WIN-T SATCOM Overview Briefing

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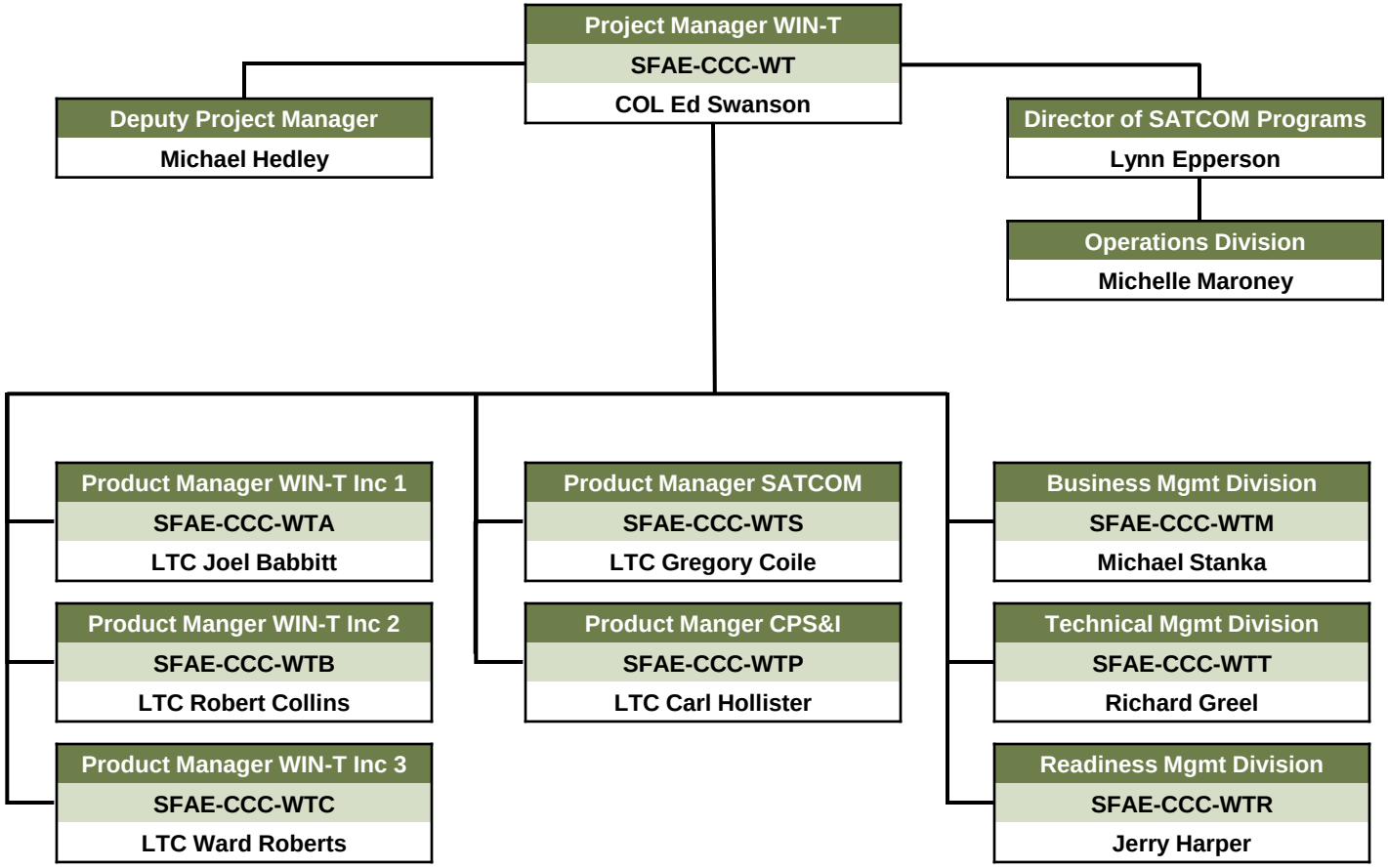
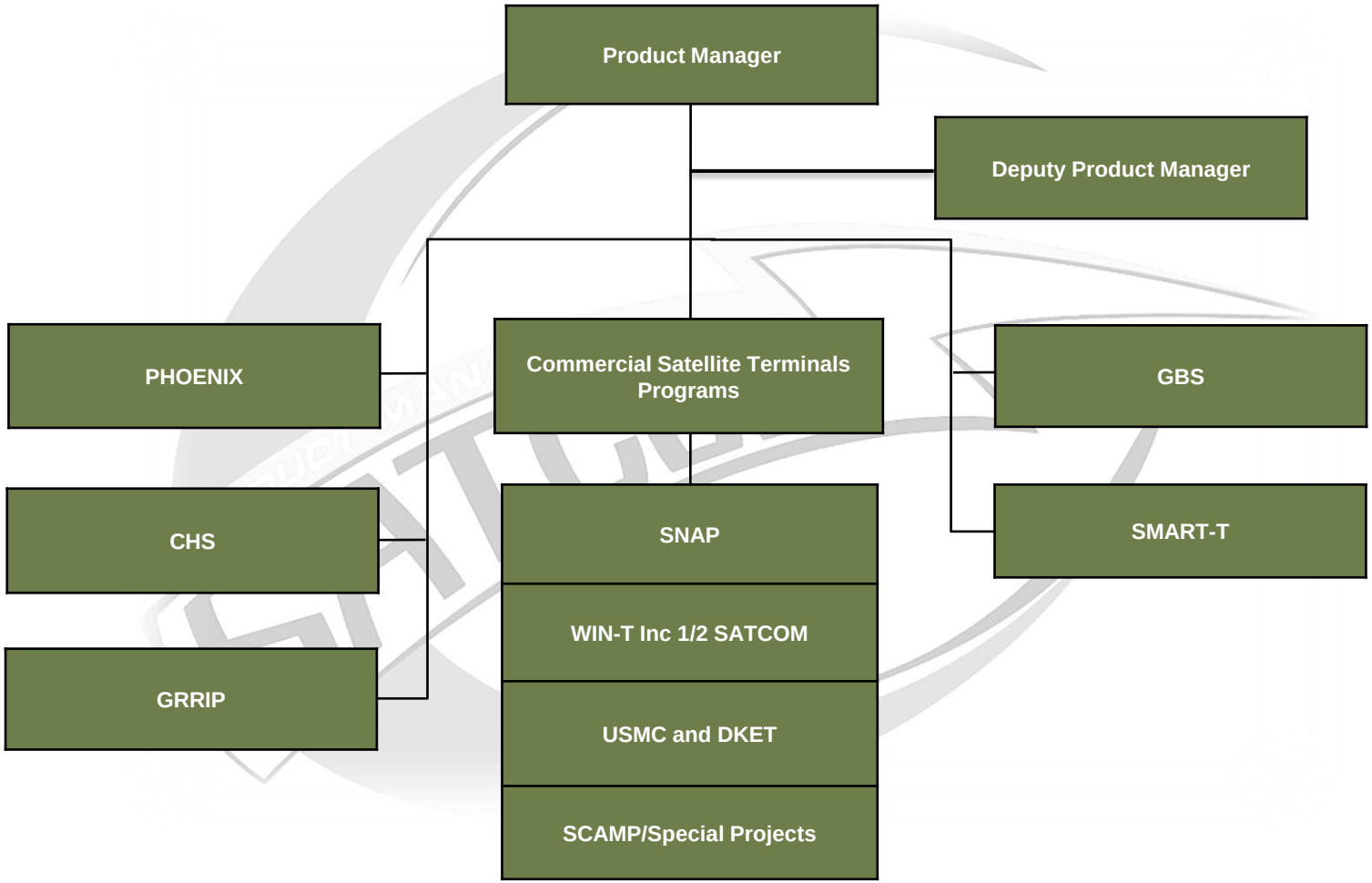
PEO C3T
PROGRAM EXECUTIVE OFFICE COMMAND CONTROL COMMUNICATIONS-TACTICAL

http://peoc3t.army.mil/wint/

Office of the Project Manager WIN-T



Product Manager SATCOM



AGENDA

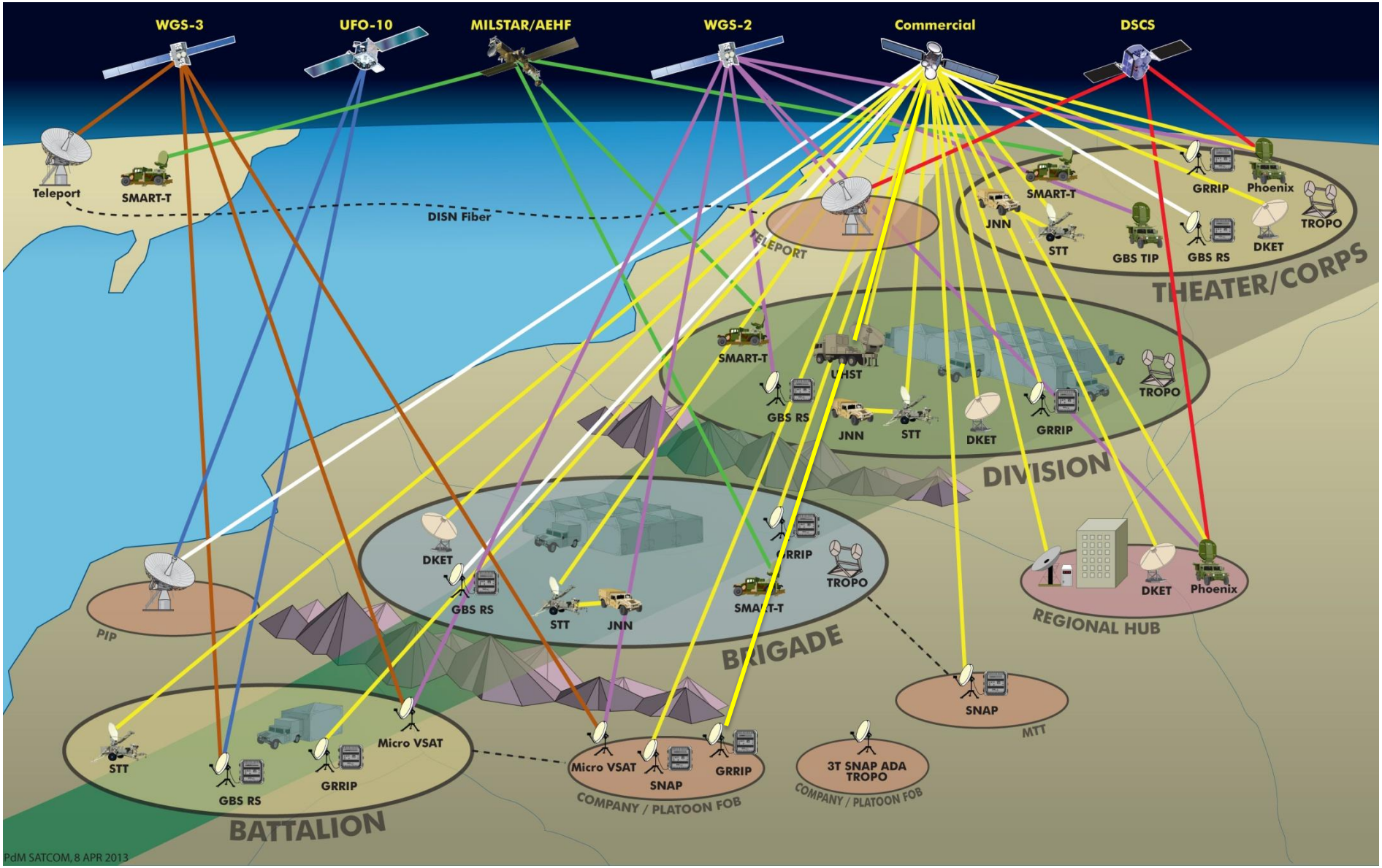
SATCOM Capabilities Overview

- ✓Operational View
- ✓Deployed Systems
- ✓Secure, Mobile, Anti-Jam, Reliable, Tactical-Terminal (SMART-T) AN/TSC-154/A
- ✓Global Broadcast Service (GBS)
- ✓Phoenix AN/TSC-156A, AN/TSC-156B, AN/TSC-156D Multi-Band SHF Terminal
- ✓SIPR NIPR Access Point (SNAP)
- ✓SIPR NIPR Access Point-Tactical Transportable Tropo (SNAP-3T)
- ✓Deployable Ku Earth Terminal (DKET)
- ✓Global Rapid Response Information Package (GRRIP)
- ✓GATR Antenna System
- ✓Micro-Very Small Aperture Terminal (VSAT)
- ✓Common Hardware Systems (CHS)

PEO C3T
PROGRAM EXECUTIVE OFFICE COMMAND CONTROL COMMUNICATIONS-TACTICAL

SATCOM Operational View

PROJECT MANAGER WIN-T



SATCOM Deployed Systems

Meeting immediate mission needs by providing SATCOM systems to support Army/Joint/Coalition/NATO requirements

- Deployable Ku Band Earth Terminal (DKET)
- SIPR/NIPR Access Point (SNAP)

- Phoenix (Quad-band, Multi-channel Tactical SATCOM Terminal)
- Global Broadcast System (GBS)
- Secure Mobile Anti-Jam Reliable Tactical-Terminal (SMART-T)
- Common Hardware Systems (CHS)
- Global Rapid Response Information Package (GRRIP)





SATCOM CAPABILITIES

- **ACAT II Program**
- The Army's 278 SMART-Ts are being fielded at the Brigade, Division, and Corps echelons in the Active Army, National Guard, and Reserve components

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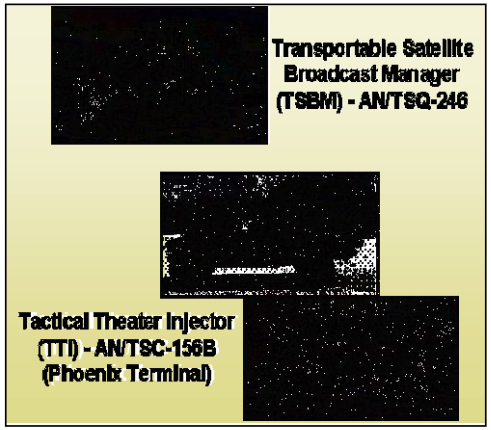
SMART-T

Secure, Mobile, Anti-Jam, Reliable, Tactical-Terminal

Provides Current & Future Force with Beyond Line of Sight SATCOM that is:

- ***Secure:*** Voice & Data Range Extension Capability for Army, Air Force and Marine Corps units in OEF
- ***Mobile:*** HMMWV mounted. 30 min set-up tear-down
- ***Anti-Jam:*** Protected Communication has Low probability of intercept (LPI), Low Probability of Detection (LPD) & HEMP
- ***Reliable:*** Assured Satellite Resources; Dependable in any Operational Environment; Low Probability of Exploitation (LPE) Over-The-Air-Rekey
- ***Tactical:*** Protected SATCOM for the Close Fight
- **AEHF data rates** - Extended Data Rate (XDR) up to 8.192 Mbps (Military) & 1.544 Mbps(T1)
- **EHF data rates**
  - Medium Data Rate (MDR) up to 1.024 Mbps (Military) & 1.544 Mbps(T1)
  - Low Data Rate (LDR) 75 – 2400 bps for the most austere operational environment

SATCOM CAPABILITIES



Theater Injection Point (TIP)

GBS Transportable Ground Receive Suite (TGRS)

- GBS is a **Joint ACAT IC** program with **USAF as Executive Agent**. Product Manager SATCOM is the procuring agent for the **Army, ACAT III**
- Air Force manages the Joint Program Office and is the PICA

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GBS

Global Broadcast Service

- DoD directed program: GBS is an Internet Protocol (IP) - based integrated communications system consisting of uplink injection sites, broadcast satellites, receive terminals and management processing.
- Provides near worldwide, high-throughput broadcast information system for one-way, high-speed information flow
- Augments and interfaces with other communications systems, operating over commercial and military satellites
- Broadcasts UAV video, topographic/imagery data and commercial channels such as CNN, Fox News and the Pentagon Channel directly to the soldier
- Deployed to Tactical Operation Centers (TOCs) and integrated with their Tactical Local Area Network (LAN) for distribution of information to LAN users.

SATCOM CAPABILITIES

- **ACAT III Program**

Phoenix

- Operates in military X and Ka Band and commercial C and Ku Bands with data rate up to 20 Mbps (50Mbps with "D" terminal)
- Qualified for the military environment: temperature, shock, vibration
- High-capacity, inter- and intra-theater data range extension over commercial and military satellites
- Can interface with other strategic networks via Standardized Tactical Entry Points or strategic assets
- Provides highly mobile, strategically transportable, wideband communications capability and displaces selected AN/TSC-85/93 terminals at expeditionary signal battalions and complements the AN/TSC-85/93 Service Life Extension Program

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SATCOM CAPABILITIES

- **Non-POR**
- **COTS Customer Funded System**

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SNAP

SIPR/NIPR Access Point

- Key communications component providing robust, long-range, Beyond-Line-Of-Site NIPR, SIPR, and Voice capability down to the Joint Security Station/Combat Outpost, Company level and below
- Provides access to the tactical and strategic networks for mission command, call for fire, Medevac and information exchange
- Works in concert with WIN-T Increments 1 and 2
- Weigh 1,200 - 1,300 pounds and fit into eight transit cases, which can be transported in the back of High Mobility Multipurpose Wheeled Vehicles or helicopters
- Modular design allows for varying dish and antenna sizes to appropriately satisfy mission requirements
- Easy to move around the battlefield, providing an expeditionary element to the force
- Certified Ka and X-band capability to take advantage of the Department of Defense's Wideband Global SATCOM satellites

SATCOM CAPABILITIES

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SNAP-3T

SIPR NIPR Access Point-Tactical Transportable Tropo

- Smaller and Lighter than Legacy TROPO Systems (6 Ruggedized Transit cases, 843 lbs)
- Modular, Scalable, Easily Transportable
- Integrated SNAP 1.2 and 2.0m VSAT System
- Utilizes Comtech TROPO Modem and 500 Watt HPA
- Operates in C Band
- IP Interface on modem
- Operates with 5KW generator
- Simplified GUI for antenna pointing
- Superior technical solution; as demonstrated in Army sponsored tests

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DKET

Deployable Ku Earth Terminal

- Designed for use at larger hub locations.

- Supports commercial Ku-Band frequencies, and have recently been certified for Ka and X band capability to take advantage of U.S. military satellites.

- Highly transportable, self-contained and can establish headquarters-level, network-hub connectivity anywhere a mission demands.

- DKETs are currently deployed in three configurations:
  - Light (3.7 – 4.8M)
  - Mobile (3.9M)
  - Standard (4.6M – 7M)

This lighter design has a tri-fold antenna and a smaller shelter to make redeployment and setup faster and easier

- 125mph wind survivability

- The robust DKET network makes for a seamless transition to backup equipment or terminals, eliminates long outages and minimizes impact to the Soldier.

SATCOM CAPABILITIES

Communications Control Set, AN/PSC-15
NSLIN: FA9586; **MCN/NSN:** 5895-01-C05-2162
(AKA: GRRIP; Klas Pioneer Express)

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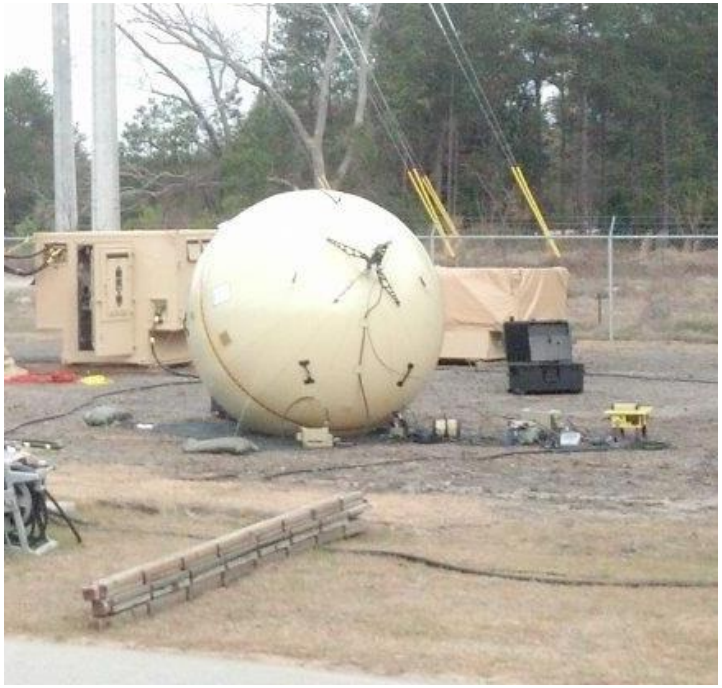
GRRIP

Global Rapid Response Information Package

- Comprised of a laptop, red & black side routers, telephone handset, Type 1 encryption and Broadband Global Area Network (BGAN) User Terminal. Used at the Secret Level
- Provides secure BGAN voice, data and video communication services to remotely deployed users
- AN/PSC-15 Supports 4 external red laptops, 1 external black and 3 red-side voice ports
- MBAC (Mobile BGAN Access Capability) includes both the AN/PSC-15 plus the Gateway access to DISN services.
- AN/PSC-15 and Gateway have an approved type-accredited Authority To Operate (ATO) and is JITC Certified.
- Kit is packaged in an easily transportable 28 lb fly away case, and has a quick set-up time with auto network setup detection.

SATCOM CAPABILITIES



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GATR Antenna

- Currently being deployed by USMC
- GATR 1.2 meter Antenna System is a unique ultra-portable design that can provide high-bandwidth communications for transmission of secure and non-secure data, voice, and video, all in a compact package.
- The system integrates a patented inflatable radome with a precision antenna, allowing all components to fit in a backpack weighing less than 50 lbs (23 kg)
- The GATR 2.4 meter antenna system is a single-band system that can be packed into as few as two cases weighing less than 99 pounds each
- The system is currently undergoing for X-band certification

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Micro VSAT

Micro-Very Small Aperture Terminal

- This micro-VSAT features integration and thermal management in a small (27 lb) package.
- Major system components have been modularized into separable subsystems to simplify upgrades and logistics.
- Packaging options include small backpacks, a single, commercial aircraft compliant overhead transit case and softside rollaboard luggage
- Can be configured for single, dual or tri-band operation at time of delivery or through field upgrades.
- Terminal operators can change frequency bands in the field without tools.
- The 65cm (2.1 ft) reflector petals are common to X, Ku and Ka band terminals. Replacement of the feed and R/T assemblies enables dual or tri-band operation
- A 65cm (2.1 ft) dual band solution (X and Ku band for example) weighs 38 lbs.

SATCOM CAPABILITIES

Battle Command Common Services (BCCS)

WIN-T Inc 1 Operational Transit Cases (OTC)

V2 RPDA

Rugged Laptop Computer (RLC-3G - Miltope)

Dell E6600 XFR

V2 3u CISC Server

V2 1KW Uninterruptible Power Supply (UPS)

ACAT II Program

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CHS

Common Hardware Systems

• CHS Mission: to improve network interoperability and connectivity on the battlefield by providing state-of-the-art, proven, interoperable, compatible, deployable and survivable computing and networking hardware, peripherals devices and ancillary equipment for C4ISR Systems to the Army and other DoD Agencies.

• CHS-4 Contract: is a 5-year IDIQ FFP/CPFF, awarded Aug 11, $3.7B ceiling, prime contract with 20 major subs and over 290 small business vendors.

•CHS-5: The follow on contract is scheduled for award in 2QFY16.

• Hardware: Available in four versions:
- V1: Non-ruggedized
- V1+: Some Ruggedization
- V2: Ruggedized
- V3: Near MILSPEC

• Warranty and Sustainment: Customizable for all hardware:
- Standard 5-year: warranty repairs or replacements are accomplished within a 72-hour repair turn-around-time (TAT) at worldwide CHS RSCs
- Tailorable warranty: covers a time period supporting a unique customer requirement.

• Systems Engineering and Hardware Design: for modified COTS IT systems and hardware baselines, configurations, and technology assessments. Design support for customer hardware requirements is provided at no cost to the customer.

• Technical Assistance and Support Services (TASS): including First Article Testing on ruggedized equipment, HEMP & NBC testing, on-site technical and field exercise support, reset and deep clean, integration of computer and networking hardware into systems, out-of-warranty repairs, other than fair wear tear repairs, hardware spares storage, NSN assignment.

CLOSING THOUGHTS

Potential Areas of Interest

- CoCP
- T2C2
- TDMA (Phoenix)
- 2-Way GBS

Observations

- RFIs
- RFPs
- CPARS

QUESTIONS

http://peoc3t.army.mil/wint/