



JCSE members ensure rapid connectivity to multiple users accessing network and deploying assets during operational exercise

## Joint Communications Support Element The Voice Heard 'Round the World

By KIRBY E. WATSON

In early January 2010, a catastrophic 7.0-magnitude earthquake rippled through Port-au-Prince, Haiti, affecting more than 3 million people and resulting in one of the worst natural disasters in history. More than 250,000 homes and buildings were destroyed including the Presidential Palace, National Assembly building, and headquarters of the United Nations Stabilization Mission in Haiti. Additionally, the earthquake knocked out communications systems and electrical networks that were essential to respond to the various needs of Haitian citizens during this time of extreme devastation.

Enter the Joint Communications Support Element (JCSE), which arrived in Haiti within 24 hours of the earthquake and provided the first joint and secure communication capabilities in the country. JCSE communications equipment enabled the Haitian government to communicate with the U.S. President, Secretary of Defense, Chairman of the Joint Chiefs of Staff, and Department of State to identify the way ahead for relief operations. In

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Colonel Kirby E. Watson, USA, is Commander of the Joint Communications Support Element at MacDill Air Force Base.

addition, JCSE provided the initial secure voice, network, and video-conference capabilities for Joint Task Force (JTF)—Haiti commander, Lieutenant General Ken Keen, USA, and his staff. Without JCSE's ability to provide these essential communications

in 2011, both the JECC and its subordinate commands were reassigned to U.S. Transportation Command.

Despite JCSE's continuous evolution over the last 50 years, the essence of the original CSE mission has remained at the

ernment in June of 1979. Within 14 hours, JCSE had provided secure communications to USS *Wainwright* and USS *Saipan* in the vicinity of the Panama Canal.

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capabilities in the time period immediately following the earthquake, it is possible that U.S. humanitarian assistance efforts may not have been as successful.

This article demonstrates that communications during a disaster relief operation is only one of the many mission sets that JCSE is prepared to support. With over 50 years of joint communications experience across the full spectrum of military operations, JCSE has earned the designation of the "Voice Heard 'Round the World."

### The Establishment of JCSE

JCSE, a subordinate command of the Joint Enabling Capabilities Command (JECC), was originally established at MacDill Air Force Base, Florida, in 1961 as the Communications Support Element (CSE) under the now disestablished U.S. Strike Command (USSTRICOM). With just over 400 Air Force and Army personnel assigned, the CSE was established to serve as a quick response communications unit during crisis and contingency operations. In 1972, the Navy and Marine Corps joined the CSE, and it was appropriately redesignated as JCSE. Operational control was transferred to the Joint Chiefs of Staff while U.S. Readiness Command (USREDCOM) gained responsibility for administrative and logistical support. At the deactivation of USREDCOM in 1987, administrative control of JCSE was reassigned to U.S. Central Command (USCENTCOM) where it remained until 1998 when it transferred to U.S. Atlantic Command (which transitioned to U.S. Joint Forces Command [USJFCOM] in 1999) along with operational control. In 2008, the JECC was established and JCSE became one of its three subordinate commands. Following the disestablishment of USJFCOM

forefront. JCSE's persistent focus on expeditionary, joint communications support has taken it all over the world to assist in some of the most highly publicized U.S. military operations of the last half century.

### Ever-changing Mission

When JCSE was initially stood up in 1961, each branch of the Armed Forces already maintained its own signal/communications units. However, those resources were typically pre-designated for specific mission sets and therefore could not meet the demand for joint or multi-Service crisis operations. JCSE was established to fill this gap as a dedicated communications resource for short-notice contingency operations. Additionally, as a multi-Service and eventually a fully joint unit, JCSE had the unique ability to enable commanders to communicate across multi-Service platforms and leverage the most efficient means of communication to accomplish the mission.

Within the first two decades of its existence, JCSE's two original Active-duty squadrons—the 1<sup>st</sup> and 2<sup>nd</sup> Joint Communications Squadrons (JCS)—employed their expertise to a variety of military operations including:

- Support to the commander of JTF-Leo in the Democratic Republic of the Congo in 1964. JCSE established the initial communications connectivity from JTF-Leo to the commander of USSTRICOM.

- The international peacekeeping force organized to counter the rebel invasion of southern Zaire in 1978. JCSE provided a communications link for the former Military Airlift Command between Zaire and Corsica.<sup>1</sup>

- The evacuation of U.S. citizens from Nicaragua under the fall of the Somoza gov-

As word of the element's capabilities spread throughout the Department of Defense (DOD), the demand for JCSE increased exponentially. Additionally, in the mid-1980s, JCSE adjusted its mission to provide concurrent joint communications support to more than one commander. Specifically, this included direct JCSE support to two JTFs and two joint special operations task forces simultaneously. For JCSE to provide communications to multiple, simultaneous missions, two Air National Guard units—the 224<sup>th</sup> and 290<sup>th</sup> Joint Communications Support Squadrons—were aligned to the JCSE mission.

Over the next few years, JCSE solidified its position and value within DOD during various noteworthy operations such as:

- Operations *Desert Shield/Desert Storm*: JCSE provided the communications between the in-theater forces and the commander of USCENTCOM.

- Operation *Restore Hope*: JCSE provided a package capable of supporting a JTF with satellite communications, secure voice, facsimile, and telephone.<sup>2</sup>

- Operation *Support Hope*: JCSE provided essential communications support to the JTF headquartered in Entebbe, Uganda.<sup>3</sup>

Within the past 10 years, JCSE's primary focus has been on operations in the USCENTCOM area of responsibility following the attacks of 9/11 and the subsequent war on terror. JCSE members were deployed within weeks of 9/11 and were actively involved in operations in Afghanistan barely 2 months later. JCSE troopers were some of the first military responders to arrive in Iraq to support Operation *Iraqi Freedom* in March of 2003 and have since maintained a continuous presence in the country throughout that operation (March 2003—August 2010) and the duration of the follow-on mission, Operation *New Dawn* (September 2010–December 2011). Over 2,000 JCSE members have rotated through Iraq in support of these operations, and as U.S. troops withdrew from Iraq following the completion of *New Dawn* on December 15, 2011, the final three JCSE members in Iraq deployed to home station,



JCSE team sets up Deployable Joint Command and Control system

thus ending JCSE's uninterrupted support to a mission that spanned almost 9 years. Additionally, since March of 2002, JCSE has provided continuous communications to joint and special operations forces units in various locations throughout Pakistan, Afghanistan, and elsewhere for multiple missions stemming from Operation *Enduring Freedom*.

In March 2005, JCSE was tasked as a global joint force command, control, communications, and computer (C4) enabler. Reorganizing existing resources to add another Active-duty squadron (3<sup>rd</sup> JCS), JCSE was postured to support this new role. The 4<sup>th</sup> JCS, an Army Reserve squadron, was added in 2006 to bring additional strategic depth and flexibility supporting the successful execution of the JCSE mission.

In 2008, the JECC was established to provide rapidly deployable, mission-tailored joint capability packages to combatant commanders in order to facilitate the rapid establishment of joint force headquarters, fulfill

Global Response Force execution, and bridge joint operational requirements. Currently commanded by Rear Admiral Scott Stearney, USN, the JECC offers a highly skilled team that rapidly increases joint force command and control capability at the operational level of a newly formed joint force headquarters. In addition to JCSE, the JECC also gained two other subordinate commands upon its establishment: the Joint Public Affairs Support Element and Joint Planning Support Element.

Additionally, in 2008, the Secretary of Defense tasked JCSE with the maintenance and operation of the Deployable Joint Command and Control (DJC2) systems for U.S. Pacific Command (USPACOM), U.S. Southern Command (USSOUTHCOM), U.S. European Command, and U.S. Africa Command. The DJC2, an integrated command and control headquarters system, can provide unclassified/classified network access to a full JTF of up to 1,500 users. If a full JTF is not needed, the versatile DJC2

system can be broken down into reduced portions to provide communications to small mobile missions or midsize JTFs. These condensed packages have the same functionality as the full DJC2, only on a smaller scale. To support the aforementioned geographic combatant commands, JCSE maintains direct support detachments of 16 members, each responsible for the maintenance and employment of the DJC2 at their respective command headquarters. When additional support is needed, JCSE can deploy a surge team of 10 members, who are also trained on the DJC2 system and can fall in on the detachments for extra assistance. Since being tasked with the DJC2 mission set, each of the combatant commands' DJC2 system has been used during both Chairman of the Joint Chief of Staff's exercises and real-world operations.

Most recently, USPACOM deployed its DJC2 system and detachment to Yokota Air Base in support of Operation *Tomodachi*, the

humanitarian assistance operation following the March 2011 earthquake, tsunami, and subsequent nuclear disaster in Japan. Once notified, it took the JCSE team approximately 72 hours to forward deploy and have the DJC2 system set up and fully operational. The communications provided to the joint force commander, which included unclassified and classified network access and video-conferencing, was critical to ensuring the military units could communicate quickly and effectively during relief efforts.

### Revolutionizing Military Communications

Early in its history, JCSE began working with industry to develop joint solutions. This practice—along with JCSE's ability to rapidly test, integrate, and field the latest communication technologies—led the Joint Chiefs of Staff to initiate a JCSE modernization program equitably funded by each Service. JCSE's modernization program integrates emerging technology into certified systems to fill gaps in joint force C4. JCSE partners with commercial industry to integrate, test, and certify C4 systems based on commercial off-the-shelf technology and equipment. After obtaining formal

One of the major contributing factors in this significant reduction of both manpower and equipment was JCSE's initiation of the "Everything over Internet Protocol" (EoIP) communications architecture. Legacy communications systems used circuit-based networks that required serial cabling and consumed large amounts of valuable bandwidth dedicated to specific communication services. The EoIP architecture sends communication services over IP satellite modems that allocate bandwidth as required, resulting in a pool of available bandwidth and increasing user flexibility to change between communications services on demand.

JCSE's transition to EoIP technology, led by the operational and technical vision of Colonel Thomas Hopkins, USA, the JCSE commander from 2004 to 2007, enabled the element to radically condense its communications packages into smaller and more deployable entities that were increasingly cost efficient and resulted in a more effective and flexible network for joint forces.

An additional advantage of the EoIP technology is the ability for JCSE to tailor its communications packages to a fluid, developing mission. During the initial formation of a JTF, JCSE normally deploys a

Honoré, USA (Ret.), the JTF-Katrina commander. A small executive communications kit was designed specifically for the mission to provide 24/7 access to secure/nonsecure voice, data, and Internet via the EoIP architecture. The kit, which Honoré took with him wherever he traveled, allowed him to sustain command and control of the numerous agencies supporting the relief efforts.

JCSE uses a bottom-up approach in designing, testing, fielding, and sustaining its capabilities. This approach is focused on small unit deployments at the tactical edge for proof of concept while planning for scalability to larger size deployments and operations up to a JTF headquarters. This approach also emphasizes the on-scene commander as primary mission support.

JCSE uses its unique strengths to rapidly field sustainable, certified solutions meeting joint force requirements. It does this by:

- building on the vast amount of knowledge and experience in planning, executing, and supporting joint force missions
- collaborating within the joint C4 community to identify requirements unique to the dynamic tactical environment
- leveraging JCSE ability to field solutions through the acquisition process.

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to provide the necessary capabilities*

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Joint Staff interoperability and information assurance certification, JCSE's lightweight and highly mobile systems are completely interoperable with Service communications equipment and capabilities.

Over time, this modernization program has enabled JCSE to create communication packages that are consistently smaller, lighter, and faster than previous iterations. The goal is not only to make the equipment more reliable and efficient, but also to reduce the size and footprint of the equipment, as well as the personnel needed to move and operate communications packages. For instance, 40 years ago, a communications package servicing 20 users weighed more than 30,000 pounds and required a C-130 aircraft to transport. Today, a comparable package can fit into four airline checkable cases and weighs less than 300 pounds.

small package that supports just five users. However, as the JTF increases operational capability and additional forces begin arriving, JCSE can scale that same basic package to support up to 1,500 users without any interruption to service.

JCSE's rapid integration of this technology was particularly important during the disaster relief operations following the devastating effects of Hurricane Katrina in 2005. The destruction of the storm left the Gulf coast without much of its communications infrastructure, and it was imperative that senior military leaders, who were challenged by the intermittent operations of land/cellular phone lines and commercial Internet, had the ability to communicate quickly and reliably.

JCSE took this opportunity to employ an innovative EoIP communications package to support Lieutenant General Russel L.

As JCSE's mission expanded over the past few years, DOD has entrusted the management and employment of various communications assets to the element. As the leader in global C4 capabilities, it was only fitting that JCSE have a major role in these evolving technologies.

In partnership with the Defense Information Systems Agency (DISA), JCSE maintains the Defense Information Systems Network-Tactical Edge (DISN-TE), a global enterprise network capable of supporting all combatant commands. This network was established to integrate, manage, and control a wide variety of communications interfaces between the network and deployed tactical satellite C4 assets. DISN-TE is an EoIP enhancement of the existing Standard Tactical Entry Point (STEP)/Teleport reachback service consistent with the overall structure of the Global Information Grid (GIG) architecture and GIG master plan as formulated by DISA. DISN-TE encompasses telecommunications collection and distribution points that provide deployed warfighters with multiband, multimedia, and worldwide access.



Soldiers establish connectivity after airborne jump during combined tactical warfighting training

The system provides extended connectivity via multiple military and commercial satellite communications frequencies and increases overall capability. Along with DISA, JCSE operates eight DISN-TE sites around the world and therefore can provide the deployed warfighter with a level of support that is unmatched elsewhere in DOD.

### Responsibility for Unique Missions

The current national security environment has increased the number of “no-notice” JTFs that are needed to support a wide range of operational and humanitarian missions. Although these operations feature a wide variety of forces, organizations, and mission sets, they share a common need for rapid deployment of communications capabilities to establish effective command and control in the shortest time possible.

Since the JCSE mission set spans theater strategic, operational, and tactical levels, it needs to be flexible enough to respond to whatever mission it is tasked with. JCSE

has succeeded in this arena by developing a versatile concept of operations that can be applied across the full spectrum of military operations. From small, mobile team missions to full-sized JTFs, JCSE can deploy assets rapidly and scale support to provide the necessary capabilities.

Additionally, as part of the Global Response Force, JCSE is the premier source for a joint force commander’s immediate and early entry C4 capability. In compliance with the guidelines outlined in the Global Response Force Execute Order, JCSE maintains an alert-postured force that can deploy and have its communications packages fully operational within hours of notification for an emerging requirement.<sup>4</sup>

### Delivering Capabilities to the Joint Force

All JCSE operations are performed within the context of ensuring reliable and secure delivery of both capability and readiness across the full spectrum of military operations in multiple domains. On a

daily basis, JCSE executes three essential “no fail” tasks:

- operate, secure, and manage a global network supporting distributed operations (conventional forces) and global pursuit (special operations forces)
- understand operational and technical requirements across geographic combatant commands and U.S. Special Operations Command to deliver near-ubiquitous communications and services in all combatant command theaters
- prepare technically and tactically task-organized teams across the full spectrum of operations in ground, maritime, air, and cyber warfighting domains.

Within the framework of these three persistent tasks, JCSE has pursued several initiatives aimed at setting conditions for success in the future joint operational environment. JCSE’s primary focus areas for future operations are enabling joint force mobility and conducting joint cyber operations.

**Enabling Joint Force Mobility.** A current focus of JSCE is to develop, test, and field capabilities to enhance joint force mobility. Mobility applies to both the physical and electronic components of the ground, maritime, and air domains.

With regards to physical components, JCSE enables mobility through its reliable, secure, and lightweight communications equipment packages. These commercial

is designed to minimize the time required to transfer the equipment between different UAV platforms. JACS V3 also provides reach-back capability to a tactical operations center through an embedded Ku-band radio. JACC/CP provides the joint force with in-flight/enroute secure voice and data communications on board C-130 and C-17 aircraft. JACC/CP supports a command and control element of up to 14 people.

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off-the-shelf systems are easily transported and activated at the deployed location. The systems, designed to be displaced with little effort and minimal service disruption, have a sufficiently small footprint allowing for the use of commercial transportation as much as possible.

Ensuring mobility for electronic components includes having the ability to support distributed and maneuver element operations while maintaining access to required information. JCSE can provide mobility for both physical and electronic components throughout the ground, maritime, and air domains.

In the *ground domain*, JCSE enables joint force mobility through its small, lightweight, and scalable communications packages. The Initial Entry Package (IEP), Early Entry Package (EEP), and Joint Mobility Package provide secure and nonsecure voice, video, and data to small mobile teams operating worldwide. The IEP and EEP can be rapidly scaled to meet force surge requirements from small dismounted teams up to an advance echelon joint headquarters of 40 users. GIG services are extended to the deployed location through connection to JCSE's DISN-TE gateways located at selected STEP locations.

In the *airborne domain*, JCSE enables mobility through its Joint Airborne Communications System (JACS) and Joint Airborne Communications Center/Command Post (JACC/CP). JACS provides an airborne radio relay connection for VHF and UHF communications range extension and relay. JACS Version 2 operates from either a C-12 or C-130 airframe. JACS Version 3 (V3) increases operational flexibility by operating from an unmanned aerial vehicle. JACS V3

In the *maritime domain*, mobility is enabled by a maritime variant of JCSE's lightweight communications kit. The maritime variant provides connectivity and services to an embarked JTF headquarters. As a platform agnostic system, the maritime variant is a critical component of JCSE's integrated architecture for supporting distributed operations in the maritime domain and helps meet joint force requirements for:

- aerial layer networking to an extended range of maritime communications
- increased intelligence, surveillance, and reconnaissance receipt and dissemination throughout the operating area
- connectivity to the supported geographic combatant command headquarters
- information exchange with special operations forces
- information exchange with coalition partners
- reachback to national-level intelligence assets in the continental United States
- network operations covering all combined JTF operations and network nodes
- enroute planning and communications capability.

#### **Conducting Joint Cyber Operations.**

JCSE's joint cyber operations take place in an operating environment where threats to mission accomplishment are growing in both complexity and frequency. Threats to cyber assets can be internal or external and caused by natural or manmade events. Adversaries have demonstrated an ability and willingness to use cyberspace to deny, degrade, or disrupt friendly force communications and information flows.

JCSE applies operational art to the cyber domain by following four principles:

- define the cyber battlespace to identify the joint area of influence and area of interest
- comprehend friendly networks to baseline network performance and behavior to support anomaly detection
- train the force through an integrated training curriculum, including both industry- and military-focused education, knowledge, and experience
- link cyberspace to intelligence and operational activities by integrating cyber intelligence support into mission planning and operational processes.

#### **Value Beyond the Battlefield**

Part of what makes JCSE stand out from other communications units is the 24/7 reachback support it provides. In addition to its world-class communications equipment, JCSE ensures reliable communications through its Joint Network Operations Center (JNOC), maintained from its headquarters at MacDill Air Force Base. The JNOC employs, operates, and defends the DISN-TE enterprise 24/7, while providing assured network availability, information protection, and delivery across the full spectrum of operations. Moreover, it provides the only military-specific communication network using EoIP technology. Essentially, the JNOC is JCSE's heartbeat for real-time situational awareness.

In addition to the JCSE communications packages that were deployed to support JTF-Haiti, the value of the JNOC was validated during this operation. The JNOC worked diligently with USSOUTHCOM, DISA, and JTF-Global Network Operations to establish a common operation picture as well as a network operations management capability for JTF-Haiti. This capability, known as the Joint Network Operations Control Center (JNCC), essentially provided full network situational awareness by monitoring networks from all the Services supporting JTF-Haiti with a specific focus on maintaining information assurance and network defense. The use of the JNCC was the first time that this level of coordination and visibility had been available during a large-scale operation and was critical to the mission's success.

## Key to Continued Success

JCSE's success is a direct result of the combined efforts of its highly trained, dedicated, and professional members. Fortunately, JCSE's stellar reputation allows it to seek out only the best network and system administrators, satellite and field radio operators, and data network specialists from each Service. For those personnel in a communications specialty, a position at JCSE is a desirable stepping stone that often leads to key assignments when they return to their respective Services.

With an ever-increasing operational tempo, JCSE's Servicemembers, especially noncommissioned officers (NCOs), have taken on more responsibility and an enhanced leadership role. JCSE NCOs participate in planning and operational support at a level that previously would have been reserved for more senior personnel. NCOs and junior enlisted personnel at JCSE pass through a screening process to ensure they are up to the task. They receive technical and leadership training from Service schools, as well as additional training from industry. Continual emphasis is placed on planning, training, and execution at the team level. JCSE NCOs have exceptional flexibility in identifying those areas in which their teams need additional training and then designing those training programs.

Additionally, JCSE offers an opportunity for enlisted personnel to earn joint experience. A troop may work with or for NCOs from each branch of the Armed Forces, contributing to a well-rounded and comprehensive understanding of the various communication capabilities of each Service. This thorough joint expertise is not only a fundamental benefit during JCSE deployments, but it is also a knowledge base that troops can employ during future assignments with their own Services.

A position within JCSE is rewarding because of the opportunity for members to excel and hone their skills. JCSE affords members the freedom to identify areas in which they may want to gain additional knowledge and then fully supports them in their endeavors. Regardless of the member's Service branch or position in the element, JCSE leadership encourages cross-training, initiative, ambition, and invention and vows never to hinder or deter a member who shows passion for furthering his knowledge and training.

The element's unique position allows it to leverage all Service schools. Troops assigned to JCSE can expect to have opportunities to attend the airborne and air assault schools, along with pathfinder, survival, evasion, resistance, escape training, mountain warfare training, and various Service technical schools. JCSE members train extensively on commercial telecommunications systems and obtain civilian certifications on operation and protection measures for hardware and software.

Former JCSE members have taken such pride in their time and experiences that they founded the JCSE Veterans Association in 2001. With over 300 members currently, the association connects members of JCSE and its squadrons, both past and present. In addition to maintaining a detailed account of JCSE's history, the organization supports current Servicemembers and their families through scholarship programs and fundraising events.

The Joint Communications Support Element is regarded as the center of excellence in joint military communications. Its communication/equipment packages are cutting edge, its services are extremely reliable, its members are the most highly skilled, and its performance is flawless. JCSE's exceptional communication technology and service already has or soon will impact every single member of the Armed Forces. As technology advances at an increasingly rapid pace in the next few years, JCSE will be sure to remain at the forefront to lead the charge as the Voice Heard 'Round the World. **JFQ**

## NOTES

<sup>1</sup> Military Airlift Command was inactivated in June of 1992, and its remaining personnel and resources were reassigned to the Air Mobility Command.

<sup>2</sup> Operation *Restore Hope* was the 1992 U.S.-led intervention into Somalia to establish a secure environment for humanitarian relief operations.

<sup>3</sup> Operation *Support Hope* was the 1994 U.S. military effort to provide humanitarian assistance to refugees of the Rwandan genocide.

<sup>4</sup> Chairman of the Joint Chiefs of Staff Global Response Force Executive Order Mod 2 DTG:272126Z September 2012 (SECRET).



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## Strategic Forum 278

*Offshore Control: A Proposed Strategy for an Unlikely Conflict*

By T.X. Hammes

This paper is the start of what the author hopes will be a deep, wide-ranging discussion of potential strategies for a conflict with China. While such a conflict is undesirable and highly unlikely, it is driving many of the Pentagon's investment decisions today. Under a proposed strategy of "Offshore Control," the United States would work with Asia-Pacific nations to interdict China's energy and raw material imports and industrial exports, while protecting our partners. This strategy would have several advantages: it would slow a crisis down, reducing escalatory pressure on decisionmakers; align U.S. strategic requirements with the resources available; take advantage of Pacific geography to provide strategic, operational, and tactical advantages for U.S. forces; provide a way for the conflict to end that is consistent with previous Communist Chinese behavior; and finally, provide for conflict resolution that does not require an unobtainable "decisive" victory.



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