SPAWAR FORCEnet Conference

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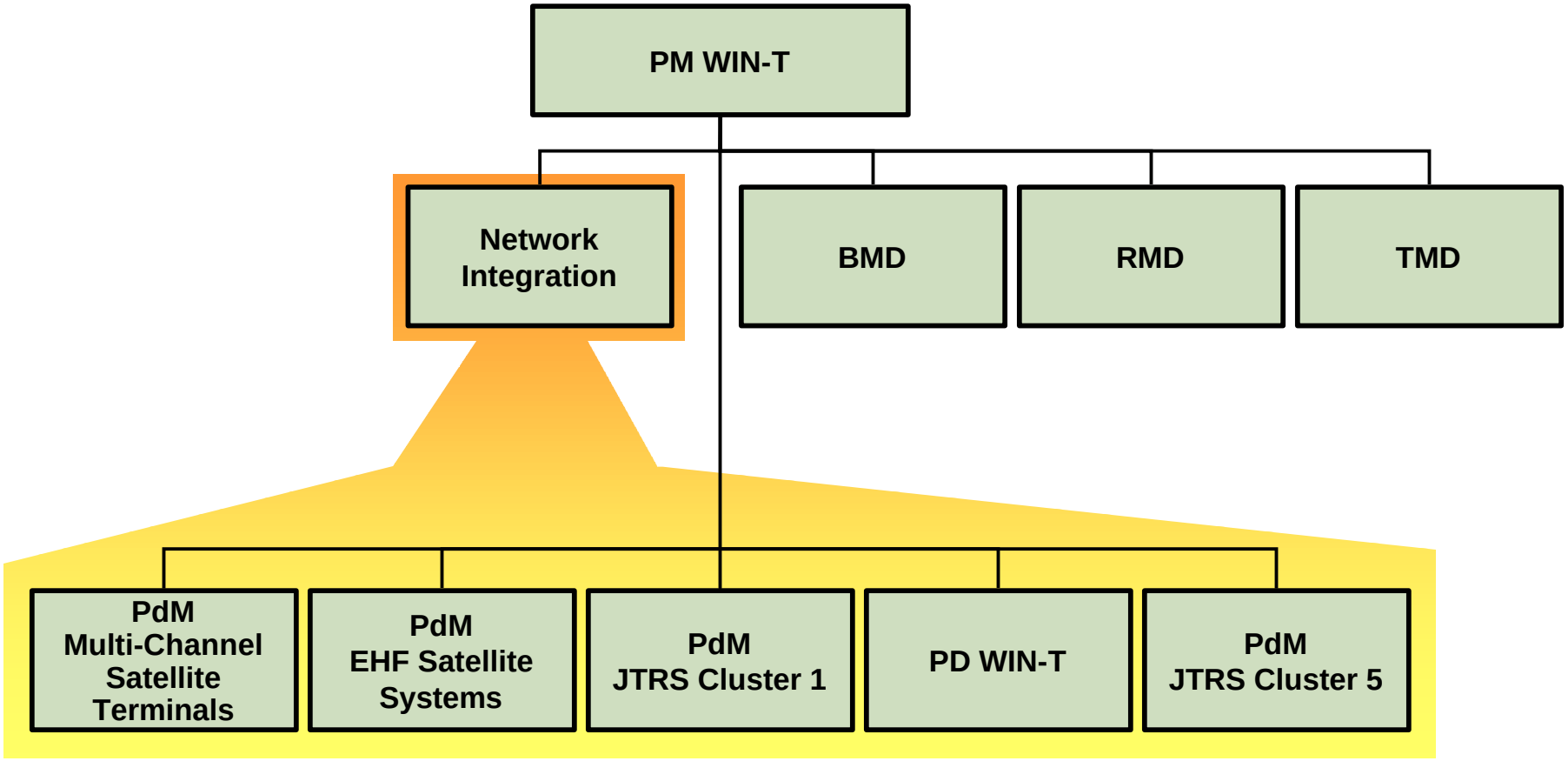
Office of the Project Manager (WIN-T)



The Challenge

“The challenge of the future isn't building a great infantry carrier or artillery piece” The challenge is building a system that ensures we get the right information to the right place at the right time on the battlefield”

- Quote from LTG John Riggs,
Director Objective Force Task Force
Wallstreet Journal 10 April 2002

WIN-T Overview

WIN-T is:

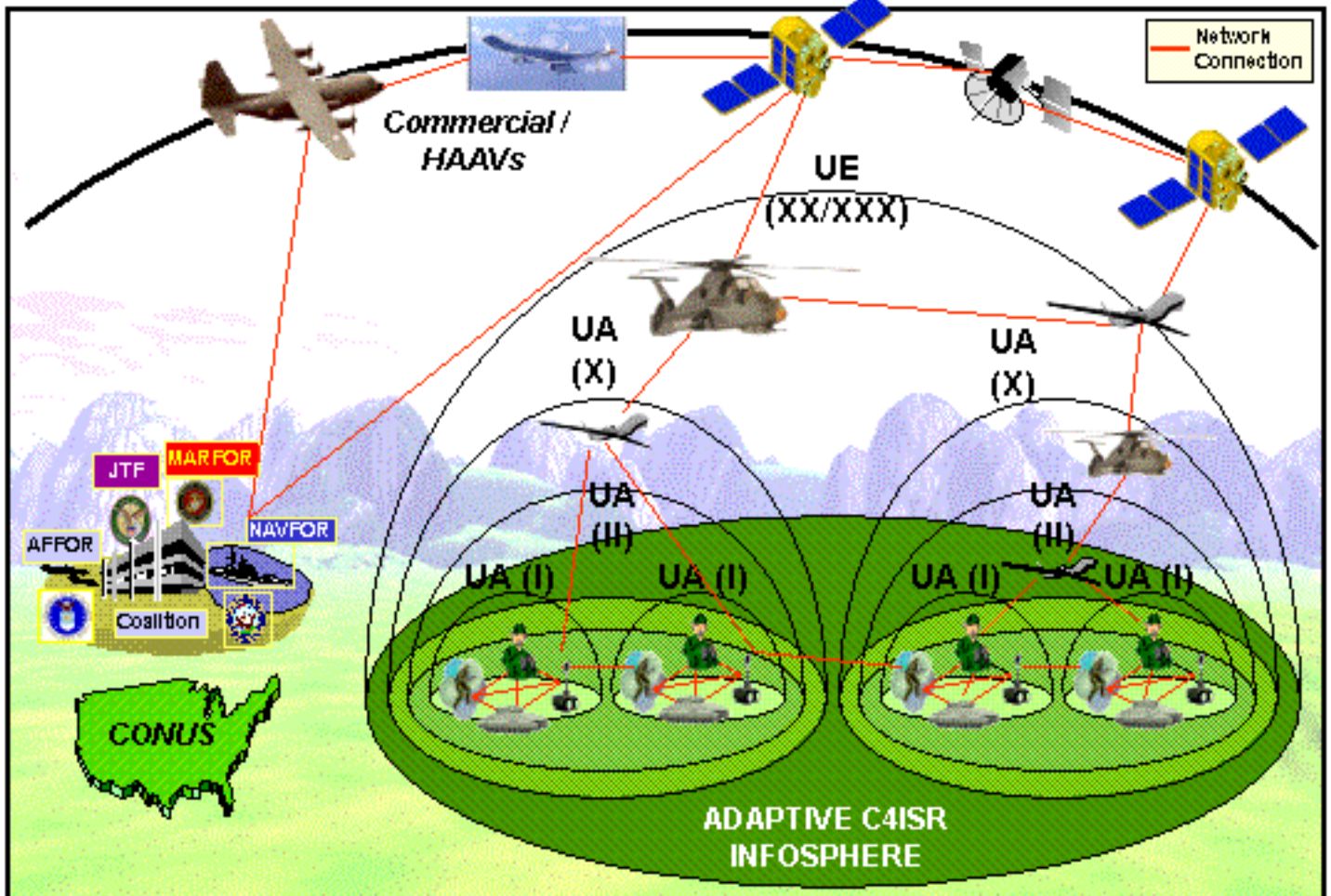
A single integrating Objective Force communications network

Increased network capacity, speed and quality of service, reliable and secure

Mobile Throughput for Reach over increased distances

Scalable, tailorable, and dynamically adaptive to mission, task, purpose

Seamless Interoperability to Joint, Coalition and Global Commercial



A Fully Integrated C4ISR Systems-Information Superiority Enabling the Warfighter to:

See First*, *Understand First*, *Act First*, and *Finish Decisively

WIN-T Replaces MSE/TRI-TAC

MSE/TRI-TAC

Cold-War Linear Battlefield
Smaller Area of Operations

- Force ***intensive, rigid backbone (Grid-Centric)***
- Fielded without complete NETOPS capabilities (***No Information Assurance***)
- Deployed ***Theater to Brigade***
- Extends ***Single Network Thread*** to stationary Tactical Operations Centers
- ***Limited Mobility***
- Large footprint
- Manpower intensive
- Supplemented by ***stovepipe systems*** (e.g. Trojan Spirit)

WIN-T

Non-linear Battlefield
Expanded Area of Operations

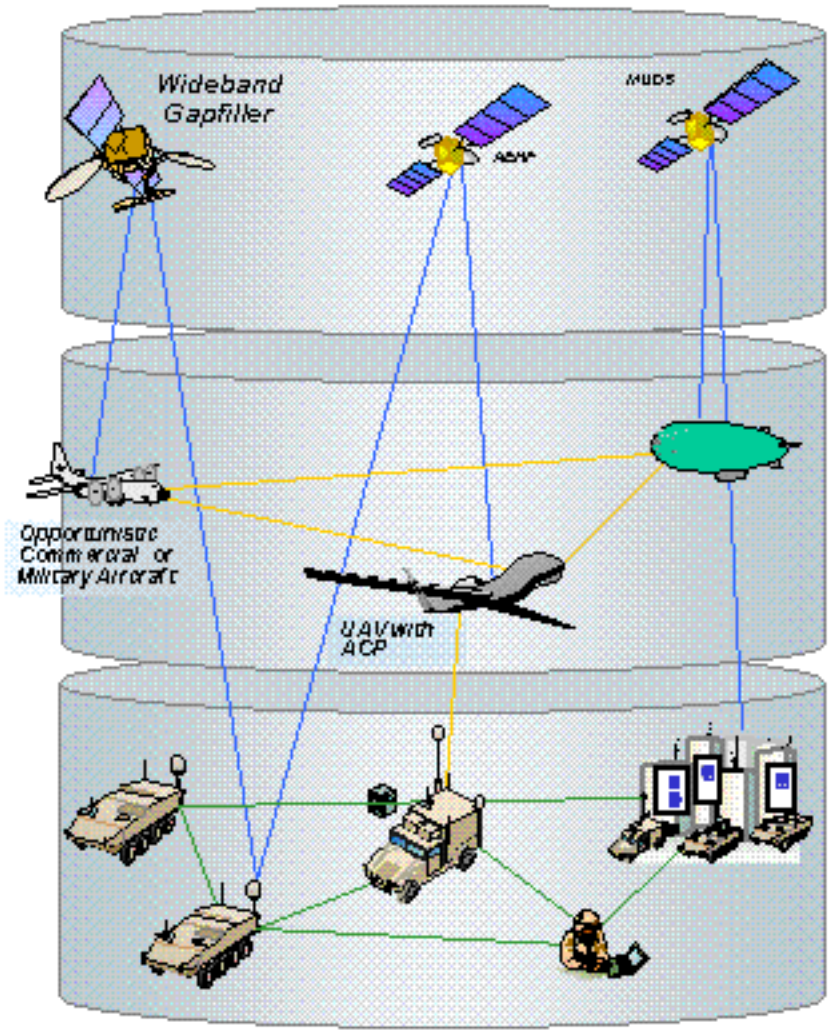
- Multi-tiered Network expands and contracts with the fight ***(Network-Centric)***
- Developed with ***NETOPS capabilities*** to include Quality of Service and Information Assurance
- Deployed ***Theater to Maneuver Battalion***
- ***Integrates & Embeds*** in Warfighting Platforms
- ***Broadband On-The-Move*** communications
- ***Reduced*** footprint
- ***Optimal*** use of manpower
- Subsumes stovepipe systems

WIN-T Concept

Space Layer

Airborne Layer

Ground Layer



Multi-Layered Architecture Blends the Entire Area of Operations Together Into One Unified Network

Satellite Terminal Capabilities

- *Wideband Gapfiller*
- *Advanced EHF*
- *Mobile User Objective System*

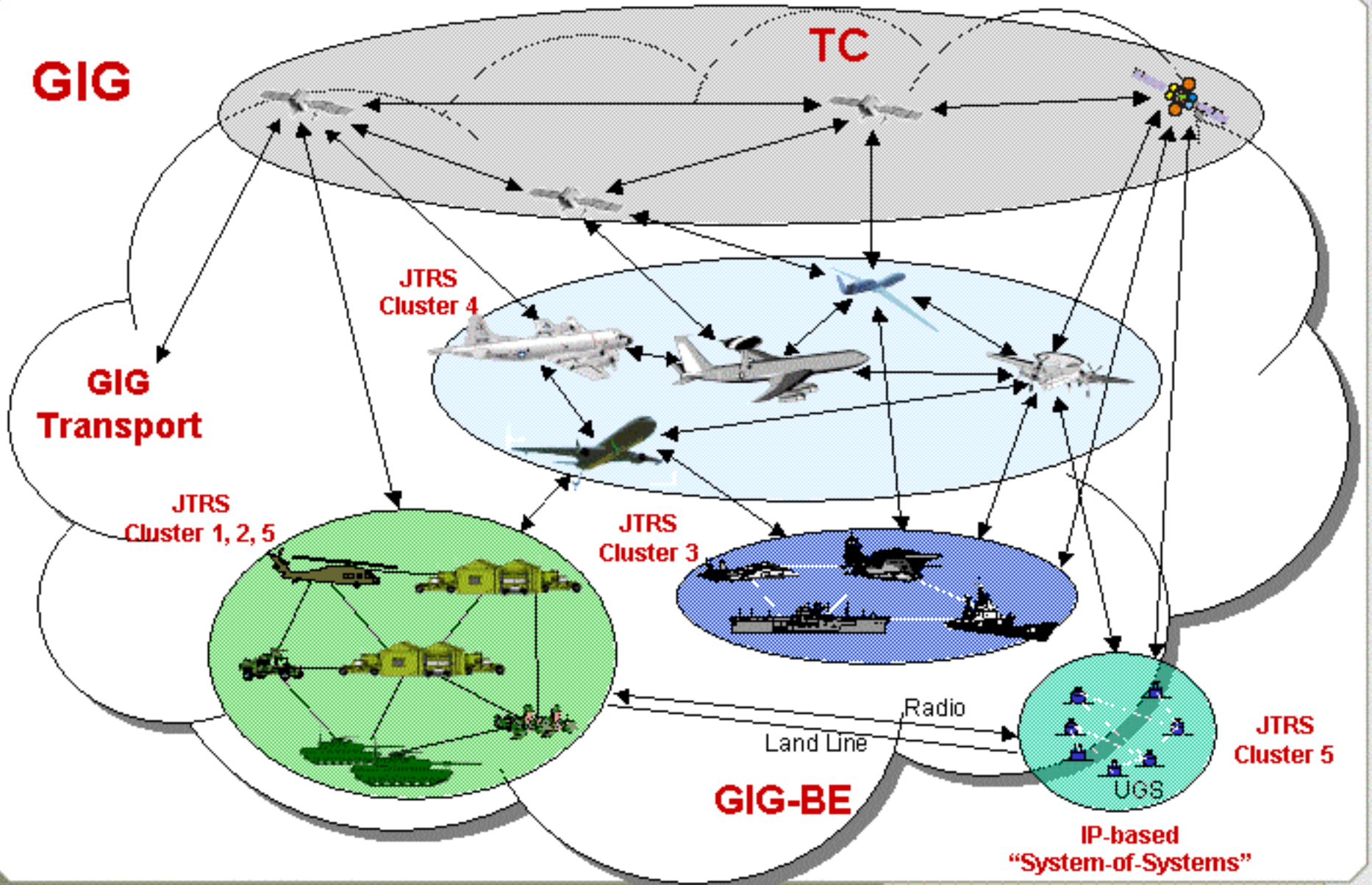
Airborne Payloads

- *Wideband Waveform*
- *Airborne Communications Package*

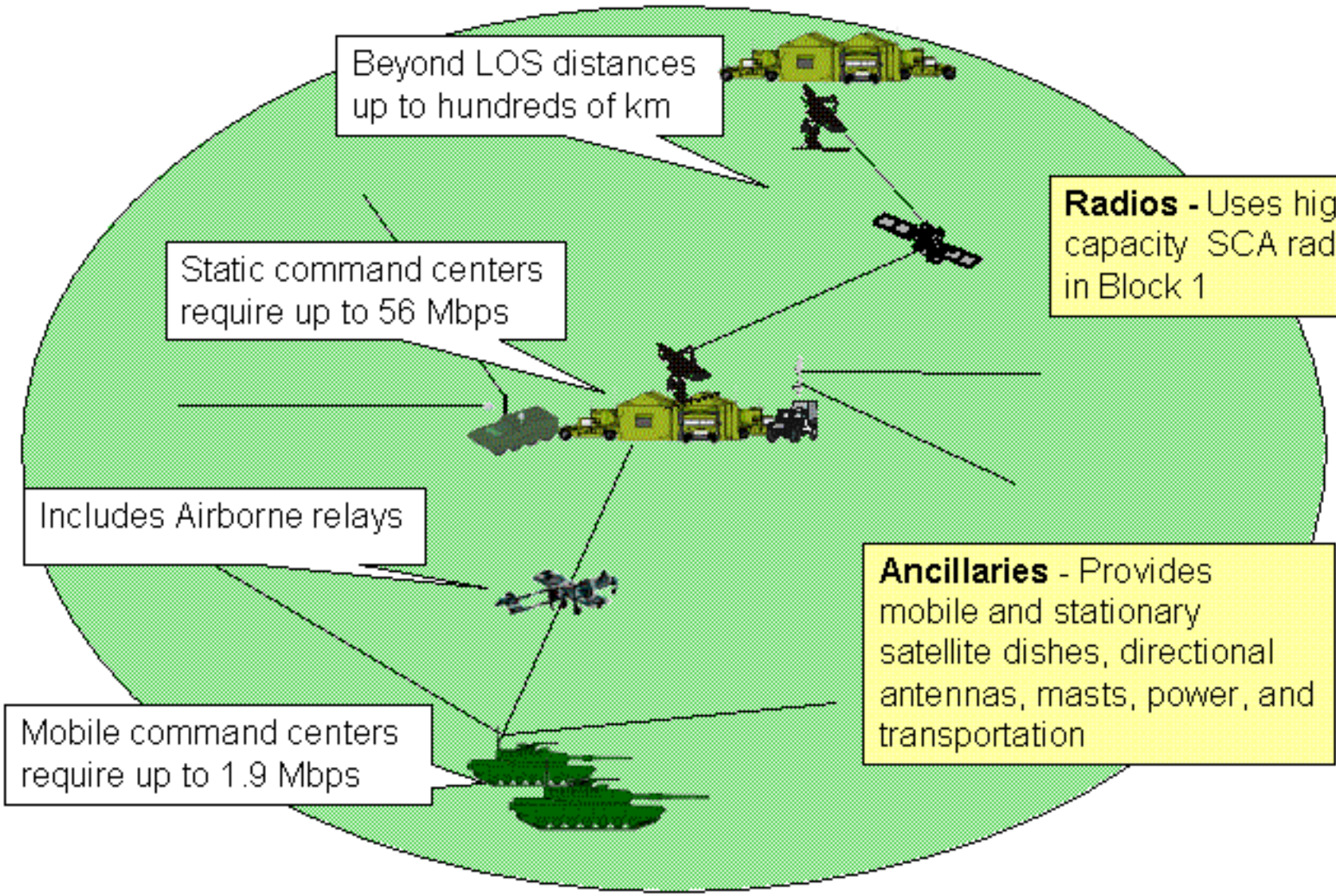
Ground Vehicles & Payloads

- *High Capacity Radio*
- *Joint Tactical Radio System (JTRS)*
- *Secure Wireless LAN*
- *Personal Communications Device*

Joint Network Vision

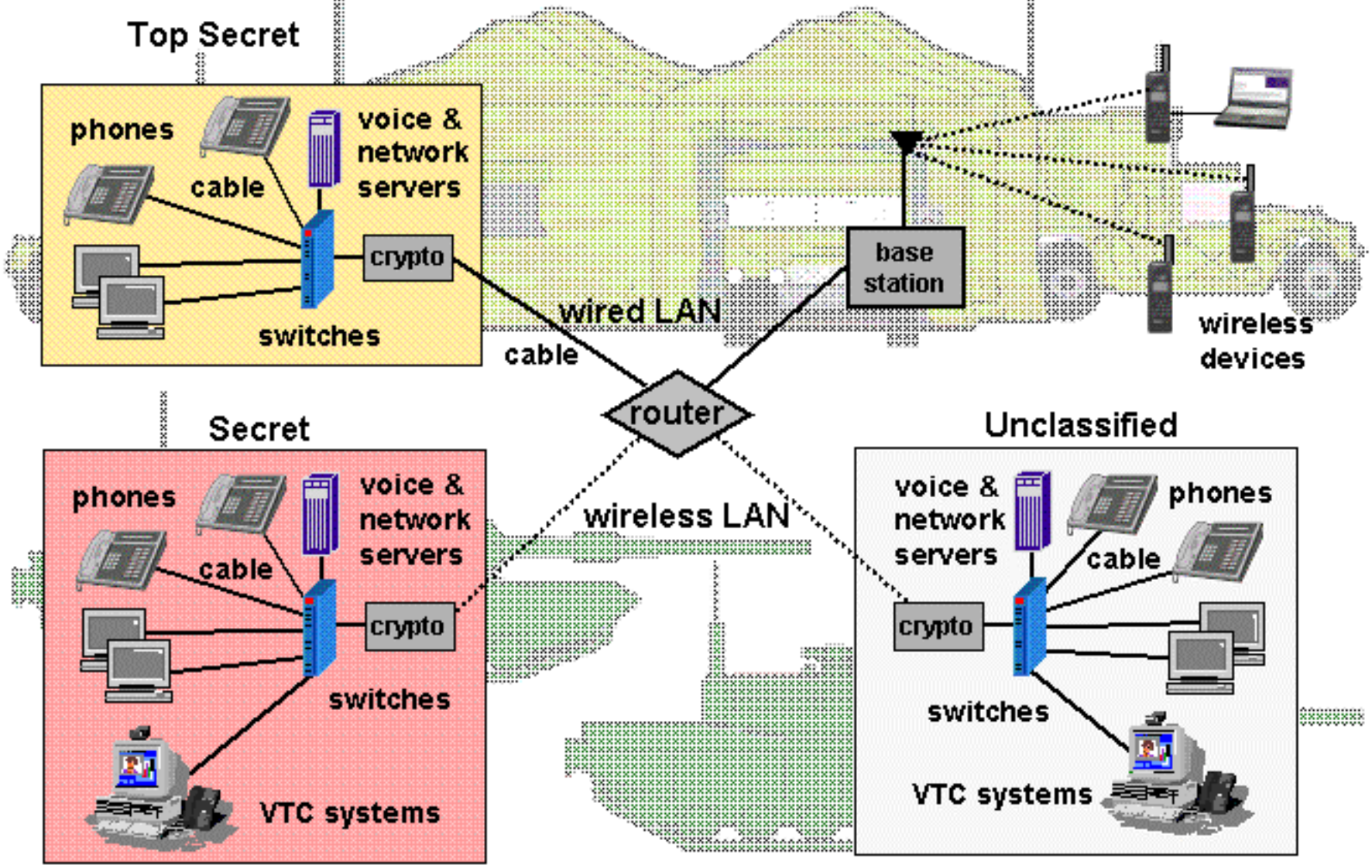


Wide Area Transmission



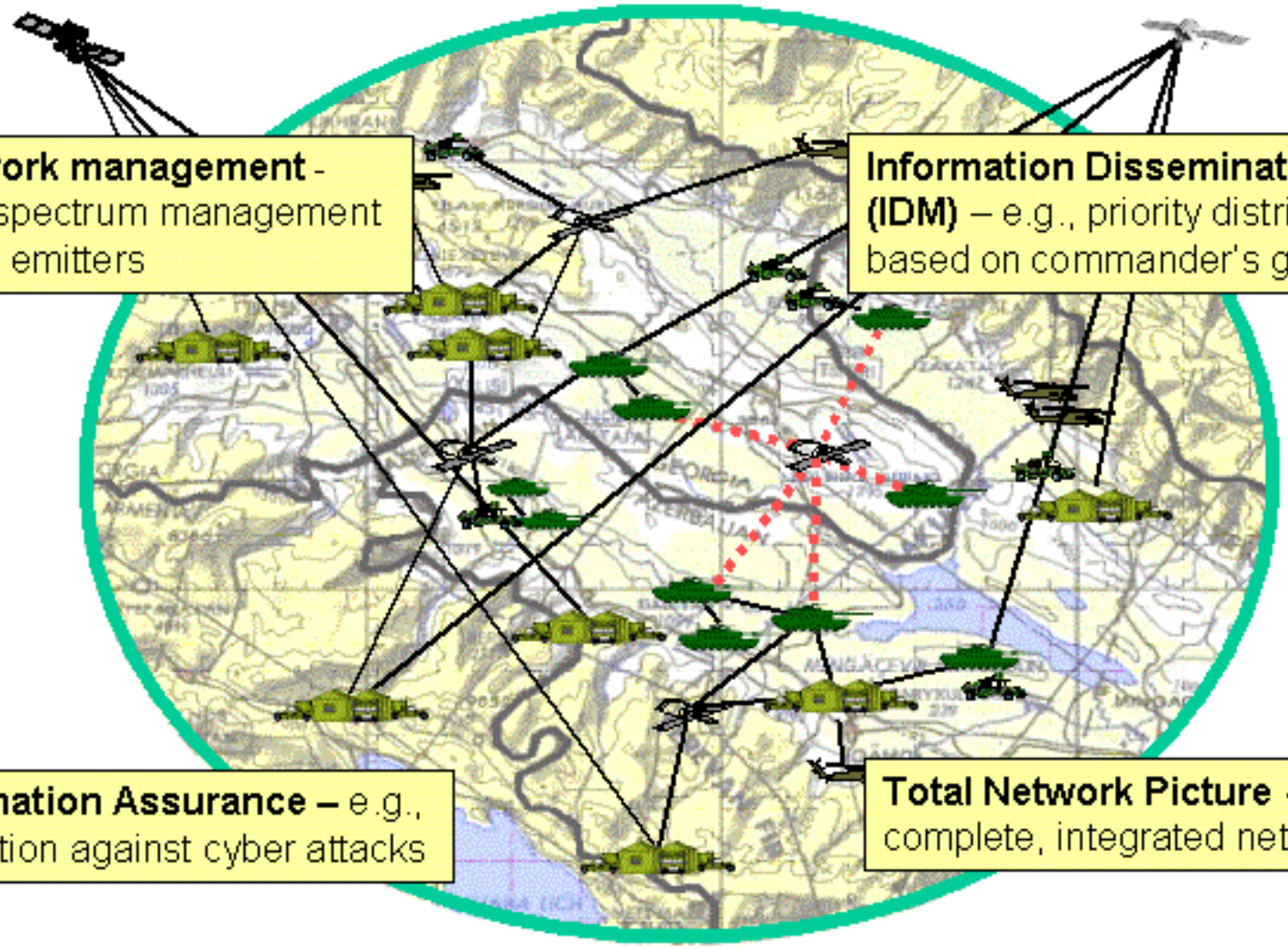
Local Services/Infrastructure

WIN-T provides the local network services and infrastructure



Network Operations (NETOPS)

WIN-T provides an integrated solution for Network Operations from Home Station to Unit of Action



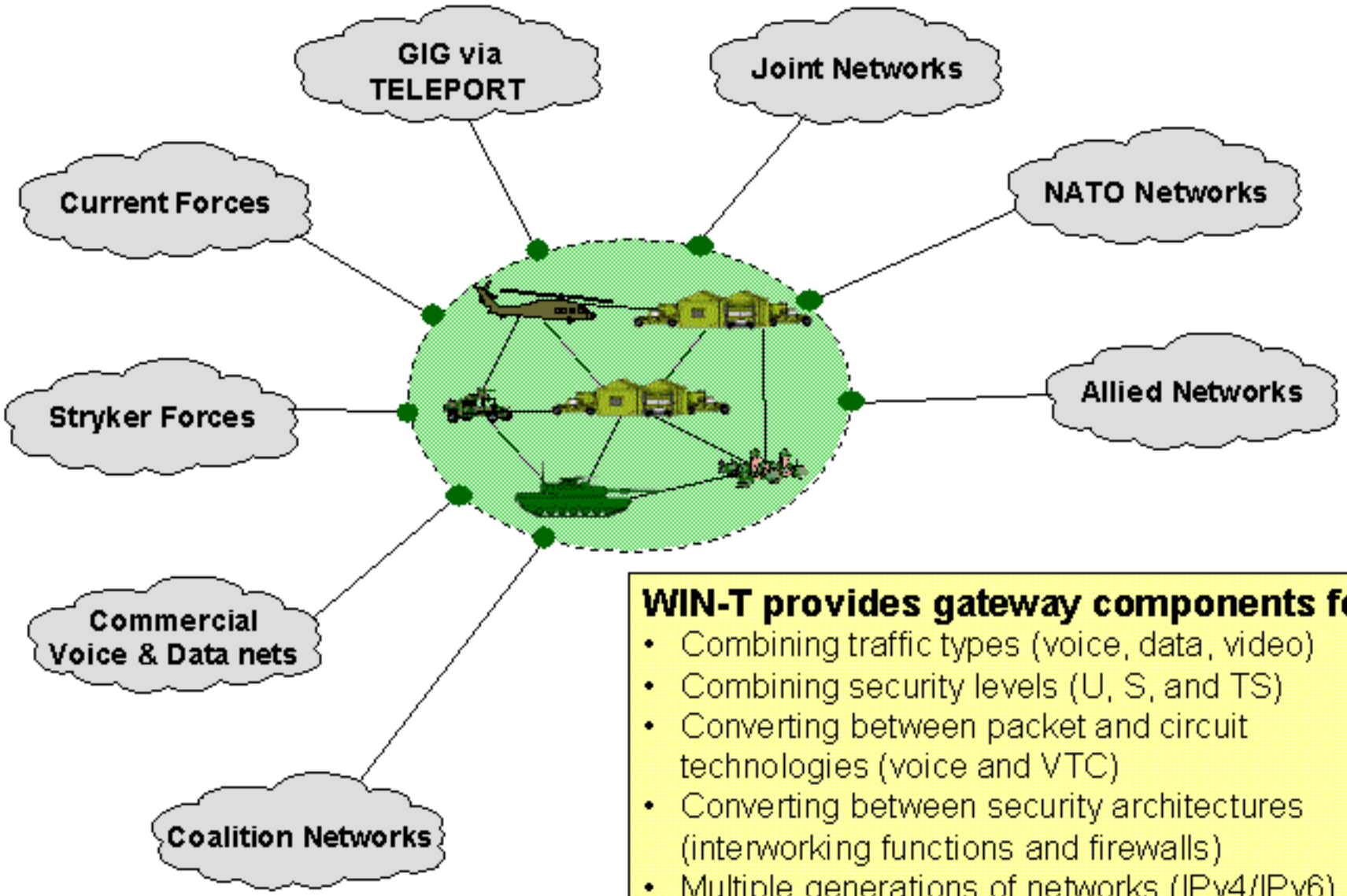
Network management - e.g., spectrum management for all emitters

Information Dissemination Mgmt (IDM) – e.g., priority distribution based on commander's guidance

Information Assurance – e.g., protection against cyber attacks

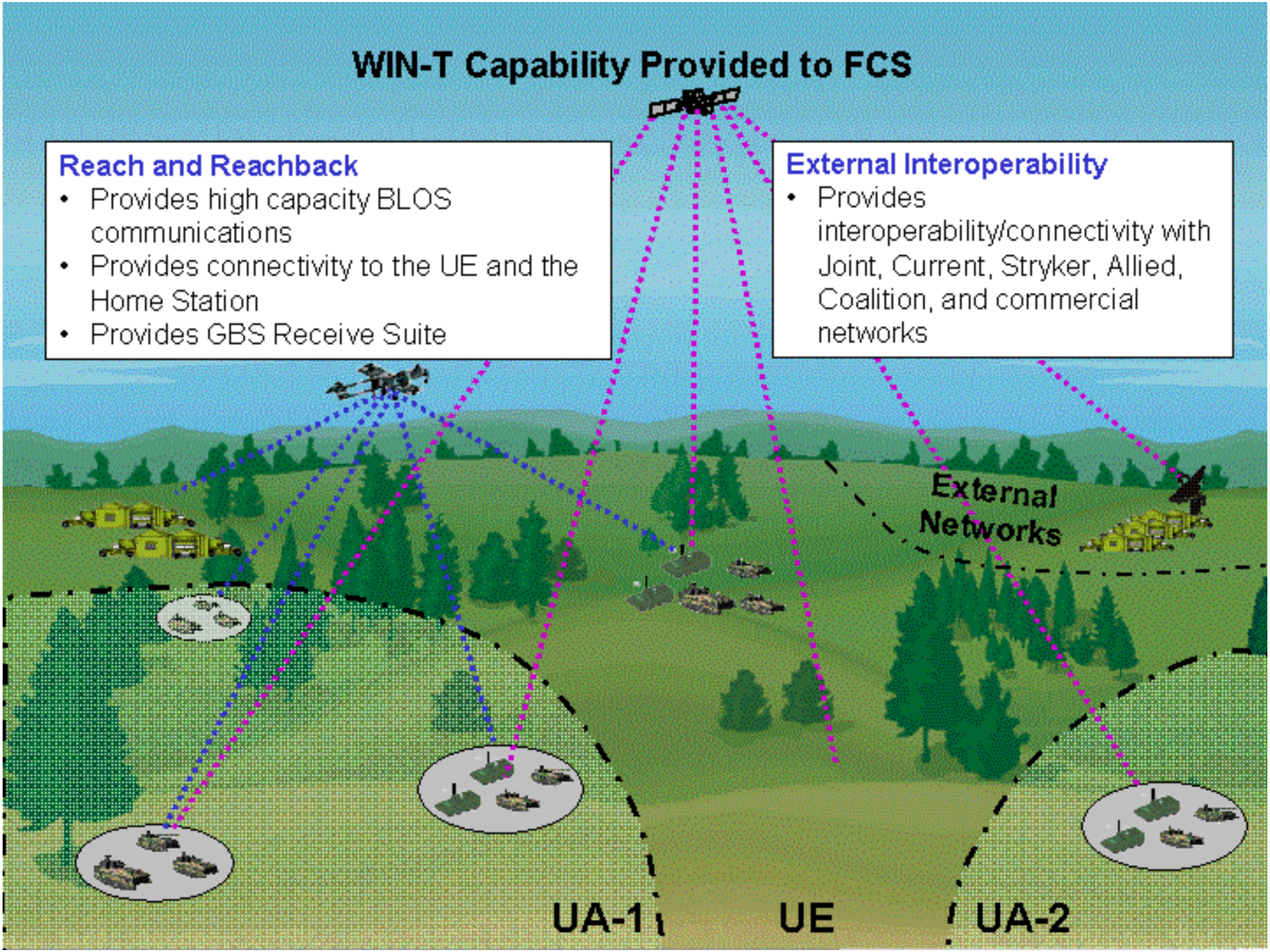
Total Network Picture - e.g., complete, integrated network

Interoperability



WIN-T provides gateway components for:

- Combining traffic types (voice, data, video)
- Combining security levels (U, S, and TS)
- Converting between packet and circuit technologies (voice and VTC)
- Converting between security architectures (interworking functions and firewalls)
- Multiple generations of networks (IPv4/IPv6)

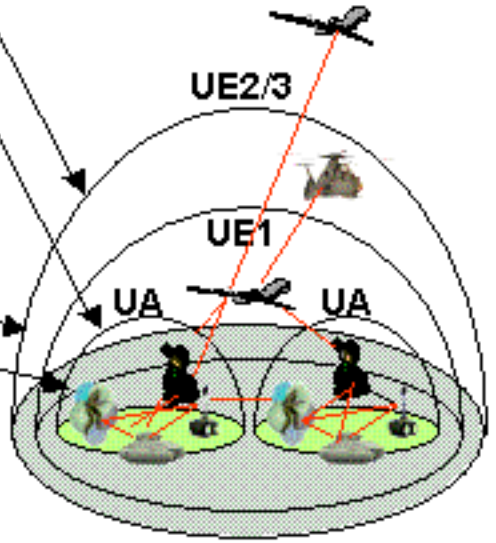

WIN-T Capability Provided to FCS
Reach and Reachback
• Provides high capacity BLOS communications
• Provides connectivity to the UE and the Home Station
• Provides GBS Receive Suite
External Interoperability
• Provides interoperability/connectivity with Joint, Current, Stryker, Allied, Coalition, and commercial networks
External Networks
UA-1
UE
UA-2

WIN-T as a Component of the GIG

Defense Information Systems Network
Defense Switched Network
Defense Red Switched Network
Non-secure IP Router Network
Secure IP Router Network
Joint Worldwide Intelligence Communications System
DISN Video Services

Teleport

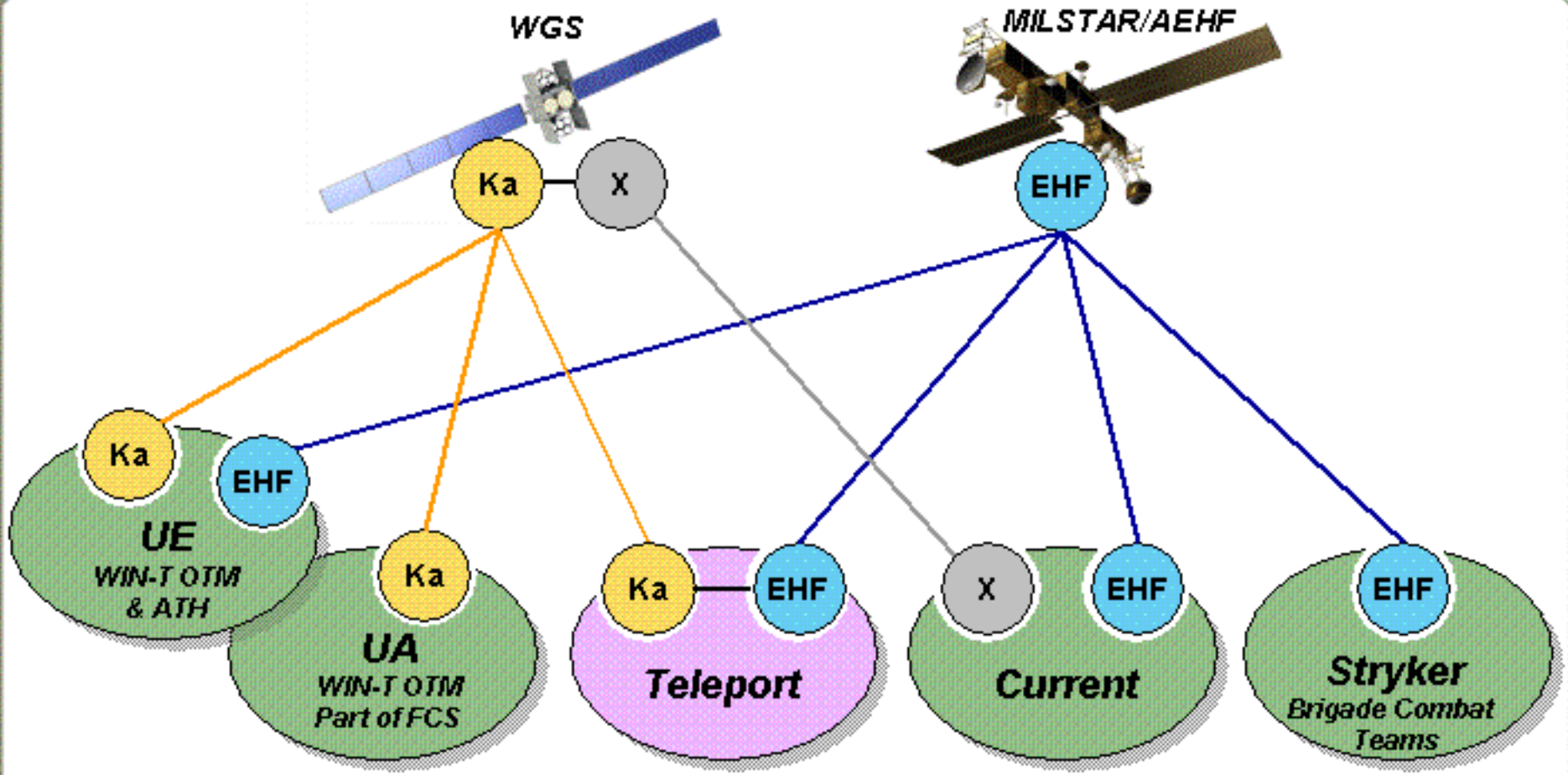
Garrison
(WIN-T Access)



WIN-T Tactical GIG

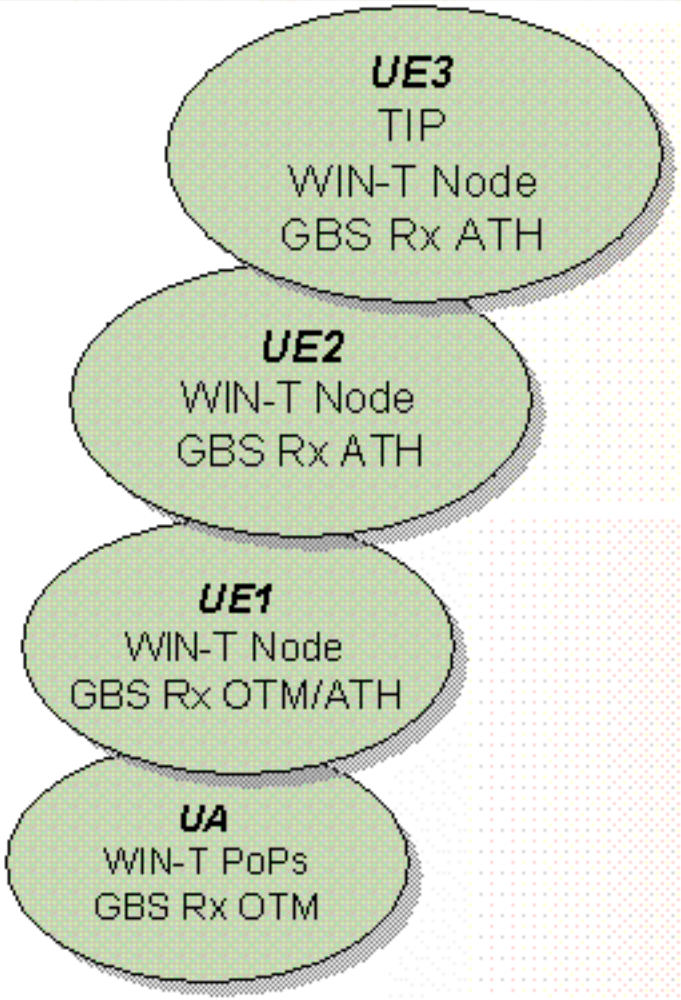
Redundant SATCOM connectivity at all echelons is an enabler for a seamless GIG network

Block I WIN-T SATCOM Utilization

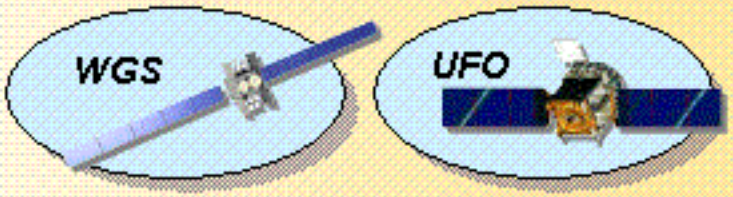


- Augment capability with commercial
- Transition to Transformational Communications Satellite

WIN-T Utilization of GBS



Block I



GBS Injection

- IP modified PIP
- IP modified TIP

GBS Receive

- Ka Terminal with modified receive suite

Blocks II & III

GBS Injection

- TSAT Terminal Based

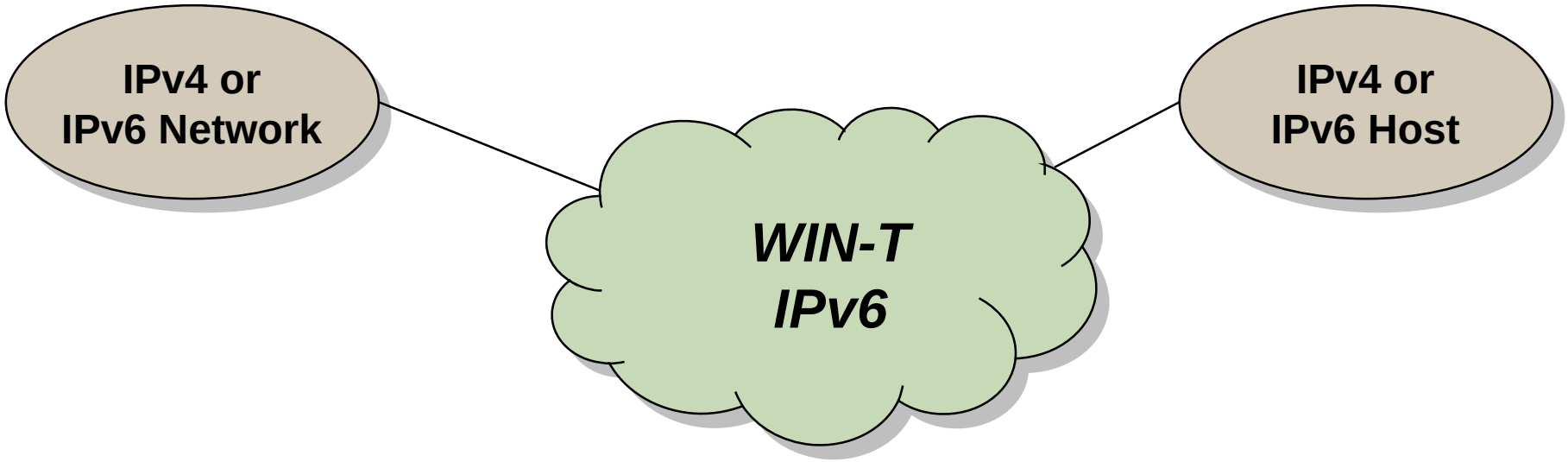
GBS Receive

- TSAT Terminal Based

- WIN-T will deliver GBS architecture for UE1, UE2 and UE3
- GBS IP upgrade makes WIN-T and FCS lighter, cheaper and more effective

IPv6 Transition Plan

- Core network will be native IPv6
- Network edges will support IPv4 and IPv6
  - Support for dual capability will be maintained indefinitely to support interoperability with IPV4 hosts/networks
- Fully compliant with IPv6 Transition Plan



Summary

- WIN-T is the single integrating network for future demands of the battlefield
- Architecture emphasizes mobility and information superiority
- SATCOM – a critical enabler. Use existing satellite capabilities and transition to transformational communications satellite network.