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# Network Readiness in a Complex World

*AFCEA NOVA 15th Annual Army IT Day*

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ENABLING SUCCESS
For Today and Tomorrow

# LTG Robert Ferrell

*Chief Information Officer/G-6*

*March 31, 2016*

# Network Readiness in a Complex World
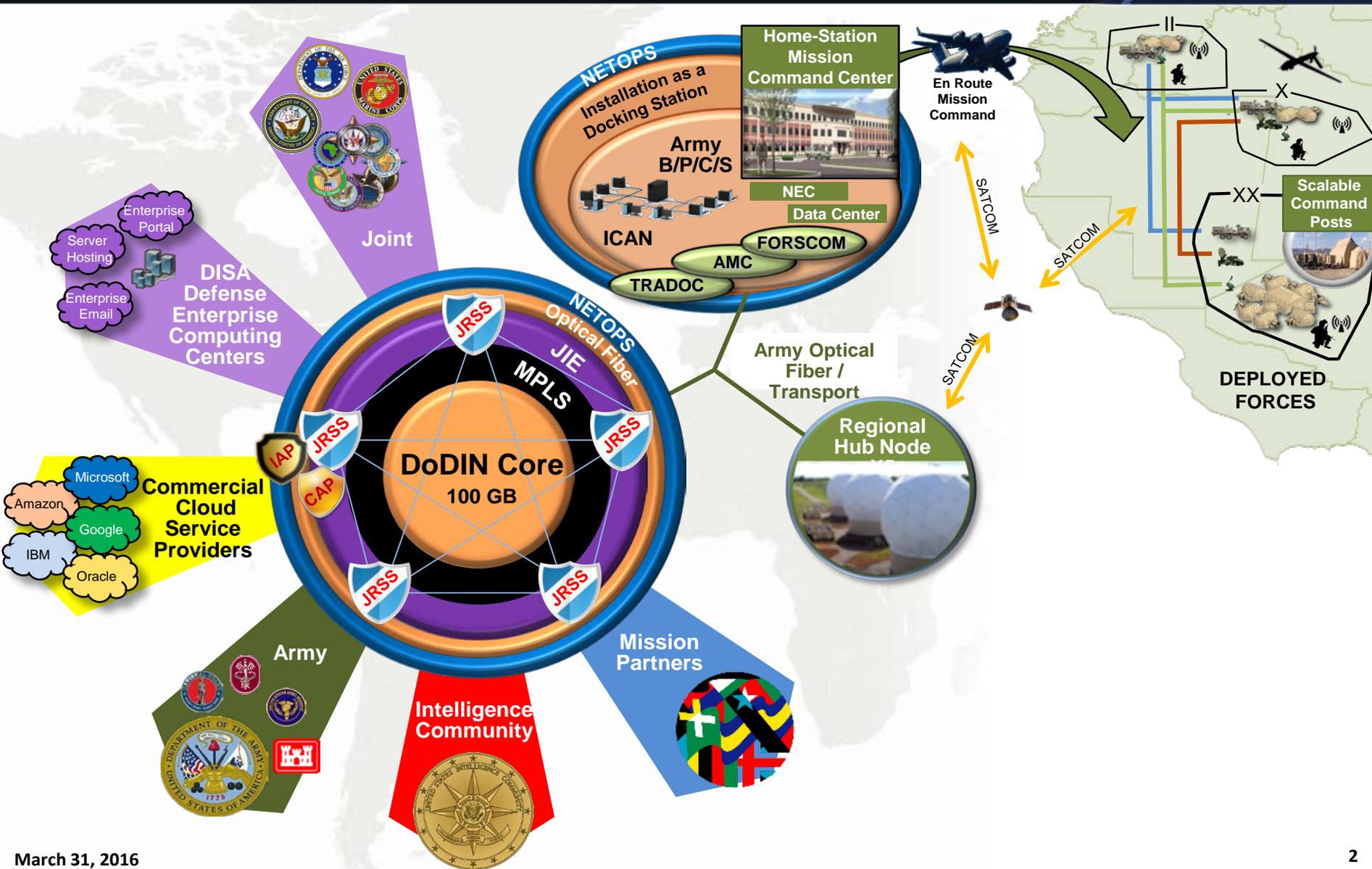
# Accelerating Migration to JRSS



**NIPR JRSS** · **SIPR JRSS** · **PLANNED** · **PROCURED** · **INSTALLED** Equipment racked and cabled · **ACTIVATED** Baselined, STIGed, ready for traffic · **MIGRATED** Passing operational traffic

## Migration Completed

| | | |
|---|---|---|
| Sam Houston | Sam Houston | Sill |
| Gordon | Hood | Hood | Red River |
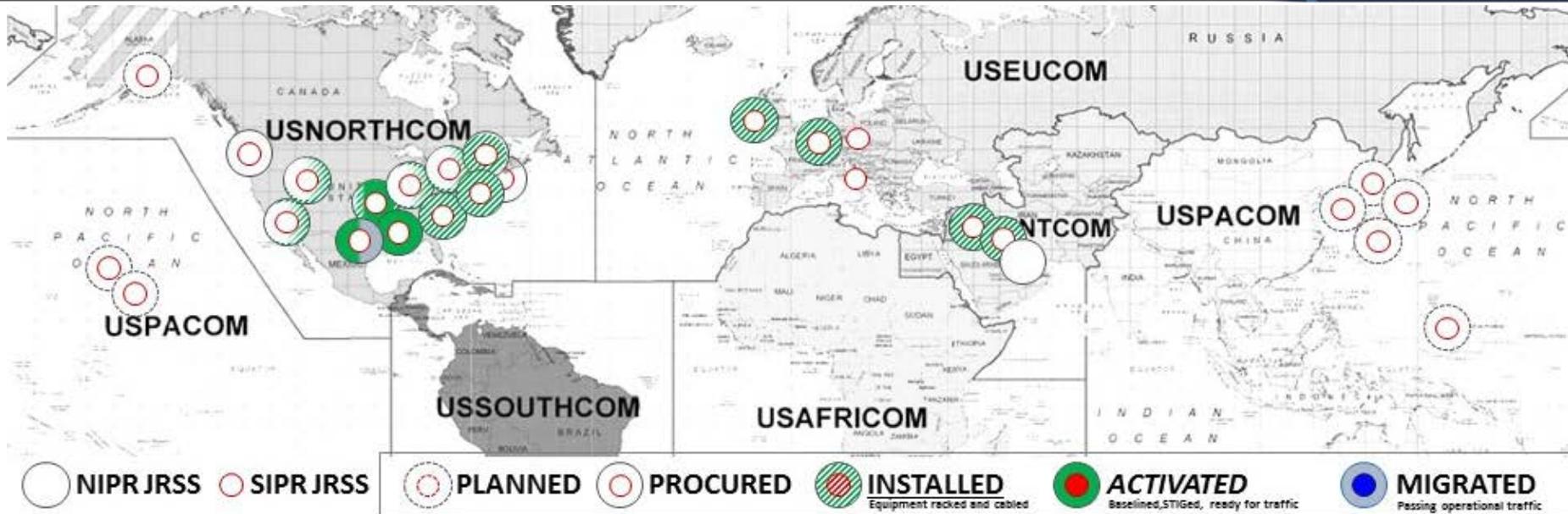
## Migration Planned for FY16

| | | | | | |
|---|---|---|---|---|---|
| USAREUR | Bragg | Bragg | Stewart | Riley | Polk |
| USACE | USARNG | USAR | Bliss | Bliss | Benning |

*Building a Joint, Defensible Network that Provides Seamless Mission Command …Anywhere, Anytime*

# Army Network Convergence

## Installation Security Stacks



| USACE | ARNG | USAR |
|-------|------|------|
| 2 Stacks | 4 Stacks | 2 Stacks |

*ARNG, USAR & USACE Network Convergence will put 60% of the Army's force behind JRSS*

## Network Convergence

- ✓ **Effort now underway**

- ✓ **Enhances Cyber situational awareness**

- ✓ **Increases bandwidth**

- ✓ **Increases performance**

- ✓ **Enables streamlined deployment of Unified Capabilities and other cloud-based capabilities**

- ✓ **CIO synchronizes transition efforts**

- ✓ **Maintains integrity, management and operational control of USACE, ARNG and USAR portions of the network**

# Cloud Computing Environment

Office of the Army Chief Information Officer/G-6

**Army Cloud Computing Strategy**

**MARCH 2015**

Enterprise Architecture Division
Army Architecture Integration Center
HQDA CIO/G-6

Version 1.0

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Levels 2

**Off-Premises Commercial CSP** ✓

Levels 4-5

IAP CAP

Levels 5

**On-Premises Other DoD** ✓

DECCs (ERPs)

CAP IAP

Levels 5-6

**MilCloud** ✓

Levels 5-6

JRSS

Levels 4-6

JRSS

Levels 4-6

**On-Premises Army Private Cloud Enterprise (APCE)**

Levels 4-6

Levels 4-6

**Tactical Cloud**

**Other Federal**

# Army Private Cloud Enterprise

- ## On-Premises 'COCO' Benefits:

  - ✓ **Economies-of-scale**

  - ✓ **Maximize efficiencies**

  - ✓ **Redstone: Consolidate 11 Army data centers with potential for other government agencies**

  - ✓ **Apply emerging technology**

  - ✓ **Set conditions for data analytics**



**Redstone Arsenal**

*Typical Data Center Environment*

- ## Army Memo – Driving apps migration & data center closures

- ## NETCOM managed with agency and industry partners

# Unified Capabilities

## UC Vision

Integrate voice, video, and data services delivered ubiquitously across a secure and highly available network infrastructure, independent of technology



## Value to the Army

- Reduce O&M costs
- Integrate VoIP services
- Cloud-based, scalable, on-demand enterprise service
- Collaboration
- Share Knowledge
- Sit Awareness
- Productivity

## *What are we doing?*

✓ **Provide UC Soft Client solution – FY17**

✓ **Accelerate VOIP transition – FY17**

✓ **Divest circuits, phones & switches**

✓ **Transition to IP VTC – FY18**

✓ **Promote DISA Global Video Service**

✓ **Transition VTC to digital transport**

# Windows 10 Migration

- **First time DoD executes synchronized, migration to one Op System**

- **Secure Host Baseline (SHB) to be completed by Jan 2017 (Waivers)**

- **Coordinated effort across DoD CIO, USCYBERCOM, DISA, Services**

**Significant benefits for moving the Army and DoD to Windows 10:**

- ✓ **Improved security posture across the Enterprise**
- ✓ **Enables quicker patching**
- ✓ **Counters common cyber intrusions**
- ✓ **Increased accountability and transparency**
- ✓ **Simplifies support personnel mission**
- ✓ **Standardizes Apps and IT Solutions**
- ✓ **Enables warfighters across a common platform**

# Cybersecurity

**Recent Cyber Incidents**

*Pentagon food court computers hacked, exposing employees' bank information*

**abc NEWS** — U.S.  World  Politics

*Pentagon Braces for Chinese Computer Attacks*

**Exclusive: Russian Hackers Target The Pentagon**

*Hackers penetrated Pentagon email*

The Washington Post — *OPM hack victims to be notified starting this month*

**THE BALTIMORE SUN** — *FBI investigating cyber attack at MedStar Health*

**Most cyber attacks against DoD and others have exploited preventable vulnerabilities**

## DoD Cybersecurity Directives

- The *DoD Cybersecurity Campaign* identifies actions to enforce cybersecurity compliance

- Two elements are the *Cybersecurity Discipline Implementation Plan (CSDIP)* and the *DoD Cybersecurity Scorecard*

| Scorecard Tasks | Goal |
|---|---|
| Ensure Every System Administrator Logs On via Public Key Infrastructure (PKI)* | |
| Ensure Every User Logs On via PKI | |
| Every Web Server on SIPRNet and Private Web Server on NIPRNet Must Use PKI for User Authentication | |
| Move all Outward-Facing Servers to Approved DMZs* | |
| Remove Windows XP Operating System Software from Entire SIPRNet & NIPRNet Inventory | |
| Remove Windows Server 2003 Operating System Software from Entire SIPRNet and NIPRNet Inventory | |
| Evaluate and Approve Systems, Fix Vulnerabilities, Perform Regular Security Control Testing | |
| Implement Host-Based Security System | |
| Every Computer Properly Patched | |
| Every Computer Properly Configured | |

* DoD Near-term Priority Tasks

# What the Army is doing

| **Coordinated across DoD CIO, DISA, ARCYBER, CDR's** | **Incorporated in Monthly Readiness Reporting** | **Tracking and assessing compliance** | **End-point visibility** |

# Network Strategy
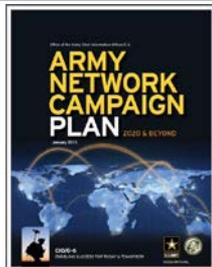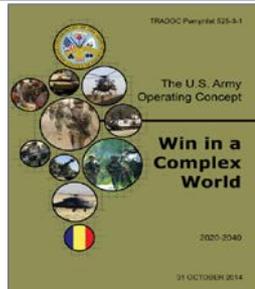
### Army Network Campaign Plan
### 2020 and Beyond
*(Released 25 February 2015)*

- Links Army & DoD Strategies
- Describes network end states and outlines LOEs
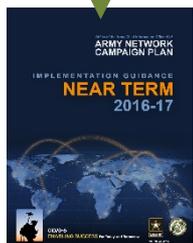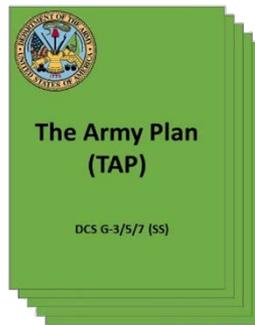
### Implementation Guidance
### Near-Term (2016 - 2017)

**Update**

- Describes activities in year of execution plus one
- Reflects acquisition, resource and mission reality
- Guides design & development of network capability
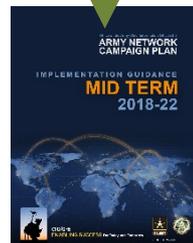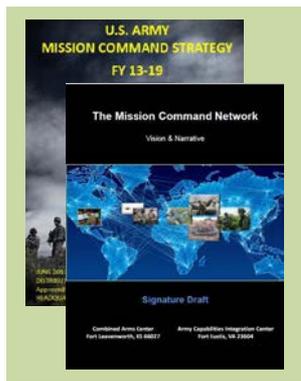
### Implementation Guidance
### Mid-Term (2018 - 2022)

**Update**

- Focuses on network capabilities
- Influences program resource planning within the POM
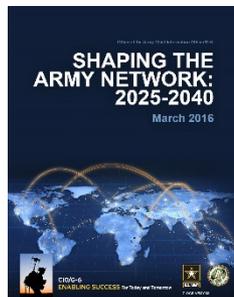
### Shaping the Army Network (2025-2040)
*(Released 31 March 2016)*

**New**

- Long-Term
- Informs and shapes R&D and experimentation
- Supports Army Strategy, Campaign Plan & Operating Concept

# "Shaping the Army Network: 2025-2040"

- ## Five Focus Areas:



*Cybersecurity & Resiliency*

*Robotics & Autonomous Ops*

*Human Cognitive Enhancements*

*Dynamic Transport, Computing, Edge Sensors*

*Data to Decisive Action*

SHAPING THE ARMY NETWORK: 2025-2040
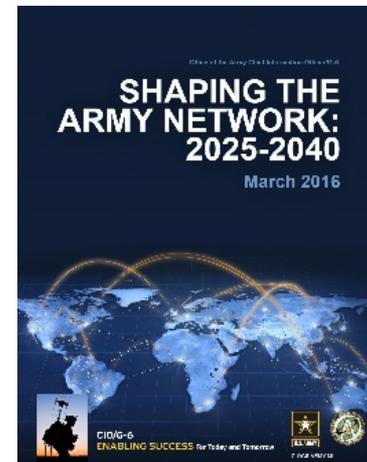
March 2016

## Key capabilities:
- ✓ Internet of Things
- ✓ Software-Defined Networking
- ✓ Advanced Analytics
- ✓ Diverse Sensors and Actuators
- ✓ Self-Healing Network

# Supporting Strategies
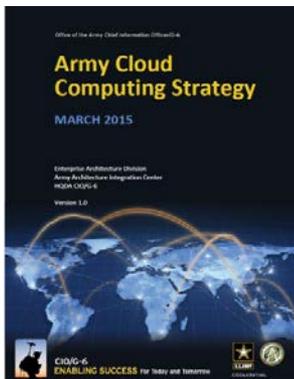
## Army Cloud Strategy

*(Released 25 March 2015)*

- Army's approach for transitioning to a cloud-enabled network
- Reduce ownership, operation & sustainment of hardware and commoditized IT
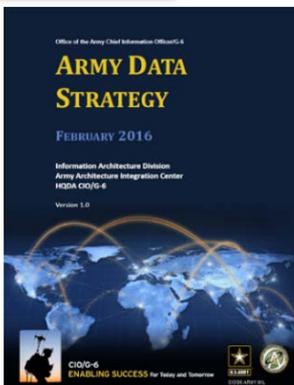
## Army Data Strategy

*(Released 3 March 2016)*

**New**

- Army data as a strategic asset
- Set goals for Army Data Management Program
- Ensure data is visible, accessible, understandable, trusted and interoperable
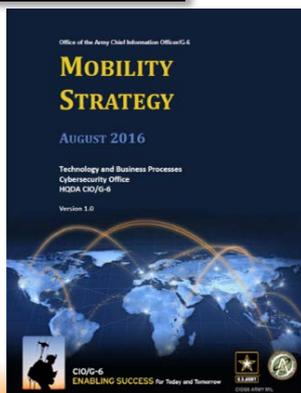
## Army Mobility Strategy

**4QFY16**

- Sets direction for mobile technology
- Embraces integration of emerging technologies
- Shapes R&D, experimentation, and investment activities

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