Service Management and Business Priorities

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ENTERPRISE MANAGEMENT
ASSOCIATES

PROVIDING FOCUS FOR IT IMPROVEMENT

Most IT managers have experienced the pain of the "domino effect" where multiple failures compound to create widespread angst across the company. IT is faced with a situation where the corporate e-mail service goes down at the same time as the Web server at the same time a key router intermittently disrupts service. The question is where should IT focus its efforts? End-user calls are piling up, the help desk is getting overwhelmed, but which problem is the number one priority? Worse yet, the services span several heterogeneous environments and management tools, creating "silos" of information that can't be easily integrated. Rarely are the CEO's opinions solicited before efforts are made, yet it is the impact on the bottom line that wins or loses respect for IT. Even if IT knew which service was the top priority, it usually cannot identify the relationship between infrastructure and services. Instead, fixes are applied to the problem that 1) came in first, 2) is garnering the most end-user complaints, 3) is easiest to fix, or 4) in the technical silo most familiar to the operator involved. IT needs a way to provide the business perspective necessary and manage across environments for truly effective service management. This is where IT service management can add real value for the business as a whole.

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The IT Infrastructure Library (ITIL) is a large force behind the push towards service management. ITIL publishes seven books that contain best practices for service delivery and support. The information includes definitions of organizational structures and generic processes, including everything from help desk escalation flowcharts to application management guidelines to financial management input into IT. ITIL is gaining mind-share in the United States and is already a powerful presence in Europe. Service level management (SLM) is one of the books in the set, and is a process for delivering services that consistently meet client requirements. The essence of service level management is captured in the following quote:

"The SLM process creates a management framework that disciplines both the provider and the customer. SLM encourages the customers to consider, document and define their real business needs. SLM generally makes the provider more focused and accountable. By including the cost of the IT services in the measurements, the SLM processes can also help improve the cost effectiveness of the services."

This statement directly addresses the requirement that IT better align itself with business goals and objectives. It's really about a meeting of minds between IT and business: first the business goals must be understood by IT, and then IT must have the ability to manage its infrastructure to address those priorities.

The concept of business alignment of IT services is called business service management (BSM) by some, while others see it included in the definition of SLM. For one customer interviewed for this paper, aligning services with business goals was the first step, and implementing Service Level Agreements (SLAs) followed that effort. Whatever approach is taken, the necessary capabilities include mapping infrastructure to business services; and prioritizing IT services according to business goals; and defining, delivering, supporting, and reporting on IT services.

An Italian bank has been able to reduce its mean time to repair (MTTR) by 30% and has improved its customer satisfaction ratings by 115%.

One company has been working to create SLM processes for three years. At this point, with 48 services spanning mainframe, AS400s, UNIX, and Windows servers, they have been able to reduce their mean time to repair (MTTR) by

30% and have improved their customer satisfaction ratings by 115%. While the manager coordinating this feat admits that it has not been simple, the potential gains are impressive enough to warrant an SLM effort. This paper has been written to help other companies realize these and other benefits, while maneuvering through the non-trivial effort of creating service level management.

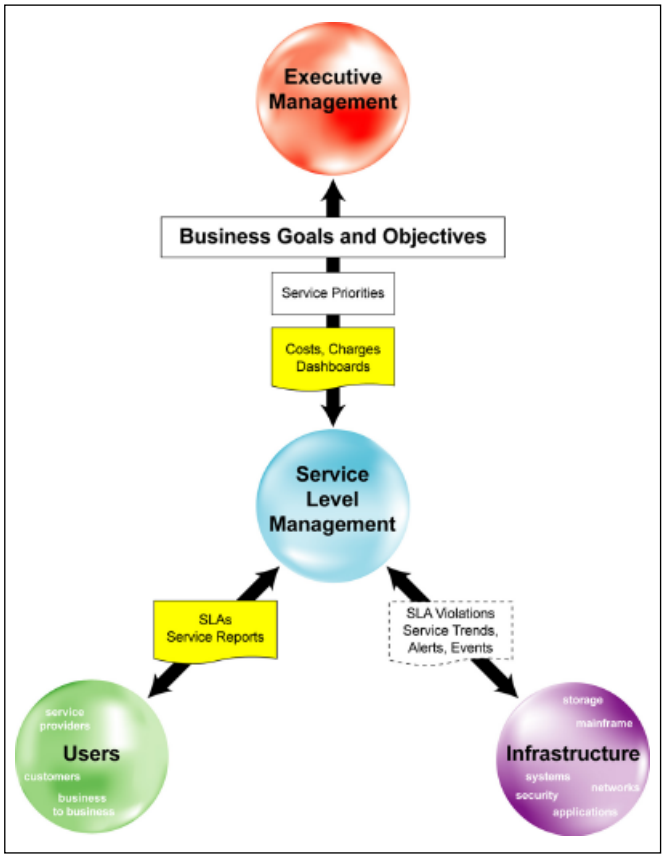

Figure 1: SLM diagram

COMPELLING DRIVERS OF SLM

Enterprise Management Associates (EMA) spoke with two large banking and insurance companies, one located in Italy and one headquartered in the Netherlands. They discussed their SLM initiatives in depth with EMA. For both companies, internal drivers were paramount in the initial push, but there were also substantial external factors that came into play.

Internal Drivers

For both of the IT managers interviewed, the most significant driver was end-user demand for better services. The Italian manager reported that they did not have a way to identify problems until they received calls from irate end users. In the Netherlands, IT would report that they were "doing fine" according to their availability metrics, while the business was saying that they were unable to accomplish work. The business managers were bound to performance goals that relied on IT's support of business services; however, IT could not identify which elements of the infrastructure went with a service, so focusing on repairing a specific service was difficult. There was tremendous pressure to provide better services, which meant identifying services (as opposed to components), having the ability to manage those services, and being able to place business priorities on those services.

SLM also provides a forum and context for communication between IT, the lines of business, and executive management. EMA has seen situations where the line of business manager enters into a service level agreement (SLA) negotiation demanding "five 9s" (99.999%) availability, without any understanding of the cost in terms of infrastructure outlay. The ensuing discussion helped IT to understand which services were absolutely critical for allowing the business unit to meet its key performance indicators (KPIs), while the business manager was able to understand that IT did not have the infrastructure to provide five-9s on every service that it provided and that it would be cost prohibitive to do so.

The Netherlands manager mentioned that SLA reporting has helped the business manager and executive management really know what kind of service IT was providing. Instead of vague complaints from end users that the system was "always down," IT documented that while some downtime was experienced, the SLAs were still met. This helps to set expectations for current service levels as well as to set a context for discussions on IT investments. Further, if IT is working proactively to manage service levels, it can inform the business of service problems. This allows the business to take measures to ameliorate the severity of any service disruption. Sometimes additional temporary staff can be hired or other stop-gap measures taken if enough lead time has been given. Communication assures that business and IT are working together with a

The end-users may be telling business managers that the system is "always down," but IT can provide reports that despite some outages it is meeting its SLA.

common set of data, and a common understanding of both the goals and the constraints.

Another big driver for IT organizations everywhere is increased efficiency. IT managers are being asked to do more with less, and SLM can provide productivity boosts to make that possible. One contribution is found in moving from reactive management focused on fixing problems, to proactive management working to prevent potential troubles. By triggering warning alerts when the performance of a service begins to drop, IT can take actions to redirect traffic or boost resources to that service. This needs to be done in accordance with the business priorities, of course. Operators can fix potential problems before calls start coming into the help desk and before there's a full-blown crisis to manage.

Efficiency also comes from faster troubleshooting. When IT can "see" across silos it can more quickly identify where the true cause of a problem lies. The Netherlands bank has defined 239 services, mapped to 12 production mainframes, 6 IMS database mainframes, 800 UNIX servers, AIX Web servers and "thousands and thousands" of MS Windows machines. The ability to pinpoint problems to a particular component reduces the time-wasting and alienating finger-pointing that can happen when each technology silo blames the others for performance problems.

An SLM initiative also provides a good starting point for creating ITIL-based processes. ITIL is quickly gaining proponents who state that using ITIL-defined structures and methods will result in smoother functioning and clearer lines of responsibility. ITIL is very well defined, and using it will require less "made from scratch" process development. However, moving an entire IT organization into ITIL compliance is a very large undertaking, and should best be done in pieces. Developing an SLM initiative that covers only a few processes allows the IT organization to gain experience with ITIL methods. The platform created can then be used to broaden both the systems covered by SLM and the IT functions following ITIL.

External Drivers

The external drivers of SLM are also compelling. The Italian bank was experiencing competitive pressure from on-line loan providers. While the bank did have a Web presence, better loan services at other Web sites would eventually draw customers away and cut into the bank's revenues. Providing better Web performance and increasing customer satisfaction were key factors to maintaining the bank's portion of that lucrative market. The Netherlands manager also mentioned that the 24x7 aspect of the Internet had moved IT into greater visibility. Internet services are now their top business priority.

Compliance with government directives, such as the Sarbanes-Oxley Act and the Health Insurance Portability and Accountability Act (HIPAA) in the United States, and the Revised Framework for the International Convergence of Capital Measurement and Capital Standards (Basel II) in the European Union, is another issue that is increasingly laid at the feet of IT. Stiff fines and prison sentences are getting the attention of executives who turn to IT to meet the reporting, security, risk assessment, and privacy considerations that are dictated by those mandates. Development of repeatable processes and accountability reporting are included in an SLM initiative, and can be brought to bear on protecting data and evaluating and controlling risk.

A final need for SLM is found in the increased movement toward outsourcing. This can be viewed in two ways: using SLM to provide better services may reduce the pressure for outsourcing; but, when services are outsourced, SLM processes provide a way to define, monitor, and manage SLAs with external providers. The Italian bank had merged with two other banks in one year, doubling the number and types of servers under management. At the same time, it was actively moving into Internet operations. Outsourcing played a large part in getting all the new infrastructure and services under control. The bank outsourced management of its mainframe and UNIX systems, and a telecommunications company is providing the underlying Internet connectivity. SLM tools allow the bank to control and follow all the SLAs with those providers. Multi-tier SLAs are also layered on top of external SLAs and clear identification of problem origin is necessary to keep those agreements functional.

External Drivers

- *Competitive pressure*
- *Compliance*
- *Outsourcing*
- *Customer satisfaction*

SLM Provides Bottom Line Benefits

The case for SLM, as for any IT expenditure these days, frequently must be cast in hard dollar benefits. These are

the benefits that CFOs find the easiest to quantify and most trustworthy, therefore they are most frequently required in IT purchase justification. These can be found in greater return on assets and reduced SLA penalties. Most IT operations are facing significant constraints on new purchases, resulting in constrained resources. Gone are the days of using excess capacity to provide a buffer for higher usage. SLM allows a company to maximize resource usage while still maintaining high service levels, and to use infrastructure in ways that provide the company the highest return on those assets.

In addition to the significant operational efficiencies mentioned above, business lines can also experience higher operational efficiencies. If IT can warn them of service outages in advance, they can better manage their staffs, and take steps to alleviate the loss of functionality. Reduced downtime due to proactive management and faster MTTR can be expressed in greater revenue contributions by the service in each up-time minute. Not all companies experience SLA penalties; however, they are also directly affected by better services. Unfortunately, few companies really do attempt to quantify their benefits after the fact—neither of the organizations contacted for interviews undertook a financial analysis. This is complicated by the fact that while savings may be gained over previous infrastructure, the money is usually plowed back into IT to accomplish even greater service levels.

Soft benefits can also be significant, and frequently form the basis for IT interest, even if they don't play a part in financial justification. A primary benefit is increased customer satisfaction. Customers may be external purchasers of a company's products and services, or they may be internal lines of business that nevertheless pay for their IT services through charge-back accounting. In both cases, these customers frequently have the ability to take their dollars to other providers. Beyond reducing customer acquisition costs, pleased customers result in greater lifetime customer values through increased sales. Increased customer satisfaction comes through increased availability and performance of services, more timely resolution of problems, and more accurate billing. Through "before and after" end-user surveys, the Italian bank was able to document an increase in its customer satisfaction ratings of 115%. Happier end-users translate into better customer retention, increased revenue, and reduced costs of customer acquisition. Not to mention the general increased respect for IT that carries weight in the executive office.

Other soft benefits include improved IT staff morale and responsiveness. SLM tools provide IT with a broader view of problem and causes, and encourage separate functions to operate as a united force to tackle and solve problems. As the Italian manager put it, specialists and functional silo tools are still necessary in infrastructure management. SLM tools allow him to create a second-level operational support team. Representatives from each functional area are assigned to the support team on a rotating basis. They learn from each other and assist each other to resolve complicated, silo-overlapping problems. Besides creating a supportive, learning environment, this teamwork approach also increases the overall responsiveness of IT. Making changes to procedures, priorities, resource allocation, and other definitions becomes simpler when all of IT is working together to accomplish the business priorities. When the SLM tools provide process automation, it also assures that changes and priorities will be enforced throughout the organization immediately and consistently.

Key Success Factors in Implementing SLM

SLM is not just a set of tools that can be added into an organization's status quo to instantly create better managed services. Foremost, SLM is a set of processes that must be worked out within the existing cultural and organizational structures. Ultimately, SLM will change those structures, integrating technology silos and providing liaisons between business and IT. In recent surveys, as well as the two interviews for this project, EMA sees the same general issue rising to the top: organizational issues. Other contributing factors include well-crafted SLAs, business orientation, baselining IT capabilities, and securing outside assistance.

Organizational Issues

According to end users, the greatest factors in success, and consequently greatest potential obstacles, are organizational issues rather than technical issues. Changing culture and organizational structure is difficult. Without continuous backing from top-level management, most deep structure changes stall before they are completed. An executive-level message must be sent that time, resources, and support will be given to the SLM project. In addition to high-impact messaging, a combination of training and incentives for reform are necessary.

Business managers must be made aware of the cooperative nature of SLM initiatives. Ideally, neither customers nor IT should dictate service levels to the other. In a well-designed SLM program, IT is viewed as a shared resource and an

enabler, not as a gating factor. The business group must determine its priorities and KPIs, and justify requested service levels. IT must document what it can deliver based on existing infrastructure. Then, someone other than IT or the business lines should be responsible for determining which services receive what service level. This type of resource allocation is typically negotiated at a high level in the organization.

Another way to distribute IT resources is to use a profit center model rather than a cost model. When service levels are associated with costs, then more balance comes into the equation. The Netherlands bank is a profit center organization, which also served to further reinforce a service mentality where "the customer is always right."

Sometimes, IT can be its own worst enemy. New priorities, new procedures, and new customer-facing service groups may need to be created. Operators have frequently been working in fire-fighting mode for years, and haven't seen the need to fix something before a serious problem arises. This reluctance will be exacerbated if increases are not made to proactive staffing resources. In the Italian bank's operations, three people were assigned just to monitor services for degradation. Besides notifying the IT staff where the problems were, they were responsible for communicating to the line of business whose service was going to be impacted.

Lack of executive support, inappropriate SLAs, and resistance from technology management silos are the major obstacles to successful SLM.

Another issue for IT is that silo experts are sometimes resistant to working together or sharing data. A new second-level support organization was created in the Italian bank to address that issue. Changes in how IT organizes its work are just as necessary as the changes to executive and business views of IT.

Appropriate Service Scope and Service Levels

When asked what he would do differently if he could do it over, the Italian IT manager's recommendation was to start smaller. Pressure from users forced him to define and support within the first year "most" of the 48 critical services that were ultimately identified. As he described it, he got into "quite a bit of chaos." He and others have suggested starting with only one or two lower-profile services until IT has created well-defined procedures and a smooth-running process. It will help the SLM roll out to have a few small successes from which to build, and to have gained a reputation for being able to deliver what has been promised.

IT must know what it can actually deliver. Baselining current service delivery is an absolute prerequisite for IT to define SLAs it can meet. This is not just a snapshot of conditions at one point in time, but at least a one-to-three month window of detailed data. Besides recording the high and low points in the service delivery, outages, scheduled and unplanned downtime, and other technical factors, IT must be aware of the staff resources that are necessary to meet service levels.

Service Level Agreements That Work

SLAs are agreements between providers and users that specify a precise definition of all aspects of the service. SLAs delineate what is included or excluded from the service, what metrics and what frequency will be used to measure the service level, what penalties and/or incentives shall be assessed for specific levels of performance, payment for services, and many other aspects. Contrary to popular opinion, SLAs do not actually have to be part of the initial service management program. At the Italian bank, they are just beginning to offer SLAs, although IT has been managing service levels for three years. SLAs do add complexity to service management, and can be postponed until after IT has become comfortable with defining, measuring, and managing services.

Successful SLAs share two characteristics: they are relatively simple and they talk in terms business can understand. Convoluted "legalese" does not build trust or ease communication—though it can be necessary when dealing with outsourced service providers. Internally, IT must use language and metrics that make sense to the business line receiving the service. Dropped packets and jitter may be full of meaning to IT, but the end user is more comfortable with measures such as response time, number of transactions per minute, or maximum number of downtime minutes per month.

IT managers often resist SLAs, fearing that they will be used as clubs by business leaders when services aren't good enough. In the recent interviews, EMA heard once again how IT managers were forced to sign SLAs without knowing if they could be met. Don't set yourself up for

failure—promise only what you can reasonably deliver with respect to cost, current infrastructure limitations, and staffing levels. The best approach is to start small—resist the urge, and pressure, to over-promise.

Contrary to that view, EMA believes that well-defined SLAs help to manage customer perceptions and expectations, and serve as a brake on expectation creep. SLA reports documenting month after month of good service keep positive messages going from IT to the business. However, signing SLAs that cannot be met is a recipe for disaster. If IT does not feel it has the authority to resist that pressure, that lack of organizational support will doom the SLM effort.

Supporting the SLM Life Cycle

Service management has a life cycle, which functions most smoothly when supported by tools. Paper-based descriptions of services and infrastructure are soon out-of-date. SLAs that are strictly on paper are more difficult to track, report on, and update. Infrastructure changes frequently create problems if they are not automatically reflected in the service definition. Automating or at least having solutions to support the life cycle of a service will greatly simplify SLM.

Tools for monitoring, measuring, managing, and reporting actual service levels are necessary for true service management. Without tools to identify problems and make changes to the infrastructure, SLM is stuck in a reactive mode—only identifying when it has missed SLAs rather than proactively meeting those agreements. EMA recently talked with a European IT manager who was pressured to sign an SLA, even though he had no tools that could monitor—let alone manage—the metrics called for in the SLA. Needless to say, he did go out and purchase tools to evaluate the required metrics, but that is not an ideal way to develop a set of management tools.

Problems can develop with the addition of multiple tools, increasing the number of alarms coming into an already overtaxed alert center. Tools for correlating, filtering, and prioritizing alarms are necessary as the sheer volume of managed devices grows. Tools that can link infrastructure to business services are the only way to really align IT efforts with business goals. If you can't identify a problem with a business service, you can't be sure you are addressing the most important issue first.

And finally, SLM incorporates on-going improvement as part of the life cycle. It is not simply a matter of putting SLAs in place and meeting them, but identifying the services with the most critical need for higher service levels and taking steps to upgrade them. SLM provides a way to prioritize investment so that IT is directing its dollars toward the bottom line. In this way IT services become designed to meet service level requirements of future business goals.

Guaranteeing Success

It may save you money in the long run to get help in defining and creating the process and organizational structure necessary for smooth SLM functioning. Many SLM vendors have experienced professional services organizations for SLM development and can provide hands-on assistance. There are also consulting organizations specializing in organizational change, ITIL, or SLM. Getting both executive support and a neutral partner that can recommend "best practice" changes will help defuse what can be a politically-charged process. They can also help business and IT maneuver through the first few SLAs to put the negotiations on a collaborative footing from the start.

With 239 services defined, and 70 of those identified as critical, the Netherlands manager needed a way to prioritize the work of his operations staff.

The final key to successful SLM is managing to business priorities. Note: this does not mean that SLM should start with the most critical services—no one needs to work out the bugs on a high-visibility service! However, the Netherlands manager stated he had 239 services under management, and 70 of them were critical. He stated that with no better rule, most operators used a "first in, first out" method of determining what to work on. Without the ability to prioritize, the most important services—as defined by the business goals and objectives—do not receive the best service. Business prioritization means the allocation of staff and infrastructure resources—both now and in the future. Beyond determining which service is fixed first if several services are experiencing difficulty, it also plays a part in planning and purchases for future service levels.

CRITERIA FOR CHOOSING A PRODUCT

SLM is shaped by the tools available, and the business priorities for service improvement should direct the growth of management capabilities. A lack of appropriate tools, tools that do not span the entire infrastructure, and tools that do not provide metrics that speak to business users will inhibit the growth and acceptance of SLM initiatives.

According to EMA's 2004 edition of the SLM Buyer's Guide, there are over 75 vendors who claim to provide an SLM product. These products range from those that target application management to those that are mainly oriented towards supporting business processes. Given the wealth of possibilities, how can an IT vendor choose? The best approach always begins with a complete assessment of an organization's current capabilities, an outline of where the organization wants to be in five years, and a map for getting from point A to point B. Tools to support the growth and expansion of SLM should be purchased systematically. After an assessment and a plan, the main criteria for product choice will be vendor experience, product capabilities, and business-based value.

Vendor Experience

In the seven years that EMA has been tracking the SLM space, a number of vendors have come and gone. Each year new vendors come to market and others disappear. An SLM initiative can take several years to fully implement. The bank mentioned above was three years into the process and just beginning to move into true SLAs with its customers. One top criterion should be the longevity of the vendor so that support will still be provided many years down the line. This also means that the product has been refined and improved based on customer feedback, to better meet the needs of real production environments. An experienced vendor's professional services will also be better equipped to help a business craft an SLM initiative that suits current capabilities, infrastructure, and goals. The value provided by strong professional services should not be underestimated.

The breadth of the SLM market results in tools to fit every environment, from Windows to UNIX to mainframe. One of the challenges of providing SLM is that there are frequently holes in management coverage for some aspects of a service. Mainframe or Web services may not be adequately instrumented, leading to difficult service monitoring and troubleshooting. It is possible to fit many solutions together to provide adequate coverage, but care should be taken that all the tools can integrate and interoperate, and provide a single, useable view of the entire infrastructure. A commitment to open standards on the part of the vendor helps in this endeavor. It is frequently simpler to use a single vendor that can span the entire environment, guaranteeing interoperability and minimizing expensive functional overlap.

It is virtually guaranteed that infrastructure management will continue to refine and expand its mandate, providing better services at lower costs. It is a good idea to choose a vendor that has shown vision and has a roadmap for development. Another link is to include business process management (BPM) functionality or linkages to help organizations automate their goal development and better manage the human aspect of service management. IT management as a whole is moving toward "on demand" provisioning and "self-healing" services. Look for a vendor that will be able to support your organization's movement into the future. This can avoid a lot of "rip and replace" and also lessens the learning curve as new functionality is added in a format already familiar to operators.

Product Capabilities

EMA has identified SLM capabilities that are most vital to an SLM solution. Table 1 provides a check list for evaluating basic product functionality. Reliability is also

TABLE 1: SLM FUNCTIONALITY

Internal, external, and multi-tiered SLA definition. Most organizations will eventually find themselves in an environment that has some functionality provided by service providers. Plan ahead for this future.

Proactive service management. Trending, algorithms, and thresholds are the typical methods for assuring that management identifies problems before they impact the user. True management capabilities are also required, beyond simple monitoring and alarming capabilities.

End-user monitoring. Active or passive end-user monitoring, using synthetic transactions or historical user sessions will provide IT with measurements that truly identify the users' experience.

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Breadth of supported metrics. Simple availability management is not enough to truly support business services. Metrics should identify and meet the users' view of the service's performance. These might include business application metrics and key performance indicators.

Automation. This can cover many areas, and while increasing the cost of the product usually will provide benefits in reduced staff costs, reduced MTTR, and improved service levels. Alarming and alerting capabilities are mandatory, but autodiscovery of infrastructure and services, automated reporting, and policy-based management can also significantly reduce the burden of proactive service management.

Real-time and historical reporting. Some solutions provide only one or the other, but both are necessary for proactive management and documentation of SLAs.

Dashboards and/or scorecards. SLM should provide a communication vehicle for many levels of users, from business managers to IT managers to operations. While built from the same data, these must be generated to meet the needs of the individuals—including more or less detail, more or less scope, and operational, business, or financial information.

important in any product. But in addition to the basics, there are some other facets to look for in a product.

Beyond the requisite functionality is the approach taken by the solution. There are several process or maturity models in use, the most popular of which is ITIL. Using a solution which supports best practices can save a lot of development time. If you are already using a process model, it becomes an even higher priority to purchase a solution that matches that model. ITIL recommends a top-down approach to service definition, starting from defining business goals, moving downwards to definition of the business services, and on down to the infrastructure that provides the services. A bottom-up approach, where the components are assembled and managed as sets is less effective at providing true business process management.

As mentioned above, integration is an important consideration. SLM solutions must be compatible with your current management infrastructure, as well as work with future purchases. Many SLM products function on top of existing infrastructure management software, which is a viable approach if there is good integration with minimal effort. Only a few vendors are currently able to provide end-to-end infrastructure management from their own products, yet without that ability services can only be defined over part of the environment.

Finally, EMA finds there is much emphasis on ease of use in all management solutions. A simple, intuitive interface can significantly reduce the time to useful output. Mapping infrastructure to business services can be a difficult job, if the interface does not adequately support that work. Drill down capabilities and color-coded displays make the job of monitoring and identifying problems much less time consuming.

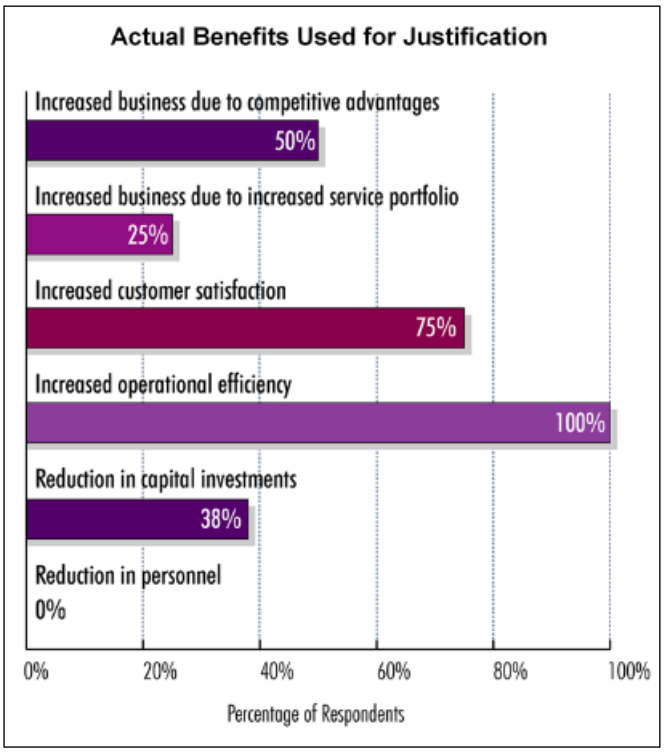

Figure 2: Tangible SLM Benefits

Value-based Assessment

As mentioned previously, it is difficult to find case studies of the hard dollar benefits of SLM—EMA has found that 33% of IT managers do not try to do any kind of post hoc justification. This is not because those benefits don't exist, but because IT is too busy to justify a purchase after the fact. The bank IT managers EMA spoke with did not have information on the business profit or loss structures for the services IT supported. Previous EMA studies have looked at the values end-users have found in their SLM functions. The greatest documented benefit was increased operational efficiency. Customer satisfaction was the next most common benefit.

Some vendors do provide case studies that document time to value and ROI for their products. These should form a component of your solution assessment. Talking with references about their experiences can also provide an alternative way to find the true value of a solution.

IBM TIVOLI'S SOLUTIONS FOR SLM

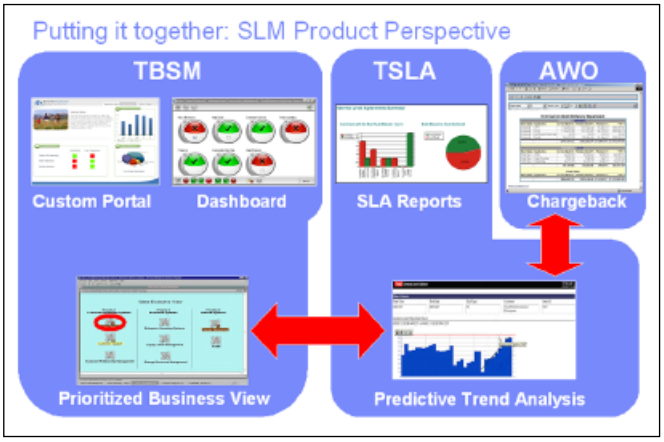

Figure 3: IBM Tivoli Architecture Diagram

IBM Tivoli has been providing products for service management for many years. In fact, their interest in the area goes back over a decade, when they provided seminal input to the just-forming ITIL documents. All IBM Tivoli products support ITIL and provide the benefits that can be gained by following that process structure. Their portfolio of service level management solutions includes IBM Tivoli Business Systems Manager and IBM Tivoli Service Level Advisor. These are mature products that have been in production environments for over two years. The two products are tightly integrated so that drill down from service definition to SLAs is accomplished smoothly, and they are also tightly integrated with IBM Tivoli's large selection of infrastructure management products.

IBM Tivoli Business Systems Manager

IBM Tivoli Business Systems Manager allows the user to create and monitor service definitions. Using a click-and-drag interface, both the infrastructure components and already-defined services can be grouped into larger services. Services can then be ranked to align IT efforts with business priorities. For both the bank IT managers, this capability for organizing the infrastructure into services and then prioritizing those services was the most significant benefit.

These can then be tracked in color-coded dashboards. Outages or SLA violations are shown via blinking red icons, and negative trending is shown by yellow icons. Dashboards can be customized for executives, IT managers, or operations staff. When a service is experiencing an outage, the relationships between that service and others can be shown—whether the service is a part of a larger service, parallel to another similar service, or made up of lower-level services or components. IBM Tivoli Business Systems Manager can also show how changes will impact the system. This can help in planning infrastructure investments as well as day-to-day change management.

IBM Tivoli Business Systems Manager has recently expanded its offering to provide even better service management, by including linkages to financial aspects of services and integration with business process management (BPM) or workflow toolsets. Service level results can be leveraged from Tivoli Service Level Advisor by the IBM Accounting Workstation Option (AWO) that provides basic functionality for budgeting, chargebacks, and cost accounting. The product integrates with toolsets that use Business Process Execution Language (BPEL) by converting BPEL to XML and then importing XML into the IBM Tivoli Business Systems Manager. BPEL is a widely accepted workflow modeling language based on XML. This integration allows communication with other BPM solutions, for example IBM WebSphere Business Integration Modeler, as well as other vendors' products.

IBM Tivoli Service Level Advisor

IBM Tivoli Service Level Advisor adds the service agreement component into service management. As mentioned previously, these two products can stand-alone, with either going as the first implementation. While IBM Tivoli Business Systems Manager provides the true

service identification component, IBM Tivoli Service Level Advisor provides support for the whole life cycle of SLAs. It includes the ability to create SLAs and provides easy inclusion of underlying infrastructure metrics and external SLAs. A service catalog can be generated from defined services and a number of out-of-the-box, automated reports are included for both executive and operational readers.

Going beyond the life cycle breadth of functionality, IBM Tivoli Service Level Advisor also has breadth of covered systems. Both the interviewees mentioned how "holes" in the management, where systems were not adequately instrumented, made SLM more difficult. IBM Tivoli has long been known for its mainframe coverage, and also includes a warehouse for incorporating metrics from distributed, heterogeneous systems that can be accessed by both solutions. This also provides the ability to incorporate financial, helpdesk, service desk, and BPM metrics into SLAs that support business goals.

EMA's Perspective

While sometimes confusing, the increasing buzz about SLM is good for IT. Getting business support for these initiatives is necessary for their success and broader knowledge outside of IT can only help gain that support. Service level management can provide the foundation for better service delivery, more repeatable processes, better resource allocation, and return on assets—not to mention increased visibility and credibility for IT. SLM provides the business alignment functions that help IT provide services and service levels that fit business goals. ITIL has been a strong force for IT organizations for the past several years, and has been growing in the U.S. in the past two years. ITIL's process approach to organization and procedures can help an IT organization develop its own increased organizational structure. Increasingly, BPM is a part of the picture, moving automated support beyond the infrastructure, up into the human processes that underlie all management.

IBM Tivoli Service Level Advisor and IBM Tivoli Business Systems Manager are good examples of tools that build on each other to provide the highest levels of accountability and services. IBM Tivoli Service Level Advisor supports the entire lifecycle of defining services, baselining service levels, creating and tracking SLAs, and reporting on those agreements. IBM Tivoli Business Systems Manager provides the ability to abstract infrastructure into higher-level services, prioritize and filter alarms, and provides links to financial measures. Customizable dashboards for both operations and executives provide the ability to monitor services from the appropriate level, and zero in on areas of concern.

IBM Tivoli has had the IBM Tivoli Business Systems Manager product for several years now, and were one of the first vendors to move into the service management space. The product has not gotten much traction, though, either because the service management message is only slowly blossoming, or because it has not had the investment needed to grow significantly. Either way, it is now receiving much-deserved marketing budget and this well-kept secret is moving into the limelight.

IBM Tivoli Business Systems Manager, like only a very few of its competitors, is moving to provide the increasingly important link between SLM and BPM. Using BPEL in its workflow modeling solution and its service management solutions is a smart move to tap into popular standards. With the addition of strong integration with IBM Tivoli Service Level Advisor and linkages to financial and BPM functionality, IBM Tivoli's service level management portfolio is ready to realize value for customers.

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