

DISA

**Defense Information Systems Agency
Joint Interoperability Test Command**

DoD INTEROPERABILITY

DICE

COMMUNICATIONS EXERCISE

FY 2010 FINAL REPORT

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Department of Defense Interoperability Communications Exercise
For information or to obtain copies, please contact
dicefals@disa.mil



**Department of Defense Interoperability
Communications Exercise
DICE
FY2010 FINAL REPORT**

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DoD Interoperability Communications Exercise FY2010



DEFENSE INFORMATION SYSTEMS AGENCY

P. O. BOX 4502
ARLINGTON, VIRGINIA 22204-4502

IN REPLY
REFER TO Commander (JT)

MEMORANDUM FOR DISTRIBUTION

SUBJECT: DICE FY 2010 Final Report

1. This report summarizes the assessment of the communications systems which participated in the Department of Defense (DoD) Interoperability Communications Exercise (DICE) during FY10. The DICE Final Report highlights the interoperability achievements and capabilities of all organizations and systems that participated in the three DICE events during the fiscal year. It features those communications systems which earned joint interoperability certifications, systems that underwent Joint Interoperability Test Command (JITC) assessments, systems that demonstrated emerging technologies, and communications systems that provided support during the exercise.
2. The DICE program enhances combat effectiveness and supports investment decisions in Warfighting, National Intelligence, and Business mission areas. As the report highlights, DICE 2010 was highly successful and provided enhancements in each of these mission areas.
3. The information contained within this final report provides detailed information of not only systems tested for certification and/or assessment, but also procedures and information relevant to the DICE program and its execution. Building on the successes of 2010, DICE 2011 promises to satisfy the ever greater interoperability challenges of DoD and the Department of Homeland Security.




JOSEPH F. PUETT, III
Colonel, USA
Commander, JITC

EXECUTIVE SUMMARY: Fiscal Year 2010 in Review

The Department of Defense (DoD) Interoperability Communications Exercise (DICE) is a tri-annual event supported by the Joint Staff and the United States Joint Forces Command (USJFCOM). Joint Interoperability Test Command (JITC), an organization within Defense Information Systems Agency (DISA), is the DoD's interoperability certification authority. JITC conducts DICE in support of DoD joint interoperability testing, training, and transformation initiatives.

DICE Fiscal Year 2010

DICE Fiscal Year (FY) 2010 activities consisted of system interoperability events in one or more of the following categories:

- Interoperability Certification
- Interoperability Assessment
- Network or System Support
- Interoperability Training
- Technology Demonstration

DICE FY10 Schedule

Event	Date
FY10-01	19 October through 6 November 2009
FY10-02	01 March through 26 March 2010
FY10-03	07 June through 25 June 2010

DICE FY10 participants included the United States Air Force, United States Army, United States Marine Corps, United States Navy, Department of Homeland Security, and other joint agencies, including DISA, USJFCOM, and United States Northern Command (USNORTHCOM), and various representatives from the emerging technology vendor community.

DICE FY10 Summary

Thirty systems participated in one or more of the three DICE FY10 events. Because some systems participated in multiple DICE events, when the outcomes of all three events are combined, a system may be counted more than once in the following overview:

- Twenty-five systems completed interoperability certifications and/or assessments
- Three systems supported testing by connecting to systems under test
- Three systems participated for training opportunities
- Three systems demonstrated new and emerging technology



Systems under test during DICE are provided resources to include mobile testing facilities, power, and real estate.

DICE MISSION, VISION, AND GOAL

Mission Statement

To serve as the DoD's premier joint interoperability testing venue to test the net-readiness of DoD Information Technology (IT) and National Security Systems (NSS) in support of rapid acquisition and fielding of net-centric warfighting capabilities.

Vision

JITC conducts DICE in support of DoD joint interoperability testing, training, and transformation initiatives, with a primary focus to mitigate operational risk by thoroughly testing new DoD IT and NSS and software releases in a realistic, joint tactical and strategic network.

Goal

DICE is the only DoD exercise with a primary goal to generate system-level, joint interoperability assessments and certifications to support the fielding of interoperable systems to the warfighter.



Typical system under test set-up utilizing JITC and DICE resources.

DICE OBJECTIVES

To meet the established DICE FY10 mission, vision, and goal, DICE FY10 focused on four primary objectives:

- Interoperability Venue
- Joint Task Force (JTF) Communications Architecture
- Consistent Testing Processes and Procedures
- DISA Campaign Plan Support

Interoperability Venue. Provide participants a venue to test the interoperability of new and developing communications systems and capabilities available to DoD organizations before fielding. Interoperability testing is ESSENTIAL to communications success for the warfighter.

With focus on the net-readiness of DoD IT and NSS to support rapid acquisition and fielding of net-centric warfighting capabilities, DICE used its extensive network resources and Subject Matter Experts (SMEs) to provide a realistic communications environment in support of the participants' efforts to resolve real-world interoperability issues. DoD IT and NSS interoperability includes both the technical exchange of information and the end-to-end operational effectiveness of that exchanged information, as required for mission accomplishment. Interoperability is more than just information exchange; it includes systems, processes, procedures, organizations, and missions over a system's life cycle and must be balanced with information assurance.

Potential joint interoperability test/assessment outcomes include:

- Joint Interoperability Test Certification – Successful integration and conduct of joint interoperability testing on systems.
- Joint Interoperability Test Assessment – Successful conduct of developmental assessments that may not conclusively qualify for a certification, but may provide valuable insight into possible future uses or capabilities.
- Joint Interoperability Training – Successful opportunity to develop mission performance-oriented training by developing users' interoperability skills with current and legacy communications equipment and systems in a joint environment.



The U. S. Marine Corps AN/TSQ-227A Digital Technical Control – Refresh system tested during DICE FY10-01 for Interoperability Assessment.



The U.S. Army Tactical Satellite Communications Terminal AN/TSC-93E tested during DICE FY10-03 for Interoperability Certification.



The U.S. Marine Corps Modular Advanced Quad-band Antenna connected to their Lightweight Mobile Satellite Terminal and tested WGS cross banding during DICE FY10-01 from Marine Corps Tactical Systems Support Activity, Camp Pendleton, CA.

JTF Communications Architecture. Employ a robust, operationally and doctrinally realistic joint architecture that provides the necessary opportunities to vigorously exercise and evaluate voice, data, and video services, both classified and unclassified, and interfaces critical to joint operations.

For each DICE event, the JITC Joint Test Facility and DICE replicates a JTF communications architecture using the Chairman of the Joint Chiefs of Staff Manual 6231 (i.e., a Manual for Employing Joint Tactical Communications), the Theater Joint Tactical Networks Operational Area Network, the Joint Technical Architecture, and the guidance provided in the DoD Unified Capabilities Requirements.

Establish a JTF communications architecture for the systems to connect to and test within an operationally realistic tactical and strategic environment as opposed to a test-laboratory-only environment, providing the system under test and the warfighter a complete picture of capabilities, problems, and risks. By adding this complexity to each event, credible system performance within the Global Information Grid (GIG) and in the operational environment is revealed.

Consistent Testing Processes and Procedures. Assist each participant during the planning process in conjunction with their JITC Capability Test Team (CTT). During this process, detailed test plans, schedules, and diagrams are developed and refined to ensure that upon commencement of the planning process, the networks and service connections are established and operational.

Commit time, money, and resources to expand current testing networks into a more robust information enterprise; provide automated testing tools; and increase the SMEs' skill sets with the goal of establishing processes and procedures that provide participants test data focusing on quality results rather than quantity.

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Offer joint testing guidelines that provide common test objectives, criteria, and a set of standardized data parameters, allowing the JITC CTT to perform, analyze, and report in a consistent manner and to produce valid data (i.e., comprehensive, accurate, reliable, and repeatable). These joint testing guidelines offer information in a common format with a common meaning.

DISA Campaign Plan Support. In January 2010, Lieutenant General Carroll Pollett, DISA Director, announced and published the DISA Campaign Plan 2010. In this plan, DISA “recognizes we must invest in the future and sustain the capabilities and services we provide, with the implicit need to deliver our capabilities and services more efficiently.”

To deliver capabilities and services specific to interoperability more efficiently, DICE is developing and refining a hybrid of manual and automated test methods to produce consistent, repeatable, and sound interoperability test and evaluation strategies.

DICE FY10 TRENDS, ISSUE, and LESSONS LEARNED

Trends

During DICE FY10, the DICE team recognized the following trends:

- Automated Testing Capabilities
- Wideband Global SATCOM (WGS) – Ka-band Testing
- Split-base/Reach-back Concept
- Tactics, Techniques, and Procedures (TTPs)

Automated Testing Capabilities. During DICE, participants had the opportunity to use automated test tools for their interoperability testing. The JITC CTT used tools (e.g., the Abacus 5000, Sage 960B, Agilent, Fireberd, and BrixWorks) to produce reliable and repeatable results. Automated test tools and testware are essential to the test and analysis of Internet Protocol (IP)-based systems from a performance and functionality basis. The performance attributes of these tools address the system’s timeliness, accuracy, completeness, and usability of data and information exchanges, providing qualitative test outcomes.



The U.S. Army Terminal High Area Altitude Defense (THAAD) Voice Communications System, sponsored by the THAAD Program Manager, tested for Interoperability Assessment during DICE FY10-02.

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WGS - Ka-band Testing. During DICE FY10, participants started to take advantage of the increased WGS coverage over the Continental United States (CONUS) to complete Ka-band testing of their systems. All WGS satellites provide both

military Ka-band and X-band access on the same platform and the ability to cross-band. They also support the military Global Broadcast Service.

Customers are now able to access a portion of the wideband spectrum previously unavailable to them within CONUS, although coverage is limited primarily to the west coast (WGS-1) and east of the Mississippi River (WGS-3). WGS-2 covers all of Europe, Africa, and most of Asia; WGS-4, -5, and -6 are presently under construction with target launch dates between December 2011 and February 2012.

The Marine Corps Tactical Systems Support Activity (MCTSSA) in Camp Pendleton, California, conducted Ka-band testing during the DICE FY10-01 event. Using the AN/TSC-65 and the Modular Advanced Quad-band Antenna, systems demonstrated the transmission of voice and data services over Ka-band and cross banding X-band and Ka-band.

As of May 2010, the JITC Washington Operations facility at Indian Head, Maryland, also has the capability to access WGS.

Split-base/Reach-back Concept. Today's split-base/reach-back concept requires systems to obtain their logistics and administrative support from both home bases and deployed locations. Many systems rely on reachback to home bases not only for unit support, but for extension of Defense Information Systems Network (DISN) services. Also, systems position communications equipment at different locations from where they are deployed, allowing a system to be deployed faster and to be lighter in weight.

USNORTHCOM had four systems undergo certification testing during the DICE FY10-02 event. USNORTHCOM populated two teleport sites with equipment for reach-back capabilities of the deployed systems.

TTPs. DICE continues to serve as an excellent training opportunity to refine TTPs. The United States Air Force South/A6X Planner Theater Deployable Communications (TDC) – Initial Communications Element version 3 (ICEv3) was tested in DICE FY09 and received a Joint Interoperability Test Certification before fielding and unit acquisition. During DICE FY10-02, the Program Management Office brought the TDC-ICEv3 to the DICE event to train personnel on the system in an operational environment. The unit developed specific exercise scenarios to train their personnel on the unit's newly received equipment and participated from both JITC Fort Huachuca, Arizona, and their home station at Davis-Monthan Air Force Base, Tucson, Arizona.

DICE FY10-01 also enabled the United States Coast Guard to polish their communications systems skills specific to their Communications Area Master Station Pacific Transportable Communications Central.

Issue

During DICE FY10, the primary issue that occurred during each event was related to Information Assurance (IA).

IA. The DoD continues to emphasize military communications security; therefore, the most significant obstacle for systems seeking joint interoperability certification or assessment is IA. Approximately 70 percent of systems participating in DICE FY10 were not fully IA compliant with current IA guidelines and standards. The top seven reasons for IA noncompliance are:

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- Centrally managed systems or equipment configurations
- Misinterpretation of current IA guidelines and procedures
- Inadequate authority to make data network changes among operators and/or maintainers
- Unfamiliarity with vulnerability mitigating procedures
- Insufficient knowledge of IA tools and IA tool implementation procedures
- Absence of necessary documentation, such as Department of Defense Information Assurance Certification and Accreditation Process (DIACAP) and an Authorization to Operate (ATO), Interim Authorization to Operate (IATO), or Interim Authorization to Test (IATT)
- Omission of DIACAP documentation sections that mitigate Category II, III, and IV system under test vulnerabilities

JITC requests that participating DICE systems provide the results of Retina® and DISA Gold Disk scans along with the DIACAP package and either an ATO, IATO, or IATT memorandum 45 days before the commencement of testing. This allows participants to work through any IA issue(s) prior to the start of testing. When testing begins, JITC runs an additional Retina® and Gold Disk scan to verify corrective action. JITC performs a second review of documentation and the participating system to ensure system configuration/programming is in accordance with the Designated Accrediting Authority's direction.

If systems require moderate to intensive modification and/or configuration changes to connect to the DICE test network, testing schedules are delayed. This delay results in increased testing costs due to loss of procured commercial satellite bandwidth and increased labor costs from work days extending beyond regular hours. Intensive system modification and/or configuration changes may result in missed opportunities to connect to other systems in the DICE network or the need for the participating system to test on a closed network.

When participating systems' personnel ensure they have addressed each of the above issues, they avoid loss of testing time and personnel productivity and the systems become fully enabled to realize DICE capabilities.

Lessons Learned

To improve the success of DICE participation, the following paragraphs describe lessons learned from DICE FY10.

Early Involvement with JITC and DICE. When a system representative contacts JITC early in a system's acquisition process, the program is better prepared for comprehensive joint interoperability testing because the representative is aware of the requirements, the process, and the time involved for successful testing. For example, there are individuals testing with the intent to receive a Joint Interoperability Test Certification (i.e., Interoperability and Supportability Certification) for their system but are unable to receive the certification due to lack of Joint Staff-approved requirements.

Build Upon Relationships with Other Testing Agencies, Facilities, and Venues. Sharing of resources and information is fundamental not only to systems on the battlefield, but also to joint test venues. Coalition Warrior Interoperability Demonstration (CWID), DICE, and Joint Users Interoperability Communications Exercise (JUICE) are vital joint communication exercises that can partner as needed for improved interoperability products for the warfighter. CWID provides a venue for new and emerging technologies to demonstrate their capabilities to the DoD community. JUICE is an interoperability exercise that provides a representative real-world network environment that focuses on improving TTPs and operational gaps.



The U.S. Army tested the UltraWAVE R4S Global System for Mobile Communications for Interoperability Assessment during DICE FY10-01 from JITC, Fort Huachuca, AZ.

Maintain key relationships and connectivity with other test facilities, such as the MCTSSA, Camp Pendleton, California; United States Army Test Integration Center, Fort Huachuca, Arizona; USJFCOM, Norfolk, Virginia; Joint Systems Integration Center, Suffolk, Virginia; and United States Army Software Engineering Center Joint On-demand Interoperability Network, Fort Monmouth, New Jersey. Maintaining relationships with these test organizations expands the potential network connectivity and increases available testing capabilities.

Also, by capitalizing on Development Testing (DT), Operational Testing (OT), training exercise opportunities, and testing simultaneously, the potential reduction in cost to the warfighters can be significant.

Individual Component Testing. During DICE FY10 test events, an increasing number of participants were interested in pursuing joint interoperability certifications for individual components rather than certifications for entire communications suites. During DICE FY10-03, Network Equipment Technologies, Inc. proposed testing the NX 1000 for joint interoperability certification with the intent to be added to the DoD Unified Capabilities (UC) Approved Products List (APL). The NX-1000 is a hardware component within the Warfighter Information Network-Tactical. Although the APL testing did not occur during the DICE event, the capability to test to DoD UC requirements during a DICE event is now possible provided all pre-testing and planning requirements are met.

BENEFITS OF PARTICIPATION

DICE events provide participants with access to flexible, operationally realistic test environments; efficient, distributed testing; cost savings; automated test tools; and experienced test team support from SMEs with significant knowledge across all communications system areas. DICE events provide significant benefits to the participants. These events:

- Reduce warfighter communications product and technology interoperability risk
- Solve real-world warfighting communications and interoperability issues
- Utilize tri-annual events to support agile testing and evaluation of rapid deployment of systems and capabilities to the warfighter
- Reduce testing cost to all participants through resource sharing
- Test once for many concepts; i.e., DT, OT, and interoperability
- Provide a venue where interoperability is assessed without operational pressures



Joint Test Facility, Joint Interoperability Test Command, Fort Huachuca, Arizona

DICE BOTTOM LINE

The Battleground Should Never Be The Testing Ground!

DICE FY10 PARTICIPANTS



Joint-Sponsored Efforts

- Deployable Executive Communications (DEC)
- Defense Information Systems Agency (DISA) Enterprise Wide Systems Engineering (EWSE) Quality of Service (QOS) Integrated Product Team (IPT)
- Joint Users Interoperability Communications Exercise (JUICE) iDirect Satellite Communications (SATCOM) – Joint Interoperability Test Command (JITC) Satellite Terminal and Data Collection Support
- JUICE Unified Capabilities (UC) Tactical Pilot – JITC – UC Subject Matter Expert (SME) and Data Collection Support
- Multiplexer Integration and Digital Communications Satellite Subsystem Automation System (MIDAS)
- Small Command and Control Internet Protocol (SC2IP) Package
- Standardized Tactical Entry Point (STEP)
- Tactical Cellular (TACTICELL)
- iTKO, Inc. – Learn Invoke Simulate Analyze (LISA)



Army-Sponsored Efforts

- AN/TSC-93E Tactical Satellite Communications Terminal (TST)
- Phoenix AN/TSC-156D Multi-Channel Satellite Terminal (MCST)
- Swiftlink Secret Internet Protocol Router (SIPR) – Unclassified-But-Sensitive Internet Protocol Router (NIPR) Access Point (SNAP) Very Small Aperture Terminal (VSAT)
- Special Operations Forces Scalable Internet Protocol Package2 (SOFSIP2)
- Terminal High Altitude Area Defense (THAAD) Voice Communications System (VCS)
- UltraWAVE Global System for Mobile Communications (GSM) Mobile Switching Center (MSC)
- Warfighter Information Network – Tactical (WIN-T) Increment 1 (Inc 1)



Air Force-Sponsored Efforts

- Air Force Network Increment 1 (AFN INC 1)
- Theater Deployable Communications – Initial Communications Element version 3 (TDC-ICEv3)



Navy-Sponsored Efforts

- Virtual Intercom System (VICOM)



Marine Corps-Sponsored Efforts

- AN/TRC-170v5 Tropospheric (Tropo) Scatter Radio Terminal
- AN/TSQ-228 Data Distribution System – Modular (DDS-M) Versions 1 and 2 (V1/V2)
- AN/TSQ-227A Digital Technical Control – Refresh (DTC-R)
- Modular Advanced Quad-band Antenna (MAQA)
- Transition Switch Module (TSM) Version 2 (V2)



Department of Homeland Security-Sponsored Efforts

- Federal Emergency Management Agency (FEMA) Rapid Response System (RRS) Transport
- Northern Command
 - Joint Forces Headquarters – National Capitol Region (JFHQ-NCR) Emergency Response Vehicle (ERV)
 - JFHQ-NCR Mobile Command Post (MCP)
 - Joint Task Force – Civil Support (JTF-CS) Tactical Communications Package (Heavy) (TACPAC Heavy)
 - JTF-CS Tactical Communications Package (Medium) (TACPAC Medium)
- United States Coast Guard Communications Area Master Station Pacific (CAMSPAC) Transportable Communications Central (TCC)

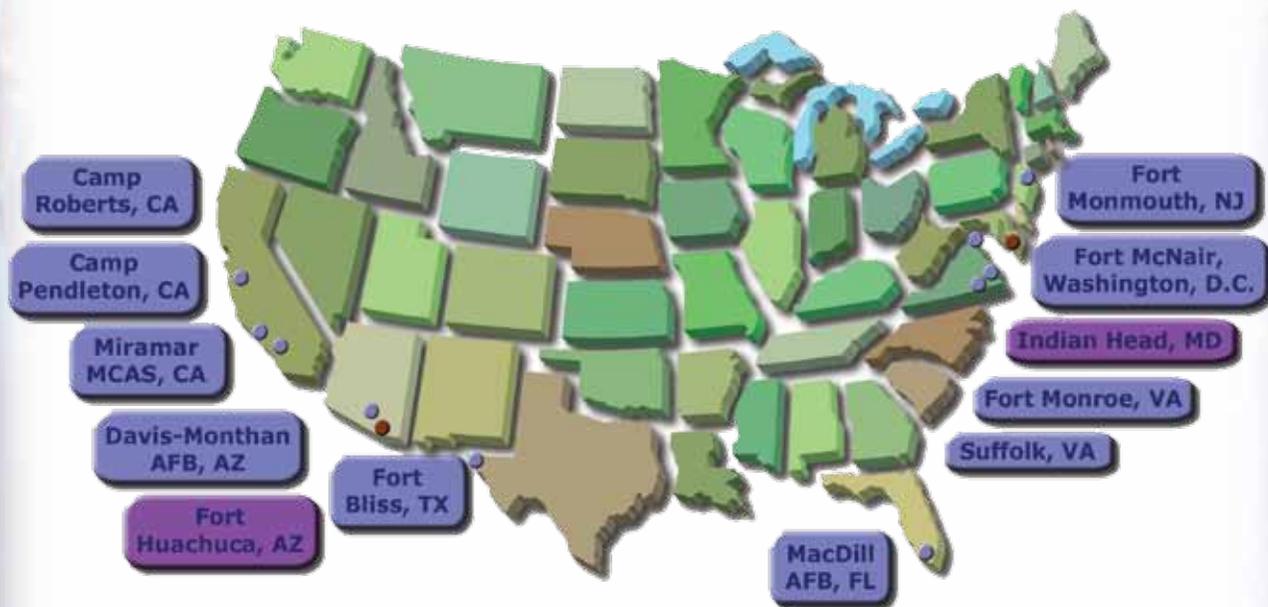
SYSTEMS' OVERVIEW AND RESULTS

Each system under test during the DICE FY10 events is listed in the table below in alphabetical order by its short name or acronym; the table also references the DICE event each system participated in and each system's participation purpose. The pages following the table present the distributed testing environment and then the individual DICE FY10 system's overview and results for those systems that participated and received a Joint Interoperability Test Certification or Assessment during each FY10 DICE event. Each system overview provides the system functional description, test summary and result, test location, and the JITC's CTT lead Point of Contact (POC) information.

System	Certification	Assessment	Training	Demonstration	Support	Sponsor
AFN INC 1		FY10-03				AFCA
AN/TRC-170v5 Tropo		FY10-02 FY10-03				USAF/USA/USMC
AN/TSC-93E TST	FY10-03					USA
AN/TSQ-227A DTC-R		FY10-01				MARCORSYSCOM
AN/TSQ-228 DDS-M V1/V2		FY10-01 FY10-03				MARCORSYSCOM
CAMSPAC TCC			FY10-01			USCG
DEC	FY10-01					USJFCOM
DISA EWSE QOS IPT			FY10-01			DISA
FEMA RRS Transport				FY10-02		FEMA
iDirect SATCOM					FY10-03	iDirect/JUICE
JFHQ-NCR ERV	FY10-02					USNORTHCOM
JFHQ-NCR MCP	FY10-02					USNORTHCOM
JTF-CS TACPAC Heavy	FY10-02					USNORTHCOM
JTF-CS TACPAC Medium	FY10-02					USNORTHCOM
LISA				FY10-01		iTKO, Inc./JITC
MAQA				FY10-01		MARCORSYSCOM
MIDAS	FY10-03					PEO MIDAS
Phoenix AN/TSC-156D MCST	FY10-01					USA
SC2IP Package					FY10-01	USJFCOM
SNAP		FY10-01				PM WIN-T
SOFSIP2		FY10-02				USASOC
STEP	FY10-01	FY10-03				PM STEP
TACTICELL	FY10-01					USJFCOM
TDC-ICEv3			FY10-02			USAF
THAAD VCS		FY10-02				PM THAAD
TSM V2		FY10-02 FY10-03				MARCORSYSCOM
UC Tactical Pilot					FY10-03	TJTN/JUICE
UltraWAVE GSM MCS		FY10-01				USA - 7th TTSB
VICOM		FY10-01				NAVAIR NFAS
WIN-T Inc 1		FY10-03				PM WIN-T

DISTRIBUTED TESTING ENVIRONMENT

DICE, while replicating a JTF communications architecture, promotes a distributed communications network for two primary reasons: 1) so the systems under test can participate from their home station for logistical ease and cost savings and 2) a distributed environment replicates an operationally realistic environment, which is essential to interoperability testing. The map below depicts the 12 sites the systems under test and units participated from during all three DICE FY10 events. Systems that participated from locations outside of the two main DICE joint communication control centers (i.e., Fort Huachuca, Arizona, and Indian Head, Maryland) connected through point-to-point satellite terminal links or through a STEP or Teleport across the GIG.



DICE FY10 Distributed Networks

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Certifications

Phoenix AN/TSC-156D MCST..... 17
 DEC..... 18
 STEP..... 18
 TACTICELL..... 19

Assessments

AN/TSQ-227A DTC-R..... 19
 AN/TSQ-228 DDS-M V1/V2 20
 SNAP 20
 UltraWAVE GSM MSC 21
 VICOM 21

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Phoenix AN/TSC-156D MCST

The Phoenix AN/TSC-156D MCST provides multi-band (C-, X-, Ku-, and Ka-) capability in the SHF range and operates over commercial and military SHF satellites. The terminal provides high capacity inter- and intra-theater range extension supports selected Integrated Theater Signal Brigades and Battalions and Expeditionary Signal Battalions. The terminal is the warfighter's primary means of reach-back communications and embodies the force projection attributes and high-throughput capacity consistent with the U.S. Army's migration to the Future Force. As a transport system, the Phoenix AN/TSC-156D is a direct pipe to the military (X- and Ka-band) and commercial (C- and Ku-band) satellite systems it operates over and does not alter the multiplexed voice, data, and video that it transports from the switch or multiplexer system connected to it.

Joint Interoperability Test Certification

The Phoenix AN/TSC-156D met all interoperability requirements for voice, data, and video over X- and Ku-bands SATCOM.

Voice: Completed 657 of 658 calls for an overall completion rate of 99%, using both traditional manual nonsecure, secure, VoIP, MLPP, conference, and nonsecure automated test scripts.

Data: Completed all FTP, HTTP, and SMTP data transfers, using both manual and automated test scripts.

Video: Completed all H.320 VTC sessions at 384 KB.

Participant:

SFAE-C3T-WIN-MST

Test Location:

Fort Huachuca, AZ

For further information, contact:

JITC CTT – Mr. Dan Hurd

(520) 538-5453 - DSN 879

dan.hurd@disa.mil



FY10-01

DEC

The JSIC DEC kit provides voice, data, and video communications support to USJFCOM Commanders and staff. The DEC kit uses wired and wireless technologies, such as Wired 802.11, WiFi, 3G cellular, and BGAN to connect users to Internet service providers. The USJFCOM uses the JSIC DEC kit to access classified and unclassified services when away from USJFCOM Headquarters for DISN services. It also provides multiple users access to VTC, VoIP, VoSIP, and both the NIPRNet and SIPRNet domains.

Limited Joint Interoperability Test Certification

The DEC kit is capable of providing secure and nonsecure voice, data, and video communications.

Voice: Completed classified, DRSN and VoSIP calls, and unclassified, PSTN and DSN calls, with and without Net Motion over Wired 802.11, WiFi, 3G, and BGAN network.

Data: Completed secure and nonsecure web browsing and streaming video, with and without Net Motion over wired 802.11, WiFi, 3G, and BGAN network.

Video: Completed secure and nonsecure point-to-point, with and without Net Motion over Wired 802.11, WiFi, 3G, and BGAN network.

Participant:

JSIC

Test Location:

Suffolk, VA

For further information, contact:

JITC CTT – Ms. Kari Fisher

(520) 533-0154 - DSN 821

kari.fisher@disa.mil



FY10-01

STEP

The STEP is a baseband upgrade to the DSCS DCSS program at 17 sites worldwide. The STEP sites provide DISN services to the warfighter through pre-positioned service points and are located at key positions around the world to provide for both a global reach and the integration of warfighter communication systems. The DISN services include: DSN and DRSN for voice, NIPRNet, SIPRNet, and JWICS for data and special user video and VTC for common user video via the DVS-G. Some STEP sites have more equipment than the standard STEP baseline to accommodate the existing and planned customer base specific to that area of responsibility. Each site is equipped with a baseline of equipment that supports at least one fixed station radio frequency terminal with access to a DSCS satellite system and DISN services.

Joint Interoperability Test Certification

The STEP is capable of providing deployed users DISN services access over SHF-band SATCOM.

Voice: Completed DSN nonsecure, secure, conferencing, MLPP, and secure VoIP and DRSN calls.

Data: Completed NIPRNet and SIPRNet e-mail, FTP, and HTTP.

Video: Completed DVS-G VTC sessions.

Participants:

Camp Roberts, JITC, and JCSE

Test Locations:

MacDill AFB, FL

Fort Huachuca, AZ

Camp Roberts, CA

For further information, contact:

JITC CTT – Mr. Rodney Alexander

(520) 533-0151 - DSN 821

rodney.alexander@disa.mil



FY10-01

TACTICELL

The TACTICELL system is designed to provide robust communications to dismounted SOF teams. The TACTICELL system provides simultaneous videos, instant messaging, or other forms of data sharing to each team member for immediate situational awareness. The TACTICELL leverages innovations in 3G cellular technologies to deliver megabits of data to dismounted SOF teams via a smart phone, allowing them to take advantage of such applications as streaming media, e-mail, and instant messaging. TACTICELL deploys QualComm Base stations to provide cellular services via Ku-band SATCOM.

Joint Interoperability Test Certification

TACTICELL is capable of extending DISN services via Ku-band SATCOM to the TACTICELL 3G network.

Voice: DSN, PSTN, and VoIP nonsecure calls were all successful.

Data: Completed Internet test objectives, to include all 3G cellular capabilities, HTTP, FTP, instant messaging, whiteboard, and blue force tracking data transfers.

Video: Completed point-to-point H.323 and streaming video sessions.

Participant:

JSIC

Test Location:

Suffolk, VA

For further information, contact:

JITC CTT – Ms. Denya Tapia

(520) 538-5193 - DSN 879

denya.tapia@disa.mil



FY10-01

AN/TSQ-227A DTC-R

The AN/TSQ-227A DTC-R provides the resources for the technical controller to exercise effective control over the communications links, trunks, and groups within a deployed USMC network. The DTC-R allows the MAGTF Commander to exercise configuration control of his/her C4I system through the integration of his communications resources. The DTC-R enhances the technical controller's ability to coordinate technical and performance issues between communications facilities, subscriber terminals, and other technical control facilities. The DTC-R, along with the TSM, AN/USC-65, AN/TRC-170, AN/MRC-142, AN/TSC-85/93, DDS-M, and the AN/TSQ-222 TDN form the backbone of the USMC's digital communications network.

Joint Interoperability Test Assessment

The DTC-R met all interoperability requirements for voice, data, and video over X-band SATCOM as identified in the draft requirements documentation.

Voice: Completed 1003 of 1013 calls for an overall completion rate of 99%, including traditional manual nonsecure and secure, VoIP, MLPP, conference testing, and nonsecure automated test scripts.

Data: Completed all FTP, HTTP, and SMTP data transfers manual and automated test scripts over NIPRNet and SIPRNet.

Video: Completed all H.320 VTC sessions at 384 KB.

Participant:

MCTSSA

Test Location:

Camp Pendleton, CA

For further information, contact:

JITC CTT – 1st Lt Patrick Akers

(520) 533-4794 - DSN 821

patrick.akers@disa.mil



FY10-01

AN/TSQ-228 DDS-M V1/V2

The AN/TSQ-228 DDS-M V1/V2 supports MAGTF C3 mission objectives. The DDS-M V1/V2 provides IP-based data routing, information processing, local data storage, and network extension capabilities for deployed USMC forces and will provide a flexible and modular LAN capability to provide services to the USMC tactical data systems. The DDS-M V1/V2 provides a Marine Corps standard file server supporting typical LAN services, such as file sharing and e-mail. It also provides switching, local processing and storage capacity, software, and flexibility to support operations at a single security level. The DDS-M V1/V2 can operate from the Unclassified up to TS/SCI levels and contains an integral inline network encryption device that can support tunneling (encrypted virtual circuit). Components of the DDS-M V1/V2 are integrated by function into storage cases for unit transport, but the system does not require amphibious afloat connectivity.

Joint Interoperability Test Assessment

The DDS-M V1/V2 met all joint interoperability requirements for data exchange.

Data: Completed all NIPRNet and SIPRNet data exchanges for FTP, HTTP, and SMTP as identified in the draft requirements documentation.

Participant:

MCTSSA

Test Location:

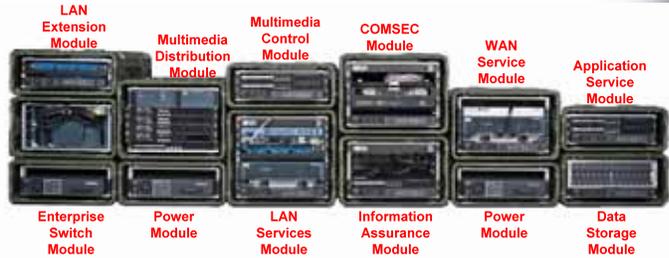
Camp Pendleton, CA

For further information, contact:

JITC CTT – Ms. Denya Tapia

(520) 538-5193 - DSN 879

denya.tapia@disa.mil



FY10-01

SNAP

The Swiftlink SNAP communications system is a non-ACAT system of COTS hardware and software integrated into a modular, transit-cased deployable and scalable package. The SNAP extends GIG services, such as SATCOM control signaling, DSN VoIP, SVoIP, unclassified data (NIPRNet), and classified data (SIPRNet) services over commercial satellites to the warfighter. The SNAP provides C3I support to widely dispersed and mobile deployed joint forces in the Operation Iraqi Freedom region.

Joint Interoperability Test Assessment

SNAP met some of its NR-KPP requirements identified in the draft SNAP TISP.

Voice: Completed all nonsecure and secure voice calls.

Data: Completed all unclassified and classified data throughput testing; however, the timeliness requirement was not met.

Participant:

TeleCommunication Systems

Test Location:

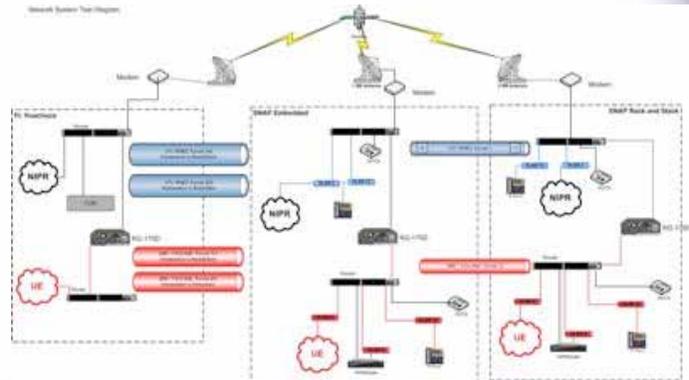
Indian Head, MD

For further information, contact:

JITC CTT – Mr. Todd Beckman

(520) 538-5174 - DSN 879

todd.beckman@disa.mil



FY10-01

UltraWAVE GSM MSC

The UltraWAVE GSM MSC is an IP-based portable telephone switch that integrates a DSN landline with mobile users. UltraWAVE provides scalable switching and services, such as prepaid, call forwarding, call-waiting, call hold, call transfer, messaging, and voice mail services. The UltraWAVE GSM MSC can deploy in all IP, circuit-switched or IP-/circuit-blended environments. It allows mobile operators to deploy distributed MSC networks that switch local traffic. The UltraWAVE GSM MSC is an integral part of the Combined Joint Operational Area-Afghanistan, providing nonsecure and secure mobile voice support to personnel in the region.

Joint Interoperability Test Assessment

UltraWAVE GSM MSC met a subset of its requirements in the draft TISP and the DoD Voice Networks UCR 2008.

Voice: The UltraWAVE GSM MSC partially met the threshold requirements for its nonsecure ISDN PRI T1 interface. Roaming and handoff functions were not tested. Secure voice information exchanges did not meet the threshold call completion requirement for secure calls. The secure call test string included multiple tandem switches.

Participant:

GlobeComm Systems Inc.

Test Location:

Fort Huachuca, AZ

For further information, contact:

JITC CTT – Ms. Ellen Preiss

(520) 538-5552 - DSN 879

ellen.preiss@disa.mil



UltraWAVE R4S



UltraWAVE BTS



UltraWAVE BSC

FY10-01

VICOM

The VICOM is a self-contained virtual communications system converging voice, data functions, and radio control into one integrated system, allowing users to conference tactical radios on a network. VICOM operates on existing DoD networks. VICOM is a GOTS system designed for deploying into the tactical environment. This system was developed for the government by NAVAIR for USSOCOM as a subsystem of the RIS. VICOM was designed to allow users to communicate via VoIP from workstations (laptop or PC) running the Windows XP/2000 operating system via user rights assigned by the system administrator. VICOM consists of a VoIP voice and chat intercom, radio voice operation, radio remote control, and radio data waveforms from each user station (laptop or PC), over Ethernet LAN or WAN to provide a full range of communication necessary to support the warfighter.

Joint Interoperability Test Assessment

The VICOM is capable of extending converged voice and data services with radio control as identified in the provided draft requirements documentation.

Voice: Completed secure and nonsecure voice calls, conference management, and RF bridging in a point-to-point environment.

Data: Completed secure e-mail using HPW (satellite communications) and chat functionality using PDA-184.

Radio: Completed AN/PSC-5D, AN/PRC-117F, *AN/PRC-150 and *AN/PRC-137F radio voice operations in a point-to-point environment.

*Denotes successful RF bridging with these radios.

Participant:

NAVAIRSYCOM

Test Location:

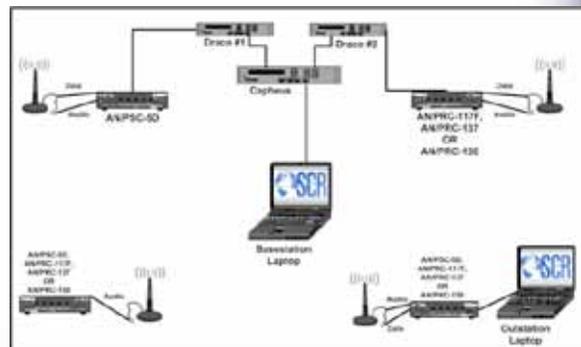
Indian Head, MD

For further information, contact:

JITC CTT – Ms. Jacquelyn Mastin

(301) 744-2791 - DSN 354

jacquelyn.mastin@disa.mil



**DICE FY10-02
1 March – 26 March 2010**

Certifications

JFHQ-NCR ERV 22
 JFHQ-NCR MCP 23
 JTF-CS TACPAC Heavy 23
 JTF-CS TACPAC Medium 24

Assessments

AN/TRC-170v5 Tropo 24
 SOFSIP2 Package 25
 THAAD VCS 25
 TSM V2 26

FY10-02

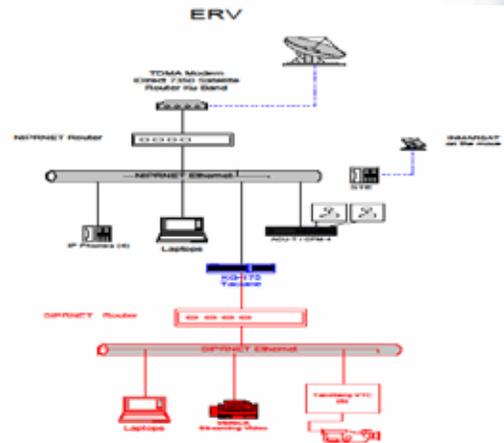
JFHQ-NCR ERV

The USNORTHCOM JFHQ-NCR ERV is a deployable communications package that provides communications support to the deployed JTF Commander and civilian first responders. The JFHQ-NCR ERV deploys upon notification of an incident to provide rapid assessment of the situation. The JFHQ-NCR ERV provides DoD and other government agencies with information exchanges via Ku-band SATCOM and INMARSAT for unclassified data, classified data, voice, video, and LMRs.

Joint Interoperability Test Certification

The interoperability test determined the JFHQ-NCR ERV met the threshold NR-KPP requirements.

- Voice:** Completed nonsecure and secure voice calls over DSN and PSTN.
- Data:** Completed unclassified and classified information exchanges over NIPRNet and SIPRNet.
- Video:** Completed H.323 VTC sessions over SIPRNet.
- Radio:** Completed LMR information exchanges, using VHF, UHF, and 800-MHz radios via ACU-T bridge units.



Participant:
 JFHQ-NCR ERV
Test Location:
 Fort McNair, VA
For further information, contact:
 JITC CTT – Ms. Denya Tapia
 (520) 538-5193 - DSN 879
 denya.tapia@disa.mil

FY10-02

JFHQ-NCR MCP

The USNORTHCOM JFHQ-NCR MCP is a deployable communications package that provides communications support to the deployed JTF Commander and civilian first responders through Ku-band SATCOM and INMARSAT. The MCP deploys (based on approval of DoD) and collocates with the area command post to provide the JTF Commander a forward command node to coordinate and synchronize the employment of DoD assets in support of designated incident sites. The JFHQ-NCR MCP provides DoD and other government agencies with information exchanges for unclassified data, classified data, voice, video, and LMRs.

Limited Joint Interoperability Test Certification

The JFHQ-NCR MCP met a subset of NR-KPP and information exchange requirements identified.

Voice: Completed nonsecure and secure DSN and PSTN via INMARSAT and V100; however, additional testing of secure DSN and PSTN voice services using the Shout via Ku-band SATCOM is required to meet all requirements.

Data: Completed unclassified and classified information exchanges over NIPRNet and SIPRNet.

Video: Completed nonsecure and secure H.323 VTC sessions and streaming video over NIPRNet and SIPRNet.

Radio: Completed LMR information exchanges over VHF, UHF, and 800-MHz via ACU-1000.

Participant:

JFHQ-NCR MCP

Test Location:

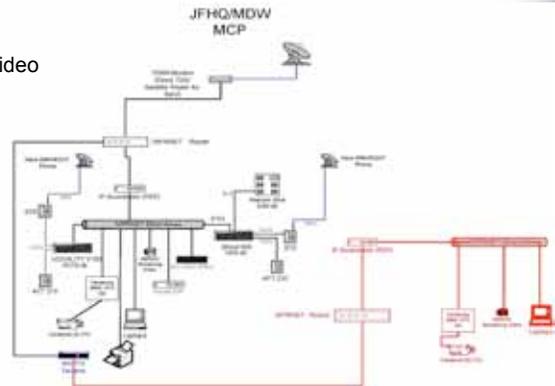
Fort McNair, VA

For further information, contact:

JITC CTT – Ms. Denya Tapia

(520) 538-5193 - DSN 879

denya.tapia@disa.mil



FY10-02

JTF-CS TACPAC Heavy

The USNORTHCOM JTF-CS TACPAC Medium/Heavy development effort was inspired by interoperability problems in the emergency response team's communications system exposed during the 11 September 2001 terrorist attacks and Hurricane Katrina response efforts. The JTF-CS TACPAC Medium/Heavy supplements military communications both during and after man-made and natural disasters with telephony and IP information exchange capabilities. When the JTF-CS TACPAC Medium/Heavy arrives at the incident scene, it provides a suite of commercial communications equipment to extend secure and nonsecure commercial and DISN services to response teams connected via voice, video, and data.

Joint Interoperability Test Certification

The JTF-CS TACPAC Heavy met all secure and nonsecure information exchanges, including voice, video, and data requirements over the Teleport, NIPRNet, SIPRNet, DSN, PSTN, VTC, and CITEE interfaces.

Voice: Completed all nonsecure calls over DSN and PSTN and secure calls over DSN.

Data: Completed all e-mails, FTP downloads, and HTTP sessions over the NIPRNet and all e-mails and HTTP sessions over the SIPRNet.

Video: Completed all point-to-point H.320 VTC sessions over both the NIPRNet and SIPRNet.

Participant:

JTF-CS

Test Location:

Fort Monroe, VA

For further information, contact:

JITC CTT – Ms. Denya Tapia

(520) 538-5193 - DSN 879

denya.tapia@disa.mil



FY10-02

JTF-CS TACPAC Medium

The USNORTHCOM JTF-CS TACPAC Medium/Heavy development effort was inspired by interoperability problems in the emergency response team's communications system exposed during the 11 September 2001 terrorist attacks and Hurricane Katrina response efforts. The JTF-CS TACPAC Medium/Heavy supplements military communications both during and after man-made and natural disasters with telephony and IP information exchange capabilities. When the JTF-CS TACPAC Medium/Heavy arrives at the incident scene, it provides a suite of commercial communications equipment to extend secure and nonsecure commercial and DISN services to response teams connected via voice, video, and data.

Joint Interoperability Test Certification

The JTF-CS TACPAC Medium met all secure and nonsecure information exchanges, including voice, video, and data requirements over the Teleport, NIPRNet, SIPRNet, DSN, PSTN, VTC, and CITEE interfaces.

Voice: Completed all nonsecure calls over DSN and PSTN and secure calls over DSN.

Data: Completed all e-mails, FTP downloads, and HTTP sessions over the NIPRNet and all e-mails and HTTP sessions over the SIPRNet.

Video: Completed all point-to-point H.320 VTC sessions over both the NIPRNet and SIPRNet.

Participant:

JTF-CS

Test Location:

Fort Monroe, VA

For further information, contact:

JITC CTT – Ms. Denya Tapia
(520) 538-5193 - DSN 879
denya.tapia@disa.mil



FY10-02

AN/TRC-170v5 Tropo

The AN/TRC-170v5 Tropo terminal provides high capacity inter- and intra-theater range extension support for transmission and reception of digital voice and data services at selected U.S. Air Force, U.S. Army, and USMC elements. The main mission of the terminal is to provide the warfighter reachback communications and high-throughput data capacity consistent with the services' transition over IP. The AN/TRC-170v5 terminal is a pass through transport system for multiplexed voice, data, and video signals with a total bandwidth of up to 16 MHz. The AN/TRC-170v5 can accomplish LOS transmission. The system transmits over the horizon using the 4.4-GHz to 5.0-GHz frequency band (C-band). Interoperation with other AN/TRC-170 sets is accomplished by means of a radio frequency link between two terminals.

Joint Interoperability Test Assessment

The AN/TRC-170v5 Tropo met the identified draft interoperability requirements in DICE FY10-02 and during follow-on testing in DICE FY10-03.

Voice: Completed 485 of 488 nonsecure voice calls for a completion rate of 99%, using both manual and automated test scripts.

Data: Completed all e-mails, FTP downloads, and HTTP sessions, using both manual and automated test scripts.

Video: Completed all H.323 VTC sessions.

Participant:

MCTSSA

Test Locations:

Camp Pendleton, CA
Miramar MCAS, CA

For further information, contact:

JITC CTT – Mr. Dan Hurd
(520) 538-5483 - DSN 879
dan.hurd@disa.mil



FY10-02

SOFSIP2 Package

The SOFSIP2 Package includes the SIP2-Hub, SIP2-Remote, and SIP2-Extension nodes that extend GIG services, including SIPRNet, NIPRNet, DSN, VoSIP, and DVS-G over a TDMA commercial satellite network to one or more SIP2-Remote by directly connecting and obtaining services from a DISN T1 POP facility (STEP/Teleport or technical control facility). The SIP2-Hub extends the GIG to the SIP2-Remote tactical area of operations. It is used in various operational scenarios including combat, non-combat/humanitarian, and SOF support. The SIP2-Remote is a scalable, rapidly-deployable communications system used to support advanced echelon initial reception of forces, "reach forward" deployment of key personnel and for long-term mission support. SIP2-Remote provides high-speed secure and nonsecure voice, data, and video teleconferencing capability.

Joint Interoperability Test Assessment

The SOFSIP2 Hub/Remote/Extension met all interoperability requirements for voice, data, and video over ethernet and T1 connections for the Hub, Ku-band SATCOM for the Remote and LOS for the Extension.

Voice: Completed 4586 of 4640 calls for an overall completion rate of 99%, using traditional manual nonsecure, secure, VoIP, SVoIP (DRSN) MLPP, conference testing, and nonsecure automated test scripts.

Data: Completed all e-mails, FTP downloads, and HTTP web browsing, using both manual and automated test scripts.

Video: Completed all H.323 VTC sessions at 384 KB.

Participant:

112th Signal Battalion

Test Location:

Fort Huachuca, AZ

For further information, contact:

JITC CTT – Mr. Dan Granstrom

(520) 538-0855 - DSN 879

daniel.granstrom@disa.mil



FY10-02

THAAD VCS

The THAAD VCS provides interfacing and switching for all internal and external C4I systems, including voice, facsimile, and data through the LCS. The LCS also provides an interface to the THAAD missile launchers and radar systems, and it is the data interface into the ACUS and the TOS, allowing the user to send and receive voice and data transmissions. The classified THAAD ISP Block 02 states that the THAAD VCS must be able to interface with the DTC, TSM, DDS, TRI-TAC, and SSS/BBN. In performing its mission, the THAAD component must be interoperable with external ground-, air-, sea-, and space-based sensors and their associated communications networks and equipment.

Joint Interoperability Test Assessment

The THAAD VCS met all interoperability requirements for voice over Ku-band SATCOM within a classified network.

Voice: Completed all calls within a classified network and all secure and nonsecure over a terrestrial network. The THAAD VCS was unable to complete calls to the JNN VG-224 for analog voice testing. Voice testing included traditional manual nonsecure, secure, VoIP, VoSIP-DRSN testing and nonsecure automated test scripts.

Data: Link 16 message traffic performed as predicted.

Participant:

THAAD

Test Locations:

Fort Huachuca, AZ

Fort Bliss, TX

For further information, contact:

JITC CTT – Mr. Rodney Alexander

(520) 533-0151 - DSN 821

rodney.alexander@disa.mil



FY10-02

TSM V2

The TSM V2 provides a deployable circuit switching capability for communications support organizations with a MAGTF. The TSM V2 provides commercial switching technology to replace the USMC's AN/TTC-42, SB-3865, and SB-3614. The SB-22 will connect to the TSM V2 intra-nodal only and will not traverse the transmission media. It provides all the services currently available in the USMC switching equipment in a smaller, lighter package. The TSM V2 provides enhanced multiplexing and ISDN capabilities. The TSM V2 provides a flexible unit-level switch that bridges legacy ULCS, including the SB-3614 with more robust voice/data switching, data transport, and bandwidth management capabilities. The TSM V2 supports current and future voice/data communications architectures that provide ISDN switching capabilities interoperability with the DTC and JECCS.

Joint Interoperability Test Assessment

The TSM V2 met all information exchange requirements identified in the provided draft interoperability requirements for voice over Ku-band SATCOM.

Voice: Completed 3219 of 3260 calls for an overall completion rate of 99%, using traditional manual nonsecure, secure, VoIP, MLPP, and conference testing and nonsecure automated test scripts.

Participant:

MCTSSA

Test Location:

Camp Pendleton, CA

For further information, contact:

JITC CTT – 1st Lt Patrick Akers

(520) 533-4794 - DSN 821

patrick.akers@disa.mil



"For the program management personnel of the Communications, Intelligence, & Networking Systems Group at Marine Corps Systems Command, the preferred method of achieving JITC certification is to test during a DICE evolution...All of the personnel worked together, supporting each other toward the common goal of providing well performing, interoperable, systems for the warfighting Marine."

William R. Riddle, MCTSSA DICE Director

DICE FY10-03
7 June – 25 June 2010

Certifications

AN/TSC-93E TST 27
MIDAS 28

Assessments

AFN INC 1 28
WIN-T Inc 1 30

FY10-03

AN/TSC-93E TST

The AN/TSC-93E TST provides X-band capability in the SHF range and operates over commercial and military SHF satellites. As a transport system, the AN/TSC-93E is a direct pipe to the satellite systems it operates over and does not alter the multiplexed voice, data, and video that it transports from the switch or multiplexer system connected to it. The AN/TSC-93E can support spoke, hub-spoke (up to four receive links and one transmit), and mesh operations. The AN/TSC-93's ETSSP SEP can support a throughput of 50 Mbps. The AN/TSC-93E interfaces with TRI-TAC, MSE, SSS/BBN, JNN, and Promina-based data packages. The AN/TSC-93E also interfaces with the DISN via RHN and STEP/Teleport sites. The current architecture of the AN/TSC-93 series of SATCOM terminals allows the AN/TSC-93E to interface with the Fixed RHN entity coupled with an SSS V3.

Joint Interoperability Test Certification

The AN/TSC-93E met all interoperability requirements for voice, data and video over X-band SATCOM.

Voice: Completed 1466 of 1473 calls for an overall completion rate of 99%, using traditional manual nonsecure, secure, MLPP, and progressive conference testing and nonsecure automated test scripts.

Data: Completed all e-mails, FTP downloads, and HTTP sessions, using both manual and automated test scripts.

Video: Completed all VTC sessions.

Participant:

Tobyhanna Army Depot

Test Location:

Fort Huachuca, AZ

For further information, contact:

JITC CTT – Mr. Dan Hurd
(520) 538-5483 - DSN 879
dan.hurd@disa.mil



FY10-03

MIDAS

The MIDAS is a baseband upgrade to the DSCS DCSS program at 17 DoD Gateway sites worldwide. The MIDAS is the central multiplexing and patching system for the majority of the facilities transmissions to DISN services. The services included various types of multiplexer emulation and patching to include supporting cross-banding and M-Hop capabilities. Each site is equipped with a baseline of equipment that supports at least one radio frequency terminal with access to a DSCS satellite system and DISN services.

Joint Interoperability Test Certification

The MIDAS is capable of providing deployed users patching to DISN services from multiple RF SATCOM sources.

Voice: Completed all DSN nonsecure and secure calls, using both manual and automated test scripts.

Data: Completed all FTP downloads and HTTP web browsing over the NIPRNet, using both manual and automated test scripts.

Video: Completed all H.323 VTC sessions.

Participants:

JSEC
JITC

Test Locations:

Fort Monmouth, NJ
Fort Huachuca, AZ

For further information, contact:

JITC CTT – Mr. Dan Hurd
(520) 538-5483 - DSN 879
dan.hurd@disa.mil



FY10-03

AFN INC 1

The AFN INC 1 is an interface with Air Force network infrastructure that provides connectivity from Air Force bases to the DISN core routers. The AFN INC 1 will provide the Air Force base customers with connectivity with the DoD and federal networks by transporting voice, video, and data across the global communication infrastructure.

Joint Interoperability Test Assessment

The AFN INC 1 is capable of transporting voice, video, and data across the global communication infrastructure.

Voice: Completed all calls using automated test scripts for VoIP, using SIP.

Data: Completed all HTTP, HTTPS, FTP, DNS, Jabber, and SMTP data exchanges, using automated test scripts.

Video: Completed all H.323 VTC sessions, using automated test scripts.

Participant:

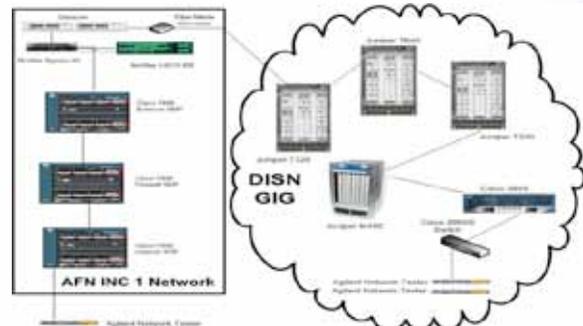
AFCA

Test Location:

Fort Huachuca, AZ

For further information, contact:

JITC CTT – Mr. Rodney Alexander
(520) 533-0151 - DSN 821
rodney.alexander@disa.mil



FY10-03

WIN-T Inc 1

The WIN-T Inc 1 extends GIG services, including NIPRNet, SIPRNet, DSN, SVoIP, and DVS-G to the warfighter. All services are transported over a TDMA and FDMA military and commercial satellite network using Ka-band and Ku-band SATCOM. The WIN-T connects to and obtains services from a DISN T1 POP facility, such as STEP/Teleport or the WIN-T RHN.

Joint Interoperability Test Assessment

The WIN-T Inc 1 and the Promina NX-1000 through a TDMA MUX with interface to a STEP/Teleport met the assessment requirements.

Voice: Completed nonsecure, secure, MLPP, and conference calls, using manual testing and nonsecure calls using automated test scripts.

Data: Completed FTP, HTTP, and SMTP data transfers, using both manual and automated test scripts.

Video: Completed all H.320 VTC sessions at 384 KB.

Participant:

PM TRCS

Test Location:

Fort Huachuca, AZ

For further information, contact:

JITC CTT – Ms. Ellen Preiss

(520) 538-5552 - DSN 879

ellen.preiss@disa.mil



"DICE will not lead us astray."

Reinaldo John, Virtual Intercom Program Analyst

DICE OUTLOOK

DICE constantly strives to meet the needs of the communications systems users and systems while achieving its primary goal to generate system-level joint interoperability assessments and certifications to support the fielding of interoperable systems to the warfighter.

Future DICE Initiatives

DICE FY11 will continue to adapt to provide opportunities to address challenges presented by rapidly changing technology and environment. DICE FY11 will also deliver premier certification, assessment, and training services for all participating systems. Future DICE initiatives will provide:

- Cellular and wireless testing opportunities
- WGS capability
- Automated and distributed testing
- Net-centric test strategies aligned with Net-Ready Key Performance Parameter (NR-KPP) and user requirements in a primarily IP environment
- Coalition test network capability
- Planning and event execution improvement through automated information collection and enhanced exercise operations

The following is the schedule for DICE FY11 events:

DICE FY11 Dates to Remember

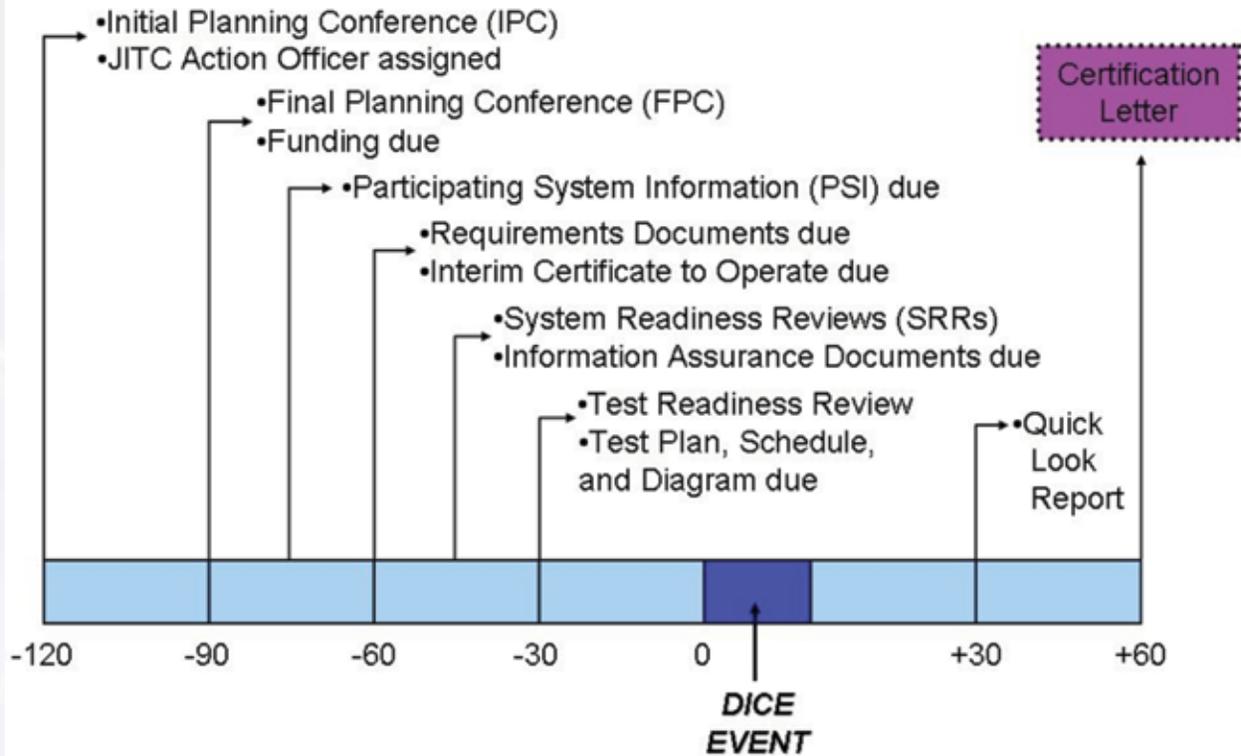
Event	Initial Conference	Final Conference	Exercise Dates
FY11-01	17-19 February 2010	13-15 July 2010	18 October – 5 November 2010
FY11-02	13-15 July 2010	16-18 November 2010	23 February – 18 March 2011
FY11-03	16-18 November 2010	16-18 March 2011	6-24 June 2011

DICE conferences are more than just a communications planning venue for each event. They provide an opportunity to learn about JITC, interoperability testing, the certification testing process, IA, and to discover information about other systems and technologies. In addition, DICE holds one-on-one meetings with every conference participant. It is an opportunity to sit down with the DICE team and JITC's SMEs in IA, certification process, and DoD communications to discuss in detail the intentions, objectives, and system communication planning. Every one-on-one meeting is an open discussion. All associated personnel can participate in the meeting. Personnel unable to attend the conference can dial-in to a prearranged teleconference bridge.

PARTICIPATION IN DICE

For systems to effectively participate in a DICE event and to receive a joint interoperability test certification, specific, mandatory steps are required prior to and throughout testing. The figure below lists those events and milestones critical for successful participation in DICE.

DICE Timeline



DICE MILESTONES

Focusing on the DICE timeline, the following paragraphs provide additional information for each milestone.

Planning Conferences – Initial and Final. Each planning conference will be a three-day event typically held at the JITC Headquarters located on Fort Huachuca, Arizona. Planning conferences provide an opportunity to possible DICE participants to present an overview of the systems/equipment to be tested and to discuss their requirements and objectives. This provides DICE planners with a basis with which to start planning the DICE infrastructure that will best support the testing objectives.

Participating System Information (PSI) Form. The purpose of the DICE PSI form is to gather detailed information the DICE team requires to request resources (satellite bandwidth, material support, personnel, etc.), initiate network planning and configuration, and schedule supporting testing laboratories. The PSI form is a living document that will be updated throughout the planning phase.

Requirements Documents. The documentation required by the Chairman of the Joint Chiefs of Staff Instruction 6212.01E, "Interoperability and Supportability of Information Technology and National Security Systems," can be in the form of a Capabilities Production Document, Capabilities Development Document, Information Support Plan, or Tailored Information Support Plan. In the event the documentation is not Joint Staff approved by the time the DICE event begins, the system will only be eligible to receive an assessment vice a certification. This documentation is also required for test plan development.

Interim Certificate to Operate (ICTO). An ICTO is required for participating in DICE. The Interoperability Certification Panel (ICP) grants an ICTO; Joint Staff J-6 chairs the ICP. ICP members consist of representatives from all Services, Combatant Commands, and several agencies. The purpose of the panel is to ensure that any system supporting the DoD is certified for joint interoperability operation. Systems requesting a joint interoperability certification or assessment must petition the ICP for authorization to use the DISN on an interim basis while working to obtain joint interoperability certification.

IA Documents. All systems undergoing joint interoperability certification or assessment must have DIACAP documentation. The guidance and direction can be found in the DoD Instruction 8510.01 Enclosure 5, "DIACAP Transition Timeline and Instructions." An ATO, IATO, or IATT is required for participation in DICE.

Prior to connecting to any JITC or other DoD network, all systems must provide, (through their JITC POC) the results of system scans using both Retina® tool and DISA Gold Disk. The system scan results must be completed within 30 days of test start and must not show any unmitigated Category I or II vulnerabilities.

JOINT INTEROPERABILITY TEST CERTIFICATION STATUS

The JITC’s Strategic Planning and Engineering Division (JT4) has a four-step approach to testing interoperability and determining interoperability status. Testers must:

1. Identify and verify interoperability requirements
2. Develop certification evaluation approach
3. Collect and analyze interoperability data
4. Determine the interoperability status

Interoperability Status. JITC, upon completion of system testing and verification and ensuring that the system under test meets established interoperability and net-centric requirements, determines the interoperability status.

Certification	Description	System can be fielded (Y/N)?
Standards Conformance Certification	System is certified for conformance to a standard/standards profile	No
Joint Interoperability Test Certification	Full system certification. System meets at least all critical interoperability requirements	Yes
Limited Joint Interoperability Test Certification	System meets subset of critical interoperability requirements	Yes – with ICTO
Interim Joint Interoperability Test Certification	A capability module has adequately demonstrated interoperability for at least all critical threshold requirements identified for the increment	Yes
Special Interoperability Test Certification	Based on other J-6-approved requirements (i.e., no NR-KPP) -- e.g., use of UCR for voice switches	Yes
Non-Certification	Critical operational impacts expected Provides a warning to the warfighter	No
Interoperability Assessment	PM would like to determine the interoperability status System may lack J-6-approved requirements	No

REFERENCE DOCUMENTS

Joint Staff Instruction:

CJCSI 3170.01G, "Joint Capabilities Integration and Development System," 1 March 2009

CJCSI 6211.02C, "Defense Information System Network (DISN): Policy and Responsibilities," 9 July 2008

CJCSI 6212.01E, "Interoperability and Supportability of Information Technology and National Security Systems," 15 December 2008

CJCSI 6215.01C, "Policy for Department of Defense (DoD) Voice Networks with Real Time Services (RTS)," 9 November 2007

Department of Defense:

Unified Capabilities Requirements 2008, 22 January 2009

Department of Defense Directives:

DoD Directive 4630.05, "Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS)," 5 May 2004

DoD Directive 5000.1, "The Defense Acquisition System," 12 May 2003

DoD Directive 5101.7, "DoD Executive Agent for Information Technology Standards," 21 May 2004

DoD Directive 5105.19, "Defense Information Systems Agency (DISA)," 25 July 2006

DoD Directive 5141.2, "Director of Operational Test and Evaluation (DOT&E)," 25 May 2000

DoD Directive 8320.02, "Data Sharing in a Net-Centric Department of Defense," 2 December 2004

DoD Directive 8320.03, "Unique Identification (UID) Standards for a Net-Centric Department of Defense," 23 March 2007

Department of Defense Instructions:

DoD Instruction 4630.8, "Procedures for Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS)," 30 June 2004

DoD Instruction 5000.2, "Operation of the Defense Acquisition System," 2 December 2008

DoD Instruction 8100.3, "DoD Voice Networks," 16 January 2004

DoD Instruction 8510.01, "DoD Information Assurance Certification and Accreditation Process (DIACAP)," 28 November 2007

Defense Information Systems Agency:

Campaign Plan 2010, "Enabling Information Dominance," January 2010

ONLINE RESOURCES

AKO/DKO DICE Portal:

<https://www.us.army.mil/suite/page/460163>

JITC DICE Website:

<http://jitc.fhu.disa.mil/dice>

ACRONYM LIST

3G	Third Generation	DVS-G	DISN Video Services-Global
ACAT	Acquisition Category	ERV	Emergency Response Vehicle
ACUS	Area Common User System	ETSSP	Enhanced Tactical satellite Signal Processor
ACU-T	Audio Control Unit-Tactical	EWSE	Enterprise Wide Systems Engineering
AFN	Air Force Network	FEMA	Federal Emergency Management Agency
AFB	Air Force Base	FTP	File Transfer Protocol
AFCA	Air Force Communications Agency	FY	Fiscal Year
AKO	Army Knowledge Online	GHz	Gigahertz
APL	Approved Products List	GIG	Global Information Grid
ATO	Authorization to Operate	GOTS	Government Off-The-Shelf
BBN	Baseband Node	GSM	Global System for Mobile Communications
BGAN	Broadband Global Area Network	HPW	High Performance Waveband
C3	Command, Control and Communications	HTTP	HyperText Transfer Protocol
C3I	Command, Control, Communications and Intelligence	IA	Information Assurance
C3T	Command, Control and Communications Tactical	IATO	Interim Authorization to Operate
C4I	Command, Control, Communications, Computers and Intelligence	IATT	Interim Authorization Test
CAMSPAC	Communications Area Master Station Pacific	ICP	Interoperability Certification Panel
CITEE	Commercial Internet and Telephone Everything Over Internet Protocol Enclave	ICTO	Interim Certificate to Operate
CJCSI	Chairman of the Joint Chiefs of Staff Instruction	Inc/INC	Increment
CONUS	Continental United States	INMARSAT	International Marine/Maritime Satellite
COTS	Commercial Off-The-Shelf	IP	Internet Protocol
CTT	Capability Test Team	ISDN	Integrated Services Digital Network
CWID	Coalition Warrior Interoperability Demonstration	ISP	Information Support Plan
DCSS	Digital Communications Satellite Subsystem	IT	Information Technology
DDS	Data Distribution System	J-6	Joint Staff Command, Control, Communications and Computer Systems Directorate
DDS-M	Data Distribution System – Modular	JCSE	Joint Communications Support Element
DEC	Deployable Executive Communications	JECCS	Joint Enhanced Communications Control System
DIACAP	DoD Information Assurance Certification and Accreditation Process	JFHQ-NCR	JFHQ – National Capital Region
DICE	DoD Interoperability Communications Exercise	JFT-CS	Joint Task Force – Civil Support
DISA	Defense Information Systems Agency	JITC	Joint Interoperability Test Command
DISN	Defense Information Systems Network	JNN	Joint Network Node
DKO	Defense Knowledge Online	JS	Joint Staff
DNS	Domain Name System	JSIC	Joint Systems Integration Center
DoD	Department of Defense	JTF	Joint Task Force
DOT&E	Director of Operational Test and Evaluation	JUICE	Joint Users Interoperability Communications Exercise
DRSN	Defense Red Switch Network	JWICS	Joint Worldwide Intelligence Communications System
DSCS	Defense Satellite Communications System	KB	Kilobyte
DSN	Defense Switched Network	LAN	Local Area Network
DT	Developmental Testing	LCS	Launcher Control Station
DTC	Digital Technical Control	LISA	Learn Invoke Simulate Analyze
DTC-R	Digital Technical Control – Refresh	LMR	Land Mobile Radio
		LOS	Line-of-Sight
		MAGTF	Marine Air-Ground Task Force
		MAQA	Modular Advanced Quad-band Antenna
		MARCORSYSCOM	Marine Corps Systems Command
		Mbps	Megabits per second
		MCAS	Marine Corps Airstation
		MCP	Mobile Command Platform

DoD Interoperability Communications Exercise FY2010

MCST	Multi-Channel Satellite Terminal	TCC	Transportable Communications Central
MCTSSA	Marine Corps Tactical Systems Support Activity	TDC-ICEv3	Theater Deployable Communications Initial Communications Element version 3
M-Hop	Multiple Hop		
MHz	Megahertz		
MIDAS	Multiplexer Integration and DCSS Automation System	TDMA	Time Division Multiple Access
MLPP	Multi-Level Precedence and Preemption	TDN	Tactical Data Network
MSC	Mobile Switching Center	THAAD	Terminal High Altitude Area Defense
MST	Multi-channel Satellite Terminal	TISP	Tailored Information Support Plan
MSE	Mobile Subscriber Equipment	TJTN	Theater Joint Tactical Network
MUX	Multiplexer	TOS	Tactical Operations Station
NAVAIR	Naval Air	TRCS	Tactical Radio Communications System
NAVAIRSYCOM	Naval Air Systems Command		
NFAS	Naval Facilities Acquisition Supplement	TRI-TAC	Tri-Service Tactical Communications
NIPR	Unclassified-But-Sensitive Internet Protocol Router	Tropo	Tropospheric
NIPRNet	Unclassified-But-Sensitive Internet Protocol Router Network	TS/SCI	Top Secret/Sensitive Compartmented Information
NR-KPP	Net-Ready Key Performance Parameter	TSM	Transition Switch Module
NSS	National Security Systems	TST	Tactical Satellite Communications Terminal
OT	Operational Testing	TTP	Tactic, Technique, Procedure
PBX	Private Branch Exchange	TTSB	Theater Tactical Signal Brigade
PC	Personal Computer	ULCS	Unit Level Circuit Switch
PEO	Program Executive Office	U.S.	United States
PM	Program Manager	UC	Unified Capabilities
PMO	Program Management Office	UCR	Unified Capabilities Requirements
PO	Program Office	UHF	Ultra High Frequency
POC	Point of Contact	UID	Unique Identification
POP	Point of Presence	USA	United States Army
PRI	Primary Rate Interface	USAF	United States Air Force
PSI	Participating System Information	USASOC	United States Army Special Operations Command
PSTN	Plain Switch Telephone Network		
QOS	Quality of Service	USCG	United States Coast Guard
R4S	Release 4 System	USJFCOM	United States Joint Forces Command
RF	Radio Frequency	USMC	United States Marine Corps
RHN	Regional Hub Node	USNORTHCOM	United States Northern Command
RIS	Radio Integration System	USSOCOM	United States Special Operations Command
RRS	Rapid Response System		
RTS	Real Time Services	V or v	Version
SATCOM	Satellite Communications	VCS	Voice Communications System
SC2IP	Small Command and Control Internet Protocol	VHF	Very High Frequency
SEP	Signal Entry Panel	VICOM	Virtual Intercom System
SFAE	Staff for Acquisition Executive	VoIP	Voice over Internet Protocol
SHF	Super High Frequency	VoSIP	Voice over Secure Internet Protocol
SIP	Session Initiate Protocol		
SIPR	Secret Internet Protocol Router	VSAT	Very Small Aperture Terminal
SIPRNet	Secure Internet Protocol Router Network	VTC	Video Teleconferencing
SME	Subject Matter Expert	WAN	Wide Area Network
SMTP	Simple Mail Transfer Protocol	WGS	Wideband Global SATCOM
SNAP	SIPR/NIPR Access Point	WiFi	Wireless Fidelity
SOF	Special Operations Forces	WIN	Warfighter Information Network
SOFSIP2	Special Operations Forces Scalable Internet Protocol Package 2	WIN-T	Warfighter Information Network - Tactical
SSS	Single Shelter Switch		
STEP	Standardized Tactical Entry Point		
SVoIP	Secure Voice of Internet Protocol		
TACPAC	Tactical Package		
TACTICELL	Tactical Cellular		



**Joint Interoperability Test Command
Headquarters
P.O. Box 12798
Fort Huachuca, AZ 85670-2798**

**Joint Interoperability Test Command
Washington Operations
3341 Strauss Avenue, Suite 236
Indian Head, MD 20640-5035**

**JITC/DICE: <http://jitc.fhu.disa.mil/dice/>
DICE AKO/DKO portal: <https://www.us.army.mil/suite/page/460163>
1-800-538-JITC**