

DoD Technology Requirements for Personnel Recovery into the Future

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AT&L Major PR Initiatives

- Creation of PR Technology Working Group (PRTWG)
- Modeling & Simulation Working Group
- CSAR AOA
- CSEL Radio
- PRMS ACTD
- PRESS ACTD
- JPRA Battle Lab
- Technology Requirements for PR

Personnel Recovery Technology Working Group (PRTWG)

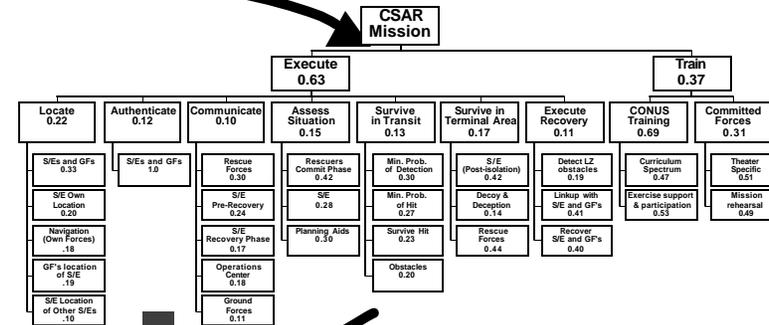
Chair: Mr Joe Eash, DUSD (AS&C)

- DUSD (S&T)
- Director (S&TS)
- DASD (DPMO)
- Director, DARPA
- ASD (C3I)
- ASD (SOLIC)
- NRO
- NSA
- SOCOM
- JFCOM
- Army
- Navy Department
- Air Force
- Coast Guard
- Commander, JPRA

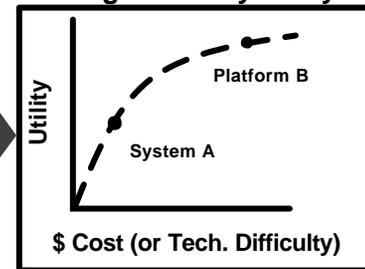
Johns Hopkins APL Value Focused CSAR Model



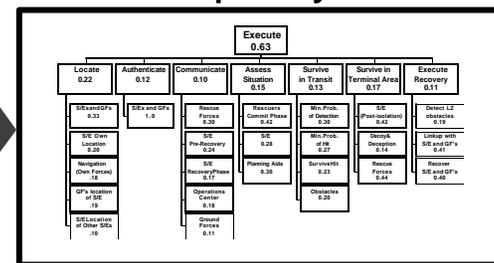
WALEX



Marginal Utility Analysis



Gap Analysis



- Warfighter model for PR operational characteristics
 - Utility Analysis
 - Gap Analysis
- Enables Field Test Design

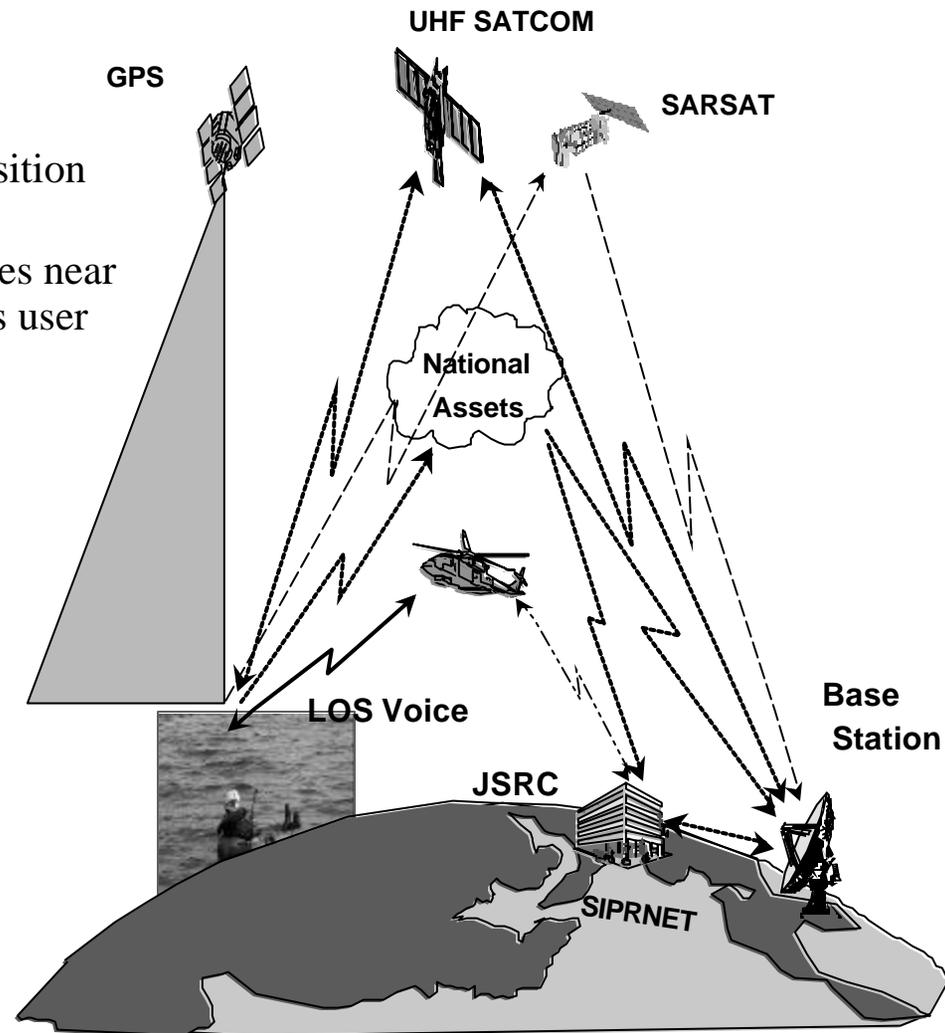
USAF CSAR AOA

- Analysis of Alternatives (AoA) -- \$1.5M/18 Month Effort
- IOC-- FY 2007
- AoA force level analysis should take *Peacetime CSAR operations* into account
- Objectives:
 - Identify best Combat Rescue concept (2010-2030)
 - Update required mission capabilities
 - Document mission area deficiencies
 - Examine nonmaterial and systems solutions
 - Identify and baseline most cost effective solution(s)
 - Set size and distribution of next generation force

Combat Survivor Evader Locator (CSEL)

Capabilities & Architecture

- Line-of-Sight to rescue forces
- Precise Military GPS positioning
- Global Over-The-Horizon data & position communications
- Joint Search & Rescue Center receives near real time radio data and authenticates user
- Durable hand held radio
- Interface to Personnel Recovery Management Software System

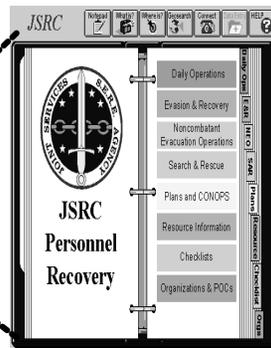


Candidate CSEL P3I Initiatives

- Personnel Locator System/Airborne Interrogator Unit
- Radio UHFSATCOM data injection into TDDS broadcast
- Common Operating Picture/data link injection
- Line-of-sight data from radio to aircraft, and/or Commercial L/S band data mode (e.g. Global Personnel Recovery System)

**Provides Real Time, Automated, Precision Survivor
Location and Identification**

Personnel Recovery Mission Software (PRMS) ACTD



PR Mission Software

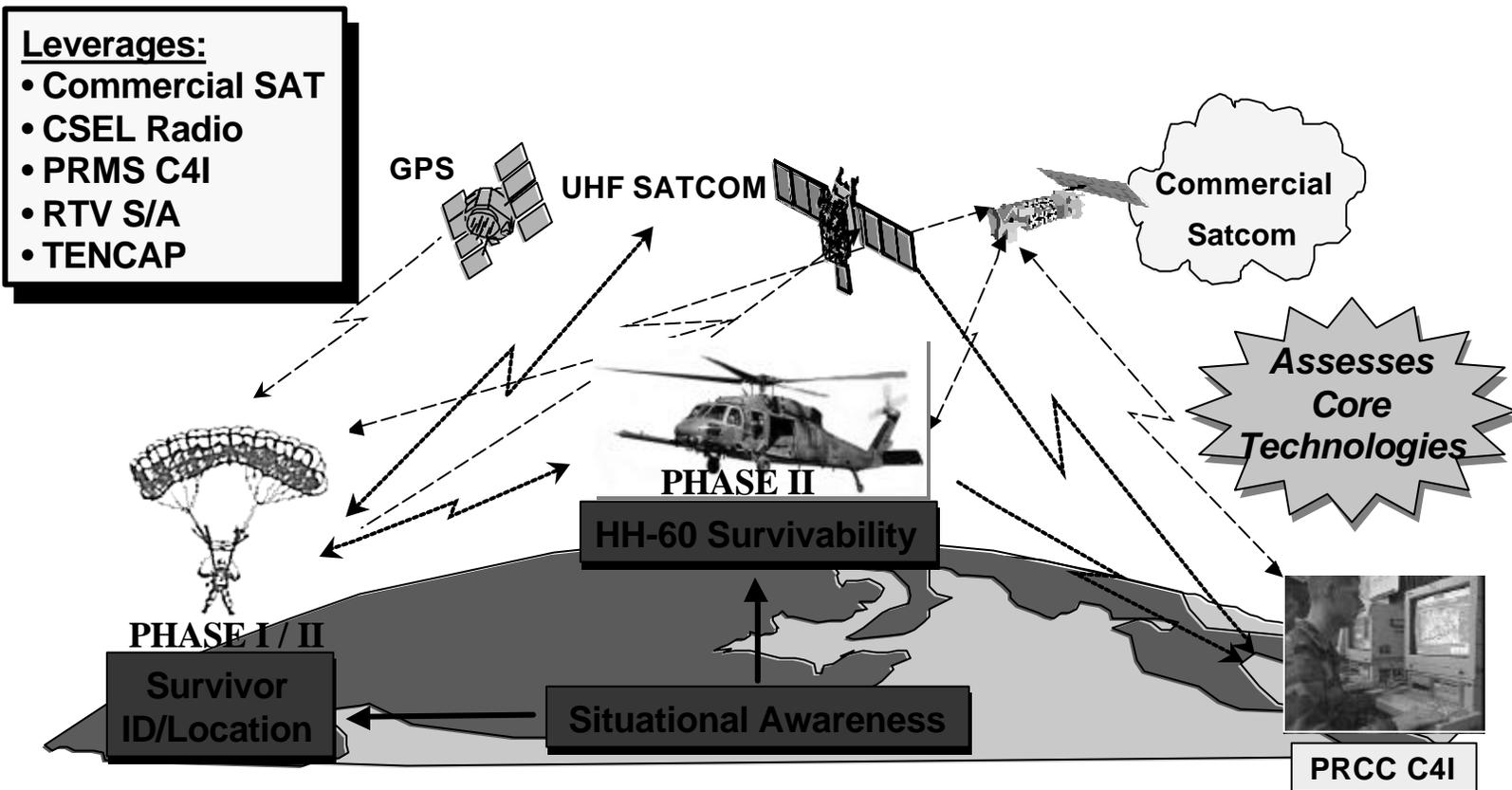
- Enables JSRC / CSAR Interoperability
 - Securely
 - Reliably
 - Near Real Time
- Automates Existing JSRC Ops
- Enables Universal Data Access
- Reliable Decision Support Tools
- GCCS/SIPRNET Connectivity
- Two Successful Demonstrations
 - PACOM Northern Edge
 - CENTCOM Intrinsic Look



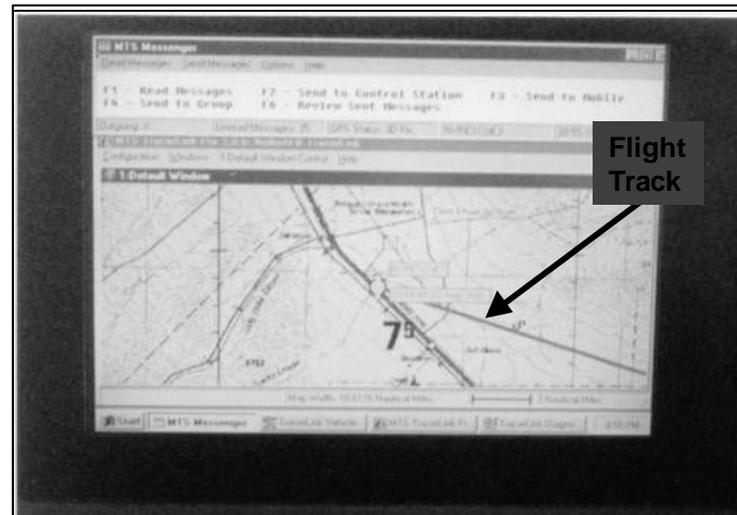
***Personnel Recovery
Extraction Survivability
aided by
Smart-Sensors
(PRESS)***



Personnel Recovery Extraction Survivability aided by Smart-Sensors (PRESS)



GPRS Proved Itself in JEFX



True End-to-End two-way CSAR connectivity , multi-user

- **GPRS was used as the standard to resolve contentions among other SA systems on a/c**
- **“GPRS kicks ass!” (‘60G Pilots)**

SCHEDULE

TASK	FY 01				FY 02				FY 03				FY 04				F	F												
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Y	Y												
PR ACTD Approved	◆																0	0												
PHASE I	PHASE I																													
ANALYSIS	<ul style="list-style-type: none"> • Tagging Tracking, Location (e.g., GPRS) • Situational Awareness (e.g., CDA) 																													
DESIGN																														
FAB/TEST																														
IINTERIM MUA								◆																						
PHASE II					PHASE II																									
ANALYSIS	<ul style="list-style-type: none"> • Tagging Tracking, Location (e.g., GPRS) • Situational Awareness (CDA / MMW Imaging, SSW) • Survivability (CDA / Dazzler / LIDAR / DIRCM / ATIRCM / MMW Imaging / Covert Signaling) 																													
DESIGN																														
FAB/TEST																														
FLT TEST																														
DEMO / MUA																◆														
END ACTD RESIDUAL																		◆												

JPRA Battle Laboratory

Technology Investment Focus Areas

- Smaller, lighter, uncooled night vision devices
- Covert tags
- Passive millimeter wave sensors for all weather operations
- Light weight, reliable, secure, over-the -horizon communications
- Full Spectrum IR Countermeasures
- Non lethal technologies (e.g. dazzlers) to eliminate optical shots
- Cognitive decision aids for Rescue Team
- Improved situational awareness aids for survivor and rescue package using distributed sensors
- Integration of UAVs into rescue operations (logistics/sensors/recovery)
- Integrated, semi-automated Mission Management