Implementing Service Level Management with ITIL

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An increasing number of IT organizations are beginning to adopt ITIL-based IT service management initiatives, and turnout at national, regional, and local events on the subject keeps growing. Yet, one of the main questions on people's minds is, "Where do we start?"

In order to get going, the business and the IT organization must be aligned in pursuit of common goals. An Information Technology Infrastructure Library (ITIL) initiative is a long-term methodology for providing quality services that enable the business to gain a competitive advantage. Executive leadership within IT must embrace the benefits and sell the idea to the business.

Educating the Organization

The first step is to ensure that senior IT leaders develop a solid understanding of the activities that comprise ITIL and of what ITIL adoption accomplishes. Candidates for training should be selected carefully; each person who attends training should be a respected leader with the ability to make things happen.

When people use multiple methods to understand a new concept, they tend to retain the content longer, with a more detailed understanding. Too often, organizations decide to attend training in place of reading the books. It usually works best to start by reading the books that make up ITIL.

Attending training after reading the books allows people to ask challenging questions of the instructors so they can apply ITIL in their specific organization. Better understanding also tends to create greater enthusiasm for and dedication to overcoming the challenges ITIL adoption presents.

Next, this core group can begin imparting their ITIL knowledge to others in the organization so they all start to "speak the same language." Workshops and education sessions are effective ways to promote excitement (and thus reduce resistance to the changes ITIL adoption requires).

You know you are successful when you start to hear hallway chatter about the benefits of ITIL.

Establishing a Steering Committee

A steering committee is necessary to lead the organization through the ITIL adoption. At the core of ITIL are Service Support and Delivery processes that will fundamentally change the way IT delivers its services to their customers.

Assign leaders to take on the role of process owners and challenge each with gaining a detailed understanding of his or her process and its integration with all the other processes. As with any initiative of this scale, sound leadership and guidance is critical to its success. Experience demonstrates that such leadership must be "top-down" versus "bottom-up."

Assessing Process Maturity

The next step is to assess your organization's maturity using the ITIL best practices as your guide. The Service Support and Service Delivery books contain a list of the activities for each process. Process owners should create a list of these activities to use as a guide to determine how the IT organization is executing against them.

Maturity level is measured through the use of a maturity model; such as 0 = No process in place, 1 = Initial or identified process, 2 = Repeatable, but not documented, 3 = Defined and documented, 4 = Measurable, and 5 = Optimized, you can identify and document any gaps that exist in an assessment report.

This report will be your guide in determining your target maturity and the steps you need to take to get there. When you conduct the assessment you will find that you may have more maturity in some activities for each process than in others. For example, most organizations perform well in areas such as Incident or Change Management even

before they begin an ITIL initiative.

The results of the assessment must be shared with the members of the steering committee and executive leadership to gain consensus on the current state of the organization's processes. Once consensus is reached and a commitment is made to address the gaps in the report, you can start to build your action plan.

If you obtained services from a vendor for your assessment, ensure this same vendor helps you with your roadmap. The roadmap should contain a list of projects that you can undertake to increase your process maturity.

The first project in your roadmap should be a strategy and planning effort to create the project plan that provides for the following:

- Creation of a baseline service catalog that defines the services your IT department delivers

- Process workshops to gain a more detailed understanding of the activities for each process

- Assignment of roles and responsibilities for the people that will execute the processes, including a training and communication plan

- Tools and technology that can be used to automate the processes

- Measurement and reporting to evaluate compliance

Too often, organizations begin ITIL adoption by focusing on activities for service delivery such as capacity or availability management, because that's where they are experiencing pain. However, the power of ITIL is in its integration.

Organizations adopting ITIL have discovered that maturity of their service support processes creates the groundwork for optimizing their configurations to provide better service. For example, if you consistently detect, log, classify, assign, resolve, and close incidents, it can lead to more effective problem management, which helps you identify and control known errors.

Problem Management can then be your entry point to creating your availability and capacity plan to enact changes in your environment to address those known errors.

Starting the Journey
Your ITIL journey should start with education and leadership, assessment, and an actionable roadmap for success. Hearing how other organizations have tackled their ITIL journey can be invaluable to your success because you can learn from their experience. You can do this by joining a local user group, such as the IT Service Management Forum USA (itSMF USA) local interest group in your area.

But keep in mind, ITIL is not a project, it is a method to change the way your organization delivers its services to the business. A project has a beginning and an end, whereas ITIL does not have an end, it is a continual journey toward process maturity that enables IT to deliver quality services to the business so that it can continue to thrive and be profitable.

ITIL: The Prelude to Flexible Performance

Human nature is to respond first to the incident that was reported first, and the priority for incident resolution thus becomes "first-in/first-out." Or, prioritizing incident resolution might rely on the service desk technician's instinct to gauge one incident as being higher priority than another. But, would the business agree with the technician's decision?

In the absence of a process that enables IT to categorize and prioritize incidents based on the business impact of the event, it's a free-for-all at the service desk. Without the right incident management structure and process in place, incident resolution most likely will not be in concert with the needs of the business.

Consider, for example, that an incident at a banking institution causes ATMs to fail, and at the same time, in a separate incident, the systems fail at the bank's branches. Both incidents are recorded in the operations center, virtually simultaneously.

In the absence of guidelines for prioritizing incidents, the service desk cannot reliably determine which incident should be resolved first. Should the ATMs be restored first, or is it more important to get the branches back online? The answer depends on the priority of the incident as viewed by the business. IT needs the flexibility to shift its incident resolution efforts and focus based on which incident is considered higher priority by the business: the failed ATMs or the bank branch system failure.

ITIL defines priority as the combination of impact and urgency. While the bank branches being offline may be of greater impact, that problem is only half of the equation.

What if these incidents occurred on a federal holiday, when the banks are closed? Although the impact of the incident is still the same (i.e., the branches are still down), the urgency is low, since no one is trying to use the systems in the branches.

Conversely, the failed ATMs, while perhaps having a lower impact, have a much higher urgency since that's the only means for people to withdraw cash.

As a result of assessing both impact and urgency, resolving the incident that resulted in the ATMs being down would be given a higher priority over the incident that impacted the branches. This is how the flexibility created by the structured ITIL process results in the lyrical sound of cash once again being dispensed.

Flexible Capacity Management
The structure of ITIL can also improve your IT organization's flexibility in responding to the continually changing demands for scarce computing resources.

Imagine that your business customer plans to launch a marketing campaign that will increase revenue but will also increase the traffic to your Web storefront. In the absence of a structured approach to assessing and providing for capacity needs, companies frequently are either caught off guard or over-provision their infrastructure.

Applying the ITIL capacity management principles of business, service, and resource capacity management, as well as demand management, provides IT organizations with the ability to flexibly respond to the needs of the business while doing so in the most cost-effective manner.

In jazz, "riffs" are the repeating, harmonic figures that form a structural framework for the improvisational piece being performed. Riffs keep the musicians on track within the theme. Think of ITIL process management techniques as the riffs that form the framework of your enterprise, giving both IT and business the flexibility and expression they need. Together, you and ITIL can make beautiful music.

Ensuring a Successful ITIL Implementation

Companies of all sizes and across all industries are embracing ITIL in record numbers. By developing process-driven IT organizations, these companies are achieving significant efficiency improvements and cost savings.

"Before we began ITIL, we had a 700 trouble ticket backlog and now we never have more than 40 to handle at any one time," said Fran Findley, a project management analyst for information services at MultiCare Health System in

Tacoma, Wash. "Now it takes hours rather than weeks to handle an escalated user issue."

Ed Holub, a research director for IT operations management at Gartner states that even though ITIL is a set of integrated best practices it doesn't mean it is a cookie-cutter program that lays out exactly how things should be done. "ITIL is high-level and focuses on 'what' should be done, but doesn't describe at a detailed level 'how' to do it," he said. "It is important, therefore, that IT and business executives work together to understand what specific business problems they are trying to resolve, and how ITIL can be an enabler to solving them."

Ron Potter, manager of best practices at TeamQuest Corp. of Clear Lake, Iowa, agrees. He feels that it is vital to gain early consensus on the reasons for implementation.

"Everyone needs to agree on the business benefits for doing ITIL," said Potter. "Some do it purely to improve service, some to reduce costs, some to improve communications between IT and business, the rest some combination of the three."

Buy-in, of course, starts at the top. At MultiCare, the CIO and a line-of-business vice president championed ITIL and provided a budget to upgrade the help desk tracking system and associated processes.

Understanding the Business
Typically, senior executives publish goals for the coming year. The individual business units then determine what actions they need to take to support them.

But how can IT learn what these goals are? Ask, said Fred Broussard, research manager for Enterprise System Management Software at IDC.

A smart IT team can canvass the various business units to understand their short-term and long-term goals, and determine how IT fits in. Once the basic intelligence is mapped, IT management should have a good feel for where the business is at today, where it is going and to determine the best implementation of ITIL around the aggregated goals.

It is common sense to start such an initiative at the top in order to ascertain C-level goals and align projects to ongoing programs to increase revenue and better service. The lower down the chart you go, the more detail is required until all stakeholders have been addressed.

With that basic research completed, though, there is still plenty of work to do. Asking is one thing, but it has to be backed up by solid commitment from those affected.

"A CIO needs to be really careful that they get the commitment to participate on boards, to provide funding, and add manpower," said Broussard. "You can gauge your level of real commitment by how easily executives blow off ITIL-related meetings."

Understanding IT
While IT has to be all over the business side to establish goals and align to existing endeavors, the opposite doesn't necessarily hold true. It just isn't necessary for business executives to get involved in all the details of how the various ITIL processes are executed, much less how the underlying technology infrastructure functions.

"A core concept in ITIL is to define IT services in terms that the business understands," said Holub. "Business executives should keep it simple by working with IT to define what those services are, and be able to negotiate formal service level agreements (SLAs) that correctly sync up expectations of what the business needs with what IT is capable of delivering."

One good way to bring both camps closer together, suggests Brian Johnson, ITIL practice manager at CA and author of 15 books on ITIL, is to address critical business continuity (BC) issues. His company has aligned software tools for help desk, asset management, change management, and BC to ITIL.

"By formulating a proper plan for disaster recovery, IT helps catalyze business involvement and drive a better understanding between the two camps," he said.

Role-playing games, too, such as CA's Apollo 13 ITIL simulations, may help organizations drive ITIL awareness by providing real-world scenarios. These enable teams to learn about managing processes more effectively. The end result can be an educational experience that demonstrates the benefits ITIL can offer to both sides of the business.

Like CA, TeamQuest is also aligning its software to the ITIL framework in order to bring IT and business units closer together. TeamQuest View, for example, adds value to ITIL service delivery, capacity management, service support, and infrastructure management and ITIL application management.

"Business leaders need to be an integral part of an ITIL implementation and participate from the beginning," said TeamQuest's Potter. "They should participate in basic ITIL training in concert with their IT counterparts. For best results, this basic training should be customized to the organization so all can understand how ITIL will fit in day-to-day operations and the benefits it will provide."

Work Ethic
Holub emphasizes that organizations shouldn't underestimate the level of effort required to transform them into being more process- and service-centric.

"Fundamentally, ITIL is less about technology and is more about changing the culture of an organization to embrace the value inherent in standardization versus one-off solutions," he said. "Always remember that ITIL should be viewed as a means to an end. Don't get fixated on achieving a certain level of process maturity and lose sight of the underlying goals that motivated the journey to begin in the first place."

CA's Johnson agrees and offers a way to create cultural change: Identify ITIL champions in all areas of the business and train them to become evangelists within the business. "It's also important to ensure that the ITIL plan is not perceived solely as an 'IT' project," he said. "Awareness train-

Major change and continuous improvement efforts, such as the implementation of ITIL's best practices, take time. However, most people, including senior management, won't go on the long march unless they see compelling evidence within a short time that the journey is worth the effort and cost, and is producing expected results.

Here are some of the most common quick wins to keep in mind as you build your own plans:

10. Consolidation to One Incident Database
Even if your organization is spread out with multiple physical service desks, common reference to a single incident database will enable more consistency of process, consolidated data for reporting, and more relevant analysis of incident and problem trends. You will end up with faster and more accurate decisions for changes and improvements.

9. Establish a Single Point of Contact
A SPOC is not to be confused with a single service desk (or an alien life form). You can have multiple service desks for different geographies, languages, business units, etc. Just make sure each customer only needs to know the one place to contact for everything.

8. Establish Incident Management Policies
Give your service desk staff some hard guidance on how to consistently handle specific, expected situations. The danger of training people in generic customer service skills and then not giving them specific procedures for how to handle typical situations is that they will do well the first time, and maybe the second and third times -- but each time they are possibly reinventing how to handle the situation.

7. Start Thinking Problem Management
To be able to effectively engage in Problem Management, you need to get out of the front line and start analyzing incident data. Write this task into job descriptions and allocate the time to do it proactively.

ing early in the project lifecycle helps overcome resistance. People need to understand what's driving the initiative, why change is needed, and how they and the organization will benefit."

Participation. Agreement. Metrics. Checks and Balances.

IDC's Broussard stresses the importance of communication in getting everyone to participate. He related a couple of anecdotes to highlight this point. One concerned a federal agency involved in a major software update that required testing and development on a live system. Instead of keeping it a secret, users were told about the testing and to let IT know of any problems.

"They really appreciated it, and they trusted us more as a result," said Broussard. "The alternative -- building a development site on a separate IBM mainframe -- would have been very expensive."

On the negative side of the ledger, Broussard tells of a mid-sized organization's CRM rollout. IT decided to focus on satisfying the needs of sales staff and then later expand the system to include customer support staff.

IT, however, failed to appreciate that a major portion of customer contact came via e-mail and the CRM system didn't function well with e-mail. Yet all that was needed was a simple one-button click to have an e-mail stored as a record in the CRM system.

"IT didn't really talk to the customer support people and ended up with a decent tool for sales that customer support doesn't have much use for," said Broussard.

The takeaway? Everyone involved has to be consulted and also attend meetings so they know what is planned and what others are thinking. This, said Broussard, is the best way to establish commitment.

Deadlines & Commitments

While communication is the starting point and the carrier wave of project success, it has to be augmented by a multitude of other factors.

"Fully implementing the 10 core service delivery and service support processes that ITIL describes is a journey that will take several years in most cases," said Gartner's Holub. "Therefore, it is important to prioritize what will add the most value and also address current pain points."

6. Start Documenting Requests for Change (RFCs)

Create a log of changes, when they happened, what was changed, who was responsible for the change, and whether the change was successful, i.e., were any incidents triggered? It is a worthwhile first step that will help with analyzing trends and defining your problem's scope with "out-of-control" changes.

5. Get Buy-In from Application Development

ITSM is all about operations, and within ITIL there aren't many opportunities for application development staff to get involved (Change Management being the obvious one). Get them engaged and at least raise their awareness sooner.

4. Talk "Service" Instead of "System"

There are still too many people in IT who think their job is "to make the systems run" instead of "to help sell insurance policies" (or whatever it is you do). Here is the reality check: If systems are fine but services are out, customers are unhappy. If some systems are out or under stress but services are fine, customers are happy.

3. Think "Bottom-Up" Not "Top Down"

No one disagrees that executive buy-in is crucial for a successful process initiative just as in any organizational change program. But real change is embedded into the rank and file organization one event at a time: one change, one incident, one problem, one release.

2. Start Open Reporting

It is essential that we measure in order to improve but, it is just as important to communicate these results to everyone involved in order to maintain the momentum once things start to move in the right direction.

1. Get The Boss Excited & Involved

A key challenge for CIOs, IT directors, project managers, process owners, and change agents is to identify early successes as part of the overall planning process.

The majority of clients, he said, pick a few processes to start working on, with Change, Incident, and Problem management being the most common. Companies that limit their ITIL rollouts in this way and treat it as a formal project or even a program consisting of multiple projects tend to be more successful in adhering to timelines, budgets, etc.

Those who fail often bite off too much change at once, bogging down their efforts. The error is then compounded due to the resulting loss of executive support and a greater level of skepticism from the front-line IT technical staff.

Getting In & Getting Out

Many companies take what they think is the easy route by assigning a part-time staff to their ITIL projects. While this makes it simpler to get started, it makes it harder to adhere to deadlines and it can be a long while before observable benefits are apparent. Full-time resources, ideally, are the way to go.

"Selecting people from various infrastructure and operations teams to work full time on ITIL efforts is the less common approach, but generally delivers higher quality results in a shorter timeframe," said Holub.

Personnel selection, though, can be a major point of contention. Resources you thought were available suddenly are sent elsewhere.

"To avoid potential conflicts during implementation, resources should be identified as part of the business plan and agreed upon by all," said TeamQuest's Potter. "Any changes need to be driven through the change process by the project manager and agreed upon by all parties concerned."

He cautioned, however, that day-to-day business processes need to be maintained. Thus, flexibility must be built into the plan to account for a reasonable number of unforeseen events.

CA's Johnson said even the best laid plans can be sidetracked especially if resources are cut or redeployed, or priorities change. Thus an exit strategy must be built in during the planning stages.

"Planning should include some identifiable targets to scrub the project if things go wrong," said Johnson. "The best defense is a well constructed project plan with regular updates and an exit strategy (with the projected impact on the business) should resources suddenly dry up."

Checks & Balances

Holub said it is vital to select a balanced set of metrics to gauge the health of processes from both an efficiency and effectiveness perspective.

"If either efficiency (cost) or effectiveness (quality) is overemphasized, you may inadvertently drive the wrong behavior," he said.

Potter, on the other hand, highlighted the value of dashboards. While more in-depth status reports should be provided bi-monthly or monthly, dashboards offer a quick indicator of project component progress. Simple red, yellow, and green are usually sufficient.

"There should be two measures: one is current status and other is the trend," he said. "This helps management better determine where attention is most needed."

In addition, he called for post-implementation performance reviews. Such reviews answer the questions: "Did we accomplish what we set out to do?", "Was it a smooth and quality implementation and if not, what parts of the implementation process need changing?", and "Is this new process providing the expected benefit and if not, what changes need to be made?"

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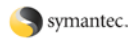
Effective Performance
Management for
Service-Oriented
Applications

Effective Performance Management for Service-Oriented Applications

Service-oriented Architecture (SOA) is an emerging approach that supports the rapid configuration and reconfiguration of IT services to enhance business flexibility, agility and productivity. But the strengths of SOA - speed, loose coupling, use of multiple tiers of heterogeneous hardware and software infrastructure greatly complicate application performance management. This white paper addresses how the Symantec APM solution helps IT organizations keep SOA applications running at peak performance and align with the business to realize the vision of SOA.

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Remember TCO
While ongoing metrics are important, it may be even more key to long-term ITIL success to put in place mechanisms to measure Total Cost of Ownership (TCO). Gartner's measurements, after all, show that moving from no adoption of ITIL to full adoption can reduce an organization's TCO by as much as 48 percent.

The Key to Quality Service Level Management

ITIL has a clear definition of Service Level Management and goes into considerable detail on the process, implementation, and content of the key deliverable, the Service Level Agreement (SLA).

But is the SLA really the key deliverable?

ITIL does not go into such detail on Service Level Requirements (SLRs), Operational Level Agreements (OLAs), Underpinning Contracts (UCs), or the Service Catalogue. Let's discuss these important parts of an SLA and provide guidance on their uses. The outcome will be an understanding of why ITIL places so much importance on the production of SLAs.

Service Level Agreements
A Service Level Agreement is a documented agreement between IT and its customer (internal to an organization) on the levels of a service being provided. The most important aspect of an SLA is that it is an agreement and bears no contractual weight to meet these targets. It is a commitment.

The SLA should not favor one side. It is a fair reflection of the business requests and requirements that IT can provide. It should not be a smoking gun pointed at IT, nor does it relieve IT from providing adequate service to the business. It does, however, set expectations.

The obvious risk of missing Service Levels is damage to the business. Yet another, and just as important, is the effect on customer perception that can ultimately result in the loss of faith in IT.

Another common flaw is the inability for organizations to create agreements that are simple and concise. An SLA should be no more than three or four pages, not 20.

ITIL identifies how to make this work across large organizations with multiple services. Customer-based SLAs (one SLA per customer across multiple services), service-based SLAs (one SLA per service), and multi-tiered SLAs (corporate-based SLAs, customer-based SLAs, and service-based SLAs in three-tier format) all offer the ability to enable simple, easy-to-manage SLAs.

Use simple, achievable rules when creating metrics that apply to SLAs, OLAs, and UCs. Too many organizations spend far too long coming up with encompassing SLAs that in truth are not measurable and will never provide an understanding of how the service is performing. The time spent creating these large documents is a waste.

Service Level Requirements
Do we put too much emphasis on SLAs? To answer that question, we need to understand where this agreement originates. It is equally important to understand the business requirements for any services IT provides and that they are concise and well documented.

In a mature ITIL environment, the Service Desk (where appropriate) will support gathering the requirements. They are speaking to customers every day, and frequently liaise with the Availability Manager to discuss the customers' perception of the service. Even with a Service Desk in place, the ability to gather and document a true set of Service Level Requirements and then construct into a SLA is far from simple.

IT and business speak a different language. Customers should communicate in their own words what they need from a service. Avoid the SLA headings such as "Availability, Throughput, etc." as these will mean little to an every-day user or customer. In an ideal world where time is not an obstacle, it is useful to sit with customers who use or will use a service for the first time and understand their requirements. Don't just take what they say and translate it to "what we think they want."

Once it is clear what the customers want from a service and you understand what their requirements mean, it is possible to begin to transform the information into an SLA. The basic template should be derived from, and main-tained within, Service Level Management. It's possible that certain headings of the SLA template are not applicable and if this is the case, there is no reason to create additional requirements.

To better understand the translation of the customer requirements to an SLA, and to gather a picture of what each section of the SLA means, completely focus the draft on the customer and review with the business. From this, negotiations can then begin.

Once IT is confident they understand the requirements, they are in a good position to evaluate whether they can achieve these goals or offer options. The best way for IT to ensure the customer appreciation of why a requirement can or cannot be met is to translate the service into financial terms (e.g., the extra cost of 24x7 availability). The negotiation period will often result in multiple draft SLAs, but the focus must always remain on the most you can provide the customer without overextending IT.

The Right Way to Set SLAs

Every IT Service Management consultant will tell you the same thing: Everyone wants to jump into Service Level Management and set their Service Level SLAs right away.

While the SLAs get a lot of press, they are part of the Service Level Management (SLM) process and we need to step back and discuss how we should arrive at SLAs.

The goal of SLM is to understand the requirements of the customer and organization, factor in the capabilities of the supplier(s), and then deliver quality services that meet those requirements and are subject to constant improvement. The intent of this is to build a better relationship between IT and its customers.

It is important to have a solid SLM process, as it will affect the overall ITSM initiative. In fact, if your operations envi-ronment is not stable, you should start with Change and Configuration Management first, as setting SLAs can cause everyone to lose confidence in the ITSM effort.

To start the journey, IT must designate a Service Level Manager who is empowered to negotiate with the customers and make commitments that are binding on the IT organization. This person must be very knowledgeable about IT and the business and be an excellent communicator with honed negotiation skills.

The Service Level Manager meets with each customer and understands requirements. The manager then crafts a Service Level Requirements (SLR) document that identifies in business terms what the customer needs.

Next, the SLM manager meets with the suppliers who provision the services that the customer is interested in. These suppliers could be internal, external, or a mixture thereof. These suppliers need to review each service and craft Service Specification Sheets for each. If the SLR is a customer-facing document, then the spec sheets can be viewed as the technical underpinning documents outlining how the business requirements will be met.

Metrics Must Mean Something to Customers
Now, derived from the customer's requirements set forth in the SLR and the supplier inputs in the spec sheets, the manager crafts a Service Quality Plan (SQP) that puts forth key performance indicator metrics and any critical suc-

cess factors for monitoring the performance of the service. It is important that the metrics have value to the customer and IT, not just IT.

When communicating with the customer and ensuring requirements are met, it is very important to be measuring what matters. For example, what value does availability as a percent really serve if the business lost a painful $2 million during an outage that occurred during the 0.001 percent of unplanned downtime?

At this point, the manager needs to negotiate the agreements relating to provisioning. The Service Catalog documenting what IT can provision must be developed or refined if it already exists. The SLAs stating what IT and the customer will each provide and how the relationship will be managed must be crafted. The OLAs stating how IT will meet the service levels that are needed and the UCs committing vendors must be set as well.

To be clear, the OLAs are used with internal groups to ensure they can provide service levels that enable IT to meet the customer's defined Service Levels. UCs are used with vendors/third parties to ensure they can meet defined Service Levels.

The creation of these agreements will require repeated sessions of negotiation, creation of drafts, amendments, and reaching a final conclusion for each that commits the involved parties. This level of negotiation is why the Service Level Manager must be skilled in both communications and negotiations plus have a solid understanding of the IT organization and the business.

When creating the aforementioned agreements, always think about how objectives and service levels can be crafted such that they are "SMART" meaning they must be Specific, Measurable, Attainable, Realistic, and Timely. One reason for these attributes is that once the agreements are set performance must be measured using the critical success factors and key performance indicators set forth in the SQP.

It's About the Relationship

An SLA is not a contract. It is a formal expression of a relationship. If an SLA is so complicated that nobody can understand it and therefore gets confused as to what to do when and how, then the results can actually be counterproductive and harm both service levels and the relationship with the customer. IT exists for the customer -- not the other way around -- and some careful give-and-take may be needed.

On an ongoing basis, monthly or quarterly for example, the Service Level Manager should sit down with the various customers to review the performance of IT relative to the services provisioned for each customer.

In areas where corrective action is needed, a Service Improvement Plan (SIP) should be launched and one of the outcomes may be to revise the previously defined service levels. These Service Review meetings are a great opportunity to not only discuss performance, but also the direction of the customer and IT. Whenever there is a customer contact point, that opportunity should be used to understand what is going on with the customer and to update the customer about what is going on in IT.

The idea is to build the relationship constantly. If the relationship is lost, then all of the service level documentation is pretty much pointless.

The most important things coming from SLM are not voluminous agreements that sit on a shelf. In other words, the goal is not to simply create documentation. Instead, the true benefits lie in understanding the needs of the customer, measuring IT's performance against those requirements, and then continuously seeking methods to improve the provisioned service levels. In this manner, IT can deliver quality services to the organization that enables organizational goals to be met.

Service Level Management is the Hinge

The most overlooked process, the Cinderella of all processes, is the Service Level Management (SLM). Service Level Management is the process of planning, coordinating, drafting, agreeing, monitoring, and reporting on SLAs, and the ongoing review of actual service achievement to ensure that the required and cost-justifiable quality of service is maintained and improved.

The SLM process is the hinge for the service support and service delivery processes. It cannot function in isolation, as it relies on the existence and effectiveness of other processes. SLM is focused on integration -- how well the service support and service delivery processes function together.

SLM is responsible for ensuring SLAs and OLAs or UCs are met. Ensuring that any adverse impact on service quality is kept to a minimum also falls with in the realm of SLM. SLAs provide the basis for managing the relationship between the customer and the provider. An SLA without measurable and defined expectations for each of the support processes is useless, as there is no basis for validation of the level of service expected.

Most consideration to SLM is given during the Request for Proposal (RFP) phase. At that time, repeatedly, only one part of SLM becomes important: the SLA. But, soon after the bid has been awarded, the guidelines of the SLAs are no longer written in stone and up for interpretation. This comes to the detriment of the customer and the service provider.

Today there is a disturbing trend propagating itself through ITSM implementation efforts both in the government and civilian sectors. ITSM implementers are viewing Service Level Management as a necessary evil and not as the asset that it truly is.

Let's look at some examples from an ongoing contract that's been supported for more than four years. This is a Service Delivery contract for a customer that outsourced its IT services to a prime contractor. This customer historically had all of its internal IT requirements and delivery left to individual business units (silos). That means that every silo had its own budget, requirements, and tools to conduct their business independently. This practice equated to having several hundred disparate networks with their own unique flavor of how they should conduct business, and not as service offerings.

During the SLM portion of the RFP, the SLAs were written in such a way that they did not establish accountability, capture expectations, or provide escalation of compliance issues. They were written from a governance/oversight role without specifying what data is to be made available to the customer and defining Intellectual Property that should be rightly protected by the service provider.

As soon as the contract was signed, both parties began to interrogate the SLAs for what they could use to protect themselves. The service provider, instead of figuring out how the SLAs can help the customer benefit from the best solution, classified everything as intellectual property, and the customer began to ask for detailed reports and data sources that deemed to be outside the scope of a customer purchasing IT services.

The contract specified numerous SLAs and three levels of service for each one. These levels of service had a cost associated with them based on the delivery time. At the same time, the SLAs were written so poorly that there were no consequences outlined for failure to comply with the thresholds.

Let's drill down into one of the SLAs and provide you a snapshot of the complexity introduced from the poorly written SLAs:

- SLA XX: "The Contractor shall provide and maintain a CMDB for tracking assets."
- Metrics: "The time to update the CMDB will not exceed a four hour window."

This is how the configuration management SLA looked, minus some sensitive verbiage. In a nutshell, this was the extent that the customer could hold the service provider accountable for all configuration management efforts provided as an offering.

The first thing the service provider did was to place a price tag to every CI as an attribute, thus limiting the customer from viewing the CMDB information. Consequently, there was no value add for any of the other processes accessing the CMDB. In reality, the CMDB was merely an asset library that moonlighted as a DSL for release management.

How well did the CMDB perform based on the mandatory SLA Report? The configuration manager never missed an SLA because it only took milliseconds to press the save button on his/her database.

This particular customer didn't back down from the challenge and began to introduce tactics to combat the practice of hiding behind the SLAs. The frustrated customer started asking questions like: "What am I paying for?" "How many assets do I have in the environment?" and "I want you to prove it to me before I pay."

To quote one senior manager, "Fundamental, standardized, repeatable processes, or rather the lack thereof, have been a sea anchor on our project for some time now. The perspective is that we (customer and service provider) just don't have time to do it right, but always have time to do it over. For both of us to succeed, this must stop."

It should be clearly understood that either extremely tight SLAs are written and executed, or customer/contractor interdependencies are established throughout the support and delivery processes. While the IT service providers may passionately desire that the customer is completely uninvolved, this rarely occurs unless the customer is ignorant, unconcerned, or both.

Today, there is a realization that both parties have to work together to make sure that this contract is successful. Large amounts of negotiations, sacrifices, and retooling have gone on over the years, and finally measurable SLAs are on the drawing board.

Lessons Learned
- SLM cannot be pigeonholed into a small piece of the RFP with little or no thought about how the entire service delivery contract will be affected.

- SLAs need to have input from both the service provider and the customer to ensure that the goal of the project is achieved.

- SLA data must include metrics, expectations, data accessibility requirements, ownership, and escalation procedures written into the contract from the beginning.

- The upfront cost of writing solid SLAs is far less then trying to short cut the accountability of providing quality service.

The improvements in service quality and the reduction in service disruption that can be achieved through effective SLM can ultimately lead to significant financial savings.

Below is an example of how to quantify the costs and benefits of implementing Service Level Management. It is not intended to be comprehensive. It can be populated with specific assumptions, purposes, costs, and benefits to get an example that is more suitable to the specific circumstances.

In this example, the following assumptions are made:
- 100 employees cost $25 an hour each
- The organization comprises 50,000 users

- The total number of incidents is 50,000 per year

Thanks to a clear set of agreements, the Service Desk is less troubled with calls that are not part of the services offered. This way, the 100 Service Desk employees work 5 percent more efficiently, resulting in a gain of 100 x 5% x $25 x 24 x 365 = $1,095,000 a year.

Most organizations that use IT are dependent on it, and if processes are not implemented, managed, and supported in the appropriate way, the business will probably suffer unacceptable degradation in terms of loss of productive hours, higher production costs, and lost opportunity translating into loss of revenue.

The objective is to continually improve the quality of service, aligned to the business requirements, cost-effectively. But unless people, processes, and technology are considered and implemented appropriately within a structured framework, the objectives of service management will not be realized.

The implementation of Service Management is not a one-time project, but rather a continuous process of enabling overall service improvement.

Bringing ITIL to Life

Now that we've examined how to begin an ITIL implementation and looked at SLAs, let's review some of the ITIL processes that IT departments will have to put into practice.

ITIL uses specific wording in the Incident and Problem Management process areas to describe the lifecycle of system errors through to structural resolution. The relationship of the terminology used is an interesting topic of discussion, as we can explore the handling of a service error through the Incident Management process and opportunities for improvement.

Incidents, Problems, Known Errors and Changes

An incident is any event that is not part of the normal operation of a service and impacts, or threatens to impact, the quality of the service delivered. In response, IT opens an incident record to try to quickly restore the service to operating within the parameters of the SLA.

The perspective is grounded in the SLA because it should outline performance expectations from the customer -- not just from IT's perspective. This reflects the need to support the business, not just push technology.

If the cause is readily apparent and can be corrected, then a work-around is developed or a request for change (RFC) created. Some corrections can be done without change -- such as resetting a device -- necessitating only a work-around.

On the other hand, if a change is required, it needs to be handled through the proper Change Management processes. Even though Incident Management's goal is the speedy restoration of service, it must not bypass Change Management or this will cause production build configurations to drift from their established baselines.

If the cause of the error is not readily apparent, or it is felt that an investigation is required, then a problem record should be opened. This new problem record is then independent of the incident because the incident management function is tasked with restoring service as quickly as possible.

In contrast, the Problem Management function is tasked with identifying the underlying causal factor, which may relate to multiple incidents. It may take several incidents to transpire before Problem Management has enough data to understand the root cause. Once Problem Management identifies the causal factor and develops a work-around, then the problem becomes a "known error."

The fact that sometimes Problem Management cannot immediately identify the root cause and establish a corrective action puts the two groups at odds, as incident management wants a quick fix, or work-around. If the Incident Management team develops a work-around, then the Problem Management record should be updated with the information so the Problem Management team can leverage the additional data.

In reviewing the Incident Management team's work-around, Problem Management may elect to accept the work as the resolution because it addresses the root cause. If it does not, then Problem Management will dig deeper. If Problem Management develops a work-around that addresses the incident without solving the root cause, then the incident becomes a "known error."

As mentioned above, if a change is needed, then an RFC must be filed and handled through Change Management. If Problem Management establishes the root cause and a resolution, they need to alert Incident Management so the "known error" tickets can benefit from the resolution and have their status shifted to "closed" once the corrective work is completed.

Opportunities for Improvement
The above outlines the relationships between Incidents, Problems, Known Errors, RFCs and, finally, Resolutions. Building on the topics discussed above, there are several opportunities for process improvement:

- **Be able to quickly identify changes.** Most availability issues stem from changes. The sooner changes can be identified or excluded, the better. Consider using an automated integrity management control to detect and report on changes found in the production environment.

- **Use a proper taxonomy in order to match existing incident and problems.** Speeding up the search for similar, or related, incidents and problems necessitates a classification system that supports the needs of the organization.

- **Record meaningful notes in the ticket.** Personnel involved with incidents and problems need to enter notes that are useful to other people in the ticket. Terse or cryptic comments will not aid others who may need to read and understand the ticket.

- **Have a resolution editor.** Task someone who can write clearly with reviewing resolutions to ensure they are complete, clearly written and follow any organizational documentation standards. This may also be warranted for known errors, depending on the organization's needs.

Incident and Problem Management are valuable process domains in ITIL. As the pervasiveness of IT increases in mission-critical aspects of the business, this trend will continue. As organizations look to ITIL to improve their processes, they will need to understand the relationship between Incidents, Problems, Known Errors, Request for Change, and Resolutions.

Six Steps to Service Outage Analysis

ITIL refers to service or systems outage analysis (SOA) as a method to improve availability. Presented as an availability management process tool or technique, SOA is a powerful management tool to improve quality.

As is quite common since the ITIL is descriptive and not prescriptive, ITIL does not explain how to carry out a SOA. In this section we'll explain what an SOA is, its benefits, and give you an easy to follow six-step guide to performing SOA.

The reason to use SOA is to identify the causes of outages and thus reduce the frequency and duration of outages. SOA aims to improve mean-time-to-repair (MTTR).
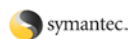
**Leveraging the Symantec i³™
Performance Warehouse with
Customized Reporting**
Customized Reporting in
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Leveraging the Symantec i3 Performance Warehouse with Customized Reporting

The Symantec i3 application is a comprehensive, end-to-end performance management solution. One of the unique attributes of the i3 solution is the performance warehouse that it creates and maintains as part of its operations. As i3 monitors application tiers and infrastructure elements, it stores the data it collects in the i3 performance warehouse, within a relational database. The warehouse includes not only real-time data but also historical data useful for trending and capacity planning as well as determining baseline levels. The i3 performance warehouse data is a rich source of information that provides value beyond supporting the user interface. The warehouse can support proactive performance management, with trend analysis, capacity planning, and application profiling for critical applications. To facilitate these efforts, the i3 solution includes robust reporting capabilities and a number of packaged reports. These reports should meet the most frequent reporting needs of many organizations. Read this whitepaper to understand how to fully leverage the power of Symantec i3 reporting capabilities.

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The result of an SOA is clear understanding of what happened to cause an outage, and exposes the risk of future outages due to the same cause or causes. Finally, an SOA can produce recommendations for improvement to avoid the issue in the future.

With these types of benefits, you might think that performing an SOA is complicated but, in reality, just the opposite is true: You can perform an SOA without any major investment in software, tools, or training.

Performing an SOA is straightforward. Working with Problem Management and customers, you examine past outages to identify configuration items (CI), such as the products, people, or process, related to an outage. In effect, you simply review the impact to the organization and infrastructure as reflected by how the organization responded to an outage.

This is different from proactive problem management since availability management has a scope that includes the organization (people, process, training, staffing, etc.).

Getting Started

To get going, collect outage data in the form of incidents, any related closed problems, or known errors. Gather together a team of people familiar with the outages, the infrastructure, processes, procedures, people, and so on. Be sure to include a customer representative and perhaps some users on the team as well (their input will be critical in guiding the team through the SOA process).

Once you have the team empowered, lead them through the six following steps:

Group related outages together by vendor, product, family, application, customer, etc. Then, using customer and user input as appropriate, categorize each outage as "significant" or "less significant." Focus only on those labeled "significant," and monitor the "less significant" for future outages.

For each outage tagged as "significant" review the root cause of the unavailability (this requires closed incidents and problems), for example, faulty hardware or software. This is probably already known since the outage is resolved.

Perform a simple Pareto analysis to break the significant issues into a smaller group. Using the Pareto 80/20 rule you can rank the related outages and their causes.

You will find that the majority (80 percent) of the outages result from a select few causes (20 percent of the organization or infrastructure). Of course, you want to focus on the 80 percent of the outages caused by the 20 percent of the causes.

For each grouping of similar outages, examine the reasons for the duration of the unavailability. For example, the outage may have occurred because of faulty hardware or software, but the duration of the unavailability might have been extended by lack of tools, little or no training, unavailable spares, etc.

Remember to consider the "3 Ps" -- people, product, and process. Then review:

- All existing procedures and policies used during the outage
- The actions and inactions of staff members, customers, and anyone else involved in the outage or its restoration
- The management directives given to all involved during the before and during the outage

You must determine if anything might have lessened the duration of the outage, or better yet, avoided it altogether. Your examination of the "3 Ps" should locate a trend, a related cause, or at something in common with similar outages. This is the smoking gun.

For example, a common cause that might extend an outage may be a hierarchical escalation requirement that does not allow staff to proceed without management approval or a special tool is required and could not be found.

The next step is to quantify the avoidable outage time. That is, if one hour of downtime resulted from trying to locate the proper tool, then the avoidable outage time is one hour times the number of outages so affected.

Identifying the most preventable downtime is your goal. This is then the most significant generator of preventable downtime.

End the SOA by creating a report summarizing the number of outages analyzed, timeframe, avoidable outage time, and the suggestions for improving or avoiding the outage. Prepare a request for change (RFC) and pass the entire kit on to change management.

Automating IT Capacity Management

Facing hundreds of servers supporting vital business functions, capacity management automation has become a must.

"The sheer volume of information required to do capacity management in today's highly complex IT infrastructures makes automation a necessity," said Gartner's Ed Holub. "Even with automation in place, however, there still is a lot of effort required by senior IT professionals to effectively manage capacity."

In capacity planning, data collection tools are first put in place. This enables organizations to gather performance and capacity data, which can be analyzed to build a baseline view of where the current infrastructure stands. With this in hand, the organization can better understand existing business plans and their potential impact on the existing IT infrastructure.

This highlights any shortfalls based upon the prediction of future resource needs. With these results reported to management, the cycle continues: Capacity and performance data is gathered on the upgraded infrastructure, which can then be analyzed and new baselines established. Thus capacity planning is a continuous process.

As workloads change, hardware is added or networks are reinforced, new baselines must be isolated, and future needs forecasted with accuracy.

"The first element of capacity management is visibility of the infrastructure in your environment and knowledge of how the elements are connected together to deliver business services and the associated service levels," said Rob Stroud, an IT Service Management evangelist at CA. "The second element is to understand the demand on your environment."

Any organization beginning capacity planning activities for the first time faces a daunting prospect-the entire enterprise lies before them. Every process, every resource, every system, and every building is a potential target.

Getting Started
The best approach is to prioritize capacity planning efforts based on mission-critical needs. That means focusing on infrastructure components supporting those applications necessary to business survival first. Typically, this centers around order processing, order fulfillment, manufacturing, and customer service, depending on the business.

Once priorities have been established, the capacity planner should begin with a resource view to gather data, look for outliers, and find out more about them. With that data in hand, the next step is to build profiles for each component or groups of components such as clusters, banks, and mirrors.

The capacity planner should also dig in to locate repetitive cycles. For example, there might be a spike on server usage every Friday afternoon caused by everyone logging on to check messages and complete tasks before the weekend. Monthly, quarterly, and annual processes can also be tracked. Capacity planning efforts can be thwarted by a failure to take these repetitive cycles into account.

Further, the capacity planner must determine representative timeframes. This is meant to discern usage levels that fit various time frames: How many workstations will be in use at any one time? How will usage patterns shift over time? Similarly with servers, representative timeframes must be established to take into account usage and other metrics.

Obviously, such tasks require automation. But rolling out performance data capture software across several thousand servers can be a daunting task. Even if agents are used, they still need to be configured in order to customize the data collected and the way it is aggregated for reporting purposes.

Further, associating business events to usage can be problematic. Performance data, after all, is of little use if you can't determine the business events associated with the usage. Large organizations with several hundred applications, for example, make this task complex and extensive.

Such challenges can be overcome by using installation scripts that can be easily integrated into existing software distribution tools to help automate installation. Centrally based administration can also facilitate configuration by propagating commonly used configurations across large number of servers. For example, operating system component usage may be accounted for in an "overhead" category and a database management system accounted for in a "DBMS" category.

"As the delivery of services gains complexity, automation is key to delivering capacity solutions," said Stroud. "Automation leveraging technology is critical including the configuration management database for the storage of the relationships and performance management technology to record performance in real time and delivers usage information and alerts where capacity thresholds are exceeded."

The Role of Analytics

Analytics and business intelligence (BI) tools play a part in capacity management. Advanced analytics permit you to better monitor infrastructure behavior. For example, you may have a server that operates at 40 percent capacity. One day the utilization jumps to 60 percent and stays there. Since your capacity threshold for alerting occurs at 75 percent, it may be some time before you realize that there might be a problem.

"In addition, advanced analytics could perform continuous trending functions so when application usage strays from what is expected, the appropriate people are alerted to determine cause and permit corrective activities or drive changes to the capacity plans," said TeamQuest's Ronald Potter. "Where business metrics are not available, business intelligence tools can help you understand business processes and how they impact infrastructure capacity."

By using BI, it is possible to determine counts of business events and associate them to the data contained in the capacity database. Doing so facilitates the ability to communicate infrastructure capacity in business terms.

But tools are only part of the solution. As with all ITIL implementations, the capacity management process relies on the right combination of people, process, and technology. Thus, effective capacity management necessitates working relationships with business units. Changes in business processes, even using the same applications, can dramatically affect system performance. Signing a large new customer can have a similar impact.

"Without good working relationships with your business customer, you may not discover business changes until after they have happened and your systems are overloaded," said Potter. "A good working relationship permits you to run your infrastructure closer to the edge since you have confidence that in most cases you will have enough

advance notice to react to business changes."

Process, too, is vital. Processes play an essential role in the success of capacity planning. The roadmap to success is processes that are repeatable and consistent. The results from process efficiency can be significant.

"In research I've conducted on behalf of the IT Process Institute, we discovered that high performing IT organizations (which constituted about 13 percent of our surveyed population) sustain five-times higher server/sys-admin ratios, manage eight-times more projects and six-times as many applications, and implement 14-times as many changes compared to the typical organization," said Gene Kim, CTO of Tripwire.

Once you understand the processes and their interactions with other processes, automation is key. Automation enables the implementation of the knowledge developed in the organization and allows for enhanced customer support.

Some vendors offer solutions and tools that automate ITIL, as well as supporting materials such as a series of graphical representations or subway maps that help them no matter where they are in their implementations.

Capacity Management Not Enough

IT has to have information from the business regarding forecasted growth so it can translate increases in business volumes into hardware/software resource consumption. It is vital to have well-defined SLAs between IT and the business, so that just enough capacity can be cost effectively provisioned to meet those agreements.

That's where capacity management comes in. By automating many of the processes and harnessing various tools to add efficiency, capacity-planning efforts can be streamlined and simplified.

But Holub points out that capacity management cannot operate in isolation within an ITIL framework. Nor should it be done prior to certain other facets of ITIL

"Capacity management is one of the higher-order ITIL processes," said Holub. "Organizations should ensure they have achieved relatively high process maturity in the core service support processes such as change management and configuration management, before attempting to tackle capacity management."

This content was adapted from EarthWeb's ITSMWatch.com Web site. Contributors: Drew Robb, George Spafford, Mike Tainter, Atwell Williams, Hank Marquis, Karsten Smet, and Darreck Lisle.