TEAMQUEST AND ITIL

A SERIES OF WHITE PAPERS ON ENTERPRISE IT BEST PRACTICES

Part 3 – Implementing Capacity Management

▲TeamQuest®

CONTENTS

Summary

Once a decision has been made to improve service by adopting ITIL frameworks and best practices, a plan must be developed to implement the changes to the organizations. Implementation options vary from comprehensive all-or-nothing implementations to a variety of staged implementations. Some ITIL proponents propose a full implementation, thinking that it is easier because the organization goes through the pain only once. All new processes are implemented at once so all interfaces are operational on day one. The company enjoys the full benefit of ITIL immediately even with the normal break-in period.

The risk of a full implementation is that some processes may not operate immediately as expected and therefore impact business processes. As a result, patience may wear thin and the entire implementation project may be abandoned.

Other ITIL proponents feel that IT and business leaders should choose a staged approach when implementing the ITIL framework and best practices because the impact of change on the organization is overwhelming. When shortcomings or omissions are found a staged approach permits the IT organization to refine and exercise its implementation processes before more comprehensive, and difficult, larger scale implementations proceed.

Early successes reveal the true value of ITIL and build confidence and determination to complete the remaining implementation steps. Since a single process is being implemented, there is generally more patience while the bugs are being worked out, so there is less risk of abandoning the implementation project.

Published reports of ITIL implementations show both methods have been successful. This paper will more closely examine the conservative staged approach.

Why Capacity Management First?

Capacity management (CM) is one of several services that is a good candidate for a pilot implementation. Many companies already perform CM in some form or another and may just need to consolidate organizations and refine processes to migrate to the new paradigm. Existing senior technicians probably have a good idea of where performance improvement and resource reduction opportunities exist. These improvement opportunities may not have been pursued due to lack of understanding of benefits or organizational dynamics. With the new organization and its best practices, performance and/or financial benefits will be more clearly communicated and processes will drive the remediation work, resulting in relatively quick returns. For example, CM staff working with an application team could tune a database application, resulting in lower per transaction resource utilization which could delay an expensive infrastructure upgrade. The resulting budget savings will reinforce the value of implementing CM and the remaining ITIL processes.
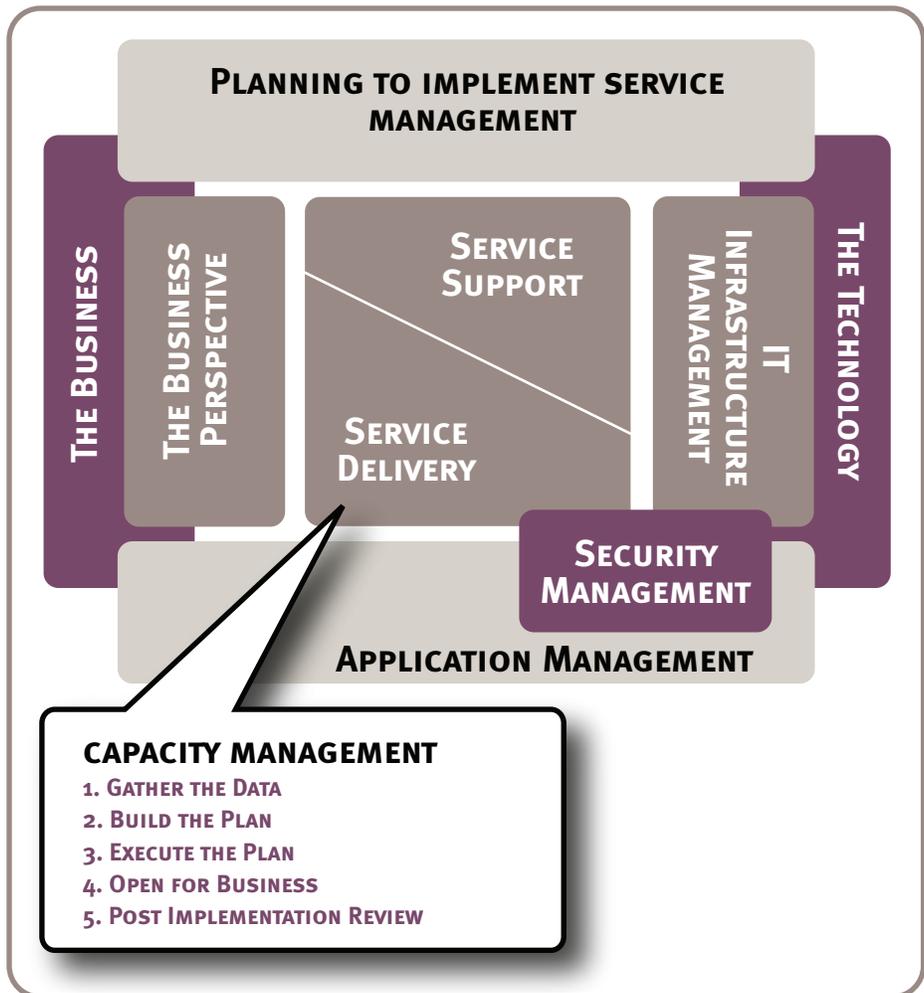
Some of the immediate benefits are:

PLANNING TO IMPLEMENT SERVICE MANAGEMENT

THE BUSINESS

THE BUSINESS PERSPECTIVE

SERVICE SUPPORT

SERVICE DELIVERY

IT INFRASTRUCTURE MANAGEMENT

THE TECHNOLOGY

SECURITY MANAGEMENT

APPLICATION MANAGEMENT

CAPACITY MANAGEMENT
1. **Gather the Data**
2. **Build the Plan**
3. **Execute the Plan**
4. **Open for Business**
5. **Post Implementation Review**

Lower costs

- **Higher precision tools and more effective best practices permit existing technology assets to be driven closer to the edge, getting more out of existing resources and improving IT cost per service unit positions.**

- **Continuous runtime improvement processes fine tune applications and infrastructure components, thus improving performance, reducing consumption and delaying expensive capacity upgrades.**

- **Central performance and capacity data stores eliminate redundant work across IT units and ensures consistent reporting. Redundant tools can be decommissioned, resulting in improved staff productivity, lower software expenses and lower online data storage requirements.**

Improved quality

- **Predictive modeling disciplines more efficiently provision capacity and provide more timely capacity and related cost information to the business for more informed decisions.**

- **More comprehensive input to Total Cost of Ownership analyses improve accuracy so more informed decisions can be made regarding proposed new and/or major IT-related upgrade initiatives.**

- **Proactive analyses with modeling tools project consumption at future growth levels and discover bottlenecks with sufficient warning to correct before business services are adversely affected.**

The Work of Capacity Management

Capacity management is responsible for ensuring that IT infrastructure resources are in place to satisfy planned business needs and that those infrastructure assets are effectively used. The desired goal for capacity management is to provide a service that is proactive rather than reactive in nature.

The major work components of capacity management are:

Performance management is a continuous improvement process that examines application and system program performance, analyzes them for possible improvements, identifies candidates for improvement, specs out the costs and requirements, commissions the corrective work, then measures and reports the results. An effective performance management team can reclaim infrastructure capacity by finding ways to improve the way applications consume resources. For example, changing the way an application reads a large database can improve response times to the end user and reclaim capacity by using fewer resources to do the same work.

The performance management team works closely with quality assurance testing and performance volume stress testing teams to monitor changes to applications and catch performance problems before they are introduced into production.

Workload management uses data from performance monitoring tools to separate resource usage by business process rather than individual

SAMPLE CAPACITY PLAN
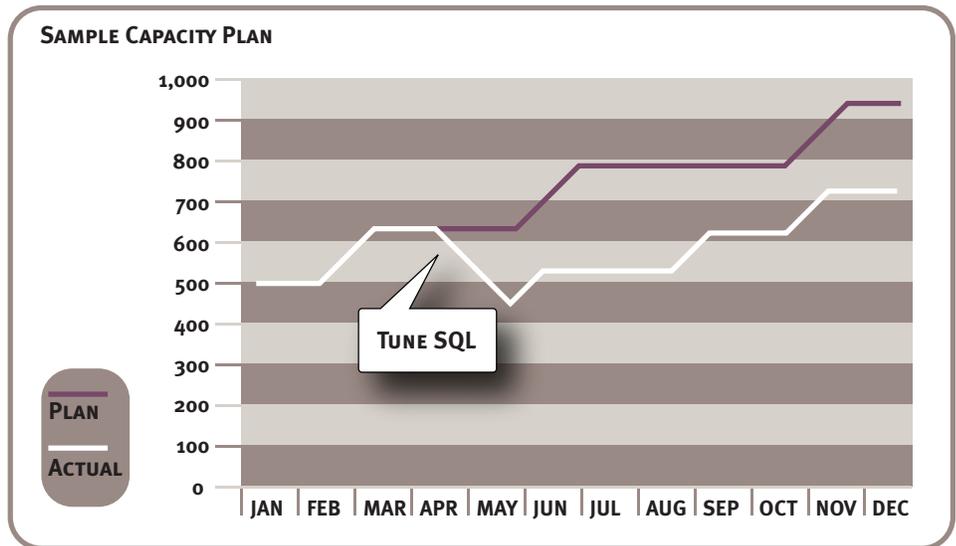
increments of usage on a particular infrastructure component. The goal is to address capacity needs on a business process basis. Since some business processes have downstream effects on other processes, this is a more efficient and more effective method of performing capacity planning. For example, selling a certain quantity of merchandise will have an immediate affect on infrastructure resources at the time of the sale, but will also have a future affect on resources as the sales will generate a certain number of customer inquiry calls after the sale. Knowing these business relationships, a capacity planner can make a much more accurate prediction of future needs.

Building the capacity plan is probably the most important, and most complex, piece of work the capacity management team produces. In most cases the capacity plan is produced on an annual basis and mid-course corrections are made at predetermined intervals, usually quarterly or semiannually. The plan takes into account current business volumes, projected business growth by business unit or process, budgetary considerations from the financial organization, planned projects from the applications teams and the technical support organizations, service restoration requirements from availability management teams, business contingency requirements from the disaster recovery teams, and service level agreements in place and planned.

The capacity planning team works with service level management and finance teams to devise the best plan that meets the business requirements at a cost the

business can afford. The most important inputs to the estimation process are the business plans and metrics, and the service level agreements. Without these two important pieces, the infrastructure components cannot be accurately and efficiently designed. For most organizations this is a large effort which should not be underestimated. Sufficient time and people resources should be allocated to perform the task correctly. A well done capacity plan can have a substantial positive impact on IT expenditures by right-sizing components and employing just-in-time provisioning techniques.

The capacity database is a repository of all IT and business related information needed to perform the work of capacity management. The data store can also be used by other organizations, eliminating redundancy. For example, utilization data can be extracted for the financial management team in order to produce chargeback billing reports and the enterprise command center can utilize the real-time data collection facility to monitor system performance. A single data store is preferred but multiple stores can be used if data collection tools require, however doing so usually requires a significant work effort to integrate the data sources and pull the information together into a common format for reporting and modeling purposes. Examples of data captured and stored are business volumes, budgetary information and consumption data.

Modeling is the process of using software that employs mathematical formulas to simulate infrastructure performance and permit business growth to be applied to the model in order to closely approximate future resource needs. Modeling can find bottlenecks in application systems before they adversely impact business processes and provide sufficient warning so corrective actions can be completed before service interruptions occur. Even with the modeling tools available to the team, this is a labor intensive effort, usually reserved for large scale projects and mission critical applications. That being said, accurate modeling can prevent productivity losses due to outages or slowdowns and can reduce or eliminate the risk of needing to purchase interim resources to maintain business as usual until corrective actions can be accomplished.

Demand management relates to managing IT resources consumed by users. The capacity manager is in the unique position of seeing both the business need and the technology available to satisfy it. Where conflicts between business requirements and budgetary constraints arise, the capacity manager should know the options and trade-offs available and start dialogues between the affected parties to determine the best solution from a business point of view. The capacity manager also manages resources during extreme periods such as IT cutbacks resulting from business downturns, unexpected high business volumes, or disasters. During these extraordinary events the capacity manager is responsible for optimizing existing resources and satisfying as many business needs as possible based upon business priorities.

Resource management deals with the individual resource components of workloads and business processes by:

- **Accumulating them by specific platforms**

- **Applying recovery requirements**

- **Devising a capacity plan for each component at an acceptable cost**

To get the best possible utilization from IT assets and the best fit when sharing platforms among applications, resource management requires substantial knowledge of individual application usage patterns. For example, a resource capacity planner may plan for a nightly batch reporting process to run on the same server and a day-time online transaction system that runs from 8 a.m. to 5 p.m. In doing so, the capacity planner takes advantage of idle capacity on the processor, satisfying the night-time capacity need with little or no additional cost.

Capacity management also provides a sizing service for new business applications and major application and infrastructure upgrade projects. The capacity team takes initial business metrics, application function and workflow information, proposed data storage structure and volume information and produces an estimate of the resources needed to provision the new functionality or changes. Capacity then works closely with financial management to develop a 5-year TCO (Total Cost of Ownership) document to assist IT and business leaders in understanding the initial and ongoing support costs before work has started. The costs can then be compared with the business value of the new work or workflows and an informed decision can be made whether to proceed with the project.

Which Other ITIL Processes Interface with Capacity Management?

Capacity is probably the most wide ranging of all the ITIL processes, having links to virtually every area in the IT and business communities. Capacity management processes are tightly integrated with the other service delivery processes and with configuration management, business strategic planning, incident and problem management, and change management.

One of the most important interfaces is to Service Level Management (SLM). Capacity management passes historical service metrics to SLM so SLAs can be appropriately sized and configured. SLM passes the detailed SLA information back to CM so that the appropriate capacity positions can be put in place to satisfy the need. Reporting processes are then set up to measure and report service results and forward to SLM for input into their processes.

Another important interface is that with Cost management. This interface generally applies to chargeback efforts and the building of TCO documents. The timely and comprehensive exchange of data ensures the costs of IT services are well understood and communicated appropriately to the business. The level of detail will depend on how the business and corporate finance account for IT expenditures and chargebacks.

Steps to Implement Capacity Management

All successful projects start with a project plan. Implementing capacity management is no different. A project manager with a record of success in implementing large, complex projects should be assigned. Additional staff as required by the company's project management process should be assigned at the same time. Support staff will be needed to document the progress. Since this implementation is the pilot, the support staff should be sufficient to quickly handle any anomalies during the execution of the project plan and should be the ones to make adjustments to the general implementation procedures to smooth the way for future process implementations.

1. Gather the Data

The first step is to identify a capacity manager. In all shops with more than 100 IT employees, this should be a full time position. The leader must be a true IT generalist. He needs to be a people person, able to communicate well and build relationships with business as well as technical staff. He needs to understand business processes and he needs a good grip on all facets of IT technology. Over time he will probably interface with every leader in the organization. He will need strong negotiation skills to initiate the work identified by him and his staff to streamline applications. He will be responsible and accountable for the entire IT infrastructure capacity budget which includes servers and associated software, networks, network connectivity equipment such as routers and modems, and telephony equipment such as PBX and VRU.

The next task is to define the vision for capacity management. Although the decision has been made to implement the ITIL framework and best practices, in most cases the vision behind the decision is at a much higher level than needed to scope and develop a CM team process that meets the business needs. The team tasked to develop the vision should include senior IT management and the capacity manager. The vision will include a mission statement and desired end-state goals, processes and responsibilities.

In concert with developing the vision, work can commence on creating a current state assessment. This is frequently prepared with the assistance of a consultant or facilitator however the Office of Government Commerce (OGC) does provide a self-assessment checklist that can be used to narrow the focus of the assessment work. The project team should survey the entire IT organization and discover where and to what extent capacity management work is being performed today. For example in many large companies network, server, and mainframe capacity planning are being done in different organizations under different leaders. Capacity and Performance Reports and their distribution lists should be inventoried. Existing policies and procedures should be documented.

The project team should inventory the IT staff both from the perspective of those performing CM work today, but also from the perspective of finding those who have the skills necessary to perform the future CM work.

A tools and software inventory should also be performed. In most organizations, different tools are used by different departments to perform monitoring, capacity planning, performance management, and chargeback work.

The project team should work with the finance organization to collect the details from the various IT and business budgets that pertain to capacity management work. This is necessary to understand the differences between existing run rates and the start-up and ongoing support costs for the new organization.

Once the assessment and inventories have been completed, the next step is to perform a gap analysis. The gap analysis will show the areas that need process improvements or new work to be performed and where efforts are duplicated. Staffing needs and/or skills and training requirements will be identified. The project team will identify any tools needs and any duplication. The results of the gap analysis is essential to build the project plan, define the work that needs to be accomplished, identify tools that need to be acquired, unveil staffing requirements and the costs

Now that the gap analysis has revealed the changes required to migrate to the new organization, the project plan can be developed and a cost analysis completed. Staffing, tools and equipment needs will be translated into costs and included in the cost analysis.

2. Build the Plan

Once the gap analysis has been completed, sufficient information will be available to tailor an implementation plan to attain the vision. The plan will be responsible for establishing the three major components of capacity management - people, processes and tools. The plan will also determine the costs necessary to sustain the organization, build a preliminary budget, and compare it to the current expenditures for similar function and possible spread across the organization.

The components of the implementation plan are:

Determine where capacity management is placed in the IT organization. The ideal placement is as a direct report to the CIO, IT Director or within the Service Management group. However a number of organizations opt to place it in the Operations area. This may not be a good choice as applications and user areas may feel capacity management will immediately take the Operations point of view rather than a neutral position.

At this point in time a decision must be made as to having a formal, centralized capacity management team or have a matrixed organization. Many organizations separate network functions under entirely different management teams. Generally it is better to have a single organization. Today's applications are complex and span a number of technologies so it is necessary to examine an application with an end-to-end perspective to determine where capacity upgrades or tuning efforts are required. For example, when adding online data storage for a new database or data store, there is more to it than just buying the physical storage. A centralized capacity management team will look at the operating environment as a whole. If the storage is to be kept remotely, the capacity team will know if there is sufficient bandwidth to transmit the data for backup and recovery purposes. The capacity team will also know if sufficient backup media and equipment, such as tape drives, are available to perform the additional work within the timeframes specified in the SLA. Environmental capacity (power, air conditioning, surge protection, backup generator, etc.) will also be reviewed to ensure sufficient resources exist to support the new equipment. In a split team, miscommunications can lead to

omissions in researching one or more of the additional elements, resulting in unplanned service issues.

Sufficient time must be allowed to develop the process documents. The documents should have a description of all the data inputs, information outputs and work processes. A flow chart of the work flow should also be included. Much thought needs to occur to ensure all interfaces and work are identified. In addition, the project plan needs to develop a process and identify a team to handle any process gaps during or immediately following implementation.

The plan must include tasks to identify and train the people performing the work. The plan will vary depending upon management's decision to staff from within or look externally for the appropriate talent. Job descriptions need to be drafted and sufficient time allocated to work with the Human Resources organization to review and adopt them.

Sufficient time must be built into the plan to train not only the capacity management team but any other team that interfaces with capacity management. Many organizations have chosen to train everyone on capacity management, just as they do with service level management or financial management. Many post implementation reviews reveal that insufficient time was made for training and the implementation would have had many fewer incidents had more time been allocated.

Any work regarding acquisition, consolidation and/or implementation of capacity and performance tools will be included in the plan. If tools are to be acquired, the project manager needs to allow sufficient time in the plan for corporate acquisition policies and procedures to be followed.

The project manager needs to develop a plan item to communicate the processes to the organization. Many organizations use their internal corporate communications team to accomplish this task. Due to demands on their talents, the project manager should schedule the work with corporate communications well in advance so project goals can be achieved.

The project should include members of the financial team so a comprehensive implementation and ongoing operations budget can be developed. In addition, these project team members will assist in identifying current expenditures across the organization that performs capacity management functions. All the financial information is then fed into the TCO document and submitted to management with the proposed project plan.

Project reports should be determined and agreed upon. Many organizations employ the use of a dashboard report, using traffic lights (Green, Yellow, Red) to signify project status.

Once the project plan and the budget have been completed, the Project Manager and the Project Sponsor present the plan for approval.

3. Execute the Plan

Build the Organization

The first step is to write the job descriptions. The size of the organization will dictate the number and function of the positions. Job descriptions should be developed even if the work is matrixed to another organization. Job descriptions should specify the position name, salary grade, skills required to perform the work, and any previous experience required.

Some of the desired skill sets for capacity management positions are:

Capacity Planner –
For business and service capacity management, applications and/or business analyst experience is desired as the work is usually at a higher level than a single infrastructure component.

Engineers or long time technical support staff can perform the functions very effectively but must be able to rise above a detail level to be successful. Resource capacity management can be performed by staff with previous engineering, technical support or operation monitoring/command center background as they are working at individual infrastructure components that they are

already familiar with. One of the goals for a capacity planner is to be trained to work across all infrastructure components rather than a single technology. Good communication skills, both verbal and written are desired for these positions.

Performance –
Good candidates for performance management roles are staff with experience in System Programming, Applications Performance Management, Operations Analysis, Database Support, Problem Determination and Performance Monitoring. Medium and large organizations will have a well diversified group of people to permit specialization in key areas such as database tuning and application coding techniques.

Modeling –
Engineers make good candidates but must be able to transition from a detailed to business focus. Mathematicians understand the modeling process but need an IT operational background to be able to ensure the models truly reflect the real life environment.

Data gathering, storage and reporting –
Good candidates for these positions have experience in one or more of the following areas: technical support, monitoring, chargeback, and IT reporting. A candidate with multiple infrastructure platform experience is a plus.

Process champion –
This person audits the process on an annual basis and is responsible for making appropriate process changes as dictated by changes in the workflow. This is usually not a full time position and can be filled by any capacity management team member with good writing skills.

Document and Publish the Processes

Since this is a pilot example, it is more work as interim interfaces and goals have to be identified so work can be accomplished with a minimum of interruption while the rest of the organization rolls out.

Writing the processes is a lot of work. It is necessary to document the workflow: inputs, outputs, work accomplished, steps to accomplish, who does the work,

who receives the work, outside assistance needed to execute the processes. It may be advantageous to employ the services of a professional writer to do the bulk of the work with management and technical staff creating just an outline to minimize disruption to day-to-day activities. Doing so ensures the processes are documented consistently, in the same format and in the same language (tone and wording).

Although an organization can structure the work in many different ways, the most common components of capacity management where processes need to be documented are:

• **Performance management – continuous performance improvement of applications, performance trend analysis and analysis of chronic application performance problems.**

• **Capacity Planning/capacity plan – building of the capacity plan, resource management, demand management, capacity management.**

• **Modeling – forecast future needs through use of simulation tools and proactive bottleneck discovery.**

• **Performance data collection, storage and reporting – without the data, little of the work of capacity management can be accomplished and communicated.**

• **New Application and major upgrade sizing.**

Acquire and Implement the Tools

Capacity and performance tools are as important as people to capacity management. The gathering and processing of infrastructure utilization and performance data is critical to the team's success. Without the right detailed data it is difficult for the staff to efficiently or effectively execute processes and procedures. Ideally a single tool will provide all of the functions mentioned below. However economics may dictate that a number of existing products must be used and integrated. The capacity manager must review the portfolio carefully to ensure that data

from all tools is based upon the same collection interval and that data can be easily moved between tools. Manual input of data from one tool into another can be a productivity drain in most shops. Manual input is tedious, subject to change, and very time consuming for servers that have numerous peripheral devices attached such as hundreds on online data storage volumes. Therefore it is necessary to have automated methods of integrating the tools if capacity management productivity is to be maintained at expected levels.

Tools required to successfully and efficiently execute capacity management processes have the following functions and capabilities:

Monitor and infrastructure utilization data collection tools –
These tools are required for real-time monitoring of infrastructure components and to harvest the associated utilization data, storing it for future analysis. The collection tools should have the ability to segregate data based upon user-defined categories, associating usage by user, application and/or business process. The tools should have automation built in so staff support is necessary for the day-to-day functions of the tool.

The tools should be able to collect detailed application performance data such as CICS, DB2, Oracle, Java, SAP, Email, Network packets and other major applications. The user interface to the tools should be intuitive and easy to use with minimal training requirements. In Wintel and Midrange systems, the tools should not be kernel intrusive so operating system integrity can be maintained and maintenance processes simplified. From a database management perspective, the tools should have data management processes built in or employ common database systems such as DB2, Sybase, and Oracle where existing data center tools can be used.

Reporting –
The reporting functions within the tools should be easy to use. They should provide greater flexibility, permitting detailed reporting for a single device or higher level reporting for a business process. Reporting should have automation built in so regularly

scheduled reports can be produced with minimum staff intervention. In today's environment, reporting tools that provide web-based displays of reports are a plus as they eliminate the need for costly printing and distribution.

Analysis functions –
The tools need to be able to assist performance management and capacity planning staff in analyzing infrastructure utilization data. They need to be able to perform trend analysis to determine when resources will be needed or to spot performance anomalies before they impact service. They should be able to process large amounts of data and present them in abbreviated form based upon the users needs. The tools should have the ability for a wide view, from an individual application on a server to an end-to-end application or business process.

Artificial intelligence is available with some tool sets, especially in the mainframe and network areas. This can reduce analysis time when researching a performance problem and can permit less knowledgeable staff to identify problems quickly. However one needs to be careful with automation in complex environments. For example, artificial intelligence could mistakenly diagnose a problem because different problems or interacting problems could exhibit similar characteristics.

Modeling tools –
This tool or set of tools should permit simulation of utilization changes to the IT infrastructure components. Again, the tools should have a wide span of operation, permitting simulation of a single device to an end-to-end view of a particular business application or business process. The tool should be easy to use. It should have some automation built in such as automatic calibration of baseline models (those models developed to simulate the current infrastructure components at current business volumes). The model should have the ability to import data from the data collection tools with minimum effort. The tool should also have the ability to easily generate reports of the simulation results.

Analytic and Discrete Event Simulation (DES) are two types of simulation tools available on the market today. Analytic modeling uses mathematical formulas based upon Queuing Theory to simulate computing environments. DES is much more detailed and simulates the actual running of the individual processes on processors and the transmission of individual packets on network lines and devices. Each method has its own strengths and weaknesses and its own place in the capacity Manager's toolbox. If we look at the most effective tools on the market today, there are probably more analytic tools than DES.

Define Metrics to Measure Success

As with all ITIL processes, there needs to be a way to measure the success and ongoing performance of the different IT units. Metrics need to be meaningful and measurable. They should be tied to business value rather than technical measures. Metrics should be fewer in number yet succinct and to the point, still providing management with good representation of the effectiveness of the unit. Remember that each ITIL process will have at least one metric, which will be rolled up into an overall IT report. It is necessary to keep the metrics at a manageable level as executives and managers do not have the time or the desire to read through many pages of metrics reports.

Examples of metrics are:

- **Performance management – Due to the nature of the work, results are not known until corrective actions have been completed. Generally a productivity or SLA conformance metric is used.**

- **Capacity Planning – generally metrics showing adherence to the plan, cost related or SLA conformance are used.**

- **Modeling – accuracy is the major metric used and productivity is not a good measure due to the varying complexity of work.**

- **Data Collection and Reporting – metrics that show completeness and timeliness of data collection and reporting are the most commonly used.**

- **Application sizing – probably the most difficult to measure. The work is usually accomplished with a minimum of technical or business data so accuracy measurements generally are not well-suited. Productivity measures such as completing a sizing within a standard period of time is the most common metric employed.**

Build the Training Materials and Execute the Training Plan

As stated previously, sufficient time must be built into the plan to train not only the capacity management team but any other team that interfaces with capacity management. To accomplish this, it will be necessary to develop training materials based upon the processes previously drafted. Generally the use of a presentation tool such as Microsoft PowerPoint or Adobe Acrobat is desirable since it permits self study or group presentations.

From previous experience, self study seems to work well in a busy IT environment, however managers must ensure that each member of their staff has sufficient time to read and comprehend the information. Some organizations have opted to develop online training facilities, permitting staff to go through the material in a computer-based interactive environment.

To ensure retention, testing should be performed. Passing the test should be made mandatory. Some organizations offer financial incentives while others tie success to future compensation and include them in staff Major Job Objectives.

Once again, it cannot be stressed enough that organizations increase their chances for success when more time is spent testing. In most cases, the workflows will be substantially different than the work performed today; therefore it is necessary for each staff member to understand the work for which he or she is accountable and the value of the work to the organization.

4. Open for Business

The initial focus should be directed toward performance management. With the capacity database just filling with data, time is needed before sufficient historical data is available before more complex work can be performed in the capacity planning areas.

Begin by choosing a highly visible but less complex piece of work. Since this is the ITIL pilot for the entire organization, it is better to have a small victory than a large defeat. When choosing work, ask yourself, "If the customer doesn't see the problem, is it really a problem and should we address it now?" For example, if a web application is operating in a cluster and servers need to be rebooted during the day due to memory leaks or other similar causes, the customer probably doesn't know it happened as they just refreshed the browser and the page came back, albeit from a different server. This is a problem that only impacts operations with no customer impact; thus not a good candidate to demonstrate the benefits of capacity management. To start, attack problems that are low risk, have wide visibility and where correction efforts provide significant benefit to the company.

During this time, you will have everyone's attention. It is easier to get things done during this period as everyone is flush with ITIL training and eager for success. Initial roadblocks associated with process implementation are easier to break now than at a later date. If needed business data is not available or resistance is encountered, now is the time to escalate.

At least 30 days of historical performance data should be gathered before developing any kind of trend or model.

Start simple (platform specific) then work up to end-to-end application transactions and then business processes. This will take time. Some organizations have taken several years to reach end-state yet ITIL benefits were enjoyed from the start.

Keep a good customer focus. Your business partners in most cases will welcome you when you say you want to understand their processes. They are as proud of what they do as you are of your work.

5. Post Implementation Review

At the end of the implementation project, the project manager should quickly put together a "lessons learned" document that identifies any changes that should be made to the process to facilitate future process migrations. Any implementation process changes should be made at this time.

6-12 months after completion, a post implementation audit should be performed to determine if the new processes are being adhered to and if the new organization is delivering the expected business benefit. Some of the questions that should be asked are:

- Did we accomplish what we set out to do?

- Are the metrics measuring the teams' performance valid?

- Is the team communicating successfully with the organization in accordance with the capacity management processes?

- Are the interfaces working smoothly?

- Did we meet expectations on benefit delivered to the business?

- Has capacity/performance improved overall?

- Have the cost goals been attained?

- Are we capturing the right data?

- Are the processes accepted and observed by staff, both internal and external to capacity management?

Success Factors

⇨ **Management needs to be very supportive of training, implementation and execution efforts. Managers at all levels need to be ITIL cheerleaders.**

⇨ **Business units must be willing to work within the new processes.**

⇨ **The right people must be in the right positions to do the work.**

⇨ **Behavior of staff used to working around processes may need modifying. Working outside the processes slows work, disrupts day-to-day and generally has negative impact on service delivery. If people cannot adjust to the new workflows and continue to disrupt workflows, their ongoing value to the organization needs to be seriously assessed and the appropriate Human Resources actions taken.**

⇨ **Centralized organization is essential to the effectiveness of capacity management. When the organization is spread out across IT, it is subject to missed handoffs, politics and conflicting goals.**

⇨ **Patience is needed to allow teams sufficient time to become proficient in the new processes and for old behaviors to die.**

⇨ **Processes and pre-defined teams to execute them need to be in place and ready for dealing with gaps once implementation is completed. These teams will be used until all ITIL implementations have been completed. The business work must continue in spite of the changes so when gaps occur it is essential that the gaps can be addressed before service problems occur.**

⇨ **Compensation policies should be adjusted to reinforce ITIL practices and drive the appropriate behaviors. Common goals should be in place for**

all ITIL processes, especially financial and quality.

Potential Pitfalls

⇨ **Unrealistic expectations by management can erode confidence in the processes. One must remember that a large number of companies have successfully implemented ITIL framework and best practices, many considering the new organization a competitive advantage. To succeed, they ensured management expectations were set realistically.**

⇨ **Substantial misses on predictions can cause loss of confidence in the capacity management organization. Attention to detail and additional work reviews in the initial implementation will reduce the risk of missing on predictions. If a prediction is missed, it is important to quickly determine the reasons and make appropriate changes to the processes to avoid shortcomings in the future.**

⇨ **Lack of patience resulting in partial or cancelled implementation. It takes staff, and those who interface with the organization, time to become familiar with new workflows. It is essential to allow sufficient time for gaps and issues to be addressed and processes to mature.**

⇨ **Not enforcing adherence to processes and falling back to old behaviors. Two processes are more confusing and potentially more detrimental than a single bad process. It is difficult as a surprising amount of work is accomplished through the influence of informal networks, but managers must resist the temptation and let the processes work. It may not seem like it at the time but when all implementations are completed and the staff is familiar with the new processes, work will flow through the system much faster. For example, one company saw the time needed to install a software change reduce from 45 days to 2 days due to ITIL process improvements.**

The Bottom Line

Implementing the capacity management framework and best practices takes work and determination but the benefits make it worth the efforts. Once processes mature, your customers will be delighted with the improved quality of IT services as a result of the improved performance and capacity management processes. Management will applaud the lower costs achieved by efficiencies produced through the execution of ITIL capacity management best practices.

Bibliography

1. **Office of Government Commerce, Capacity Management, The Stationery Office, 1991, ISBN 0113305443.**

2. **Office of Government Commerce, Service Delivery, The Stationery Office, 2001, ISBN 0113300174.**

TeamQuest®

TeamQuest Corporation