

Electronics Giant Streamlines Collaboration with Adaptive Network Architecture

HP success story



Samsung Electronics Co., Ltd., a world leader in electronics components and a growing force in consumer markets, partnered with HP Services to develop and deploy a dynamic network management environment. Based on the HP Adaptive Network Architecture, the centrally managed, virtualized network replaces costly and complicated processes for access and security management, enabling the company to rapidly provide users across subsidiaries and business partners with secure access to information and applications. The environment dramatically cuts deployment cycles and isolates virus and hacker damage, significantly streamlining repairs.



Samsung Electronics Co., Ltd., is the world's largest manufacturer of bulk memory chips, the number one producer of display devices and the third-largest maker of mobile phones.

For decades known as a supplier to OEMs, Samsung Electronics is today combining its prowess in electronics with marketing wizardry to lead consumers into a digitally converged world. The company is gaining renown for sleek, value-packed devices that blend utility, elegance, and ease—from jewel-like handsets and high-end home appliances to the industry's lightest single-spindle notebook PC and largest TFT-LCD television.

Competing in markets that put a premium on breakthrough products, Samsung Electronics has transformed itself into a dynamic cluster of independent businesses.

In January 2002, the company reorganized its operations into four business networks: telecommunications, devices, digital media, and appliances. Each in turn spins a web of alliances with affiliates and partners to streamline R&D, production, and distribution.

While shedding a traditional, top-down structure, Samsung Electronics still relied on a corporate network designed to serve its earlier business model. A fortress of firewalls separated the newly independent affiliates from each other. Further, the company faced networking challenges each time it acquired or divested a business.



Working with its longtime partner HP, Samsung Electronics developed a virtualized network management environment based on the HP Adaptive Network Architecture (ANA). Consistent with HP's vision of an adaptive enterprise that synchronizes business and IT to capitalize on change, the solution makes the company's network as dynamic as its business and improves both agility and security.

"Uncertainty is a permanent feature in our lives," observed Kwang-seong Lee, CIO advisory officer of Seoul-based Samsung Electronics, which employs more than 75,000 people in 47 countries. "Our goal is to turn uncertainty into opportunity through innovation and lead the revolution to digital connectivity and convergence. Our collaborative way of working requires a combination of flexibility and security that is difficult to achieve with a traditional network architecture.

"With the HP Adaptive Network Architecture," continued Mr. Lee, "we've gained significant flexibility and greatly improved our ability to respond quickly to business demands. Such agility is imperative to ensure Samsung's continued leadership in today's fiercely competitive environment."

Firewalls constrain collaboration

In the past, every time an affiliate needed to connect a partner or even a reassigned employee, Samsung IT personnel had to custom-configure the network firewalls, a time-consuming, labor-intensive process. Since each modification was an exception requiring its own execution and documentation, the IT team accumulated an unwieldy mass of rule and policy changes. While costly in people and time, these complicated steps weakened security by increasing the chance of error and diminishing central control of firewalls. In this fragmented environment, IT staff had no enterprisewide view of security.

Seeking greater security, efficiency, and nimbleness in network management, Samsung Electronics turned to HP, which had transformed its own global network with an ANA-based solution. The HP ANA environment simplifies, standardizes, modularizes, and integrates network management to achieve the agile and secure networking required by a dynamic, global operation.

"Like Samsung Electronics, HP is an innovator," said Mr. Lee. "We were adopting an entirely new IT strategy, one that HP had already successfully applied to solve the same problems we faced with our network. HP offered a proven solution backed by a depth of expertise, as well as a global reach that matches Samsung's own organization."

Virtual network simplifies change management

Samsung Electronics partnered with HP to devise and deploy an ANA-based networking infrastructure that, like Samsung itself, operates as a single unit comprised of independent modules.

An innovative model for network and security management, ANA employs an advanced network-backbone concept and virtualization software to meet a company's diverse connectivity and security requirements. An ANA environment segments the enterprise network into virtual compartments, each a cluster of members—user groups or applications—that share the same security profile. The compartment extends its connectivity parameters to all members regardless of location or transmission technology.



When adding or removing a member or redefining a compartment, the IT staff simply updates a central policy management system. They no longer need to handcraft new parameters for numerous network devices, which is the usual practice.

Teamwork streamlines design and deployment

The IT team of Samsung Electronics and a group of HP Services professionals jointly defined, designed, tested, and piloted the company's ANA-based network management and security environment.

The end-to-end solution engaged HP Services corporate experts, including a network architect and a security consultant, as well as local HP Services personnel comprising a project manager and installation engineers.

Applying HP Services best practices in project management, the joint team began with a strategic planning workshop to set project goals, identify existing access controls and select elements requiring improvement. Next, they defined required levels of network and host security for each compartment. HP Services consultants then designed and tested the compartmental framework and core ANA infrastructure.

HP Services consultants devised a resilient and scalable environment. The ultra-reliable backbone network employs a redundant configuration of Cisco routers and switches.

"Our goal is to turn uncertainty into opportunity through innovation and lead the revolution to digital connectivity and convergence. Our collaborative way of working requires a combination of flexibility and security that is difficult to achieve with a traditional network. The HP Adaptive Network Architecture strengthens the security, efficiency, and agility of our network, enabling us to advance partnerships that capitalize on synergies of all kinds."

—Kwang-seong Lee
CIO Advisory Officer
Samsung Electronics Co., Ltd

Working side-by-side, Samsung Electronics IT staff and HP Services personnel deployed the infrastructure at four data centers, supporting eight sites over a six-week period, and then conducted a ten-week pilot phase.

Samsung Electronics is now working with HP Services to deploy the ANA-based environment in all 15 of its sites in South Korea. After completing its domestic rollout in June 2004, the company will review its plan to extend the infrastructure to all of its locations worldwide by the end of the year.

New environment improves security *and* agility

With the ANA-based infrastructure, Samsung Electronics can rapidly and easily provide users across affiliate and partner companies with secure access to information and applications.

Improving both security and flexibility, the virtualized ANA environment enables Samsung Electronics to rapidly extend appropriate levels of access to authorized users both within and beyond the company. Now, IT personnel centrally manage and control policy and view current intelligence on the status of security throughout the network by user group, application, and system.

Freed from modifying firewalls, Samsung Electronics has trimmed cycle time for deploying networking to new affiliates from one month to one week. And by simplifying and streamlining processes with the integrated ANA environment, the IT team has greatly reduced the volume of security rules.

Managing security policy by compartment, IT personnel can quickly isolate network segments to prevent impact on other segments in the event of virus and hacker damage, significantly streamlining the repair process.

“Our virtualized ANA environment strengthens the security, efficiency, and agility of our network,” concluded Mr. Lee. “We can easily adapt our networking infrastructure to advance partnerships that capitalize on synergies of all kinds.”



Challenges

- Delays in connecting affiliates, partners, and suppliers hinder innovation.
- Complicated change management increases overhead costs and security risks.

Results/Benefits

- Affiliates and partners enhance collaboration by easily sharing information and applications.
- Partners are on the network sooner.
- Staff experiences far faster hacker and virus repairs.
- IT personnel centrally control and manage enterprisewide network policies.
- Virtualized environment with simple, policy-based tools replaces manual processes, greatly reducing cost, risk, and time of change management.

Components

HP Services

- Network architecture consulting, project management, and knowledge transfer from planning and design through pilot phase and installation

Hardware

- Cisco Catalyst 6509 switches

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