

WHITE PAPER

Managing IT Service Quality | May 2010

innovations in managing IT service quality

Managing service quality and risk to service
delivery in a lean economy

we can



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executive summary

Challenge

The ongoing global economic recession has left no business, budget, or IT organization unscathed. Corporations, forced to do more with fewer resources, are demanding greater economies of scale. That sets expectations that IT organizations will remain lean yet deliver high-quality services and support. This requires IT organizations to develop more process-oriented, efficient, and effective mechanisms to manage and maintain their environments.

The pressure to conserve costs and get the most out of their IT resources comes at a time when costs are rising and IT budgets and manpower have been cut—oftentimes to the bare bone. IT managers grapple every day to ensure the continuing health of the services their businesses depend on. That's not enough, though. Businesses must avert problems before they occur. The pressure to transition from reactive to proactive initiatives has created an ever-widening chasm and conundrum for overworked and undermanned IT departments.

Solution

Corporations need to embrace new solutions that put them ahead of the curve, let them manage technologies top-down according to the services they provide, and proactively address issues before they impact their business services—solutions that will enable them to manage their enterprise infrastructures, rather than be managed by them. To achieve the proactive approach required to move them to the next level of service delivery, they need technology that gives them the kind of visibility that ties infrastructure components to the services that rely on them. This service-centric visibility will give them the “heads up” needed to avert developing IT issues that present risk to service delivery and the insight needed to quickly fix issues and regain service quality when it is compromised.

Benefits

A service-centric approach to IT management—focused on improving service quality and eliminating risks to service delivery—results in significant business benefits:

- Higher service quality = compliance with OLAs/SLAs = greater customer and end-user satisfaction
- Reduced time to identify and fix problems impacting the service = faster mean time to repair
- Elimination of unproductive troubleshooting = lower OPEX, increased IT staff productivity
- Greater insight for capacity planning, IT workforce deployment, and capital investment decision-making = lower CAPEX

The bottom line is that as IT gets a better view of its services, it can improve their quality and predictability while reducing IT costs.

Budgetary constraints and IT staffing issues topped users' lists of the most daunting business challenges in the year ahead.

Can IT do more with less?

Is it possible for IT departments to achieve optimal results and greater economies of scale while lowering the cost of service delivery? Business and economic realities tell us we have to.

Corporations of all sizes, across all vertical markets, are dependent upon their IT departments to efficiently deliver the services necessary to keep the business up and running and to ensure the quality of those services.

The health of the corporation, its revenues and profits, are inextricably linked to the health of the network, systems, databases, and applications that comprise business-critical IT services. Hence, the need for an advanced, integrated, and proactive management tool that can allow IT managers to avoid costly unplanned service disruptions and degradations has never been greater.

Smart investments amidst economic challenges

Pressure for improved IT services is occurring against the backdrop of the ongoing global economic downturn that has left IT departments cash constrained and short of manpower and resources. An independent survey conducted by Information Technology Intelligence Corp. (ITIC) in February 2009, in which ITIC polled over 700 C-level executives and IT managers at corporations worldwide, showed that budgetary constraints and IT staffing issues topped users' lists of the most daunting business challenges in the year ahead.

The corporate respondents indicated they are understandably cautious about spending their precious capital expenditure monies and are only committing to crucial upgrades on an “as needed” basis. Twenty-six percent of those polled indicated they may yet be forced to shelve crucial migration plans due to lack of funds and a dearth of trained IT staff. However, 39% of the survey respondents reported that their network migration and upgrade plans will proceed as planned in calendar year 2009. While we are in challenging economic times, not all companies are shelving their IT migration plans, and it is clear that companies will be spending wisely on initiatives that will benefit their businesses and their bottom lines.

Businesses continue to manage their networks, systems, databases, and applications with multiple tools operated by substantial IT staff grappling for a more consolidated view of the wealth of data those solutions produce. Recent surveys have uncovered IT's increased desire to manage service performance, rather than mere availability. They also indicate increased desire for predictive visibility so they can move from reactive to proactive IT management practices. Finally, there's an across-the-board desire for an end-to-end management view, but lack of integration among technology management tools prevents this.

Meanwhile, companies continue to deploy more web-based services as a lower-cost way to do business and compete versus brick and mortar. So, along with the most critical infrastructure and application upgrades, in lean economic times, businesses are looking for a new IT management approach that assures service quality while relieving their overwhelmed IT staff. However, these funded IT initiatives must provide a rapid time-to-value, rapid payback, and continuous ROI.

If you can't
see it, you can't
manage it...

Management technology for assuring service quality

IT service delivery can be improved with innovative automation powered by intelligence. Let's look at some of the important aspects of the technology required for IT service management.

Accurate service models

A critical first step in assuring IT service quality and relieving overwhelmed IT staff is to ensure that services are completely and accurately modeled. Service models must map infrastructure components and applications to each IT service (as in a Configuration Management Data Base/CMDB).

All the components that comprise the service must be dynamically maintained to keep the model up to date and monitored in real time to reflect their health (as in an Operational Management Data Base/OMDB or real-time service model). In other words, if a server goes offline, the model must reflect the change of status. If a new server is added, the model must be updated to reflect the new component. Manual model maintenance is a daunting task, error-prone and nearly impossible to keep current.

Real-time, intelligent service models need to integrate with the CMDB and underlying technology domain management tools to keep service models accurate, to reflect component status, and to reduce the cost of doing so.

Eliminating infrastructure health risks for service predictability

Proactive management of risk to service delivery is essential. Ideally, the infrastructure provides the building blocks of IT services and needs to be robust so that, for example, even an outage, such as a single server crash, does not degrade or shut down an essential business service. But even robust infrastructures have a breaking point. For example, a single server outage in a large server farm may not bring down a service since the other servers can pick up the additional workload. But, if one of three servers is down, then the risk to service delivery has just been increased by 33%. When the other servers pick up the workload, and when there is an increase in service usage, the likelihood of another server reaching saturation also rises. By maintaining the robustness originally architected into the infrastructure, you keep the risk low. This requires an understanding of how to model and monitor services and what can cause risk to service delivery.

Visibility of the status of components across the service delivery pathway end-to-end—the same pathway that a service’s transactions traverse—is critical so that risks to service degradations can be identified and addressed before they impact user experience or escalate to the point of causing service outages.

Pinpointing the root cause for service assurance

When you are managing at the service level, you need to identify what exactly is impacting service quality and causing service degradation or an outage (e.g., identify a particular switch or database causing the problem). You also need to identify issues that create risk to future service quality (e.g., identify that one of three servers is down, but not yet affecting quality). And to remediate, you need to dig deeper for details about the offending infrastructure component that is the root cause.

Tools that manage your technology domains—networks, systems, databases—should have the intelligence and automation to pinpoint the root cause of problems within the infrastructure. But to relate specific infrastructure components to service quality impact or risk requires a new level of management technology that integrates with infrastructure domain (network, systems, and databases) management tools and relates the components they are managing to each specific IT service.

Finally, this new level of management technology must combine the understanding of infrastructure component health and the behavior of the transactions that traverse those components (i.e., to perceive how infrastructure status impacts application performance).

Making sound investments to assure service quality demands

As business challenges mount, quality of business services must as well—now is not the time to lower expectations for service delivery. With less buying power in the market, it’s important to ensure your customers continue to value your services. But you have to be smart about where and how you spend your resources to get the most value.

Is now the time to invest in a service-centric management solution to maintain service quality? Without a way to manage services, you risk providing erratic and unpredictable services that will quickly frustrate your customers. If you only manage aspects of the service and not the glue that holds it together, you will find yourself throwing resources at problems, not quite sure which will work. This is costly to your business, costly for customer retention, and it creates wasted effort within your IT staff. But investing wisely is important.

- Investing in a service assurance management tool that paints a clear picture of your infrastructure and aligns components and applications to services is wise. Not only will you be able to quickly correct service impacting issues, but you will be able to prioritize which fixes will relieve the largest service impact.
- Investing in a service assurance management tool that manages both service quality and risk to service delivery is wise. It is imperative that issues affecting service quality be fixed immediately, but it is just as important that issues posing risk to your ability to deliver services are also fixed quickly. If every risk turns into an outage, you will find your organization continuing to function reactively. By proactively managing service quality risk, you can offer predictable IT services and maintain the robustness you expect of your infrastructure.

The view ahead

To address the increasing pressure to deliver new business-critical IT services, maintain quality, and deliver them at lower cost, CA offers the CA Spectrum® Service Assurance (SA) product—a platform-neutral solution that integrates with CA infrastructure domain management, application performance management, workload automation, and service desk tools as well as third-party management tools to leverage your existing investments in management tools and processes.

CA Spectrum SA integrates and analyzes event, fault, performance, and configuration management information from IT domain management tools (for networks, systems, databases) with end-user experience and transaction behavior information from application performance management tools to determine how infrastructure impacts service quality or puts it at risk.

Attributes of this innovative solution include:

Real-time service dashboard and console To let you know the status of services, so you can make informed IT management decisions and prioritize staff to fix quality problems and eliminate risks according to business priorities. The Service Dashboard displays services by priority, health, quality, risk, availability, and service level agreement compliance—and allows drill-down to the Service Operations Console for visualizing end-to-end service models in detail, service impact, and root cause. The dashboard and console also drill down to network, application, distributed system, mainframe, and database management tools that CA Spectrum SA uses for real-time data sources.

Combined business and service status visualization To give you deep and immediate insight about the impact of service status on business activity. Besides calculating and displaying real-time service quality (user experience), risk, and SLA-compliance indicators, the Service Dashboard also integrates and displays information from business systems. This enables a side-by-side view of service technical status and related financial metrics. Examples include: ecommerce service quality and risk alongside the number of products sold and resulting revenue; online insurance agent service quality and risk alongside the number of new policies completed, incomplete policies, and revenue impact; online driver's license renewal service quality, number of licenses renewed, and revenue. Other information, such as help desk calls and tickets, can also be integrated and displayed per service.

Service and SLA reports To pinpoint persistent root causes of service problems to enable continuous quality improvement, let you demonstrate to business stakeholders that you are meeting service level agreements (SLAs), and are focusing staff to continuously improve quality. Out-of-the-box reports include Service Level Agreements, Availability, Health, Quality, Risk, Top 10 Degraded, High Risk and Low Quality Services, and Service Affecting Configuration Items. Reports can also be configured to meet your specific business and technical requirements.

Intelligent, dynamic service modeling To efficiently build real-time end-to-end service models to manage infrastructure in context of services—and ensure that models are always up-to-date for accurate service representation. CA Spectrum SA imports models and individual configuration items (network devices, physical and virtual systems, applications, transactions, databases, etc.) from domain and application performance managers and CMDBs. The CA Spectrum SA service models and definitions are dynamically updated by analyzing data from these underlying tools.

Service impact and root cause analysis To provide actionable information to technology domain management teams, so they know which specific components are impacting service quality or putting quality at risk. CA Spectrum SA dynamically calculates configuration items' impact on service quality/risk as their states change, eliminates labor-intensive, rules-based correlation and analysis methodology, and automates service impact analysis that efficiently leverages model-based root cause from underlying domain managers to pinpoint service impact. Notification and escalation can be based on business priorities.

SOA integration architecture To enable fast time-to-value through out-of-the-box integration with domain managers and easy integration with new data sources. Intelligent connectors are available for CA infrastructure and application performance management, service desk, CMDB, and workload automation tools as well as third-party tools. The architecture includes an Event Integration tool, a Universal Connector, and a Software Development Kit for extending data sources and enriching data.

Users' views in their own words

Users have significant things to say about CA Spectrum Service Assurance:

“With the economic situation today, you need a strong justification to spend more money on licensing new tools. Typically, we try to get more from what we've already got. SA very much so can help, because it gives you a process to deal with all the alarms that come from your different management domains. It lets you see what's going on with what you have defined in your CMDB—gives you synergy between the CMDB and Infrastructure Operations and the service impact of alarms.”
(Systems Management Consultant)

“Having a mindset around services means defining them according to business priority and structuring your SLAs around them. SA helps you do this and manage accordingly. I can put my most important services at the top of the Dashboard, and the less important ones with less stringent SLAs at the bottom.” (IT Director)

“This (SA) is good for both CA and non-CA shops. It has out-of-the-box integration for CA products and is fairly easy to write connectors to non-CA products. My CA customers will especially like the fact that they can easily integrate non-CA products into SA.” (CA Reseller)

“The Service Console gives the Operations Team the ability to build a good model of a service. It lets you connect anything to it, so there's no ambiguity about what is impacting the service. Because it is web-based, all the Ops guys can have the Console—and the Dashboard—so everyone sees the same story.” (Systems Management Consultant)

“The Dashboards and Console are user friendly—like a car's dashboard. I like them because I can easily train customers on how to use them, and they are good for executives. I can customize a dashboard for them and give it security, so they can't change anything. The reports are good because they can be scheduled and delivered to execs who like reports and don't want a dashboard.” (Senior Solutions Engineer)

“The ability to report on long-term trends, such as a certain component that continuously causes problems with a service, is very helpful. Knowing the top-impacting CIs per service, knowing that I can fix the worst ones this month, then focus on others next month—that’s something I can take back to my management.” (Systems Management Consultant)

“The Dashboard gives you a great overview of everything and you can drill down easily to the various underlying consoles to get the details. My executive team really likes the ability to get a quick, accurate view of the health of our critical services, then move on. They don’t have to spend a lot of time to see how things are going.” (IT Director)

“SA’s reporting helps me justify my budget and my team. SA rates services according to business priority and quality. This lets me run reports on the top 10 services and the top 10 things that impact them, so I can base my budget on those alone—not on the less important services. If a router is constantly causing problems to my critical services, then I can justify the \$50,000 to buy a new one. If I know my top services are constantly having server problems, but I don’t have the right manpower, then I can justify hiring a new systems engineer.” (IT Director)

“The Service Console makes synthesizing information from across the IT environment a lot easier than ever before versus an event console. It lets you assign a weight to everything. Say it’s billing week: you tell your team to keep an eye on the Console’s logical topology of the service. That is a lot more effective than looking for events. It removes the ambiguity about where the underlying fault is that is impacting a service.” (Systems Management Consultant)

CA Technologies is an IT management software and solutions company with expertise across all IT environments—from mainframe and physical to virtual and cloud. CA Technologies manages and secures IT environments and enables customers to deliver more flexible IT services. CA Technologies’ innovative products and services provide the insight and control essential for IT organizations to power business agility. The majority of the Global Fortune 500 rely on CA Technologies to manage their evolving IT ecosystems. For additional information, visit CA Technologies at ca.com.

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