Just-in-time Strike Augmentation (JITSA)  
Major Conflict through Stability and Protection Operations

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19 October 2005
Overview

- JITSA can be a back breaker to large scale enemy operations
- Efficient use of force structure in large scale, stability and protection operations
- Not platform dependent
  - No Integration Costs
  - Shorter Time to Warfighter
- Potential near term DOTMLPF solution to current TCT and PISR needs

The Golden Rule: “This briefing is intended to stimulate discussions regarding creative ways of employing existing assets but is not a USAF-endorsed concept at this time”
Strike OV 1

Strike Threat Environment, Modified for JITSA Delivery of LE-NCW

- Robust C2
- SAM
- Networked Weapons
- Mobile/Moving Targets
- High Value Targets
- Penetrating ISR
- J-UCAS
- Enablers (AEA, Refueling)
- Sea Mines
- TBM Cruise Missiles
- EW/GCI
- F/A-22
- LRS
- USN Task Force
- C2 ISR Reachback
- Coalition AOR Basing
- USN Task Force
- ENABLER (AEA, Refueling)
SV-1, Network Centric Weapons
PISR & F2T2EA Moving & Mobile Time Sensitive - Pre-emptive Model

- PBA
- Mission Support
- Deliver
- Mission Control
- Airborne PISR
- Engage
- Scenario

Network Links
- Base, AOR, GIG
- Target Signature
- Airborne, Link 16
- Navigation, GPS
- Smart Munitions

Mission Element
- Target, Foe
- Target, Clutter
- Target, Unknown
- Target, Friend
- Mission Support
- Platform
- Weapon
- Submunition
Kill Chain Models: a Tale of 2 Dogs

Responsive Model

- Platform Centric
- Reliable – Reactive - Static
- Effective when called upon

Pre-emptive Model

- Network Centric
- Agile – Quick - Persistent
- Already in Play
Long Endurance Network Centric Weapon (LE-NCW)

Pre-emptive Kill Chain Model, Showing COM interactions for Single or Multi-Tier Weapons Operations

1. Bombers/strike fighters/UAVs deploy NCW Constellation
2. Autonomous In-flight refueling
3. Reach back
   3a. Global Hawk/Sensorcraft
   3b. EC-X (Airborne AOC)
   3c. Gateway vehicles
4. NCW Launches PGSM to Kill and then Assesses

See Note pages for Details
Sensor Fusion

Collection and some ATR Functions onboard NCW, WSO Workstation Fusion

- **Acoustical**: Primary situation awareness aid
  - Ballistic shock and SIGINT detection events reported to WSO
  - Defensive action either pre-planned or command directed
- **Secondary target cuing and identification sensor**
  - ELINT Detection event with spectral analysis reported to WSO
  - Targeting action dependent on mission profile
    - Cue for engage, according to prescribed tactics
    - Defensive action may be required until command direction decision
- **LADAR**: Primary target identification and cuing using range, spatial and thermal contrast data (Tri-Mode Near term)
  - Detection reported with IMINT and ATR resolution etc.
  - Engages high priority targets, WSO has ROE over ride
- **SAR**: Secondary target cuing and GMTI from Gateway
  - Machine to Machine cuing and tasking with WSO over ride
  - SIGINT also processed and reported
- **Navigation**: INS/GPS with DTED aided terrain roughness and avoidance
Single Tier CONEMP Mission Management

Objective: Manage Revisit Time, Ensuring Enemy OODA Loop Denied

Neutral Country

5 Minute Search Area
Scale (10.8 km long)

PBA Denial Region
Two Tier CONEMP Mission Management

Objective: Manage Time to Target, Architecture Includes Cuing System
Potential JITSA Near Term Airlifter Platforms

Just-in-Time Strike Augmentation (JITSA)
- Requires no new OFP software
- No New Aircraft modifications
- Limited to No crew special training
- No impacts on Airlifter program
- Does Require WSO & Roll-on/off support equipment
- Additional Airlifter Force Structure eliminates potential burden on Airlift
- NO Transshipment – Direct delivery
- Doesn’t Need Air Bridge End Node
LE-NCW Storage / Shipping Container Configuration

Standard Air Drop Palette, BIT etc., Incorporated to Facilitate JITSA Operations

Area Dominator (18)

Area Dominator Based Gateway (2)

Delivery Palette / Storage Container

48” Wide, 48” High, 48” Deep
Missile Weight: 2,100 lbs
Frame & Chute Weight: 230 lbs
Power Shoe or Battery: 8 lbs
Total Weight 2,338 lbs
Spin up & download time: 300 sec
Example Large Airlifter LE-NCW Potential Loadouts

Long Endurance- Network Centric Weapons can exploit JITSA delivery capabilities

30 Palettes
20 Missiles / Palette
600 Missiles / Aircraft
(60 Gateway Vehicles
540 Multiple warhead
Strike Vehicles)
Delivered Weight:
2,338 x 30 = 70,140 lbs

Carriage Trades | Bomber | FB-X | Fighter
---|---|---|---
ADM (6) | ~120 | ~30 | ~12
Airlifter Sortie Equiv | 5 | 20 | 50
Weapon System Operator (WSO)

- Rules Of Engagement (ROE) responsibility
- Manages Array of Weapons delivered by JITSA platforms
- Control releasable to forward ROE capable agents
  - Support CAS and Urban Environments
  - Support Special Tactics Forces
- Potential for Free Personnel Resources
  - Create Combat WSO UTC to support AEF rotations
  - Fill with AFMC UTC personnel (No new personnel required)
  - PC based training and certification
- Roll-on Roll-off WSO support system
  - Maximum exploitation of COTS equipment
  - Aircraft Based Communication interfaces & Environmental protection
  - WSOs potentially onboard MC, KC, BC and AC aircraft or in CAOC

- Control Station NOT rigid or expensive
- Flexible Software essential
- Common JTRS radios for weapon LAN
Weapon Launch Operator (WLO)

- **Airlifter Loadmaster Responsibilities**
  - All Cargo Deck Operations
  - Container Delivery System Operations

- **Airlifter Crewmember or Potential AFMC Crew Augmentee**
  - Manages Contained Pre-launch activities
    - Weapon Power up
    - Weapon Transfer Alignment
    - Weapon BIT
    - Weapon Mission Load Verification
    - Weapon Launch and Release Envelop Advisor
    - Re-targeting Data loader
  - Resourced from AFMC resources on AEF UTC rotation
    - Control Station NOT ridge or expensive – like Rental Car turn in terminal with GPS for Transfer Alignment
    - Virtual Umbilical Controller
    - Flexible Software essential
    - Common JTRS radios for weapon LAN
Stability and Protection Operations

- Ground launch and recovery operations
  - Proven technology
  - Couples 24/7 PISR with immediate Low Collateral Damage Lethality
  - WSO services can be provided by AF personnel or chopped to Stability & Protection forces on demand

- Tactical Airlifter based operations
  - Launch services similar to other Airlifter deliveries can be user specified or individually launched
  - WLO/WSO services can remain with delivery platform
  - Two Tier cueing capability teamed with a system like RQ-1 using GMTI SAR reduces on-orbit array quantity
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