Headquarters U.S. Air Force

I n t e g r i t y - S e r v i c e - E x c e l l e n c e

RC-135V/W RIVET JOINT

Capt Christopher Costello
38 RS/DOW
8 SEP 17
Version 1

55th WG Chain of Command

Breaking Barriers ... Since 1947

Operations Around the Globe

The Sun Never Sets on the Fightin' Fifty-Fifth

Eielson AFB

Wright-Patterson AFB

Offutt AFB

Davis-Monthan AFB

RAF Mildenhall

NSA Souda Bay

NORTHCOM
United States Northern Command

USPACOM
United States Pacific Command

USSOUTHCOM
United States Southern Command

USEUCOM
United States European Command

USCENTCOM
United States Central Command

USAFRICOM
United States Africa Command

USPACOM
United States Pacific Command

Yokota AB

Kadena AB

Diego Garcia

RC-135 QUICK LOOK

- **CAPABILITY**: Self-contained, standoff, medium-altitude SIGINT and MASINT collection systems

- **Only "heavy-lift" airborne SIGINT platform with EP-3 divestiture**

- **Robust communications and onboard PED key to A2AD and contested operations**

- **UK RJ - Highly successful FMS case**

- **CORE STRENGTHS**:
    - **Innovative Airmen**
    - **Responsive Technology**
    - **Agile Employment**

"ISR systems need to be…developed in a way that makes ISR agile and responsive enough to support global and theater ISR in a seamless manner"
– Air Force Strategy: America's Air Force: A Call to the Future

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RC-135 TAKEAWAYS

- ***Responsive* and *Agile* ISR**
  - **Proven capability that is globally deployable (<24hrs)**
  - **Continuously integrated new technology**

- **Enables the *Decision Advantage* in joint fight**
  - **Immediate assessment of kinetic and non-kinetic effects**

- **Delivers *Foundational Intelligence* for national leaders and Department of Defense acquisition**
  - **I&W for strategic threats**
  - **DoD's only airborne scientific & technical ELINT collector – fills critical IMD gaps**
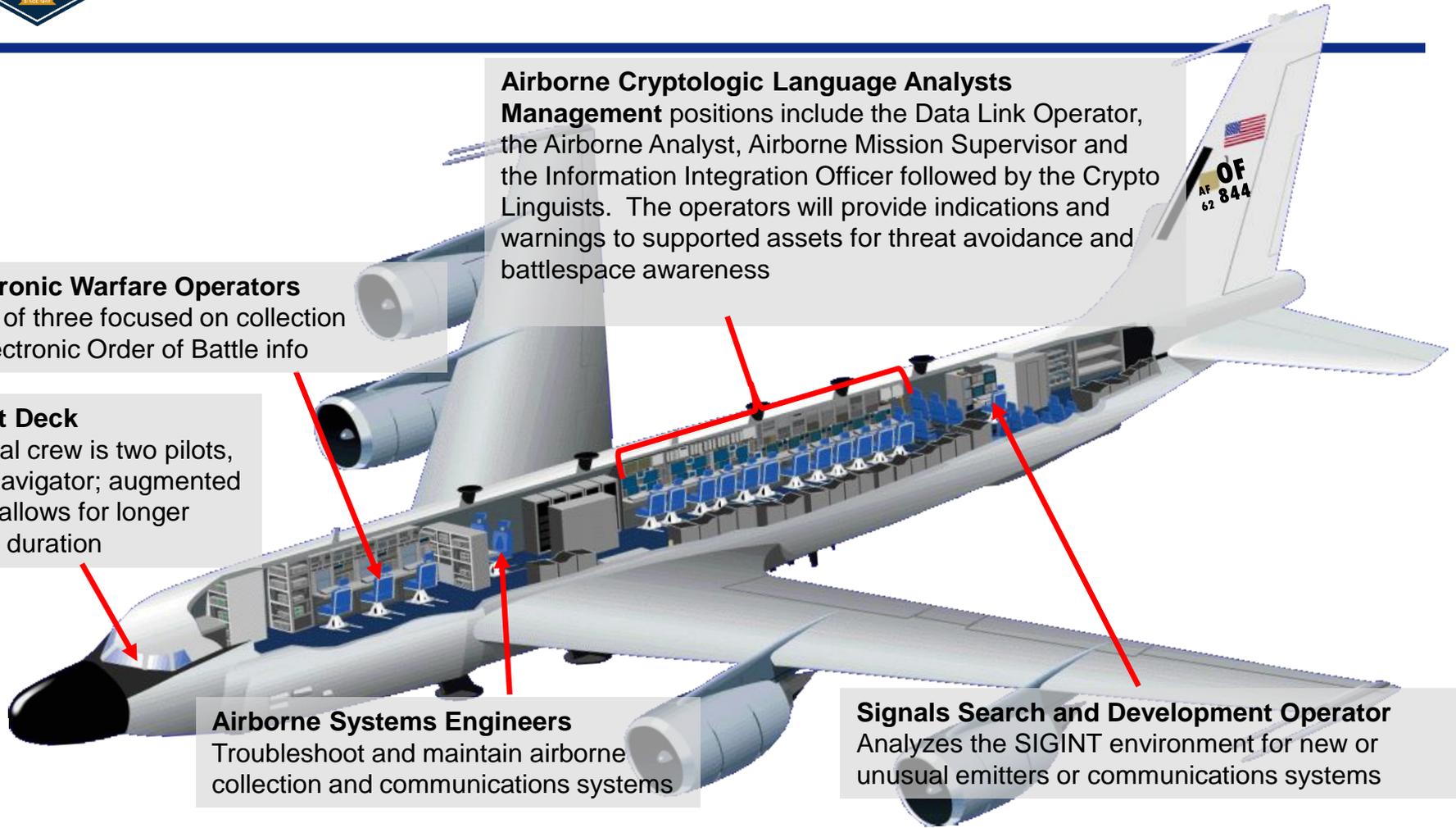
RC-135V/W
RIVET JOINT

2015 Operational Stats:
AFRICOM: 23 sorties, 151.2 hrs
CENTCOM: 422 sorties, 5,131.5 hrs
EUCOM: 157 sorties, 1,204.7 hrs
NORTHCOM: 17 sorties, 180.8 hrs
PACOM: 157 sorties, 1,312.4 hrs
SOUTHCOM: 41 sorties, 418.4 hrs
TOTAL: 817 sorties, 8399 hrs

RIVET JOINT Overview

Airborne Cryptologic Language Analysts Management positions include the Data Link Operator, the Airborne Analyst, Airborne Mission Supervisor and the Information Integration Officer followed by the Crypto Linguists. The operators will provide indications and warnings to supported assets for threat avoidance and battlespace awareness

Electronic Warfare Operators
Crew of three focused on collection of Electronic Order of Battle info

Flight Deck
Normal crew is two pilots, one navigator; augmented crew allows for longer sortie duration

Airborne Systems Engineers
Troubleshoot and maintain airborne collection and communications systems
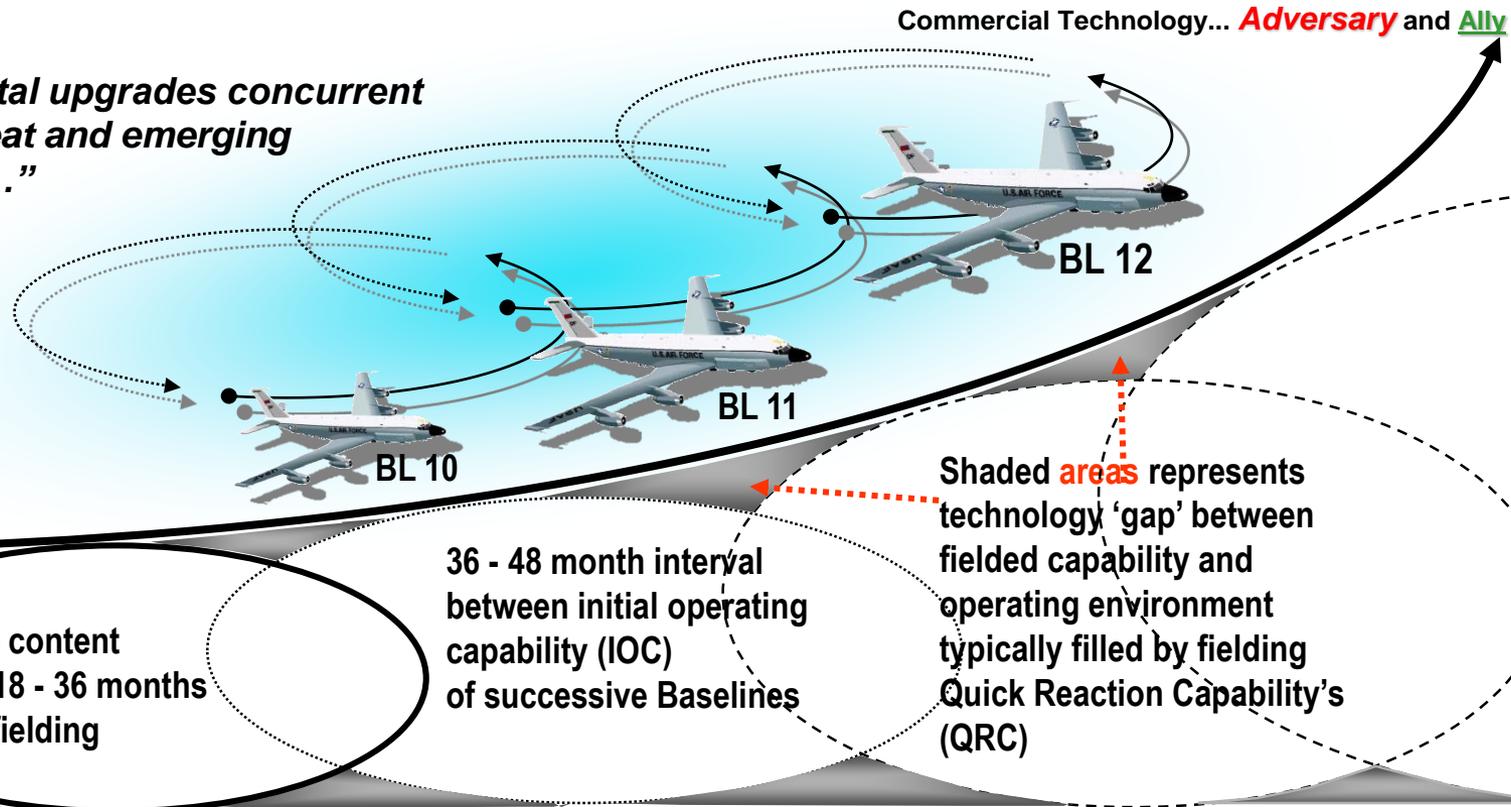
Signals Search and Development Operator
Analyzes the SIGINT environment for new or unusual emitters or communications systems

(U) RC-135 internal PED ensures critical intelligence to warfighter

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RC-135 Baseline Improvements

Commercial Technology... **Adversary** and Ally

"...incremental upgrades concurrent with the threat and emerging technology…"

BL 12

BL 11

BL 10

Shaded areas represents technology 'gap' between fielded capability and operating environment typically filled by fielding Quick Reaction Capability's (QRC)

36 - 48 month interval between initial operating capability (IOC) of successive Baselines

Baseline content defined 18 - 36 months prior to fielding

"The Air Force shall continue mission system enhancements of RC-135 to ensure these assets maintain the capability to meet emerging operational requirements."
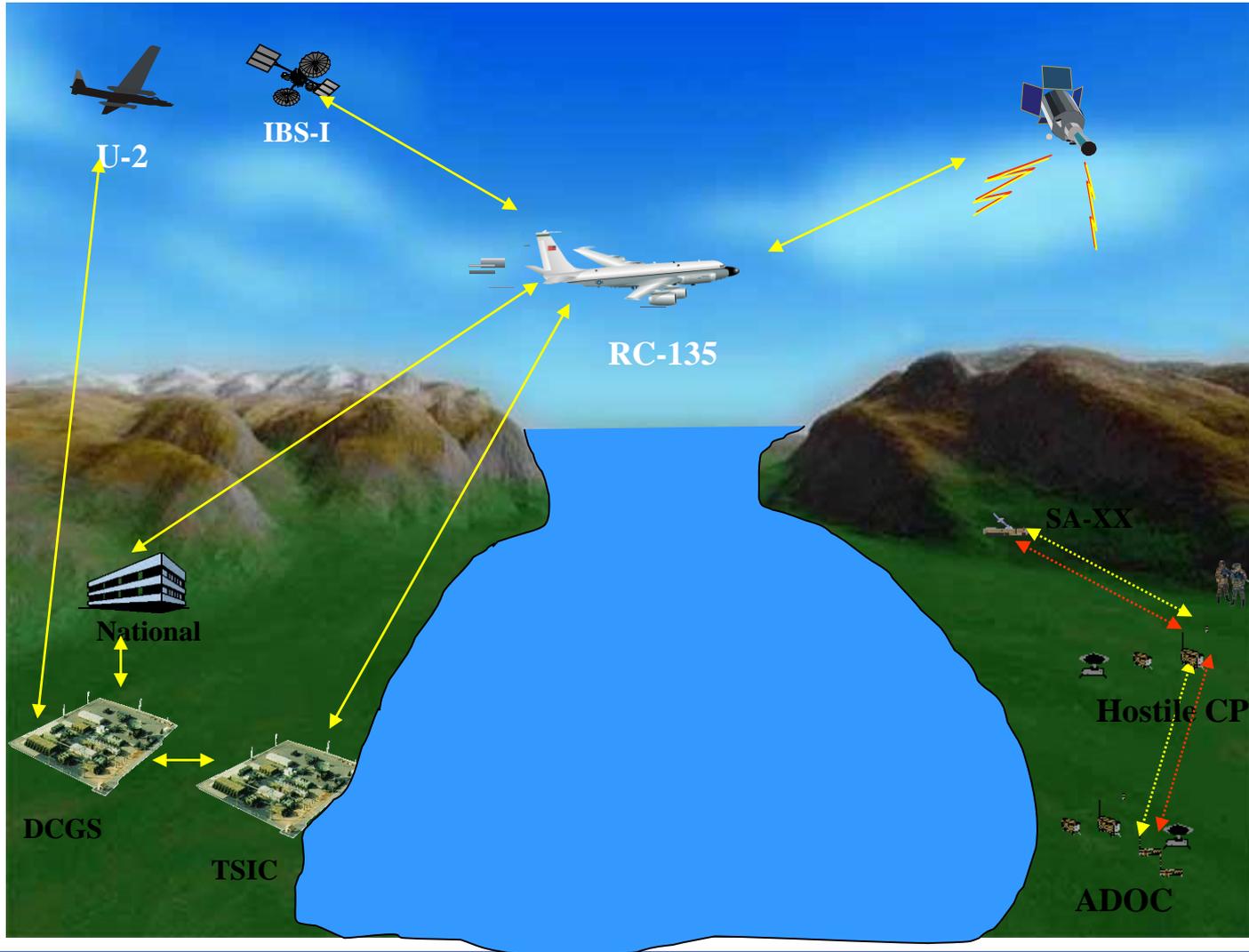--USD(I) Defense Intelligence Guidance

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Sensitive Reconnaissance Operations (SRO)

- **Under direction of National Agencies**
  - **Intercept, Identify and Locate Sources**
  - **Purpose: Strategic Reconnaissance**

- **Source of Data for Future Planning**
  - **Defensive Systems improvements**
  - **Capabilities (Strengths & Weaknesses)**
  - **Threat Avoidance planning**

Electronic Warfare Support (ES)

- **Under Control of Operational Commander**
  - **Intercept, Identify and Locate Sources**
  - **Purpose: Immediate Threat Recognition**

- **Source of Info for Immediate Decisions**
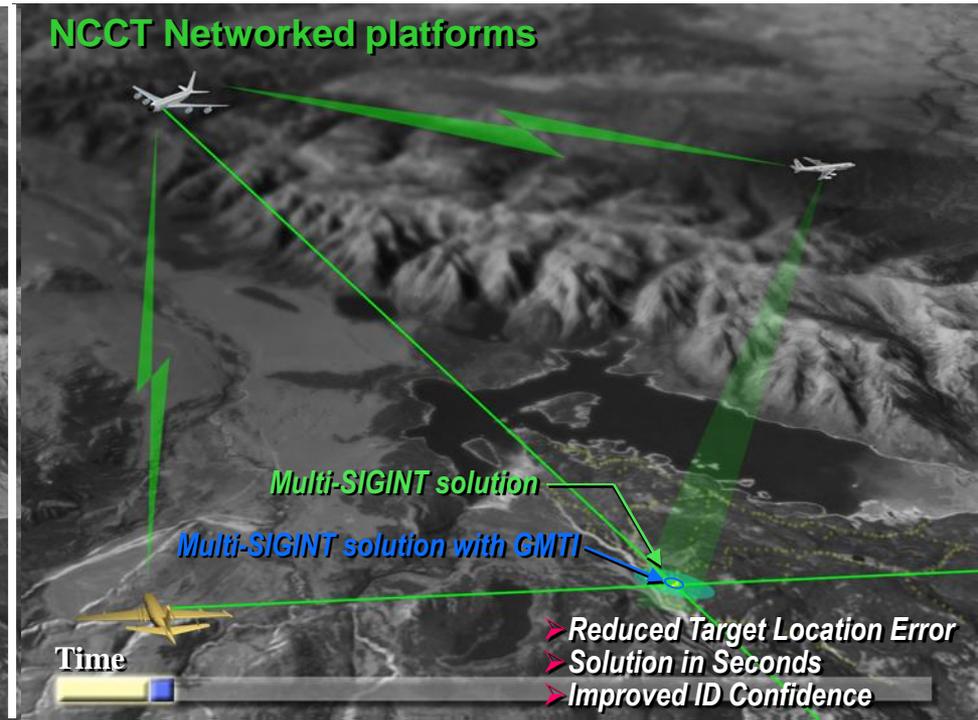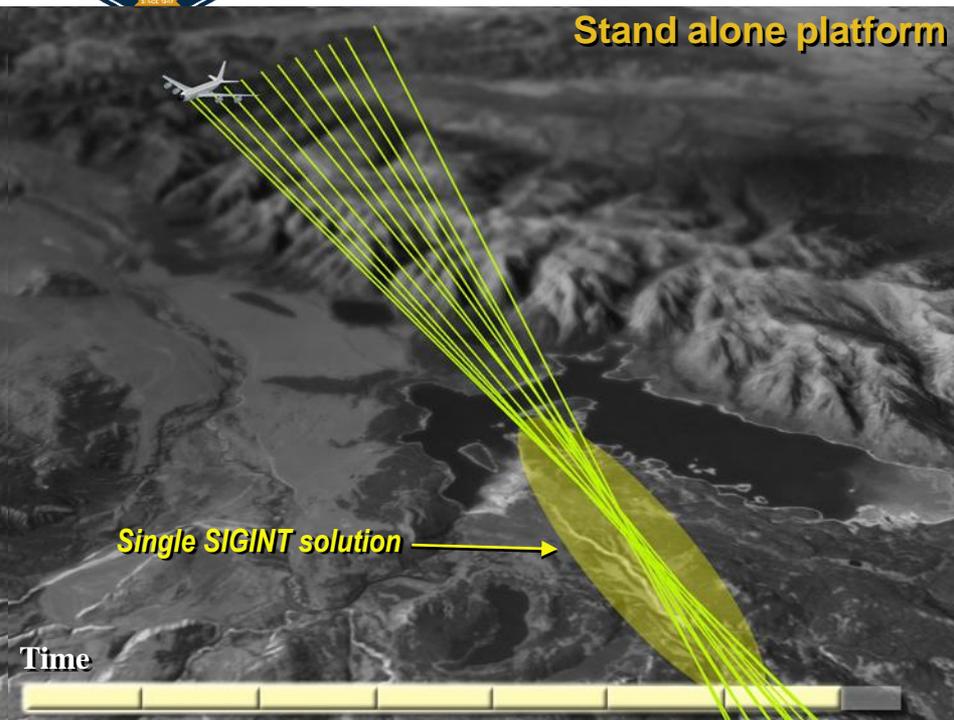 - **Electronic Warfare**
  - **Targeting**
  - **Threat Avoidance**

Electronic Warfare Support (ES)
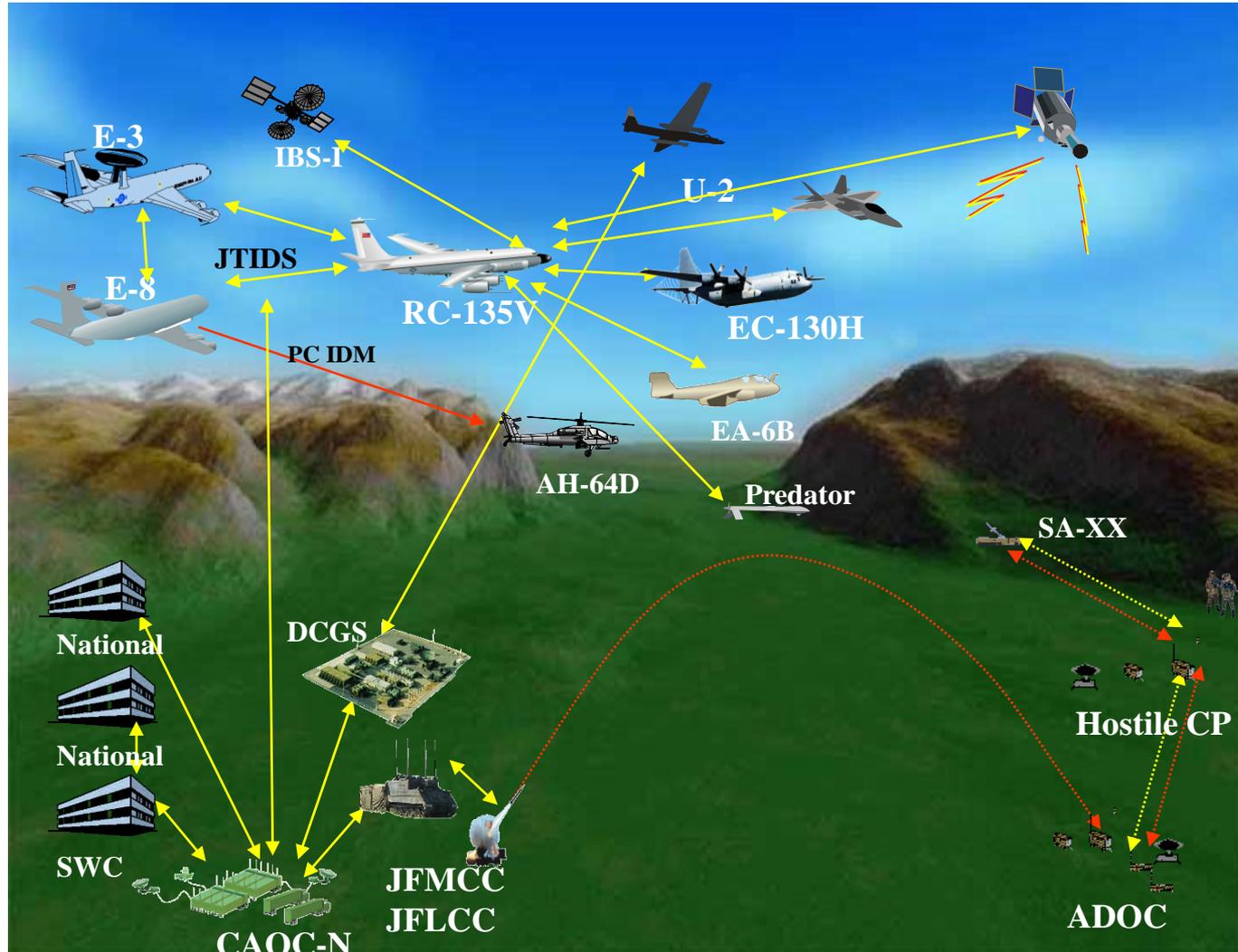
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NCCT Cross Cueing

Stand alone platforms
- Tens of minutes to detect and recognize
- Coarse location, if target stays on the air

Networked platforms
- Seconds to a few minutes to detect, ID and locate
- Accurate location, even if target is short up-time

- **NCCT Results**
  - Fuses multi-platform, multi-INT, multi-security level data to provide tracks w/ pedigree (M2M… Man On the Loop)
  - Simultaneously focuses sensors on common targets to get very accurate information in real-time
  - First M2M interface between tactical and national ISR

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Challenges

- **Data coming into RJ > data going out and being processed**

- **NCCT crossflow**
  - **Integration with other platforms for cooperative geolocation**

- **Providing ES to the warfighter in an A2AD situation**

■ **Questions?**