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NDIA 28th Annual Test & Evaluation Conference

Mission Thread Analytic Framework

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MISSION THREAD ANALYTIC FRAMEWORK

- **This presentation builds on the products of the Joint Test and Evaluation Methodology (JTEM) Capability Test Methodology (CTM) to execute mission-based tests and assessments. A brief historical perspective will be presented from the CTM circa 2007 to the finalization of the methodology with the last major piece resulting in the Mission Thread Analytic Framework. It builds on the mission decomposition process and allows the analyst to follow through the decomposition process to the causality of system performance to mission and task outcomes.**
- **Mission Thread Analytic Framework application for the Afghanistan Mission Network (AMN) Coalition Interoperability Assessment & Validation (CIAV) process will be discussed and will address the following: 1) agility of the process applied within 90-day assessment cycles; 2) development of objective measures at the mission, task and system levels; and 3) deployment of instrumentation and analysis tools. Finally, as the lessons learned from AMN are applied to Future Mission Network (FMN), application of the Mission Thread Analytic Framework to FMN will be explored.**

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Outline

- Historical Review
  - Capability Test Methodology
  - Mission Decomposition
- Mission Thread Analytic Framework
- Afghanistan Mission Network (AMN) Coalition Interoperability Assurance & Validation
- Future

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Historical Review

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Background

- **The Mission Thread Analytic Framework is based on the CTM**
  - **CTM was created by the Joint Test & Evaluation Methodology (JTEM) Joint Test & Evaluation (JT&E) in 2007**
- **The CTM was designed to describe a process for testing in a Joint Live, Virtual & Constructive distributed environment**
  - **CTM is a comprehensive end-to-end deliberate planning, execution and reporting process**
- **Afghanistan Mission Network (AMN) Battlespace Management QRT uses the AMN Coalition Interoperability Assurance & Validation (CIAV) environment**
  - **CIAV is an agile, short duration assurance and validation effort to support rapid assessments for Afghanistan**

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CTM (2007)

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Joint Operational Context for Testing

- The joint operational context comprises a description of forces operating jointly and details the tactics, techniques, and procedures they employ to achieve effects on the battlefield by exerting capabilities they do not possess separately.
- Aspects of this joint context include mission objectives, operational and system descriptions of blue and red forces, environmental conditions, and interactions necessary to accurately and realistically test systems and system of systems, performing specific joint tasks, or portions thereof.

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Joint Mission Environment (JME) Relation to Joint Mission Thread Development

Joint Mission Environment (JME): A subset of the joint operational environment composed of force and non-force entities; conditions, circumstances and influences within which forces employ capabilities to execute joint tasks to meet a specific mission objective. ***(JCIDS Manual)***

JME for Test

Independent variables (test factors)	Constants	Dependent variables
• SoS configurations • System attributes • DOTMLPF • Conditions: - Environment & Threat	• Mission • Tasks • Services • Functions	• ***Mission measures*** • ***Task measures*** • System/SoS Attribute measures
Varied across test trials	**Constant across test trials**	**Measure changes across test trials**

A **joint mission thread (JMT)** is an operational and technical description of the end to end set of activities and systems that accomplish the execution of a joint mission. (CJCSI 6212.01E)

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Measures Framework

- Framework of measures that examines all levels of capability
  - Mission Effectiveness
  - Task performance
  - System function

The Measures Framework is based on systems performing tasks to accomplish a mission in a **SYSTEM-OF-SYSTEMS**

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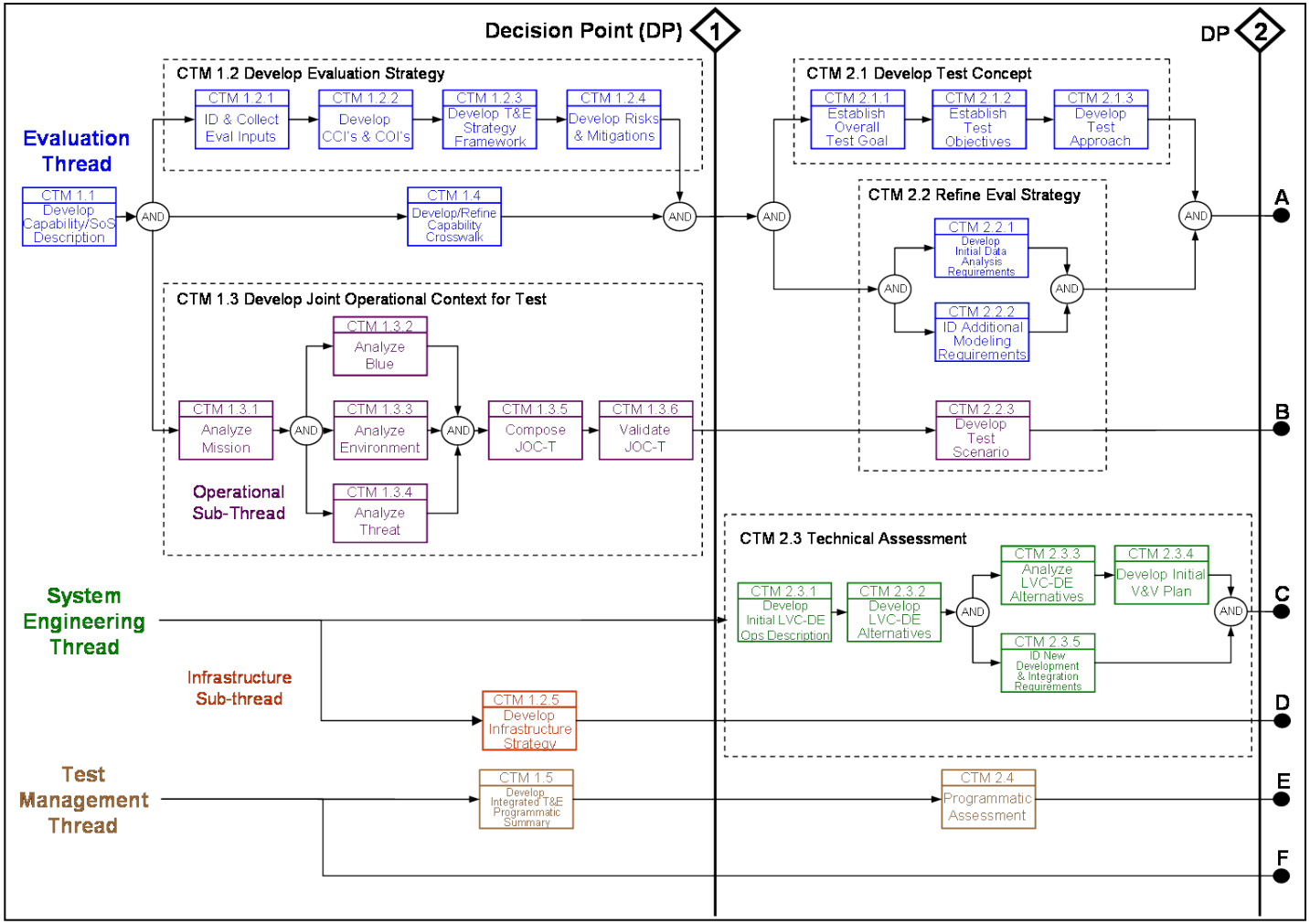
CTM (2008) Thread View 1



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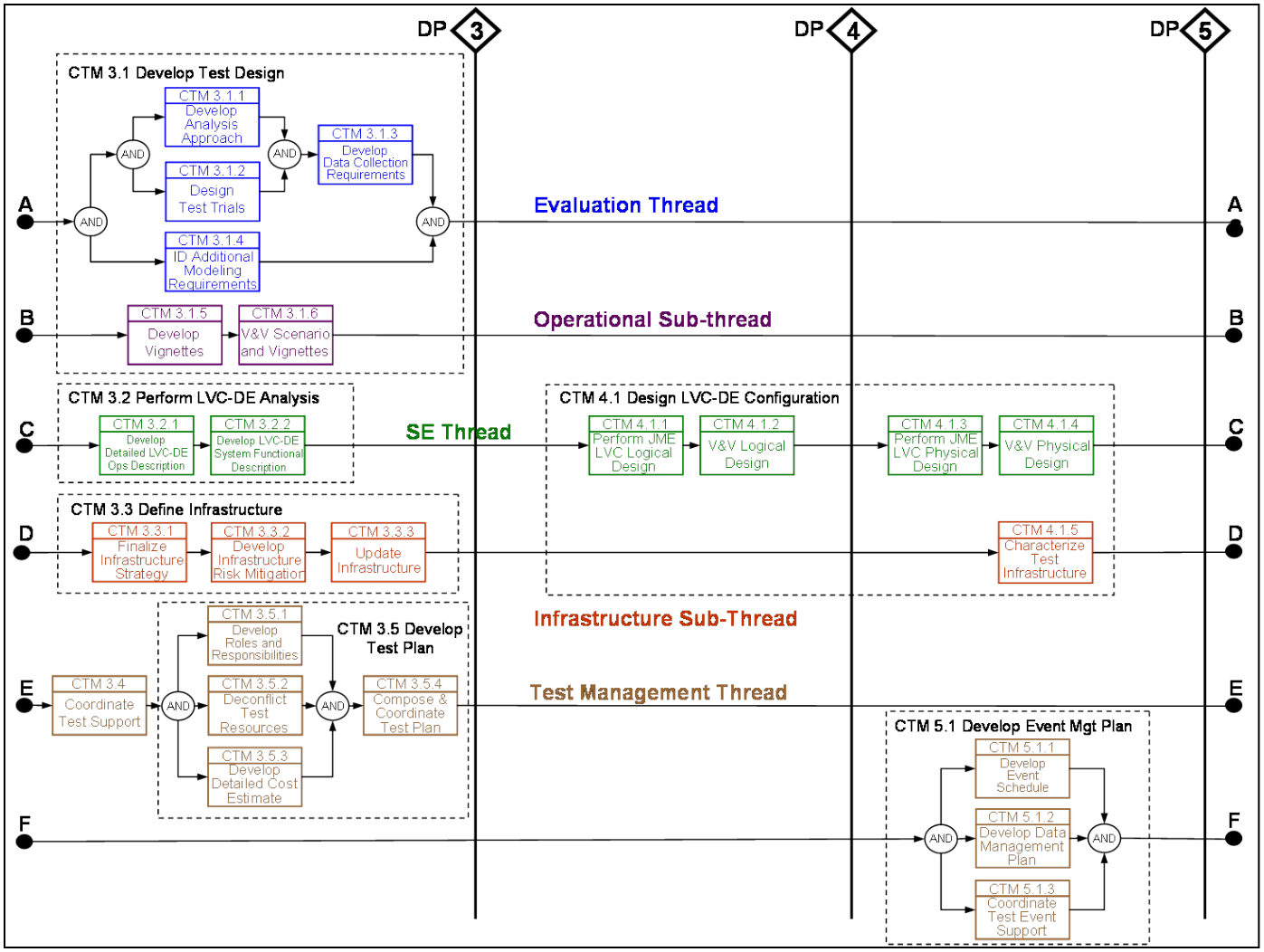
CTM (2008) Thread View 2



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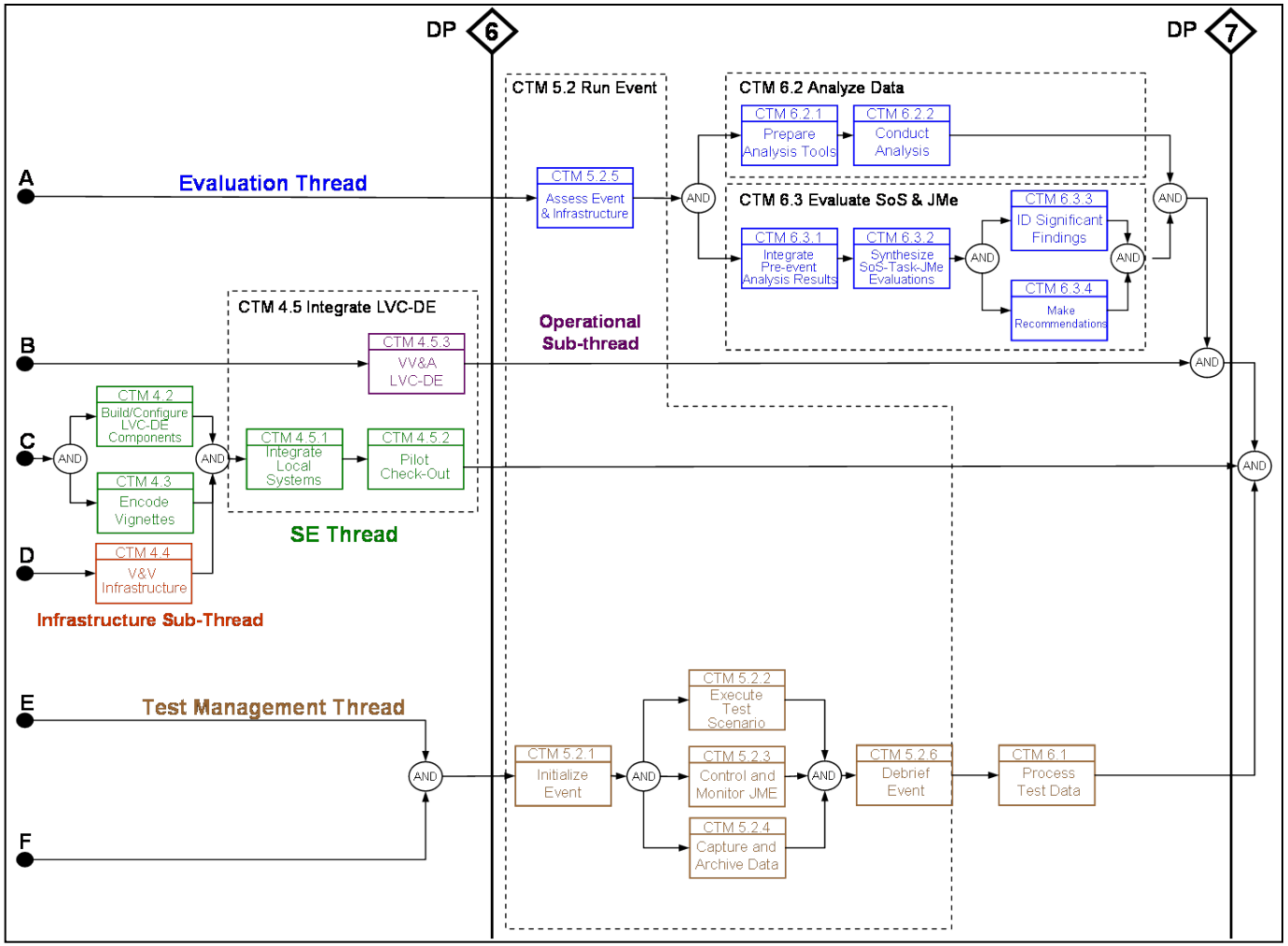
CTM (2008) Thread View 3



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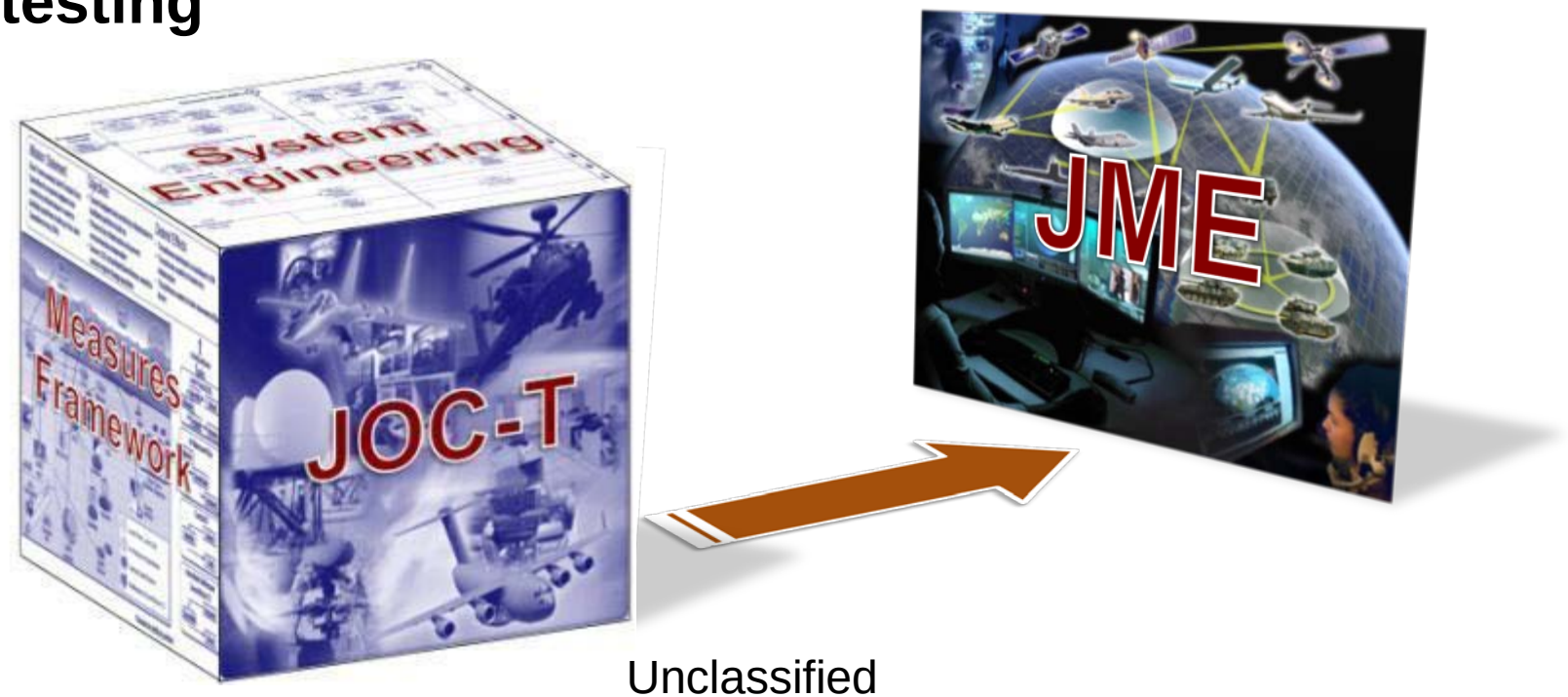
CTM (2010) "Pillars"

- **New emphasis on the "threads" of the process and the interactions between these activities**
- **Joint Operational Context for Test (JOC-T), Measures Framework and System Engineering processes combine to produce a Joint Mission Environment for testing**



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Standard Operating Procedure (SOP) – Critical Gap (2010)

Lack of reusable task and mission–based measures decomposed to testable metrics

- **Major driver for Coalition Joint Mission Environment test requirements**
- **Gap spans**
  - **Joint Operational Context for Test (JOC-T)**
  - **Measures Framework**
  - **Systems Engineering**
- **JTEM – Transition (JTEM-T) addressed the critical gap**
  - **Refined JTEM Capability Test Methodology (CTM)**
  - **Developed mission-based T&E Assessment Guidebook**
  - **Provided recommendations to the JCIDS process**
- **Developed a Joint Coalition Mission Thread Measures SOP to decompose mission and tasks into testable measures.**

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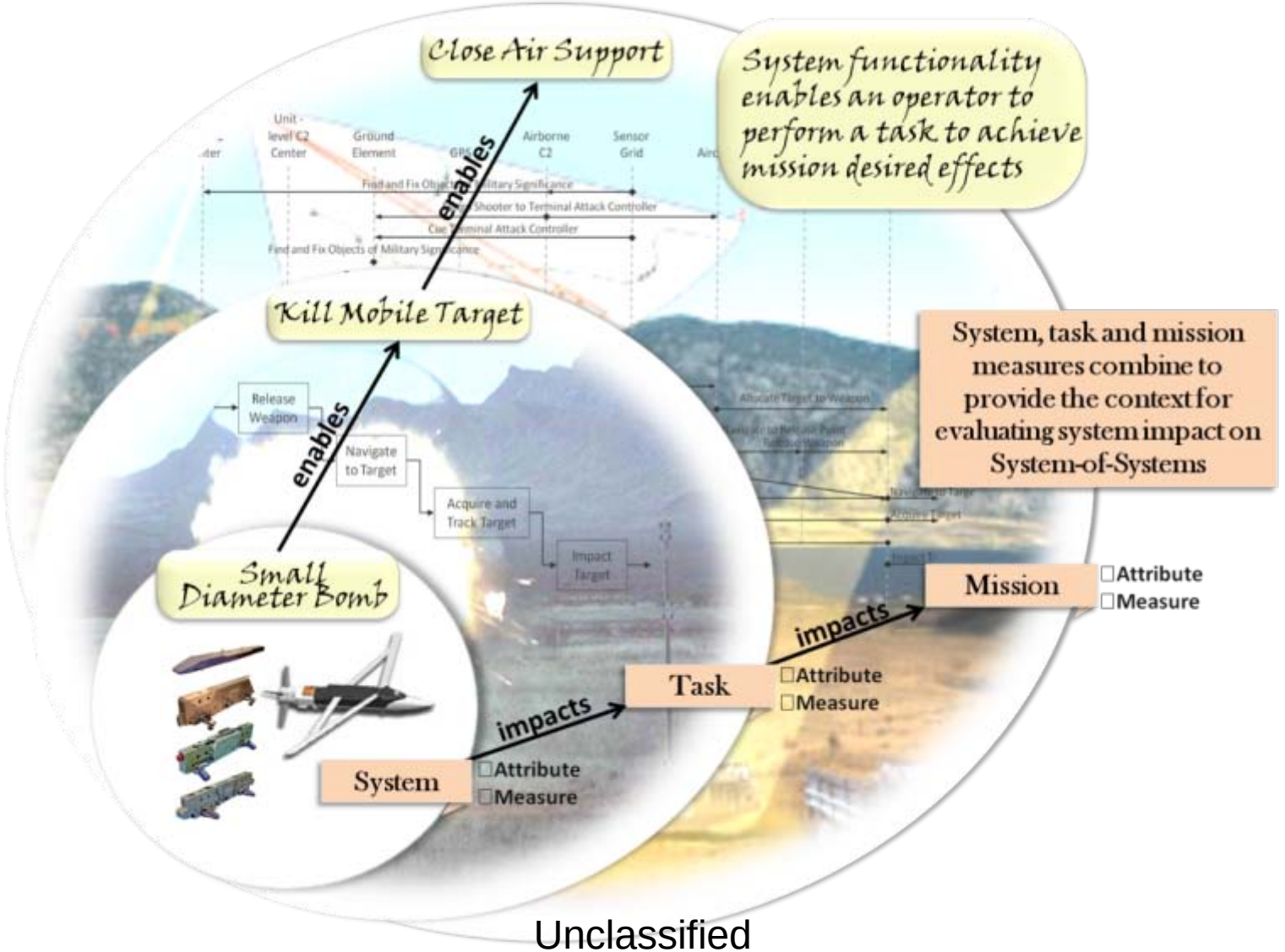
SOP Overview



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Major Components of SOP Decomposition

Objective: Provide a disciplined & repeatable process for mission, task and system decomposition and analysis

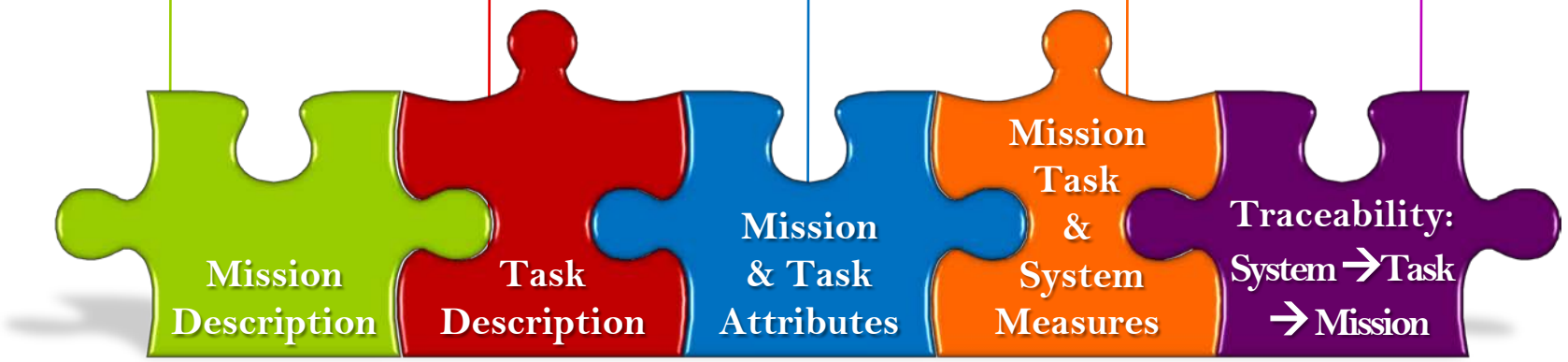
- Mission Statement
- Objectives
- Desired Effects

- Nodes
- Tasks
- Sub-tasks

- Desired Effects attributes
- Task attributes
- Senior Warfighters Forum attributes

- Attribute measures for mission, tasks and system functionality

- Traceability of system attributes to task and mission desired effects



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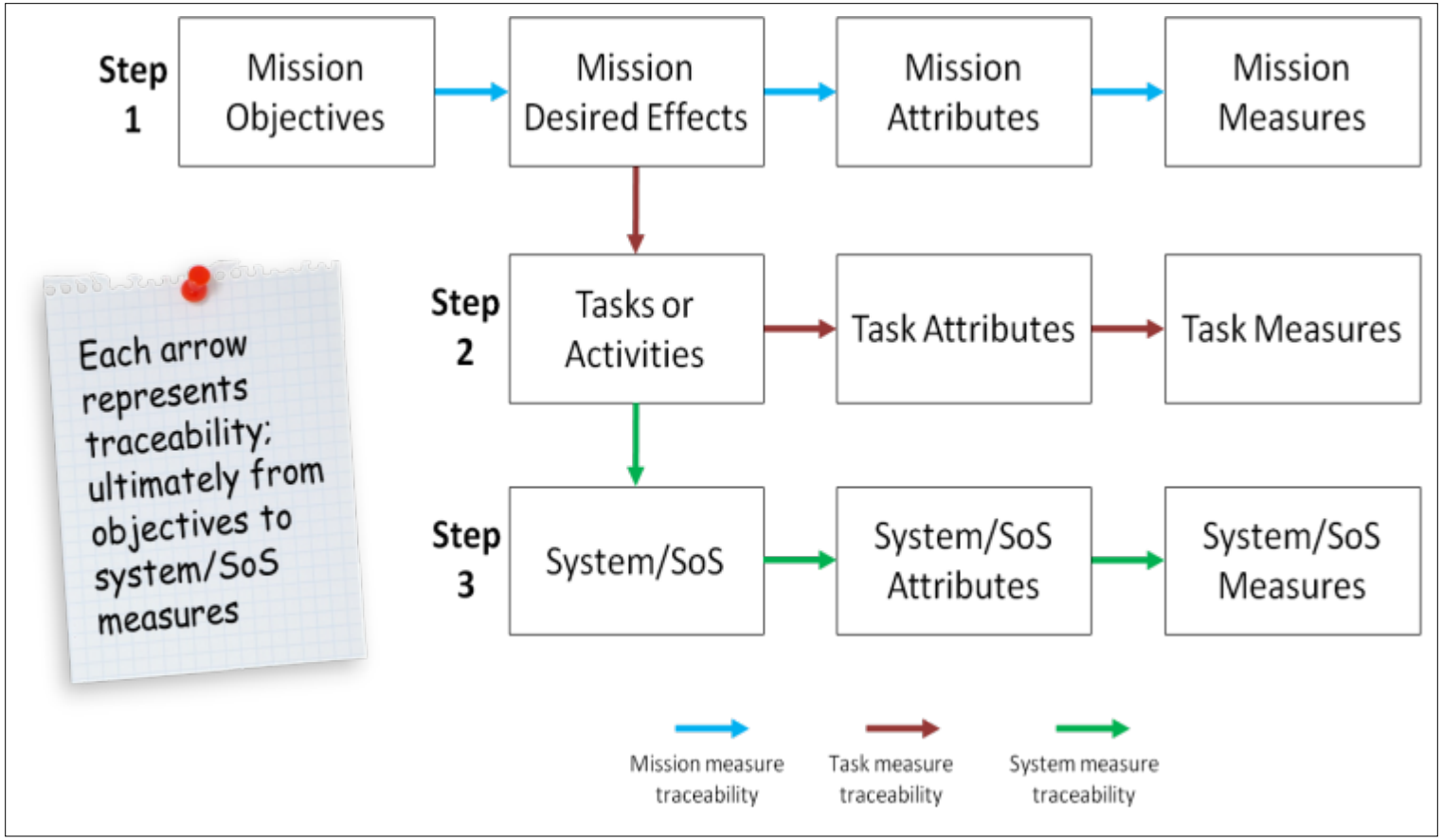
SOP Overview



Decompose Mission – Task – SoS/SUT into attributes and measures

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Mission Thread Analytic Framework (MTAF)

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Mission Thread Analytic Framework (2011)

- **Expanded and refined the SOP to complete an analysis of system impact on task performance and mission effectiveness through additional causal relationships**
  - **System functionality impacts task performance (by relating measured system function to measured task attributes – timely, accurate, etc)**
  - **Task performance impacts achievement of desire effects (by relating measured task attributes to measured desired effect attributes)**
  - **Mission Objective accomplishment (by relating measured desired effects to mission objectives).**

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Mission Thread Analytic Framework

- Framework of measures that examines all levels of capability
  - Mission Effectiveness
  - Task performance
  - System attributes

The Framework is based on tasks necessary to accomplish a mission in a System-of-Systems environment

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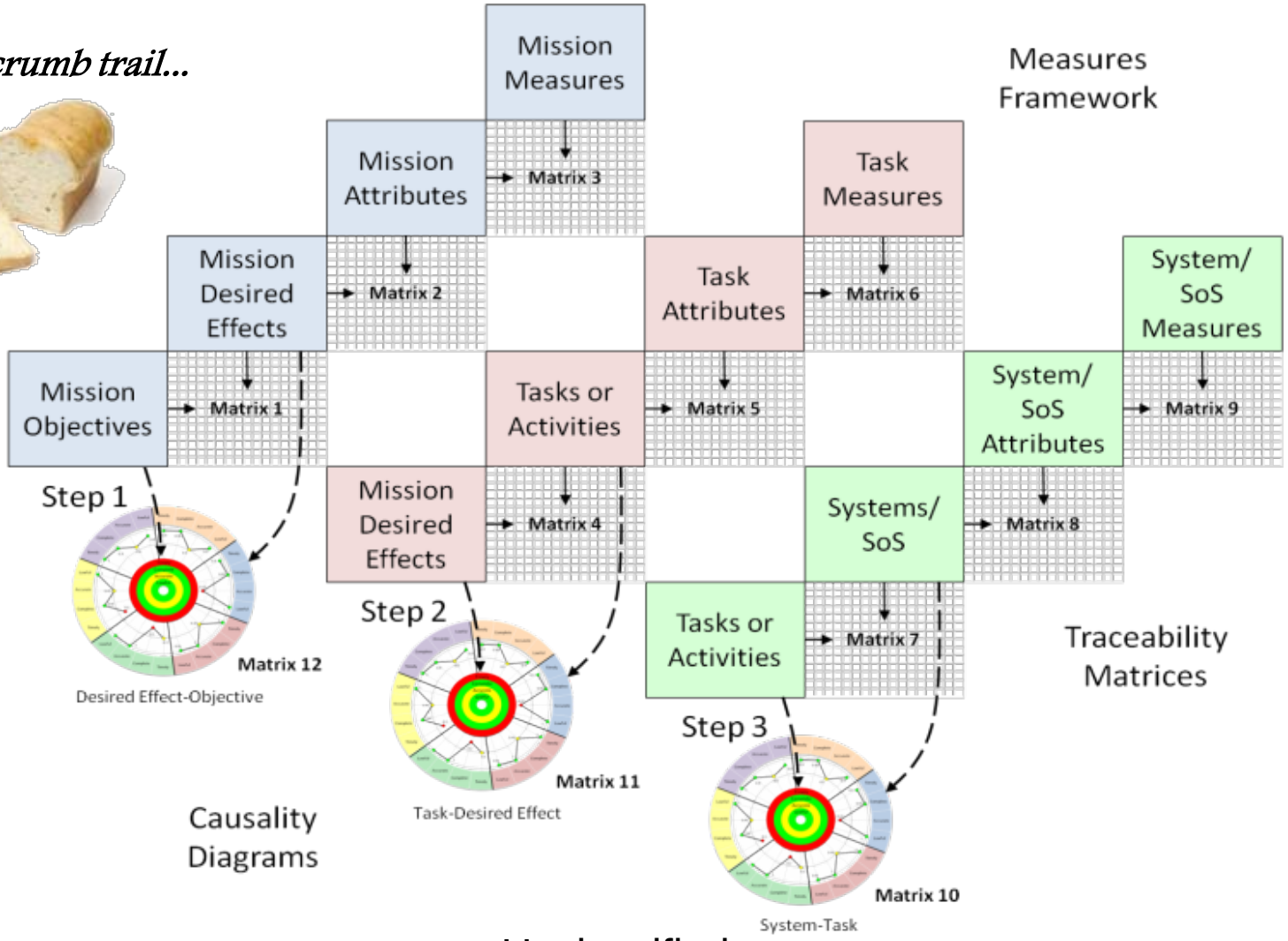
Mission Thread Analytic Framework

A Breadcrumb trail...



Causality Diagram Legend

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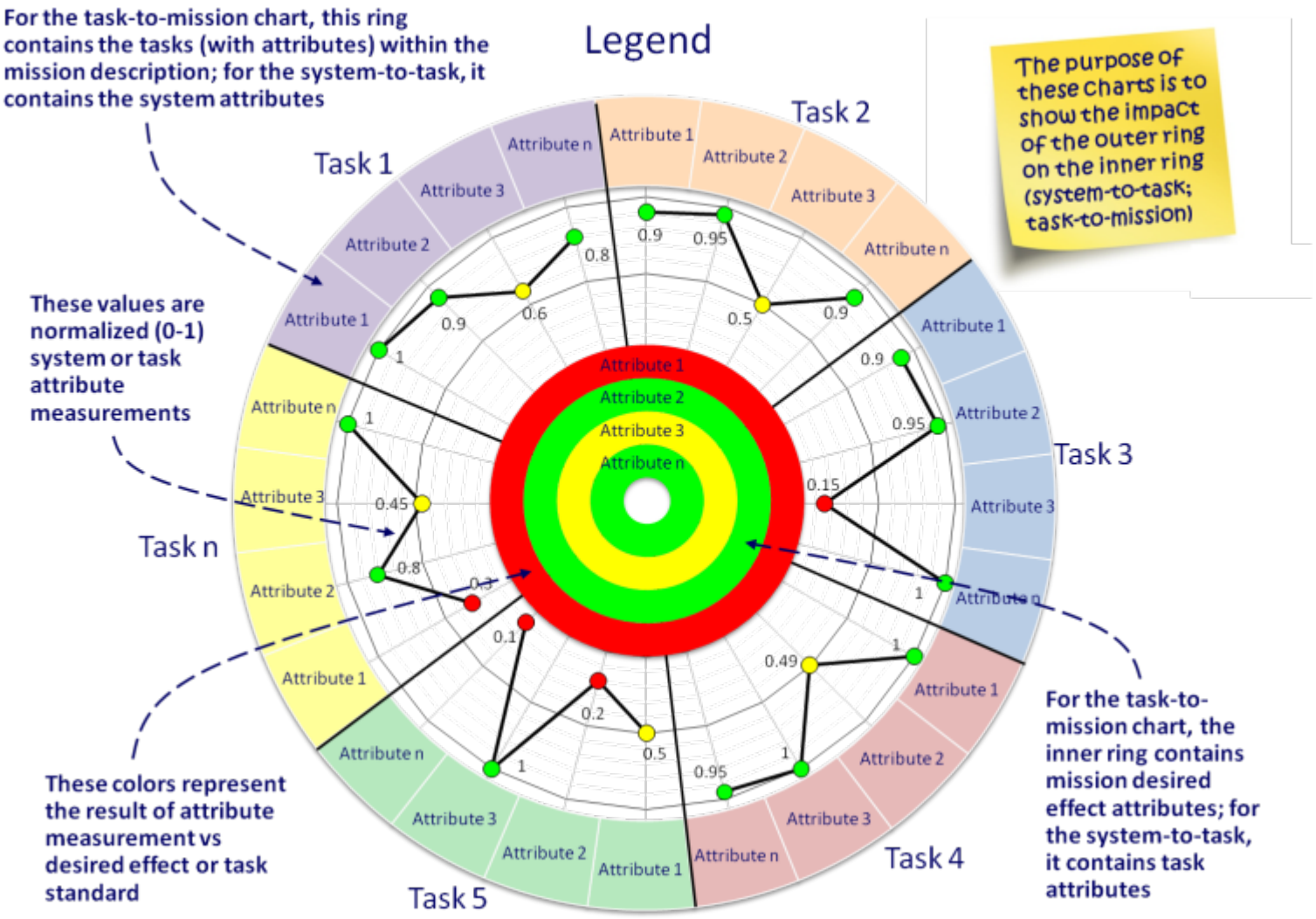

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Afghanistan Mission Network (AMN) Coalition Interoperability Assurance & Validation

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MTAF Application in AMN Federation

- **CIAV supports:**
  - **ISAF/Joint Command and USCENTCOM**
  - **AMN Secretariat, SHAPE, NATO**
  - **Guided by AMN Steering Group Strategic Vision and Direction**
- **Mission:**
  - **Assess systems for operational use on AMN**
  - **Assess mission execution given the enabling architecture**
- **FY 11: Battlespace Management, Counter IED, Joint Fires, Joint Intelligence, Surveillance & Reconnaissance, MedEvac threads**
  - **Executed MedEvac Thread assessment 17 Oct – 4 Nov 11**

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Battlespace Management Quick Reaction Test (QRT) in AMN

- **AMN QRT is sponsored by Defense Systems Information Agency (DISA) and endorsed by USCENTCOM**
  - **Program managed by the Joint Program Office under the Director of Operational Test & Evaluation**
  - **Began January 2011 and finished January 2012**
- **Purpose is to provide a methodology that can objectively measure, test and evaluate Coalition Mission Threads and Tactics, Techniques and Procedures**
  - **The AMN Quick Reaction Test refined the CTM to produce a responsive, effective process for the AMN environment**
  - **Used The MedEvac Mission as the use case**

Quick Reaction Tests are short-term efforts focused on developing solutions that address urgent, specific, and focused warfighter issues

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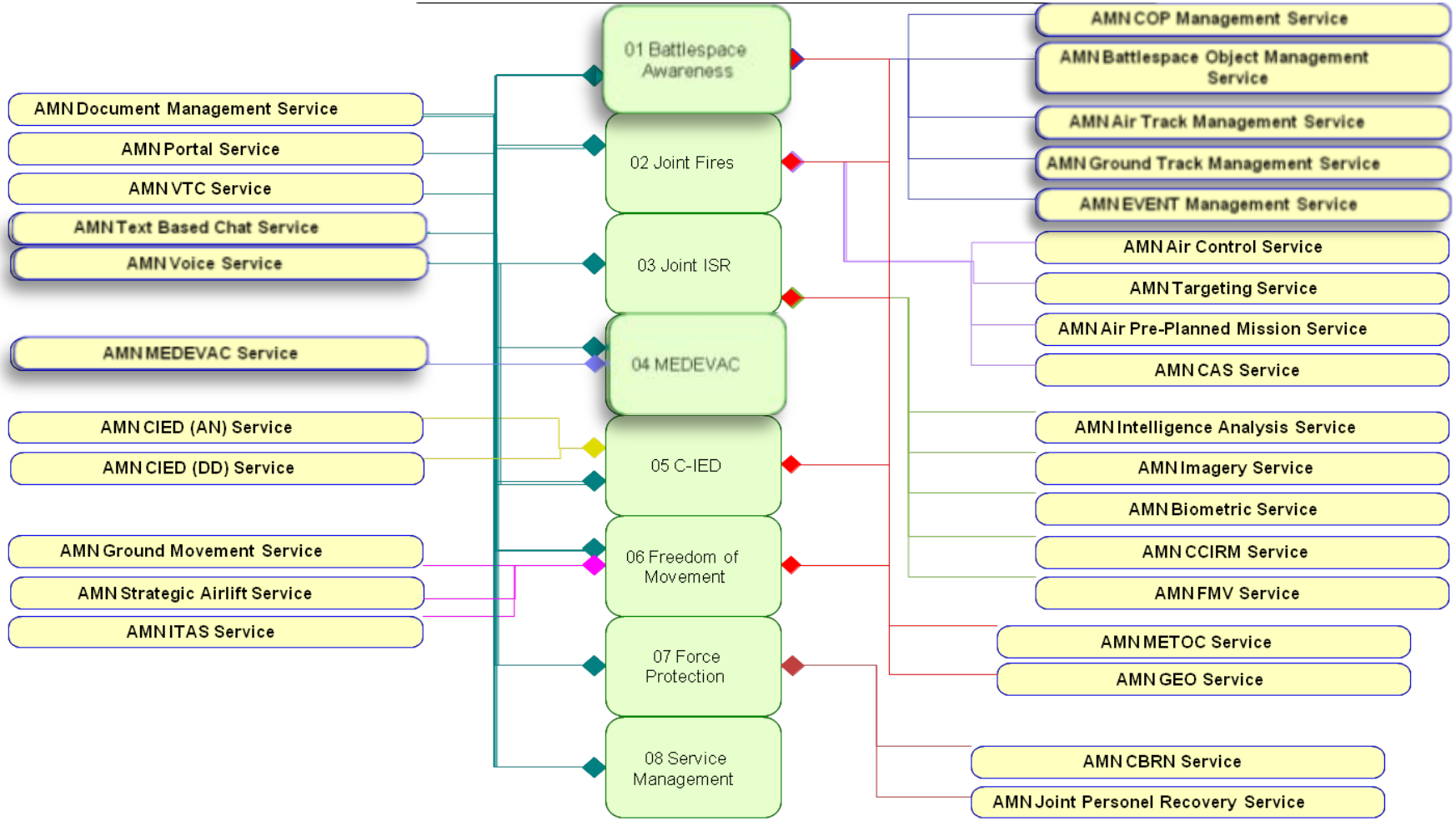
AMN MedEvac Assurance & Validation



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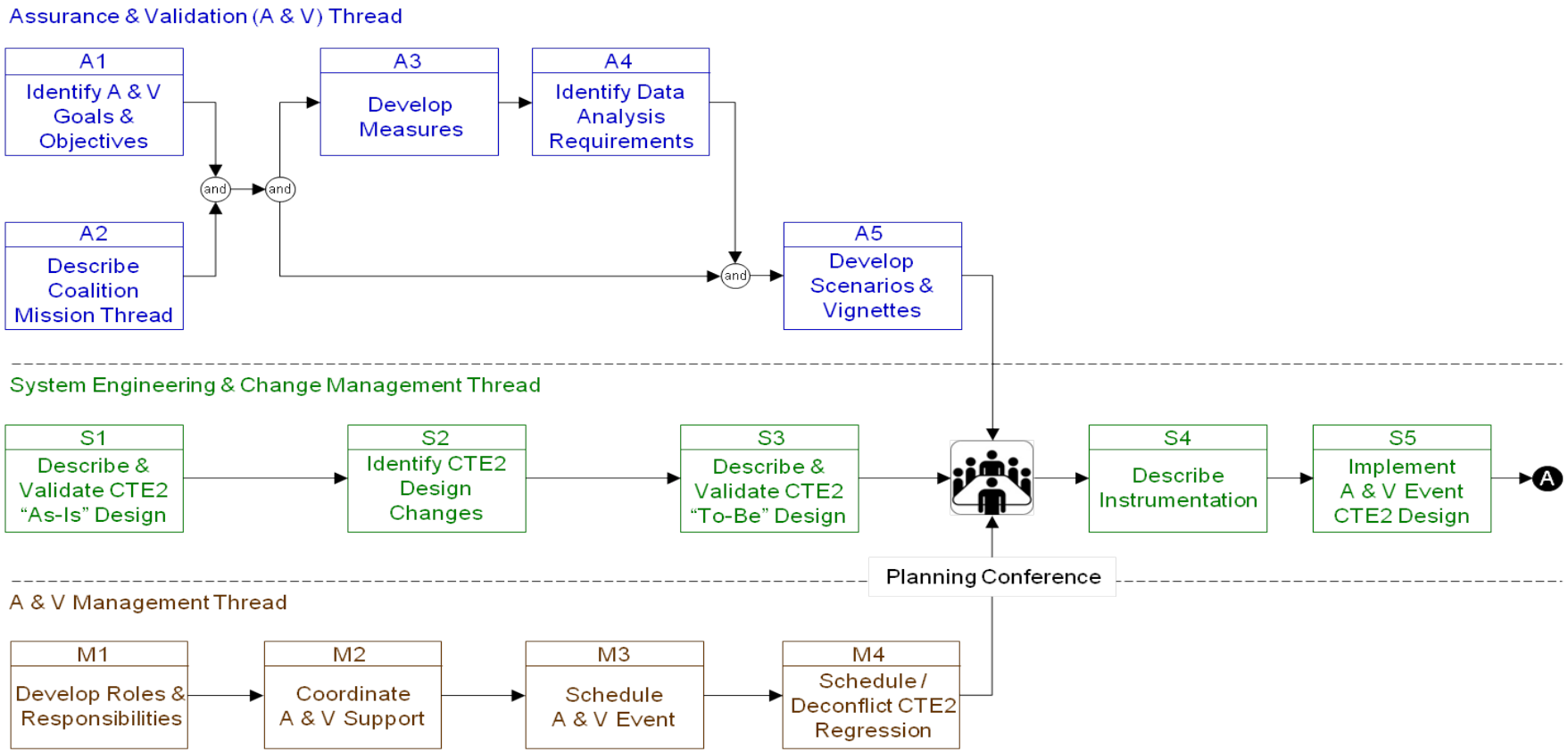
Assurance & Validation Process



Products

- ☑ A & V Plan (A1, A5, M1, M2, M3, M4)
- ☑ Mission Decomposition (A2)
- ☑ CMT NOV-1, 6c; NSV-1, 5a/b, 10c (A2)
- ☑ Traceability Matrices (A3, A4)
- ☑ Integrated Data Requirements List (A4)
- ☑ Master Scenario Event List (A5)
- ☑ Data Analysis Plan (A4)
- ☑ Data Collection Plan/Instrumentation (S4)
- ☑ CTE2 Design (S1 S3)

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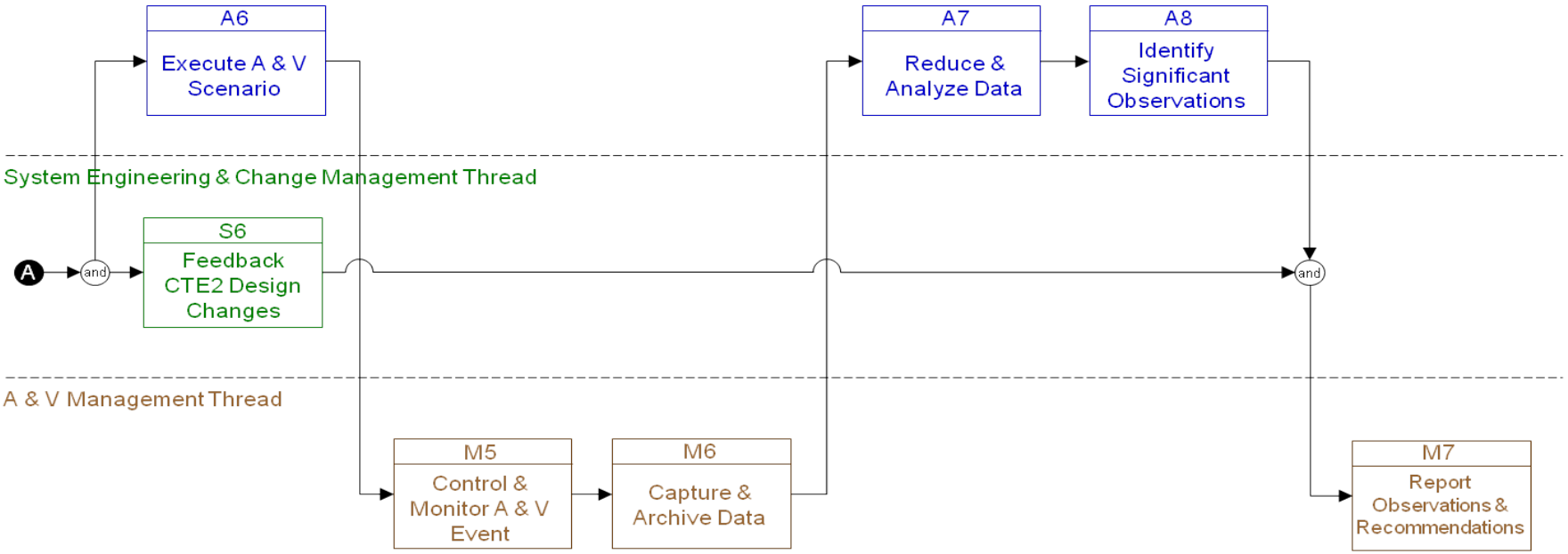
Assurance & Validation Process

Assurance & Validation (A & V) Thread



Products

- ☑ Time Ordered Event List (M5)
- ☑ Data (M6)
- ☑ Observations (M7)
- ☑ Causality Diagrams (A7, A8)
- ☑ CTE2 Recommendations (M7)
- ☑ Report (A8, S6, M7)

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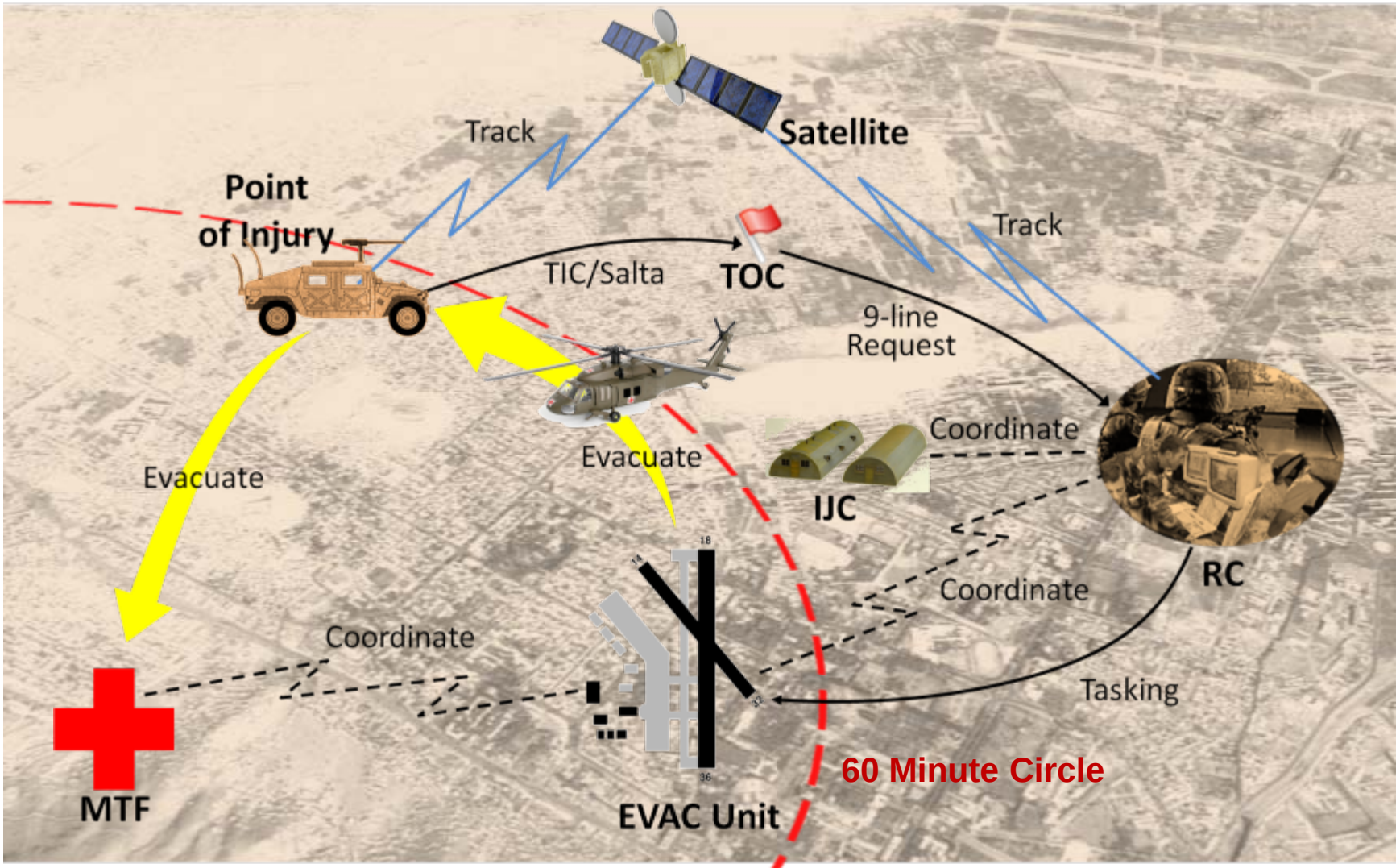
MedEvac OV-1



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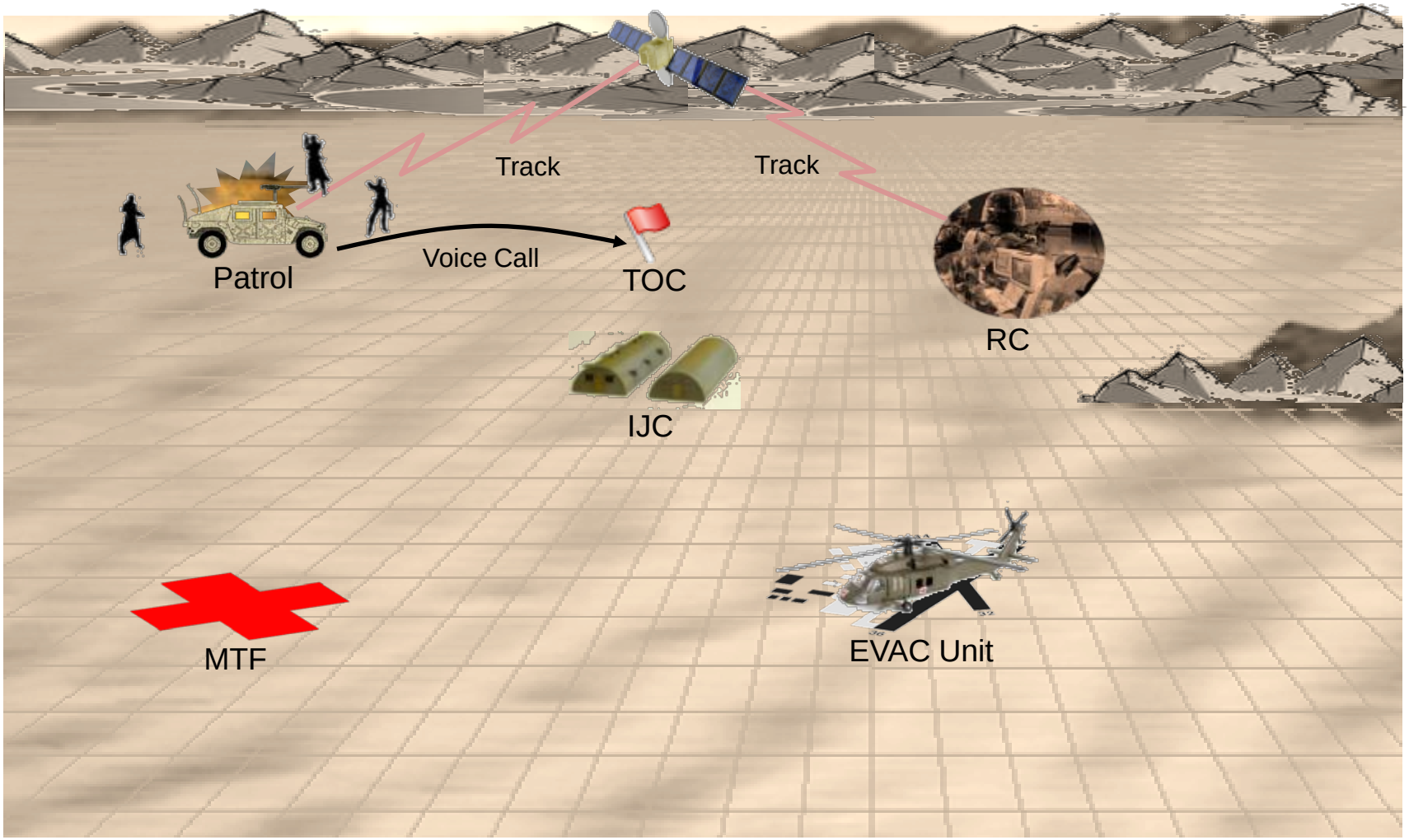
MedEvac Scenario



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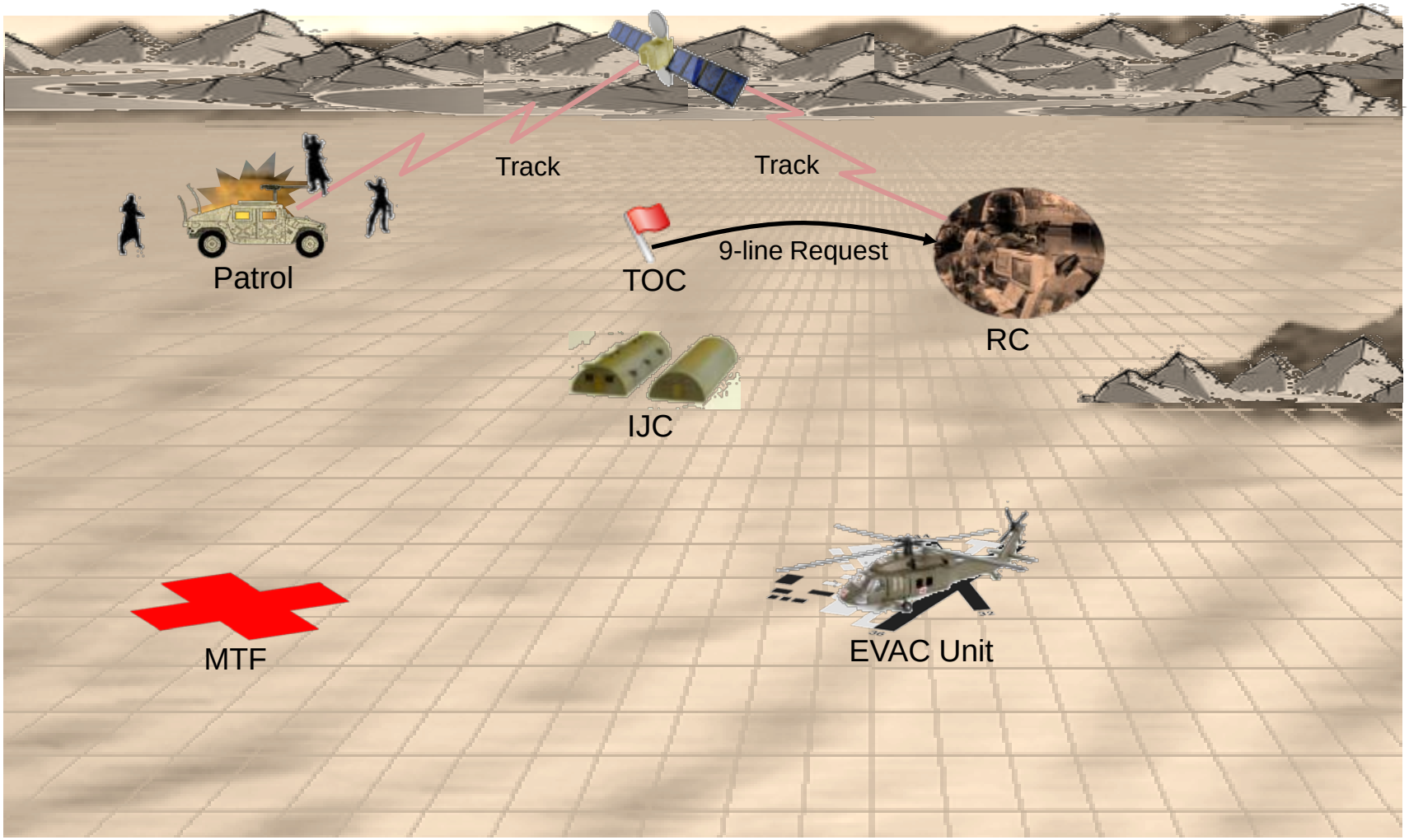
MedEvac Scenario



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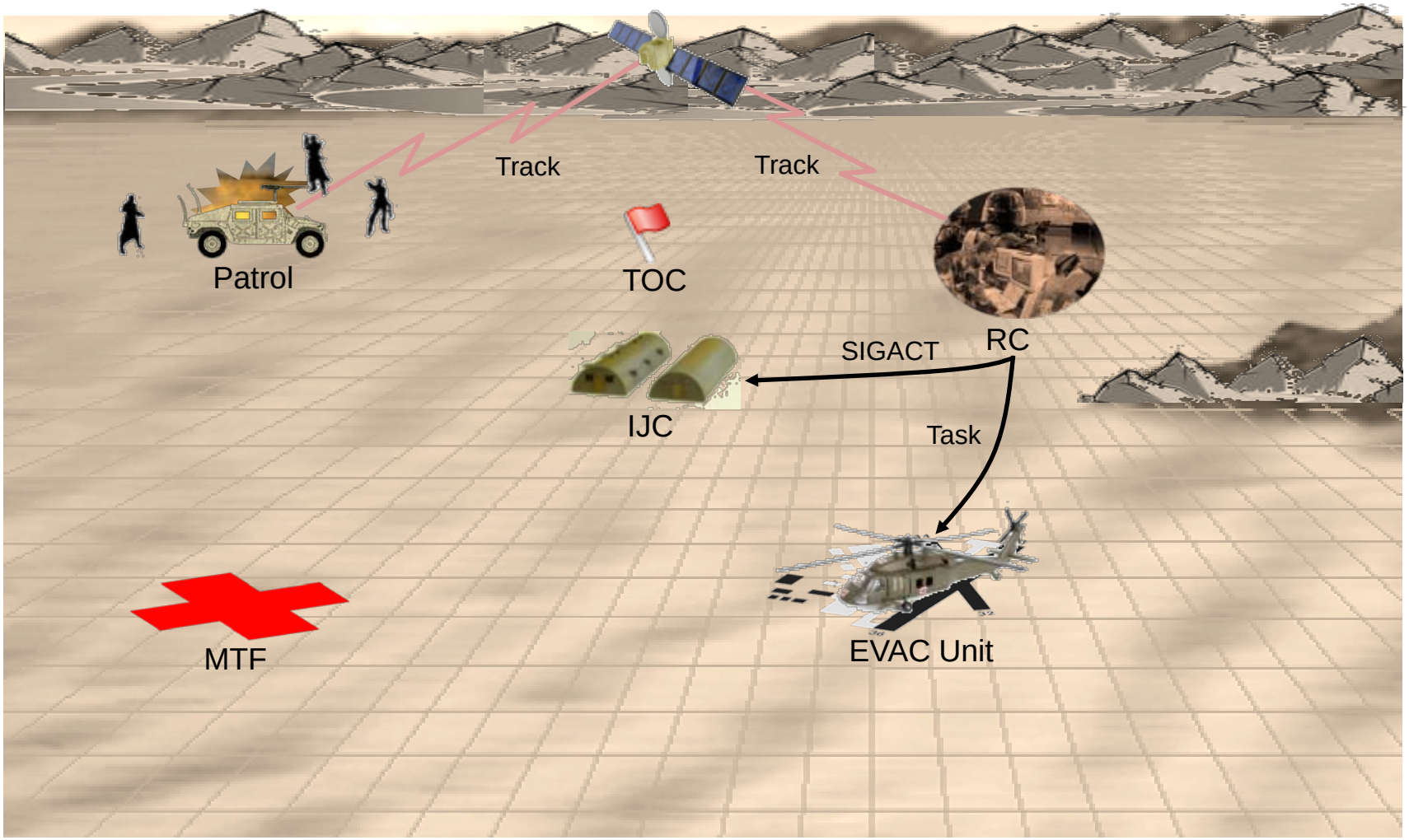
MedEvac Scenario



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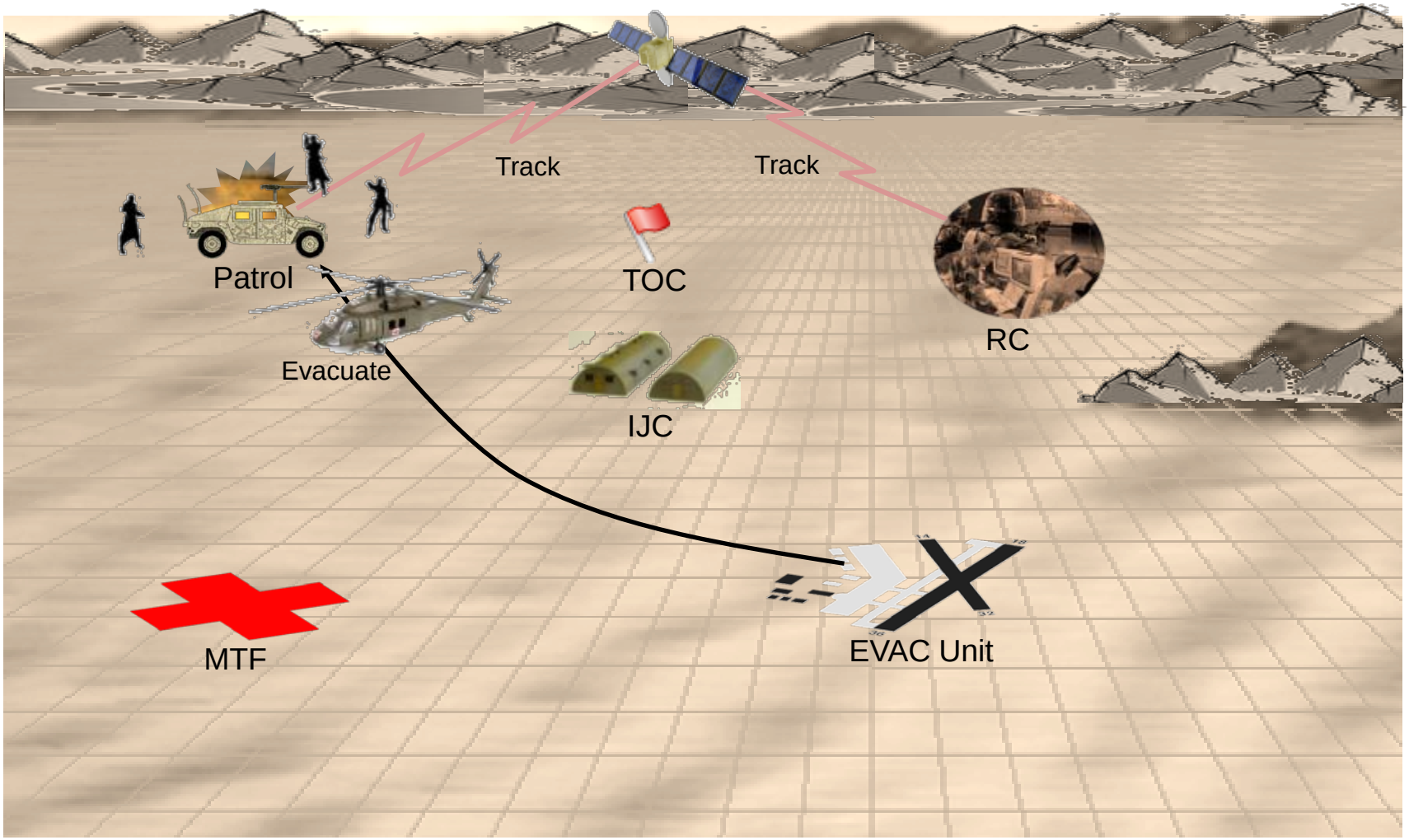
MedEvac Scenario



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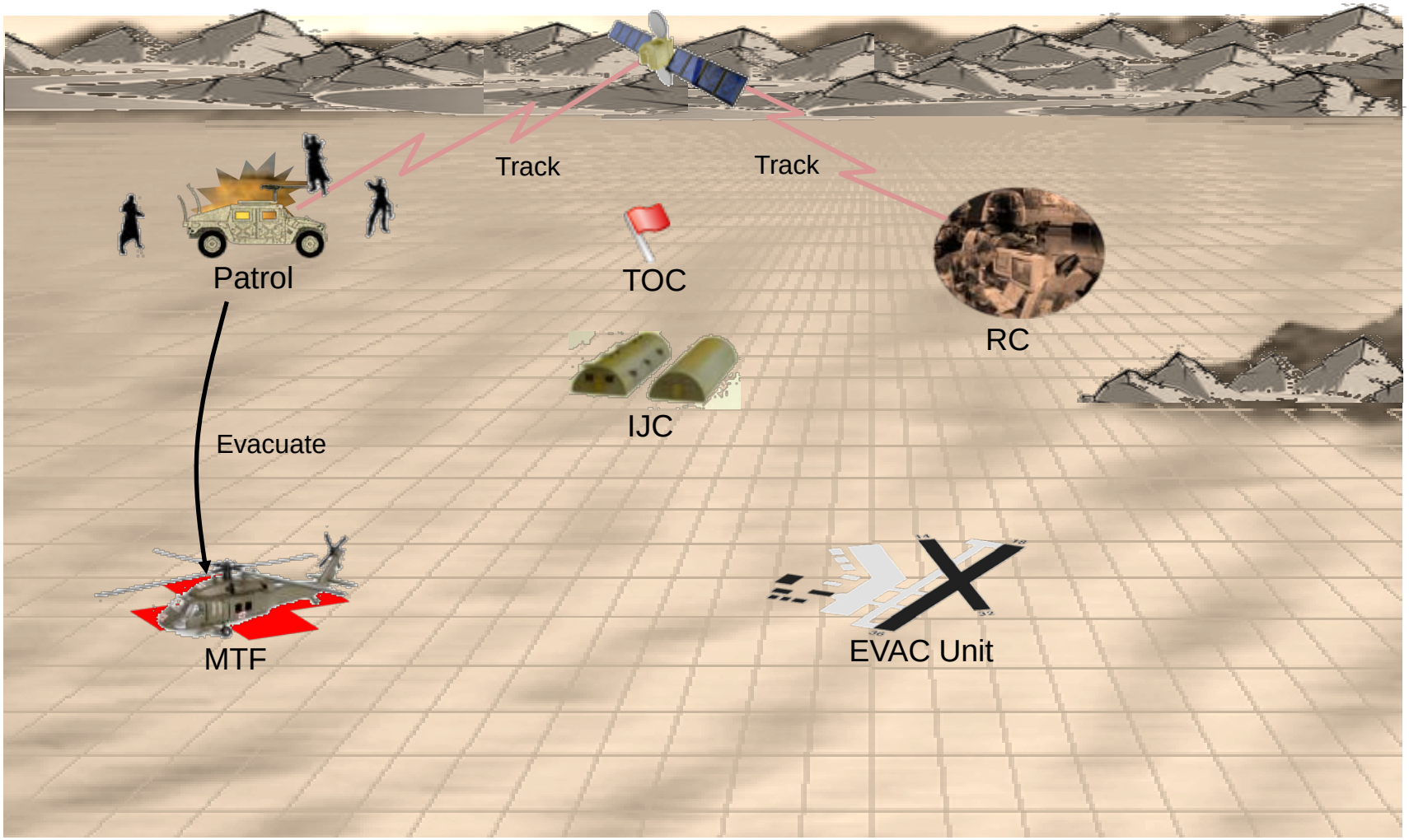
MedEvac Scenario



MedEvac OV-5a/b

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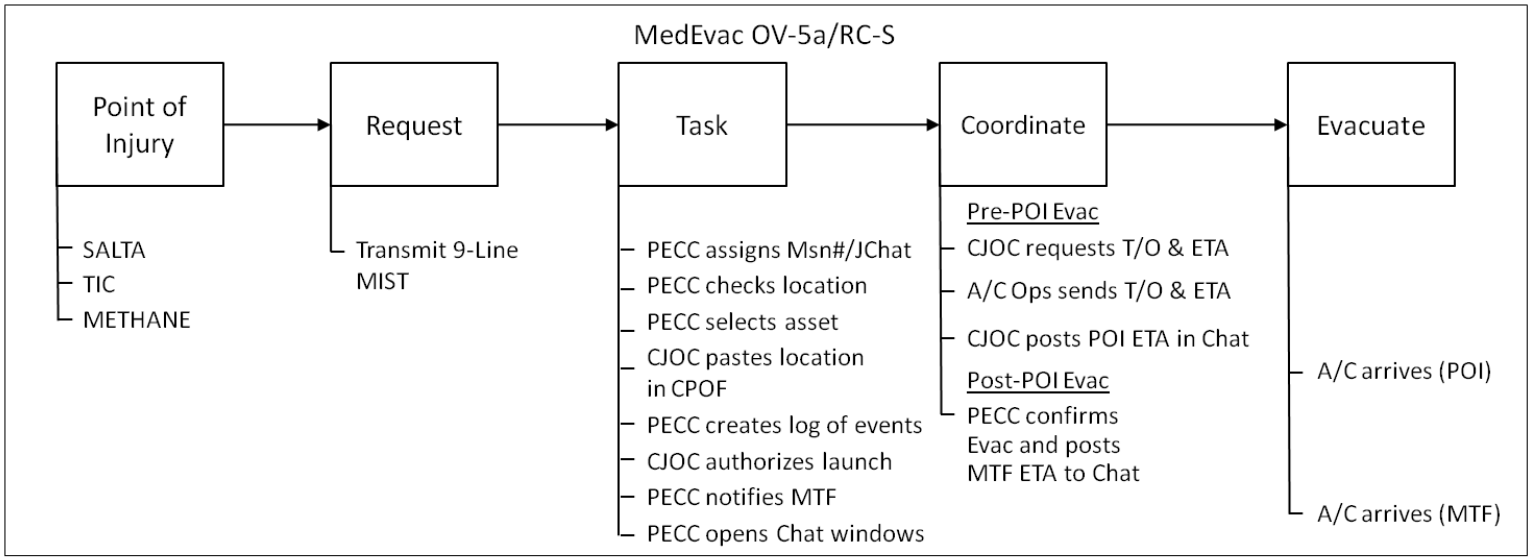

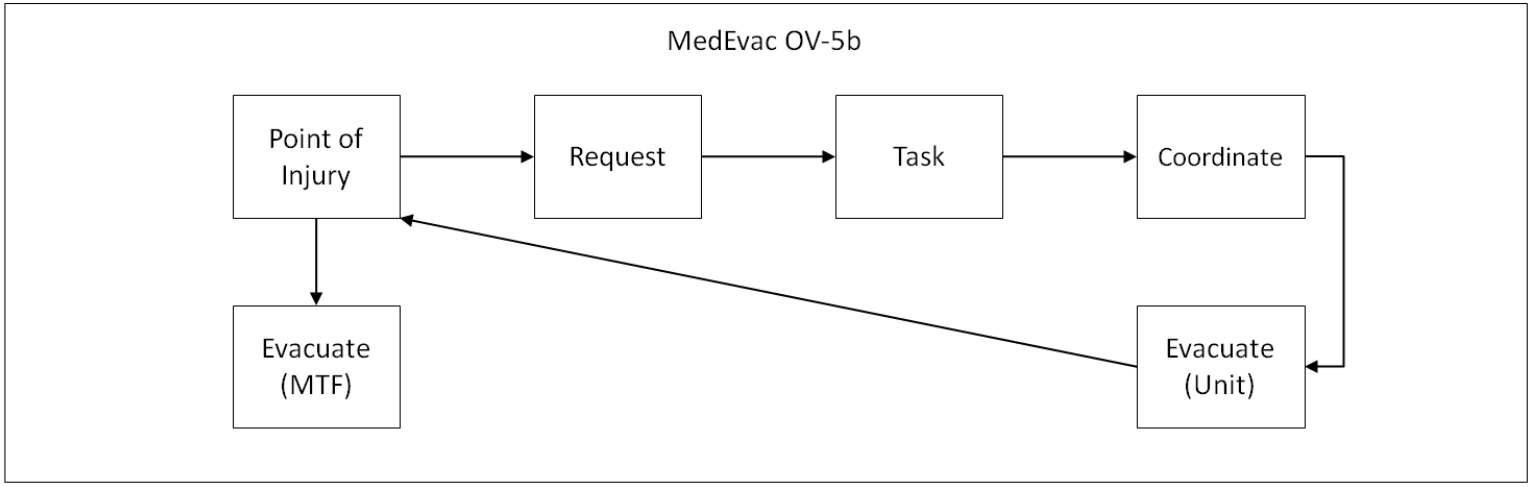

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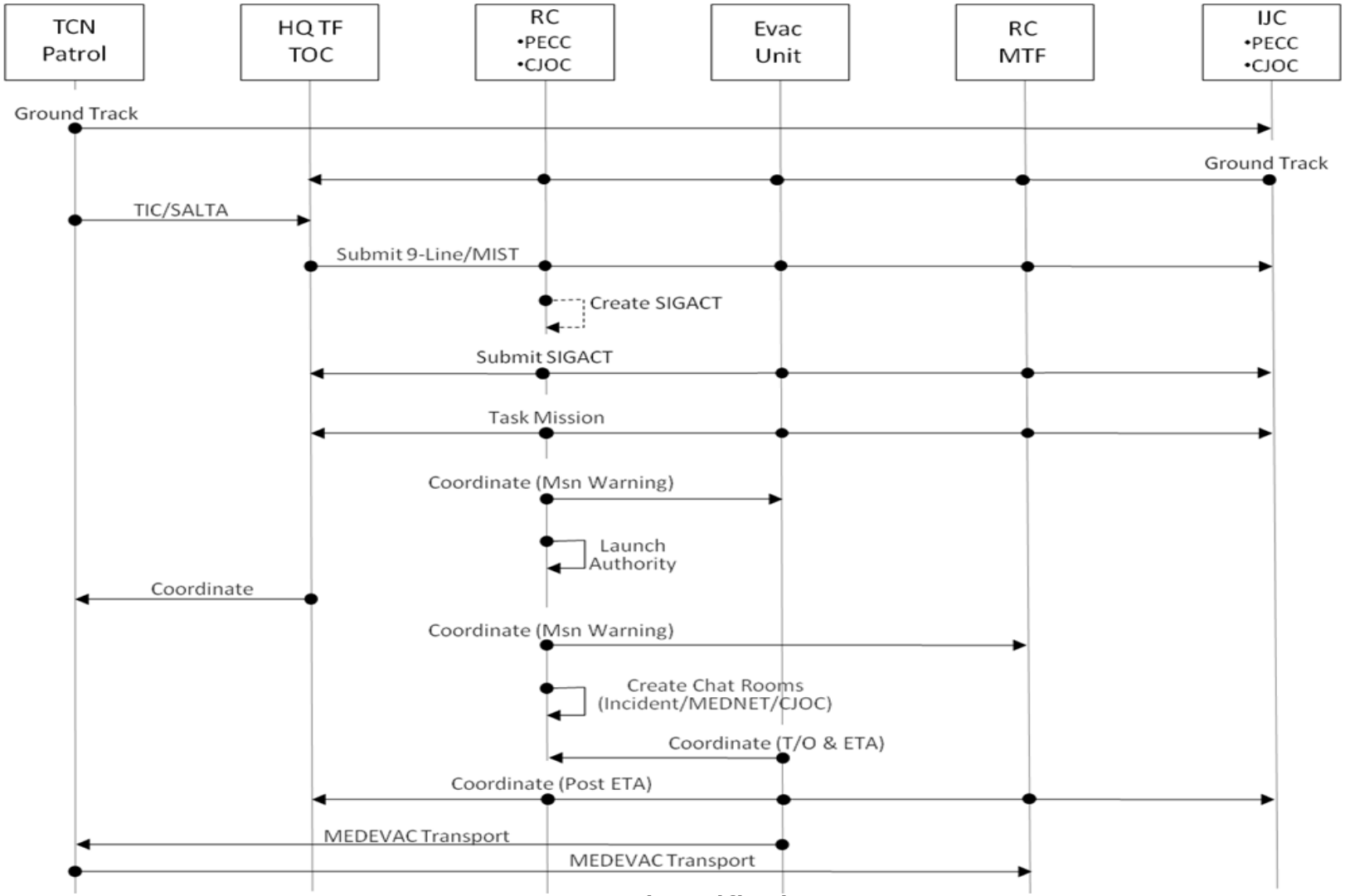
MedEvac OV-6c



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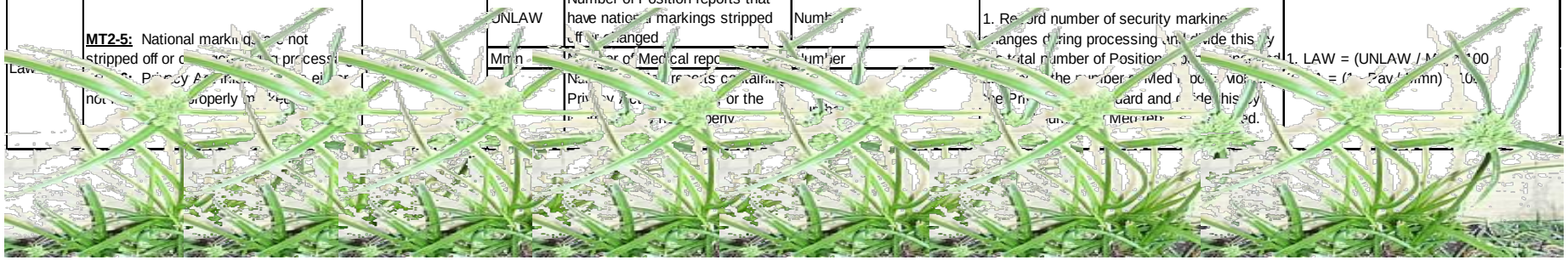
Integrated Data Requirements List (IDRL)

MedEvac Tasking Task

Attributes	Measure	Metric	Data Elements			Computation	Equations
			Variable	Definition	Units		
Timely	**MT2-1:** Time from receipt of initial Med request at PECC / CJOC until mission tasking (transmission of JCHAT message). **MT2-2:** Time from issuance of MedEvac mission tasking until Evac Unit arrival at POI	Time (in seconds)	Ti	Timely Index	Linearly regressed Normalized Value (0-1)	1. Mission tasking time from PECC / CJOC minus time of receipt of initial Med request 2. Evac Unit arrival time minus Time mission tasking was issued Note: system times must conform to central network time source.	1. Ttn = Ttx - Ttr 2. Tna = Tea - Ttx 3. Ti = m * F (Ttn, Tna)
			m	Timely Index scale factor	Gradient (Normal Value Range/Average Time Percentage Range		
			Ts	Count of Net Times	Number		
			Ttn	Net Tasking Time	Time stamp (NTP?)		
			Ttr	Receipt Time of Med request	Time stamp (NTP?)		
			Ttx	Mission Tasking Transmit Time	Time stamp (NTP?)		
			Tna	Net Evac Unit Mission Time	Time stamp (NTP?)		
			Tea	Evac Unit Arrival Time	Time stamp (NTP?)		
			Tei	Time Evac Unit Mission Issued	Time stamp (NTP?)		
Complete	**MT2-3:** All report elements generated by PECC on JCHAT are present at MTF, IJC, Evac Unit & TF TOC	Percentage	Ci	Complete Index	Linearly regressed Normalized Value (0-1)	1. Number of JCHAT elements at each site divided by the number of JCHAT elements generated by PECC 2. Completness Index is a normalized value of the measures Nm (Ci)	1. JPe = (Nj/Njp) * 100 2. Ci = m * F (JPe)
			m	Complete Index scale factor	Gradient		
			Nm	Number of Measures	Number		
			Nj	Number of JCHAT elements displayed	Number		
			Njp	Number of JCHAT elements generated by PECC	Number		
Accurate	**MT2-4:** JCHAT elements sent by PECC match those received by all recipients	Percentage	Ai	Accurate Index	Linearly regressed Normalized Value (0-1)	1. Matching JCHAT elements divided by the total number of JCHAT elements 2. Accuracy index is a normalized value of the measures Nm	For All Tracks: 1. J = (J_i / J_gt) * 100 2. Ai = m * F (J)
			m	Accuracy Index scale factor	Gradient		
			Nm	Number of Measures	Number		
			Mn	Total number of Reports	Number		
			J_gt	JCHAT ground truth elements	Number		
			J_i	Number of JCHAT elements that match PECC transmission	Number		
Lawful	**MT2-5:** National marki[illegible] not stripped off or c[illegible] process[illegible] **MT2-6:** Privacy A[illegible] ei[illegible] not [illegible] properly m[illegible]		UNLAW	Number of Position reports that have natio[illegible] markings stripped off or changed	Numb[illegible]	1. Re[illegible]ord number of security markin[illegible] anges d[illegible]ring processing an[illegible]ude this [illegible]y [illegible] total number of Position [illegible]	1. LAW = (UNLAW / M[illegible] 100
			Mmn	Number of Medical repo[illegible]	Number		
				Na[illegible] rrects or claim[illegible] Priv[illegible] , or the [illegible] perly		the number of Med [illegible] viol[illegible] e Pri[illegible] dard and [illegible]de his[illegible] Med[illegible] ed.	= (Pav / mn) * 10[illegible]



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Traceability Matrices (show your work!)

Matrix #1	ME Mission Desired Effects	
ME Mission Objectives	MedEvac Coverage	Patient Sustainment
Urgent	X	X
Priority	X	X
Routine	X	X

Matrix #2	Desired Effect Attributes			
Mission Desired Effects	Adaptable	Appropriate	Timely	Available
MedEvac Coverage	X			X
Patient Sustainment	X	X	X	

Matrix #3	Mission Measure
Desired Effect Attributes	Incidents where casualties receive care to time standard
Adaptable	
Appropriate	
Timely	X
Available	

Matrix #4	Fwd MedEvac Tasks			
Mission Desired Effects	Request	Task	Coordinate	Evacuate
MedEvac Coverage				X
Patient Sustainment	X	X	X	X

Matrices #5 & 6		Fwd MedEvac Task Attributes			
Tasks	Measures	Complete	Accurate	Lawful	Timely
Request	MT1-1	X			
	MT1-2		X		
	MT1-3			X	
	MT1-4			X	
Task	MT2-1				X
	MT2-2				X
	MT2-3	X			
	MT2-4		X		
	MT2-5			X	
	MT2-6			X	
Coordinate	MT3-1	X			
	MT3-2	X			
	MT3-3			X	
	MT3-4			X	

Matrix #7	Fwd MedEvac Tasks		
Systems	Request	Task	Coordinate
JChat	X	X	X
E-mail	X	X	X
Telephone	X	X	X
Voice	X	X	X

Matrix #8 & 9		Fwd MedEvac Attributes		
Systems	Measures	Complete	Accurate	Timely
JChat	MS1	X	X	X
E-Mail	MS2	X	X	X

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Traceability Matrices

Battlespace Management Mission Thread

Matrix #1	BM Mission Desired Effect
BM Mission Objectives	Situational Awareness
Reduce Blue-on-blue	X
Eliminate Blue-on-green	X
Maintain Operational Tempo	X

Matrix #2 & 3	Desired Effect - Situational Awareness - Attributes		
Measures	**Complete**	**Accurate**	**Lawful**
BM1-1	X		
BM1-2	X		
BM1-3		X	
BM1-4		X	
BM1-5			X
BM1-6			X

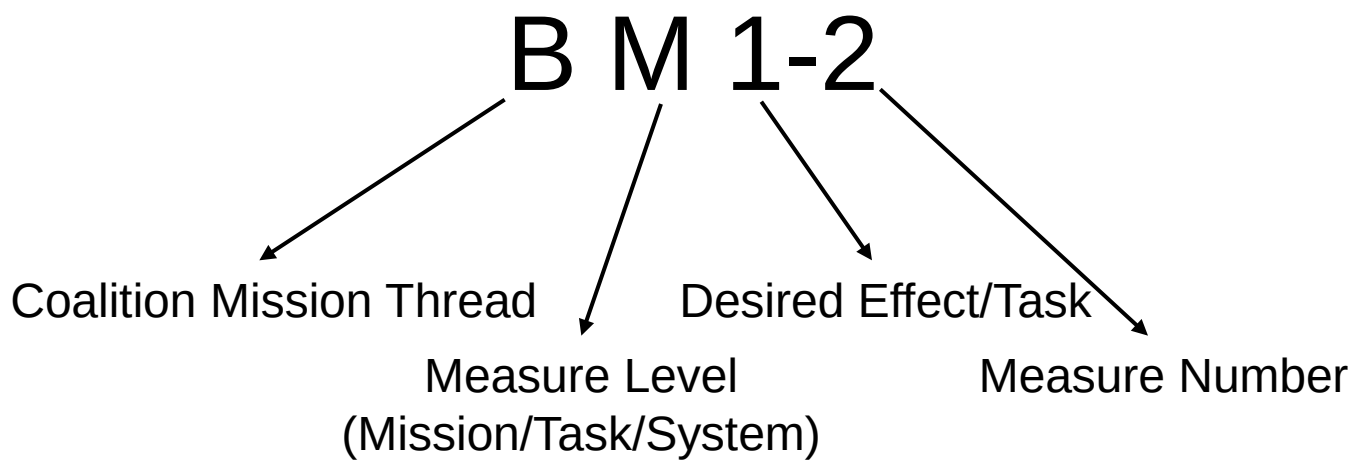
Matrix #4	BM Tasks	
Mission Desired Effects	Ground Tracking	SIGACT
Situational Awareness	X	X

Matrices #5 & 6		BM Task Attributes			
Tasks	**Measures**	Complete	Accurate	Lawful	Timely
Ground Tracking	BT1-1	X			
	BT1-2		X		
	BT1-3			X	
SIGACT	BT2-1				X
	BT2-2				X
	BT2-3	X			
	BT2-4	X			
	BT2-5		X		
	BT2-6		X		
	BT2-7			X	

Matrix #7 & 8	BM Tasks		BM Attributes				
Systems	Ground Tracking	SIGACT	Timely	Complete	Robust	Accurate	Lawful
BFT	X		X	X	X	X	X
GCCS-J	X		X	X	X	X	X
PASS	X	X	X	X	X	X	X
NIRIS	X		X	X	X	X	X
GCCS-A	X		X	X	X	X	X
NORRCIS	X			X		X	X
PASS/NRTS	X			X		X	X
JADOCS-GBR	X	X		X		X	X
ICC	X	X		X		X	X

Matrix #9	BM Attributes				
Measures	Timely	Complete	Accurate	Robust	Lawful
BS1-1	X				
BS1-2		X			
BS1-3		X			
BS1-4		X			
BS1-5			X		
BS1-6			X		
BS1-7			X		
BS1-8				X	
BS1-9				X	
BS1-10				X	

Measures Legend



Battlespace Management/Mission/Desired Effect #1/Measure #2

M T 2-3

MedEvac/Task/Desired Effect #2/Measure #3

BM MEDCOP Mission Evaluation View

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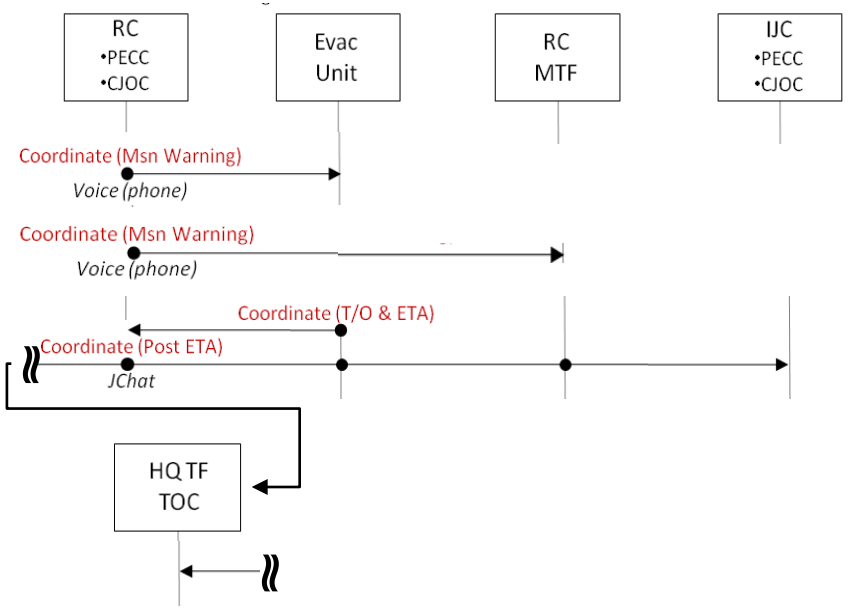
Measures/Attributes

BM1-1: All position reports present (Complete)
BM1-2: All tracks displaying (Complete)
BM1-3: All track anomalies (Complete)
BM1-4: All MedEvac reports (Complete)
BM1-5: Tracks match ground truth (Accurate)
BM1-6: MedEvac reports received match entry data (Accurate)
BM1-7: All report anomalies (Accurate)
BM1-8: Security marking changes (Lawful)
BM1-9: MedEvac reports containing privacy act information (Lawful)

SV-10c Event Trace Extract



Task boundary

PECC coordinates POI ETA

PECC coordinates MTF ETA

Computations

1. Number of matching JCHAT elements at recipient sites divided by the total number of JCHAT elements sent by PECC (ground truth)
2. Number of matching JCHAT elements at recipient site divided by the total number of JCHAT elements sent by PECC (ground truth)
3. Record number of security marking changes during processing and divide this by the total number of Position reports generated

Pass/Fail Criteria

TBD

BM Ground Track Task Evaluation View

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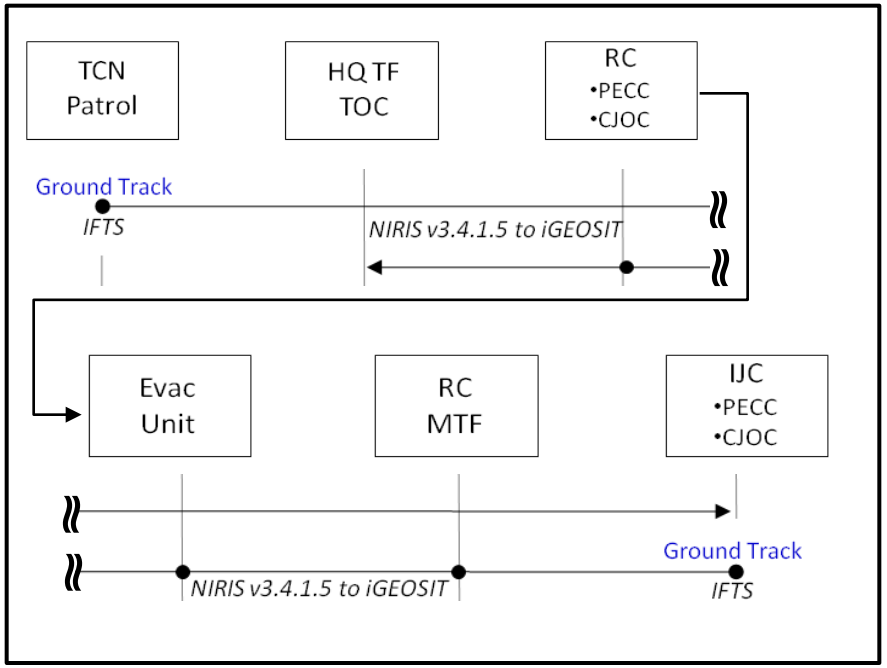
Measures/Attributes

BT1-1: Ground track elements are present on COP/MEDCOP (Complete)

BT1-2: Ground track elements match transmitted report elements (Accurate)

BT1-3: National markings are not stripped off or changed during processing (Lawful)

SV-10c Event Trace Extract



Task boundary

Ground Track Ground Truth

Ground Track on MEDCOP

Computations

1. Number of complete ground track elements displayed divided by the total number of ground track elements transmitted (ground truth)
2. Number of ground track elements that match ground truth divided by the number of ground track elements transmitted (ground truth)
3. Record number of security marking changes during processing and divide this by the total number of Position reports generated

Pass/Fail Criteria

TBD

BM SIGACT Task Evaluation View

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Measures/Attributes

BT2-1: Time from initial MedEvac request until SIGACT is generated (Timely)

BT2-2: Time from initial MedEvac request to display on COP/MEDCOP (Timely)

BT2-3: All SIGACT elements are present on COP/MEDCOP (Complete)

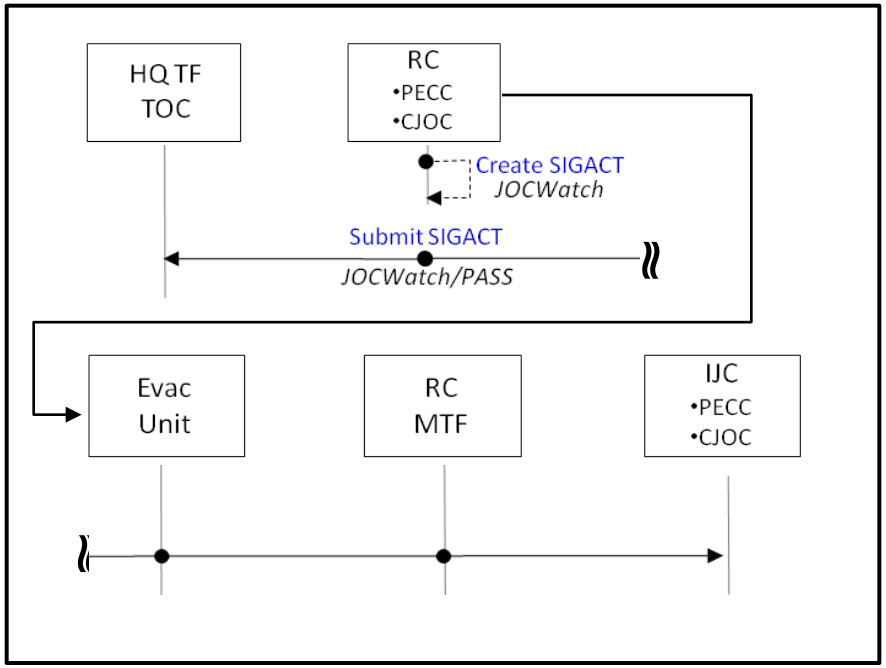
BT2-4: All updated SIGACT elements sent from CJOC to IJC are present

BT2-5: SIGACT elements on COP/MEDCOP match ground truth elements

BT2-6: SIGACT elements from CJOC to IJC match ground truth elements

BT2-7: National markings are not stripped off or changed during processing

SV-10c Event Trace Extract



Task boundary

SIGACT Elements Ground Truth

SIGACT on COP/MEDCOP

Computations

1. Display time of COP/MEDCOP display minus time of initial Med request transmission time.
2. Time SIGACT is generated minus time initial Med request is made.
3. Complete SIGACT elements on COP / MEDCOP divided by total SIGACT elements in ground truth
4. Complete SIGACT elements received at IJC divided by total SIGACT elements sent by CJOC
5. Number of SIGACT elements matching ground truth divided by total number of SIGACT elements
6. Updated SIGACT elements sent by CJOC to IJC match ground truth elements
7. Record number of security marking changes and divide this by the total number of Position reports generated

Pass/Fail Criteria

TBD

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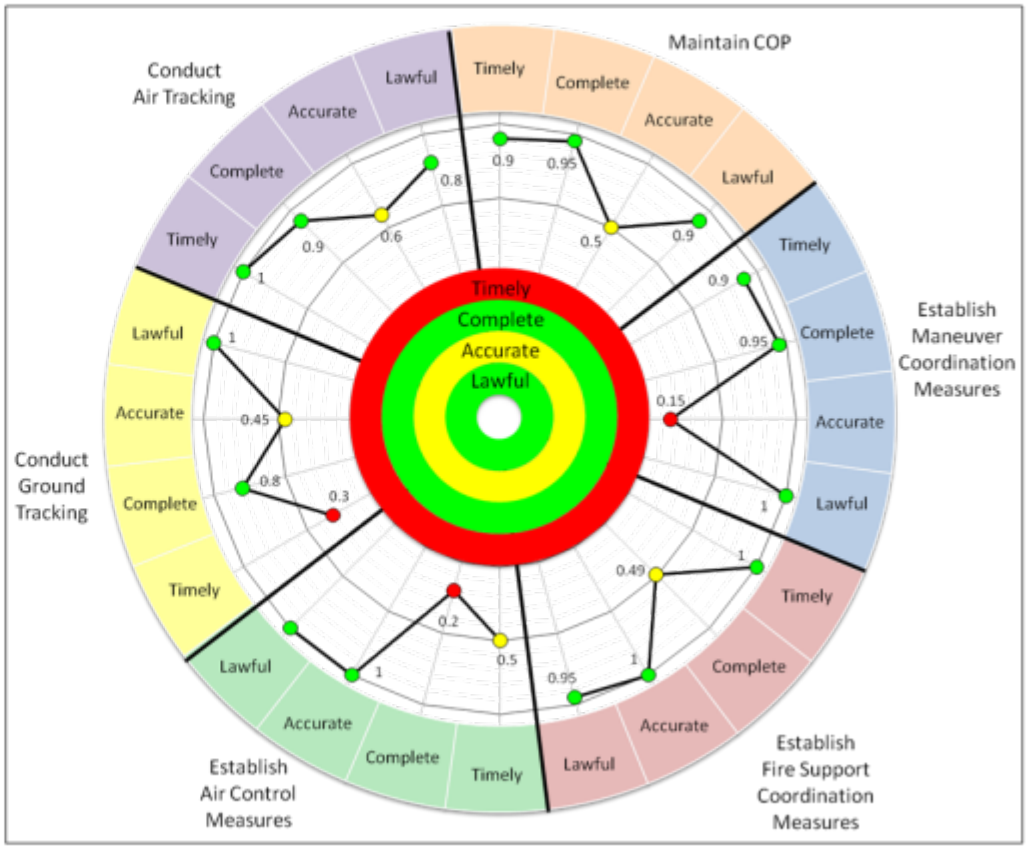
Battlespace Management Causality Example

Battlespace Management Mission Description

Mission Statement: Manage operational environments in order to affect the behavior, capabilities, will, or perceptions of partner, competitor, or adversary leaders, military forces, and relevant populations. The ability to control or deny (destroy, remove, contaminate, or block with obstacles) significant areas, with or without force, in the operational area whose possession or control provides either side an operational advantage.

	Desired Effects			
Objectives	COP	Gained, Managed, and Maintained Operational Tempo	Reduced Friendly Force Incidents and Fratricide	Disrupted Enemy C2
Reduce blue on blue	X		X	
Eliminate blue on green	X		X	
Maintain offensive momentum	X	X	X	X
Exchange common BM objects (for example FCCMs between core C2 applications)	X			
Conduct operational planning using core C2 applications in order to provide SA to J1-9	X			
Exchange common SIGACT data into core C2 applications	X			
Exchange common TIC data into core C2 applications	X			
Comply with International and National Laws	X		X	



Desired Effect: COP (center rings)

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Future Work

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Mission Thread Analytic Framework

- Framework of measures that examines all levels of capability
  - Mission Effectiveness
  - Task performance
  - System attributes

The Framework is based on tasks necessary to accomplish a mission in a System-of-Systems environment

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JOINT FIRES

MISSION

The Joint Force Commander's intent is to bring force against the opponent in a manner to overwhelm and cripple the enemy's capabilities and will to resist.

OBJECTIVES

✓Ensure Continuous Flow of Data on Potential Targets.
✓Provide assessed targeting info across Coalition Nation (CN) boundaries
✓Minimize Collateral Damage
✓Avoid Unnecessary Duplication
✓Provide for Rapid Coordination
✓Analyze Effectiveness
Consider the Use of all Lethal and/or Nonlethal Attack Means.
Use the Lowest Echelon Capable of Furnishing Effective Support.
Furnish the Type of Joint Fire Support Requested.
Use the Most Effective Joint Fire Support Means.
Coordinate Airspace
Provide Adequate Support.
Protect the Force.
Provide for Flexibility.

DESIRED EFFECTS

Denial/Disruption/Delay/Suppression/Neutralize/
Destruction/Influence/Synchronization/Integration

TASKS

Find/Fix/Track/Target/Engage/Assess

Answering the 'So What?'

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Definitions

Mission: The task, together with the purpose, that clearly indicates the action to be taken and the reason therefore. (JP 1-02)

Mission Statement:

A mission describes the organization's essential task (or tasks) and purpose — a clear statement of the action to be taken and the reason for doing so. (UJTL Manual – Aug 2008)
Short sentence or paragraph that describes the organization's essential task (or tasks) and purpose-a clear statement of the action to be taken and the reason for doing so. (JP 5-0)
Mission statement contains the elements of who, what, when, where, and why, but seldom specifies how. (JP 5-0)
Example: Conduct an integrated joint close air support with a common and standardized doctrine, organization, training, materiel and facilities that will be interoperable and effective in a joint mission environment. (JP 5-0)

Mission objectives: (JP 5-0)

The mission is then further defined with objectives, that are:

- The clearly defined, decisive, and attainable goal toward which every operation is directed.
- The specific target of the action taken (for example, a definite terrain feature, the seizure or holding of which is essential to the commander's plan, or an enemy force or capability without regard to terrain features).

Examples: (1) To delay, disrupt, destroy, or degrade enemy operational forces or critical tasks and facilities (including command, control, and intelligence (C2I) targets) , (2) To affect the enemy's will to fight

Mission Desired Effects:

"The Joint Operation Planning Process," discusses the use of desired and undesired effects in joint operation planning as a way to clarify the relationship between objectives and tasks. (JP 5-0)
effects "describe system behavior in the operational environment – desired effects are the conditions related to achieving objectives;" and tasks "direct friendly action". (CBA Guide v3)
Examples: (1) Threat forces destroyed or neutralized in JOA (2) Enemy unwillingness to fight.

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Definitions

Activity: An Activity is work, specific to a single organization, weapon system, or individual, that transforms inputs into outputs or changes their state. (DoDAF 2.0)

Attribute: A quantitative or qualitative characteristic of an element or its actions. (CJCSI 3170.01G, Mar 2009)

Capability: The ability to achieve a desired effect under specified standards and conditions through combinations of means and ways across doctrine, organization, training, materiel, leadership and education, personnel, and facilities (DOTMLPF) to perform a set of tasks to execute a specified course of action. It is defined by an operational user and expressed in broad operational terms in the format of an Initial Capabilities Document (ICD) or a joint DOTMLPF Change Recommendation (DCR). In the case of materiel proposals/documents, the definition will progressively evolve to DOTMLPF performance attributes identified in the Capability Development Document (CDD) and the Capability Production Document (CPD). (CJCSI 3170.01G)

Capability Need: A capability defined through the Capability-Based Assessment (CBA) process, which requires performance of a task within specified conditions to a required level of performance. (CJCSI 3170.01G)

Condition:

(1) Those variables of an operational environment or situation in which a unit, system, or individual is expected to operate and may affect performance. (UJTL Manual),
(2) The sample of adversaries and operating conditions – the scenario (Capability-Based Assessment User's Guide v3 dated Mar 2009)

Criterion: The minimum acceptable level of performance associated with a particular measure of [task] performance. It is often expressed as hours, days, percent, occurrences, minutes, miles, or some other command-stated measure. (UJTL Manual – Aug 2008) .

Definitions

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Effect [Mission Desired]: (JP 1-02)

(1) The physical or behavioral state of a system that results from an action, a set of actions, or another effect,
(2) The result, outcome, or consequence of an action,
(3) A change to a condition, behavior, or degree of freedom

Function [System/Operational] : The action for which a person or thing is specially designed, fitted, used or intended to accomplish or execute. (DoDAF 2.0)

Joint Mission Environment : A subset of the joint operational environment composed of force and non-force entities; conditions, circumstances and influences within which forces employ capabilities to execute joint tasks to meet a specific mission objective. (TSSG)

Joint Mission Thread: An operational and technical description of the end to end set of activities and systems that accomplish the execution of a joint mission. (CJCSI 6212.01E)

KPP/KSA/CTP: Attributes/parameters of a system that are considered critical (JCIDS)

Means:

(1) Forces, units, equipment, and resources (TOR for JCA reassessment),
(2) Solutions represent means, or resources that can be employed (Capability-Based Assessment User's Guide v3 dated Mar 2009),
(3) Means are based on DOTMLPF organization, materiel, personnel, & facility resources

Measure: A parameter that provides the basis for describing varying levels of accomplishment. (UJTL Manual Aug 2008)

Measure of Effectiveness [Mission]: A criterion used to assess changes in system behavior, capability, or operational environment that is tied to measuring the attainment of an end state, achievement of an objective, or creation of an effect (JP 1-02)

Task: An action or activity (derived from an analysis of the mission and concept of operations) assigned to an individual or organization to provide a capability. (CJCSM 3500.04E, UJTL Manual, August 2008) NOTE: This term and its definition are to be included in JP 1-02.

Definitions

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From expert glossary

Mission

(1) The task, together with the purpose, which clearly indicates the action to be taken and the reason therefore. (2) In common usage, especially when applied to lower military units, a duty assigned to an individual or unit; a task. (3) Missions are statements of the objective to be accomplished for a given situation. Missions will describe the situation and will include who, what, when, where, why, and how the BMD system will perform. They contain employment direction and procedures to BMD forces for a given situation to achieve specific defense objectives. (USSPACECOM)
DoD Missile Defense Agency - Cite This Source - This Definition

Mission Area

A segment of the defense mission as established by the Secretary of Defense. Each DoD component has a mission area (i.e. Navy - sea control) for which it must equip its forces.

DoD Missile Defense Agency - Cite This Source - This Definition
Browse Related Terms: Air Force Satellite Control Network (AFSCN), ECDs, MCE, MCTE, MLCP, Tactical Control.

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Definitions

Information Technology Infrastructure Library (ITIL)

Mission Statement	The Mission Statement of an Organization is a short but complete description of the overall purpose and intentions of that Organization. It states what is to be achieved, but not how this should be done.
Service	A means of delivering value to Customers by facilitating Outcomes Customers want to achieve without the ownership of specific Costs and Risks.
Attribute	A piece of information about a Configuration Item. Examples are name, location, Version number, and Cost. Attributes of CIs are recorded in the Configuration Management Database (CMDB). See Relationship.
Capability	The ability of an Organization, person, Process, Application, Configuration Item or IT Service to carry out an Activity. Capabilities are intangible Assets of an Organization. See Resource.

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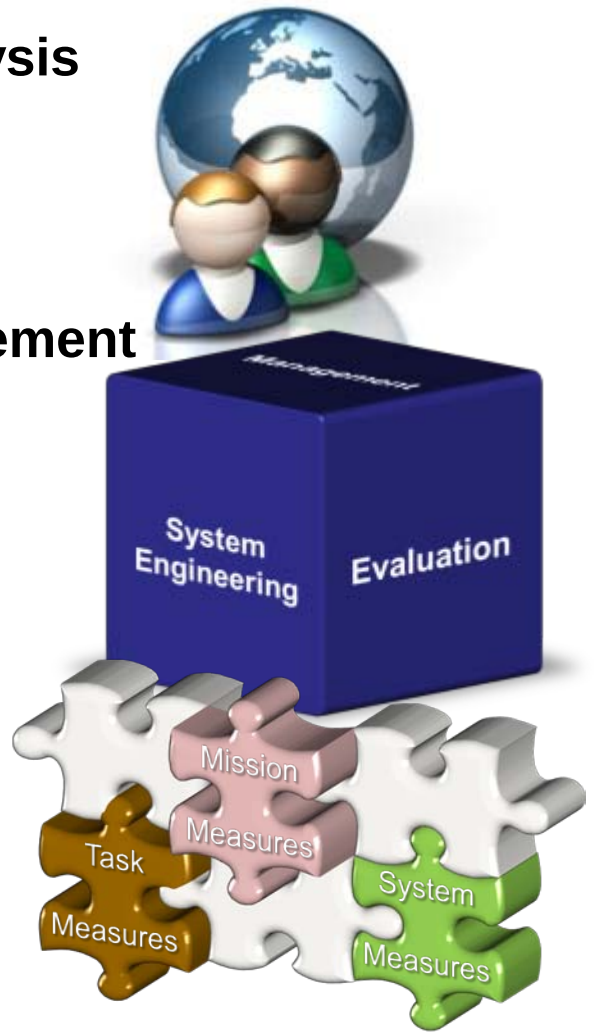
Mission Thread Analytic Framework Summary

- **Efficient and agile planning, execution and analysis methodology**
  - **Steps are scalable to the environment**
  - **Framework is organized into three threads: Evaluation, System Engineering, and Management**
  - **Disciplined decomposition of the mission facilitates Design Of Experiments**
  - **Measures Framework (system, task, mission) provides analytical rigor to answer mission concerns (the “so what” questions)**
  - **Traces causal connections between system, task and mission**



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