



ITIL Version 3 and TeamQuest

ITIL Version 3 is now available and being socialized among the IT community. Its modest beginnings are rooted in best practices for individual IT tasks such as cable management, environmental standards and fire precautions. Version 2 (V2) of ITIL took a higher level process view by covering the flow of information and work between business and infrastructure technology. V2 identified best practice workflows and in developing them, clearly defined roles and responsibilities of all participants — both business and IT. As a result there were fewer dropped handoffs between processes, coherent work flow among IT teams, and the business enjoyed improved service quality and in many cases, lower operational costs.



About the Author

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So why a Version 3?

V3 proposes running IT as a business, using market research practices, business value statements and business effectiveness measures.

Although V2 was quite successful, there were a number of gaps and the focus was still more technological than business in nature. Many ITIL practitioners and contributors felt that although the second rendition of ITIL was a quantum leap from the initial offering, it still needed more focus on the business of IT and the services provided to the business. Integration of IT processes with business processes was thought desirable. Also needed was a life cycle approach to the establishment and delivery of IT services, since business practices, processes and underlying services change over time. ITIL V3 was introduced to meet these perceived needs.

V3 takes ITIL a step further with a service life cycle approach and cohesive set of processes. Rest assured, all V1 and V2 component pieces are still there; they just appear as supporting processes in an overarching life cycle. V3 proposes running IT as a business, using market research practices, business value statements and business effectiveness measures.

To accomplish their goal, the ITIL V3 architects incorporated the proven Plan-Build-Run project management approach to be executed once the strategy is put in place. Since the value of Plan-Build-Run has been much discussed in the industry, the ITIL architects wrapped it with a continuous service improvement process similar to Six Sigma. This helped refresh the process, keep all the component parts current, and optimally support business needs.

ITIL has been further enhanced by the addition of Enterprise Architecture (EA), which provides a framework for a technology life cycle and complements the service life cycle. Technology components traverse the life cycle from initial research and business benefit definition, through proof of concept, implementation and finally decommissioning of aged products that no longer provide substantial value to the enterprise. This approach is attractive since services and technologies are interdependent and change in both areas is accelerating at ever increasing rates.

The ITIL architects also leveraged the proven Balanced Scorecard methodology to assess service value from more than a purely financial perspective. IT and business need more than financial metrics to determine their levels of success and ensure sustainability of the business. For example, we cannot drive a car for long periods of time looking at just one dial, like the speedometer. If we do, we will run out of gas along the way. Customer goodwill and staff knowledge are just a few of the intangibles that must be factored into measuring a business' value.

ITIL V3 has a core set of best practices and processes — Service Strategy, Service Design, Service Transition, Service Operation, and Continuous Service Improvement. In this white paper, we will briefly describe the scope and intent of each area, and then describe how TeamQuest software helps the IT staff support ITIL V3 objectives.

Service Strategy

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Service strategy is all about planning deliberate acts that increase shareholder value. IT is run as an independent business and is therefore regarded as a supplier/outsourcer. This mindset allows for provisioning services internally or externally, depending upon business conditions and opportunities.

IT services are viewed as strategic business assets critical to an organization's survival and

success. A formal business planning process is designed to complement the business' strategic planning process. The planning process includes a market definition step — determining need and estimating revenue. A great deal of thought goes into service definition and business justification. Even so, at this juncture in the ITIL process, services are defined at a high level.

For example, the business might need a service that permits communication with sales people anywhere in the world at any time of day. That high level service definition would then go to Service Design to flesh out the details. Service Design might determine that a Blackberry service best fits the communications strategy.

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A new approach to service definition requires identification of the implementation and operation components, as well as service life and decommissioning. As you can see, this new approach requires an entirely new thought process as compared to the way we do business today.

The V2 processes identified with Service Strategy are:

- Financial Management for IT — specialized finance and accounting measures plus processes designed specifically to support the business of IT
- Business Perspective — customer relationship management processes
- Service Portfolio — the “Book of Record” knowledge base of all information pertaining to services provided by the IT organization

Critical Success Factors for Service Strategy are:

- Thoughtful market definition process. Without it, there will be gaps between services rendered and business needs.
- Knowledge of the service landscape. An understanding of existing services and the infrastructure components that support them provides a solid foundation for launching new services and avoiding duplication.
- Capabilities inventory. We can commission the development of the best services, but if the staff isn't capable of implementing and sustaining them, we will certainly fail.
- Modeling provides the most effective method of determining scalability of new and existing services. The process assists management in making informed decisions by revealing potential scalability issues that could impact service levels or cost substantial sums to correct.

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Service Design

Put simply, Service Design is the “Plan” in “Plan-Build-Run.” The basic building blocks of Service Design are:

- Utility — service content — what customer gets in the form of IT services
- Warranty — service quality and reliability
- Assets
- Resources — physical components — servers, software, telecom lines, printers, etc.
- Capabilities — people, processes, institutional knowledge

Utility is designed using a number of different processes. An IT Steering Group establishes and enforces policies, overseeing service content to ensure policies are followed. Enterprise Architecture methodology is used to guide IT infrastructure content and structure. EA enforces a technology management process which covers the life cycle of individual infrastructure components, including hardware and software. Service Oriented Architecture (SOA) is just one of many architectures covered by EA. Other more common components of EA include:

Enterprise Architecture methodology is used to guide IT infrastructure content and structure.

- Application
- Data/Information
- IT Infrastructure
- Product
- Management
- Environmental

Warranty as defined by ITIL V3 is more than just Service Level Agreements and mandatory metrics definition and measurement. It describes a new Capacity Management Information System (CMIS), an enhanced version of the Capacity Management Database. CMIS gathers performance and capacity data from IT infrastructure components and stores it for future analysis. CMIS also provides a variety of analysis and reporting tools. The tools and data are available to those outside the capacity management discipline that need to analyze information to improve services or business processes. For example, Service Level Management staff would utilize CMIS to develop their own reports for assessing service performance and comparing it to agreed upon metrics.

V3 adopts another new process, called Business Service Management. This process views service performance as it relates to business processes. In this way, several IT processes may support one or more business processes. This view helps IT management express results in terms of business value received rather than in IT terms. From an individual IT services perspective, the V2 IT service management process still exists and continues to guide the management and delivery of individual IT services.

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V3 employs the Balanced Scorecard as a best practice methodology to identify tangible and intangible benefits and assets provided by IT services. As previously stated, service success cannot be measured by a single factor, and measurement of some factors may be elusive, such as measuring customer satisfaction. The Balanced Scorecard provides a four-prong approach to assessing effectiveness of IT processes.

Service Knowledge Management is another new process implemented in V3. Services in and of themselves can provide value but supporting them can be difficult without a body of knowledge that covers what makes up the service, the parameters within which the service is delivered, and details on the makeup and process flows of the individual infrastructure components. Without this information, service problems cannot be quickly identified and corrected, nor can the impact on the business units be assessed. As a result, Service Knowledge Management has been incorporated into V3 and is responsible for assembling the information into a central repository.

New process associated with Service Design:

- Portfolio Management — the processes and workflows required to maintain the Service Portfolio.

The V2 processes identified with Service Design are:

Capacity Management — ensuring sufficient capacity at a cost business can afford is available to business to meet planned events.

- Service Level Management — negotiating and managing Service Level Agreements and Operational Level Agreements. Puts in place reporting to measure service performance and identify/act upon outages and anomalies.
- Capacity Management — ensuring sufficient capacity at a cost business can afford is available to business to meet planned events.
- Availability Management — ensuring services are up and available during agreed upon time frames.
- Service Continuity Management — developing plans for service recovery in the event of a catastrophic failure, which could range from a critical infrastructure component to the whole data center.
- IT Security — ensuring that only authorized personnel access the organization’s information assets and physical facilities. This process covers policy development where Access Management covers day-to-day policy management.
- Supplier Management — managing IT suppliers’ performance, ensuring they deliver services in accordance to contract specifications.

Critical Success Factors

Defining metrics at the beginning of the design process is mandatory.

- Defining metrics at the beginning of the design process is mandatory. Doing so helps identify the most cost-effective approach to satisfying business needs and provides a base from which service performance and success are measured.
- Ensure scalability of designs. If the new service cannot grow to meet the planned peak demand, there is little reason to implement it. Modeling can help the design teams better understand growth impacts.
- A clear, accurate view of the existing IT services and the infrastructure components that support them is critical.
- Proper sizing of designs is critical to maintaining cost-effective services.
- Determine sunset needs, impacts, and issues. Many times it is more difficult to decommission a service than it is to implement it. Since we are now taking a life cycle approach to services, we need to understand what it means to remove a service from a dependency, infrastructure component and staffing resource perspective.

Service Transition

Service Transition is the orderly process of moving new services from Design to Operations. It is the “Build” in “Plan-Build-Run” methodology. It covers program management — managing all the individual projects that when completed and assembled, constitute the new service.

A warranty period has been added to the process to ensure the new service reflects the initial specifications and performs as designed. The final task of Service Transition is the after-action report that asks the question “Did we deliver as per the plan and the timetable?” and reports

the results. Lessons learned from the work are also published to the IT community to facilitate future endeavors.

New processes associated with Service Transition are:

Service Transition is the orderly process of moving new services from Design to Operations.

- Transition and deployment management, also known as program or project management — coordinate the work of building the new services, testing them, and deploying them into production.
- Service testing and validation — ensure new services provide the desired functionality and perform within expected service levels.
- Knowledge management — process by which all knowledge pertaining to a service is assembled, documented, and published into the Service Portfolio.

The V2 processes identified with Service Transition are:

- Change and Release Management — processes that manage the introduction of changes into the production environment. The Change and Release teams balance risk and urgency to ensure minimal service disruption as a result of migrating changes to production.
- Service Asset and Configuration Management — processes that register and track IT assets and associated configuration specifications. The service desk can use the information to determine which service users are impacted by problems and develop communications to keep users informed during restoration efforts. This information is also needed to better understand the impacts of proposed changes, as well as satisfying audit requirements to manage assets.
- Application Management (development) — since “Build” functions are included in Service Transition, it is only natural that the application development process would fall under its purview.

The purpose is to catch functionality and performance issues early enough in the process to address them prior to introducing the new service into production.

Critical Success Factors for Service Transition are:

- An effective program/project management process with trained project managers
- Measuring, reporting and assessing pre-deployment testing. The purpose is to catch functionality and performance issues early enough in the process to address them prior to introducing the new service into production.
- Measuring, reporting and analyzing service performance and functionality during the warranty period permits comparing the final design to actual results. This ensures agreed upon business needs are satisfied.

Service Operation

Service Operation covers all facets of day-to-day operations. It is the “Run” in “Plan-Build-Run.” Common tasks performed as part of Service Operations are service/help desk, incident management, scheduling, monitoring, reporting, data collection/storage, backup/recovery and access control. In addition, application maintenance, part of V2’s Application Management, is included in this process. It is felt that since the work is required to sustain applications, it should be part of this process and related management structure.

New processes associated with Service Operation are:

- Request Fulfillment — managing satisfaction and deployment of customer requests for services.
- Facilities Management — managing the physical infrastructure housing IT assets.
- Event Management (Monitoring) — monitoring service and IT infrastructure performance and heartbeat, alerting support staff when event thresholds are exceeded or operational conditions depart from the norm.
- Technology Management — managing desktops, networks, print, storage, servers, middleware, Internet, databases, directory services, etc.
- Access Management — day-to-day management of access to IT information assets and physical locations. Examples include data file access, business application access, and password administration.

The V2 processes identified with Service Operation are:

- Service Desk — request services and report problems through this set of customer relationship management processes
- Incident Management — speed restoration of service levels immediately following an outage or slowdown
- Problem Management — review service problems, identify chronic issues and commission corrective actions
- Operations — direct scheduling work, monitor infrastructure component performance, alert support staff of issues, and conduct data management tasks
- Applications Management (Maintenance) — apply regulatory changes, develop fixes to reported functionality and performance problems, and develop minor functionality improvements

Critical Success Factors

- Effective monitoring facilities and procedures need to be in place. Monitoring ITIL V3 is more than watching component heartbeat and performance. Progress against capacity plans is also monitored in this process.
- Extensive reporting, similar to what is needed in previous ITIL versions, is needed to keep IT service support staff current on performance and capacity positions. Examples of reporting include information needed to support Business Service Management, IT Service Management and Service Level Management needs. In addition, Service Oriented Architecture (SOA) relies heavily on reuse to quickly implement new applications and services. As a result, reporting is even more critical to monitoring a quickly changing infrastructure.
- Tools and data are required compare actual results to SLAs and OLAs.

Extensive reporting, similar to what is needed in previous ITIL versions, is needed to keep IT service support staff current on performance and capacity positions.

- Business events are sometimes unpredictable. For those times, effective demand management processes need to be in place to react to unexpected resource usage. Scheduled tasks may be delayed in order to release resources to satisfy business needs.

Continuous Service Improvement

Operational processes will soon lose their effectiveness if they are not reviewed on a regular basis to ensure they continue to satisfy current and planned business needs. Continuous Service Improvement (CSI) is the process by which the analysis is performed. ITIL V3 architects use a Six Sigma approach to service analysis, employing scorecards, benchmarking, gap analysis, key performance indicators (KPIs), critical success factors (CSFs) and ROI analyses.

Scorecards are the result of the regular service assessment process. They look at a number of key metrics to help the CSI team determine the effectiveness of current services. Gap analysis is used to determine where business processes have changed, leaving functions unfulfilled or performance lacking. Once identified, corrective actions can be identified and commissioned. Benchmarking is used to compare services delivered to best practices. Benchmarks are developed over time and change as services and service metrics change.

Service measurement and reporting are key factors in performing the analyses. ROI, KPIs and CSFs are defined during the design step. Once services are in operation, it is necessary to regularly report on service performance to ensure expectations continue to be met and to identify trends that may degrade service in the future. This permits IT leaders to take proactive steps to mitigate the potential impacts before they adversely affect business units and customers. Since most reports are static in structure, the use of automated reporting facilities is recommended to free staff for more important service management duties.

V2 processes critical to the success of Continuous Service Improvement are:

- Service Level Management — negotiating and managing Service Level Agreements and Operational Level Agreements; reporting on service performance and identifying and acting upon outages and anomalies
- Capacity Management — ensuring sufficient capacity at a cost business can afford is available to meet planned events
- Problem Management — reviewing service problems, identifying chronic issues and commissioning corrective actions.
- Availability Management — quickly restoring service after problem situations
- Financial Management for IT — supporting the business of IT through specialized finance and account measures and processes
- Security Management — ensuring only authorized personnel access the organization's information assets
- Incident Management — speeding restoration of service levels immediately following an outage or slowdown
- Service Desk — requesting services and reporting problems through this set of customer relationship management processes

Continuous Service Improvements (CSI) is the process by which the analysis is performed.

Critical Success Factors for Continuous Service Improvement are:

- Complete historical record available for completion of scorecards and reports. Without this, inaccurate scorecards could be developed, driving unproductive work and perhaps making service performance worse.
- Historical trend analysis permits CSI and Capacity Management staff to recognize unplanned trends and buy time to react to them before service performance is adversely impacted.

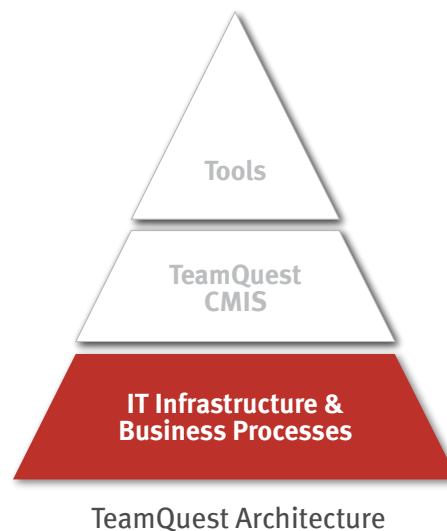
TeamQuest Tools for Capacity Management

The TeamQuest suite gets its power from its underlying architecture.

The suite is built on top of a true enterprise-class Capacity Management Information System, which manages performance data gathered from a wide range of IT infrastructure components.

The TeamQuest CMIS is unique in its ability to efficiently handle distributed performance data collected in a multi-vendor data center.

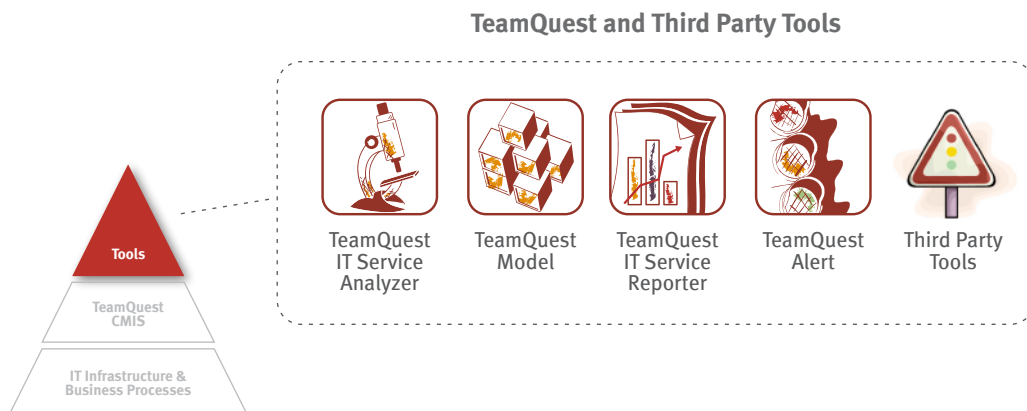
TeamQuest Performance Software is a suite of integrated tools that analyze critical IT infrastructure and business processes. Working together, the tools help organizations optimize IT and business services. The TeamQuest suite gets its power from its underlying architecture. The suite is built on top of a true enterprise-class Capacity Management Information System, which manages performance data gathered from a wide range of IT infrastructure components. The TeamQuest CMIS is unique in its ability to efficiently handle distributed performance data collected in a multi-vendor data center.



The Tools

The TeamQuest suite of tools supports everything from performance management and reporting to event monitoring and capacity modeling. Tools can be used individually or in combination to address various needs, and they scale to thousands of servers in complex, heterogeneous and virtualized environments. It is also possible to integrate third party or custom tools to work together with the TeamQuest suite in an integrated fashion.

The TeamQuest suite of tools supports everything from performance management and reporting to event monitoring and capacity modeling.



TeamQuest IT Service Reporter

TeamQuest IT Service Reporter is used to:

- Create dashboard-style reports customized for your intended audience
- Customize reports with your logo and explanatory text using a drag-and-drop interface
- Provide a variety of performance management reports revealing the status of IT services

Use it to efficiently distribute scheduled reports showing which IT services are at risk for performance issues.

TeamQuest IT Service Analyzer

TeamQuest IT Service Analyzer is used to proactively detect, investigate and diagnose IT service performance issues. It can:

- Analyze and report IT service performance
- Drill down from IT services to the infrastructure components that support them to investigate and diagnose service performance issues
- Identify the root cause of performance issues, regardless of where the infrastructure component may reside

TeamQuest IT Service Analyzer offers both real-time and historical capabilities for proactive IT service performance analysis. Use it to automatically detect impending problems, allowing you time to resolve them before they impact business. Easily drill down across multiple, heterogeneous infrastructure components to isolate the root cause of service performance problems, regardless of where various components may reside.

TeamQuest Alert

TeamQuest Alert monitors activity throughout the data center and watches for problem conditions that could impact services. TeamQuest Alert is used to:

- Monitor services across the entire enterprise and report on events
- Spot and report impending problems before they impact service levels

TeamQuest Alert automatically evaluates server and application performance based on built-in rules of thumb and displays text and color performance indicators. Once a problem is detected, users can drill down to related performance information to investigate the underlying problem.

TeamQuest Model

TeamQuest Model is a capacity planning package that accurately predicts the resources required to support consistent service delivery at appropriate risk levels. TeamQuest Model is used to:

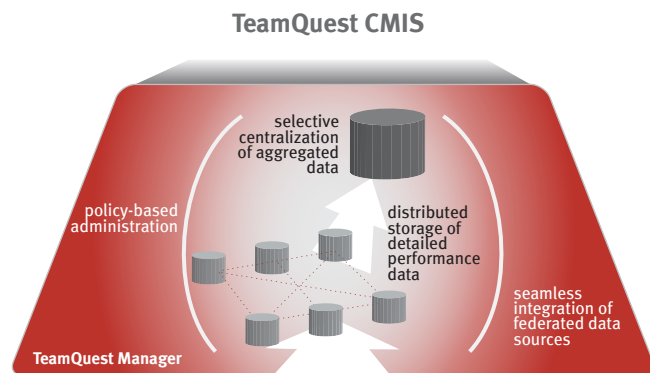
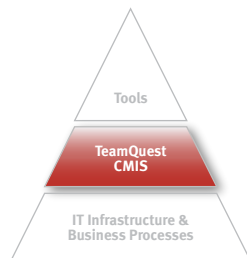
- Predict the resources required to meet service levels as demand increases
- Identify which components will negatively impact response time
- Find the least expensive way to accommodate workload increases
- Analyze new applications to understand potential impacts on existing IT infrastructure
- Optimize configurations during server consolidation

TeamQuest Model uses analytic modeling capabilities to quickly and accurately predict the impact of changes without requiring you to configure any hardware or apply artificial loads. You can experiment with configuration changes and demand levels to be sure you are allocating the right resources to meet business priorities.

The TeamQuest CMIS

ITIL V3 describes a Capacity Management Information System as a data repository containing IT infrastructure usage, capacity, and performance information as well as information regarding the performance of important business processes. This repository is then accessed by tools used for analyzing and optimizing IT and business services.

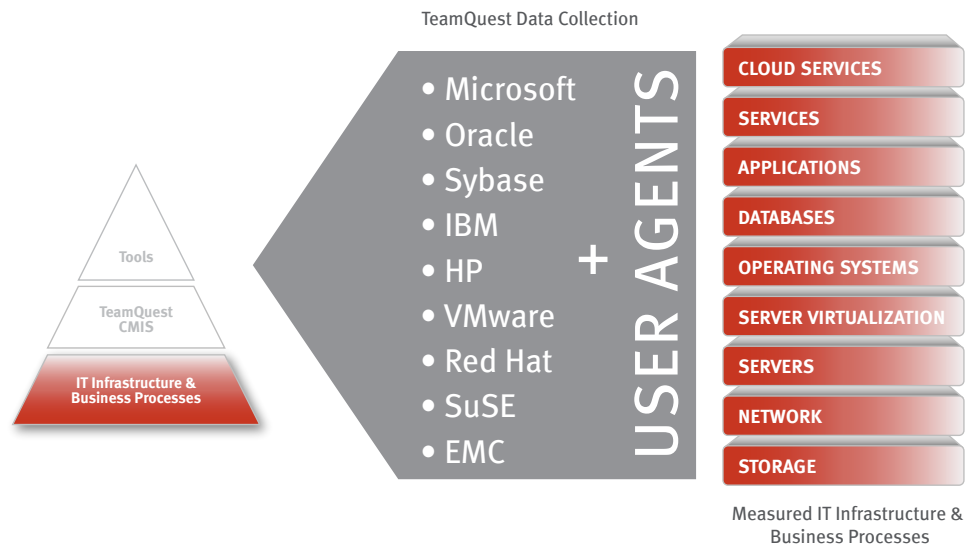
Fine-grained details for problem solving can be kept close to the source for short retention periods. Aggregated & summarized data can be centralized for efficient enterprise analysis.



The TeamQuest CMIS is implemented by software called TeamQuest Manager. This is a shared component of the TeamQuest Performance Software suite. Features include:

- The ability to organize and analyze data on an IT or business service basis, facilitating more business-relevant reporting and analysis.
- Optimized storage of performance data in a distributed repository. Fine-grained details for problem solving can be kept close to the source for short retention periods. Aggregated & summarized data can be centralized for efficient enterprise analysis.
- Seamless access to performance data regardless of where it is stored. Fast and easy drill down from centralized data to more detailed data distributed throughout the CMIS.
- Policy-based administration of distributed CMIS components. This helps to automate the propagation of configuration changes.
- Integration with third party tools such as Creative Associates' ExceptionRep, a CMDB, or a custom-written analysis application.

The TeamQuest CMIS bridges multiple technology silos, hitting all of the layers in an IT technology stack.



As is shown in the diagram above, the TeamQuest CMIS bridges multiple technology silos, hitting all of the layers in an IT technology stack. The TeamQuest CMIS features data collection and management from components such as databases, applications, operating systems, and hypervisors. It can be used to instrument almost anything, including business processes, custom applications, and power meters.

For More Information

Used together, the TeamQuest Performance Software suite clearly provides ITIL-centric organizations with powerful performance and capacity management tools based on a superior Capacity Management Information System.

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