



# Empire Challenge 08

## Technical Integration Group

### NTISR/Strike

# *Threads*

06 February 08

***DRAFT*** Version 4.6a



# Where do we fit in ?

***We are the TIG for the NTISR/Strike JMT***

## Empire Challenge 08

### Working Groups

- Administration and Logistics
- Architectural Working group
- Networks security and Comms
- OPS and Intl
- Test Management

### Technical Integration Groups (TIG)

- Persistent Surveillance TIG
- Joint Targeting TIG
- Multi Domain Awareness TIG
- Non-Traditional ISR/Strike TIG
- Counter-IED TIG

### Joint Mission Threads (JMT)

- Persistent Surveillance
- Joint Targeting
- Multi Domain Awareness
- Non-Traditional ISR/Strike
- Counter-IED

# EC08-JMT: NTISR/Strike Objectives

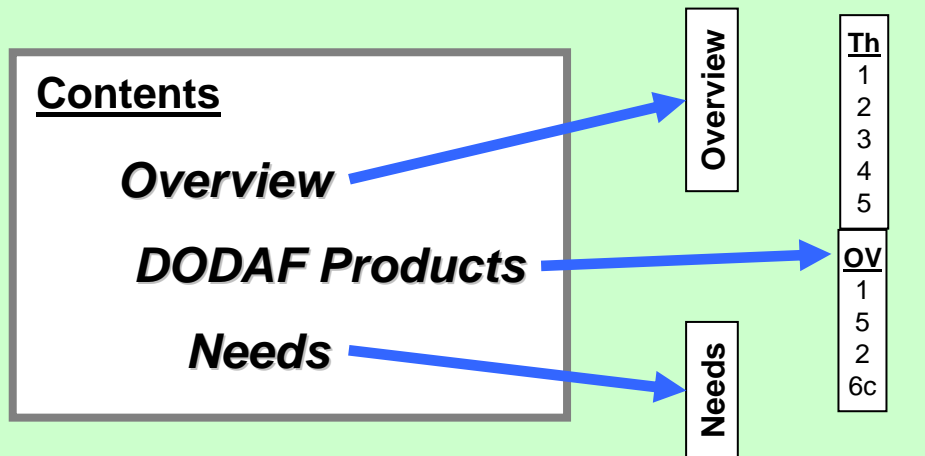


Overview

## ***Objectives:***

### **Identify Gaps in the TPED Process**

- Unique ID for tracking products
- JADOCS – CGS Coordination (iGeoAgent)
- JADOCS pointer to live link 16 track
- Track fusion coordinator function



# EC08-JMT: NTISR/Strike

## Sub Threads



### 1. Manage ISR tasking for moving targets

- C2 control of hand off to ISR assets
- Look ahead to maintain ISR coverage

### 2. Real time MTI (extracted from video) data feed to weapon sim

- Video MTI fro NEW

### 3. NTISR Decision / Asset Allocation

- Evaluate ability to dynamically allocate, reallocate and manage NTISR Assets
- Does the tool set enable the commander to make these decisions

### 4. Strike mission, live drop on the North Range

- NTISR missions (from other sub threads) on China Lake South Range result in a Strike mission on the North range. BDA/BHA

### 5. Contingency C2 - - Airborne C2

- Ground based C2 temporarily off line, Airborne C2 takes over
- All NTISR/Strike Threads? Subset of the threads?
- Can we establish sufficient SA for airborne C2 to continue fight?

# EC08-JMT: NTISR/Strike

## Initiatives (in no particular order)



Overview

	<b>Initiative</b>	<b>POC</b>
	<b>LOS/BLOS</b>	<b>Peter Kuhl</b>
<b>Raytheon</b>	<b>Killer Bee</b>	<b>Richard Landis</b>
	<b>NetMALD</b>	<b>Richard Landis</b>
	<b>Airborne DIB</b>	<b>Richard Landis</b>
	<b>JBAIIC</b>	<b>Bill Roeting</b>
	<b>NTISR</b>	<b>Ross Mitchell</b>
	<b>CASTLE EXPRESS</b>	<b>Maj Mike Miller</b>
	<b>MAJIIC</b>	<b>Rebecca Bussjager</b>
	<b>TAC-SEE</b>	<b>Bruce Basset</b>
	<b>AOCO</b>	<b>Rick Means (Airborne Overhead Cooperative Ops)</b>
	<b>HIS</b>	<b>Mike Lewis (Hyper spectral sensor)</b>
	<b>MIVG</b>	<b>Matt Laclare (6 cameras)</b>
	<b>SPECK-EYE</b>	<b>Shelden Peepenburg (multiple UAVS)</b>
<b>BAE</b>	<b>MIPE</b>	<b>Gerld Barker (Mobile Integrated Precision Effect)</b>
	<b>VPT</b>	<b>Gerld Barker (Video Precision Targeting)</b>

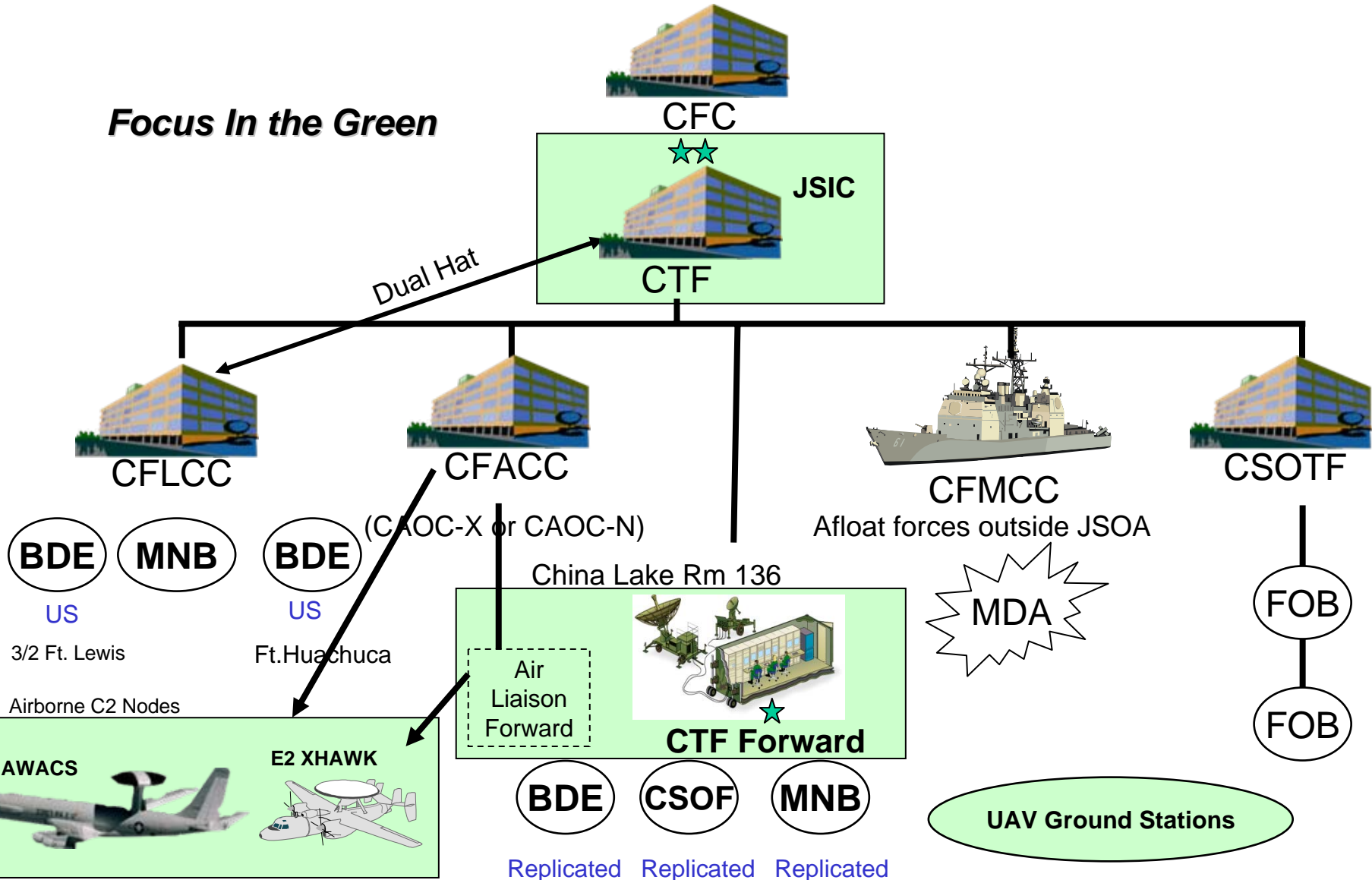
# EC08-JMT: NTISR/Strike

## Organizational OV-4: Used For all



Overview

**Focus In the Green**



Replicated Replicated Replicated

# EC08-JMT: NTISR/Strike

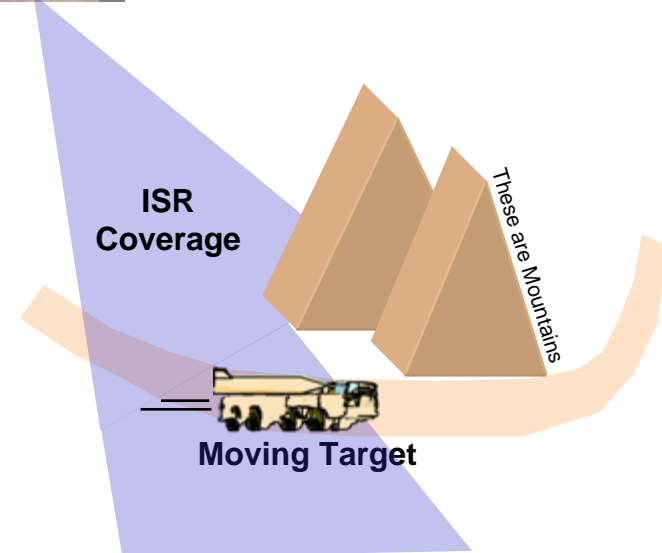
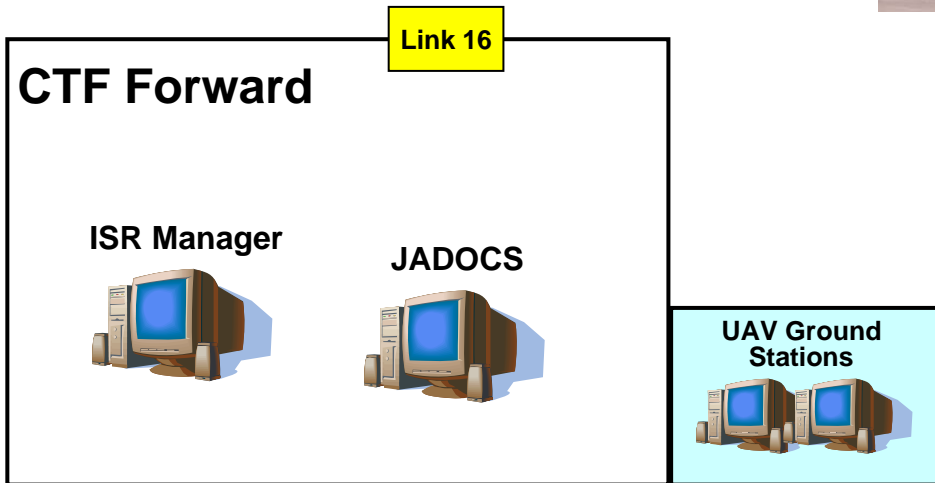
## 1- ISR Management for Moving Targets - OV-1

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1. Start with a moving target track
2. Calculate Remaining Coverage Time
3. Evaluate Asset availability
4. ISR coverage ends
5. Make new ISR assignment



NTISR Platforms



# EC08-JMT: NTISR/Strike

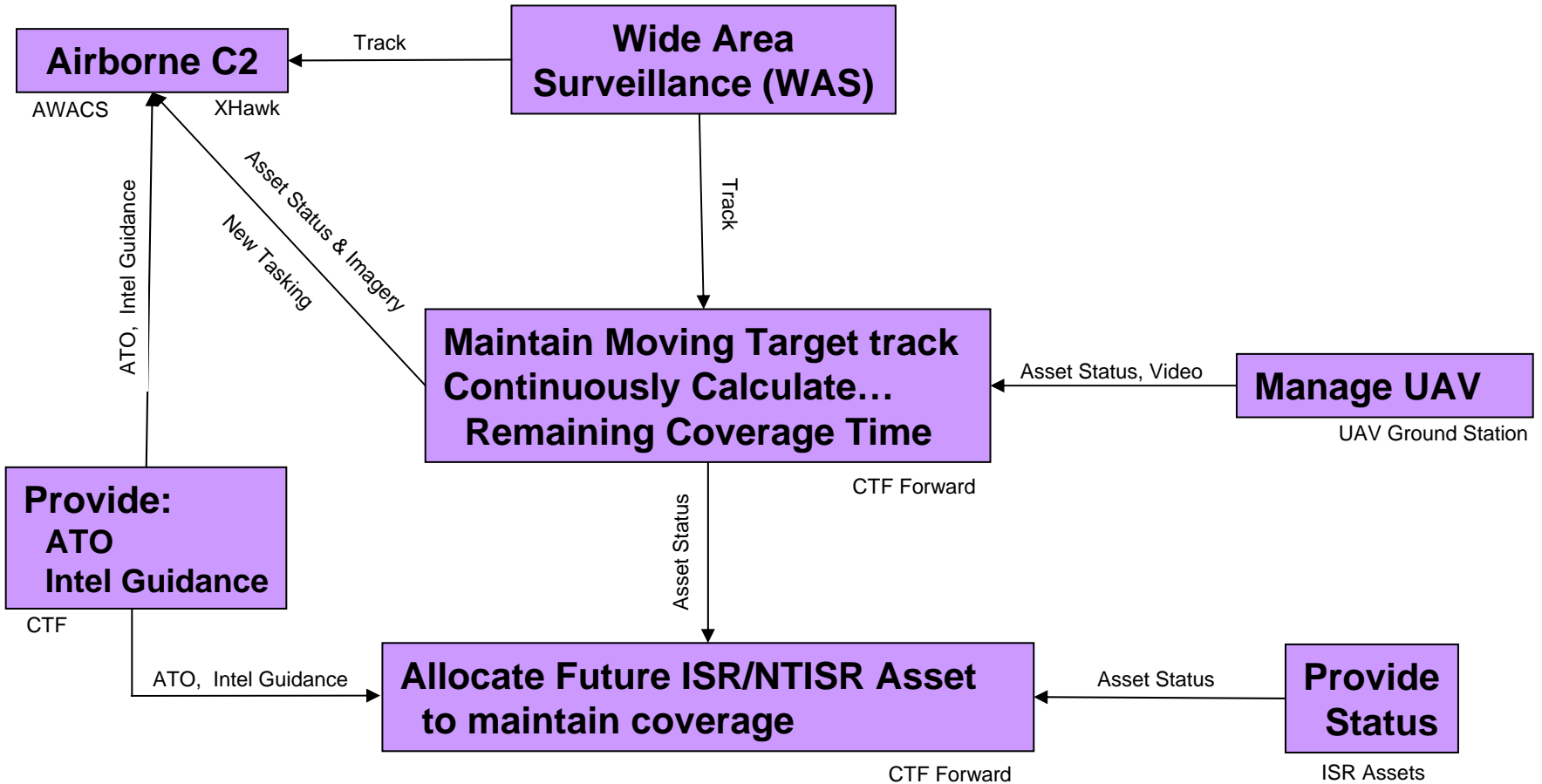
## 1- ISR Management for Moving Targets – Activities OV-5



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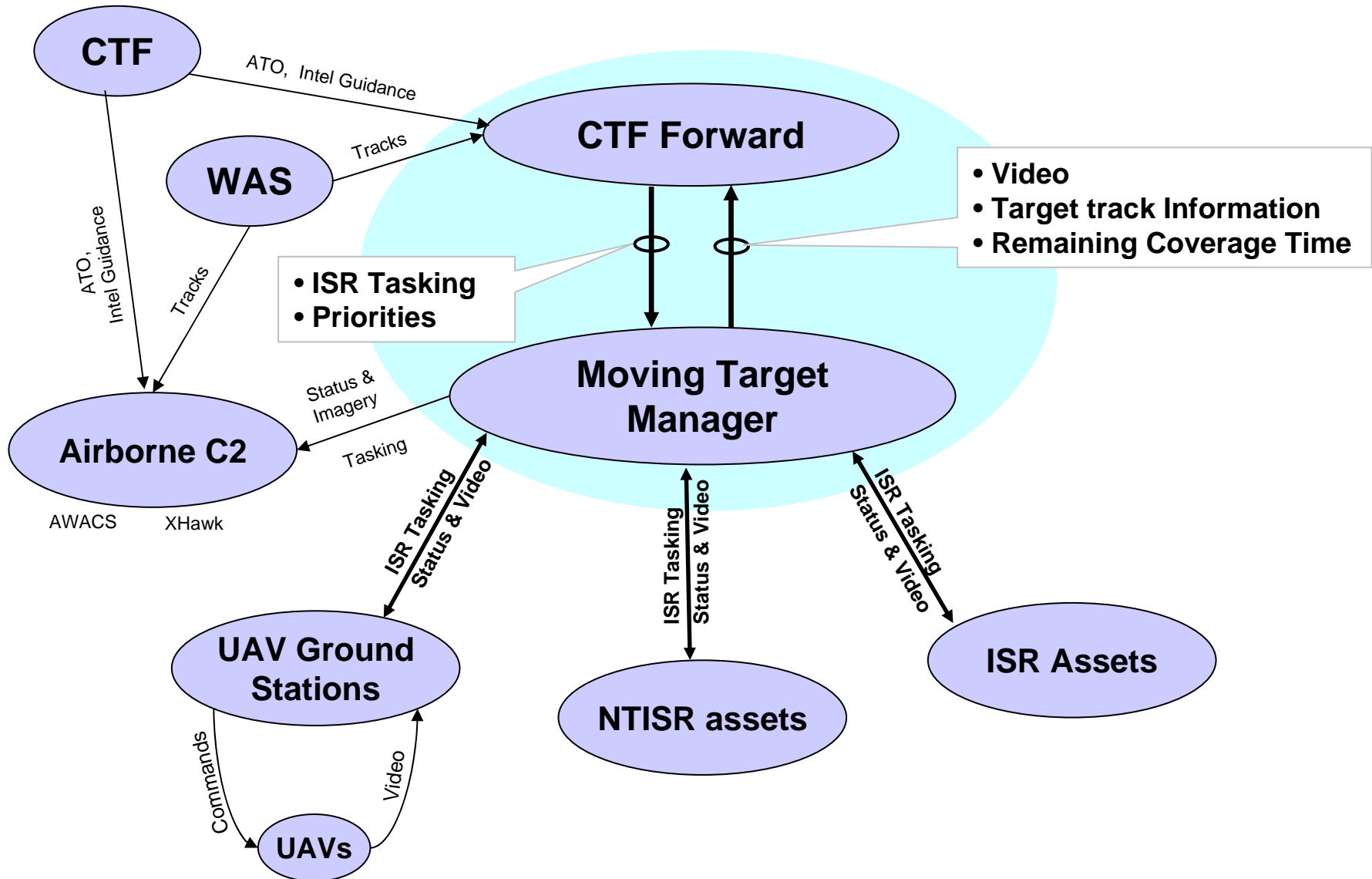


# EC08-JMT: NTISR/Strike



## 1- ISR Management for Moving Targets – Connectivity OV-2

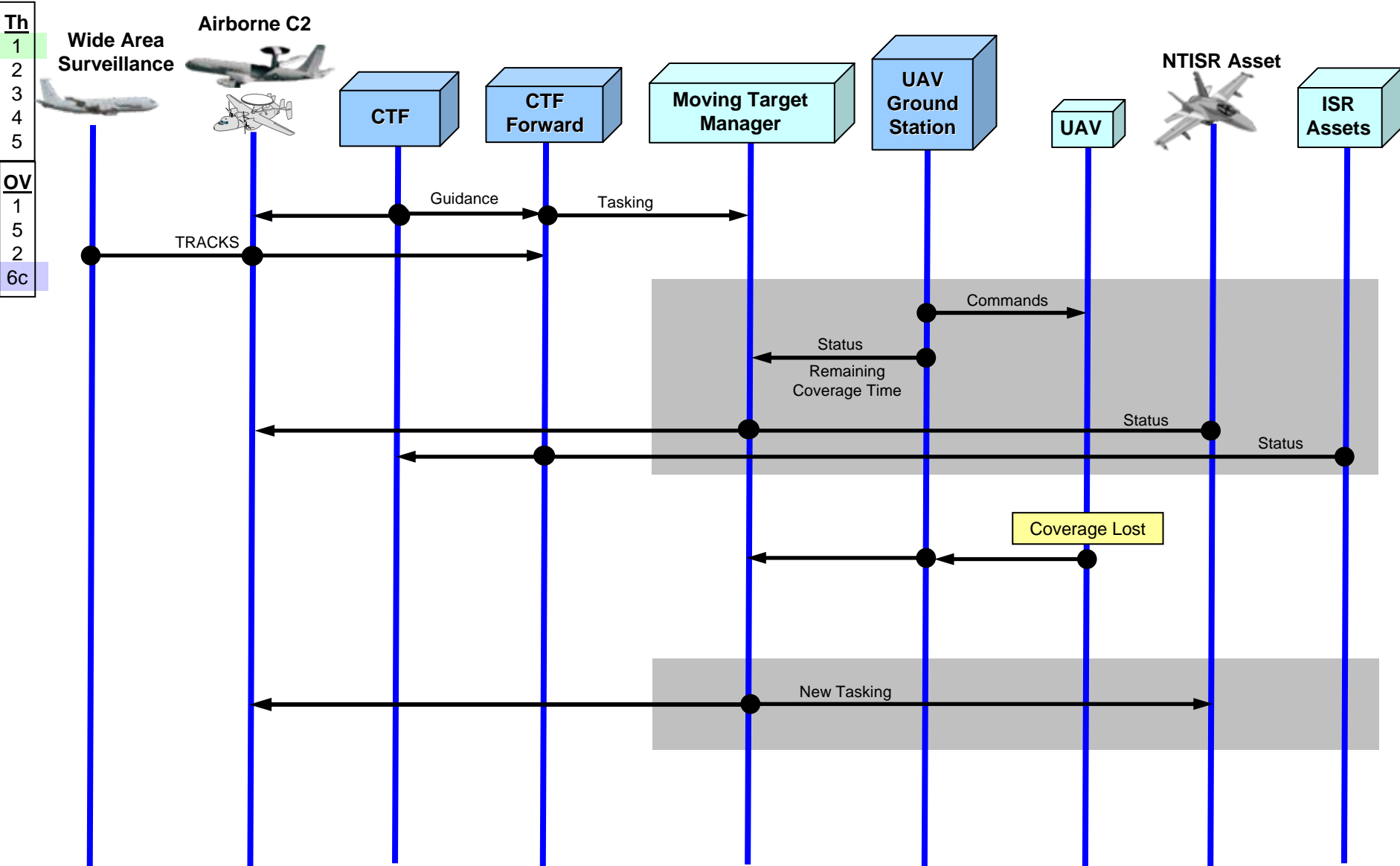
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# EC08-JMT: NTISR/Strike



## 1- ISR Management for Moving Targets – Event Flow OV-6c



# EC08-JMT: NTISR/Strike

## 2- Video-MTI Moving Targets - OV-1

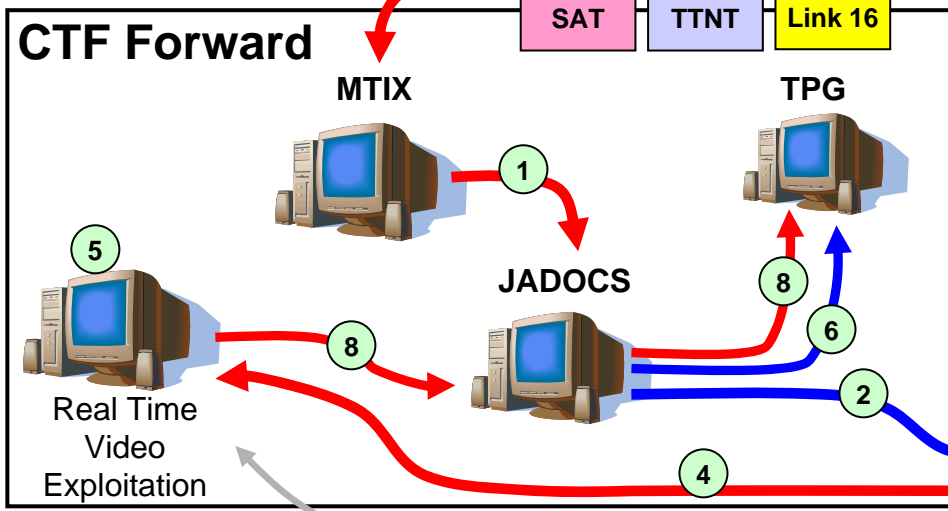


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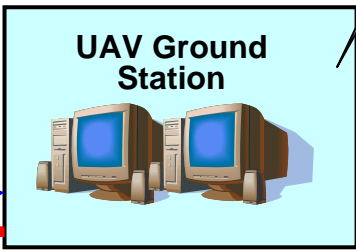
1. GMTI Detection
2. Task Video Surveillance
3. Establish Video Track
4. Live Video to AOC
5. Real Time Video Exploitation
6. Command/Launch
7. Launch NEW (JSOW)
8. Coordinate updates



NEW – Network Enabled Weapon



Tasking ↑  
Products ↓



Video Exploitation Could be in Ground Station

# EC08-JMT: NTISR/Strike

## 2- Video-MTI Moving Targets – Activities OV-5

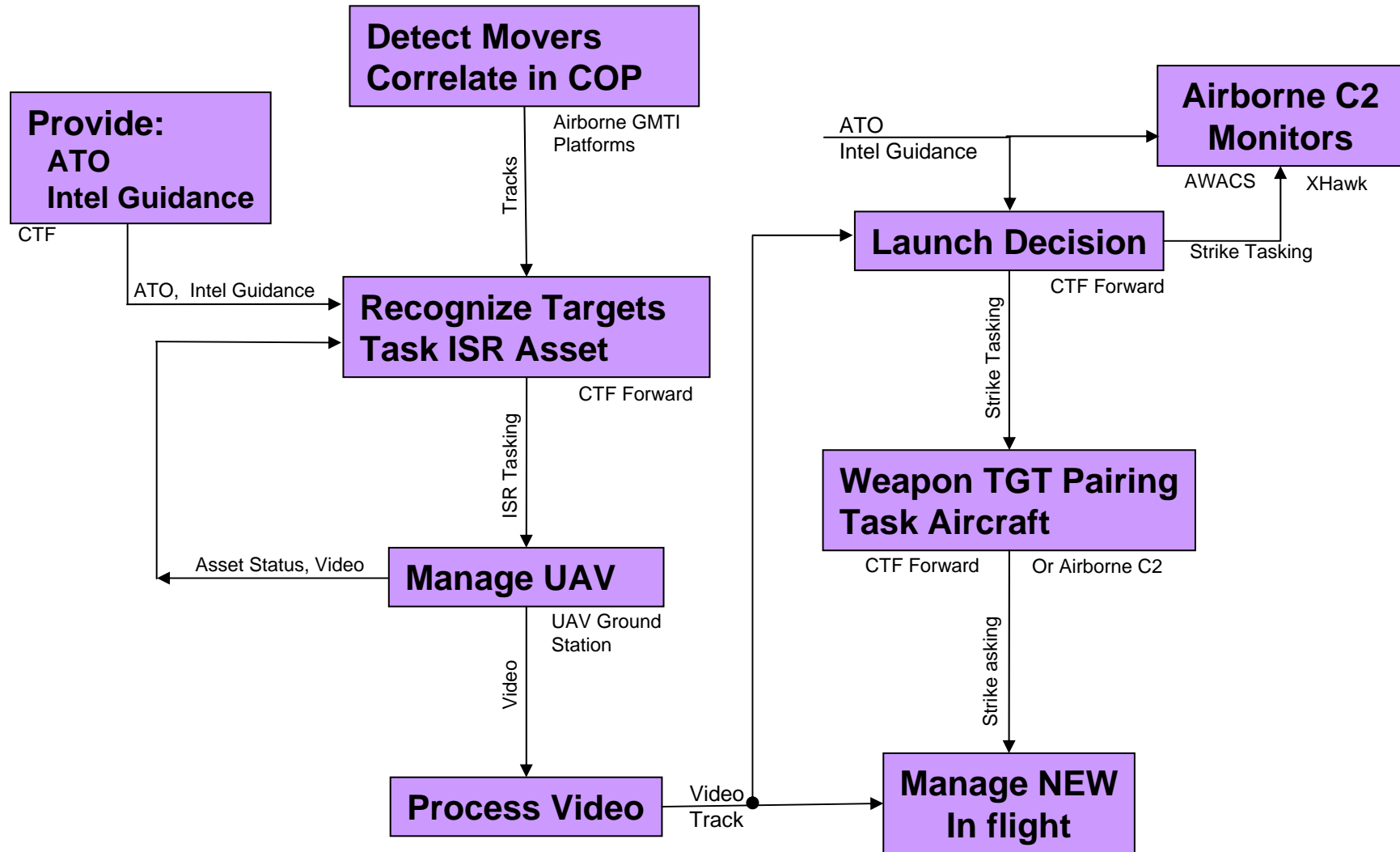


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NEW – Network Enabled Weapon

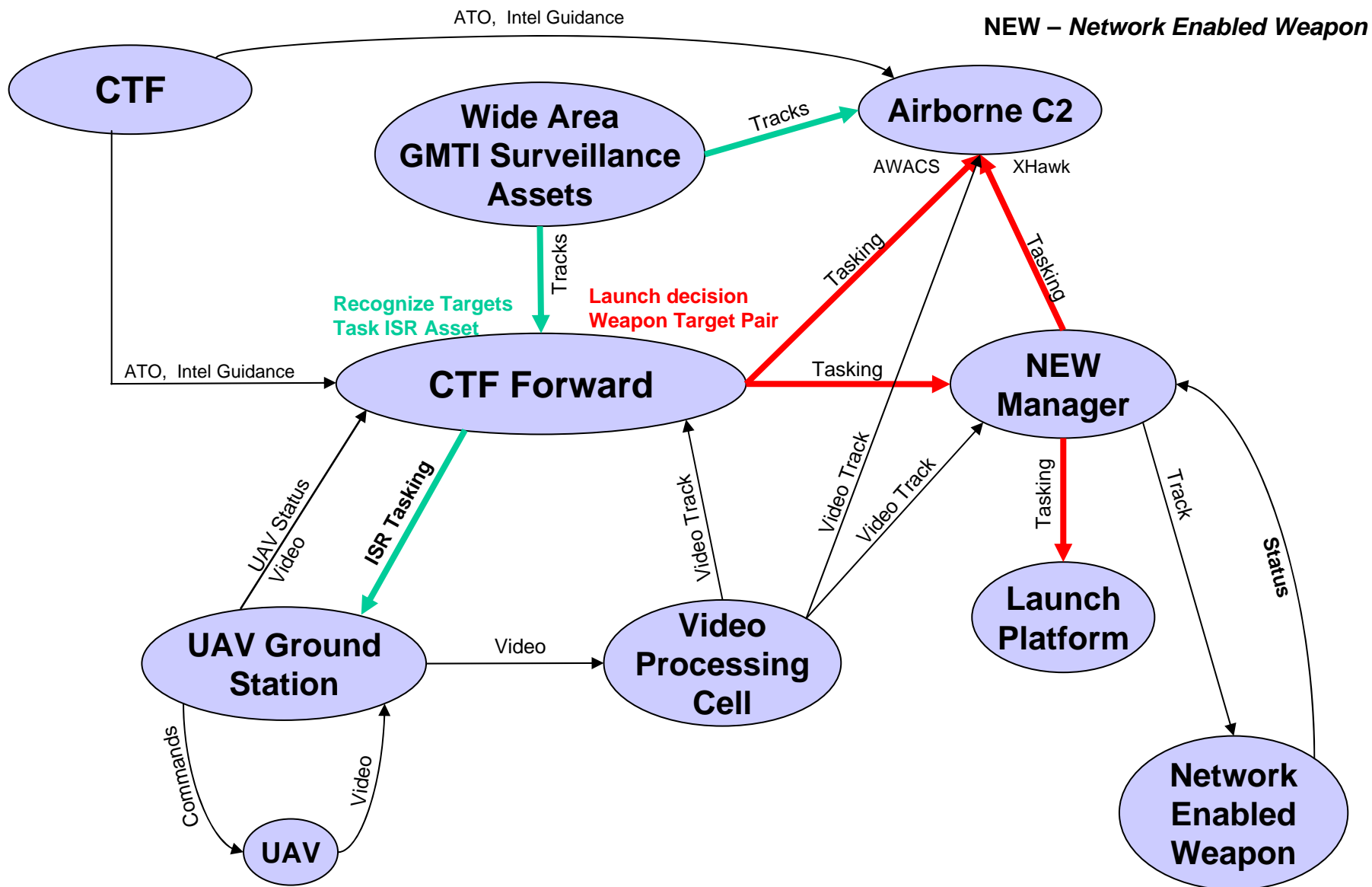


# EC08-JMT: NTISR/Strike

## 2- Video-MTI Moving Targets – Connectivity OV-2



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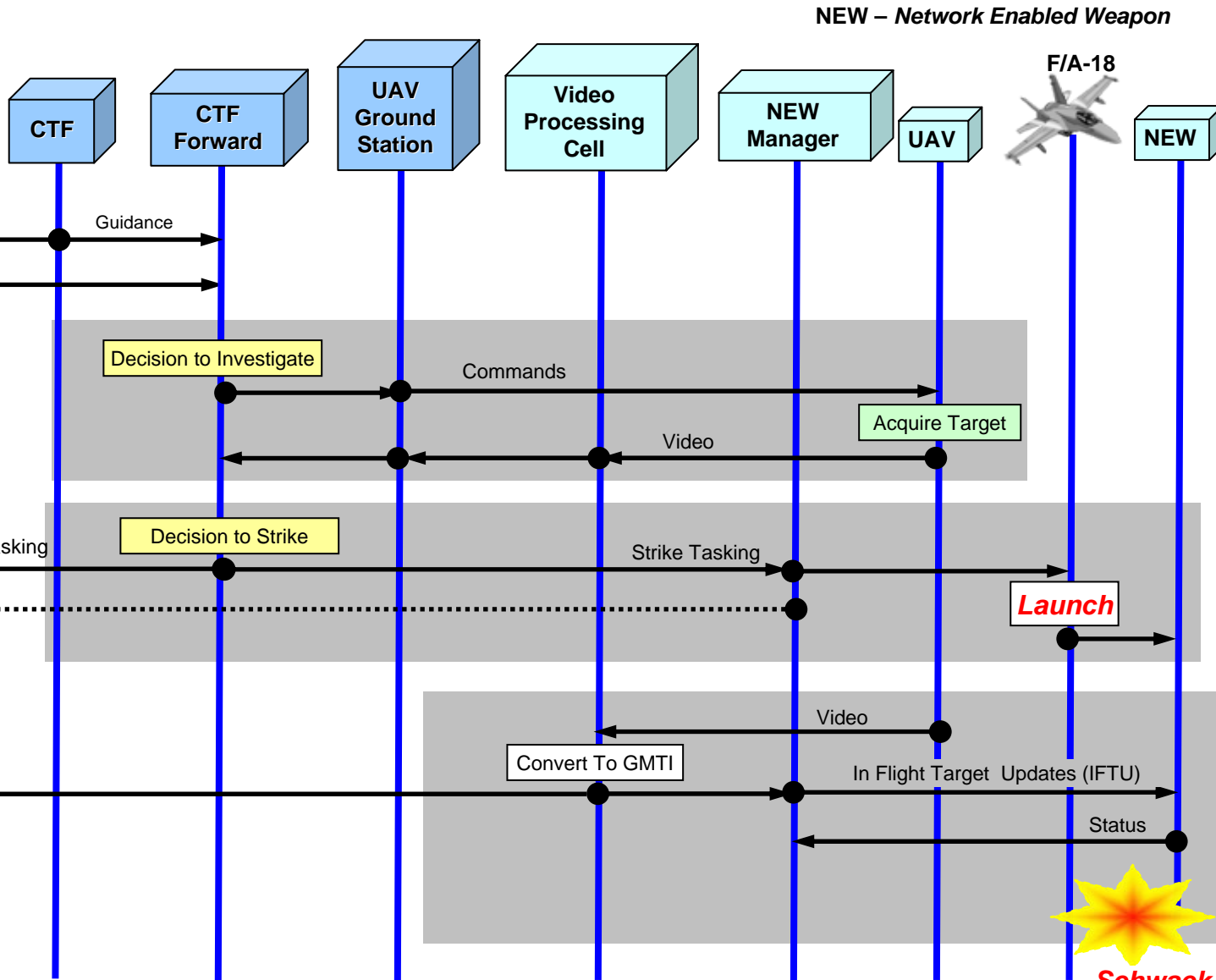


# EC08-JMT: NTISR/Strike

## 2- Video-MTI Moving Targets – Event Flow OV-6c



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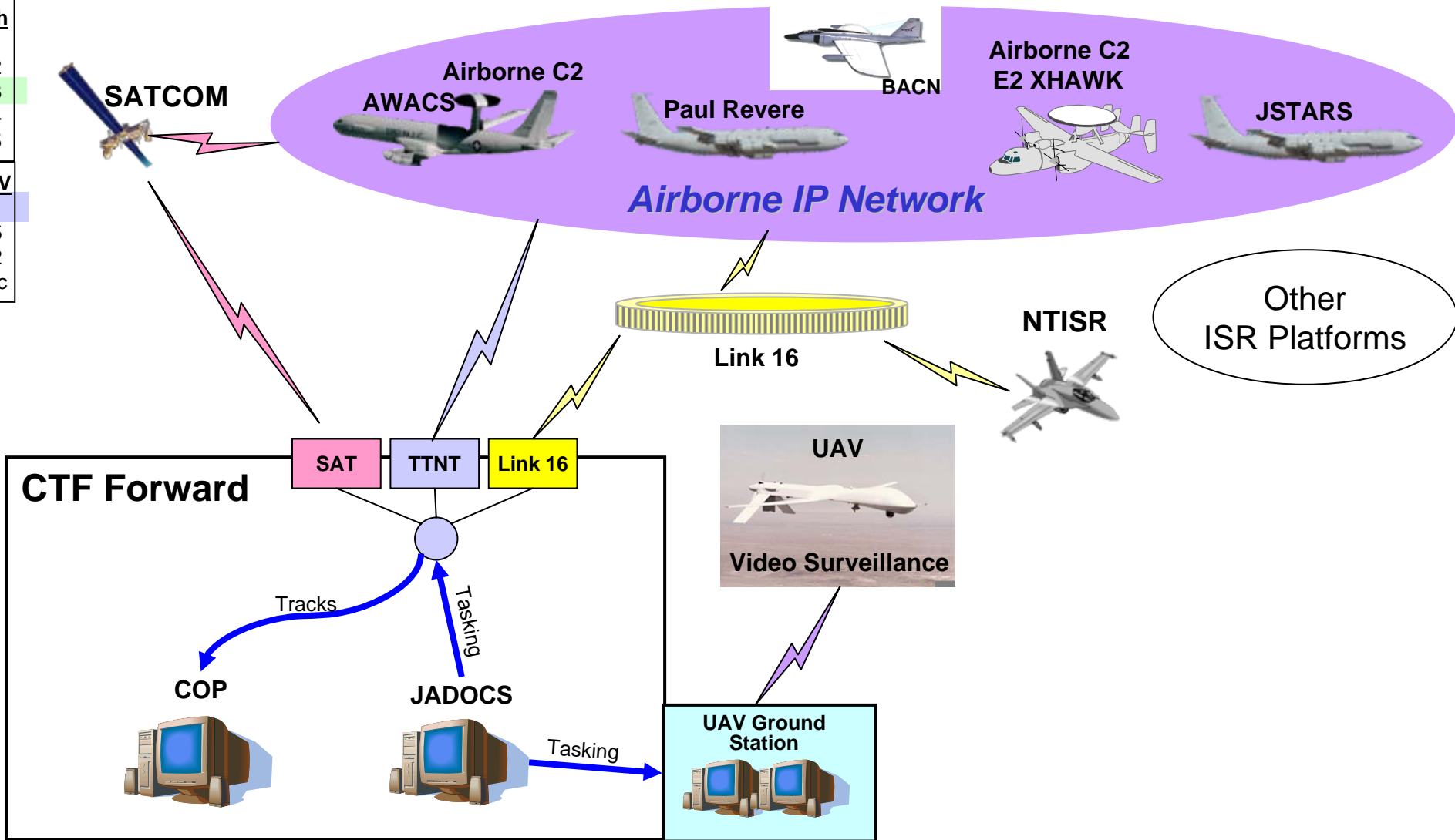


# EC08-JMT: NTISR/Strike

## 3- NTISR Decision / Asset Allocation - OV-1



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# EC08-JMT: NTISR/Strike

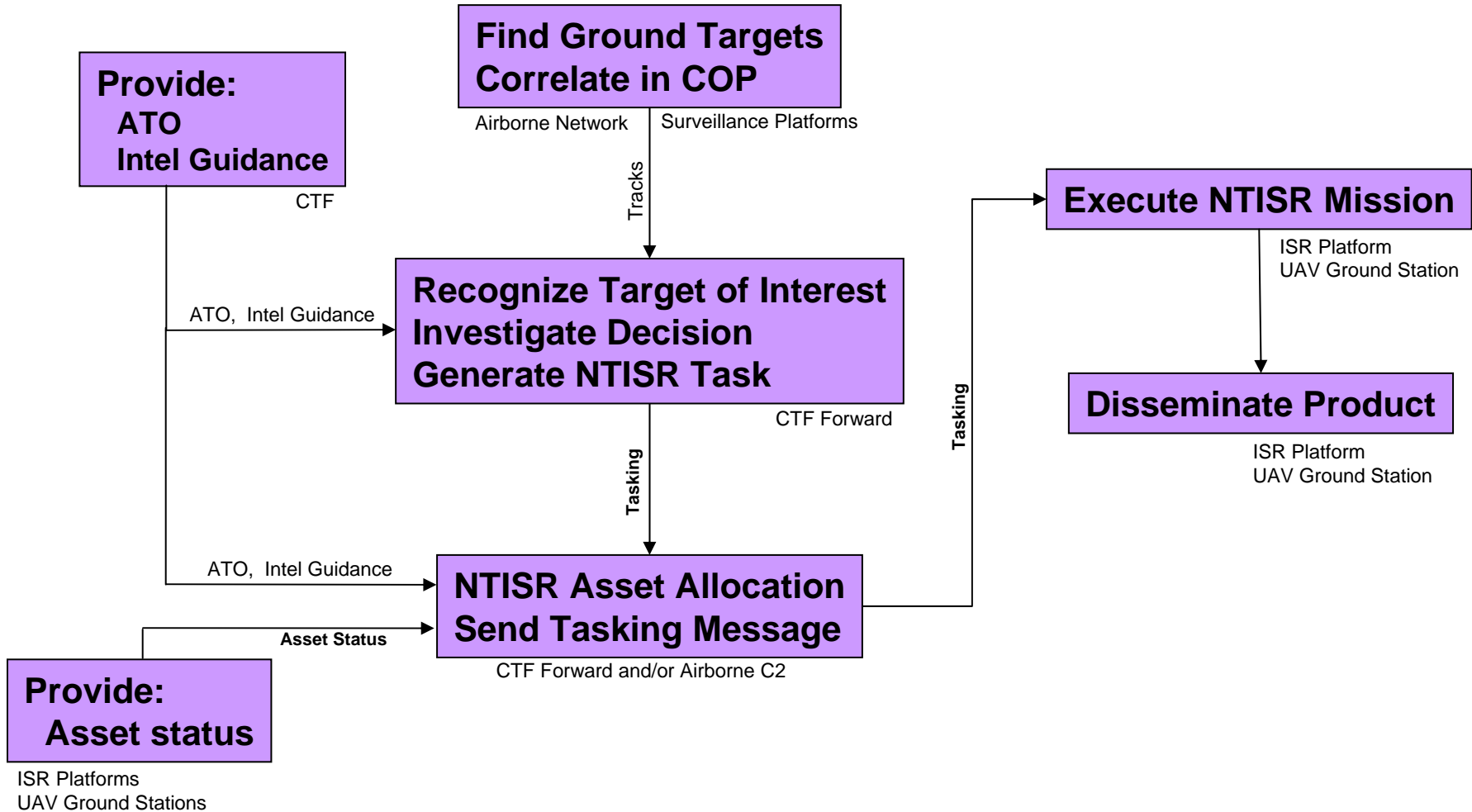
## 3- NTISR Decision / Asset Allocation – Activities OV-5



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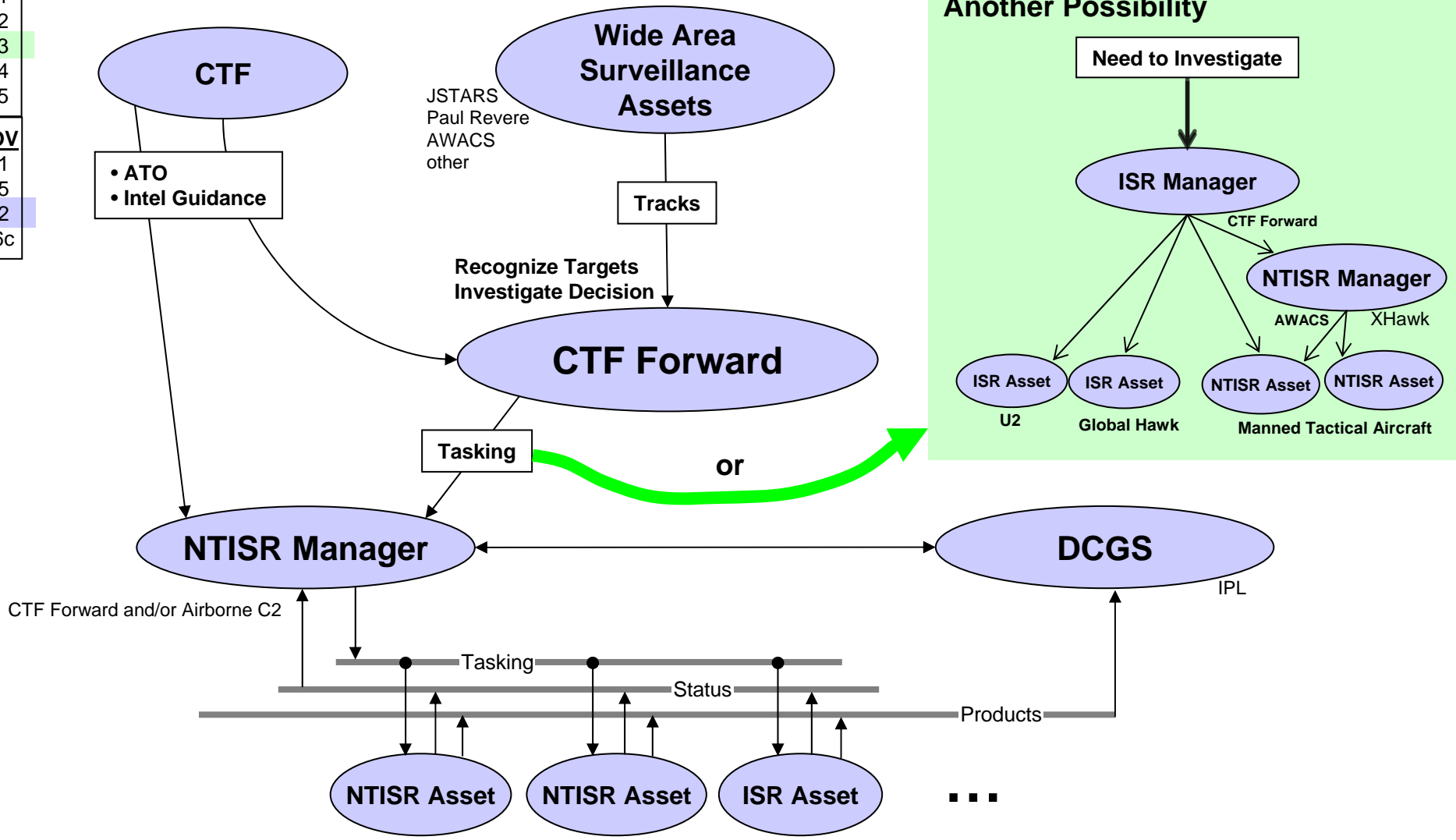


# EC08-JMT: NTISR/Strike

## 3- NTISR Decision / Asset Allocation – Connectivity OV-2

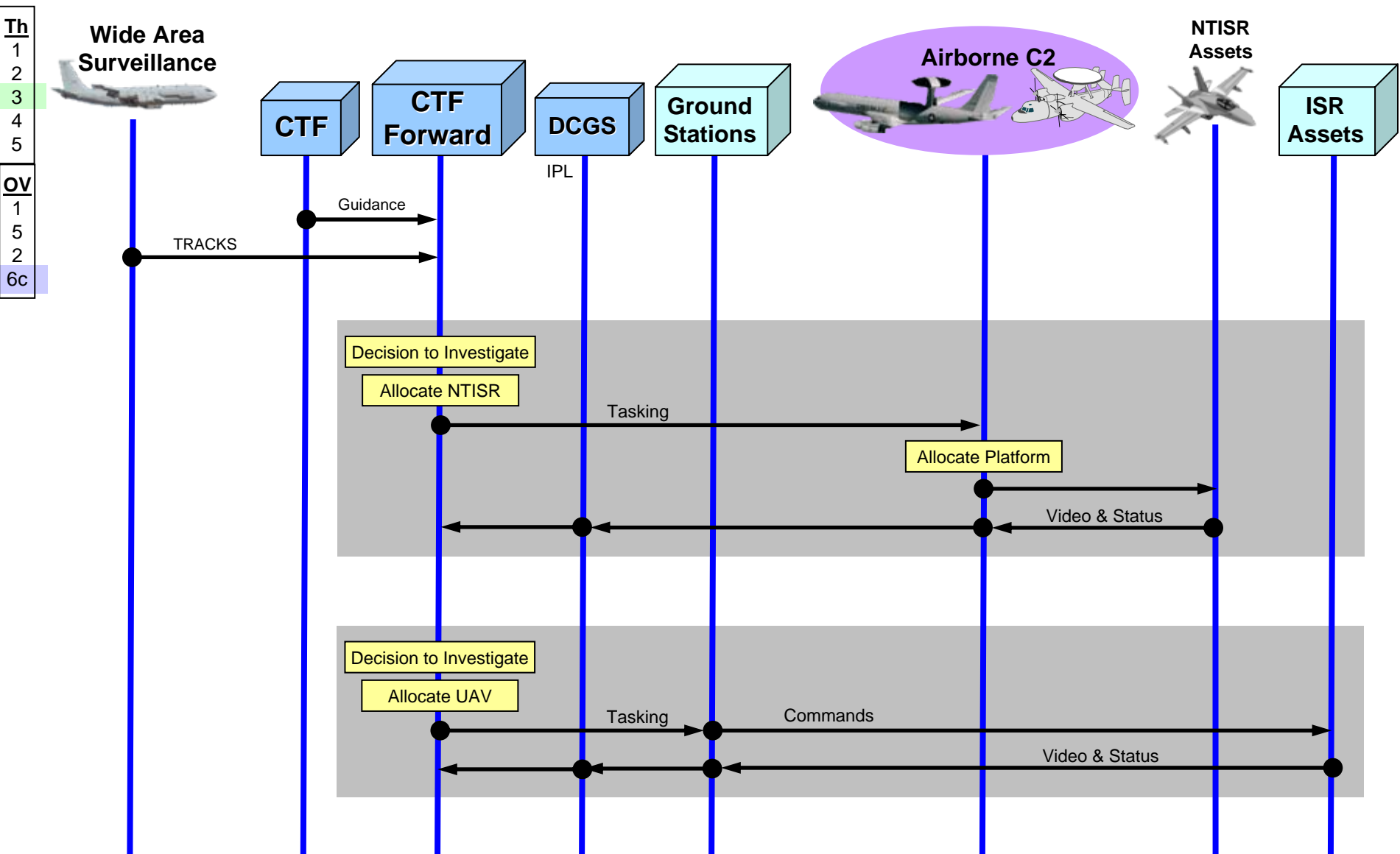


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# EC08-JMT: NTISR/Strike

## 3- NTISR Decision / Asset Allocation – Event Flow OV-6c



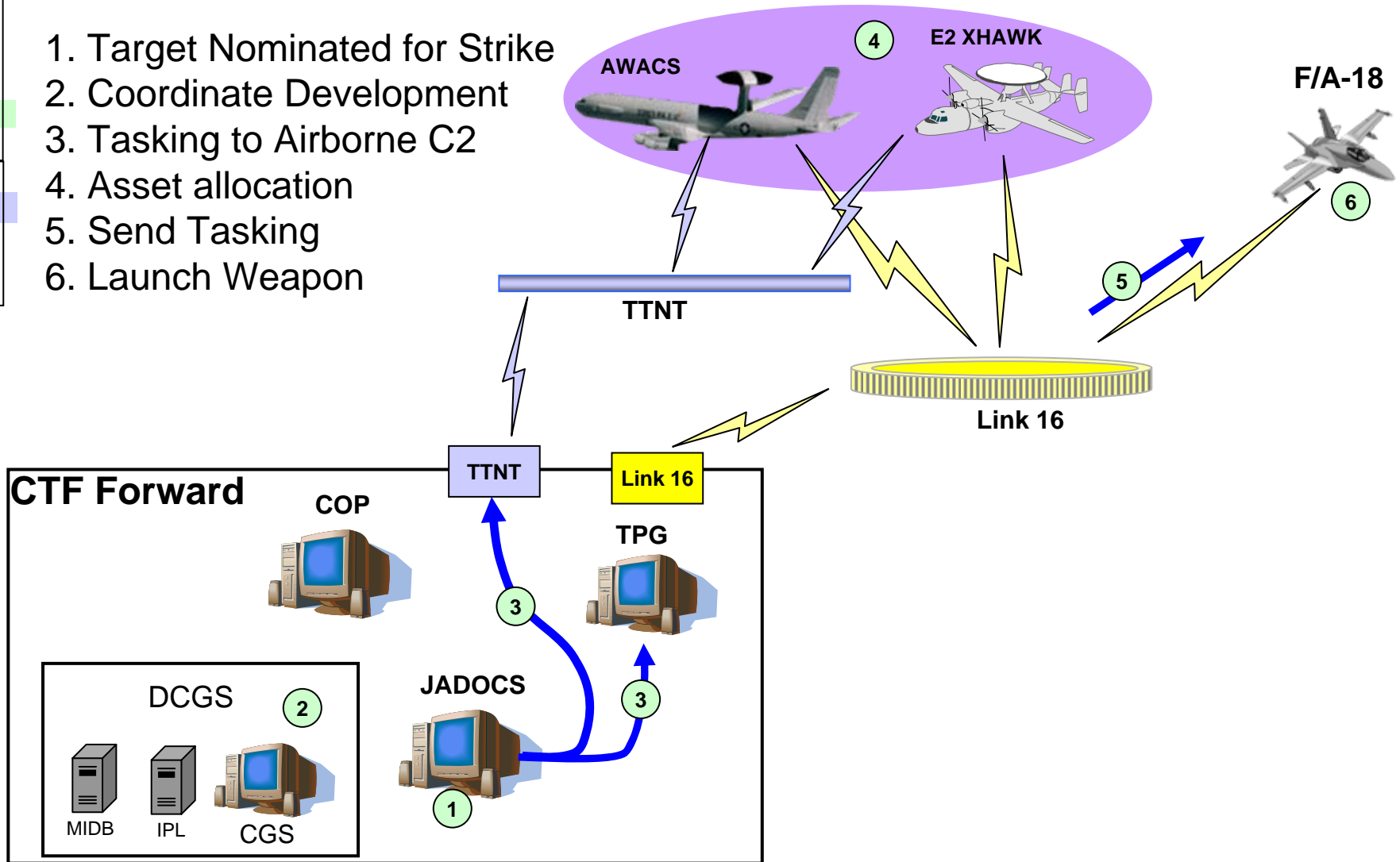
# EC08-JMT: NTISR/Strike

## 4- Strike Mission - OV-1



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1. Target Nominated for Strike
2. Coordinate Development
3. Tasking to Airborne C2
4. Asset allocation
5. Send Tasking
6. Launch Weapon



# EC08-JMT: NTISR/Strike

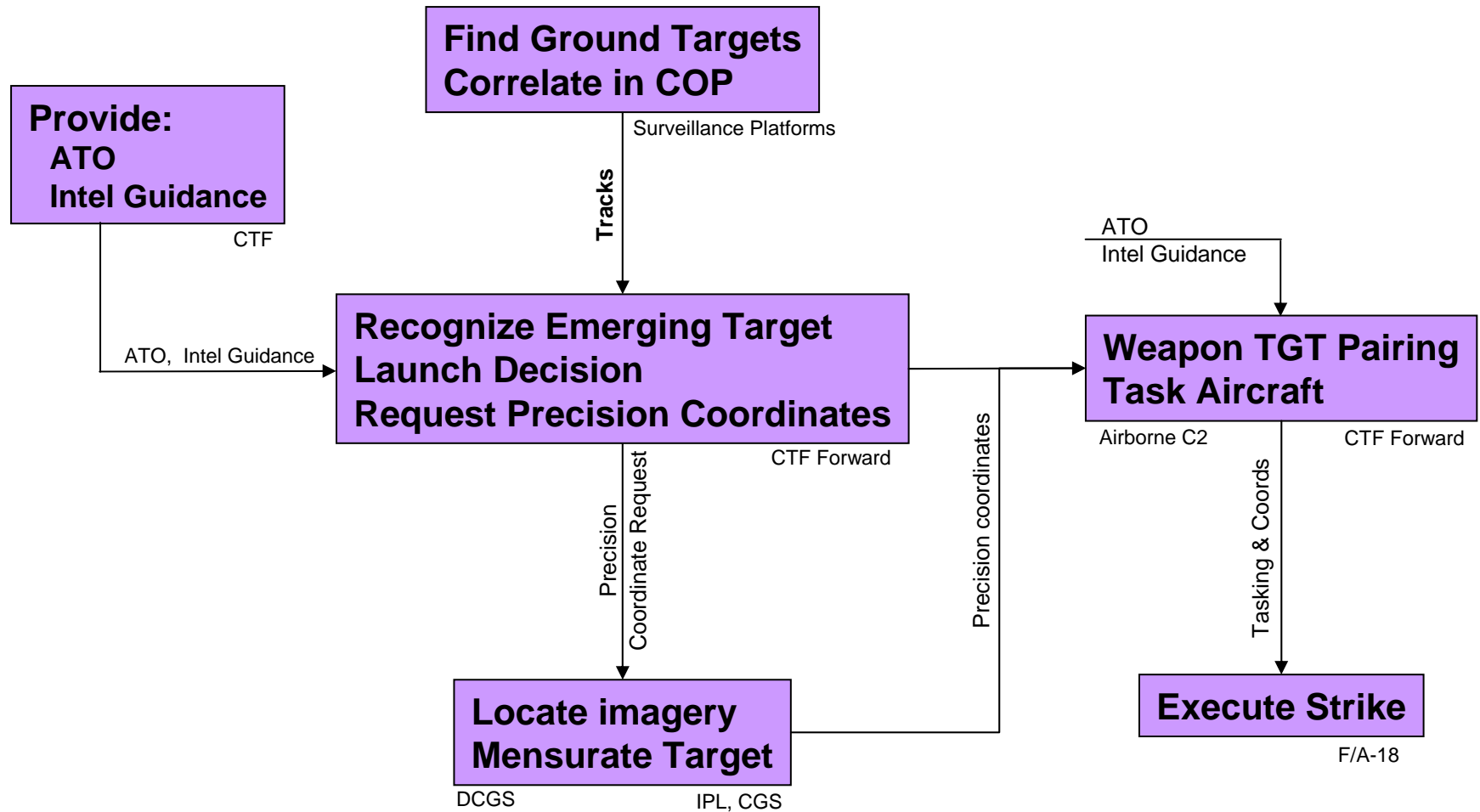
## 4- Strike Mission – Activities OV-5



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# EC08-JMT: NTISR/Strike

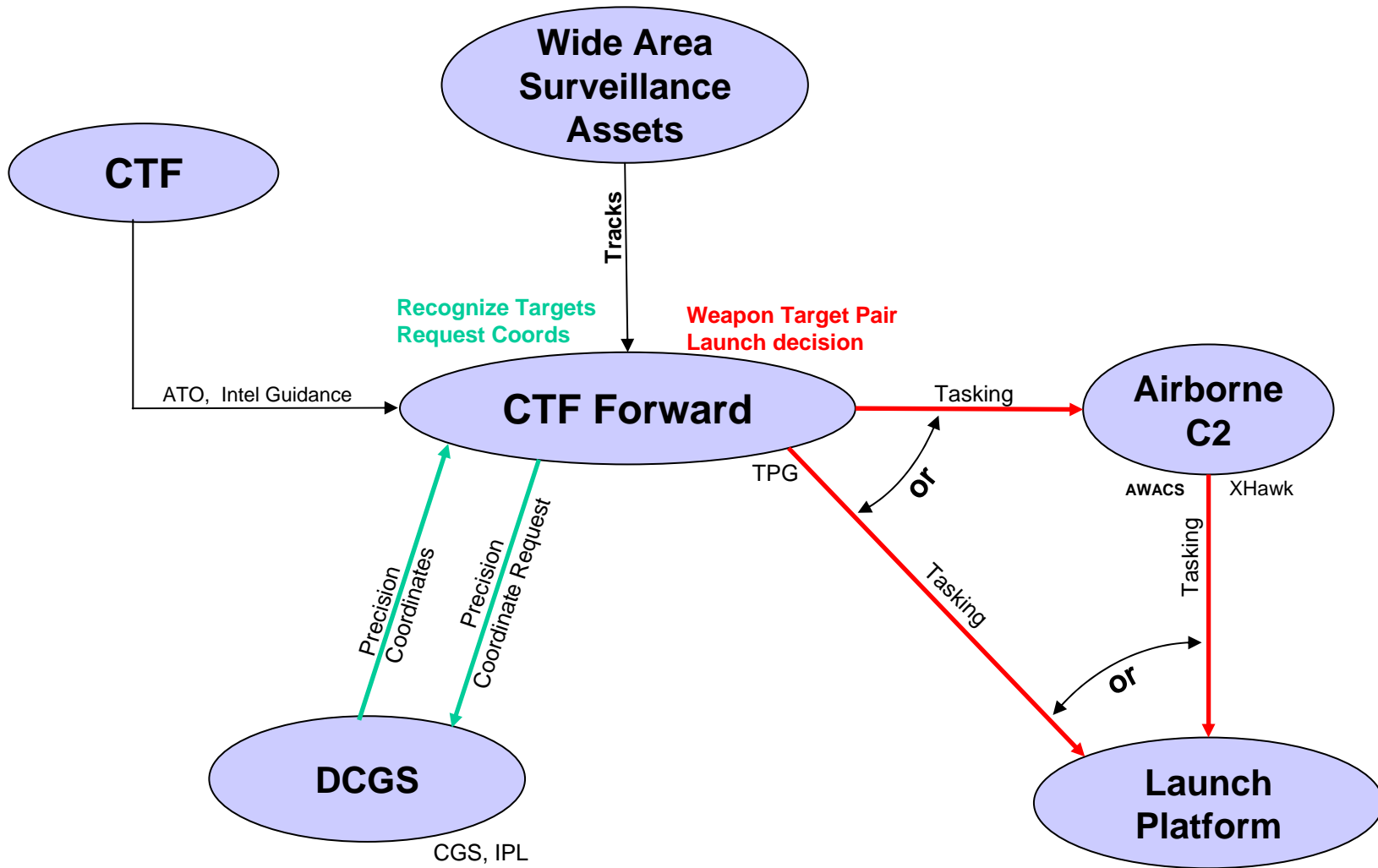
## 4- Strike Mission – Connectivity OV-2



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# EC08-JMT: NTISR/Strike

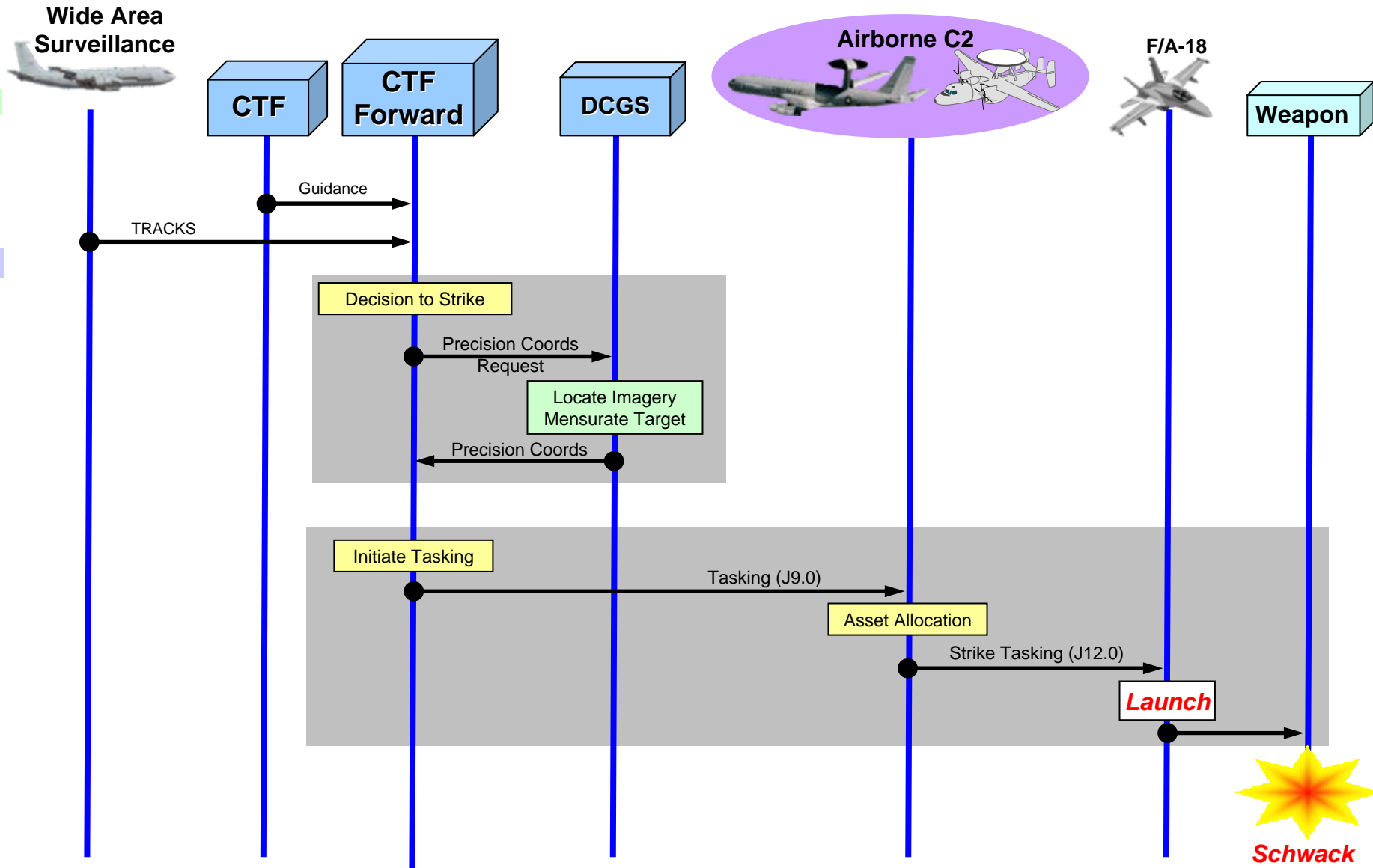
## 4- Strike Mission – Event Flow OV-6c



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# EC08-JMT: NTISR/Strike

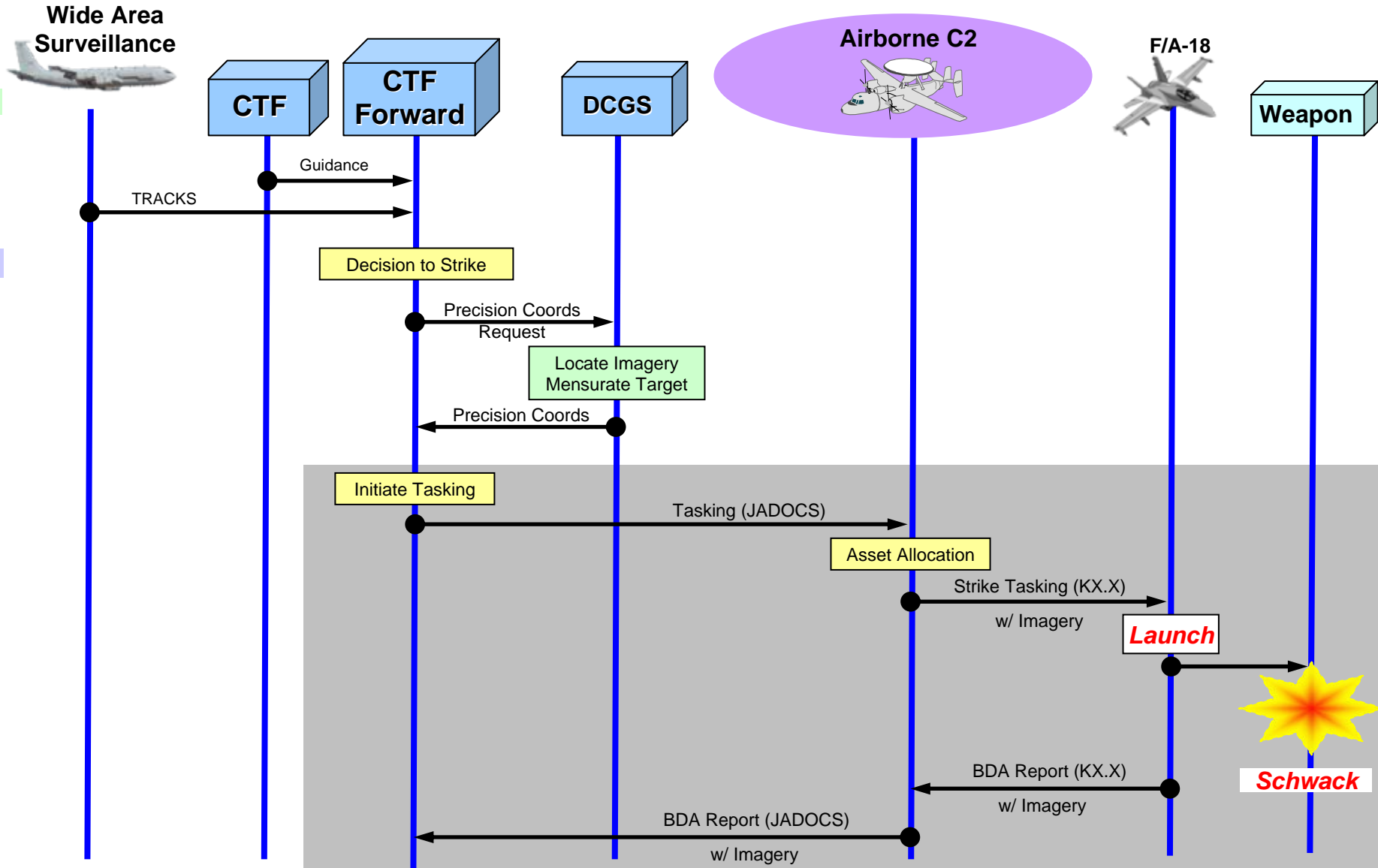
## 4- Strike Mission (VMF) – Event Flow OV-6c



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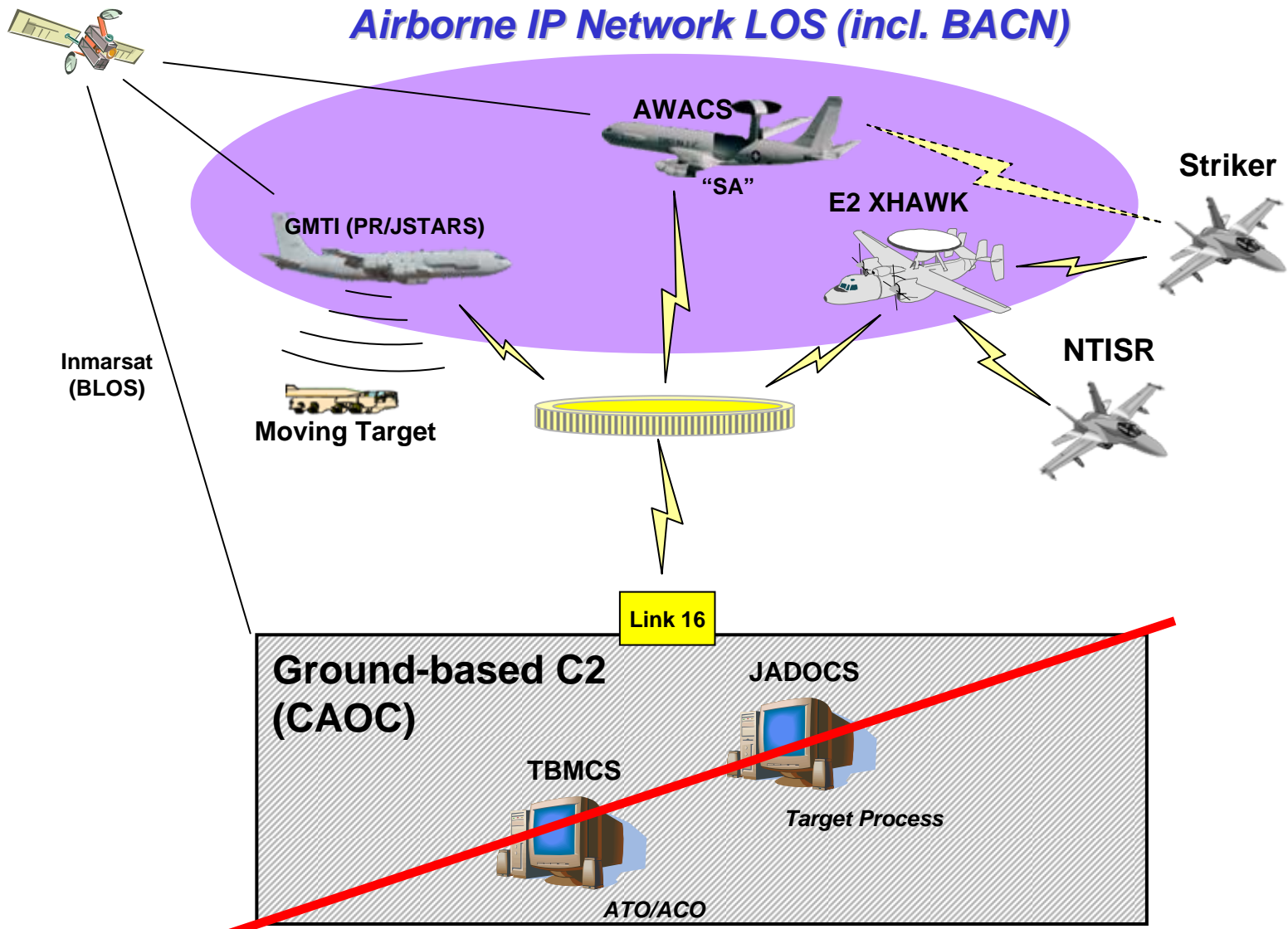


# EC08-JMT: NTISR/Strike

## 5 – Contingency-Airborne C2 - OV-1



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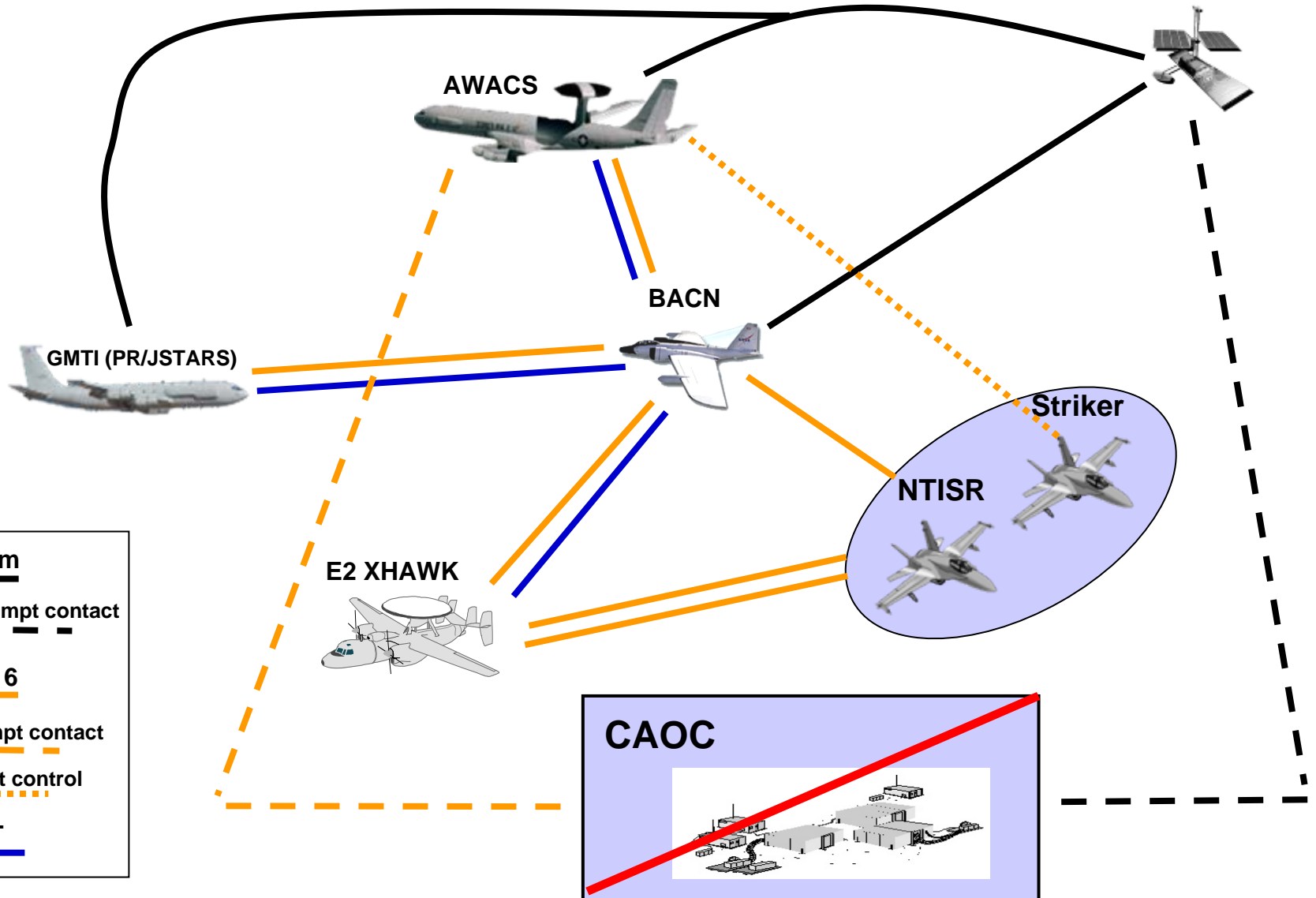


# EC08-JMT: NTISR/Strike

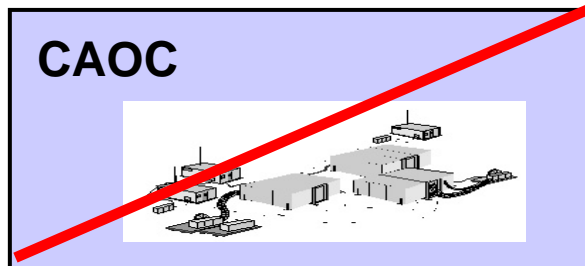


## 5 - Contingency-Airborne C2 Connectivity - OV-2 (1/2)

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**Satcom**  
 Attempt contact  
 ---  
**Link 16**  
 Attempt contact  
 ---  
 Direct control  
 - - - - -  
**TTNT**  
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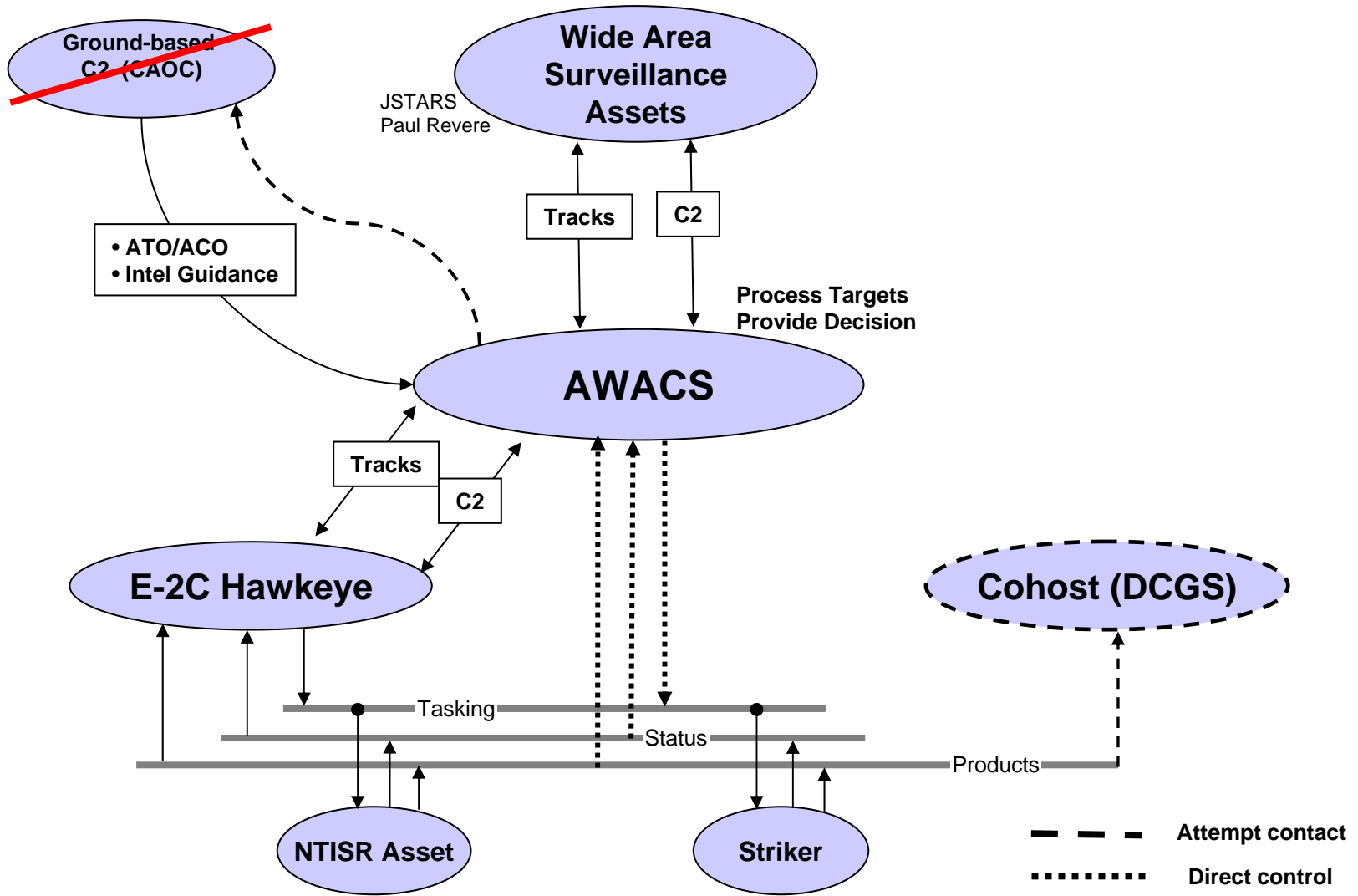


# EC08-JMT: NTISR/Strike



## 5 - Contingency-Airborne C2 Relationships - OV-2 (2/2)

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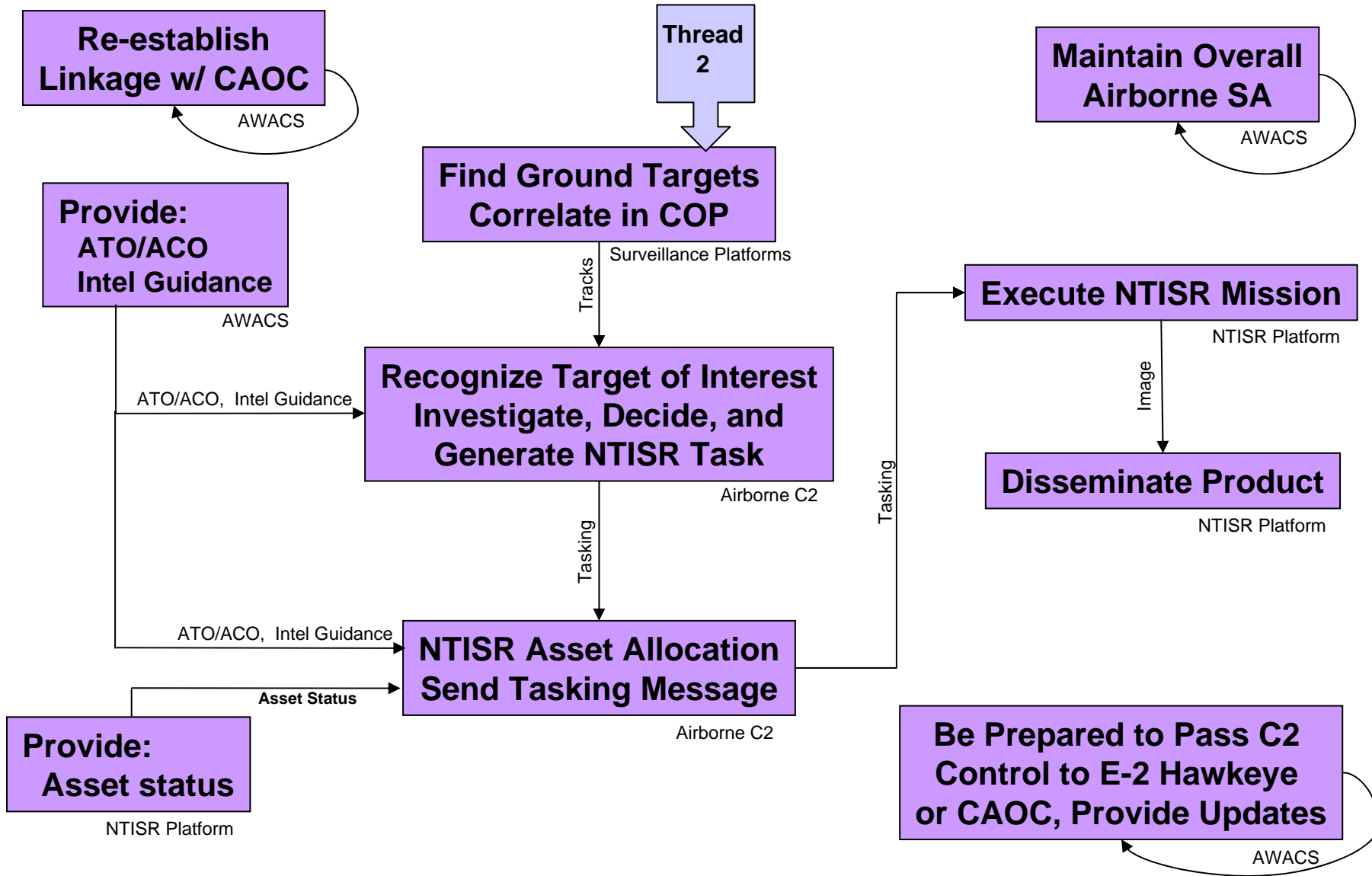


# EC08-JMT: NTISR/Strike



## 5 - Contingency-Airborne C2 – Activities OV-5 (1/2)

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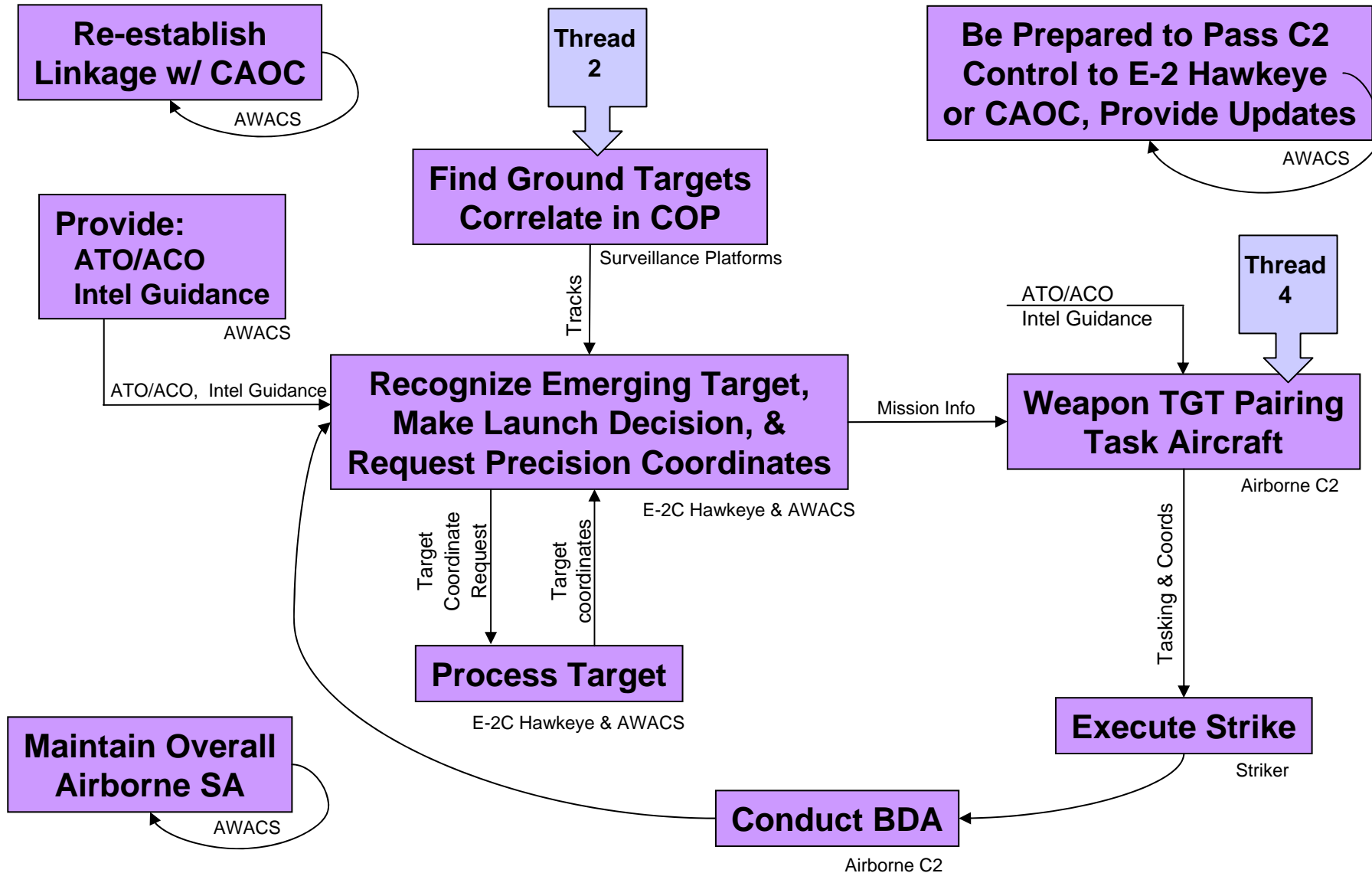


# EC08-JMT: NTISR/Strike



## 5 - Contingency-Airborne C2 – Activities OV-5 (2/2)

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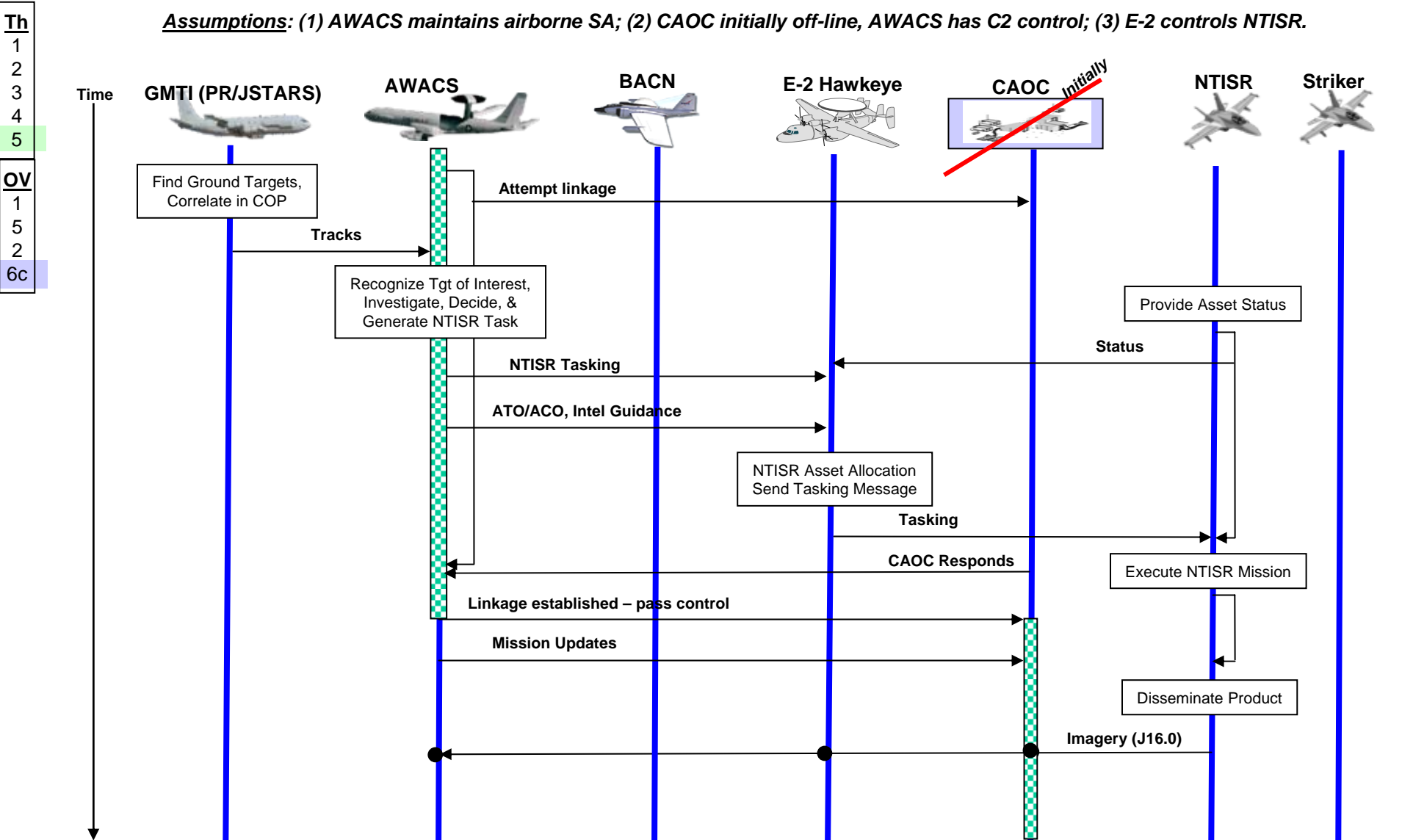


# EC08-JMT: NTISR/Strike (1/2)



## 5 - Contingency-Airborne C2 – Event Flow OV-6c

**Assumptions:** (1) AWACS maintains airborne SA; (2) CAOC initially off-line, AWACS has C2 control; (3) E-2 controls NTISR.



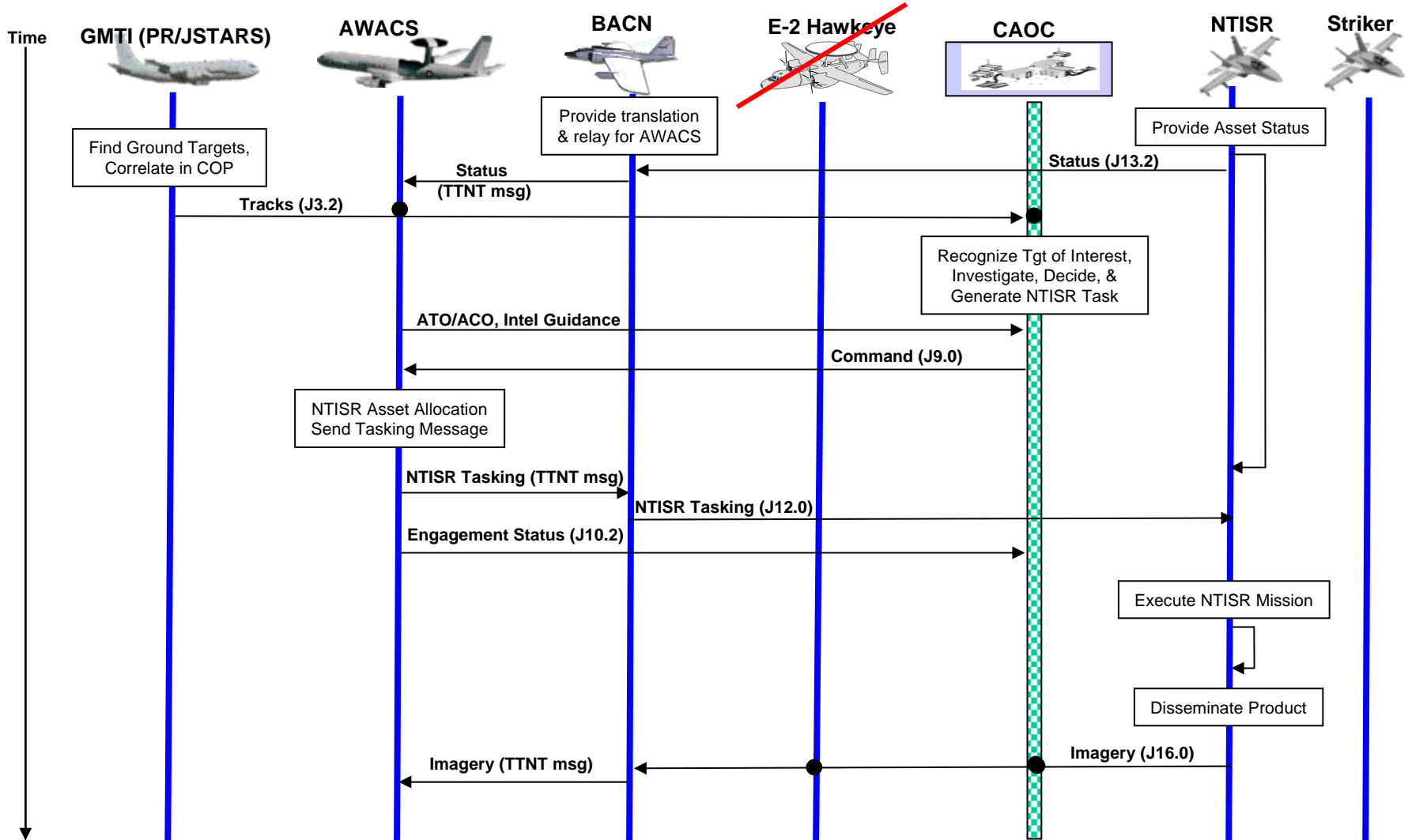
# EC08-JMT: NTISR/Strike (2/2)



## 5 - Contingency-Airborne C2 – Event Flow OV-6c

**Assumptions:** (1) AWACS maintains airborne SA; (2) CAOC has C2 control, (3) AWACS controls NTISR, BACN providing relay; (4) E-2 off-line.

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 Indicates C2 Control

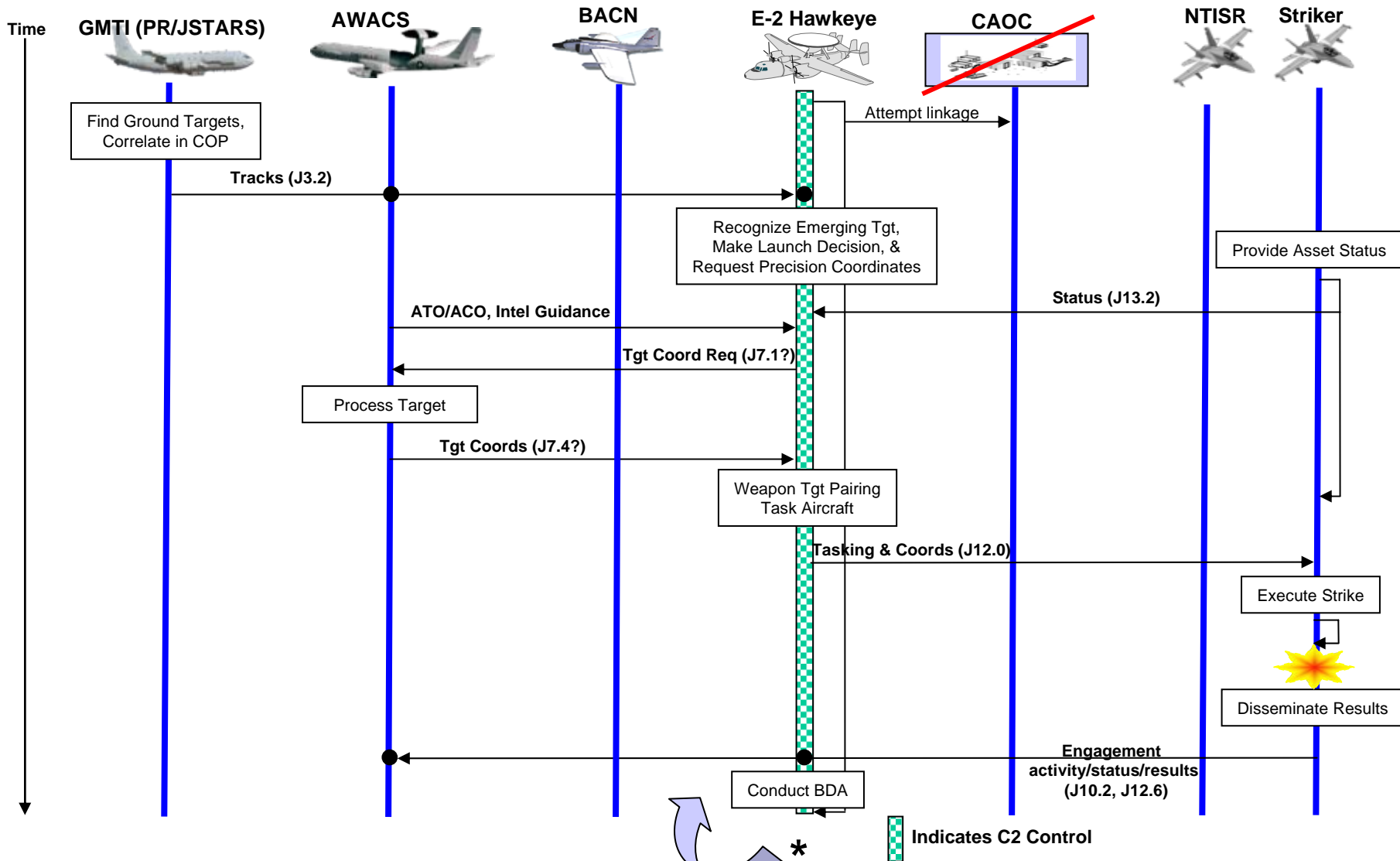
# EC08-JMT: NTISR/Strike (1/4)



## 5 - Contingency-Airborne C2 – Event Flow OV-6c

**Assumptions:** (1) AWACS maintains airborne SA; (2) CAOC remains off-line; (3) E-2 is Airborne C2 and controls NTISR.

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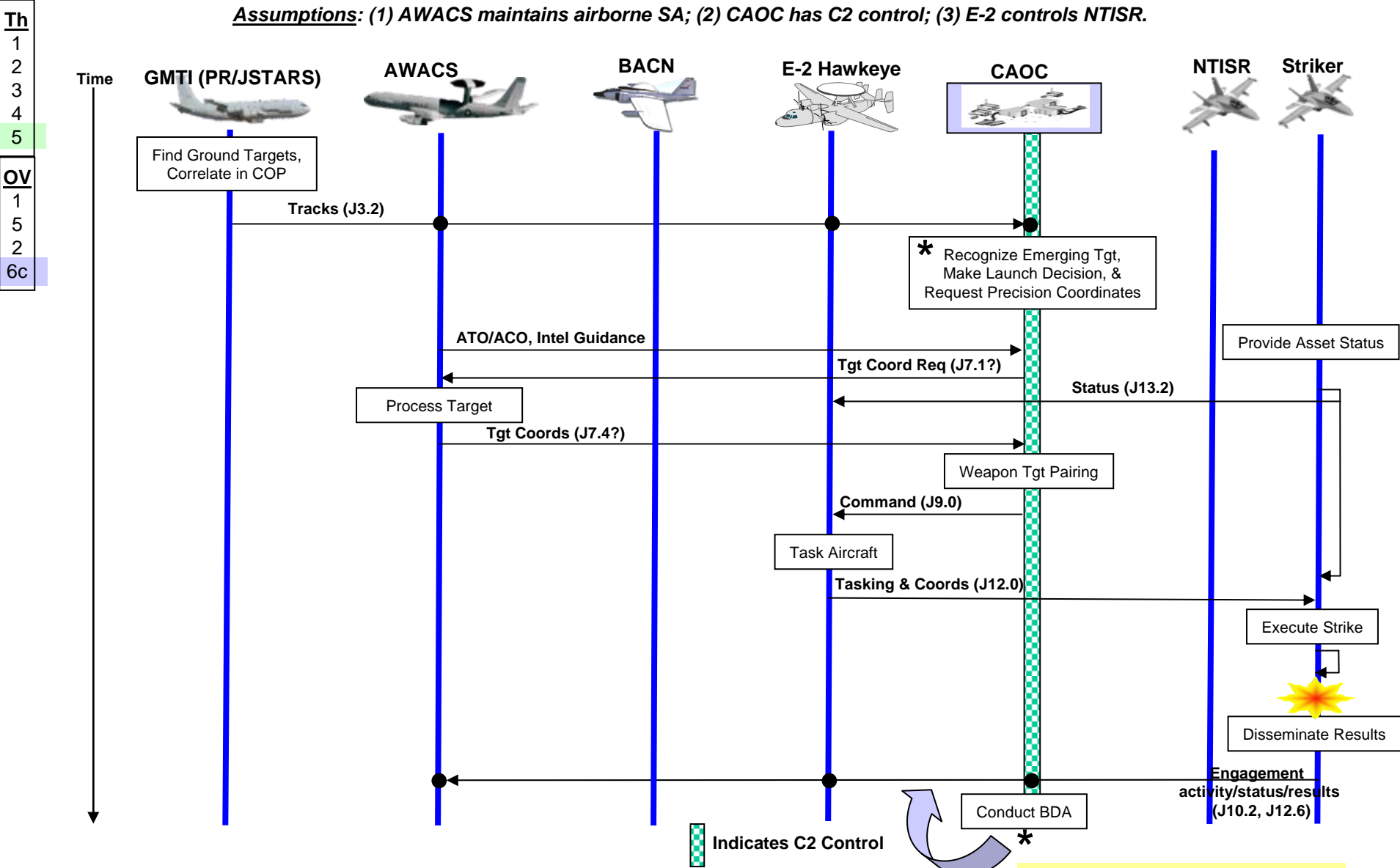


# EC08-JMT: NTISR/Strike (2/4)



## 5 - Contingency-Airborne C2 – Event Flow OV-6c

**Assumptions:** (1) AWACS maintains airborne SA; (2) CAOC has C2 control; (3) E-2 controls NTISR.



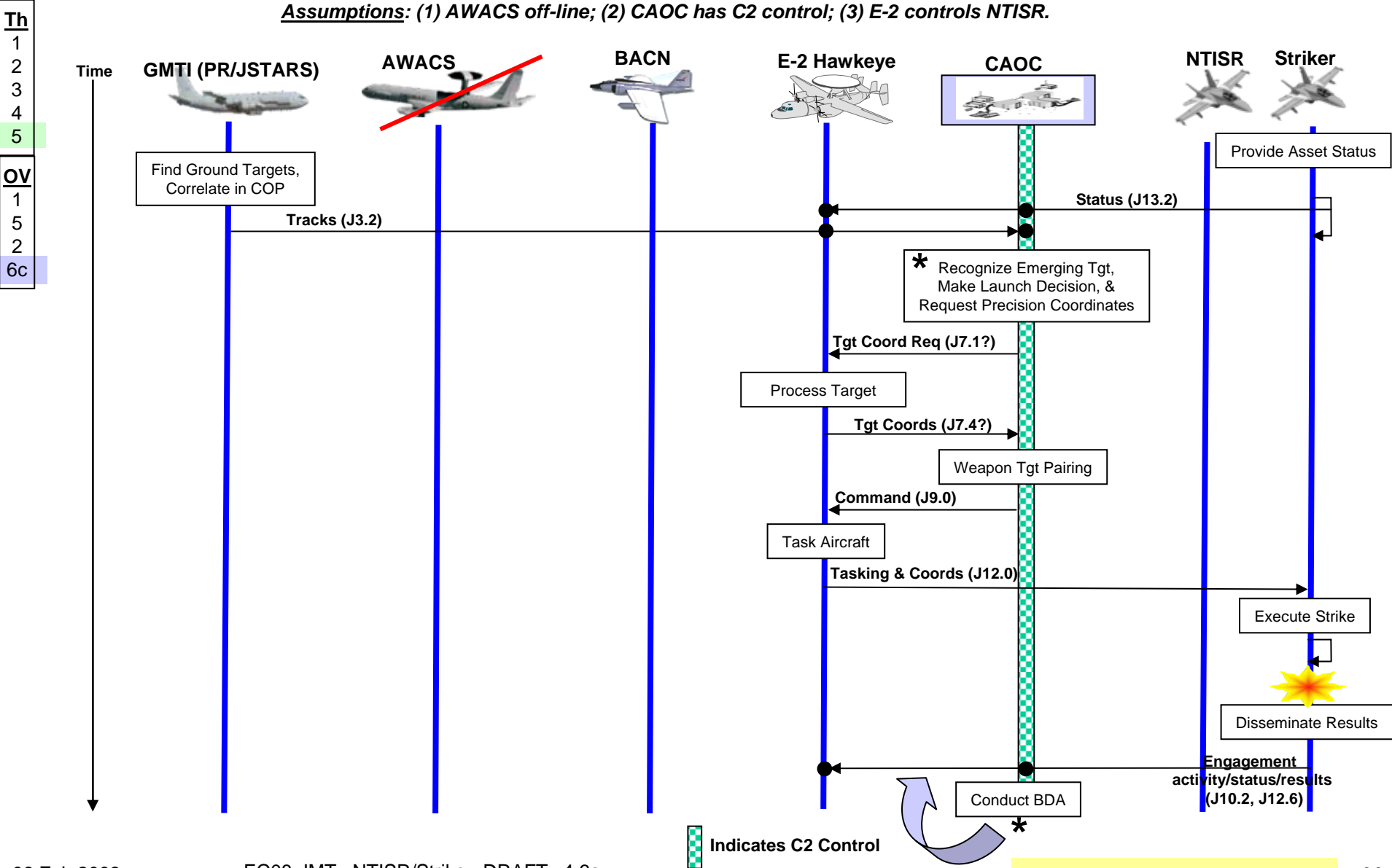


# EC08-JMT: NTISR/Strike (3/4)



## 5 - Contingency-Airborne C2 – Event Flow OV-6c

**Assumptions:** (1) AWACS off-line; (2) CAOC has C2 control; (3) E-2 controls NTISR.

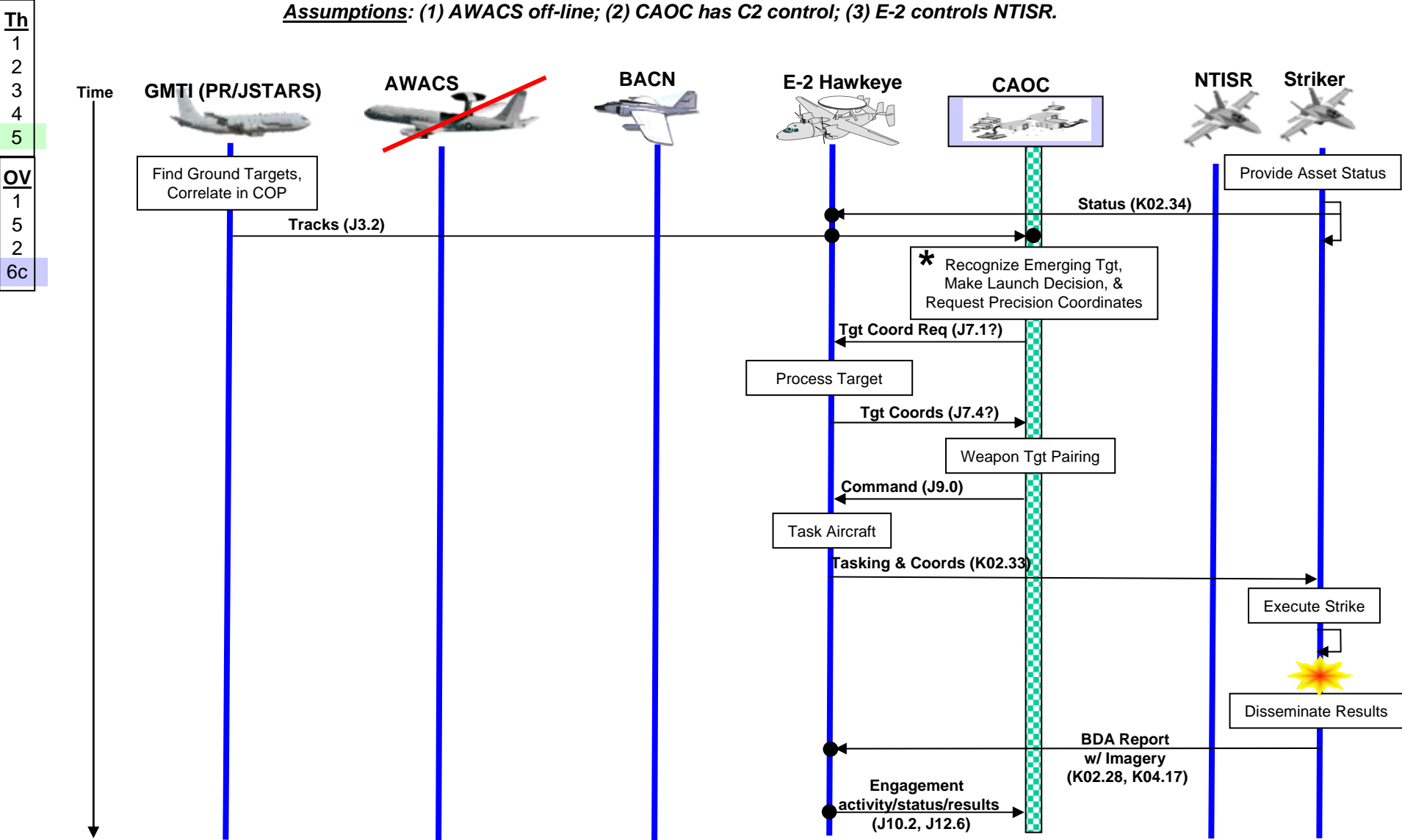


# EC08-JMT: NTISR/Strike (4/4)



## 5 - Contingency-Airborne C2 – Event Flow OV-6c

**Assumptions:** (1) AWACS off-line; (2) CAOC has C2 control; (3) E-2 controls NTISR.

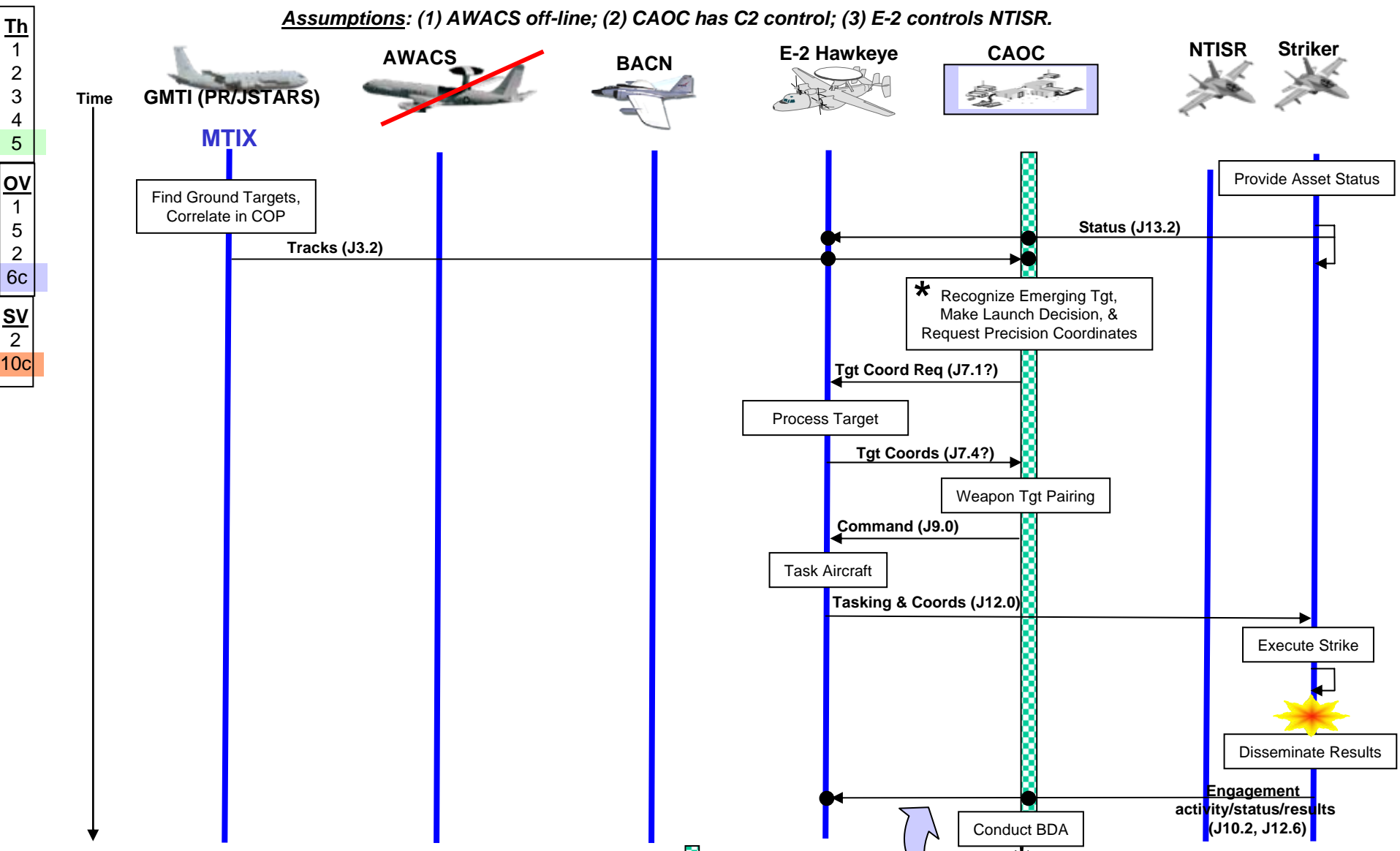


# EC08-JMT: NTISR/Strike



## 5 - Contingency-Airborne C2 – Event Flow SV-10c

**Assumptions:** (1) AWACS off-line; (2) CAOC has C2 control; (3) E-2 controls NTISR.



Indicates C2 Control

# EC08-JMT: NTISR/Strike Needs



Needs

## Needs:

Secure voice on 136

JICO - - Op Task Link

COMSEC:

Keymat Management (US & Allied)

Need LNOs

Where are TPED nodes ?

# EC08-JMT: NTISR/Strike

## NEEDS by Sub Thread



Needs

### 1. Manage ISR tasking for moving targets

JADOCS, Google Earth tools

ISR Management plan dynamically updated per current OPS

### 2. Real time MTI (extracted from video) data feed to weapon sim

MTI extraction from Video

JADOCS like tool to manage moving target prosecution

Visualization tool to support weapon release message (4D visualization)

System to convert MTI track to Link 16 NEW message (J11)

### 3. NTISR Decision / Asset Allocation

Incorporate JEFX 08 SIDO/SODO handoff

Focus on TPED process

Joint C2 NTISR/ISR integration (air/land)

Need for seamless AFATDS-JADOCS interface on Coalition network

### 4. Strike mission, live drop on the North Range

### 5. Contingency C2 - - Airborne C2