

Intelligent Network Services: The Underlying Power of Unified Communications Applications

Applications and services are becoming untied from physical servers, a trend known as resource virtualization. For example, the physical PBX of yesterday has been deconstructed into a collection of communication applications and network services that reside within an intelligent network.

And the PBX is not alone: absorption into the network is the destiny of more and more voice, video, data, and mobility services. “New technologies often begin as front-end applications on a server,” says Paul Liesenberg, product marketing manager, Cisco. “Later, many of them migrate into the network as virtual services if this creates a cost, performance, or operational advantage.”

Resource virtualization provides particularly powerful benefits for federal government. Why? When multiple agencies and applications share a set of common services that reside in the network, government lowers costs, increases responsiveness, and improves application reliability.

The Foundation: A Service-Oriented Network Architecture

Cisco Unified Communications applications, such as Cisco Unified MeetingPlace, Cisco Unified Contact Center, and Cisco TelePresence, take advantage of the integrated network services in the Cisco Service-Oriented Network Architecture (SONA). SONA is an open architectural approach that connects network services (such as session, security or identity services) to applications from Cisco and other vendors to enable complete business solutions.

Integrated network services are one of the three layers in SONA. The other two are the network system layer and the applications layer, which combines business, communications, and collaboration applications. The integrated network services layer helps federal government attain its vision of a Connected Government by enabling new collaborative business solutions. “The network is ideally suited to offer services that involve session management, resource management, security, and mobility and location services,” says Liesenberg. “Integrated network services make Unified Communications far more powerful and reliable than it would be if the services were merely deployed on overlay servers that are not an integral part of the network.”

Anytime, Anywhere Access: Now a Reality

Part of the power of SONA is enabling federal government to support an increasingly mobile workforce. “The ability to provide voice services anywhere, anytime, to any type of wired or wireless communications device, facilitates collaboration within federal government and enhances service to employees and citizens,” says Gerard McNulty, federal specialist, Cisco.

As an example, a military hospital is using a SONA and Cisco Unified Communications to eliminate dozens of 15-minute trips every day. Previously, hospital personnel had to walk to the basement to retrieve medical images. Now, personnel can view images and receive critical patient information at the point of need, on their Cisco Unified IP phones or wireless laptops with client software. This helps them make critical decisions more quickly and devote more time to patient care.

The Cisco Unified Communications solution also enables federal agencies to securely deliver voice services to employees' homes as part of their Continuity of Operations (COOP) plans.

Open Integrated Network Services: Available to Any Standards-Based Application

Integrated network services are available to every application—from Cisco as well as other vendors—that is connected to the network and has the required standards-based interfaces.

Services include:

- **Authentication:** Verifies user identity and ensures secure access to the network.
- **Identity:** Controls which Unified Communications applications and services a given employee can access from the current device, based on the employee's profile. The identity service includes single sign on to multiple applications. For example, employees who log on to a Cisco Unified IP Phone in another office can be simultaneously logged on to their frequently used applications. This saves time and avoids delays when personnel need to access applications to make critical decisions.
- **Session management:** Sets up end-to-end connections and guarantees the quality of the voice, video, or data connection by controlling bandwidth, latency, and jitter network performance parameters.
- **Presence:** Enables employees to reach the right employee, on the first try, by showing whether employees are currently available on the network and their preferred contact method: office phone, cell phone, instant message, and so on. Field personnel in some agencies look at the presence information on their wireless personal digital assistants when they need to collaborate, to find an expert who is currently available. "Presence information eliminates the ten minutes it might take to call several people at each of several phone numbers," says McNulty. Presence services also include screening, so that employees can specify the people whose calls and instant messages should be put through.
- **Speech:** Enables citizens and employees to obtain information or request services through interactive voice response (IVR) and text-to-speech services, reducing agency resource requirements.
- **Policy:** Consistently applies rules for routing calls, accessing directories and applications, and collaboration, for all applications in use at the agency.
- **Media:** Facilitates collaboration with unified voice, video, and Web conferencing by dynamically ensuring media and signaling end-to-end compatibility.

Open Standards

The ability to integrate Unified Communications with other applications helps government operate more efficiently and improve service. SONA facilitates integration through its use of open standards, such as Session Initiation Protocol (SIP). Cisco used SIP to integrate Cisco Unified Personal Communicator and Cisco Unified MeetingPlace to enable employees to initiate a spontaneous conference by dragging employees' names from the online directory into a collaboration window. Federal IT groups, in turn, can use SIP to integrate Cisco Unified Communications applications with their customer relationship management (CRM), supply chain management (SCM), human resource management (HRM), or other enterprise applications. By integrating Cisco Unified Contact Center with the CRM application, for example, an agency can give its contact center agents immediate access to caller history whenever they receive a call, saving time and improving service.

Strengthening Government's Human Network

McNulty concludes, "Though they might not know it, government and citizens experience more value from Cisco Unified Communications simply because it is delivered over SONA. Employees can be more responsive because they can access voice, video, and data services from wherever they happen to be rather than waiting until the next time they are in their office. SONA in combination with Cisco Unified Communications helps create a responsive human network that connects government and citizens with a future-proof, open, and adaptable network infrastructure."

To read a white paper about SONA and Unified Communications, visit:

www.cisco.com/application/pdf/en/us/quest/netsol/ns165/c654/cdccont_0900aec8051e49d.pdf.

For more information on Unified Communications for federal government, visit

www.cisco.com/go/fedunified.



Americas Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
www.cisco.com
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 527-0883

Asia Pacific Headquarters
Cisco Systems, Inc.
168 Robinson Road
#28-01 Capital Tower
Singapore 068912
www.cisco.com
Tel: +65 6317 7777
Fax: +65 6317 7799

Europe Headquarters
Cisco Systems International BV
Haarlerbergpark
Haarlerbergweg 13-19
1101 CH Amsterdam
The Netherlands
www-europe.cisco.com
Tel: +31 0 800 020 0791
Fax: +31 0 20 357 1100

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