Implementing an Enterprise-wide Measurement Program

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Outline

- Background and Approach
- Status and Lessons Learned
- Demonstration of Web-based collection tool

NCTSI

- Naval Center for Tactical Systems Interoperability (NCTSI)
  - Located in San Diego
  - Detachments in US (East/West Coast), Europe and Asia
- NCTSI Mission: Promote interoperability of Naval forces by
  - Testing/certifying tactical systems for interoperability of Naval, Joint and NATO forces
  - Interfacing to and participating in standards development
  - Providing network design services to the fleet

Motivation for Measurement

- The Command is composed of seven departments
- Personnel consist of active-duty Navy, civil servants, and Northrup-Grumman contractor technical support

- Motivation for measurement: Commanding Officer wanted data on basic quantitative questions
  - e.g., what does it cost us to do X?

Background -1

- November 2001: SMI began collaborating with LCDR Dave Heathorn to implement a measurement program
  - Commanding Officer wanted measures used throughout NCTSI to give increased visibility into activities and products
- Started with measurement pilot in one department (the one with the most structured process)
  - Implemented progress and effort measures
  - Web-based data collection and reporting tool developed by Heathorn and Northrup-Grumman programmer

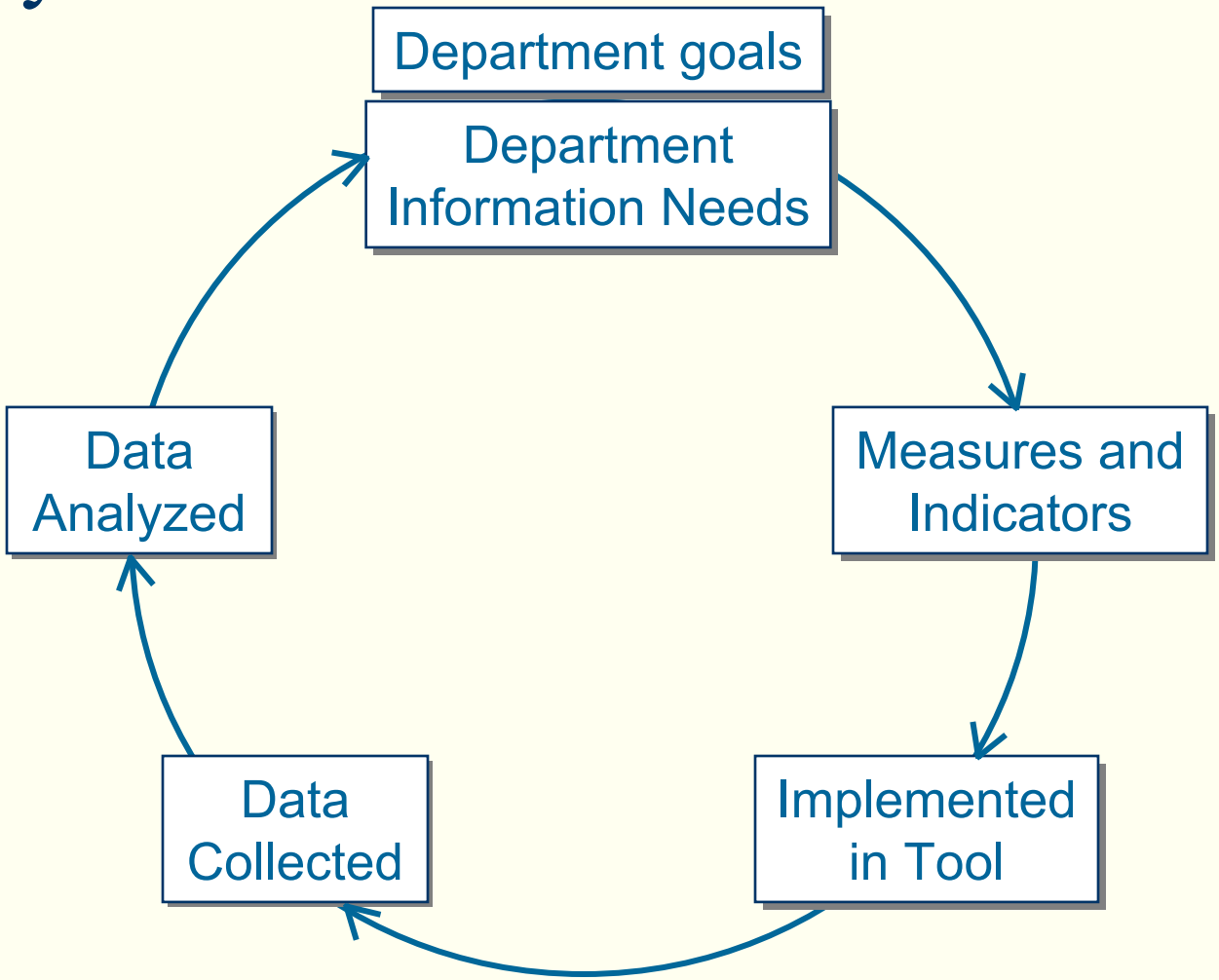
Background -2

- Expanded measurement program to other departments
- Defined information requirements (initially derived from department goals)
  - Departments varied widely in their ability to articulate goals and action plans to achieve goals
- Met with CO about the need for more direction on appropriate goals for the departments:
  - Efficiency: Make best use of limited assets by eliminating wasteful practices and improving utilization of tools
  - Effectiveness: How well are we accomplishing the Command's mission? Not only monitoring interoperability but being proactive to improve systems being delivered to the fleet
  - Accuracy: Quality products that stand up to the harshest scrutiny
  - Consistency: Repeatable events that allow for side by side comparisons to determine the true cause of any anomalies

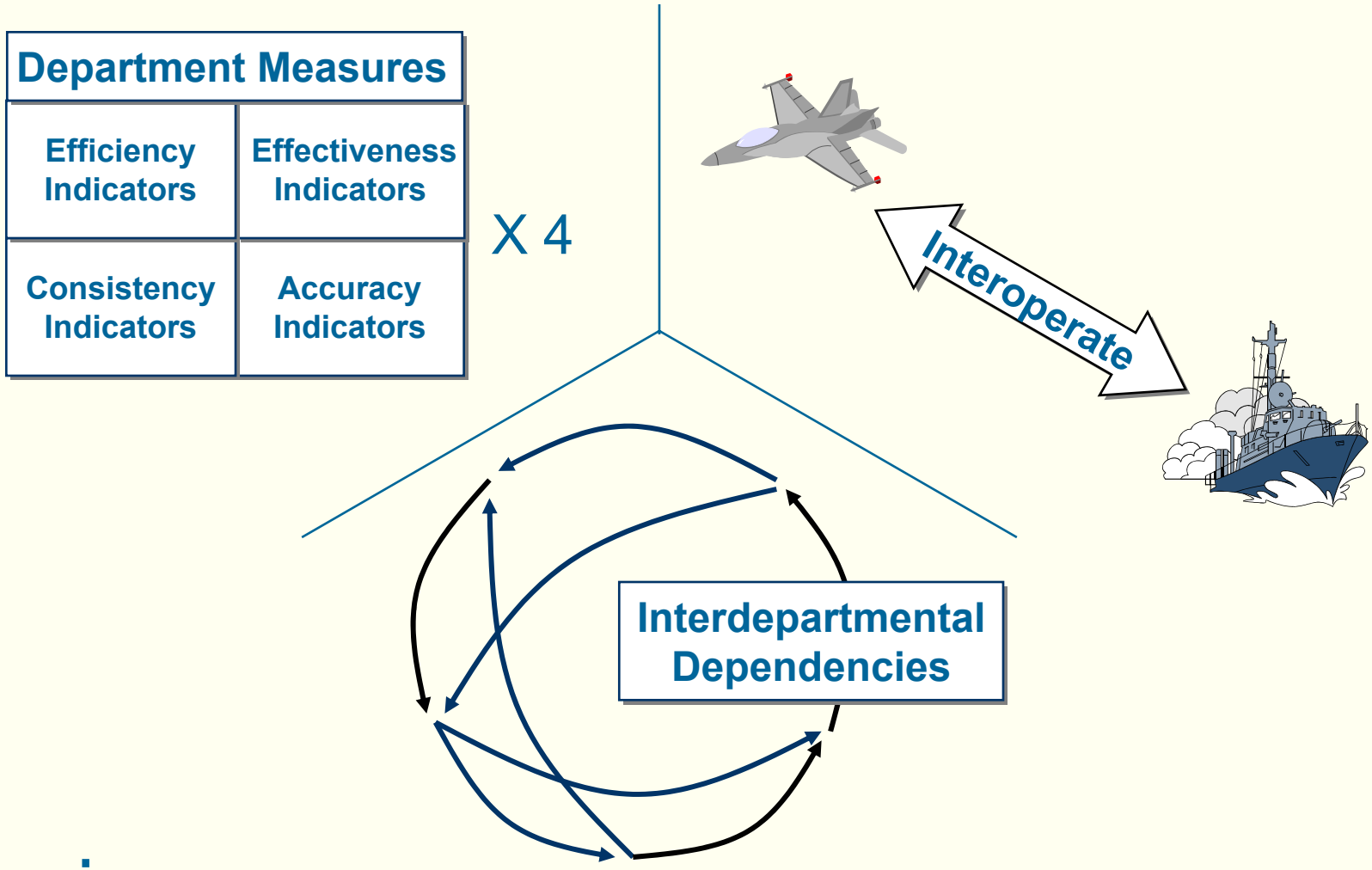
Example of One Department's Goals: Fleet Testing

- Effective
  - 80% of the ships in the fleet are current on interoperability testing
  - 100% qualification of all test personnel in data link testing
- Efficient
  - All fleet tests less than 8 hours
- Accuracy/Quality
  - For fleet tested units, 0 non-identified interoperability deficiencies reported after test
- Consistency
  - 100% of the detachments are using test procedures that are consistent with NCTSI master test procedures

Current Department Measurement Lifecycle



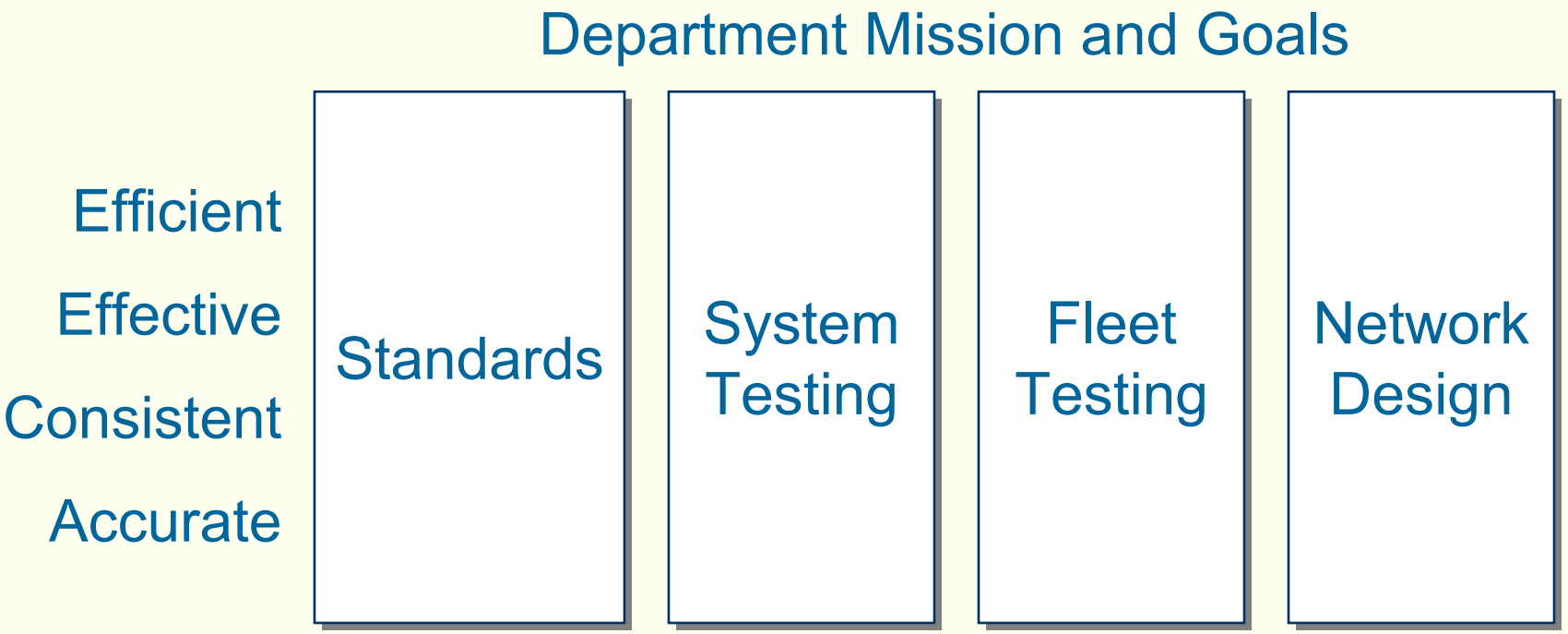
Transition to Enterprise Measures



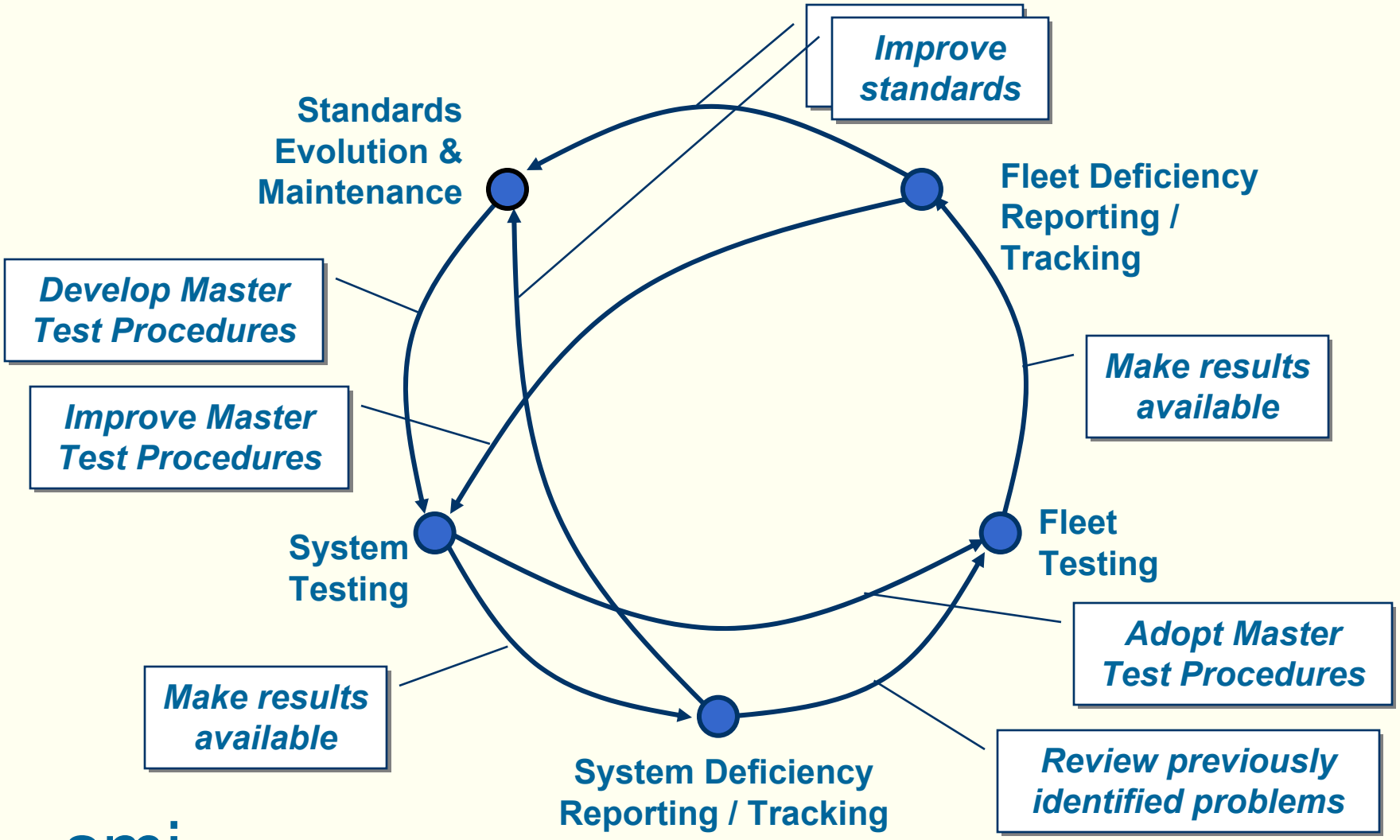
Three Approaches to Command-Level Measures

- Local optimization
  - The Command is the the sum of its parts (Departments)
- Inter-department dependencies
  - What are the interactions between the departments that need to occur in order for the Command to function optimally?
- Command's impact on Navy interoperability
  - Is interoperability within the Navy improving? Within the Joint Forces? Within Allied Forces?
  - What factors outside of NCTSI's control impact interoperability?
    - Example: Observed operator skill level during testing fed back to the Training Command.

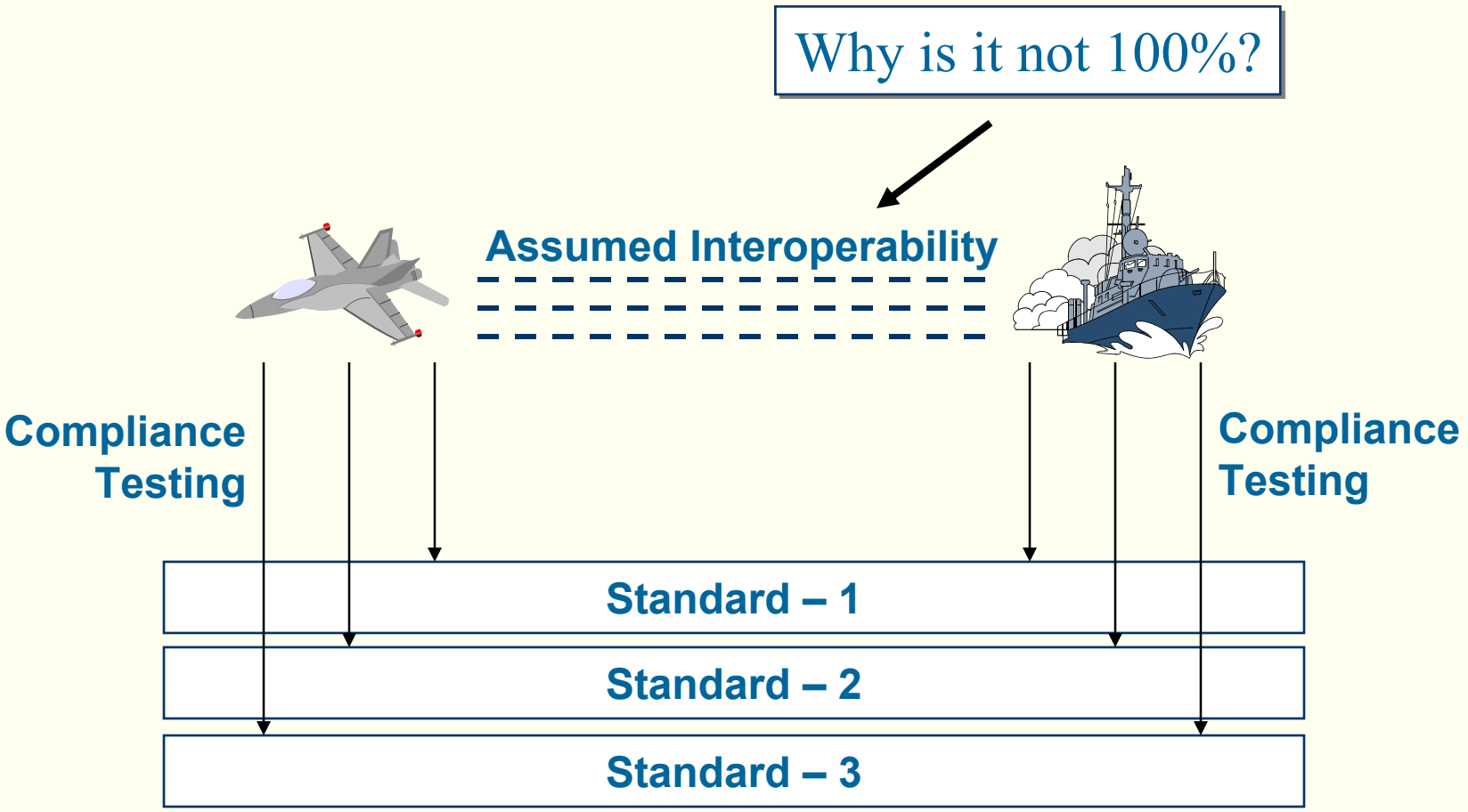
Local Optimization



Inter-Department Dependencies



Command's impact on Navy interoperability



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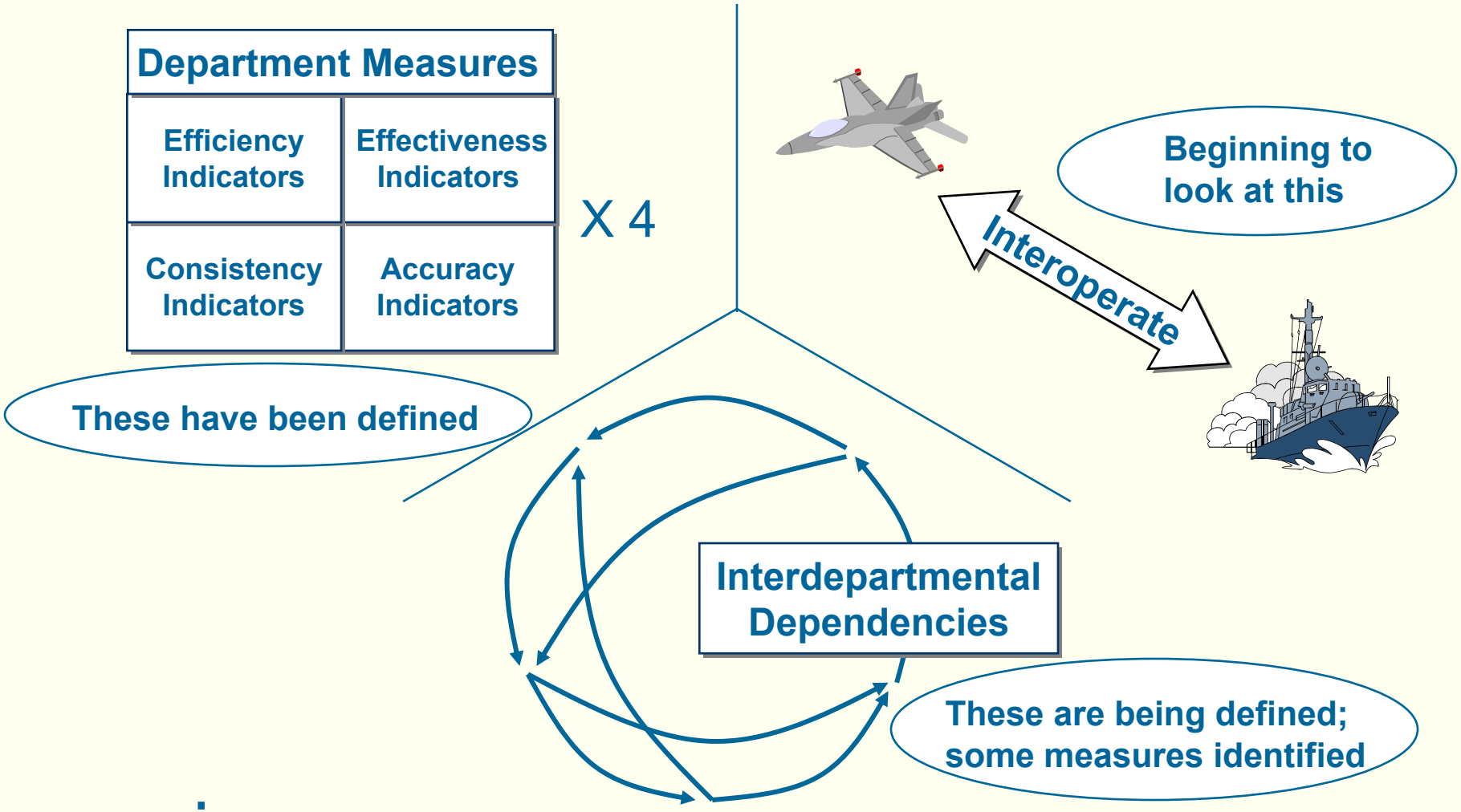

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Status

- Goals/Information Needs, measures and indicators defined for each department
  - Data being collected
  - In some cases, data pulled from existing databases
- People are generally on board
- Greatest variety of reactions have come from middle managers (department heads or their deputies)
  - “We already know all this. Why do we need to collect data?”
  - “This is good stuff but it’s overkill”

What is working…

- Constantly repeat two mantras
  - Don't measure unless you want to know something
  - It's your measurement program - not ours
- Feedback – Feedback - Feedback
  - Monthly meetings with all Department Heads to review information needs, and analysis
  - Meetings as needed to review anomalous data and analysis with data providers (workers)
- Understanding that information needs change
  - On going activity: evaluating measures and indicators
- Command-level sponsorship and interest is extremely important

Lessons Learned

- Being open with data analysis and never pointing it at anyone helps alleviate people's fears
- Middle-level managers are the "speed bump" in adopting measurement as a management tool.
- There are always early adopters of a measurement program
  - Recognize them
  - Get their input
  - Support their enthusiasm
- Most Enterprise Measurement books address commercial-for-profit and not Government / DOD
  - The focus is switched to Mission versus Profit

Web-based Tool Demonstration

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