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.*

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.

<table>
<thead>
<tr>
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<th>Jones Confesses (&quot;Defection&quot;)</th>
<th>Jones Remains Silent (&quot;Cooperation&quot;)</th>
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<tbody>
<tr>
<td><strong>Smith</strong></td>
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<td>Confesses</td>
<td><strong>Smith and Jones get 5 years each.</strong></td>
<td><strong>Jones get 10 years.</strong></td>
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<td><strong>Smith</strong></td>
<td><strong>Smith get 10 years.</strong></td>
<td><strong>Smith and Jones get 1 year each.</strong></td>
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<tr>
<td><strong>Jones</strong></td>
<td><strong>Jones goes free.</strong></td>
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The Prisoner’s Dilemma**

"IT Lessons Learned from Classical Game Theory."

** 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.

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<td>Hoards Information (“Defection”)</td>
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<th>Organization “B”</th>
<th>“A” and “B” get $5M of funding each.</th>
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<td>Hoards Information (“Defection”)</td>
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<th>“A” and “B” get $3M of funding each.</th>
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"A" and "B" get $3M of funding each.
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 to the “yin and yang” of CPIC processes and our net-centric goals and objectives?
Net-Centric Strategic Challenge
“How do we facilitate cooperation and sharing?”

Questions from
Conference Participants
The Yin and Yang of IT Portfolio Management

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