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The Executive Guide™ To

Service Management in an Uncertain Economy

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Chapter 1: Creating a Well-Managed Service Management Strategy

The contemporary Information Technology (IT) environment has rarely seen such unfriendly conditions, both internal and external. IT management is under more pressure than ever to ensure optimal productivity. Although I'm sure there are exceptions, IT is a service-oriented part of any modern business. IT offers intangible products to its customers. Sometimes the customers are external—think of the traditional definition of a customer. Sometimes, more often than not probably, the “customer” is an internal consumer of IT services.

The internal customer might “consume” any of these typical IT “products:”

- File storage
- Internet access
- Email
- Remote and VPN access
- Databases, data mining, and data warehousing
- Internally-developed applications
- Web-based applications
- Line of business (LOB) applications
- Telecommunications

This infrastructure must be managed to offer high-quality services so that the business can carry out its mission. The challenge IT managers face is developing a service management strategy that is in alignment with business goals and guidelines. The days when IT could “do its own thing” are long gone in case you missed the memo. In today's economy, IT is an integral business component that must offer value to the company. It must be held accountable. In fact, a recent Gartner poll found the top-two CIO priorities were linking business and IT strategies or plans and reducing the cost of IT (Source: “Align Enterprise Architecture to the Top 2009 CIO Priorities” at <http://www.gartner.com/DisplayDocument?id=1068512>). A solid service management strategy ensures that the company can meet its objectives, relying on critical IT services delivered in the most cost-effective and efficient manner possible.

In this guide, I'll discuss approaches to developing an efficient service management strategy focusing on consolidation, asset management, and automation. A consideration to keep in mind is that even though I will focus on IT, service management can apply across the entire enterprise. For example, asset management is a key component to an effective service management strategy, but assets can include anything from desktop computers to utility trucks to printing presses to aircraft or even satellites. As you read this material, you may have to translate to a corporate area where there are opportunities to maximize value and minimize cost.

Obstacles to Success

In today's harsh economic climate, there are many obstacles to achieving an effective service management strategy. Some of these obstacles arise from your corporate culture while others are imposed by external forces beyond control, such as sagging sales, increased regulation, and the spread of a truly global economy. As you read through this section, consider how many of these roadblocks or obstacles you face in achieving quality service delivery.

Complex and Siloed Organization

During my career as an infrastructure consultant, I had the opportunity to visit and come to know many organizations of varying sizes in a variety of sectors and industries. In many cases, I never ceased to be amazed by the complexity of organizational sprawl. The desktop services team had its own management and resources. Application development was squirreled away somewhere and left to their own devices. The server team had its own piece of the pie and didn't want to be bothered by end user complaints. A geographically dispersed organization may find itself duplicating services or in the worse case offering conflicting services.

This picture of fractured IT is hardly pretty. In the worse cases, IT management competed for company resources and seemed to exist only for themselves. Occasionally, a CIO or CFO may have had a glimpse of the big picture but could hardly be held accountable for daily operations or IT service delivery.

Then there's a level of what I refer to as ersatz-IT services. These are departments that offer critical services, perhaps internally and externally, that often rely in part on your IT infrastructure. This is by no means an exhaustive list. I'm sure you can come up with a few of your own in your organization:

- Physical security and access control
- Payroll services
- Corporate finance and investments
- Corporate training
- Telecommunications
- Physical plant
- Human resources

Very often, these areas are also siloed or isolated from the rest of the company, with security often given as the rationale. Perhaps 10 years ago, this was reasonable. But in the 21st century, IT security has evolved to the point that the concept of security by isolation is no longer necessary. There is no reason IT can't provide appropriate levels of security, and in many cases compliance as well, so that these departments can be brought into the service management fold with traditional IT. The days of departmental fiefdoms must come to an end.

Poor Asset Utilization

Hopefully these are easy questions to answer: How many desktop and laptop computers are in your organization? How many employees do you have that require a desktop or laptop computer? I'm not expecting a 1:1 ratio. I realize that companies with work share programs or those that run call centers may have higher ratios. But given the number of knowledge workers, is the ratio reasonable? Or do you have computers sitting idle taking up desktop space and software licenses?

Even if the ratio seems reasonable to you, let's take utilization to the next level. A clerical worker with requirements for a word processor, email, and Web browsing doesn't really need a 3GHz processor with 2GB of RAM and a 250GB hard drive. Certainly you want the user to be efficient and provide hardware that meets their business needs, but only up to a point. Multiply this over provisioning of desktop resources by the number of users and it adds up quickly. For example, take 200 users with an "extra" 1GB of RAM at say \$20 per stick. That's \$4000 worth of RAM not doing anything. Or you might see this as \$4000 that could have been saved or spent somewhere else.

Or consider servers. Of all the servers you have running right now, how many are showing processor or memory utilizations of more than 50%? 70%? 80%? Based on my experience, I'd say you have quite a few servers that are barely breaking a sweat. It's my belief that we've reached a point where hardware capacity exceeds software demands. It wasn't always this way and IT got in the habit of buying large. Or organizations are structured in such a way that IT charges back for services and if two departments each need a file server, they each get one, regardless of the fact that one server could likely meet the needs of both departments.

Considering file servers, storage is another IT resource that is often under utilized. It's common for desktops to ship with 60GB to 240GB hard drives, with 1TB on the verge of rapid adoption. Yet end users typically only require a fraction of that space. The rest is paid for but unused. Factor in server drive utilization and you can see a real obstacle to effective service management.

There's also one more critical resource that is often under utilized and that is your human resource in the form of an IT professional. How often is she solving the same problems over and over again? How much time is he spending with mundane management tasks? How often do your IT professionals have opportunities to add value to your company?

This reminds me of one client I'll never forget. I was on a consulting project to assist the IT administrative staff in their assignments and to identify areas of improvement. I identified one and brought it to a client manager whose response was, "I don't really care. That's what they get paid for." One hand, yes, the IT professional is paid a salary to perform appropriate tasks at a certain level of quality and proficiency. Instead of relieving the administrator of a mundane task and improving efficiency, the client perpetuated a poor situation and missed out on an opportunity to add value to the company. What I couldn't get the client to recognize was that by freeing up the IT professional from a mundane and repetitive task, that professional would have time to pursue new technologies and offer innovation that might save the company money or otherwise add value. This shortsightedness more than likely will also lead to employee turnover, adding yet another expense to the company's balance sheet.

Let's consider another human asset utilization issue: travel. Employees and IT professionals generally aren't paid to travel. Moving from point A to point B as a rule adds no value to the company and is a classic situation of lost opportunity. While the user is traveling, he or she doesn't have the opportunity to participate in more value-generating tasks. I'm using "travel" here in a much broader sense. Certainly, if staff has to travel across town to solve a problem at a branch location, they are under utilized during that trip. Not to mention the transportation costs. But travel can also mean an administrator walking from their desk to the data center. It can mean a support technician walking across a corporate campus to solve an end user's desktop problem. Or it could mean a group of employees walking from their desks to a meeting. And of course they don't want to be late, so they arrive 10 minutes before the meeting starts. Four employees who spend 15 minutes traveling and waiting have cost the company an hour of productivity.

I won't delve into solutions here; we'll examine this topic more closely in a later chapter. But I think you'll agree that poor asset utilization because of its economic impact poses a barrier to effective service management and is a serious situation for any organization.

Reduced Financial Resources

It is an unfortunate reality that many companies are facing drastic budgetary cutbacks. Reduced budgets often can barely maintain the status quo yet alone support developing and implementing a service management strategy. I realize some companies are doing all they can simply to keep the doors open, slashing budgets, workforce, and more. Ironically, the end result of your service management strategy should be to assist in reducing costs and raising productivity through gains in efficiency.

Developing and implementing service management across your enterprise is not an overnight task and certainly will require an investment of financial and human capital. Unfortunately, as long as IT management faces budget limitations, true service management will remain a wish list item.

Reduced Staff and External Resources

In addition to a shortage of capital, many companies are facing workforce reductions. Unfortunately, in most situations, the amount of work that must be done isn't reduced. The remaining workforce is asked to do much more, which can have negative consequences for customer service, job quality, and even employee satisfaction.

Companies with effective service management theoretically should be in a better position because the strategy is a valuable company asset. Even with a reduced workforce, they can still meet the company's objectives in an efficient and high-quality manner. If the company can afford to retain staff, those members should have more time to innovate and contribute even more added value.

The same is true of external resources such as vendor support and consultants. Organizations with major project needs may find them placed on hold because they can't afford the necessary vendor or consultant expertise. One major project that companies often table is implementing service management components. Again, companies will benefit in the long run from a solid service management strategy but in the short run, lack the required resources to achieve it.

Customer Demands

Another challenge facing many IT organizations is the increasing level of customer demands and expectations. Internally, end users and company management rely heavily on IT services to meet their daily objectives. I think it is safe to say that office workers view their computers, and all that they provide, as a tool that is as fundamental as their phones. They expect their phones to be there and to work when they pick it up. Internal customers want their tools, applications, and data, and they want them now.

Internal customers face their own pressures that often are passed on to IT. Compliance and auditing are prime examples. More and more areas of your company are forced to meet all sorts of regulatory or industry requirements ranging from the Health Insurance Portability Act (HIPAA) to the Sarbanes-Oxley Act (SOX). Obviously, the end user can't meet these demands on their own and turn to IT for fulfillment.

Internal customers are also becoming increasingly more computer literate than they were 10 years ago. I've been in a number of organizations where end users or management read about some new piece of technology and clamor to acquire it. I've been in situations where an upper-level management user unilaterally decides he wants hot product X and because he has a corner office, he can get it. The end result is that IT is left scrambling to support this technology and integrate it into their service management strategy.

In my opinion, one of the benefits of a well-planned service management strategy is that many of these demands can easily be met. In an ideal environment, IT has the necessary resource bandwidth to analyze new technologies, determining their value to the company and how they can be integrated. One of IT's services should be processing new technology requests. Instead of reacting to customer demands, IT should be proactive and in a position to anticipate. But this can't be accomplished if IT is struggling to meet current customer demands.

Partner Demands

I would venture to say that few companies operate in a vacuum or are completely self-contained. Most enterprises have a set of partner or peer companies. Sometimes these companies are part of a supply chain. Some relationships are informal and others more structured that require an integration of IT services between the two companies. I'm assuming there is a positive and financial benefit to this arrangement or you wouldn't have established it.

Partner companies are facing the same stressors as you and they may be pushed to make more demands on your relationship. Can you meet these demands in a timely and cost-effective manner without sacrificing quality? If partner demands or requirements exceed your capacity to deliver, both sides are losing. Again, the more people ask of IT, the more apparent it becomes that a viable service management strategy is critical to success.

You Can't Manage What You Can't Measure

It is a long-established Total Quality Management (TQM) maxim that you can't improve or manage what you can't measure. Perhaps the biggest obstacle to IT success, and clearly one to establishing a service management program, is a lack of metrics that reflect their work, productivity, or offerings. If you don't know how long it should reasonably take to deploy a new server, you have no way of knowing whether process changes are improving efficiency.

The following list highlights critical IT services and assets that I feel can and should be measurable:

- Help desk problem resolution
- End user desktop or laptop deployment
- New server deployment
- New user provisioning
- Mailbox provisioning
- User de-provisioning (employee termination tasks)
- Server and desktop de-provisioning
- Network utilization
- Mail service availability
- Internet access availability
- Database access availability
- Password and account management
- Application deployment
- Operating system (OS) and application patches or service pack deployments
- Data backup and restoration

- Software licensing
- Software utilization
- Support contracts and Service Level Agreements (SLAs)

This is by no means an exhaustive list and I haven't even touched on true performance monitoring. If you don't know how well your servers are performing in at least these critical areas, you run the risk of poor service delivery:

- Processor performance
- Disk performance
- Network performance
- Memory utilization
- System workload

Having real-time insight is as important as having systems in place that can dynamically compensate. But don't neglect the value of historical performance data. If you don't know where you've been, you won't know where you're going.

Although offering SLAs with your internal customers is all well and good, if you don't have data to back them up, they aren't worth much. IT needs relevant data to analyze operational efficiency. This information is crucial when it comes to prioritization and assessing business impact. Without this data, any trending or forecasting is merely guesswork that ends up an expensive proposition

Business Priorities

The days when IT was left to its own way are long gone. IT is not an independent part of the company. They are involved, integral, and in many organizations business critical. A failed database server has a greater impact than a jammed copier. But what does this really mean to IT? For starters, it means IT must align itself with the rest of the organization. This is where an effective service management strategy is crucial. Such a strategy often means IT can stay in step with business priorities.

Frankly, these priorities are pretty much universal, especially in today's economy. I can't imagine a business that isn't after these goals.

Improve Efficiency and Reduce Costs

Business and IT managers are constantly driven to improve operational efficiency. This is the basis of the "do more with less" concept. Let's consider an IT process that consumes 1 hour of time and \$100 to complete. The challenge is to make the process more efficient perhaps through redesign, retooling, or automation. Afterward, the process takes 48 minutes and only requires \$80, a 20% improvement. Now \$20 might not seem like much, but multiply that by the number of times this process is carried out, and the savings add up quickly. Now you can see where metrics are critical. If you don't know how long the process takes or costs, you'll have no way of assessing changes.

As an added bonus, the company now has an extra 12 minutes it didn't have before. Again, it is the aggregate that counts. Let's say our hypothetical process occurs twice a week. Now the IT professional has an hour and half at the end of the month to devote to other tasks such as testing new technologies or finding other sources of innovation to add value to the company. This example is for a single process. Even if gains in efficiency seem minor on an individual basis, collectively savings can add up pretty quickly.

Naturally, improved efficiency and subsequent savings aren't free and don't occur in a vacuum. The challenge is to find the necessary resources, both financial and human, so that the IT service infrastructure can evolve. Part of your service management strategy might involve the following, any of which will incur some type of expense:

- Virtualization technologies
- Additional training for the IT professional
- Automation technology or software
- Hardware upgrades ranging from simply adding more RAM to a server to complete server replacements.
- Software upgrades

Accelerate and Improve Workforce Efficiency

On a related note, IT organizations, like their business counterparts, need to accelerate and streamline workflow. Part of your service management strategy is to make your workforce as efficient as possible. The last thing you want is for IT professionals to be constantly re-inventing the wheel or doing something simply because that's the way it has always been done.

I'm sure you've heard the old adage that generals prepare to fight the last war. They get ready for a new battle with plans and tactics from their last battle. Many IT organizations I've seen fall into this same mindset. Just as generals can be struck with tunnel vision, focusing on their last battle plans and not recognizing the new situation, so it can be with IT. If there's one truism about technology, it's that change is constant. Don't get me wrong. I'm not an advocate of change for the sake of change, but you have to be open to something new. This requires effort and perhaps resources, but you have to be open to new and fresh ideas. For example, the process for server deployment has changed dramatically just in the past few years. If you are still using a deployment process developed 5 years ago, you are missing out on amazing technologies that absolutely will accelerate your workforce and raise efficiency. Why spend 10 hours to deploy and configure a server when you can do it in 1 hour or less? Don't get caught "fighting the last war." A dynamic service management strategy is one of the best prescriptions for treating this malady.

Efficiency is essentially a numbers game. Reduce the number of widgets to manage and efficiency improves. In the IT realm, this typically means consolidation and integration. For example, take identity management and authentication. Your enterprise probably has a variety of authentication and identity-related systems not to mention compliance and auditing requirements:

- Physical access control
- Network logon
- File access
- LOB logons
- Remote access or VPN

Each of these technologies is often delivered separately, which means multiple products that require training, support, and management. This also applies to the end-user side of the equation. They have to deal with multiple identities, passwords, smart cards, tokens, or whatever when they simply want to get their jobs done. There are solutions available to consolidate these technologies so that the IT professional has only one stop to make and the end users' responsibilities are greatly simplified.

This concept of tool consolidation can be applied across the entire IT spectrum. I'm sure if you looked, you have a variety of tools from a variety of vendors, few of which can interoperate or lend themselves to efficiency improvement, say through automation. Plus how many of those tools come with expensive licenses? One element I can't stress enough when it comes to management tool consolidation is remote ability. Management should be done from the IT professional's desk and not the data center. There's no more inefficient use of time than walking to and from a data center. Your data center should be a lights out operation with a room temperature that would discourage in-person visits. The only time staff needs to enter the data center is to push a power button or perform hardware maintenance.

One last front with potential for substantial efficiency gains is hardware. If an IT professional has five gadgets to manage on a daily basis and then has that number cut to three gadgets, she has seen a 40% gain in efficiency. Of course, the three remaining gadgets must still provide the same level of service as the original five. I realize this sort of consolidation can't happen across the board and some gains may be small. But as I've said throughout this chapter, every little bit helps.

Without a doubt, the hottest trend is virtualization. Instead of five physical servers offering a variety of services, virtualize them to one server. OK, maybe two so that you can have a cluster to provide high availability. Now your IT staff only has two physical pieces of hardware to maintain and support—not to mention the potential savings in data center power and cooling. Granted, there are still five platforms that need to be managed, but typically virtualization itself offers additional efficiency and automation benefits, so there are even more savings to be realized.

Even traditional server consolidation can lead to a more efficient workforce. The goal of an IT service management strategy is to integrate IT with the rest of the organization, so I would argue that this integration includes the rest of the company as well. Why have three departmental-level file servers when file services can be consolidated to a single server? I've been in companies where a team or department file server sits in someone's cubicle, yet still must be supported by IT. It is hardly efficient when the IT professional spends 10 minutes walking across the campus to reach the server and 10 minutes back. Even if you don't have this type of problem, I bet if you looked, you could identify a few servers that could be integrated or consolidated.

Reduce Capital Costs

Given that corporate and IT budgets are shrinking or in the best case remaining unchanged, discovering opportunities to reduce capital costs is a top priority. In the past, many IT shops simply threw money at problems or situations. Have a new client server application to deploy? Not a problem, here's a brand-new server with lots of hard drive space, more RAM than you'll need, and an expensive OS license. I think it is safe to say those days are long gone, and if we're fortunate, they won't return.

Your IT service management strategy must take capital expenditures into consideration. If the company's direction is to cut these costs, so too must be yours. You can easily reduce capital costs by simply refusing to spend money. That may be fine in the short term, and many companies have no choice but to impose capital moratoriums. However, this can't continue indefinitely. At some point, the company will expand and require additional IT services. What you can do is implement service strategies that minimize any required capital expenditures.

I referenced one possible solution in the previous section and that is virtualization. Assuming you can provision and support an adequate virtualization infrastructure, over time, your investment should offset any capital costs you would normally have had to make. Virtualization doesn't come cheap. It typically requires new hardware that supports virtualization, additional memory, network infrastructure changes, and more sophisticated storage such as a Storage Area Network (SAN). You must be prepared to demonstrate and document to business management how this investment is critical and how the company will benefit, especially in hard dollars, in the future. Any virtualization vendor worth your money should be able to assist in calculating your return on investment (ROI). Of course, don't forget the hidden savings such as increased IT professional efficiency.

Virtualization is not limited to servers. A growing trend in IT is virtual desktop infrastructure (VDI). By this point in the chapter, you should realize that nothing comes easy, but with adequate investment, VDI offers tantalizing numbers. For example, a financial services company with 1000 seats can see a 65% total ROI over 3 years, as Table 1.1 shows.

Three-Year TCO	Traditional Solution	VDI Solution	ROI
Desktop Device Costs	\$1,683,950	\$436,637	74.10%
Desktop Software Costs	\$404,220	\$295,235	27.00%
Server Infrastructure Costs	\$205,278	\$806,789	-293.00%
Desktop Management Labor Costs	\$4,176,564	\$1,615,695	61.30%
Desktop Power Costs	\$190,053	\$127,618	32.90%
Desktop User Productivity Impact	\$3,435,836	\$206,235	94.00%
Business Risks	\$278,208	\$22,260	92.00%
Total	\$10,374,109	\$3,510,469	66.20%

Table 1.1: Example ROI realization through VDI.

Granted, there is a slight capital tradeoff by moving service delivery to the back end, but this setup has plenty of additional intangible benefits to make it worth pursuing. The next time you have a batch of desktops due for replacement, take the time and evaluate a VDI solution. Crunch the numbers. Odds are that it will make a valuable addition to your service management strategy.

Improve Access to Information

One final critical business priority and one that clearly aligns with IT is improved access to data and information. More than ever, companies are reliant on all types of information in their daily operations. From data about inventory to customer records to bank account records, most companies would grind to a halt if access to information was interrupted.

It naturally falls to IT to provide this service. When it comes right down to it, this is the most critical service you will account for in your service management strategy. First, you must have a means to acquire data and information. I always think of these as separate items. Data can be a numeric value such as 1048576 and only becomes information when someone applies meaning to it. Although some data, such as a telephone number, is self-describing information. But I make this distinction because it may affect how you collect it and how the company accesses it.

A related IT service is collection. Working with the appropriate area of the company, you must provide a service that acquires the data or information in the most efficient and cost-effective manner. For example, you might offer a Customer Relationship Management (CRM) solution or perhaps gather data from a Web-based survey that is eventually stored in a relational database. Once the data is collected, in most cases, IT is merely a caretaker. However, additional services for securing, backing up, and maintaining access to this information will be required.

Providing access to all this information is the most important service, and expectations must be set regarding accessibility. By that, I mean, how quickly is information needed? As a rule of thumb, the closer you get to real-time access, the more expensive the access. Not that there's anything wrong with real-time data and information access. If the value to the company, say as a competitive advantage or through regular profit, exceeds the cost of the service, there's no reason not to offer the service. Of course, the downside is that if corporate management is relying on such access as a business-critical service, IT must find a cost-effective solution.

Access to information extends beyond what you might normally think of. It's not necessarily customer databases and end-user spreadsheets. Businesses need information in a wide range of areas. This information must be timely and readily available so that executive management can make strategic plans and meet external demands such as auditing and compliance requirements.

One such area is asset management—and not just IT assets. The following list highlights scenarios executive management might pose:

- Our manufacturing plant has seven SuperMax100 widget makers. How much did they cost? How much do we spend in labor and material to maintain them? What is the work order history? How much are they being utilized? How has utilization changed over time?
- We have a delivery fleet of 100 vehicles. What was the original purchase cost? What is the annual maintenance cost? How much are we spending in fuel? How have fuel expenditures changed over the past year? What is the current market value of the fleet?
- We have 150 branch locations. What are the real estate and tax expenses for each? How much are we spending in utilities per location? How much revenue is attributed to each location? How does that compare with the total branch expenses? What are the five least profitable locations?

Service management must extend beyond the traditional boundaries of IT.

Are You Ready for a Well-Managed Service Management Strategy?

Unfortunately, you can't drive over to Strategies 'R Us and buy a service management strategy. By nature and design, this strategy must grow out of your environment. It must be aligned with the business' objectives and further its mission. An effective and well-managed service management strategy requires research, planning, testing, and an investment in time and resources. To that end, I've prepared a checklist that you can use to assess your readiness and identify areas where remediation or outside assistance may be required.

IT Readiness Checklist

The following section offers IT management tasks that will help you assess the current state of your IT infrastructure and data center. The information gleaned from these tasks will also help you better manage capital asset costs. As you work through this list, you will most likely identify areas of deficiency. This is normal and the reason you're bothering at all with this process. The path to a well-managed IT service management strategy can be long and winding, and you will most likely need help along the way. The items in this checklist are not necessarily in any order of importance and a few might not even apply to your organization. Often, I'll refer to required resources. By this, I mean what is required in terms of manpower, direct financial costs, energy, real estate, and other assets:

The first step is an asset inventory of server hardware including purchase, upgrade, and maintenance costs. What do you have, where did you get it from, and what are you doing with it? Some organizations keep very granular records down to items such as processors, drives, and network cards. You'll have to determine an appropriate level of detail.

Next is a server utilization inventory. For every server, what is its purpose? How many people rely on it? What is the average memory utilization? What is the average processor utilization? What is the average disk utilization or performance? Do you have historical data that can be used for trending and forecasting? Take these same steps for other types of hardware inventories:

- Asset inventory of desktop hardware including purchase, upgrade, and maintenance costs. Use the same principles I outlined for the server hardware inventory.
- Asset inventory of laptop and/or mobile hardware including purchase, upgrade, and maintenance costs. Again, use the same principles provided earlier.
- Asset inventory of midrange and mainframe computers. What do you have? When did you acquire it? What resources are required to maintain these systems? Who is utilizing these systems and how?

Not to be forgotten is an enterprise-wide software inventory. What applications are in use? How many users are utilizing the applications? How many licenses do you own? When were they purchased and for how much? What versions are deployed? Is the software installed locally? Is it delivered via the Web or as a client-server application? Be sure to include in-house developed and open source solutions.

You should conduct a thorough asset inventory of IT-related hardware that provide value either directly or indirectly to the company. For each of the following, you must know purchase date, purchase cost, maintenance costs, and how many users rely on the device. Where applicable, firmware or OS should be gathered:

- Routers, switches, hubs, and other networking infrastructure equipment
- Printers, plotters, copiers, and fax machines
- Teleconferencing and telecommunication hardware
- Projectors and cameras

Inventory and assess storage. How much storage do you have? Where is it? How much is being utilized? Who is utilizing it? Do you have historical information that can be used for trending and forecasting?

Assess job scheduling or automated workflow systems. What resources do they require? Who uses them and why? How are they managed? What would be the effect on your business or IT operations if these systems were removed? That's a sure-fire criticality test.

Don't forget a database inventory and assessment. How many different database sources are in use? Don't forget to include desktop-based databases. Who is using them? What are their sizes? What is their performance? Do you have historical data that can be used for trending and forecasting?

Define your change management strategy. What is your change management strategy, assuming you have one? Does change management add value or is it perceived as an obstacle? If the latter, determine why. Is the process manually intensive? What resources are required?

Determine your authentication requirements. How many unique authentication forms do you have to support or do end users have to manage? How many Help desk calls can be attributed to authentication problems and how much productivity is lost?

Assess your organization's compliance and reporting requirements. How many different tool sets are required to meet them? How much time and resources are spent meeting them? How much of your reporting could be considered optional or low priority? I'm always interested in knowing how much IT resources must be involved compared with what an end user or manager can accomplish on their own. One reason to ask these questions is to identify potential bottlenecks in these processes.

Inventory and assess all management tools across the enterprise. How many different management tools and products do IT professionals utilize? Especially inventory monitoring tools. What functionality do these tools offer? Can you identify feature overlap? Are additional network or server resources necessary or dedicated to a given tool or product? How much training is involved on each before an IT professional can begin using it? Look carefully at licensing for these products. Does every administrator really need a license? Do any of these tools lend themselves to automation? What would be the effect on business or IT operations if a given tool or product was removed?

Evaluate your Help desk and end user support operations. How many Help desk or support calls does IT take? How long does it take to resolve issues? How many calls are resolved immediately and how many are escalated? Do you capture enough information from each trouble ticket to detect trends or identify areas that might require attention? If your organization has additional internal non-IT support centers, perhaps for telecommunications or human resources, inventory these systems as well.

Next, assess internal Internet usage. How is the Internet used internally? How many people access it at any given time? What sites or services do users access? What is the quality of their experience? Do you have historical performance data for trending and forecasting?

Assess external Internet usage. How is the Internet used externally? How many people access it any given time? Do you have users connecting via a VPN or customers attempting to order products? What is the quality of their experience? What is your network utilization? Do you have historical performance data for trending and forecasting?

I would suggest examining how physical access to different parts of your office, complex, or campus is controlled. Do you have guards with written logs? Do users have keys or key cards? What is your process for granting, managing, and revoking access? What resources, especially IT, are required for support?

Do you have a process or procedure for new technology requests? Do you have a test methodology for assessing the impact of new technologies? For that matter, do you have a set of company standards for IT? When was it last updated? Who updates it?

It's very important to identify a set of core and repeated tasks. Is there an established and documented procedure? How long does it take and how many resources does it require? Here's a short list that should apply to any organization:

- Provision a new employee: network account and group membership, file storage, email, telephone, and remote access
- User account modifications including password maintenance and employee terminations
- Desktop acquisition, deployment, reconfiguration including patching, and decommissioning
- Server acquisition, deployment, reconfiguration including patching, and decommissioning
- Application acquisition, deployment, reconfiguration including patching, and removal
- Data backup and restoration
- Storage and file share provisioning

Assess and inventory branch or remote locations. Where are they? How many users? What resources or services do they consume locally? What resources or services do they consume remotely? How are these locations supported and at what cost?

Inventory and assess the state of all vendor contracts and agreements. Who is the contract with? What are the terms? What IT resources are required to manage these contracts? This inventory must extend beyond IT to all areas of the company.

The same inventory and assessment should also be done of all customer contracts and agreements. Who is the contract with? What are the terms? This inventory must extend beyond IT to all areas of the company as with all other contract and agreement inventories.

Do you have an inventory of non-IT assets, especially those critical to business operations? For the following short list, can you provide purchase, maintenance, and life cycle histories? What is the impact if any of these assets are unavailable? What is the utilization of these assets: who is using them, where, when, and why?

- Tools
- Equipment (from copiers to compactors)
- Vehicles
- Aircraft
- Raw materials, goods, and consumables

What is your organizations' procurement process? What resources are required? Who uses it and how? How efficient is the process; that is, how long does it take for a procurement process to complete? What role does IT play in this process?

What are your shipping or mailing requirements? What is shipped? How often? Where is it shipped to? What is the process? What vendors do you use? How long does it take? What costs are involved? Do you have historical data for trending and forecasting?

Assess your IT management structure and decision-making process. Is it centralized or decentralized? How are decisions made and how efficient is the process? By that, I simply mean if someone at the top of the IT organization chart issues a directive, how long does it take to trickle down to the implementation level? What is the role of non-IT executive management?

Determine your utility requirements for power consumption, heating, cooling, and water. Not just for the data center but across the enterprise. Do you have historical information for trending and forecasting?

Inventory and assess your SLAs. Who are they with and for what purpose? What is your performance? Do you have historical information for trending or forecasting?

Identify the current state of your business continuity plans. What resources are required for maintaining and testing these plans? What resources are required to implement these plans? Have you assessed the efficiency and accuracy of these plans lately?

Does your organization utilize business management strategies such as Six Sigma or ISO 9000? What role do you and your area currently play in these strategies? How will your service management plan integrate with or complement these processes? What are their requirements?

As you can see, the recurring trend is information. Do you have it? What resources are required to retrieve it?

Data Center Goals

I expect that many of you already have a handle on the preceding items. If not, they represent a potential gap in your service management strategy. In addition, you need to assess your goals for the data center and your IT infrastructure in general. If you have SLAs with customers, internal or external, that is a good place to start.

I also encourage you to simply ask for customer feedback. I strongly believe their perspective is critical in achieving maximum quality from your service management strategy. Consider asking the following questions:

- Are you meeting their expectations?
- What IT services are succeeding?
- What IT services are poor performers and why? What is the customer's expectation?
- What could IT offer or provide that would help the customer be more productive or otherwise add value?

Scott Adams' comic strip Dilbert has a recurring character, Mordac, the Preventer of Information Services. Mordac represents IT as an obstacle to productivity and efficiency. Although these strips are humorous, it is only because Scott Adams has connected with a deeper truth. Sadly, I have witnessed more than one real-life incarnation of Mordac.

Your model should be the anti-Mordac. Assessing customer feedback goes a long way in ensuring you are succeeding. Feedback and reviews should be an ongoing and recurring process that in itself needs to be as efficient as possible.

As for the rest of the data center, let me propose additional goals that should fit into most any service management strategy. I believe if you don't have any goals or reasons to invest in a service management plan, then why bother. The values I've listed are frankly arbitrary because every organization is unique, but I calculated values based on my experiences and what I felt were realistically attainable. If you exceed these or set higher goals, so much the better:

- Data center operations should be 100% "lights-out"
- Reduce power consumption across the enterprise by at least 25%
- Reduce desktop deployment, management, and maintenance costs by 20%
- Reduce server deployment, management, and maintenance costs by 15%—these costs tend to be bit higher to begin with which is why I have a lower goal compared with that for desktops
- Increase server and application availability by 10%
- Increase overall customer satisfaction of IT services by 10%
- Develop a data center and IT infrastructure that can anticipate problems and proactively respond to both internal and external forces
- Develop a data center and IT infrastructure that is dynamic, fluid, and responsive

Your Action Plan

Where do you go from here? The first question to ask yourself is do you want a service management strategy? It may seem obvious, but if you don't want to or can't invest the necessary time and resources, there's no point in continuing. Of course, I'm assuming the answer is "yes."

The next step is to work on the IT checklist I presented earlier and assess your current infrastructure and service delivery metrics. When doing so, keep the following general principles in mind.

- Seek out repetitive and manual tasks that would benefit from automation
- Seek out redundancies and duplication in tools and products
- Seek out tasks and processes that don't add value to the organization
- Seek out workflows where human intervention could be removed
- Seek out assets that aren't being fully utilized; this includes both physical and human assets
- Seek out external forces that are duplicative and inhibiting value, innovation, or otherwise serving as a drain on corporate resources—for example, do you have two vendors who provide the same service? Some external forces such as regulatory compliance requirements are simply the cost of doing business (although you want to make sure you aren't overpaying)
- Seek out organizational or cultural settings that remove value from the company: are there social, cultural, or political constructs that are chokepoints that once removed will permit the company to realize new gains in productivity, efficiency, and value?

You've probably realized you can't do this alone. As you search out vendors, consultants, or other industry experts, look for those that can offer an immediate ROI. I also always look for simplicity. It has been my experience that the more complex a solution, the longer the ROI. Seek out vendors willing to work as partners and avoid those that want to simply fill your shopping cart. And I hope it goes without saying that you should seek out vendor partners with demonstrated experience in your industry or sector. You need someone who can say, "Yes, I've seen this situation before. This is what we did. It saved the company \$X per year and had these other benefits."

Once you've identified areas of improvement and calculated the ROI, get executive management involved and committed to the cause. Often a well-managed service management strategy involves changes to corporate culture, and if senior-level management is not behind these changes, your strategy won't be as effective.

In the next few chapters, I'll look more closely at specific topics that I believe will play a critical role in developing an effective service management strategy. Use this information to supplement what I've discussed in this chapter and you'll be on your way to a well-managed, effective, and high-quality service management plan in no time.

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