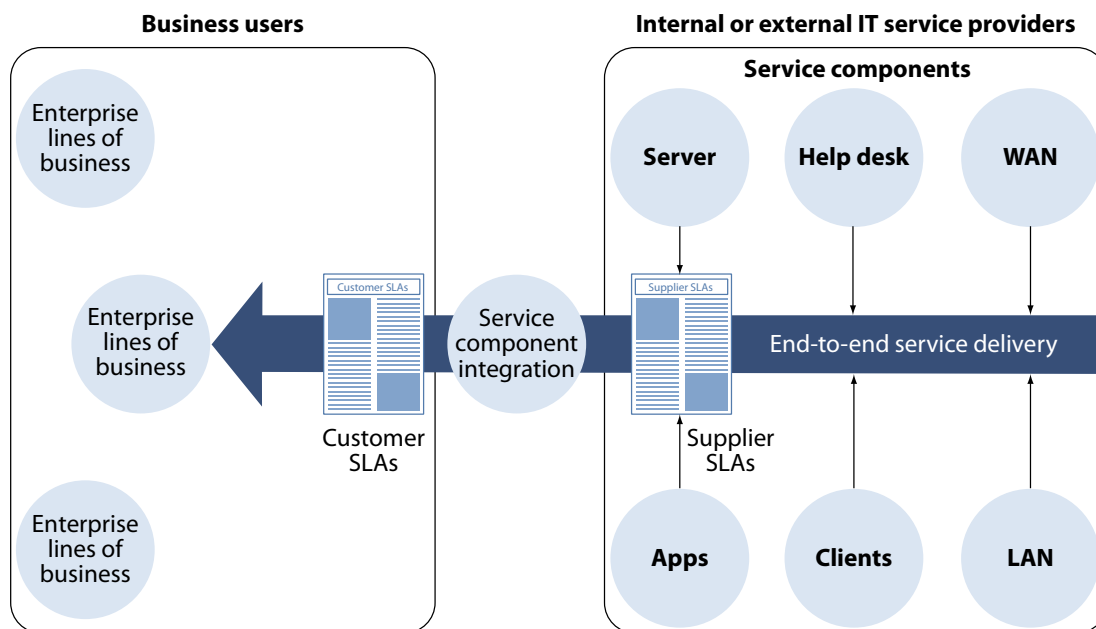
**Is the infrastructure “glue.”** Typical data includes not only the configuration and location of an asset, but also, in some cases, the costs and service condition. IT asset management is often thought of as the glue that bonds together all the activities that support a distributed infrastructure.

- **Is still underused.** CIOs need to invest in IT asset management systems to manage an increasingly complex environment. Forrester has found that most organizations do not use IT

asset management to track software assets within their organizations. This is perplexing, given that constantly decreasing hardware and software costs means that firms can afford more IT — which makes improving IT operational processes even more important, as both the scope and complexity of new digital applications increase continuously.<sup>2</sup>

- **Lacks a process focus.** Most organizations fail at IT asset management as they underestimate the process adherence required to get IT asset management right. IT asset management is 70% process and 30% technology, but no formalized best-practice methodologies for IT asset management exist. Forrester believes that industry-standard IT infrastructure library (ITIL) processes provide an opportunity to build the IT asset management data inputs and outputs required to enable successful IT asset management and configuration management databases (CMDBs).

**Figure 1** IT As The Service Aggregator



Source: Forrester Research, Inc.

### Define Services Where IT Asset Management Can Have The Greatest Impact

Although ITIL does not specifically address IT asset management processes or frameworks, an IT asset management strategy and process is a prerequisite for a CMDB and an ITIL implementation whose goal is to link service delivery with service support. IT asset management can have the greatest impact on:

- **Software tracking.** Mature asset management can: help organizations avoid unnecessary and costly true ups with software vendors; improve an organization's clout at the negotiating table; and fuel cost reduction efforts through reallocating used or unused software among users. Further benefits include the ability to avoid costly and potentially damaging software audits.
- **Lease management services.** The primary benefit here is avoiding month-to-month lease payments after the initial lease schedule has expired. By finding the asset — the principal challenge — and then returning it in its original configuration, firms can avoid month-to-month lease payments and possible penalties. Additionally, many leases contain “auto-renewal” clauses that renew the lease at the old terms, conditions, and prices — even though hardware prices have continued to fall as hardware performance improves. These auto-renewal clauses will often kick in unless firms give the leasing company written notice within the time period specified in the leasing contract. Auto-renewal of leases can cost an organization as much as 40% more than is necessary, as it prevents them from negotiating better terms that take advantage of the price/performance curve in hardware.
- **Warranty tracking.** The benefit here is avoiding paying twice for maintenance coverage — such as paying for inclusion of the asset in a maintenance contract while the asset is still under warranty. Auto-discovery tools will help companies track any enhancements or modifications to devices that may invalidate warranties — resulting in additional repair costs.
- **First-call resolution rates.** Asset management data will reduce first-call resolution rates as agents know what assets employees have when they call the help desk. The simplest integration between the help desk and the asset management system is a nightly/weekly job that updates the employee master in the help desk with information from the asset management system, so that when agents check the employee's profile, they can see what products are in place. More complex integration involves the use of one of the auto-discovery tools to see dynamically what is installed.
- **IMAC dispatch-to-solution rates.** The number of trips that a technician has to make during an install/move/add/change (IMAC) cycle can be significantly reduced if there is previous knowledge of the asset's hardware and software configuration for the planned IMAC; this leads to improved dispatch-to-solution rates for agents. Furthermore, the organization can use audit and reconciliation tools to prove that any project, such as a planned upgrade, has actually been delivered to the end user at each stage of the project plan — with the customer able to accept or reject progress reports and invoices for both goods and services.

Logically, a streamlined ITIL process requires IT asset management data to operate efficiently, but the beneficiaries of an IT asset management system are often the operations of supporting processes. Availability, incident, and problem management are key areas where IT asset management can help remediate immediate problems.

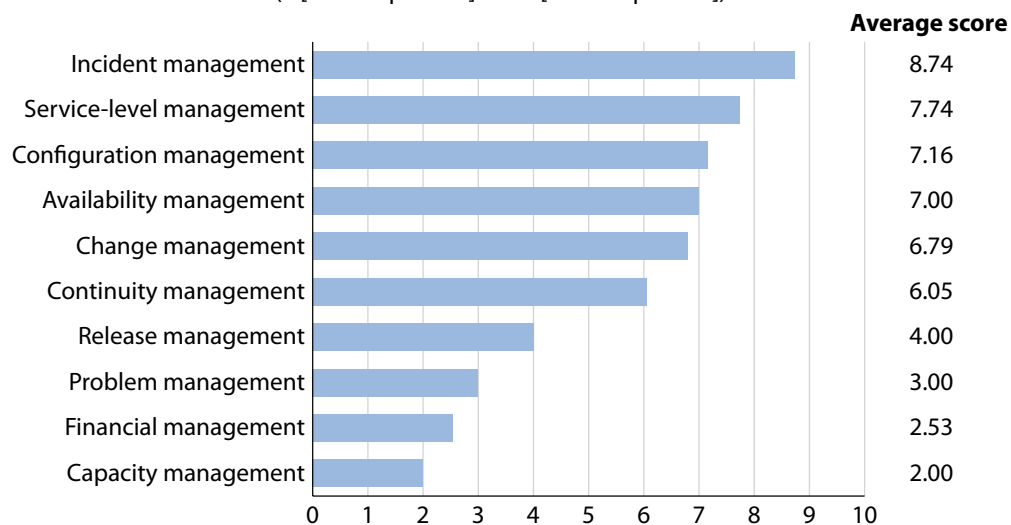
### Link IT Asset Management To ITIL Processes For Low-Hanging Fruit

Many organizations are using ITIL across the service delivery and service support process chain to define best practices for IT service delivery processes.<sup>3</sup> Forrester expects that implementation levels in \$1 billion-plus companies will grow from 13% today to around 40% by the end of 2006.<sup>4</sup> This has important consequences for companies. They must:

- **Recognize that not all ITIL processes are equal.** Forrester recently interviewed 19 \$1 billion-plus companies that have gone through a full ITIL implementation in order to better understand how organizations are implementing ITIL (see Figure 2).<sup>5</sup> We asked the firms to rank the ITIL processes in terms of perceived importance and value for their overall IT service delivery process. Incident management, which deals with solving immediate issues that affect the overall health of the services, came out as the clear winner. This is hardly surprising, considering that setting up a structured process for reacting to a crisis makes good sense as a starting point.

**Figure 2** The ITIL Processes

**“Please rank the importance of the ITIL processes for your overall IT service delivery process.”**  
(1 [least important] to 10 [most important])



Base: 19 IT managers at \$1 billion-plus companies

Source: Forrester Research, Inc.

- **Map the ROI between ITIL and IT asset management integration.** Organizations should identify the ITIL services where IT asset management can have the greatest return on investment (ROI) — organizations should not implement a complete life-cycle approach to IT asset management in one go. Integrate IT asset management with processes that mirror investments in an ITIL implementation. As organizations phase their investment in ITIL, they should map the IT asset management requirements of the ITIL processes to build a business case for improved integration. Firms have achieved positive ROIs from integrating IT asset management processes with a wide range of ITIL processes, including incident management, configuration management, change management, release management, and problem management.<sup>6</sup>
- **Treat ITIL as a means, not an end.** While ITIL best practices are certainly the foundation for a better control of how IT delivers services, they are not a foundation for business process management or managing IT from a business process perspective. Organizations shouldn't view ITIL as the end point for IT service optimization; the framework lacks actionable recommendations, making it an excellent guide or checklist but not a series of implementation blueprints. Further, ITIL is rather hermetic in terms of scope beyond IT services, as it does not prescribe how IT relates to the changing needs of the business or the extended enterprise, such as partners. The No. 1 issue we still hear from IT executives is the challenge of re-architecting IT services to business demands. We believe that BSM will increasingly become the end goal for organizations, and IT asset management strategies will increasingly be designed around the growing demands of a BSM strategy.

### ITIL STARTS THE JOURNEY, BUT BUSINESS SERVICE MANAGEMENT MUST BE THE GOAL

Aligning IT asset management to ITIL is a solid way of optimizing IT service processes, but it does not help much in terms of true IT business alignment. To achieve this, IT organizations should keep in mind that:

- **BSM requires a top-down, not bottom-up, approach to IT services delivery.** IT organizations should concern themselves with designing the right processes and services with the business and then work out what data the teams require to perform these services. True business alignment has to be implemented in a top-down manner, not from the bottom up, where the ITIL frame of reference originates. If an organization is to align IT with the business, it has to carefully model the dependencies of the applications and infrastructure to the business process.
- **Service-level management is only the first step, yet again.** It is important to distinguish between the two different facets of service management: service-level management (SLM) and BSM. A service is defined as a discrete offering from an IT department or external service provider. An SLA is a contract between a business and an IT service provider, internal or external — and the process of measuring service quality, reporting results, and taking action to

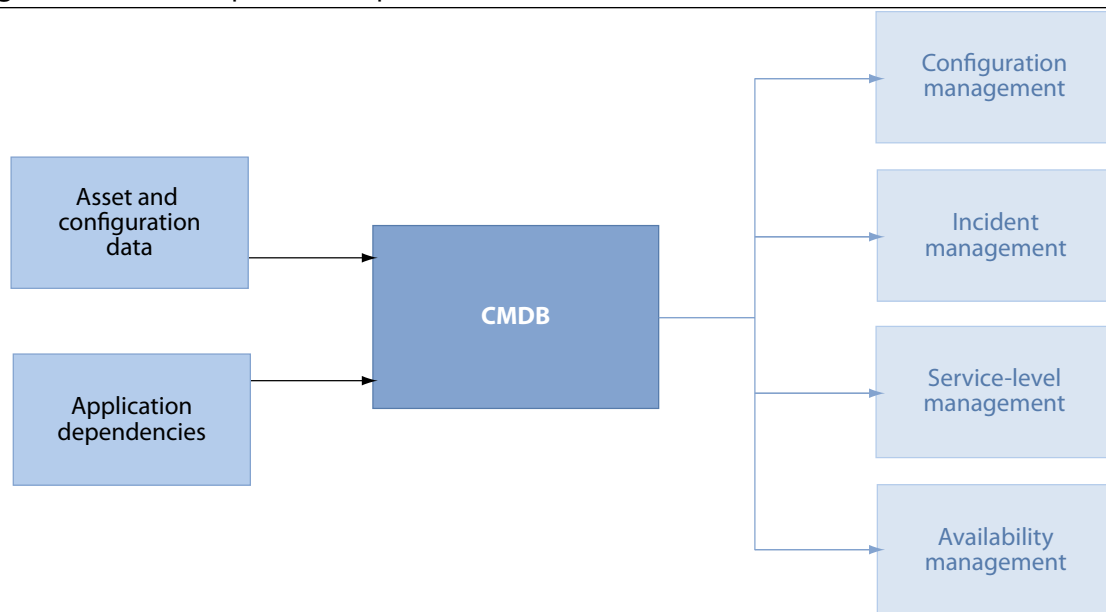
ensure the quality stays within agreed parameters. The key difference between SLM and BSM is that BSM takes a more business-focused view of the definition of a service, such as time to cash, as opposed to an IT-centric view, such as the availability of an ERP system. Gaining a good understanding of how to describe a business process is therefore a key capability for BSM products.<sup>7</sup> That's why vendors like IDS Scheer invest a lot of time and effort in making it easy for clients to first describe their business processes and then ultimately automate the mapping of those to the infrastructure components. For IT departments, this unfortunately means that they have to learn how to walk (SLM) before they can start to run (BSM).

### The Long And Winding Road To BSM Must Include A Robust CMDB

A CMDB stores a multitude of configuration items (CIs), ranging from assets like servers and PCs, to financials like contacts and purchase information, to infrastructure component information. It also stores the relationships between these CIs and higher-level entities like applications, services, and, in the most advanced implementations, even business processes. Why is this important?

- **Discovery and mapping innovations enable BSM.** The addition of features around application-to-infrastructure component mapping has changed the face of the CMDB and has finally enabled BSM. Application mapping is at the heart of BSM because it enables management of services, not components; this has taken system management to the next level of intelligence. A true CMDB is created by using two key types of input — IT asset management data and application mapping auto-discovery data (see Figure 3).

**Figure 3** The CMDB Input And Output



Source: Forrester Research, Inc.

- **Vendors are actively promoting CMDBs.** As IT asset management tools feed the CMDB, the leading IT asset management vendors like BMC, CA, IBM Tivoli, and Peregrine have embraced ITIL and the CMDB as a central component of their offerings. Most of the current innovation around the CMDB isn't coming from the IT asset management market but from application dependency mapping technology vendors like BMC, CA, Cendura, Collation, nLayers, Relicore, Mercury, and Tideway Systems. Leading IT asset management and systems management providers, are making increasing efforts to integrate asset portfolio management repositories and the CMDB. CMDBs built on mature IT asset management tools form the foundation for effective change, configuration, incident, problem, and release management.

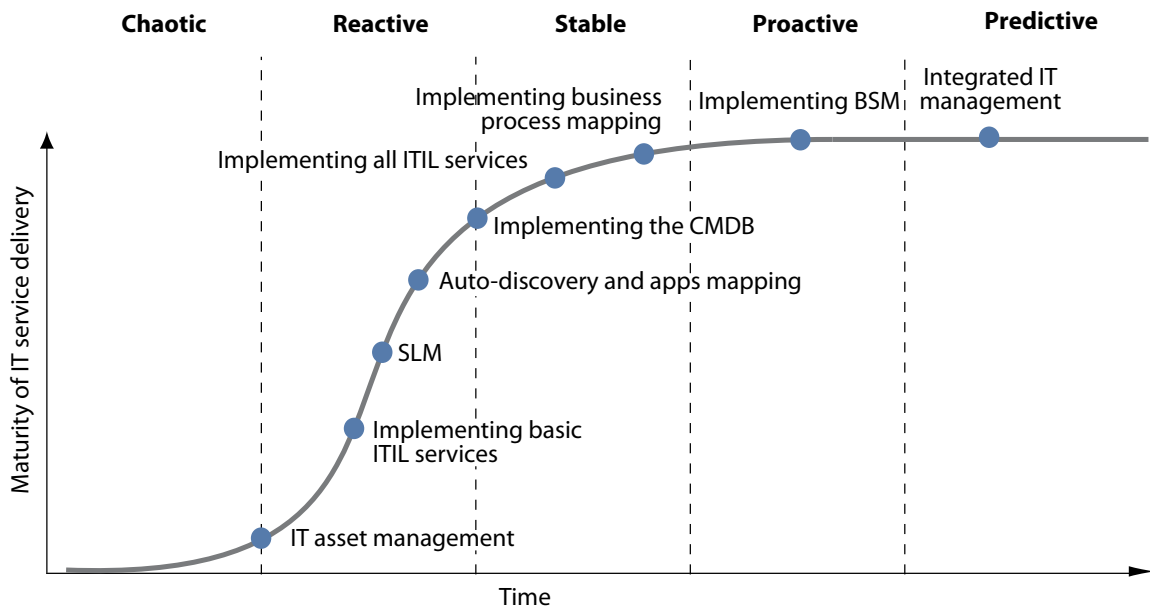
**BSM is becoming ever more sophisticated.** Cutting-edge companies like Fidelity Investments, T-Mobile, HSBC, and ING continue to deploy ever more sophisticated BSM tools; the ultimate goal is to automate the delivery of complete business processes, even across the extended enterprise, which includes business partners and outsourcers of various service components. This is far more complicated than implementing basic end-to-end management for standard IT services. The gap in implemented functionalities between mainstream SLM technologies, as described in the ITIL books, and cutting-edge BSM technologies is therefore widening continuously. As a result, traditional infrastructure management tool vendors will increasingly dominate the SLM market; the BSM side of the market will continue to be a dynamic area of high innovation, particularly around better defining business processes, dynamically mapping business needs to IT services, and enabling true end-to-end service delivery chains for the extended enterprise. This, finally, is where the CMDB brings together ITIL and IT asset management to enable BSM.

### It's All About Maturity

This is what the journey toward BSM will look like (see Figure 4):<sup>8</sup>

- **Stage one: chaotic.** Forrester estimates that 35% of global \$1 billion-plus companies are here today. Characteristics include limited formal processes for managing IT. In a recent survey, we found that 35% of organizations do not have a process methodology for managing IT.<sup>9</sup>
- **Stage two: reactive.** Forrester estimates that 44% of global \$1 billion-plus companies are here today. Characteristics include basic IT inventory management performed on a project-by-project basis and implementation of some of the basic ITIL processes.

**Stage three: stable.** Forrester estimates that 14% of global \$1 billion-plus companies are here today. Characteristics include: an understanding of the services and construction of basic services associated with operational processes like install, move, and change; the use of ITIL as the basis for optimizing services delivery; and the integration of IT asset management with ITIL processes.

**Figure 4** The BSM Maturity S-Curve

Source: Forrester Research, Inc.

- **Stage four: proactive.** Forrester estimates that 7% of global \$1 billion-plus companies are here today. Characteristics include implementing a business services framework and moving beyond ITIL toward a true understanding of the dependencies between IT operations and business needs.
- **Stage five: predictive.** This final stage is still very much bleeding edge. Forrester estimates that only about 1% of global \$1 billion-plus companies are here today. Characteristics include the implementation of a set of tools and processes that: present dashboard-level views of IT all IT activity (investments, projects, operations, and maintenance); centralize the collection and distribution of work requests; and enable resource allocation according to business needs to reduce much of the financial waste in IT today.<sup>10</sup>

Forrester believes that it will take companies at least four years to move from stage one to stage five.

## RECOMMENDATIONS

### MODEL IT ASSET MANAGEMENT TO SERVICES

IT asset management is a key component for ITIL and the CMDB. This has important consequences for both the vendor and end user communities. Organizations should be aware that the times of looking at infrastructure management problems in isolation are, for all intents and purposes, over. To deliver end-to-end service levels, firms have to evaluate infrastructure management architectures from an end user and business service perspective. Understanding the relationship between ITIL, IT asset management, and CMDB management will help IT construct and align infrastructure services to business needs.

## WHAT IT MEANS

### ALIGN IT ASSET MANAGEMENT WITH BSM STRATEGY

BSM will become the next maturity level for organizations that implement improved service support and delivery organizations. The drive for higher service quality at lower costs means that IT departments will have to become better at gaining holistic views of their overall IT operational performance. To that end, it is important to keep the following key success factors in mind:

- **Start top down.** Understand the services requirements of users and decision-makers. Companies that have already gone through a full implementation of ITIL processes have realized that, in fact, not all ITIL processes are of equal importance and value to them. Companies we talked with feel most strongly about those ITIL processes that directly influence the end user experience and those that provide the necessary foundation for a good user experience.
- **Pursue a federated CMDB.** The only sensible way to implement CMDB architectures is to use a federated approach, enabling companies to construct different views of the data for different purposes while at the same time storing and updating the data in local data stores. Forrester has reviewed a number of ITIL, CMDB, and asset management projects over the past 18 months. Given proper planning and execution, a positive ROI after 12 to 18 months seems to be achievable.
- **Build a solid asset management foundation.** Because of the tight connection, firms should make sure that a solid foundation of IT asset management backs up any attempts to implement ITIL — and, ultimately, a CMDB.

## ENDNOTES

- <sup>1</sup> On average, 76% of firms' IT budgets go to ongoing operations and maintenance, as opposed to new investments. See the December 15, 2004, Data Overview "2005 Enterprise IT Outlook: Business Technographics North America."
- <sup>2</sup> Pressures to decrease cost, increase reliability, and comply with local regulations conspire to make it harder than ever for IT to deliver business services efficiently. We are fast approaching the stage of IT's evolution at which innovation must translate into overall process improvements, as it did in the mainframe world 20 years ago. This quest for process improvement is the root cause of a universal interest in best practices and in frameworks such as IT infrastructure library (ITIL), international organization for standardization (ISO), and control objectives for information and related technology (COBIT). Looking at these frameworks, we find that they are mainly complementary, but they lack directly actionable recommendations, which make them excellent guides and checklists rather than implementation blueprints. See the September 1, 2005, Best Practices "The Management Process Alphabet Soup."
- <sup>3</sup> IT operations managers increasingly realize that implementing formalized processes for IT service delivery can help reduce the manual effort needed to deliver the service, as well as enable more consistent service quality. Over the past 12 months, ITIL has managed to gain enough mindshare to now be effectively regarded as the de facto standard. However, implementing ITIL by the book proves to be an almost impossible challenge for many IT organizations. Best practices suggest the following approach: a staged implementation, starting with incident management and followed by configuration management. Service quality metrics should be introduced from the very beginning, coupled with a strong focus on automating recurring tasks. See the September 21, 2004, Best Practices "Implementing ITIL."
- <sup>4</sup> We have based these market estimates on conversations with vendors, other supply-side information, publicly available surveys, and conversations with our clients. See the July 20, 2005, Tech Choices "Point Solutions For Enterprise Infrastructure Management."
- <sup>5</sup> Companies that have already gone through a full implementation of ITIL processes have realized that, in fact, not all ITIL processes are of equal importance and value to them. Forrester asked companies to rank the 10 ITIL processes in terms of perceived importance for their IT service delivery. The result? Companies feel most strongly about those ITIL processes that directly influence the end user experience and those that provide the necessary foundation for a good user experience. See the March 16, 2005, Quick Take "Not All ITIL Processes Are Created Equal."
- <sup>6</sup> While the benefits of integrating help desk with asset management can be significant, the return on investment (ROI) is heavily dependent on the type of company and expected integration cost. See the August 6, 2002, Planning Assumption "The Total Economic Impact™ Of Integrated IT Asset Management And Help Desk."
- <sup>7</sup> Service-level management/business service management (SLM/BSM) technologies represented one of the two fastest-growing submarkets of the infrastructure management technologies market in 2004 — and will continue to do so through 2006. Adoption of these types of technologies will increase steadily, pushing the SLM market into the mainstream. This goes hand in hand with ITIL's success in becoming the de facto

standard for enterprise service delivery processes. At the higher end of the market, however, the gap in sophistication between mainstream SLM technologies and cutting-edge BSM technologies continues to widen. As a result, traditional infrastructure tool vendors will increasingly dominate the SLM market, whereas the BSM side of the market will continue to be a dynamic area of high innovation — better defining business processes, mapping business needs to IT services in a more automated and dynamic fashion, and enabling true end-to-end service delivery chains for the extended enterprise. See the November 9, 2004, Market Overview “Market Update: SLM/BSM Technologies.”

- <sup>8</sup> We have based these market estimates on conversations with vendors, other supply-side information, publicly available surveys and conversations with our clients.
- <sup>9</sup> As CEOs ask their CIOs to run IT more efficiently — more like manufacturing plants or item-processing centers — CIOs are seeking to stabilize technologies and IT operations through process methodologies: standards and increased consistency in IT operations. IT’s historically homegrown process methodologies are beginning to give way to broadly used approaches like ITIL and Six Sigma. By mapping IT activities against the emerging standards for these methodologies, CIOs can develop a plan for the incremental movement toward results. This will include adopting an IT services model, organizing to support that model — including identifying service owners — and delivering ongoing results through a continuous improvement approach. See the May 31, 2005, Trends “Stabilizing IT With Process Methodologies.”
- <sup>10</sup> Dashboard-type views permit business managers and executives to see business events, to understand their subsequent impact, and to take corrective action. It is ironic, then, that IT — the enabler of many dashboard views — lacks any comprehensive view across the existing applications, infrastructure, and planned projects that encompass its sphere of responsibility. Infrastructure-monitoring software like BMC Software’s PATROL or IBM Tivoli has existed for a decade or more, and two emerging disciplines — application portfolio management (APM) and project portfolio management (PPM) — provide visibility within their individual domains. However, these colloquial views — where they exist — are insufficient. Forrester believes that convergence across these three areas in the next 24 to 36 months will culminate in integrated IT management (IIM) dashboards, which will enable IT management to reduce IT budgets by as much as 30% while realizing value increases of 10% to 15% in the first year. CIOs and their direct reports have a wake-up call: Organize for visibility and manageability or be replaced by someone who understands the value that this emerging technology represents. See the February 2, 2005, Forrester Big Idea “Integrated IT Management Drives Efficiency.”

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