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Networked Aerial Layer Analysis Lessons Learned

to MORS

Joint Framework for Measuring C2 Effectiveness
Working Group 3

25 January 2012

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WG 3 Objectives & Thoughts

- Obj 1: Understand the impact of the application of traditional operational research techniques to networked systems
 - Response-Employment of the standard application to decision making is highly similar but specifics change with every different decision or question
- Obj 2: Develop inputs to the C2 Metrics Framework for networked C2 systems and “system of systems” to measure and assess networked behaviors
 - Response- connectivity and capacity, traditional network metrics, were most feasible to quantify and were sufficient for comparison of alternatives but not every gap could be measured
- Obj 3: Identify and categorize families of measures of effectiveness useful for networked C2 systems
 - Response-Agreed upon generally accepted metrics like survivability, lethality, OPTEMPO but given quick-turn nature not specifically derived

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Background:

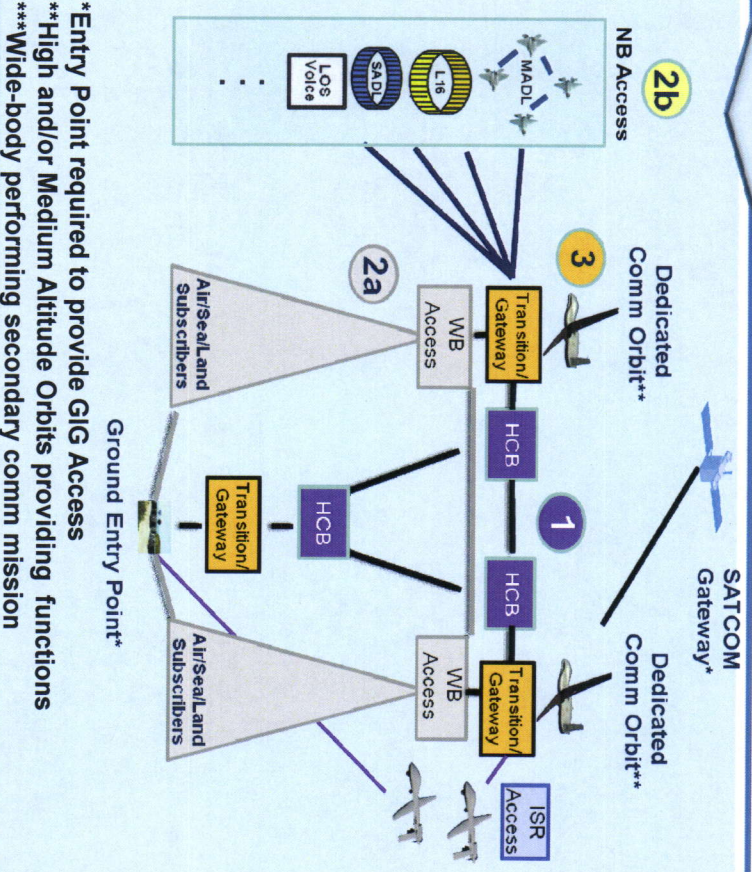
Aerial Layer Critical Gaps and Functions

- Capability Gaps**
- Network Connectivity
 - Network Capacity
 - Share Information and Data
 - Network Management

map to

Three Core Functions

- 1 High Capacity Backbone (HCB)**
 - Long haul backbone
- 2a Wideband Access (WB Distribution, Access, Range Extension)**
 - Comms access waveform(s)
 - Opportunistic Mesh Relays****
- 2b Narrowband Access (NB DARE)**
 - Fielded waveforms needing gateway functionality
- 3 Transition/Gateway**
 - Gateway functionality to bridge nets



*Entry Point required to provide GIG Access
 **High and/or Medium Altitude Orbits providing functions
 ****Wide-body performing secondary comm mission