



**Program Executive Office  
Command, Control, Communications,  
Computers and Intelligence (PEO C4I)**

## **Shipboard Networks**

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**Kurt Fisco**

**Future SATCOM Chief Engineer (PMW 170)**

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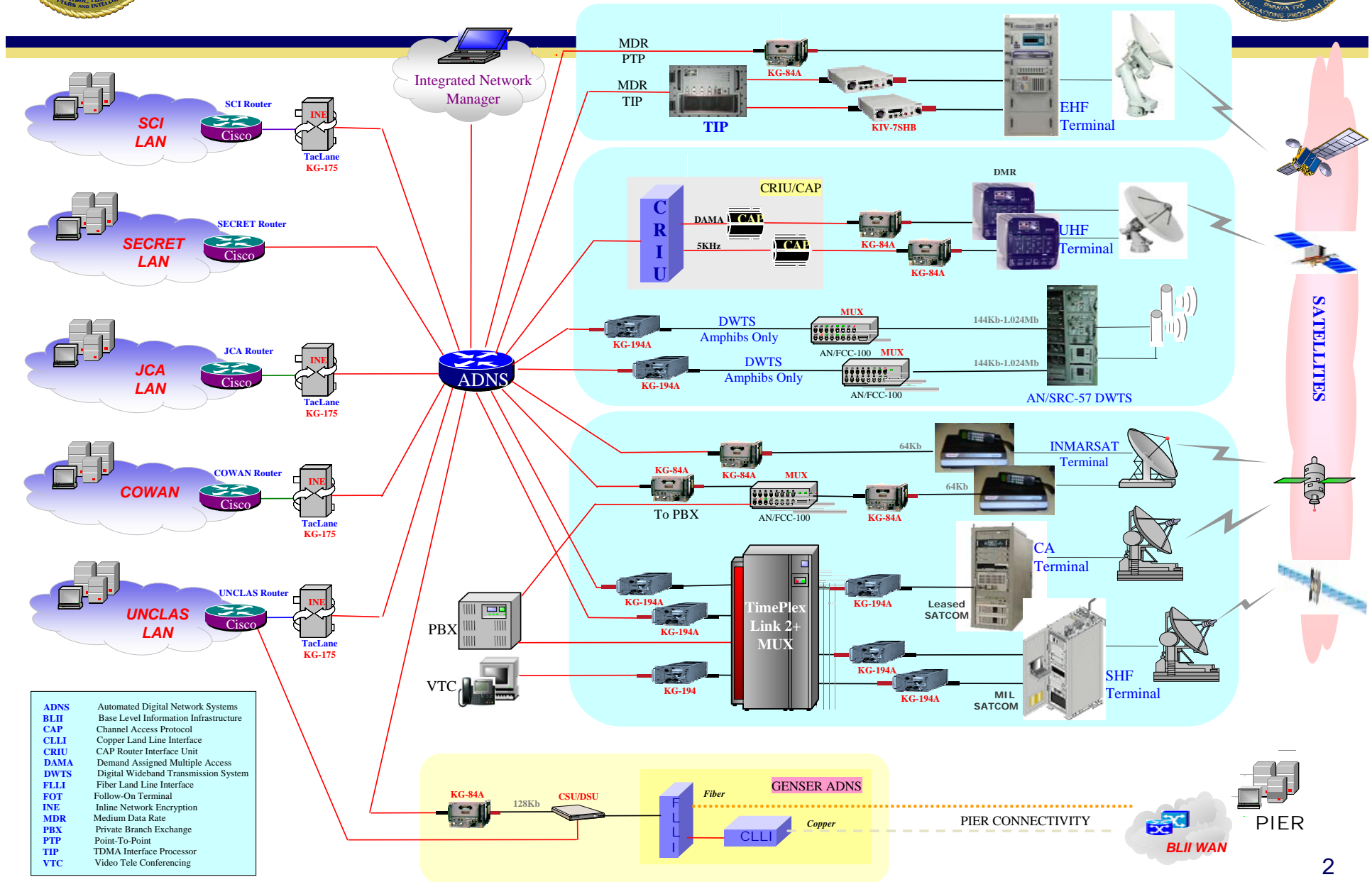
***Information Dominance  
Anytime, Anywhere...***



**PEOC4I.NAVY.MIL**

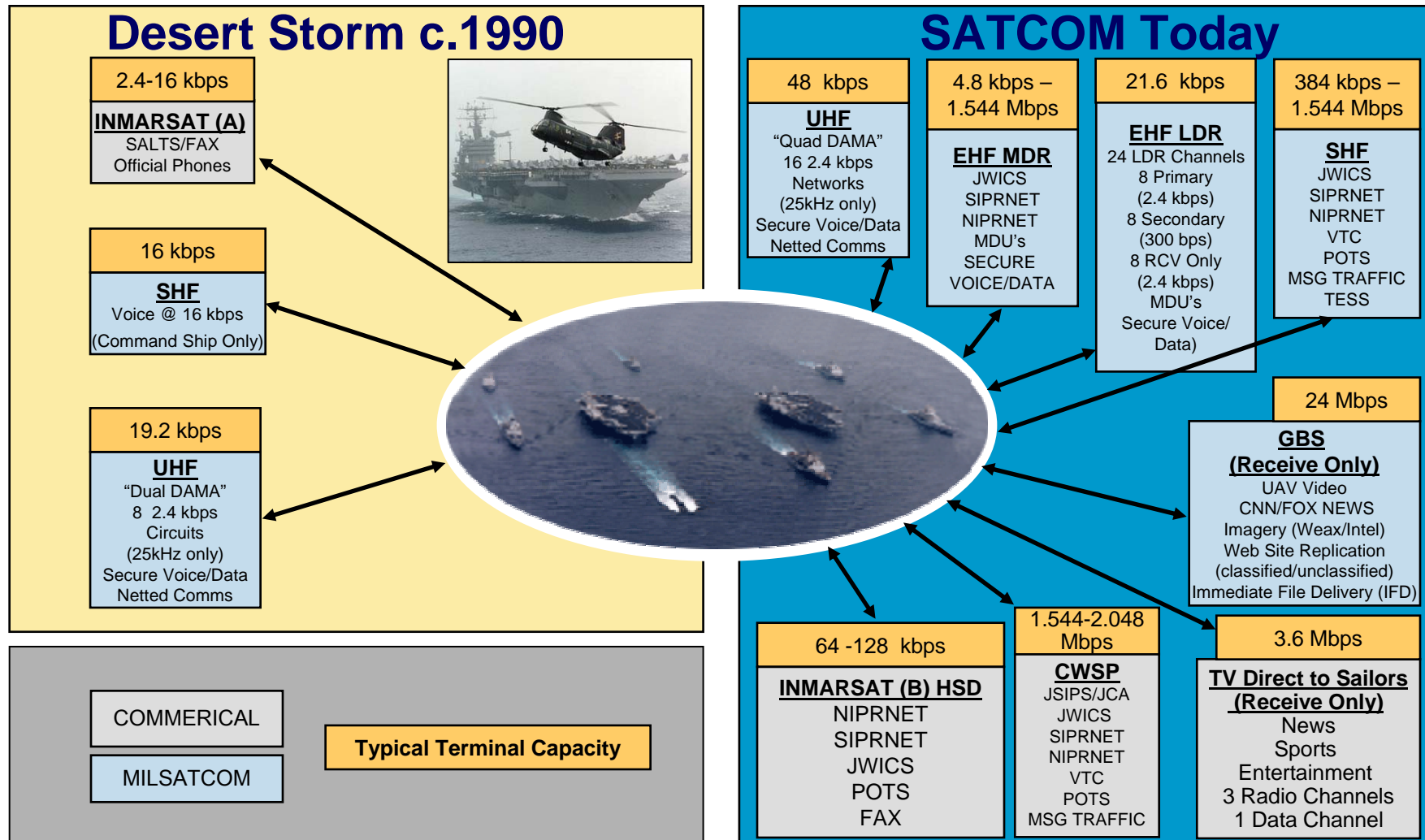


# Current Shipboard Architecture





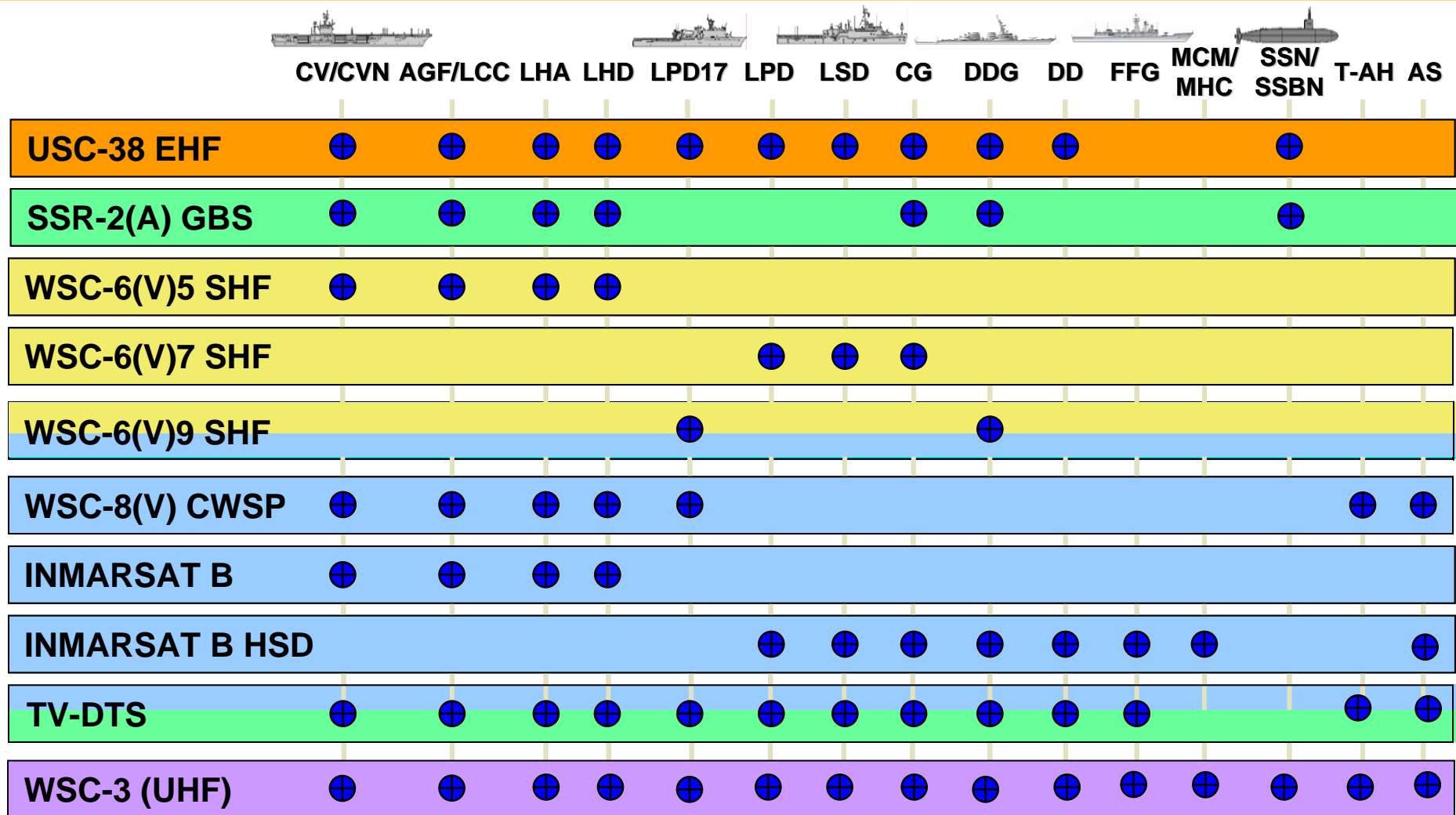
# Achieving Robust Bandwidth Afloat



***We're Not Just Buying More Space Segment...***



# Current Fleet Terminal Configuration (SatCom)



HSD: High Speed Data



Narrowband



Commercial



Wideband



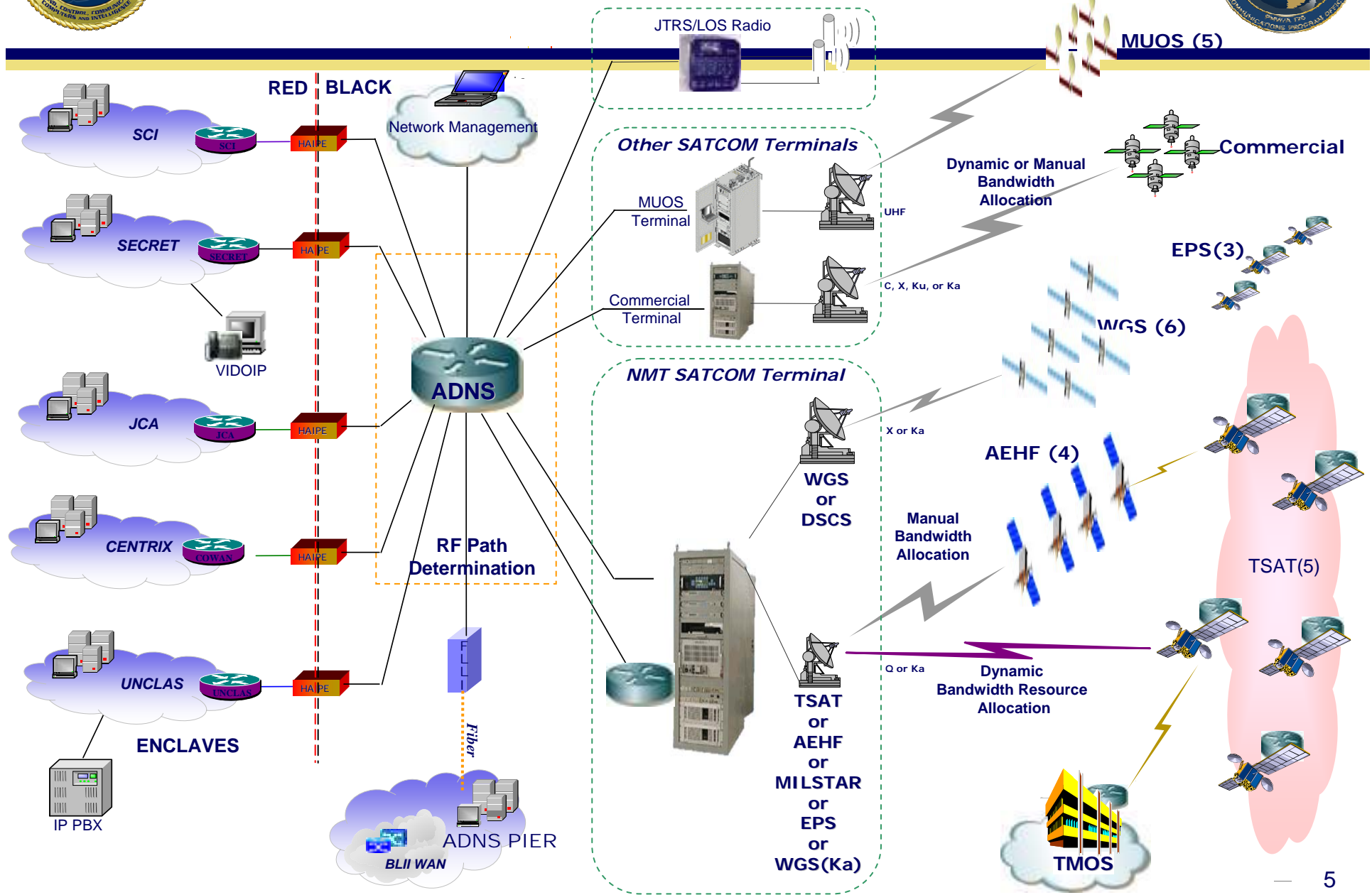
Protected



Broadcast



# Notional Future Navy Afloat Architecture







# ADNS Increment Summary

Increment I	Increment II	Increment IIa	Increment IIb	Increment III
<ul style="list-style-type: none"> <li>•Baseline Routing, Encryption, &amp; Network Mgmt Based System</li> <li>•ADNS feeds into Static TDM (Timeplex) Network across a Single RF Path</li> <li>•Supports Email, Web Browsing, File Transfer, &amp; Security Enclaves Baseline Routing, Encryption, &amp; Network Mgmt Based System</li> </ul>	<ul style="list-style-type: none"> <li>•Adds Load Balancing / Distribution – static routes with fail over ability</li> <li>•Traffic Management</li> <li>•Increases IP BW from 13% to 67% over dual RF paths (share JCA BW)</li> <li>•IP Resources management</li> <li>•Automatic Failover and Restoral of RF links</li> <li>•War fighter BW guarantees</li> <li>•Application Prioritization (QoS) – added PacketShaper</li> </ul>	<ul style="list-style-type: none"> <li>•Increases throughput from INC II</li> <li>•Utilizes all wideband SATCOM BW</li> <li>•Eliminates dedicated BW for serial voice and VTC – eliminates serial circuits</li> <li>•Eliminates need for TDM (Timeplex) WAN circuits</li> <li>•Increases IP BW from 13% to 100% - due to converged IP circuit gains</li> <li>•Increases throughput capacity to 8 Mbps</li> <li>•Adds Compression</li> </ul>	<ul style="list-style-type: none"> <li>•IIa Functionality for unit level ships</li> <li>•Increases IP BW utilization from 67% to 100% - due to increase in converged IP circuits</li> <li>•Eliminates dedicated BW for serial voice</li> <li>•Leverages install of SCIP-IWF shout box</li> <li>•Eliminates need for TDM (Timeplex) WAN circuits</li> <li>•Adds Compression</li> </ul>	<ul style="list-style-type: none"> <li>•Even greater throughput (25/50Mbps) in a converged, fully-connected network</li> <li>•Adds Cipher-text Core Routing – Everything encrypted which a key enabler for 1000 ship Navy</li> <li>•Incorporates IPv4/IPv6 Dual Stack Capability</li> <li>•Enhanced QOS via ADNS QOS Edge Device (AED) through Optimized Edge Routing (OER)</li> <li>•Continues compression</li> </ul>

ADNS shipboard variants – B, C, D, E, F, G, and SUBS

ADNS shipboard variants – H

ADNS shipboard variants – J

ADNS shipboard variants – K  
SUBS



# ADNS TODAY and TOMORROW



- **Today's NAVY WAN:**
  - Single Path Access, Best Effort, Limited BW, No Guarantee's
  - No Network "Insight", Little Visibility, Limited Decision Making Tools
- **The NAVY's Future WAN will be:**
  - Bandwidth Efficient, Possess Multiple Survivable Paths, Contain Quality of Service Guarantee's and Provide Network Visibility to Remote/Local Users.

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