Program Overview

AFCEA Aberdeen Chapter Luncheon
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What Does Distributed Common Ground Systems – Army (DCGS-A) Deliver?

- Historically, every sensor had its own, unique ground system to receive, store, and process data.
  - Created intelligence-sharing challenges
  - Focus on analyzing intelligence related to a single Intelligence discipline (Signal Intelligence, Imagery, etc.)

- DCGS-A Changes The Paradigm!
  - *Single system receives data from all sensors*
    - National – Aerial – Terrestrial – The Soldier
    - Intelligence easily shared
      - Army-wide – Jointly – with Coalition Partners
    - Multi-disciplined Intelligence Analysis
      - Signal – Imagery – Human Intelligence
      - Fuse into a common product to support analysis

Better Analysis – Increased Collaboration
Timely, Informed Critical Command Decisions
DCGS-A Operational Capability

**Operational Value**
- Common Framework
- One Security Login
- Integrated Multi-INT PED
- Streamline Enterprise Collaboration
- Multi-level Security across 5 networks
- Direct interface to Army and Joint BC

**Cross Domain:** Multi-Security Enclaves

**Targeting**

**Battle Command**

**SIGINT**

**Motion Imagery**

**Geospatial**

**Asset Tracking**

**Terrain Visualization**

**Terrain Analysis**

**3D Map – Google Maps**

**HUMINT**

**Collection Mgmt**

**IMINT / MTI**

**Weather**
**Data Enterprise (Brain – Cloud)**

**Migration & Modernization**

**Consolidated Components**

**USF across DCGS-A Portfolio**

**Enhanced Capability to the Force**

**Fielded Systems Aligned to Capability**

**Edge Nodes Integrated into Fielded Systems**

**Sets Path to COE**

**Continue Collapse of PORs to Common Integrated Framework**
Why Army Intelligence Needs the Cloud

Present military systems

Enabled By Cloud

Precision Search
Focus of our present Cloud-enabled Analytics

Failed System

“Google” type search
Works on Internet because can do Page Rank for relevance (popularity)

Precision

Recall
Analyze All the Data, All the Time

Today’s analytics must filter data

Tools / Analysis

Product from filtered data
Analyze **All the Data, All the Time**

*With the Cloud, we do not have to filter to get a sub-set / working set*

Analysis over the entire corpus – follow the analytic threads **without** re-loading data
Status of DCGS-A Data Supporting Analytics

Data as of Feb 12

**409 Sources**

Data as of Feb 12

**64(+) Million Messages**

- **GISA SIPRNET**
- **OEF CXI**
- **OEF SIPRNET**
- **OEF CXI**
- **OEF SIPRNET**
- **GISA SIPRNET**

Most Popular Widgets

- Common Map
- Ngram
- Unified Search
- Entity Graph
- Google Earth
- Coral Reef
DCGS-A Cloud Nodes

Core and Deployable Core Nodes:
- Provide specific services and capabilities
- Provides the Mission Tailorability to Edge Nodes and User Nodes

Edge Nodes:
- Mission-Tailorable
- Provide data and services to User Nodes
- Can operate in DIL Environment (Disconnected, Interrupted, Low-Bandwidth)
- Support Mission Command on multiple networks
- May link with other Edge Nodes and / or Core Nodes to obtain non-resident capabilities

User Nodes:
- Mission-Tailorable
- Lightweight widget apps
- Provide users access to data and requested services
- Can operate in DIL Environment, but limited to last data received and located on onboard storage
Cloud Hardware – Regional Node
Afghanistan

SIPR IOC: April 6th, 2011

CX-I IOC: May 25th, 2011
Recent Program Achievements/Milestones

✓ Updated Acquisition Strategy

✓ JROC-Validated New Requirement Document
  ➢ DCGS-A Increment 1 CPD – FEB 2012

✓ Successful MS C decision from OSD

✓ Approved program to move into Production and Deployment phase of the Acquisition cycle
  ➢ DCGS-A approved to move forward into IOT&E
  ➢ Official Acquisition Program Baseline

✓ IOT&E unit identified
  ➢ 4/3 BSTB, Ft Stewart GA
## Schedule

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### Major Events and Program Milestones

- ASARC
- MS C OIPT
- MS C ITAB
- FDD OIPT
- FDD ITAB
- DSB 1.1 Fielding Decision
- Requirement Oversight Board
- Requirement Oversight Board
- Requirement Oversight Board
- DSB 1.3 Fielding Decision

### Development

- DSB 1.0 DEV
- DSB 1.1 DEV
- DSB 1.2 DEV
- DSB 1.3 DEV

### Test

- EC 11
- NIE 12.2
- NIE 13.1
- NIE 13.2
- NIE 14.1
- NIE 14.2
- NIE 15.1
- NIE 15.2
- NIE 16.1
- DSB 1.0 DT/EUT
- DSB 1.1 DT/OT
- DSB 1.2 DT/OT
- DSB 1.3 DT/OT

### Fielding

- DCGS-A V3 Fielding IAW ARFORGEN Rotations
- DSB 1.0
- DSB 1.1
- DSB 1.2
- DSB 1.3
DCGS-A Engagement with Industry

- **DCGS-A has partnered with both OGAs and Industry in the Ozone Widget Development by:**
  - Making the DCGS-A Ozone Development environment available as a free download on DISA's Forge.mil:
    - [https://project.forge.mil/sf/projects/dcgsaozone](https://project.forge.mil/sf/projects/dcgsaozone)
  - Making all of the common infrastructure (help, query, results, map, and DIB) widgets freely available to the DoD enterprise through the Forge.mil site
  - Holding Training classes that have included both DCGS-A Staff, OGA Staff, and Industry Partners
  - Supporting the Forge.mil site and Ozone Google Group with insight into our implementation
  - Participating in the Government Open Source Software (GOSS) meetings for steering the overall Ozone Roadmap

- **DCGS-A Standard Cloud architecture supports an open integration environment:**
  - Designed around a Modular Open Systems Architecture (MOSA) to allow industry to easily integrate capabilities without relying on stove pipe approaches
  - Includes all manner of integration from core infrastructure, data integration, analytical tools, and visualization.

- **The Tactical Cloud Integration Lab (TCIL) effort has been stood up as a "proving ground" for new Cloud/Ozone capabilities targeted for inclusion in the DCGS-A Standard Cloud (DSC). This includes:**
  - Providing public meetings for understanding DSC's Cloud Architecture
  - Inviting Industry Partners to both propose and integrate capabilities onto the DSC Reference Hardware available in the TCIL
  - Providing a public website with technical information on the TCIL and DSC efforts
  - Plans are in place to stand up a TCIL Cloud node on an unclassified domain and provide VPN access to external parties
The Army DCGS program leverages a diverse Industry Team to deliver software solutions to the warfighter through Commercial, Government, and Open Source
DCGS-A Technology Focus Areas

- **Ease of use**
  - Single Common Baseline
  - Intuitive user interfaces
  - Streamlined workflow based upon analytic process
  - Training
    (Computer Based Training / Embedded Training)

- **Actionable intelligence to the edge**

- **Node to node (cloud) data synchronization / content management**

- **Knowledge management**

- **Entity extraction from unstructured information**
  (entities, activities, relationships between them)

- **F3EAD**
  (Find, Fix, Finish, Exploit, Analyze, Disseminate)
  - Aided target recognition (technology and TTP)
  - Combat assessment
Industry Day

On January 10-12, 2012 I2WD hosted the first TCIL Industry day.

- The event was considered to be a great success.
- There were large and small companies and academia represented.
- There were reviewers from I2WD, PM office and NGIC.

RFI was released in Q1 and was looking to find products to fill capability gaps in the following areas:

1. Multi-INT all source Analysis Correlation
2. Platform and Resource Allocation and Optimization Algorithms
3. Predictive Analysis
4. Language Translation Services
5. Still Image and Graphic Processing Capabilities
6. Advanced Human Intelligence Exploitation (behaviors, patterns of life, etc.)
7. Advanced Visualization/Conceptualization Tools
Upcoming Events of Interest

- Capability Surge to OEF

- Cloud Hardware and Software (1.5.3) deployment
  - GISA-E, GISA-W, Afghanistan

- DCGS-A Initial Operational Test & Evaluation (IOT&E)
  - Begins May 2012
  - 4/3 BCT, Ft. Stewart, GA

- Command Post Computing Environment (CP/CE) planning and execution

- Network Integration Exercise (NIE) 13.1 planning and execution

- Next Industry Day: ~June 2012
**Summary**
Backup Slides
Industry Day

- Total Companies briefed: 47
- Total Presentations briefed: 55 (two outside industry day, Palantir and Delex)
- Total companies being asked to come back: 5
- Total companies being told to wait till Q2 FY13: 8
- Total companies being told not at this time: 34

- Companies being asked to come back: 5
  - 42SIX – Coral Reef and possibly others
  - Georgia Tech Research institute – Multi INT
  - Palantir – CRADA work for possible integration
  - Sherpa Analytics – Large Data analytics
  - VideoBank – Digital asset management

- Companies being asked to being told to wait till Q2 FY13: 8
  - Aptima Inc – Human Network Mapping
  - Basis Technologies – Language Translation
  - Boeing – Twister / Data integration
  - CHI Systems – Harmonia
  - Hylighter – Search and collaboration
  - Linchpin Software – Multi-INT all source analysis
  - SRI - Hunter
DCGS-A Future Vision

**Prior FY09**
- 513TH
- 500TH
- 470TH
- 66TH
- 501ST
- Fixed Site IOC

**FY09**
- Technology Insertion (Cloud Computing, Advanced Analytics, CX-OZONE Framework, Cross Domain Capability)

**FY10**
- 500TH
- V3.0 UMR
- JIOC-I

**FY11**
- V3.1 LUT
- Worldwide Fielding EAC to CoIST
- ISK TF Enhancements (OZONE, HUMINT, IMINT, FMV, Geospatial, Wx, SIGINT)

**Post MS C Sustainment**
- Deployment
  - MS C
  - FDD
  - COE / Ops Intel Convergence

**Digital Capabilities in MBCCS**
- Mobile Basic EMD
- BCT/DIV/ CORPS
- DSB 1.0
- DSB 1.1
- DSB 1.2
- DSB 1.3

**DCGS-Enabled PORs**

**Future Vision**
- Cloud Edge Nodes
- SW Incremental Capability
Where We Are Headed: Converging on IC Reference Architecture 2.0

• **Common Infrastructure:**
  - Generalized Ingestion for Many Data Types
  - Analytic Backend based on Cloudbase
  - Enterprise Data Headers
  - PL4 Security
  - Common Web Tier
  - User-Attribute Based Access Control

• **New Capabilities:** Enriching All-Source Analytics with Advances in Geospatial, Full Motion Video, Biometric Info, Multi-Level Security

**IOC:** 1Q FY 13