

# **NDIA Conference on Net-Centricity and Interoperability**



## **The Yin and Yang of IT Portfolio Management**

**Net-Centricity versus Capital Planning  
and Investment Control.**

# 15 Minute Outline

## ■ Introduction

- The Yin and Yang of IT Portfolio Management
- Net-centricity and CPIC

## ■ Net-Centric Thinking

- Characterized by market forces and cooperation
- Agility, speed of command, self-synchronization

## ■ Capital Planning and Investment Control Thinking

- Characterized by top down planning & controls

## ■ Lessons Learned from Classical Game Theory

- The Prisoner's Dilemma and Cooperation
- Information Sharing vs. Information Hoarding

## ■ Net-Centric Strategic Challenges

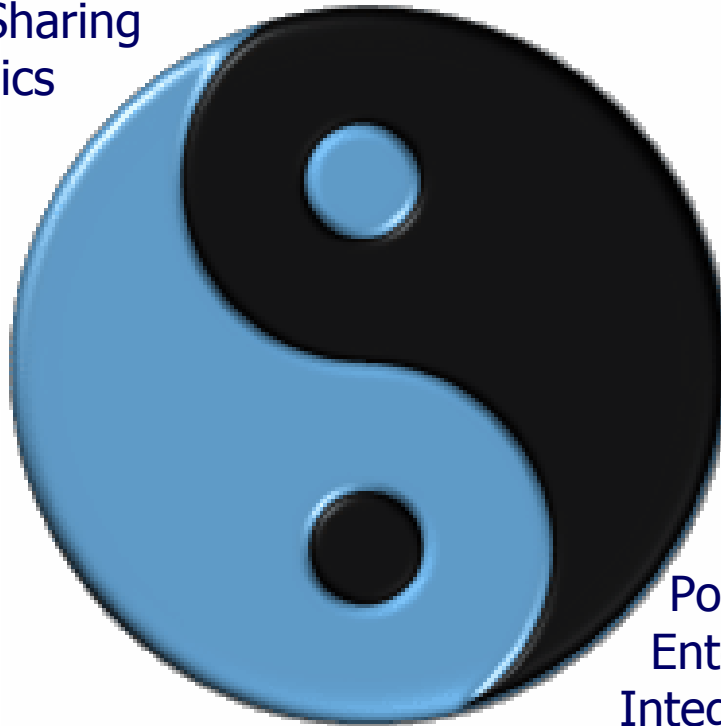
- A Few of the \$50 Billion Dollar Questions

## ■ Questions from Attendees

# The Yin and Yang

## *Net-centricity and CPIC*

Service-Oriented Architectures  
Information & Data Sharing  
Evolutionary Economics  
Self-Synchronization  
Speed of Command  
Sense and Respond  
Self-Organization  
Market Forces  
Net-Centricity  
Capabilities  
Agility



Top Down  
Consolidation  
Capital Planning  
Investment Control  
Portfolio Management  
Enterprise Architecture  
Integrated Architectures  
Federal Enterprise Architecture  
President's Management Agenda

# Net-Centric Thinking

*"What we would like to enable."*

## Characterized by:

- Market forces, customer satisfaction, information sharing, sense and respond networking, evolution, natural selection, market economics, and capabilities-based.
- Speed of command, agility, sense-and-respond logistics, cooperation, dynamic interactions, self-organization, and self-synchronization.

# CPIC Thinking


*"What we must deal with in the real world."*

## Characterized by:

- Political goals and objectives, political oversight, military-industrial complex, quid-pro-quo, consolidation and command economics.
- Lack of agility, lack of cooperation, slow, rigid interactions, turf protection, information hoarding, and self-preservation.

# The Prisoner's Dilemma\*\*


*"Basic Idea of Cooperation from Classical Game Theory."*

	Jones Confesses ("Defection")	Jones Remains Silent ("Cooperation")
Smith Confesses ("Defection")	<b>Smith and Jones get 5 years each.</b>	<b>Jones get 10 years.</b>  <b>Smith goes free.</b>
Smith Remains Silent ("Cooperation")	<b>Smith get 10 years.</b>  <b>Jones goes free.</b>	<b>Smith and Jones get 1 year each.</b>

\*\* In classical game theory, a situation in which two players must choose between the risks of cooperation and competition as equated with two prisoners separately deciding whether to confess to a crime. Naturally, the "payoffs" gets more complex as the number of participants increases.

# The Prisoner's Dilemma\*\*

*"IT Lessons Learned from Classical Game Theory."*

	Organization "A" Hoards Information ("Defection")	Organization "A" Shares Information ("Cooperation")
Organization "B" Hoards Information ("Defection")	<b>"A" and "B" get \$5M of funding each.</b>	<b>"B" get \$10M of funding. "A" gets zero.</b>
Organization "B" Shares Information ("Cooperation")	<b>"A" get \$10M of funding. "B" gets zero.</b>	<b>"A" and "B" get \$3M of funding each.</b>

\*\* In classical game theory, a situation in which two players must choose between the risks of cooperation and competition as equated with two prisoners separately deciding whether to confess to a crime. Naturally, the "payoffs" gets more complex as the number of participants increases.

# Net-Centric Strategic Challenge

*"How do we facilitate cooperation and sharing?"*

## The \$50 Billion Dollar Questions

How can CPIC processes evolve to facilitate cooperation and information sharing in a world where "defection" and information hoarding has a "bigger payoff" ?

# Net-Centric Strategic Challenge

*"How do we facilitate cooperation and sharing?"*

## The \$50 Billion Dollar Questions

Can and should DoD shift from system-based IT acquisition to information-based IT acquisition ?

# Information-Based Acquisition

*"What is information-based acquisition?"*

## Concept Exploration

- DoD specifies information requirements, not systems requirements.
- DoD acquires information versus IT systems.
- DoD information service providers compete in an information marketplace, not a systems marketplace.
- Like other "free markets," supply-and-demand for information drives the economics of CPIC.
- Many information service providers of high quality information results in lower acquisition costs.
- Innovation and niche production are encouraged in the "new information economy."

# **Net-Centric Strategic Challenge**

*"How do we facilitate cooperation and sharing?"*

## The \$50 Billion Dollar Questions

What would an information-based approach "look like" and how would it effect CPIC processes ?

# Net-Centric Strategic Challenge

*"How do we facilitate cooperation and sharing?"*

## The \$50 Billion Dollar Questions

What are other lessons we can use and apply from cooperative game theory<sup>¥</sup> to the "yin and yang" of CPIC processes and our net-centric goals and objectives ?

<sup>¥</sup>Note: Cooperative and non-cooperative game theory

# **Net-Centric Strategic Challenge**

*"How do we facilitate cooperation and sharing?"*

Questions from  
Conference Participants

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## The Yin and Yang of IT Portfolio Management

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