

White Paper



CA's EITM Strategy for Service Provider Infrastructure Management

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Introduction

Service providers today are facing an overwhelming number of business challenges, forcing a fundamental transformation of the industry. Voice, video, and data are converging — with Internet Protocol (IP) as the medium of that convergence. Revenue from traditional wireline voice services continues to decline rapidly, largely due to the emergence of wireless services and Voice over IP (VoIP). Competition in wireless voice services is intense. Wider adoption of broadband services is creating explosive demand for content services, gaming, music and video. All this, in turn, is creating a plethora of new revenue opportunities for the providers. However, in order to exploit those opportunities, business agility and service flexibility have become more critical than ever — necessitating revamping of the traditional business models.

This is a significant challenge when providers currently spend most of their budget on addressing tactical issues and in up-keeping day-to-day operations of their networks and other assets — making it difficult to get “ahead of the game”. In order to survive and succeed, they need a more holistic and pragmatic framework to managing the infrastructure — one that is able to unify, simplify, and secure today’s complex infrastructure environment. The management platform vendors play a critical role in defining and executing that framework, and today’s providers are more and more looking at them as strategic partners in the effort.

CA is uniquely positioned to be the partner of choice because of its market leadership in key areas of service provider infrastructure management¹, and its ability to provide comprehensive solutions across disparate technologies and platforms — wireline through wireless networks, distributed systems through mainframes, networks through systems through applications, services management through business processes. The objective of this paper is to discuss how CA’s core strengths and Enterprise IT Management (EITM) strategy add exceptional value to the service provider market.

CA’s EITM Strategy

CA’s Enterprise IT Management (EITM) strategy focuses on unifying and simplifying the management of enterprise-wide IT, so that organizations can derive maximum value from their technology investments (Figure 1). The EITM provides a path and a set of solutions for the evolution of enterprise-wide IT management from a reactive event-driven approach to one that is proactive and business-focused.

The challenge of EITM is to manage and secure across all aspects of the IT environment including all assets, users, application environments, and the IT services that the business consumes. This requires comprehensive and integrated management functionality covering enterprise systems management, security management, storage management and business IT service management, thereby helping customers unify and simplify the management of their enterprise-wide IT.

The EITM provides tremendous value for organizations, enabling them to:

Manage Risk. Control access to assets and information, and provide a comprehensive approach for information backup, recovery and overall business continuity. Enable compliance with consistently repeatable process automation, baseline setting and an audit trail of system actions to enable governance of the IT environment.

Improve Service. Define IT as a set of services relevant to the business. Manage and secure those IT services to meet the dynamic needs of the business functions they support. Set IT management policies based on real-time business priorities.

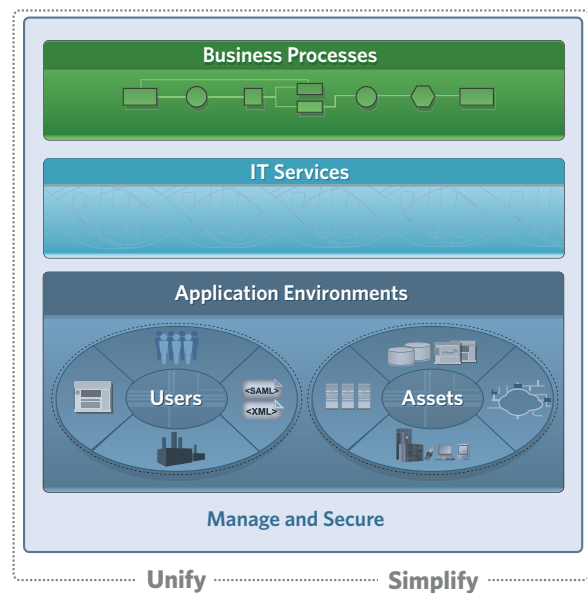


Figure 1. CA’s EITM Strategy.

¹ It is important to note that in Service Provider terminology infrastructure means all the components that drive and support their business. Generally, these can be categorized into three; (a) networks and other assets that generate direct revenue, such as a backbone network; (b) Operational Support and Business Support Systems (OSS/BSS) and associated components such as the corporate network and datacenters; and (c) Operations centers and business unit infrastructure/processes that develop, support and manage services/solutions around the assets.

Manage Cost. Apply automation to decrease resources required to maintain IT operations. Leverage the knowledge of the IT assets in the environment, the business services they support, and how much they are utilized, to control capital expenses and optimize the financial value from your infrastructure.

Align IT Investments with Business. Manage all IT resources — assets, people and projects — to deliver maximum business value. Make more informed investment decisions regarding IT. Use information on how IT is being used and how much it costs to support the business to manage and optimize the use of IT.

To help customers get started and move forward in their journey towards an advanced level of EITM capabilities, CA offers a set of tools called EITM Accelerators. EITM Accelerators are based on a four stage maturity model for IT management advancement and include capability assessments, return on investment calculators, roadmaps, patented process models, reference architectures, and best-practices-based tools for the implementation of automated IT management processes. These packaged tools optimize the speed to market and return on investment for EITM-related initiatives.

For further information on EITM strategy, benefits and accelerators, please visit <http://ca.com/unify>.

CA Differentiators

CA uniquely can deliver EITM due to several key factors:

Comprehensive. CA offers a comprehensive set of solutions to manage across all components of the IT environment — including networks, systems, middleware, databases, storage, applications, and more — for distributed environments through mainframes, wireline through wireless networks. CA solutions manage IT services and infrastructure components, and integrates with the business process layer, for comprehensive IT management that is aligned with overall business goals of the organization.

Open and Integrated. CA offers industry-leading product integration via the CA Integration Platform. The CA Integration Platform is a Service-Oriented Architecture (SOA) enabled platform that consists of a set of common components shared across CA's products. These components enable our products to integrate and interoperate with one another at three levels — data, process and user experience. The CA Integration Platform also enables integration between CA and third-party solutions. CA's products are built on industry standards so that integration with third parties can be achieved via standards-based web services interfaces. Where applicable, CA has also

built packaged interfaces for integration with other third party products. This open integration enables organizations to build on top of what they have in place today rather than attempt a costly, risky rip-and-replace of existing systems.

Modular. CA's management architecture enables modularity as well as packaged integration. Each solution on its own delivers standalone value — solving a specific problem for rapid ROI. As additional modules or suites are added, the solutions deliver accelerating value because they utilize the same user interface, processes, and management database. Thus customers can deploy solutions in a modular, incremental manner, at whatever pace maximizes value for them, while building towards an integrated and comprehensive management solution.

Real-time. The ultimate goal for EITM is to provide integrated, dynamic management and optimization of the entire IT environment based on business policies. Two fundamental components required for this are automating IT processes based on best-practices, and providing full insight into the IT environment to enable better informed and more rapid business decision-making. Process automation is available with CA's EITM Accelerators — a unique set of tools and packaged best practices to help customers advance and automate their IT processes. CA is also offers comprehensive intelligence into the IT environment via intelligence applications running on top of the integrated management data in the MDB. These tools extract meaningful data and provide key analyses using the full set of management data. This combination of process automation and IT intelligence enable CA uniquely to help customers manage their IT environment in real-time.

EITM and the Service Provider Market

CA's EITM approach applies readily to the challenges that today's service provider face. CA provides a solid strategy, architecture and integration platform for managing and securing the entire set of service provider infrastructure components — so that services, application environments, users and assets can be unified and simplified in support of the needs of the business process. This requires the ability to model and manage business processes affecting the infrastructure — and vice versa. Also, a real-time performance report on business measures, as it relates to the services and infrastructure elements, needs to be provided. CA believes that service providers can realize exceptional value by managing the infrastructure end-to-end, in a comprehensive manner. That is, by managing the

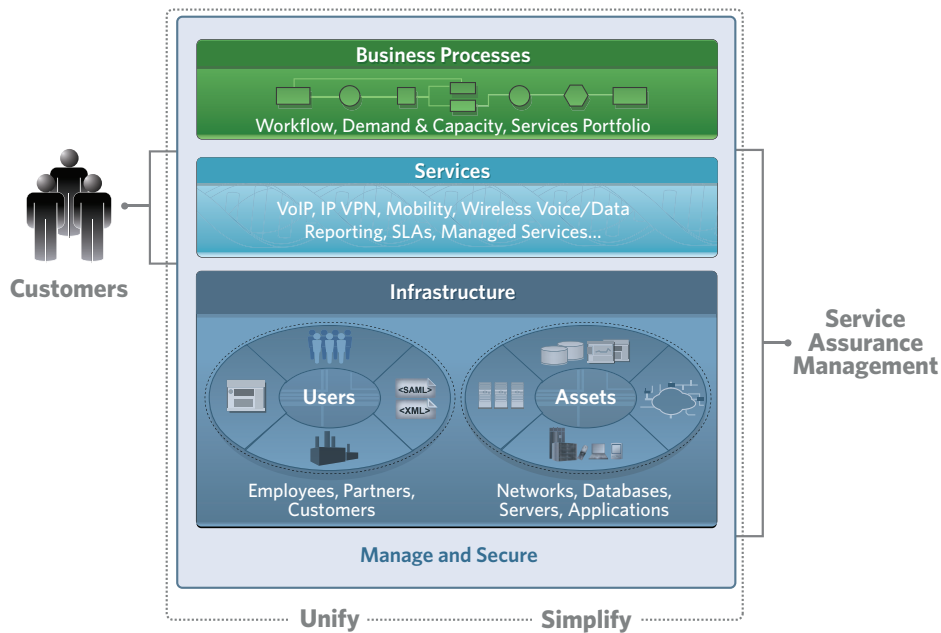


Figure 2. CA's EITM Strategy for Service Provider Market.

assets (such as networks and systems) as part of the services management and managing the services (such as mobility and VoIP), as part of the business objectives management (Figure 2).

Infrastructure Layer of Management. The infrastructure layer consists of traditional network, systems, and application management components that collect events and information from a multitude of technologies and vendor platforms. CA's vision is to provide not only a single agent based event and information collection mechanism (built on open standards and technologies), but also an integration layer that allows easy integration with third party devices and platforms. With this approach, CA allows service providers to maintain technologies or point solutions that already exist in their environment and continue to derive value from them.

Services Layer of Management. The Services Layer consists of the analysis and service intelligence modules that are most visible to the end customers. These are the set of management tools that add value from a services setting — for example, fault management and reporting, correlation of information, or validation of performance metrics against a baseline.

Business Processes Layer of Management. This layer provides business view of the entire infrastructure management by abstracting information from the services layer. For example, this layer forms the intelligence to create an executive report on 'aggregated number of SLA violations and associated costs on IP services'. Another example is the ability to precisely recommend capacity enhancements on a network by monitoring resource constraints and historic utilization trends across a set of assets on that network.

Business Benefits of CA's Strategy

Similar to the case of enterprises, the business benefits of CA's EITM strategy for service providers are in the following four key areas:

Improving Service. The CA solution allows service providers to implement an agile infrastructure management platform and integration framework to respond to rapid business changes and marketplace opportunities. Alignment between customers, services, and infrastructure allows operations staff to ensure that they meet customer service level commitments and prioritize their responses based on the business needs. Also, it allows providers to quickly develop and launch new services and solutions as and when business opportunities arise.

Managing Risk. CA's comprehensive risk management solutions allow service providers to manage and control access to assets and information through-out the infrastructure — ensuring business continuity, service excellence and regulatory compliance. Also, CA solutions allow providers to ensure that their services meet their end-customer risk management needs including regulatory compliance, industry certifications and corporate baselines.

Managing Cost. Modularity and openness of CA solutions allow high levels of automation to manage down resources required to maintain infrastructure operations and support systems. Breadth of CA solutions — covering infrastructure, services and management layers of all key elements and technologies — provide an excellent vehicle for managing provider infrastructures comprehensively, efficiently and cost effectively.

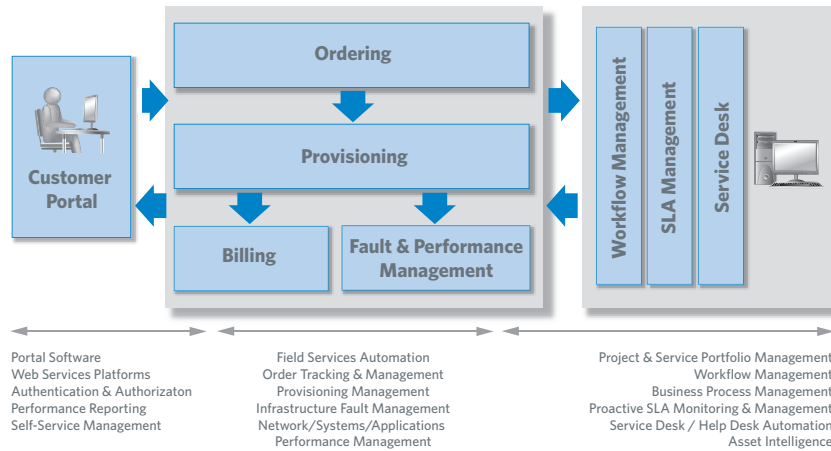


Figure 3. Improving Services End-to-End.

Aligning Investments with the Business. CA solutions help service providers make more informed investment decisions regarding the infrastructure. As the EITM strategy enables the business view of all services and infrastructure elements, business impacts of infrastructure investment decisions can be analyzed in real-time.

Improving Service

To a service provider, improving service means improving customer interactions/communications and services quality. Figure 3 illustrates a simplified representation of the processes by which a service provider responds to a customer service order. When a sales contract is completed, the order is submitted through a Field Services portal, with links to a live product catalogue as part of an

off-the-shelf suite or in-house system. To enhance the customer experience, many service providers allow the customer access to the order tracking platforms or reports on the progress. User authentication and role-based access to information determines the type and content of such information. For example, a procurement manager may want to see total number of orders processed and outstanding bills while a network administrator at a remote site needs to know only about the status of orders related to sites that he/she is responsible for. Apart from the services workflow, from a service differentiation perspective there are a number of areas where EITM strategy adds immediate value. More and more providers are differentiating themselves by monitoring and managing performance across higher layers (beyond Layer 3; see Figure 4) in the Open Systems Interconnection (OSI)

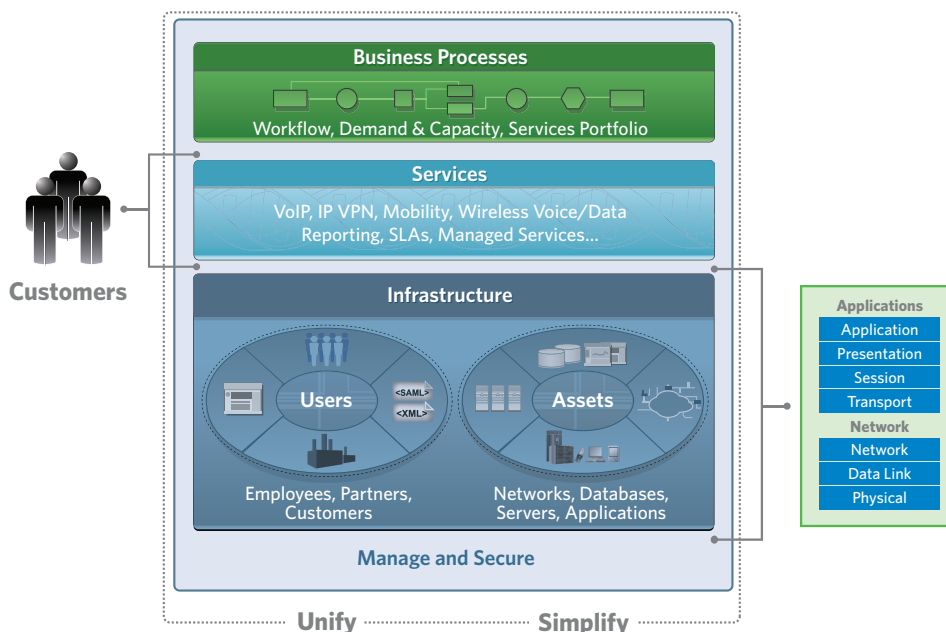


Figure 4. Extending Services on Upper Layers of OSI Stack.

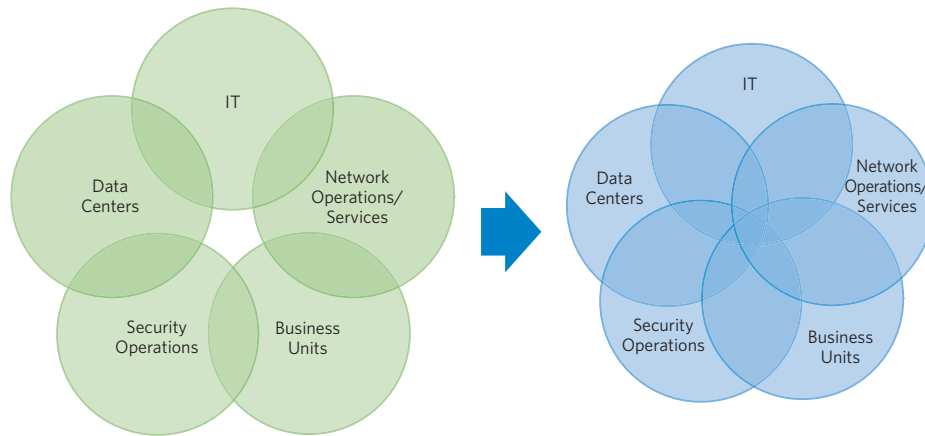


Figure 5. Unification and Simplification of Infrastructure Management.

stack. This blurs traditional management boundaries — for example, wide area vs. local area network management, network vs. systems/application management, voice vs. data management, etc. There are a number of business opportunities in extending traditional transport services to systems, applications, and/or databases management and to higher layer services such as IT lifecycle management or business processes management.

CA's focus is to improve business efficiency through-out the provider value chain. In addition, CA's approach allows quick-to-market, cost effective extension of services into upper layers of OSI stack as well as into Services and Business Processes layers, including managed services.

Managing Cost

Service providers have recognized the benefits of closer alignment of the disparate organizational entities within their structures (see Figure 5), to reduce cost, duplication, and unnecessary hand-offs. Technologies themselves are also driving this alignment. A great example of this is the convergence of voice, data and video over IP networks. From operations and support systems perspective this drives unification and simplification of systems, business processes, and technologies. Consider the trend in unification of networking and security functionalities. Most of today's routers have embedded Virtual Private Networking (VPN) and security functionalities, and most of the VPN devices have embedded routing and security capabilities. Traditional, technology-specific organizational silos (voice vs. data, network vs. security) don't make much of a business sense in managing these environments. Voice, data, and content may need to be managed together to provide seamless multimedia services. Similarly, close alignment of network operations centers and security operations centers is necessary for unified management of network, systems and security.

CA provides a set of comprehensive and modular solutions that unify and simplify the management of infrastructure components such as network, systems, security, applications, and storage — all in alignment with the services portfolio and business objectives.

Managing Risk

Risk management is increasingly being looked at as a necessity for business continuity, customer experience excellence and compliance — not as a security management need alone. As IP has become the protocol of choice for networking, threats and vulnerabilities have become omni-present. At the same time, networks are no longer isolated from each other (see Figure 6). A few years back, providing access to customers or partners to a provider's ordering, provisioning or trouble ticketing systems was unheard of. Now such accesses are essential. This introduces a number of new security challenges which in turn can affect providers' ability to meet network availability agreements or committed implementation dates.

From a vulnerability point of view the challenges are similar — vulnerability on a core asset, if not patched in time, may allow unauthorized access into the network affecting services that are provided to the end customers. No provider would want a virus or worm propagated from one of their customer environment to impact the entire network that serves thousands, and often millions, of customers. In addition, a number of government and industry compliance regulations mandate providers to have certain control measures on their infrastructures and services they provide.

Hence, managing risks comprehensively across the infrastructure allows providers to better manage business continuity, cost efficiency and customer experience. Securing the infrastructure is one of CA's fundamental goals of the EITM architecture.

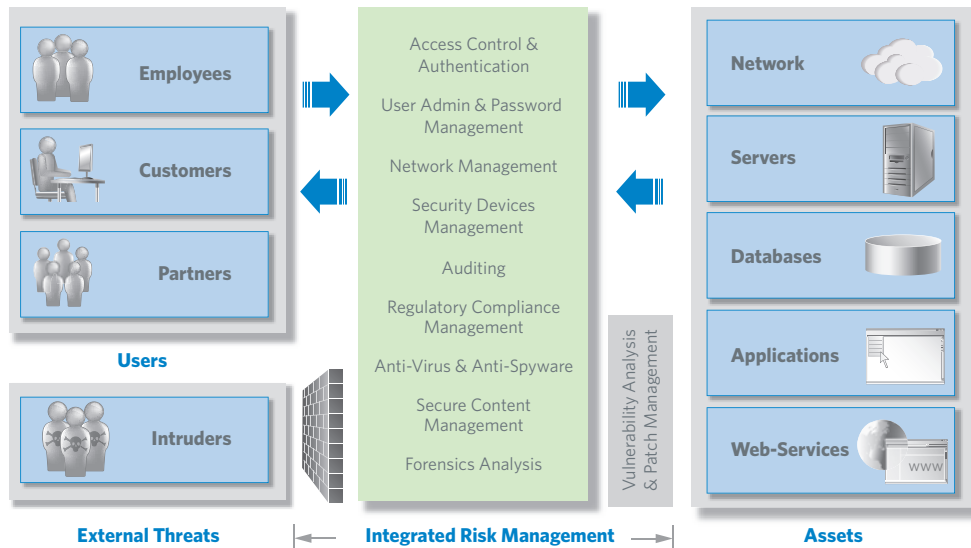


Figure 6. Comprehensive Management of Risk across the Infrastructure.

Aligning Infrastructure Investments with the Business

CA believes that Infrastructure Management investments generate the best value when informed decisions are made with overall business needs in mind. Services delivered to customers are provided over multiple infrastructure elements — such as networks, systems, databases, applications, web-services portal etc. Investment decisions should therefore be made in the context of overall business need, considering the impact to Capex/Opex costs, business efficiency, service excellence and customer experience. Over the past few years CA has invested heavily into building a framework and set of solutions that help in providing that business contextual view of infrastructure investment decisions.

For example, a C-level executive can benefit immensely by having a real-time performance report on all assets across the provider infrastructure, covering the entire value chain of services. An asset intelligence report can provide information on available resources such as ports, bandwidths, memory, hard-drive space etc. as well as historic utilization levels of those resources against customer demands or services growth. Hence individual infrastructure investment decisions can be done by looking at overall needs of and impacts to the business — across all the components that constitute a service (see Figure 7). Such a comprehensive analysis and reporting is difficult without a well formulated strategy, like EITM.

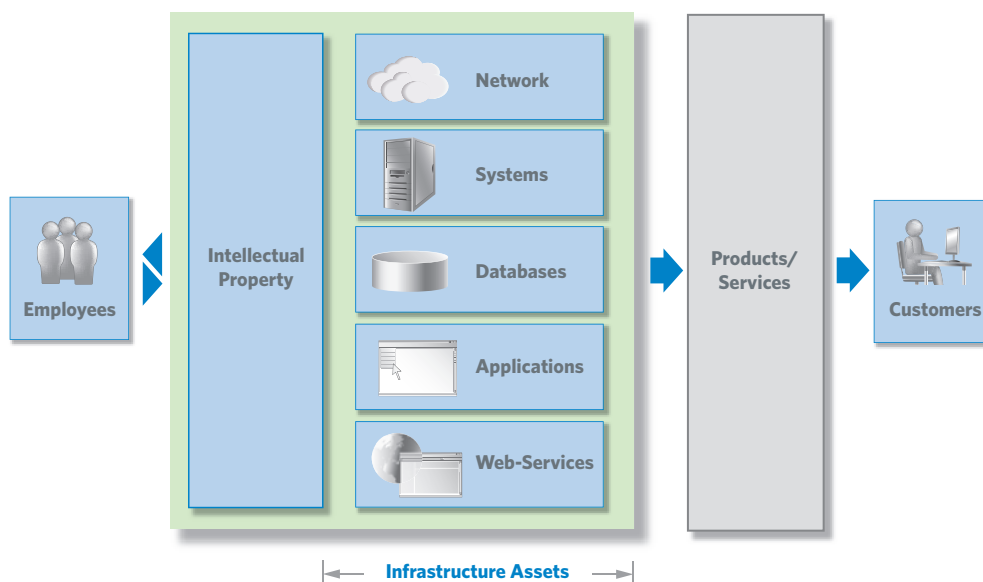


Figure 7. Manage Infrastructure Investments to Align with Overall Business Objectives.

Summary

Today's service providers face a number of unique business challenges. Market transformation over the past few years, that made wireless, data and content services mainstream, has created a plethora of new revenue opportunities for the providers. However, to exploit these opportunities business agility and service flexibility have become more important than ever, thereby placing the spotlight on infrastructure management platforms, operational support systems and business support systems. Further, market demand for comprehensiveness necessitates integrated management of network, systems, applications and security, and tying them closely with overall business objectives — forcing providers to fundamentally transform their business models. Critical in this transformation is simplification of infrastructure, unification of its management, and ability to offer services in a secure way.

CA is uniquely positioned to be the service provider management platform vendor of choice because of its market leadership in all key areas of infrastructure management. CA's strengths are compelling and unparalleled — through its ability to provide solutions that are comprehensive, open and integrated, modular, and real-time. As discussed in this paper, CA's EITM strategy provides an excellent foundation for the providers to build comprehensive infrastructure management solutions — driving business efficiency, service excellence, and growth.

About the Authors

Venu Venugopal is a Director of Solutions Marketing at CA with responsibility for solutions strategy and market positioning for Communications, Media and Entertainment vertical. Prior to the current role he was a Director of Product Management for CA's eTrust Security Information Management productline. Before joining CA, he was a Senior Manager for Product Management & Marketing at Sprint, where he led the development and launch of their IP Virtual Private Networking and Managed Security Services product portfolio. At Sprint, he also held positions as the Senior Manager for Network Security and the Principal Program Manager for Managed Network Services.

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