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# Network and Voice Management for Evolving Business Environments

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*IT management specialist CA provides a foundation for delivering the value of unified network and voice management*

## Executive Summary

CIOs and other IT executives know the growth in technology capabilities has transformed how business views the role of IT. Today, IT organizations have been elevated beyond mere technology providers in the corporate hierarchy while simultaneously experiencing new levels of expectation and responsibility to increasingly understaffed and overburdened IT staffs.

IT departments are now required to deliver measurable operational improvement that specifically advances business process and corporate objectives. In addition, IT staffs must meet a growing list of evolving requirements for security, service-level agreements and operational efficiency. CIOs and other IT executives are searching for focus and technological direction as they develop and deploy a network and voice management strategy that addresses the various challenges and opportunities within the strictures of limited staff and budget growth.

More powerful processors, servers and client desktops running on increasingly robust networks, switches and routers that take advantage of enhanced software applications are providing businesses and IT departments with new opportunities to use technology to enable businesses advancement. Bringing the capabilities of all those advanced tools together within a meaningful and adaptive framework, however, is difficult, particularly for over-tasked staffs.

With a long history of industry-leading products for IT management, CA is uniquely positioned to enable IT executives to gain control of complex network services within large enterprise deployments, as well as meet the specialized requirements of governmental entities and communication service providers such as telecommunications, cable and mobile wireless providers.

According to a 2007 Forrester Research report (1), IT management software is a \$16 billion annual market, and CA is ranked as a top tier provider of network, server, change and configuration, and service desk management tools.

The network management market has grown quickly as IT has become the ubiquitous tool for driving business innovation, and as demands for improved service performance and reduced downtime have escalated. Management of technology resources is the key to increasing business productivity and reducing the cost of operation.

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Tim Grieser, an analyst with IDC, says in a 2007 report (2) that "CA Network and Voice Management customers reduced network downtime by 25%. Internal network users experienced a gain of 85 hours per year, which when discounted by 90% to allow for the fact that users are still productive without access to the network still accounted for 43% of total benefits."

Several decades of internal research and development, and a series of strategic acquisitions, have enabled CA to provide an umbrella of tools that allow customers to govern, manage and secure IT resources. CA's tools directly address key IT concerns, including pressure to contain cost and achieve efficiencies, align IT with business processes, achieve service-level objectives and improve infrastructure utilization.

An infrastructure managed and measured to achieve defined business processes and objectives enables IT departments to improve service levels, control and reduce cost, mitigate risk, enhance revenues and drive efficiency. CA network and voice management enables IT to become the business-enabler that large enterprises have long envisioned, instead of the traditional role as simply an ongoing cost of operations.

## **Platforms designed for your company's success**

CA has a rich heritage of experience in meeting the unique requirements enterprises face as they attempt to simplify and optimize IT operational effectiveness. Working closely with IT executives from industry-leading businesses around the world, CA has tailored management suites for telecommunications businesses and other communication services providers, government agencies and large enterprise deployments.

The CA network and voice management solution provides broad platform support to enable rapid problem resolution and proactive service assurance, while maximizing IT investment. According to the 2007 IDC study (3), on average, CA customers recognized an additional \$8 million in annual revenue because of increased network availability. After accounting for costs and taxes, they recognized \$2,400 per 100 users per year. Cost reduction accounted for 37% of total benefits, with most of that savings coming from reduced bandwidth costs. In the study, total benefits is the calculation of a return on investment based on costs savings, gain in IT efficiency and gains in user productivity.

A highly reliable network also provides competitive advantages within markets where differentiations such as intuitive, easy to use Web sites for customers can make a business more successful. CA's tools for fault, performance and voice management give IT executives a ready and adaptive framework to transform the reach of the department's focus and capability.

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## Taking command of network and voice management

Managing complex and often distributed networks while documenting service-level objectives, resolving outages and performance degradations, tracking usage and bandwidth, providing capacity planning and reporting services, and meeting a growing number of additional requirements create a daunting gauntlet of tasks for IT departments of any size.

The CA network and voice management platform is built on three core products: eHealth network performance manager, SPECTRUM network fault manager, and eHealth for Voice telephony systems manager.

The CA products are targeted at addressing key IT challenges that impact service quality. The challenges include identifying service degradations before end users are impacted, reducing the impact of service disruptions with rapid problem identification and resolution, enabling greater control of capital expenditures through better asset utilization, and providing effective service-level management.

## Network performance management

**CA eHealth** provides the performance management solution that IT professionals need to monitor devices in their network and ensure quality of service. The software collects performance data and pinpoints service degradations to enable corrective action before users or business processes are affected.

With eHealth, you can monitor a wide range of variables for network devices, databases, servers and applications and generate preformatted as well as customized real-time reports, drill-down historical reports and business service views. For example, At-A-Glance reports provide a comprehensive overview of an individual device, and displays key statistics over specified time intervals to enable intelligent troubleshooting. Top N Reports sort data by user-defined criteria, allowing administrators to easily identify such items as the best, worst, fastest, slowest or least-utilized circuits. Trend reports are used to track performance variables over periods of time.

The eHealth software also allows you to establish meaningful thresholds for measured variables by baselining time of day, day of week and monthly behavior and dynamically adapt that baseline to accurately reflect specified business cycles such as usage growth. With this baseline, you can identify network performance deviations from normal behavior based on time-over-threshold to differentiate occasional spikes in performance from persistent problems.

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Capacity planning functionality enables you to analyze the behavior of network resources under various conditions, allowing administrators to create “what-if” scenarios and provide capacity projections to enable proactive action to avoid degradation and outage from over-utilization and to consolidate or decommission underutilized devices, links or circuits. A popular component of the reports is the prediction for the number of days until an upgrade is required.

## **Network fault management**

**CA SPECTRUM** is designed to give the enterprise a complete view of fault management from a business perspective, ensuring that a business' most important services and customers get priority response. SPECTRUM supports a wide variety of network technologies from dozens of equipment vendors as well as multiple service types, including ATM, Frame Relay, Multicast, QoS, MPLS-based VPNs, VLANs, SNMPv3 and IPv6.

Upon installation, SPECTRUM automatically discovers all network assets and creates a model of the infrastructure, maps the interconnected topology of Layer 2 and Layer 3 IP services, and graphically visualizes elements down to the physical and logical port and circuit level for LANs and WANs and both wired and wireless environments.

Patented root-cause analysis capabilities automate troubleshooting by correlating and interpreting a set of faults, sometime seemingly unrelated, to pinpoint the underlying cause, and generating an actionable alarm while intelligently suppressing extraneous or symptomatic alarms. Additionally, SPECTRUM is the first network fault management solution that integrates network configuration “change awareness” with deep technical root-cause analysis to easily correlate human-error on any network device configuration with current service disruptions.

SPECTRUM also allows you to model network services and the critical resources for each service, and measure and report on service delivery against your service-level agreements. With these business-level models, enterprise are able to see the relationship of IT infrastructure and a particular line of business, such as a call center, and how network outages are impacting that line of business.

## **Voice system management**

One of the most significant technology transformations underway in the enterprise is the migration of communications networks from traditional time-division multiplexing (TDM) platforms to Internet Protocol (IP) systems. While IP communications can reduce costs and serve as a basis for

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new and converged applications, it also adds another layer of complexity to already overburden IT departments, and potentially adds a new item of cost within the IT budget.

**CA eHealth for Voice** is designed to simplify voice management and ensure the delivery of reliable, toll-quality voice service for a wide variety of TDM and IP-based voice systems and applications, a business-critical capability for organizations currently migrating to IP communications.

The eHealth for Voice software collects data and polls processes automatically via modem, IP, and secure access systems and compiles data for real-time reporting as well as ad-hoc and historical reports. The platform collects a wide range of data from calls, voice mail, e-mail, faxes and instant messaging in a central database where reports can be generated covering anything from domain-wide summaries to specific node-by-node detail. It allows administrators to identify and remove unused mailboxes, users and distribution lists to free up capacity.

With this data, you also can obtain end-to-end visibility of voice quality with timely Mean Opinion Score (MOS) calculations based on key QoS metrics such as packet delay, jitter and loss.

The solution also allows you to create thresholds and performance policies for dozens of system variables. As thresholds are violated, eHealth for Voice will send alarms via e-mail, pager, text message and SNMP trap to a network management system, such as eHealth and SPECTRUM but also third-party solutions. Furthermore, eHealth for Voice enables the enterprise to analyze performance and capacity data from PBXs and messaging systems, including trunks and ports, disk space, and processor occupancy, enabling the user to optimize resources and remove unnecessary costs while maintaining the target Grade of Service (GoS)

With performance, fault and voice management for all network services under a single point of control, a CA network and voice management solution can automate event correlation and get you to the root cause of problems quickly. Proactive service assurance improves QoS and increases mean time between failures. Rapid problem identification and resolution decreases operating expenses, and predictive capacity planning reduces capital expenditures and guards against downtime.

- **Communication service providers**

Extreme competitive pressures within the communication service provider (CSP) industry has heightened the need for targeted IT investment aimed at ensuring an optimal customer experience, reducing cost, and creating product and service differentiation.

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In the past, traditional telcos and carriers implemented a variety of management tools for element management, service provisioning, account billing, customer care and service assurance. The result is disparate management applications that are difficult if not impossible to integrate into an efficient workflow process that can ensure reliable delivery of operational efficiency.

With the emergence of an expanded CSP industry, where the traditional telcos and carriers compete against wireless providers, cable companies, Internet companies such as Yahoo and Google, and software vendors like Microsoft and Oracle, there is a tremendous need for their IT departments to meet increasing higher customer-service levels that will allow them to capitalize on fast-moving opportunities.

Take for example a recent business initiative with one large CSP. Following a major merger, the company wanted help in retaining its combined customers while optimizing its private IP service, which allows customers to prioritize traffic based on voice, video or data.

The CSP sought to drive additional growth within this business area by working with CA to provide customers with detailed network performance reporting functionality using eHealth as the technology source. Now, private IP customers can choose from four levels of network reporting offerings. For example, a standard Private IP package includes weekly CA eHealth reports for WAN interfaces and sub-interfaces, LAN interfaces and router performance. Other levels that the CSP offers at a premium provide drill-down reports, enhanced traffic management reporting, and live trend analysis and reporting.

## • **Government**

Meeting the unique requirements of the world's national, state and local governments and their associated agencies has been a challenge long entrusted to CA management products. CA's network and voice management solutions meet the IT operational needs of the public sector with practical, achievable solutions that deliver rapid time to value and assured success.

One CA customer in the defense field was recently tasked with the requirement of leading a collective military mission anywhere in the organization's territory or outside its boundaries within 20 to 30 days. To fulfill these requirements, the defense agency developed a state-of-the-art communications infrastructure that enables seamless round-the-clock communications between commanders and troops in operational posts and at the front line.

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Centrally operated, this operation relies on a multi-vendor infrastructure consisting of thousands of Cisco routers and switches, Windows and Linux servers, satellite communication terminals, and radio links that support voice-over-IP mobile telephony, geographic information systems and tactical messaging platforms. At the core of the network is CA SPECTRUM, which provides “a zero-maintenance network” environment based on its precise impact analysis on users or services affected by an outage, as well as the capability to prioritize issues to be fixed by network administrators.

For another organization, which provides urban, regional and long-distance transportation to approximately 1.7 billion passengers annually on its 35,000 trains that travel throughout Germany and many neighboring countries, SPECTRUM has helped cut the time to find and fix problems by 50%, while delivering a higher quality of service without increasing cost.

SPECTRUM was tasked with ensuring the availability, speed and reliability for 1,500-plus rail stations, automated ticketing machines, and more than 65,000 employees. This requires SPECTRUM to discover, monitor, and analyze thousands of LAN and WAN devices, including more than 6,000 switches and routers from Enterasys, 2,500 core routers from Cisco, and another 900 switches and routers from additional vendors. The SPECTRUM software also discovers and monitors load balancers and security devices that provide and protect communications for Web traffic, as well as Lotus Notes, SAP and more than 80 internal, proprietary productivity applications.

- **Enterprise**

Very few, if any, vendors provide a more comprehensive portfolio for delivering modular, efficient and effective enterprise network management solutions for fault, performance and voice management than CA.

One example of CA's solution for enterprise network management involves a large union representing 60,000 workers, and its pension and health plans organization, which provides health insurance, retirement and pension services 24 hours a day, seven days a week. The group standardized on CA eHealth to manage the entire technology infrastructure of applications, servers and networks, including the critical Web processes that enable participants to perform eligibility inquiries, make payments, authorize payments to physicians, review pension status, and access other benefit-related information from anywhere in the world.

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The results have been powerful: the director of MIS for the union estimates that if they selected another solution, an IT staff three to four times larger would have been required to manage it. Additionally, he estimates it took 10 times longer to be notified of a problem before deploying the CA solution.

Another important enterprise customer, a state university, required help in meeting the telecommunications needs of more than 12,000 on-campus students and another 6,000 staff and faculty. Both the university's voice-mail system and interactive voice response (IVR) system required management automation to relieve the telecom group of manual report production and system and capacity analysis. For example, the university required the ability to plan for mailbox capacity without spending extraordinary amounts of time trolling through raw data – only then to have to analyze and draw conclusions manually.

Additionally, to reduce the load on staff to answer live calls, the university required a tool to monitor the efficiency of various IVR menus to see where a menu works well – or where the automated menu is not meeting user requirements. Using CA eHealth for Voice, the university has automated the process of collecting, organizing and formatting statistical output in an intuitive, graphical form that doesn't require detailed study, helping supervisors with staffing decisions and overall management. While estimates are conservative, based only on staff time savings, the university calculates ROI at approximately 601%, 627% and 642% during the first three years of ownership. Breakeven point for the software purchase was one month, 23 days.

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## Summary

CA continues to advance its network and voice management technology to meet the new challenges being placed on customers as they seek to ensure their IT assets are providing maximum benefit and delivering the service levels that enable business objectives.

CA's network and voice management suite of products — eHealth, SPECTRUM and eHealth for Voice — are three pillars within CA's broader Enterprise IT Management initiative that provides a service-oriented architecture for unifying and simplifying the management of the entire IT environment.

Enterprises, governments and their agencies, and CSPs are all faced with distinct challenges in providing IT services, launching new initiatives and discovering the new possibilities for delivering value while maximizing the capabilities of their network and voice infrastructure.

By bringing fault, performance and voice management for all network services under a single point of control, the CA network and voice management solution enables predictive service assurance, the ability to get to the root cause of potential problems quickly, and the data analysis necessary for effective capacity planning. The CA solutions take a vendor and platform-neutral approach that allows enterprises to preserve investment in third-party products and existing infrastructure while finding the most efficient route to enabling the benefits of a unified communications platform.

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1) Forrester Research. The IT Management Software Market by Thomas Mendel and J.P. Garbani. March 9, 2007

2) IDC. Achieving Business Value and Gaining ROI with CA's EITM Software for Optimizing IT Infrastructures by Tim Grieser. April 2007.

3) IDC. Achieving Business Value and Gaining ROI with CA's EITM Software for Optimizing IT Infrastructures by Tim Grieser. April 2007.

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