White House Communications Agency *transforms to meet new challenges*

by LTC Laura Hill

" … When I'm down at Crawford, [Texas], I'm in constant contact with our administration. We've got secure teleconferencing capacity there. And it's pretty good. It can be better. It can be more real-time. It's an important part of life and it's time for us to … move, move with an agenda." – President George W. Bush, remarks at the 21st Century High Forum, Presidential Hall, Dwight David Eisenhower Executive Building, June 13, 2002. Available at http://www.whitehouse.gov/news/releases/2002/06/20020613-11.html.

As you can see by the President's remarks during a recent forum on new technologies, the challenge for the White House Communications Agency is to ensure we consistently provide leading-edge technologies that enable the president and his staff to lead the nation effectively. In our role as the premier service provider for presidential communications, we not only showcase Defense Department capabilities during all presidential events, but also the capabilities of the most technologically advanced country in the world as we travel globally supporting the president in his role as head of state.

Our challenge is to provide reliable, redundant, robust, secure and non-secure voice, data and video connectivity to the president anywhere, anytime and by any means.

The terrorist attack of Sept. 11, 2001, coupled with emerging requirements of a tech-savvy administration, highlighted the need for reliable, real-time, secure information flow to the president and his staff. WHCA is meeting these challenges head on by executing a sweeping technological transformation plan called the Pioneer Project.

Air Force COL Michael McDonald, WHCA's commander, captures the essence of this aggressive modernization plan thus: "With the right technological solutions, we intend to transform WHCA – all components – into a fully integrated, network-centric organization with rapidly deployable command, control, communications, computers and intelligence packages that allow us to put together a secure presidential communications support team anywhere in the world within 72 hours once we receive an execute mission."

Specifics of this information-technology transformation plan include a realignment of core functions and missions in WHCA, coupled with a myriad of technological upgrades.

Force transformation

Recognizing the need to create a more streamlined, fully modernized communications-support agency in response to the events of Sept. 11, 2001 – and the unprecedented levels of support for the president, vice president and first lady – WHCA recently reorganized to meet these demands. During this process, WHCA created five new subcommands. The first of these subcommands, the Washington Area Communications Command, is responsible for providing all telecommunication systems and services supporting the president, vice president, first lady, White House staff, U.S. Secret Service and White House Military Office located within the Washington, D.C., area.

Also, to meet these unprecedented levels of telecommunications support for the president's, vice president's and first lady's travel missions, three new presidential communication commands were created. Camp David, the agency's remote detachment at Thurmont, Md., was also re-flagged as a subordinate command, providing telecommunications support for the presidential retreat.

Sept. 11 also exposed challenges in providing secure, redundant communications support for the president and his staff. After the

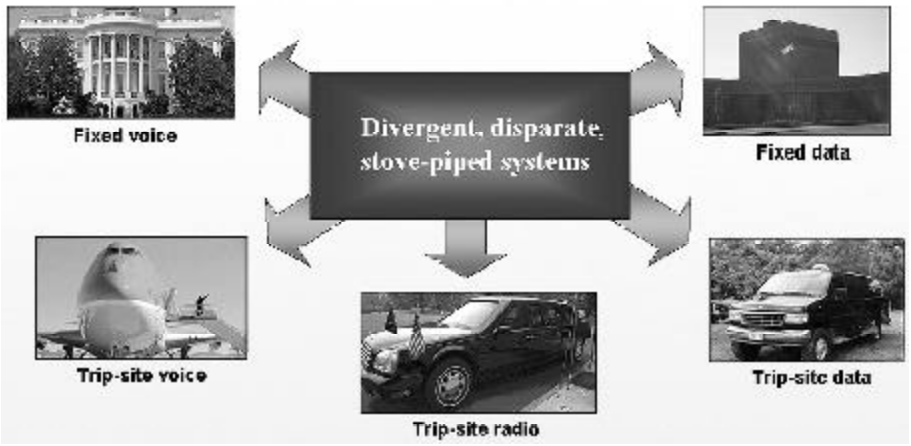

Figure 1. White House Communications Agency current support for daily operations.

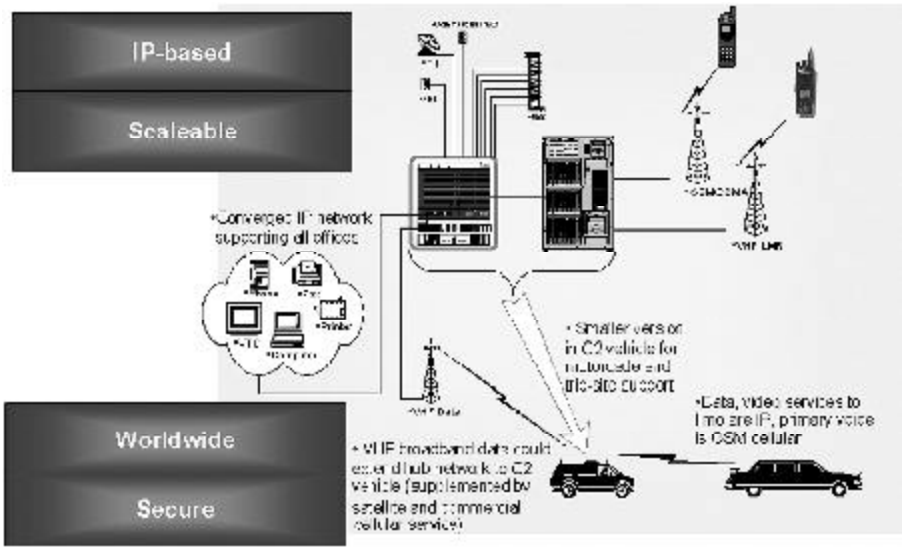

Figure 2. The illustration shows converging and streamlining network architectures into one seamless converged data and voice system.

initial attacks on the World Trade Center and the Pentagon, the White House staff was literally waiting in line to use secure communication lines. The immediate post "9-11" impact involving WHCA was a sudden surge in secure voice and data communication requirements. Mobilized by the September 2001 events, WHCA quickly assessed critical communications-support systems for the president and his staff. We realized that to provide an infrastructure that assures assured communications for the president and his staff under all threat scenarios, a substantial financial investment in IT equipment and services was required.

Systems supporting these missions must be redundant, secure and reliable in a global environment faced with significant information-assurance challenges, from day-to-day operations through crisis management and national-security emergencies. Therefore, the primary goal of providing the president and his staff with capabilities consistent with "corporate executives in the corporate environment" requires a major paradigm shift in the way WHCA currently does business to meet these requirements and the growing expectations from the president and his staff for instantaneous, global, secure, reliable and redundant communications support.

Figure 1 depicts how we currently support daily operations for the president and his staff. As this illustration indicates, we have separate infrastructures to support multiple voice, data, video and radio systems. Each of these systems requires an extensive amount of labor to install, operate and maintain. We don't have the personnel on hand to operate and maintain all these disparate systems. Couple this issue with support for our travel mission using the same limited personnel and equipment-support assets – we're facing a significant challenge in meeting those demands.

We currently deploy 20 personnel five days in advance to set up support for a presidential in/out mission in the continental United States. Support for our overseas events increases significantly, with an average of 45 personnel deploying three weeks in advance of a presidential visit to set up communications support. Therefore, by an infusion of new technologies, our goal is to reduce this operational footprint while simultaneously reallocating precious personnel resources and equipment to fulfill other critical missions.

By converging and streamlining our network architectures into one seamless converged data and voice system **Figure 2**, we can economize precious resources, reduce our operational footprint and provide significantly enhanced telecommunications support to the president and his staff. Specifically, a converged network will enable WHCA to integrate its five divergent networks into a single architecture supporting all voice/data/video requirements, while simultaneously expanding and improving service to the president and his staff regardless of location.

What we've done

Overhauling the agency's aged and failing legacy computer systems has been an ongoing project. Our most recent achievement in this endeavor was successfully fielding encryption cards and computer systems to WHCA and WHMO staff members for sending secure email transmissions. Upgrades to our special-mission circuit program include digitizing key communication links using secure-terminal equipment and installing voice-over-Internet-protocol voice/data equipment.

A new state-of-the-art communications trailer, recently installed at the president's ranch in Crawford, gives him the capability to record television messages and conduct both secure and unsecure videoconferences with his senior staff and advisers. Technical upgrades to Air Force One include installing live DirecTV, providing real-time information concerning world events to the president and his staff.

Also, events of 9-11 highlighted the criticality of our secure voice system and its vulnerabilities. A massive effort is currently ongoing to modernize our secure voice systems supporting the president and his staff. This includes new equipment and software upgrades, coupled with the installation of real-time monitoring technologies.

To enable real-time monitoring of deployed systems and assets,

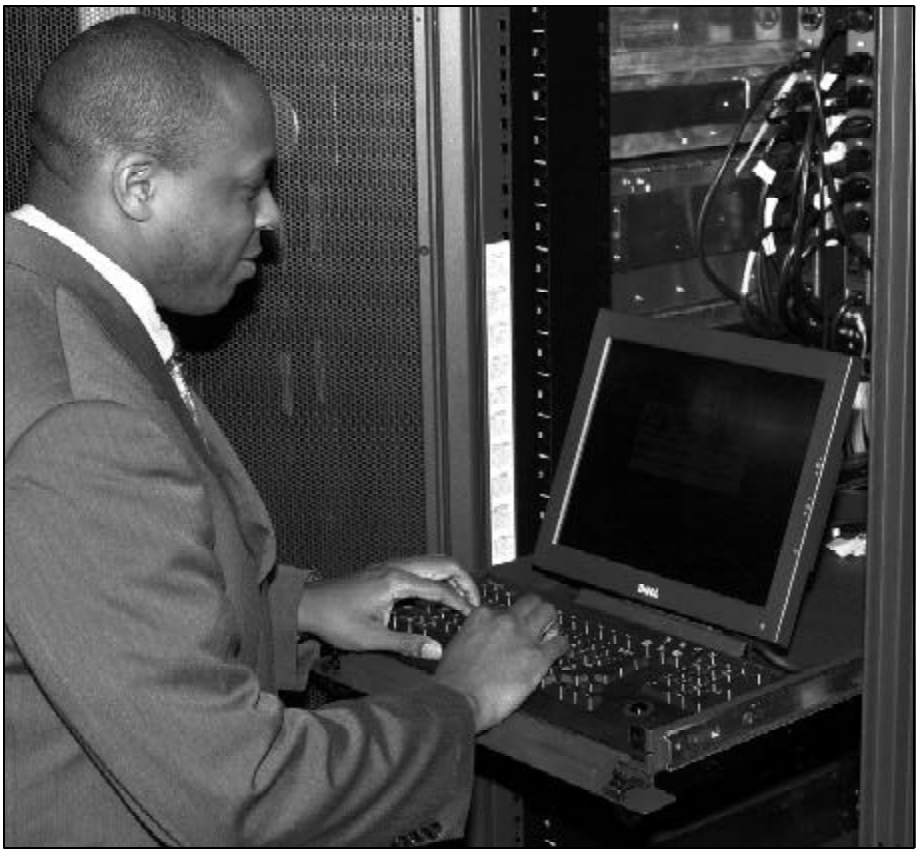

Figure 3. SGT Kaci Chambers, a 74B systems administrator assigned to White House Communications Agency's Intergration Systems Division, performs network server maintainence on the White House LAN.

WHCA network engineers designed a state-of-the-art operations center, modeled after the Defense Information Systems Agency's Global Network Operations and Security Center. This operations center stood up Sept. 1, 2002, providing 24 hours a day, seven days a week support for our travel and fixed communication sites. Embedded in this new command-and-control facility are network-monitoring tools and firmware systems, enabling our communications managers to make informed decisions in reallocating resources to meet priority needs.

Next steps

Through its government-industry partnership outreach program, WHCA is developing strategic partnerships with key government organizations and industry officials to fulfill these critical communications requirements for the president and his staff. These relationships bring the WHCA modernization team together with the strength and expertise of government agencies and industry to solve complex telecommunication problems. Cooperation through this initiative has yielded a variety of partnership opportunities including DISA, USSS, Navy Research Lab, National Security Agency, National Security Council, U.S. State Department, Cisco, Dell, Compaq, Avaya, Worldcom and SAIC – to name a few. Our ultimate goal in this endeavor is to reduce support costs and improve the readiness of WHCA's aging telecommunication systems through innovative government/industry partnerships.

Results of current teaming efforts with our industry partners include testing a myriad of wireless devices. Specifically, we're testing a new generation of high-speed mobile services including data-enabled wireless phones, virtual private-network systems, pagers, computers, printers and personal digital assistants using 802.11, infrared and Bluetooth technologies. As mobile computing and telephony converge, the challenge is to overcome the lack of robust authentication solutions to support these smart mobile devices. WHCA is currently working with NRL, NSA and leading industry counterparts to remove those obstacles.

The goal is developing and fielding an NSA-approved, secure encryption standard that provides end-to-end integrated security in wireless and wired environments for the president and his staff. A new mobile communications van is also in the pipeline to replace our aging Roadrunner fleet used to support presidential-motorcade movements. These state-of-the-art replacement vehicles are being developed with NRL's assistance. Envisioned is a highly capable, robust, mobile communications platform providing secure streaming video, data and secure communications to the presidential limousine and support vehicles.

The way ahead

As WHCA extends the boundaries of its new enterprise network to the president and his staff, a highly mobile, scalable, IP-based, secure communications infrastructure will meet those demands. This new infrastructure will enable us to reduce our operational footprint and rapidly disperse critical workforce (and other) resources to meet multiple mission requirements while simultaneously providing significantly enhanced telecommunications support to the president and his staff. Riding on our single-converged-network platform, these communication packages will provide increased bandwidth to our fixed and travel locations, secure commercial wireless-communications support and seamless network connectivity between fixed and travel locations.

Also, maximizing the use of commercial-off-the-shelf

Figure 4. SFC Thomas White Jr., a 31P assigned to the Whitehouse Communications Agency's Directorate of Operations, tests voice and video teleconference capabilities on deployable INMARSAT terminal and secure satellite Video TeleConference equipment.

telecommunication products and collaborating with industry / agency counterparts ensures that WHCA remains on the leading edge of proven, reliable and new technologies supporting the president and his staff.

LTC Hill commands WHCA's WACC. Past assignments include operations officer for the Defense Threat Reduction Agency at Fort Belvoir, Va., supporting the 2002 Winter Olympics in Salt Lake City, Utah. She also served as S-3 for 440th Signal Battalion, Signal officer for 1st Armored Division's Division Support Command and two assignments supporting Multinational Division-North communications in Bosnia. Her awards include the Defense Meritorious Service Medal and Bronze Order of Mercury. She has a bachelor's degree in education from Idaho State University and a master's degree in education from St. Mary's College, Leavenworth, Kan.

More reading

Webpage on WHCA provided on DISA's website, http://www.disa.mil/main/whca.html.

ACRONYM QUICKSCAN

DISA – Defense Information Systems Agency
IP – Internet protocol
IT – information technology
NRL – Navy Research Lab
NSA – National Security Agency
USSS – United States Secret Service
WACC – Washington Area Communications Command
WHASA – White House Army Signal Agency
WHCA – White House Communications Agency
WHMO – White House Military Office
WHSD – White House Signal Detachment

WHCA antecedents

To understand the rationale behind WHCA's recent reorganization initiative requires a quick history lesson concerning WHCA's presidential-support mission.

Signal Corps historical records reveal the installation of a radio system in the White House immediately following the bombing of Pearl Harbor Dec. 7, 1941. During this installation project, the chief Signal officer of the Washington Provisional Brigade (now known as Military District of Washington) selected 30 people – two officers and 28 enlisted soldiers – to operate and maintain this new radio system.

This small force was officially established March 25, 1942, as the White House Signal Detachment by orders from the War Department during the Roosevelt Administration. WHSD's mission was to provide, maintain and operate facilities for transmitting, receiving and safeguarding secure communications for the president during his travels and to assist the USSS in furnishing protection for the president.

Initially working out of the White House, WHSD provided communications support to the president through mobile radios, teletype machines, telephones and cryptographic aids. The Eisenhower Administration in 1954 saw the reorganization of WHSD under the office of the Chief of Signal, when WHSD was renamed the White House Army Signal Agency.

WHASA's role in providing presidential communications continued to expand through subsequent administrations to meet emerging requirements for communications support. This support included the addition of switchboard and photographic services, fixed radio and record communications, audiovisual support and publication services.

In 1962, WHASA disbanded by order of the secretary of defense under President John F. Kennedy, transferred to the Defense Communications Agency's auspices under WHMO's operational control and re-established as WHCA. During the course of several years and administrations, WHCA experienced a myriad of organization realignments in response to changing mission requirements.