

# ***Dynamic Collaborative Action Teams (DCAT) - Implementing a Transformational Concept***

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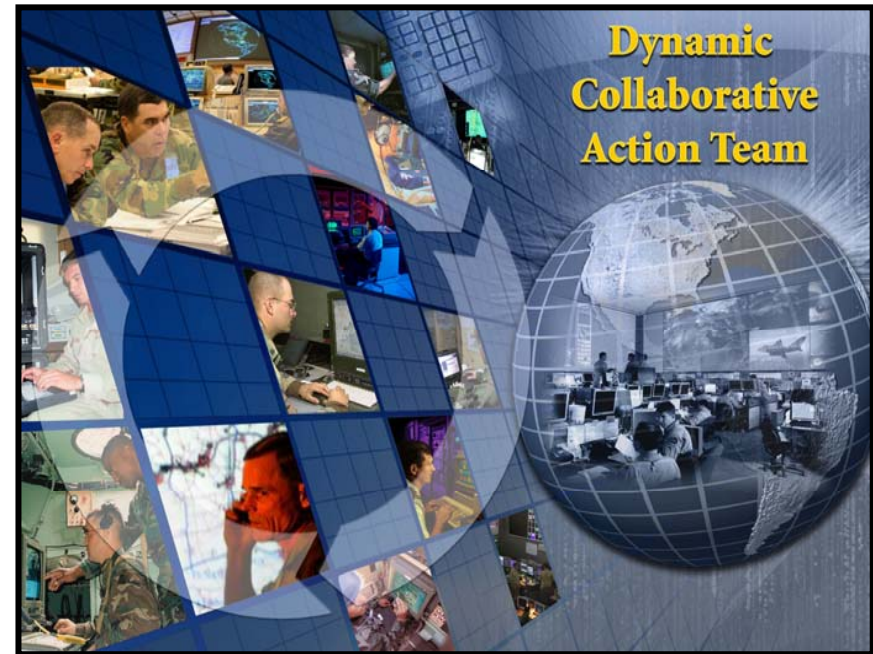
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# ***Dynamic Command and Control for a Dynamic Operational Environment***

- Emphasis on agility
- Dynamic self-defining patterns of collaboration
- Distributed, collaborative decision-making across echelons, services, agencies & coalitions
- Rapid integration of varied, dynamic and often unanticipated sets of capabilities
- Participation based on knowledge and capabilities



# ***Our Approach in Exploring Net-Centric C2 and Developing the DCAT Framework***

## ➤ **Develop a Process and Management Framework for Rapidly Assembling Collaborative Teams**

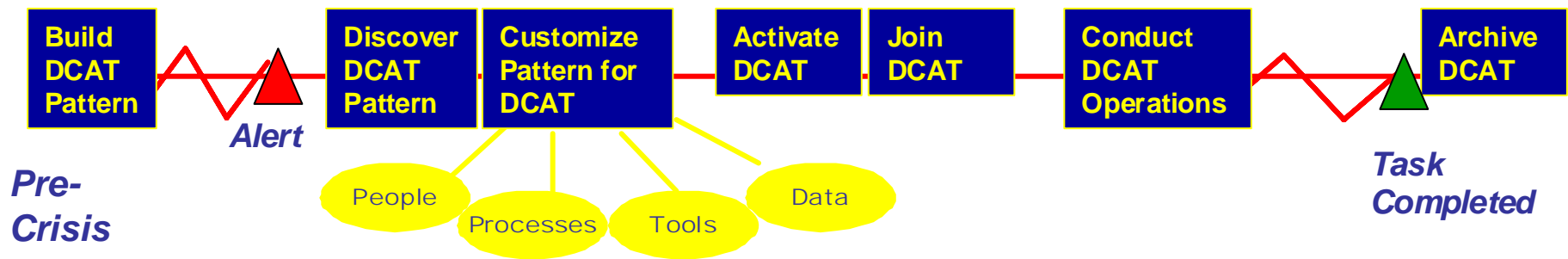
- Employ emerging technologies as needed to automate the collection and assembly of data, services, people, processes, applications, and plans
- Leverage existing global elements of previous exercises, contingency plans, and crisis action teams

## ➤ **Identify and Incorporate “Business Rules”**

- Warfighter Tactics, Techniques, and Procedures (TTPs) for C2 systems and processes
- Participation rules and “best practices” for collaboration

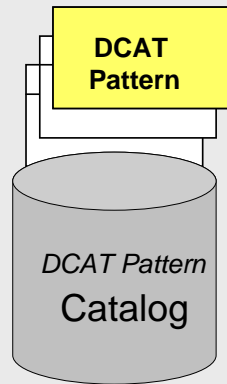
## ➤ **Measure Effectiveness of Collaborative C2**

# Dynamic Collaborative Action Teams (DCAT) Framework



- Predefine a pattern for a collaborative workspace
- Use the pattern to rapidly set up a collaborative workspace when a crisis occurs
- The workspace supports the rapid collection and assembly of data, services, people, processes, applications, and plans
- The workspace incorporates Warfighter Tactics, Techniques, and Procedures (TTPs) for C2 systems and processes

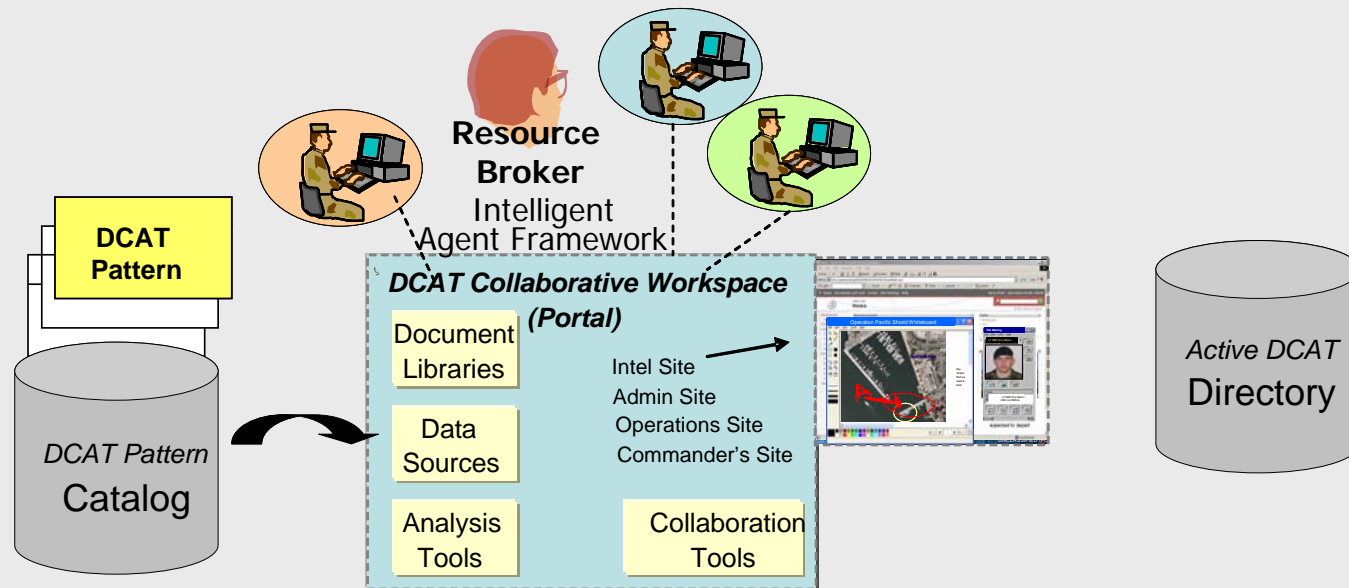
# ***DCAT Key Concepts***



## **Patterns:**

- Pattern includes tools, data, people, processes, TTPs
- Developed during planning, exercises, training, and actual operations
- Patterns are discoverable and facilitate "Quick Start"

# DCAT Key Concepts



## Patterns:

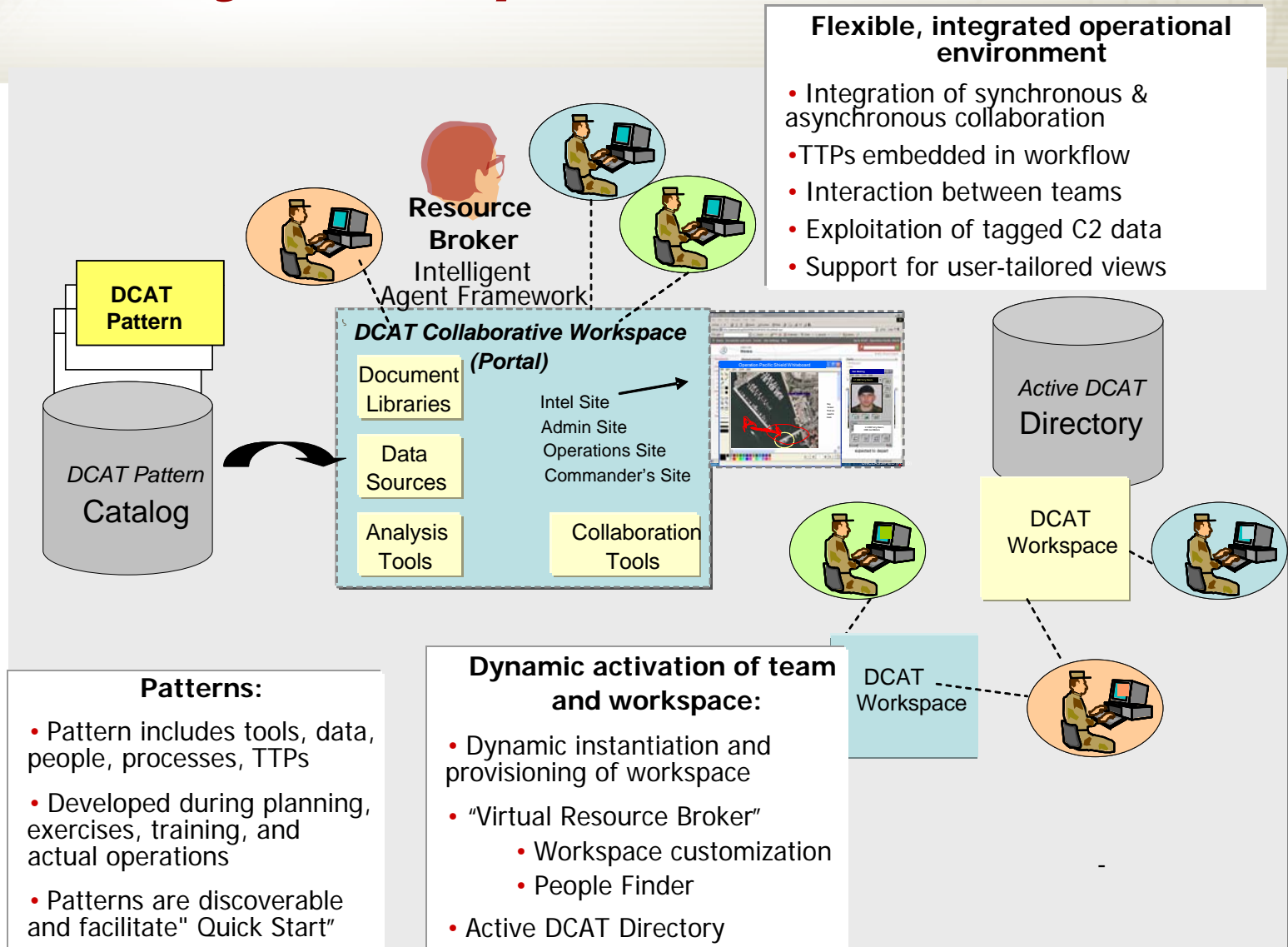
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## Dynamic activation of team and workspace:

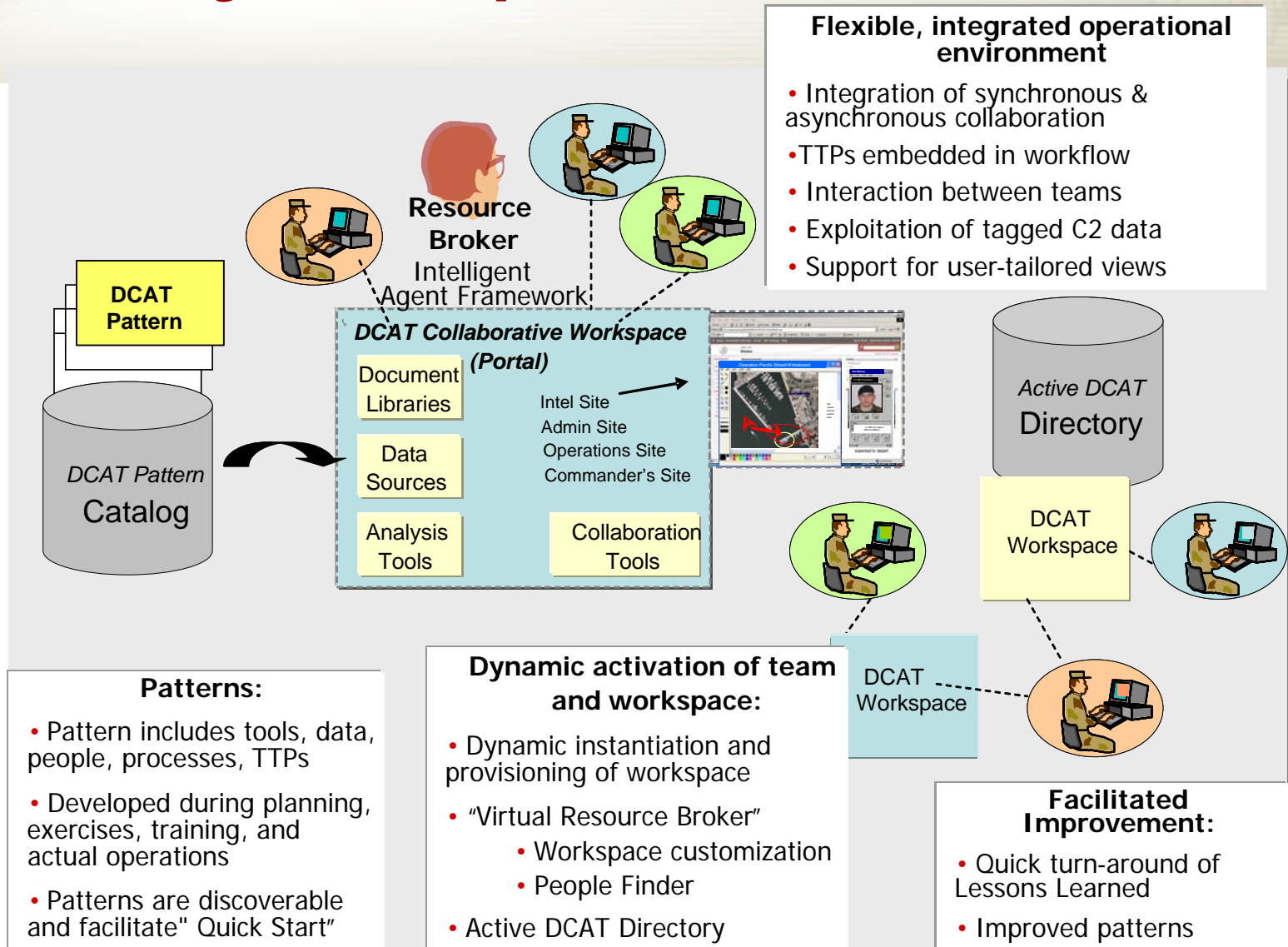
- Dynamic instantiation and provisioning of workspace
- "Virtual Resource Broker"
  - Workspace customization
  - People Finder
- Active DCAT Directory



# DCAT Key Concepts



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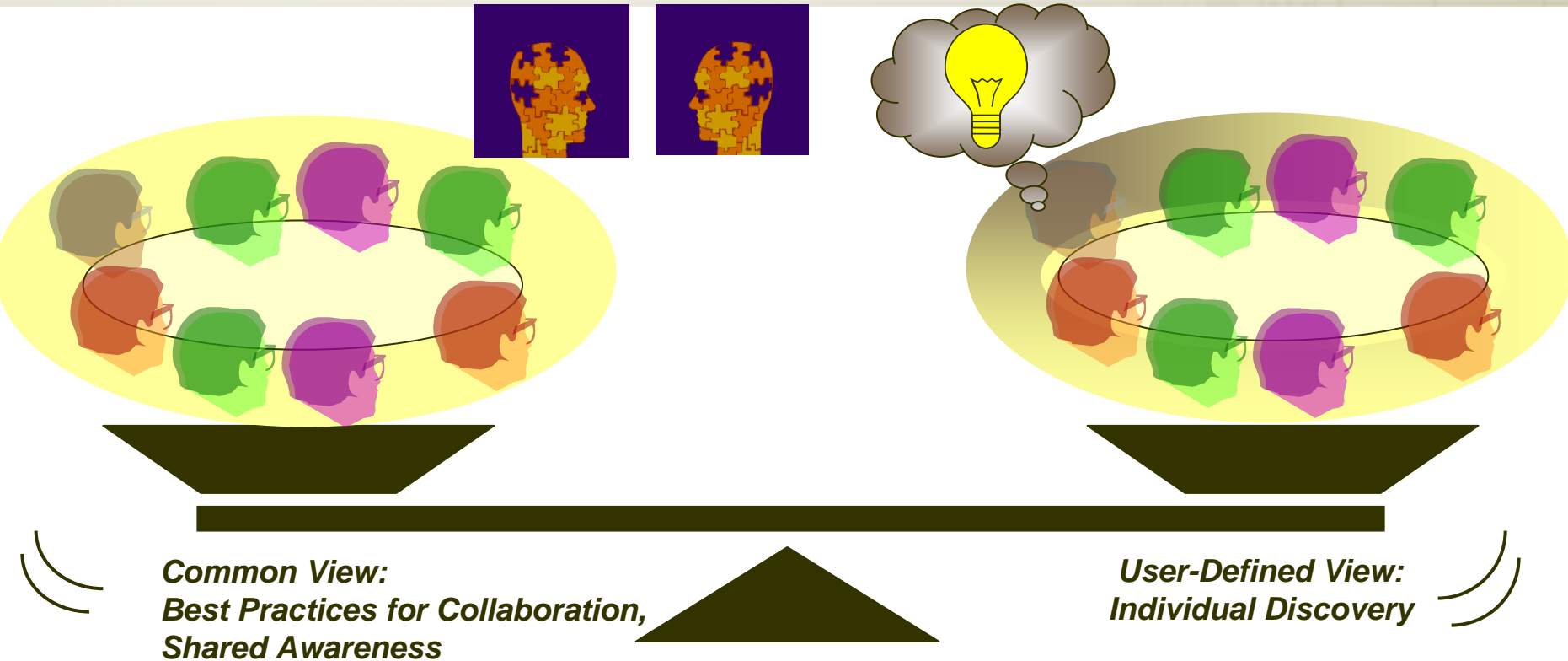
# ***Making the DCAT Framework Viable: Interoperability & Integration***

- Consume same data in different portal environments
  - *Common presentation*
- Text Chat Interoperability

*Of course, interoperability presupposes common vocabularies.*



# ***Making the DCAT Framework Viable: Commonality vs Customization***



- **Balance Between Common View and User-Defined Views**
- **Agility to Change This Balance**

# ***Making the DCAT Framework Viable: Tactics, Techniques & Procedures (TTPs)***

**WORKPLACE  
STRUCTURE**

*Best Practices*

**TEAM  
COMPOSITION**

- TTPs will provide guidance and best practices for collaboration and collaborative environment

*Best Practices*

- TTPs embedded in workspace
- Flexible implementation essential so TTPs can be modified dynamically

*Best Practices*

- TTPs treated as data

- Tagged and discoverable

**TOOLS & DATA**

**COLLABORATION  
TOOLS**

**TEAM**

*Best Practices*

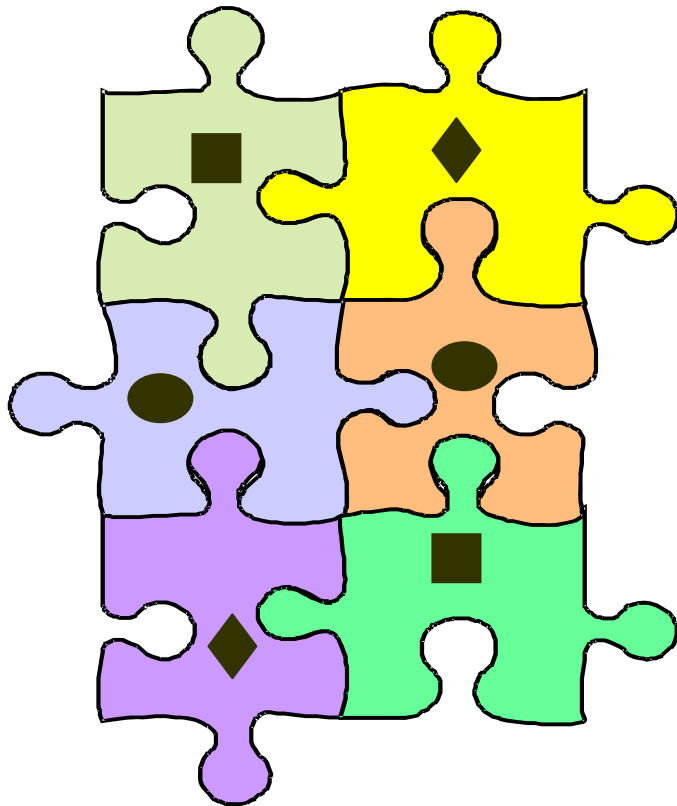
*Best Practices*

**BATTLE RHYTHM**

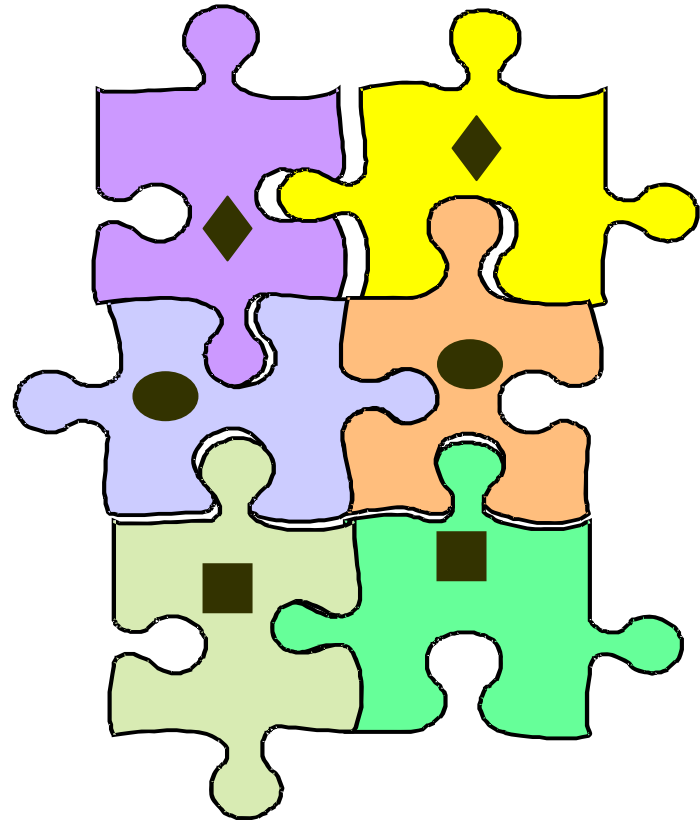
**APL**

# ***Making the DCAT Framework Viable: Security***

*Ideally, security technology & policy enable even better collaboration.*



*More likely, there will still be constraints that impact collaboration.*



***Bottom line, security is not a showstopper – DCAT framework is viable!***

# ***Way Forward: What We Learned from Related Efforts***

## **Case Studies:**

- **JHU/APL Command and Control  
Cross Enterprise Initiative (C2 CEI)**
- **Operational Settings**
- **Joint Net-Centric Training**

# ***JHU/APL Command and Control Cross Enterprise Initiative***

***Where we've been,***

***Where we are,***

***Where we're going***

## **Build a Test-Bed**

***Focus on building a  
Net Centric Test bed to  
evaluate Net-Centric  
Command and Control***

## **Build Applications to support experimentation**

***Focus on exploration of  
net-centric command and  
control enablers to provide  
a basis for experimentation***

***Limited experimentation***

## **Leverage what we learned, Focus on a warfighting problem**

***Focus on critical issues that  
must be resolved and  
technologies that must be  
developed before Command  
and Control in a net-centric  
environment can become a  
reality***

**FY 2005**

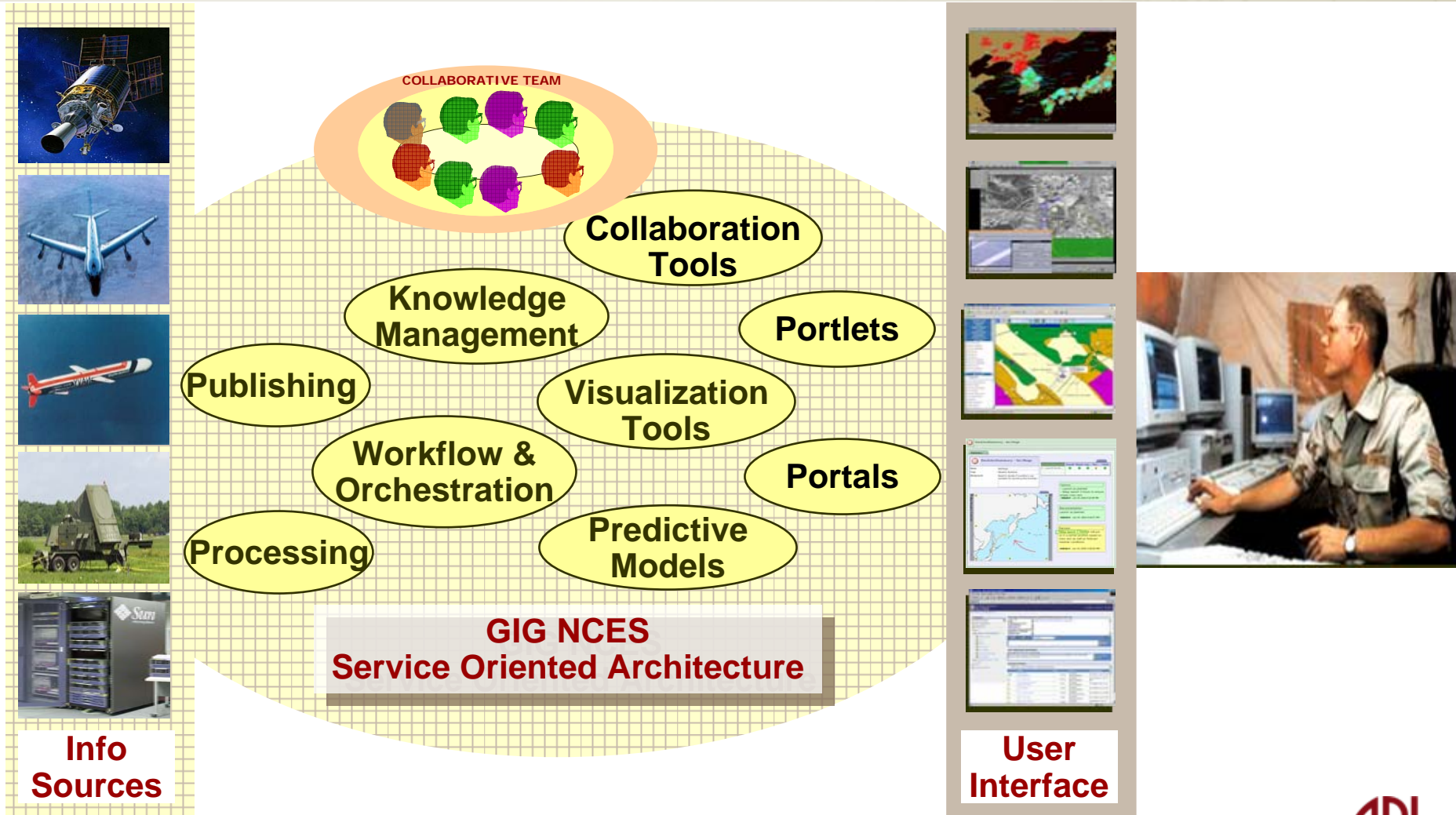
**FY 2006**

**FY 2007 to FY2009**

***GIG Testbed  
Experimentation, Measurements & Metrics  
Critical Issues***



# *Architectural Concept – Link Services to Provide Better Information to the Decision Maker*



# ***Key Features of an Operational Design***

- Employed as a dynamically generated, collaborative environment to address a specific mission (i.e., the DCAT concept)
- Workflow of a specific process is built into the workspace design
- User can adapt his user interface by adding, deleting, & rearranging portlets (i.e., the UDOP concept)
- Connections to Web services provide “real-time” input
- By managing info thru Web parts in the collaborative space, everyone has a shared situational awareness
- Briefings are dynamically created and constantly updated
- Approach can be “generalized” and applied to other C2 problems

# ***Joint Net-Centric Training***

- **SECDEF vision is to enable warfighters to “train like they fight”**
  - Will be accomplished (in part) through OSD Training Transformation (T2)
  - Key aspect of T2 is distributed, “anytime, anywhere” training
  - In the joint environment, operations are conducted by agile, dynamic, distributed teams – training environment must reflect this reality
    - *Effective training must make warfighters feel like they are in real environment*
  
- **DCAT enables rapid creation of distributed training teams for training that :**
  - Is Just-in-Time
  - Reflects real-life scenario
  - Provides access to SMEs that know the relevant domains
  - Provides access to operational software and data

# ***Summary***

## ➤ **DCAT Framework supports dynamic, distributed C2**

- Leverages previous operational knowledge, provides ability to deal with unanticipated needs
- Planning can be seamlessly translated into “ready-to-fight” workspaces

## ➤ **Implementation considerations: technical and procedural**

- Must be addressed, but no show-stoppers

## ➤ **Multi-Disciplinary Strategy for Way Forward**

- Understand the GIG environment: still evolving but guiding concepts are being defined
- Get hands-on experience working in the GIG environment
- Extrapolate generalized approaches from mission-specific implementations
- Have an overarching framework in place, build incrementally