Next Generation Deployable Communications for Military & Civil Operations

TechNET

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Agenda

• Deployable Communications – The Need
• Airbus Defence & Space – Our Heritage
• DCIS – The New solution for NATO
• Mobile IP Node (MPIN) – The Solution for Tomorrow
• Summary
Deployable Communications

TACIP® & Mobile IP Node

ISTAR Demands

Multiple services

Dynamic Setup

Secure

Meet the Mission

Easily Used

Scalable

Ubiquitous applications

Modular

Easily Maintained
Never Enough Communications in a Crisis

- Infrastructures damaged or destroyed
- No coverage in remote areas
- Inadequate capacity to meet enhanced need
- Can’t reach all affected people
- Unauthorised/hostile use of systems

Be Prepared to meet enhanced need

- Build Resilience
- Provide backup capacity
- Make available deployable communications
- Build Population Warning communications
- Design in security
Airbus Defence & Space – Our Heritage

- Synergy (Iraq)
- RTTS/ DLAN
- Tetrapol (PMR)
- Cormorant
- DII

Images of various military equipment and technologies are shown in the diagram.
NATO DCIS – Deployable Communication and Information System

- Providing forces with secure communication services between deployed command and control elements

- DCIS Initial order:
  - Complete by June this year
  - Will support 8 of NATO’s planned 46 Points of Presence (POPs)
  - Proving ground Operation Live Test in Poland
NRF DCIS Capabilities

**CONNECTIVITY**
- SATCOM via TSGT, DSGT, Flyaway terminals
- Direct Fibre
- SR/LR LOS Radio bearers
- Bearers of Opportunity (e.g. Public Switched Telephony network (PSTN), PTT)
- User distribution via INDS (resilient fibre ring or PIP Radio)

**INTEROPERABILITY**
- Interoperable with fixed C2 nodes and Nations (including Tactical Communications (TACOMS))
- Interoperable with NGCS
- Use Commercial of the Shelf (COTS) equipment
- Alignment with current and future NATO programmes e.g. IP convergence, MPLS and PCN

**SECURE**
- Provides Communications and Information Systems (CIS) at the 3 protective markings (NATO UNCLASSIFIED, MISSION SECRET and NATO SECRET)
- Information Exchange Gateways between MISSION SECRET and NATO SECRET domains (Information Exchange Gateway Type C (IEG-C))
- Information Exchange Gateways between NATO and Nations (Information Exchange Gateway Type B (IEG-B))
- Deploys Firewalls, IDS and IP encryption
- TEMPEST Approved

**MODULAR**
- μCOM (Wide Area Network (WAN) Access and NU Core)
- Secret Core
- micro Information Services Module (μISM)
- Voice Core
- Interface to Nations Module (INM)
- Wireless Crypto and Router Module (WiCR)
- Break Out Box (BoB)

**DEPLOYABLE**
- Supports 5 days NTM and is operable within 48hrs of arrival
- Capable of Roll-on Roll-off (Ro-Ro) via C-130 aircraft
- Tent provides Protection against Biological or Chemical (BC) attack
- Operates in adverse environmental conditions
- Equipment housed in ruggedised Indoor and Outdoor Transit Cases

**SCALABLE**
- Scalable to meet the deployment scenario - up to 126 Active Users
Challenges for NATO Going Forward with DCIS

Post-Afghanistan the need is to make sure that the Connected Forces Initiative (CFI) is real:

- NATO provide corporate ‘glue’ to allow full data sharing and situational awareness
- Available and effective DCIS a fundamental enabler.
- Current delays to approving the way forward not compatible with NATO plans

**Suggestion:** One Large procurement for residual DCIS post IFB2
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**Suggestion:** One Large procurement for residual DCIS post IFB2

Clear linkage between new initiatives (CFI/Future Mission Network) and IERs for DCIS
ISTAR key driver with significantly large bandwidth needs especially to tactical level
- Time Sensitive Targeting/Dynamic Targeting
- Future applications (support of)
- Encryption, its management and consequences
- Changing Standards
- Potential future bearers and their characteristics
- Linkage to the NATO Cloud

**Suggestion:** CP amendment should be followed by an update of the Target Architecture
**TACIP® - Airbus Deployable CIS**

**Rapidly Deployed** - established and operational within very short periods of time on arrival at destination.

**Dynamic Communications Network** - ideally equipped to support mobile communicators, especially to support high tempo operations.

**Easy to Use** - designed for simplicity of operation

**Cost Effective** - exploits Commercial Off The Shelf (COTS) components make it a highly cost effective

**Scalable** - modular tactical capability supporting 6 to 250 without any re-engineering or expert technical support
Proven MANET (Mobile Ad Hoc Network) solution
• Automatically and dynamically create and maintain (ad-hoc) network
  – multi-bearer intelligent routing
• Self forming and self healing
• Automatically find the most suitable path for your information
• Identify other Mobile IP Nodes and automatically form an efficient network

Radios
• Automatically detect the quality of a radio network
  – Bandwidth
  – Latency
  – Link Quality

Modernised Application Suite/Network aware applications
• Applications can adapt to the network
• User data is adapted to fit the capabilities
• Network can make decisions based on transmission types
• Designed and Tailored to Customer Needs
• Automatically changes how it handles and interprets data
• Transparently Encrypt all your data via Ectocryp®
Solution Overview

- Discover Nodes
- Discover Best Routes
- Multiple Networks Can Merge
- Any Allowed Node Can Join
- No End-User Intervention

Fixed Infrastructure
Summary

DCIS will be with NATO soon
• Successful initial testing deployment to Poland ongoing

IFB2 should be released as soon as possible if we are to progress with state of the art capabilities
• Backward compatibility required with previous procurement activities

CP amendment should be followed by an update of the Target Architecture
Thank you - for your attention!