

Determining the Return on Investment (ROI) for Joint Training

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Report Documentation Page

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June 2007

WG22

Unclassified 2

Overview

- Introduction
- Background
- Hypothesis
- Research Objective
- Research Problem
- Approach
- Potential Capabilities/Results
- Research Method
- Conclusions
- Questions/Comments

Introduction

- **The US Military, like all Corporations and other Federal Agencies is faced with rising costs**
 - ❑ Weapons systems, fuel, personnel costs continue to drive budgets
 - ❑ Budgets also have constraints and political pressures

- **Required Readiness is also a continual challenge**
 - ❑ Deployment on short notice is more and more common
 - ❑ Iraq, Afghanistan, Horn of Africa
 - ❑ Not just Major Combat Ops, but many other Operations Other-Than-War, including missions within the US for Humanitarian Assistance and Disaster Relief

- **Service's Ability to train individuals, small units, and larger force packages synthetically is accepted and expanding..**

- **Similar capabilities for staffs at the Operational Level are available but not widely used even though these staffs are more logically and readily able to train in a completely synthetic environment**

Introduction

- **The issues surrounding the lack of large scale distributed synthetic training for Operational level staffs are primarily:**
 - ❑ An over reliance on some mixture of live, virtual, and constructive training,
 - ❑ The lack of exercise constructs which address the specific training requirements and appropriately stress these higher level staffs,
 - ❑ A lack of quantitative metrics evaluating the performance of the staff and the major functions and processes that lead to the operational decisions of the commander,
 - ❑ A lack of a systematic method of relating costs to the performance of the staff, and no consistent, repeatable method of tracking these costs for training across the Services at the Operational Level,
 - ❑ No way to demonstrate the Return-on-Investment gained from the large expenditures on infrastructure (JNTC), simulations, and scenarios for past or future training.

Background

➤ **Previous efforts for performance assessment:**

- ❑ McGinnis and Stone, Startin, Luck, Tillson, Holden, Spurgin, Newell and Rosenbloom, Mayer-Kress et. al.

➤ **Previous related and focused efforts for cost assessment:**

- ❑ Cokins, Wright, Oliver, Nelson and Bely

Background

- **Previous related and focused efforts for Return-on-Investment:**
 - ☐ Phillips, Dust, Gordon, McGibbon, Cross

Hypothesis

- **Training at the Operational level is less beneficial when live forces vice synthetic are used. Live forces can be used but, at the Operational level due to the complexity of the scenarios required to train these staffs, a synthetic environment is more cost effective and provides a much greater ROI.**

The Research Objective

- **To develop, test, validate, and deliver a methodology which provides a repeatable and reliable means to portray ROI to Operational Level Commanders**
 - The methodology should provide the ability for Operational level staffs to assess performance, costs, and value of training either for routine reporting or in support of certification, regardless of training environment

The Research Problem

- **Primary**: No method exists to reliably determine the costs of training at the Operational level, regardless of environment
- **Secondary**: No common standard by which to measure accomplishment of Joint training objectives exists (e.g., one service says it should take 2 hours, another says 12 hours)

Approach

1. Develop a set of common measures and a model to assess Operational level staff performance after training
2. Develop an effective model of costs for live versus synthetic training
3. Use results of 1) and 2) to define a reliable tool to measure ROI for the range of operations and scenarios under which Operational staffs are trained
 - a) **Rational tool to capture performance measures**
 - b) **Weighted averages and logarithmic functions to develop algorithm**
4. Participate in events and use Subject Matter Experts to validate weights and developed algorithm

Potential Capabilities

- Measure the desired result (task or capability per the environment) in order to predict the cost and time required to achieve desired training
- Decide when desired training level has been achieved
- Find what is limiting further success by looking at supporting factors
- Make a decision about the relative benefit of additional training for an entire staff or just specific functions

Potential Capabilities

- Contrast live versus synthetic training costs and choose, if appropriate, when to use live
- Limit proficiency training to shortfall areas only
- Understand impact of technologies, capability gaps, or specific failures against either tasks or capabilities

Goals

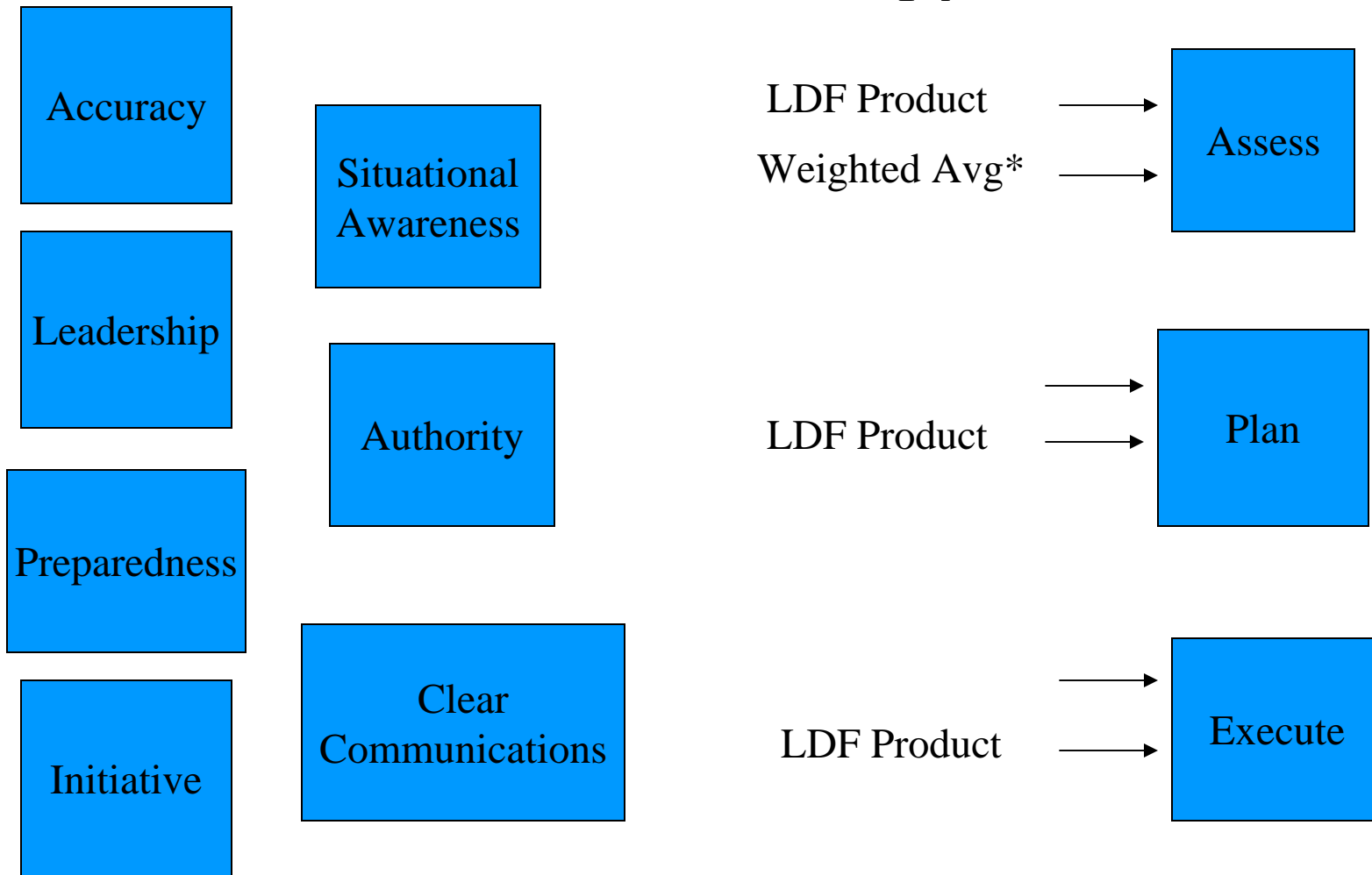
- To develop an effective model of costs for live and synthetic training
- To develop a set of metrics for staff assessment
- To use the results of both 1) and 2) to define a realistic and reliable tool to define ROI for the range of operations and scenarios required.
- To furnish commands such as JFCOM a possible template for exercise development which can be used to either initially certify or re-certify FCC or JTF staffs.

Performance Assessment Mathematical Basis

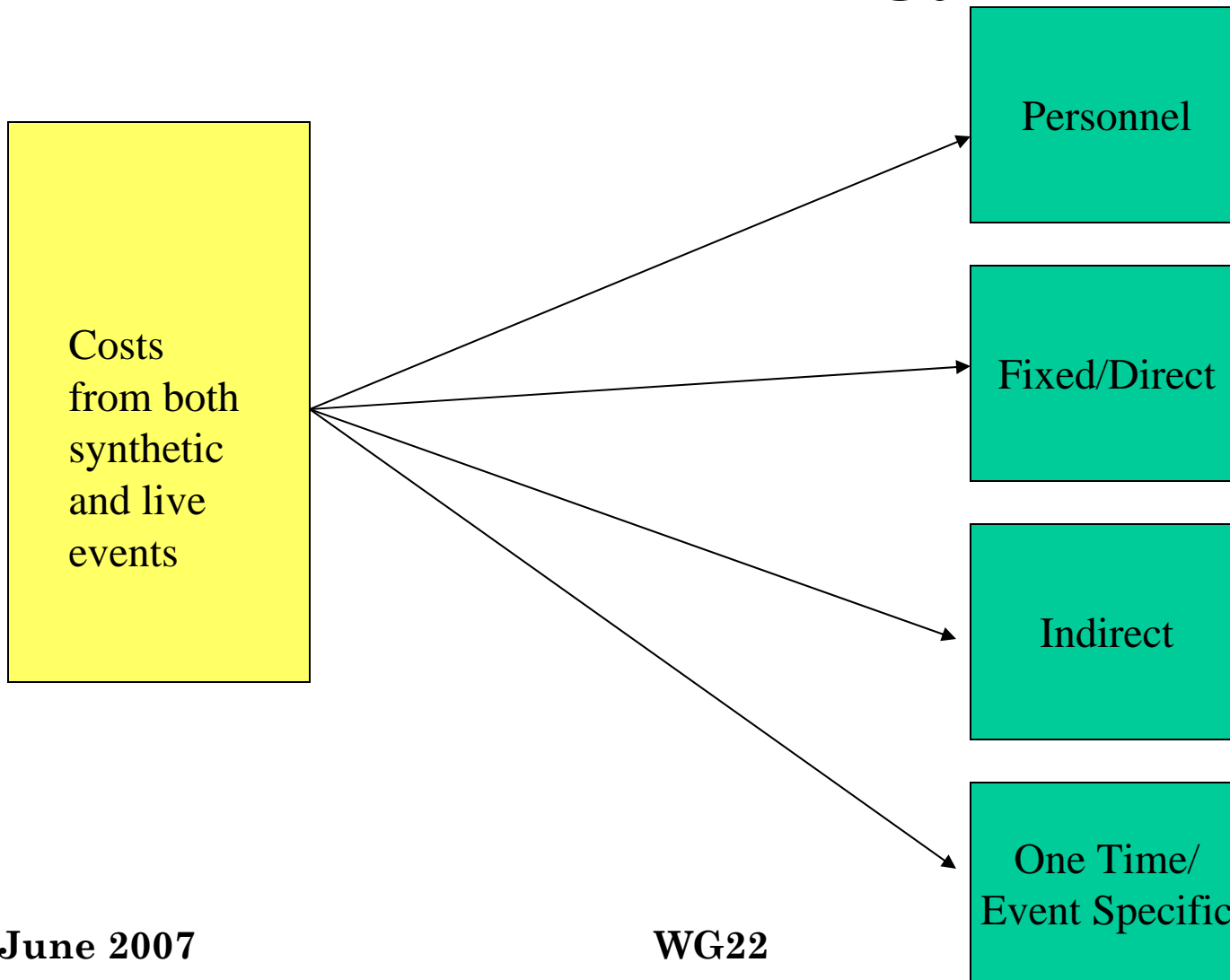
- **Two calculation methods will be used to assess performance**
 - ❑ The weighted averaging approach
 - ❑ A logarithmic function approach

- **There is a possibility that only one or the other may produce results that accurately reflect warfighting readiness**

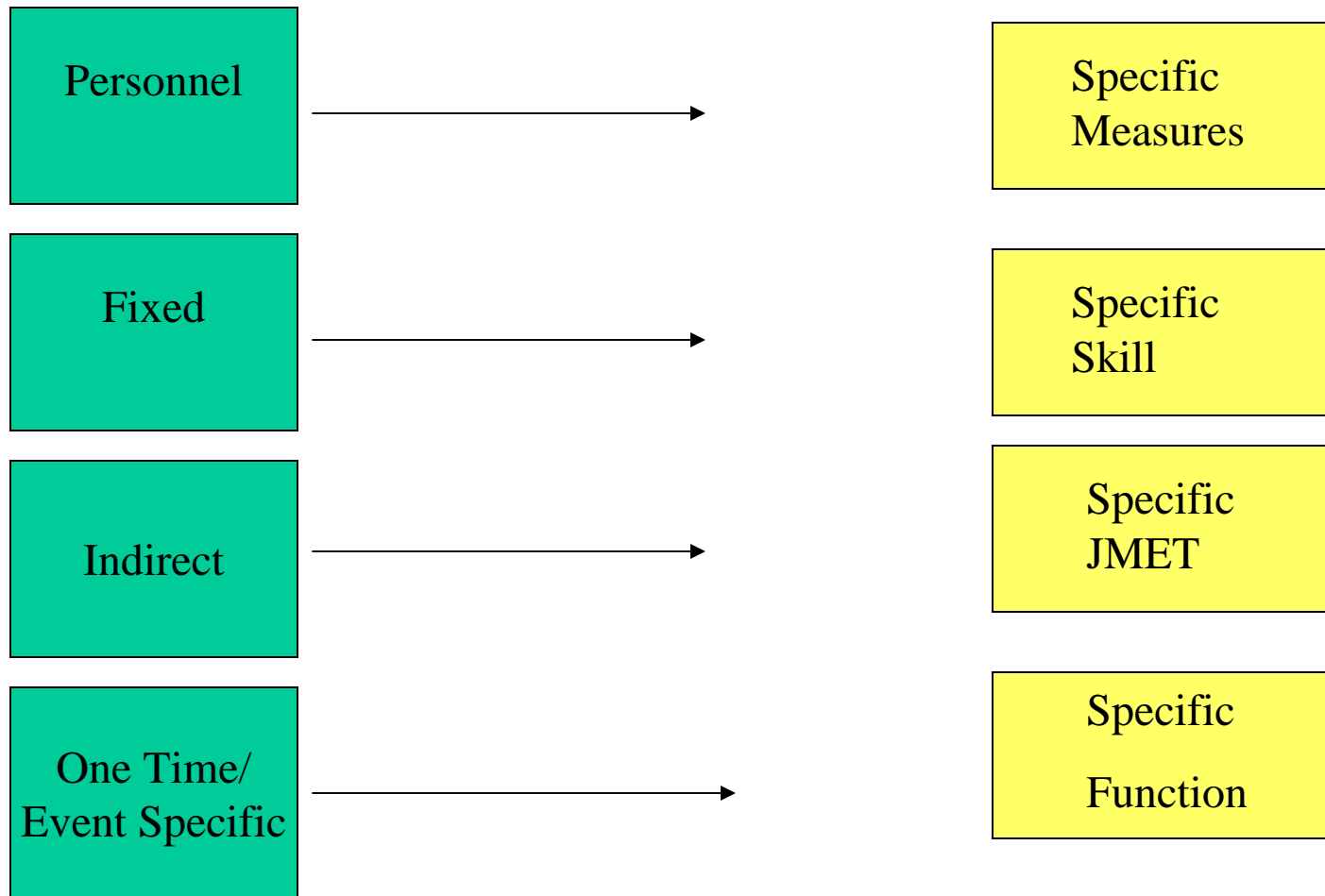
Detailed Methodology Scheme



Detailed Methodology Scheme



Detailed Methodology Scheme

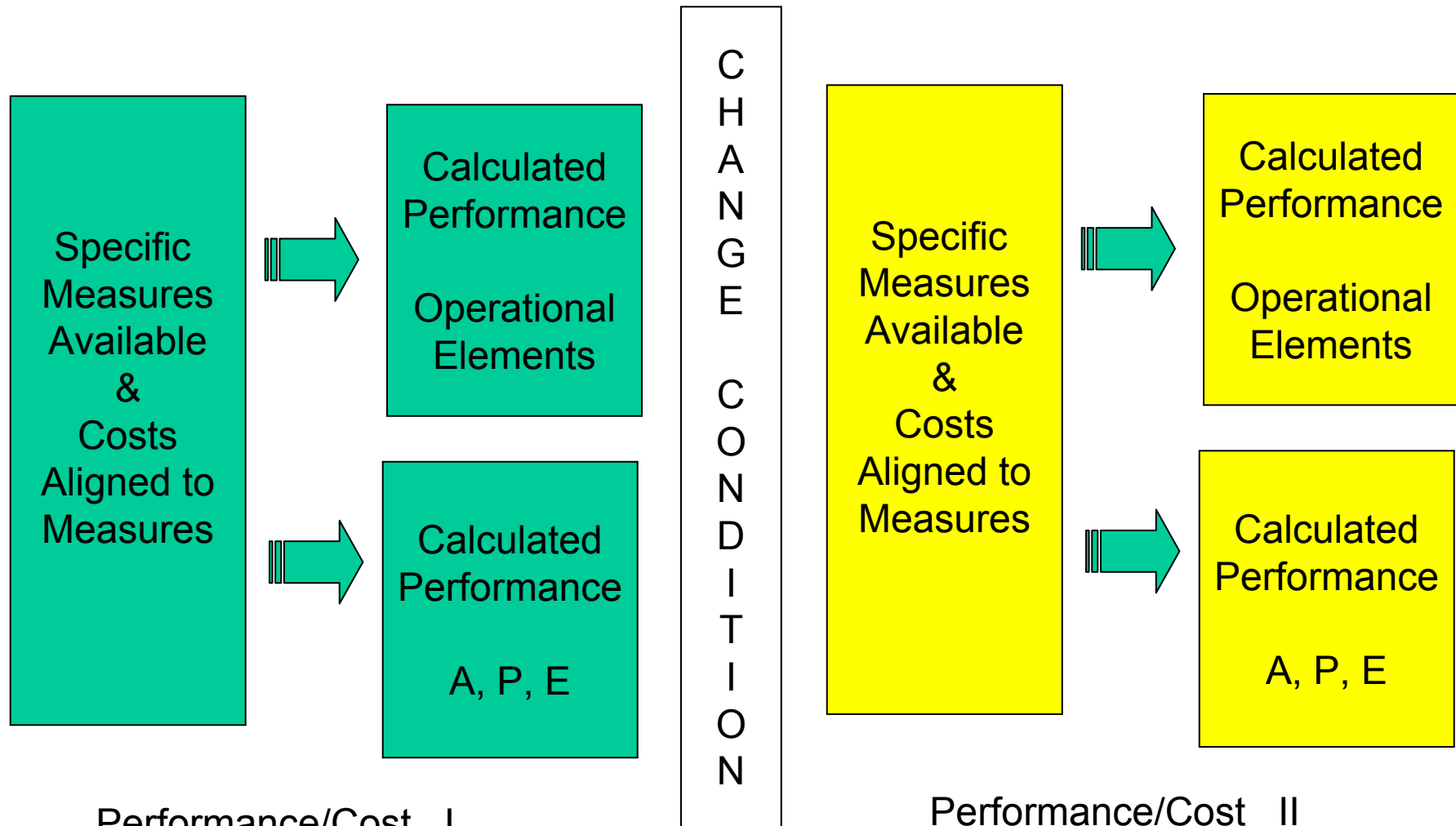


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Pictorial Example



Performance/Cost I
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Performance/Cost II

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ROI Example

- **Determine ROI for differing environments**
 - ROI calculation of major interest Live vs. Synthetic
 - ✓ ROI for achieving deployment readiness in differing environments
 - Δ Cost for same performance measures but differing environments and costs for same measures
 - Performance / Δ Cost

ROI Example

➤ **Determine ROI for new JTF supporting capability**

□ ROI calculations from the previous slides possible:

- ✓ ROI for achieving deployment performance with new capability:
 - Δ Cost for same measures but differing capability
 - Performance/ Δ Cost

Applicability

➤ **Non - Military Applications:**

□ Federal agencies, state agencies, municipal agencies also have to train to manage complex situations

- ✓ These require defining Mission Essential Tasks and developing standards of performance to predict success
- ✓ Costs can also be similarly defined

Applicability

➤ **Non - Military Applications:**

- ❑ Non Government Agencies such as the Red Cross or other relief organizations also have readiness and response criteria

- ❑ Large corporations with Global concerns have similar needs for crisis management

Conclusions

- **There is a need for a means for the Combatant Commanders, Operational level Commanders, and Services to determine the Return-on-Investment for the personnel, systems, and infrastructure necessary to assure deployment readiness in a variety of roles.**
- **The most readily available basis for ensuring commonality is the use of the Universal Joint Task List**
- **A method which incorporates widely used applications provides greater utility and promotes greater usage**

Conclusions

- **The role of the Commander is not being challenged, but the activities of the subordinate staff can, in many cases, be objectively evaluated, providing a necessary component to determining ROI.**
- **The Services are moving towards the concept of “operational templates” for Senior staff evaluation and readiness reporting, so this effort could aid and accelerate that process.**
- **The use of large-scale, distributed synthetic training to meet the wide scope of operational needs and short notice timelines will be quantifiable and should enhance it’s use as well as provide a DoD wide basis for continuing use and investment.**



Questions/Comments?