Decision Support
Moving to the Mobile Edge*

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*Additional details available in the full journal article
Introduction: Government Developed vs COTS

Secure Mobile Environment Portable Electronic Device (SME PED)

Latest Commercial Tech (Secured with Commercial Encryption)

Years to Develop, Obsolete when fielded ...
Introduction
New Paradigm for Encryption "Devices" (derived from NSA MACP)

Enterprise/ RED Network

Typical Encryption Device

BLACK Network

Typical Encryption Device

Enterprise/ RED Network

Traditional Encryption

CSfC Approach

Standards Hierarchy

Commercial Solutions for Classified (CSfC)

NIAPP Protection Profiles (Vendor Products)

NIST Risk Management Framework (RMF) – All Systems

Mobile Access Capability Package Ver .8, National Security Agency (NSA)

Typical Government (NSA) Developed Encryption (mil spec. box)
Replaced by Commercial IT – VPN Tunnel inside another Tunnel
Combination Lock Analogy ("Dial" a Configuration)

User Equipment

Access Networks

Mobility Infrastructure and Enterprise Services

Secret

"Back-end" Interconnect & Access to Decision Services

TS/SCI

Other

Both
Operational Viewpoint
A Sampling of Transport Alternatives

End-User-Device (s) (EUDs)

Government Network
Public Network
Government Network
Public Network

Hot Spot

Public Cell Networks
Or Government Cell Networks (Tactical)

Vehicle Cell Kit

Government Network
Public Network

LMR

Government Network
Public Network

SATCOM

Enterprise

Landing Zones To get to

Direction for Solution Developer

What Transport is Required?

Don’t forget the Threat – Signal Intercept, Cyber, etc (Risk)

Explore all the Alternatives and Consider Risk to Each and Locations Required will Drive the Transport Options
Using the High Level Requirements the Risk can be Illustrated as “Volume”
Operational Viewpoint - End User Capabilities

- and/or -

Direction for Solution Developer

Required EUDs?

Required Aps?

@ Classification Level?

Enterprise Services

Secure Phone

Secure VTC

Secure Email

Command and Control Applications

Streaming Video

C2 Applications available in fixed Locations

Other C2 Aps – Tracking Phones etc

Classified is “Secure”

Bringing Secure/Classified Communications to the end user on-the-move (all locations) using all commercial Technology
Reference Architecture or Technical Patterns (for family of solutions)

Architecture Frameworks
(DODAF, etc)

Reference Architecture
Or Technical Pattern
(for a specific application)

Solution Architecture/
Solution Space
(for specific application)

Reference Architectures can be formatted using a specific architecture framework (speeds solution architecture development)

Optimally constrained solution space

All Architectures are not the same – Use Framework, Solution, Reference, Enterprise Arch. with Caution – Each are Defined and Use will Vary