DoD's Strategic Mobility Vision: Needs & Challenges

Greg Youst

DISA Chief Mobility Engineer

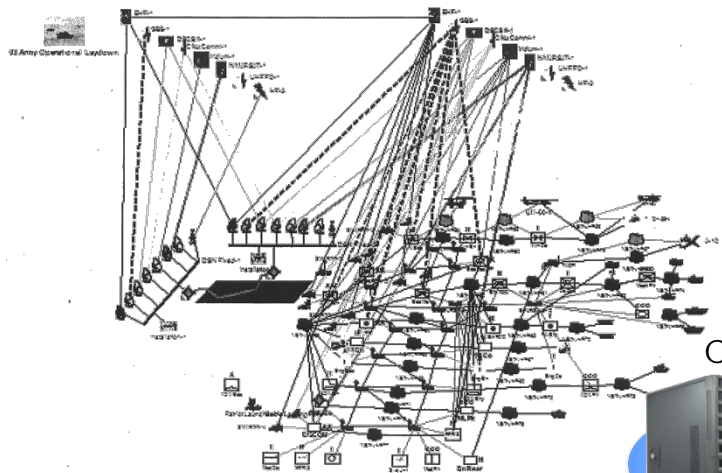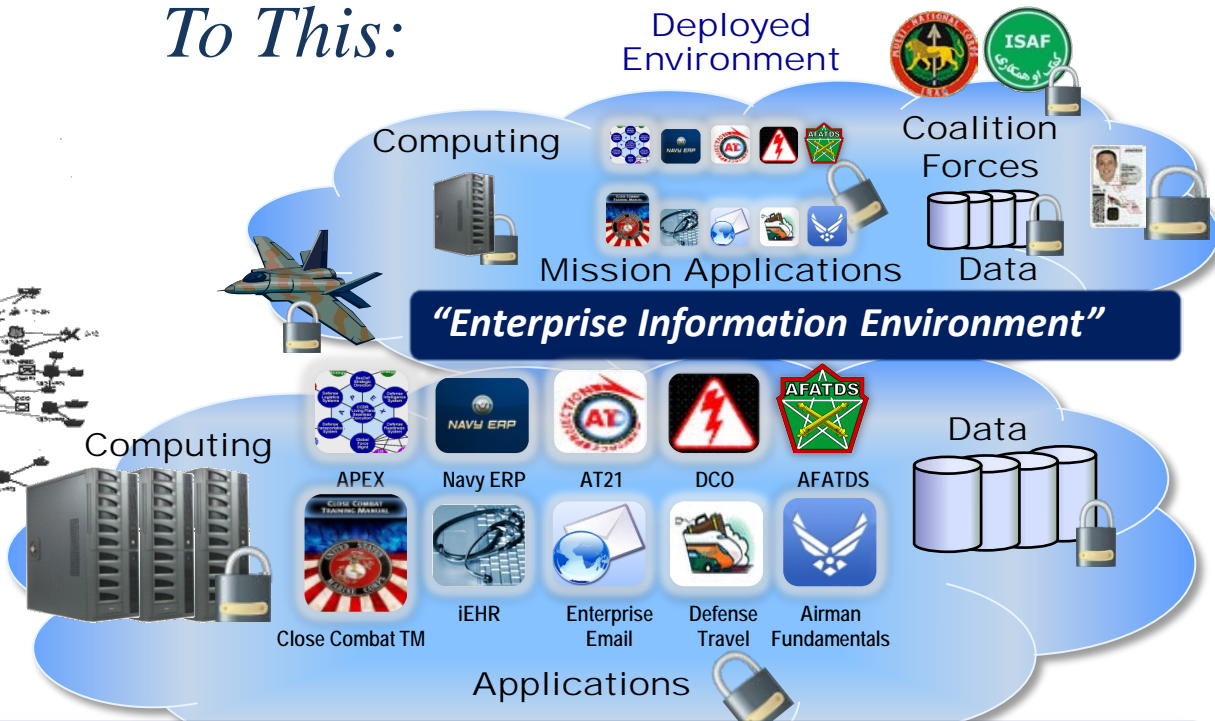October 22, 2014

Agenda

- DoD Mobility Strategy Overview

- End-State Visions

- Implementation Challenges: A Reality Check

- Tactical Environment Consideration

DoD Enterprise Mobility Vision

DISA
A Combat Support Agency

From This:

To This:

Deployed Environment

ISAF

Computing

NAVY ERP · AT21 · AFATDS

Coalition Forces

Mission Applications

Data

"Enterprise Information Environment"

Computing

| APEX | Navy ERP | AT21 | DCO | AFATDS |
| Close Combat TM | iEHR | Enterprise Email | Defense Travel | Airman Fundamentals |

Data

Applications

"Enterprise Information Environment"

Home   **Work**   **Mobile (TDY/Deploy)**   **Future Devices**

??

DoD Must Change

United in Service to Our Nation

3

DoD Mobility Strategy & Implementation Plan

DISA
A Combat Support Agency

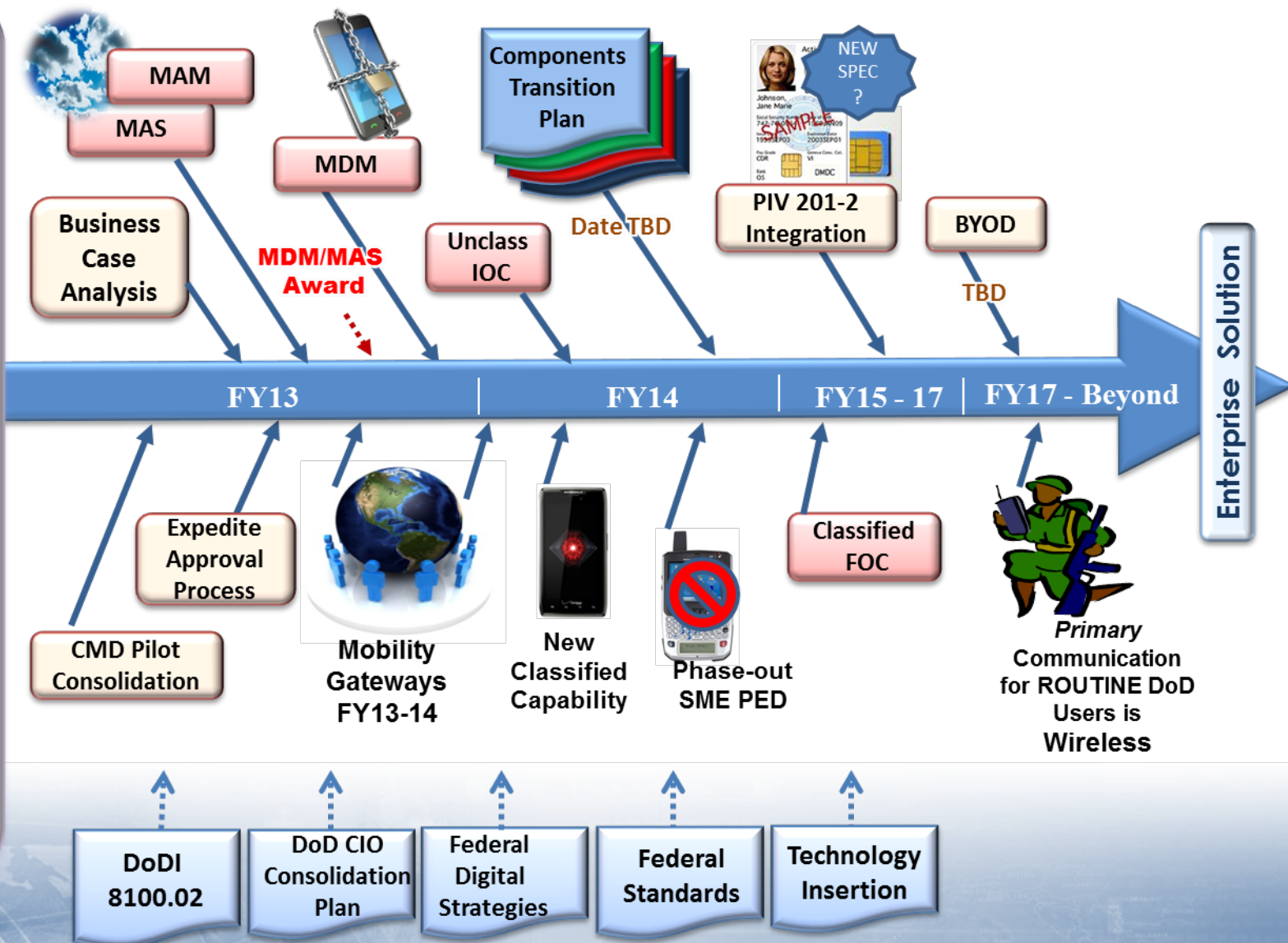**DoD Mobility Strategy**

- Information Enterprise Infrastructure to support Mobile Devices
- Mobile Device Policies and Standards
- Promote the development and User of DoD Mobile & Web-Enabled Apps

MAM

MAS

MDM

Components Transition Plan

NEW SPEC ?

Johnson, Jane Marie — SAMPLE

PIV 201-2 Integration

BYOD

Business Case Analysis

MDM/MAS Award

Unclass IOC

Date TBD

TBD

FY13 | **FY14** | **FY15 - 17** | **FY17 - Beyond**

Enterprise Solution

Expedite Approval Process

CMD Pilot Consolidation

Mobility Gateways FY13-14

New Classified Capability

Phase-out SME PED

Classified FOC

Primary Communication for ROUTINE DoD Users is Wireless

DoDI 8100.02

DoD CIO Consolidation Plan

Federal Digital Strategies

Federal Standards

Technology Insertion

United in Service to Our Nation

End-User Device Evolution

iOS, Samsung Android, Blackberry

BlackBerry

UNCLASSIFIED **Single Option** **Multiple Vendors**

Slow Approval **Approval Keeps Pace with Technology**

CLASSIFIED **GOTS Solutions** **COTS Based Solutions**
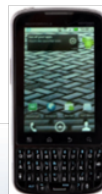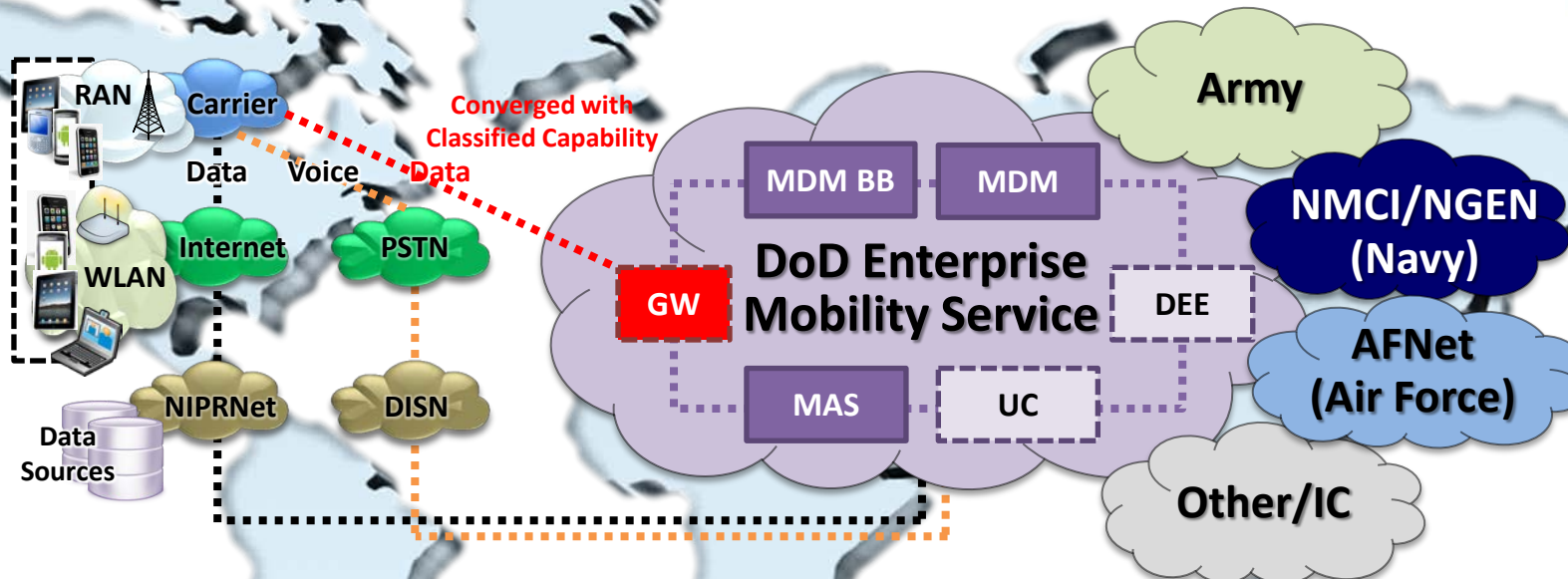
QSEC-800

QSEC-2700

SME-PED

Droid Pro

Razr Maxx

JIE End State

DoD Mobility Unclassified Capability (DMUC)
Enterprise End-State Vision

DISA
A Combat Support Agency

RAN

Carrier

Converged with Classified Capability Data

Data   Voice   Data

Internet

WLAN

PSTN

NIPRNet

DISN

Data Sources

GW

MDM BB   **MDM**

DoD Enterprise Mobility Service

DEE

MAS   **UC**

Army

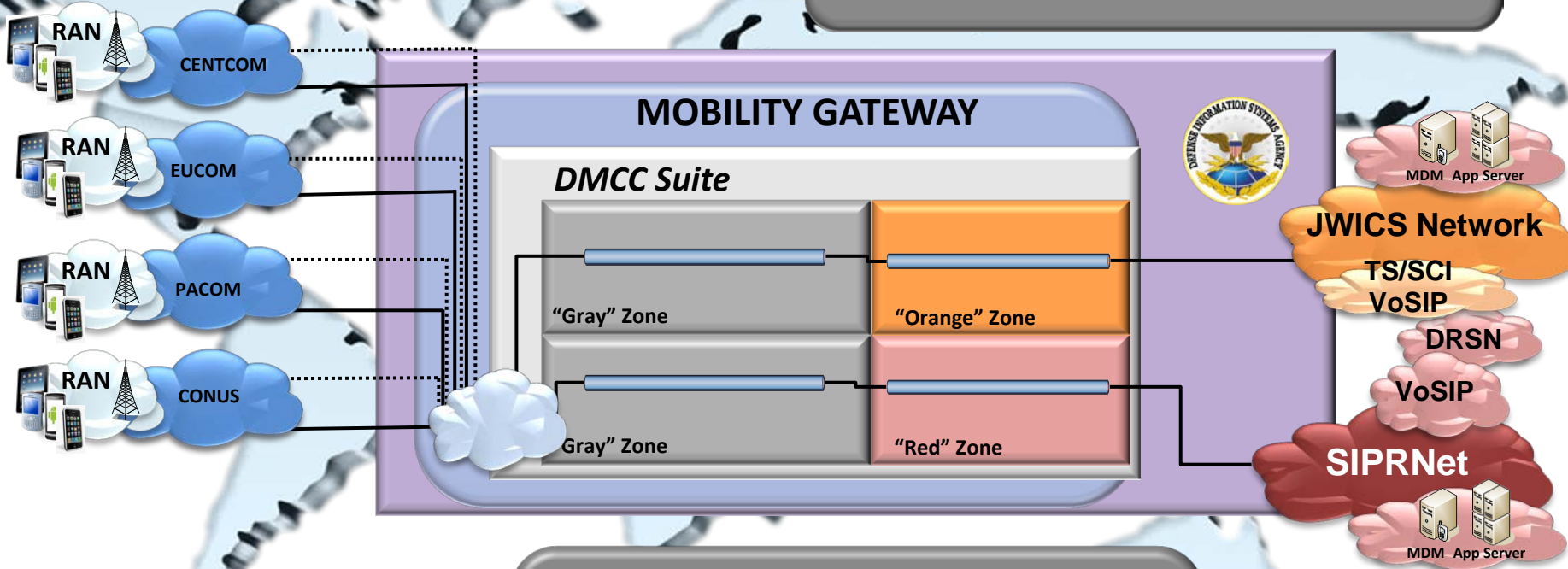**NMCI/NGEN (Navy)**

AFNet (Air Force)

Other/IC

Service Responsibilities Upon Transition
- Service Specific Mobile Applications
- App Vetting and Integration
- Software Licenses
- Tier 1: NetOps
- Tier 1: Mobile Service Desk
- Liaison to Enterprise PMO

BB	BlackBerry	MDM	Mobile Device Management
DEE	Defense Enterprise Email	NOC	Network Operations Center
GW	Gateway	PSTN	Public Switched Telephone Network
IdAM	Identity and Access Management	RAN	Radio Access Network
MAM	Mobile Application Management	UC	Unified Capabilities
MAS	Mobile Application Store	WLAN	Wireless Local Area Network

Unified in Service to Our Nation

DoD Mobility Classified Capability (DMCC) Mobile Architecture – End State

DISA
A Combat Support Agency

Other DMCC Enhancements Expected
- NSS PKI Support for mobility
- Multi-persona devices
- Automated call setup
- VPN interoperability
- WLAN operation

RAN — CENTCOM
RAN — EUCOM
RAN — PACOM
RAN — CONUS

MOBILITY GATEWAY

DMCC Suite

| "Gray" Zone | "Orange" Zone |
| Gray" Zone | "Red" Zone |

MDM App Server

JWICS Network
TS/SCI
VoSIP

DRSN
VoSIP

SIPRNet
MDM App Server

DISA Implements
- DMCC voice
- DMCC DEE
- Global deployment of multiple Gateways
- MDM/MAS capabilities
- Streamlined provisioning
- COOP (redundancy)
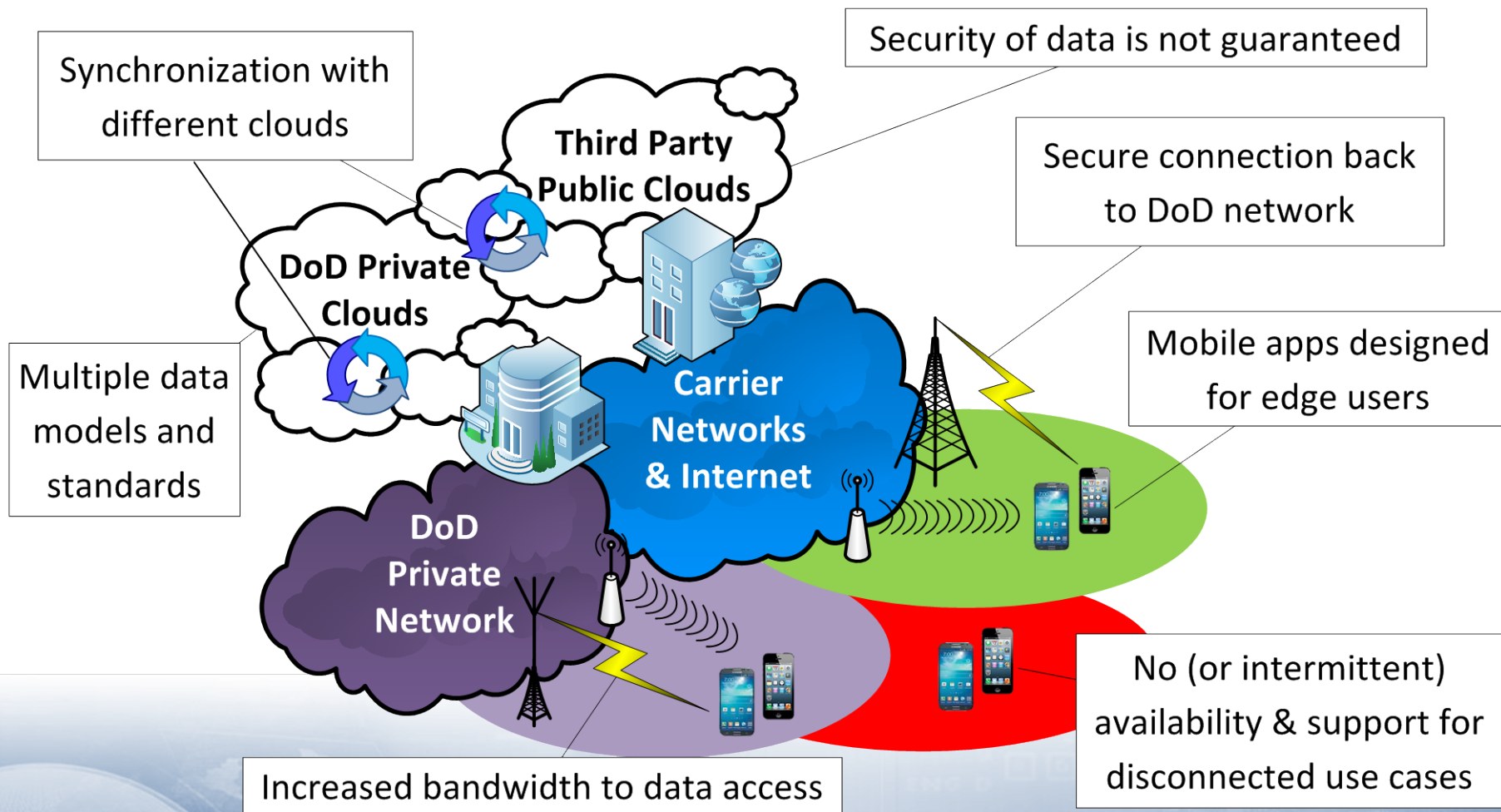- 24/7 Help Desk and NetOps

COOP	Continuity of Operations
CSfC	Commercial Solutions for Classified
DECC	Defense Enterprise Computing Center
DEE	Defense Enterprise Email
DMCC	DoD Mobile Classified Capability
DRSN	Defense Red Switch Network
MAS	Mobile Application Management
MDM	Mobile Device Management
RAN	Radio Access Network
SCIP	Secure Communications Interoperability Protocol
VoSIP	Voice over Secure Internet Protocol

United in Service to Our Nation

Reality Check: What are the Challenges?

- **Initial Mobile infrastructure is in place …**

- **What's next on the mobile horizon?**
  - Joint Information Environment (JIE) Cloud deployment
  - Better control of network access
  - Increased trust in mobile applications
  - Improved information access

United in Service to Our Nation

Mobile Device Challenges to the Edge

Synchronization with different clouds

Security of data is not guaranteed

Secure connection back to DoD network

Multiple data models and standards

Mobile apps designed for edge users

Third Party Public Clouds

DoD Private Clouds

Carrier Networks & Internet

DoD Private Network

Increased bandwidth to data access

No (or intermittent) availability & support for disconnected use cases

United in Service to Our Nation

Challenge: How do we provide Mobility from the Cloud?

- Be in line with tenants of JIE

- Provider needs to meet Data Impact Level 5 requirements

- MDM/MAS/MAM operates from Infrastructure as a Service (IaaS) or Platform as a Service (PaaS)

- Needs to support PKI management and derived credentials

- Support synchronization across various clouds

- Much more …….
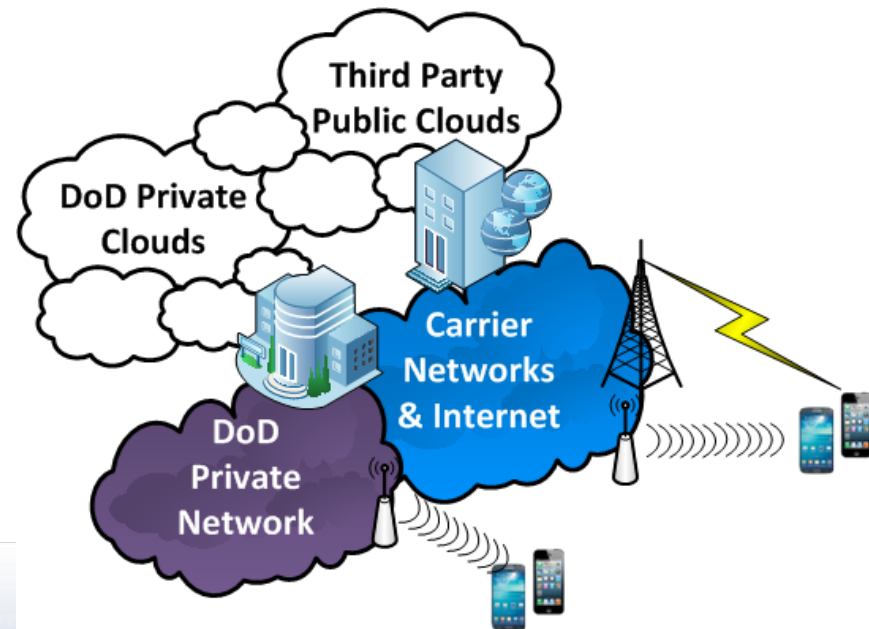
Challenge: How Can DoD Better Control Network Access?

- Primary Credentials: Derived from Common Access Card (CAC)

- Derived Credentials: Derived from approved mobile devices

- Moving toward Derived Credentials:
  - New Identity Management policy
  - Interim guidelines emerging

Primary credential

Derived credential (stored in hardware or software crypto modules)
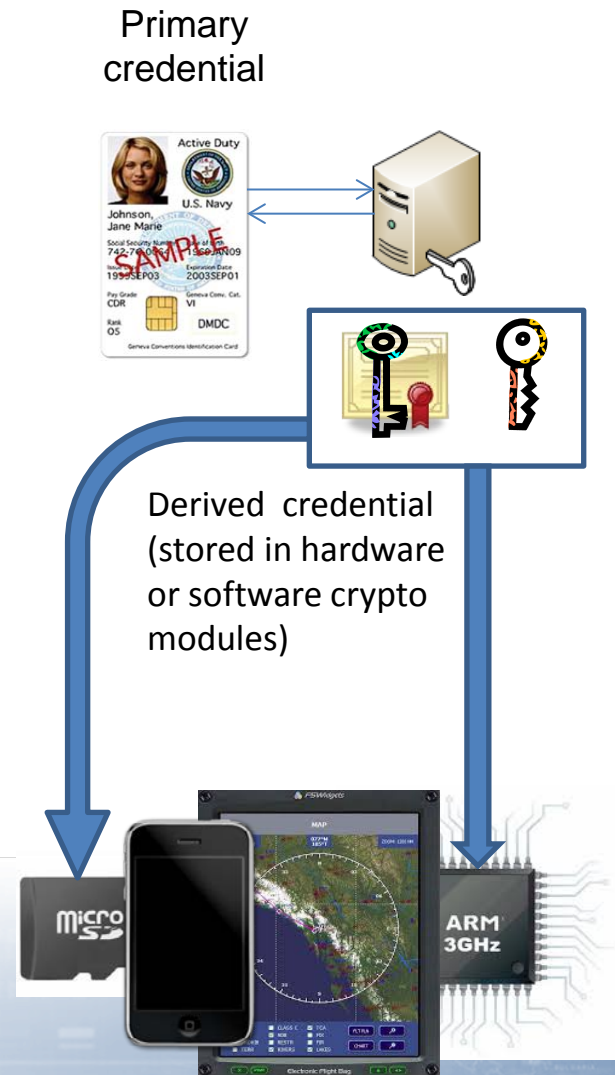
Challenge: How can DoD increase trust in mobile Applications?

- Security Hazard: Preloaded software – "bloatware"

- Satisfy DoD Security Requirements Guides: New app vetting and development tools

- Ensure Device Integrity:

  – Open MDM controls on mobile platforms

  – Supplement with continuous monitoring

- Employ hardware-based security controls

United in Service to Our Nation

Challenge: How Can DoD Improve Information Access?

DISA
A Combat Support Agency

- Enable Mobile Apps: Adapt DoD software and data sources

- Design mobile apps to use cloud-based services

- Utilize common mobile app development frameworks

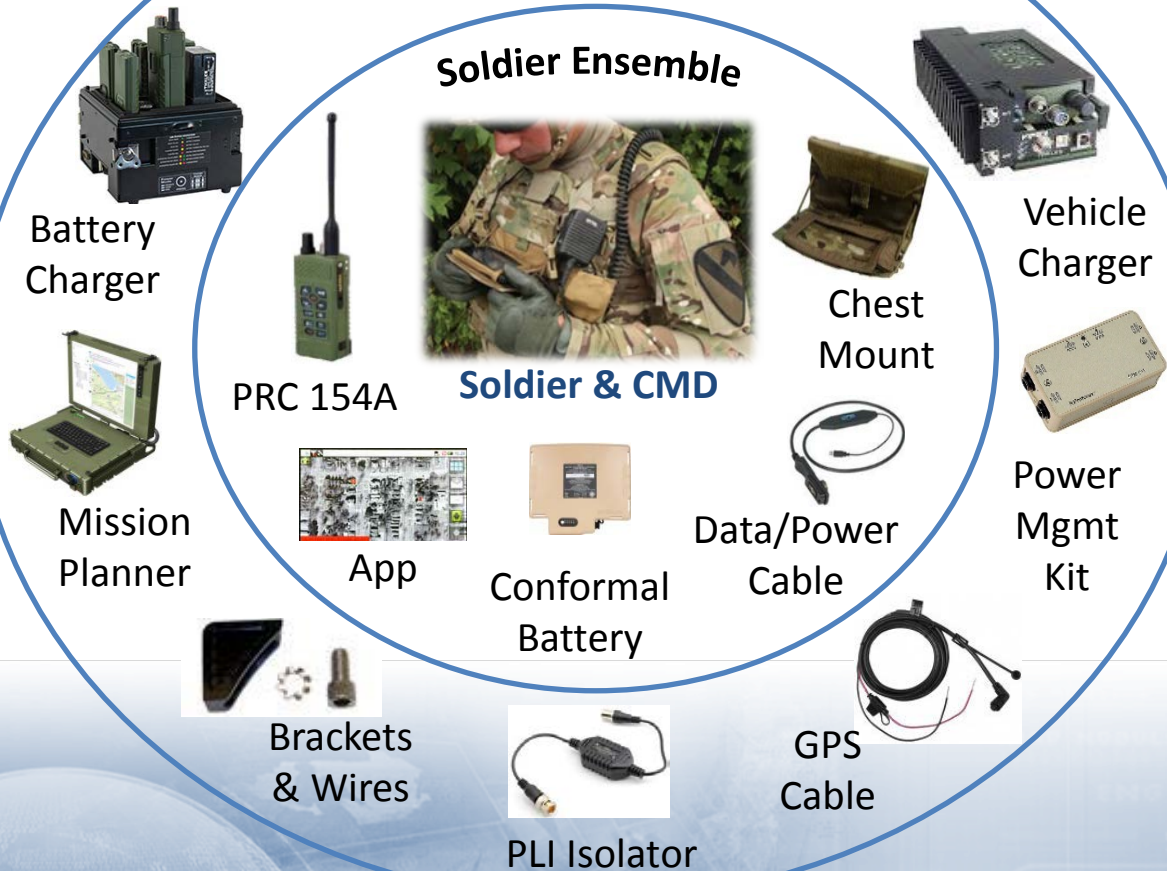- Leverage established national information exchange data models

Tactical Environment Considerations

Support Equipment

Soldier Ensemble

Soldier & CMD

PRC 154A

App

Conformal Battery

Data/Power Cable

Chest Mount

Battery Charger

Mission Planner

Brackets & Wires

PLI Isolator

GPS Cable

Vehicle Charger

Power Mgmt Kit

- **Communications Infrastructure**
- **Mission Critical Voice**
- **Spectrum**
- **Battery Power**
- **Ruggedness (MILSPEC dust, vibration, waterproofing, etc.)**
- **Ergonomics (display, human-machine interface, buttons, works with gloves)**
- **Electronic Warfare (RF and optical signatures, EMI/EMC, disable features in theater)**
- **(NV/Chem-Bio, sunlight, etc.)**
- **Environmental/Climate Flexibility**
- **Intrinsically Safe (HERO, HERF, HERP)**

CMD Tactical Edge Deployments

- Commercial solutions can be brittle – our environment can be harsh, and significant work is needed.

- Mobility challenges include:

  – Security

  – Spectrum management

  – Interoperability

  – Adapting new Technology

United in Service to Our Nation

Questions?