The Value of Intersection – A Case Study

A Tale of Two Infrastructures

Executive Summary

In the famous novel, “A Tale of Two Cities,” Charles Dickens uses the backdrop of the French Revolution to present the social and political forces of the day. In many respects there has been a Business Revolution over the last two decades enabled through the many converging forces of information technology. Two primary IT forces at work today in business and government enterprises are Network and Hosting. But, in this “Tale of Two Infrastructures” these forces are not battling each other rather they are complementing each other. The intersection of Network and Hosting is producing a new class of Managed IT Services offering the promise of significantly greater value for IT operations. The combination of technology platforms from Cisco® and service delivery models from SAVVIS is leading to new IT infrastructure solutions that present a compelling enhancement to traditional in-house IT.

Figure 1. The Intersection of Network and Hosting

Dickens may portray sacrifice as necessary, but in today’s world of converging requirements customers cannot sacrifice security, flexibility and functionality for cost effectiveness. In fact, as SAVVIS and Cisco collaborate on the intersection of networking and hosting, enterprises will greatly benefit from a services that liberate their IT resources - both human and capital – to invest in those tools and activities that provide them with competitive advantage.

Book the First – Recalled to Life

“The best of times, the worst of times”

In the past, the scale effects of IT could determine the success or failure of a business or government agency. For those large-scale operations that could afford to build and maintain their own networks, data centers, servers, and storage devices it was truly the “best of times.”

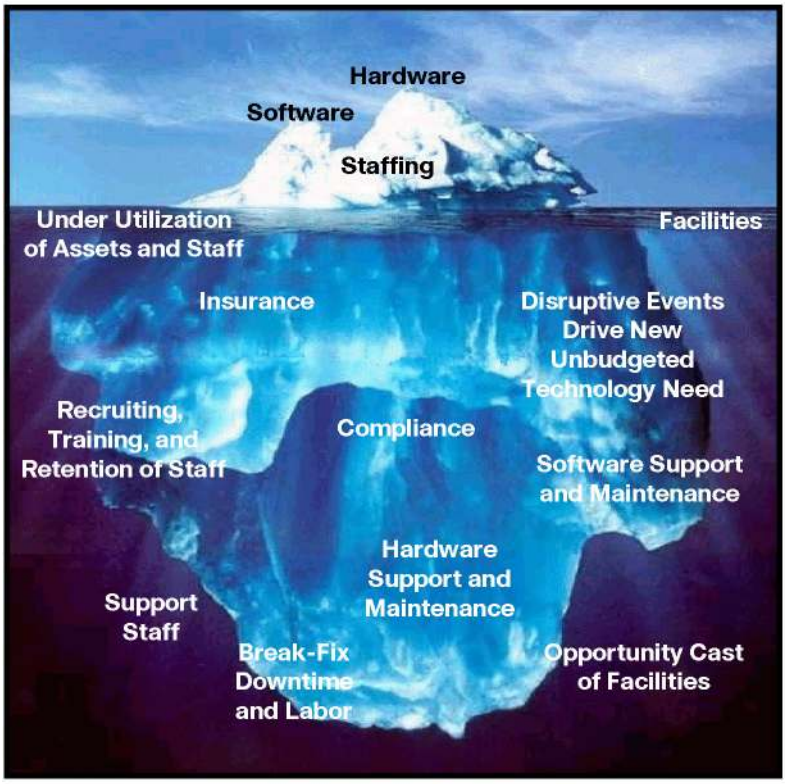
However, for many smaller organizations it was “the worst of times” as they could not benefit from the economies, efficiencies, and performance of enterprise IT. Frustration increased in these organizations leading to the rise of distributed computing, client-server architectures, and a PC on every desktop.

Within these two environments lay the seeds for revolution. Enterprise IT was challenged to respond to the needs of the business with new applications as they became mired in hardware, software, and systems maintenance and integration. In fact, published studies have shown that up to 70% of an enterprise IT budget is dedicated to maintenance and operation of legacy systems through hardware and software upgrades, network upgrades, and auditing/compliance upkeep.

Distributed IT, growing at geometric rates, was difficult to manage and there was significant waste in this model as computing and storage capacity was trapped on the desktop left unusable by the rest of the organization. Audits of distributed IT environments indicate that up to 50% of server and storage capacity can be wasted.

Both environments struggled to identify and control all the costs of running their IT operations. Like an iceberg, they could see the hardware, software, and staffing costs above the water line. But the many costs hidden below the water line, including waste, compliance, maintenance, and support could sink their ship.

Figure 2. Hidden Cost of IT



Book the Second – The Golden Thread

Simplifying IT – The Intersection of Network and Hosting Services

The issues faced by today's IT managers can be readily addressed by taking a more "partnered" approach to providing the value-added, productivity enhancing services and applications that business needs demand. Enterprises are rethinking how they build and support corporate applications and communication services and are embracing new opportunities to ensure IT organizations satisfy future business demands without the impediments of inflexible and costly IT infrastructures.

The issues faced by today's service providers are also ones that can readily be addressed by taking a more holistic view – relocating appropriate services into the network and hosted area networks within service provider's data centers and virtualizing those services on a common infrastructure to reduce cost and management complexity and increase resource efficiency. Convergence is "the golden thread" that helps to solve the problems of both Enterprise IT Managers and Service Providers.

Although varying degrees of convergence have been occurring for a number of years and in a number of ways, it is only recently that the fundamental areas of convergence have intersected to allow the value of the network to transform the enterprise and for the enterprise to be extended across the WAN and to the data center.

These fundamental areas are application convergence, service convergence, and network convergence.

- **Application Convergence** – Using Internet Protocol (IP) technologies, service providers can integrate new data, voice, and video applications over a single broadband infrastructure reducing cost and increasing functionality. Application convergence opens the doors to "all-media services" such as telepresence and multimedia collaboration. These innovative value-added services can be delivered over any broadband connection or from a hosted infrastructure.
- **Service Convergence** – Virtualization technology is changing the form factor of computing, effectively decoupling "the service" from "the box." Service providers can use virtualization to deliver computing, storage, network, and security services with dynamic scalability that senses workload demands and responds with additional capacity. This kind of "service agility" creates a stronger relationship between the service provider and end user and can help enhance the customer experience.
- **Network Convergence** – In the past, network convergence referred to retrofitting traditional voice networks of the big telecommunications companies so they could support new business systems. Today, this convergence refers to a new breed of network built specifically for the needs of enterprise and government applications. This network is seamlessly integrated with data centers and computing, storage, and network platforms to deliver IT infrastructure as a service. This "application aware" network will improve application availability and reduce the total cost of ownership by reducing waste and more effectively mapping cost to usage.

SAVVIS' Cisco IP Next-Generation Network (IP NGN)-based Hosted Services Solution delivers all of these benefits by achieving economies of scale through embedded, intelligent features. The value of this convergence can be seen through powerful web-based portals that provide Visibility into the performance of services and Control over capacity and allocation of services. The SAVVIS

solution securely extends business customers' services into a centrally managed offering, giving users greater mobility and superior collaboration opportunities without sacrificing security or flexibility.

Book the Third – The Track of a Storm

People, Systems, and Technology that are Built to Respond

Managing an enterprise IT infrastructure can be a little like tracking storm. Rapidly changing market requirements, business challenges, and compliance demands can leave some IT and business decision makers scratching their heads wondering what to do next to ensure that today's decisions allow a "safe harbor" for tomorrow's needs. IT leaders are exploring various methods of acquiring the functionality and speed-to-market without assuming the burden of deploying and managing it themselves.

This has led many enterprises to SAVVIS. SAVVIS is focused on providing managed infrastructure services leveraging the benefits of virtualization technology, automated management systems, and a flexible services model. The result is a rich portfolio of IT services that can complement or replace traditional do-it-yourself and outsourcing approaches – with increased flexibility, lower total cost of ownership, and performance guarantees.

SAVVIS services are designed to grow and adapt with customer and market demands and offer the benefits of leading technologies – without the risk of obsolescence. Extensive use of Cisco virtualization technologies provides SAVVIS with unprecedented flexibility and control over network routing, storage capacity, server processing power, and other utility computing resources critical to data center operations. All in all, this enables SAVVIS to be more responsive to their customer's event driven environments and empowers their customers to be more responsive to *their customers* through reliable IT systems that can easily scale and embrace new technology as the business requires.

In today's environment, business and government enterprises face many triggering events that may require them to rapidly change their systems, network, and applications. Some examples of these triggering events include:

- Globalization
- Mergers and acquisitions
- Changes in executive management
- Natural disasters
- Compliance and regulatory requirements
- Competitive pressures and moves
- Customers have changed direction

These triggering events often require a reconfiguration of the IT systems that support the business. The result can be a CapEx burden that puts the enterprise at a disadvantage to their competition. These events can create strategic and tactical problems across every part of the business.

Over 5000 business and government enterprises trust SAVVIS to deliver IT infrastructure solutions that are current, relevant to market conditions, segment-specific, proven, componentized, and customizable. These solutions are built around carrier- and enterprise-grade components based on Cisco's leading edge next generation technologies deployed in both the WAN and HAN.

"The combination of Cisco technology and SAVVIS' global server, storage, network, security, and hosting infrastructure, enables a new service provider model that complements and extends current enterprise IT systems and truly delivers 'IT infrastructure as a service,'" said Phil Koen, SAVVIS' CEO. "It improves application performance and lowers overall costs presenting a compelling alternative to traditional approaches."

Epilogue

The Intersection of the Service Provider and the Service Enabler

The SAVVIS infrastructure is built to respond to customer requirements based on a combination of the Cisco IP NGN service provider architecture, featuring Cisco CRS-1 routers and Cisco Internetworking Operating System (IOS®) XR software at the core and Cisco 12000 Series routers as multi-service edge platforms; and the Cisco Service Oriented Network Architecture (SONA) deployed within the data center. Cisco IP NGN and SONA together deliver a core-to-user architectural approach that connects network services to applications, transforming the SAVVIS infrastructure into a purpose-driven application delivery platform.

Using Cisco's market leading technology, SAVVIS offers predictable business services by building on the secure resource virtualization, continuous systems operation and multiservice scale. Cisco IP NGN and SONA provide the foundation to build additional differentiating value-added services by moving costly customer premise-based solutions into the cloud or into the Hosted Area Network (HAN) utilizing innovative service virtualization methodologies provided by the Cisco Application Control Engine (ACE) blade in the data center and the new Cisco Multi Service Blade in the WAN. SAVVIS has a long history of virtualizing services and has been instrumental in jointly defining the current and future specifications of these two transforming products.

The Cisco Catalyst® 6500 ACE module combines the content switching and SSL termination functionality of separate detached devices, as well as L4-L7 server load balancing and data center firewall, adding greater control with logical partitioning.

The new Cisco XR 12000 Multi-Service Blade allows SAVVIS to extend Layer 2 and Layer 3 virtual private networks (VPNs) enabling route-aware implementations of firewall and enhanced session border control (SBC) on an extensible blade. These enhancements are integral to the router, permitting SAVVIS to improve service guarantees beyond appliance-based solutions and facilitate delivery of sophisticated collaboration services.

Cisco takes a complete lifecycle approach with service providers and has teamed closely with SAVVIS to jointly develop a strategic concept of an offering and assist with the design, plan, development, test, and successful deployment of each service. As a benefit of being a Cisco Powered Network service provider, Cisco also provides marketing resources and expertise to help SAVVIS position the services properly, which insures services meet the customer needs.

This level of commitment and support not only distinguishes SAVVIS and Cisco in the marketplace, but also gives SAVVIS and Cisco insight into ways to continue to advance technology and service offerings that contributes to their products and solutions.

In short, this is not only an intersection of network and hosting, but an intersection of the service provider and the service enabler.

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