



**Communities of Interest, Pilots, & Experimentation  
Enabling Net-Centric Data Sharing and  
Enterprise Service Integration**

Office of the DoD Chief Information Officer (DoD CIO/  
Enterprise Services & Integration (ES&I) Directorate

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Creating an Information Advantage



## Content

### ➤ **Data Sharing in a Net-Centric DoD**

- Background: Implementing and Promoting Net-Centricity
- Strategic Guidance: The Net Centric Data Strategy and 8320.02
- Opportunity: Communities of Interest (COIs), Pilots, and Experimentations (CPE)
- Highlighting Examples of Successful CPEs

### ➤ **Getting Started: Executing a successful CPE – 6 Phases**

- (1) Define the objective/vision
- (2) Establish strong COI governance/CPE teams
- (3) Develop POA&M using spirals
- (4) Assign & capture metrics
- (5) Document lessons learned
- (6) Migrate solutions

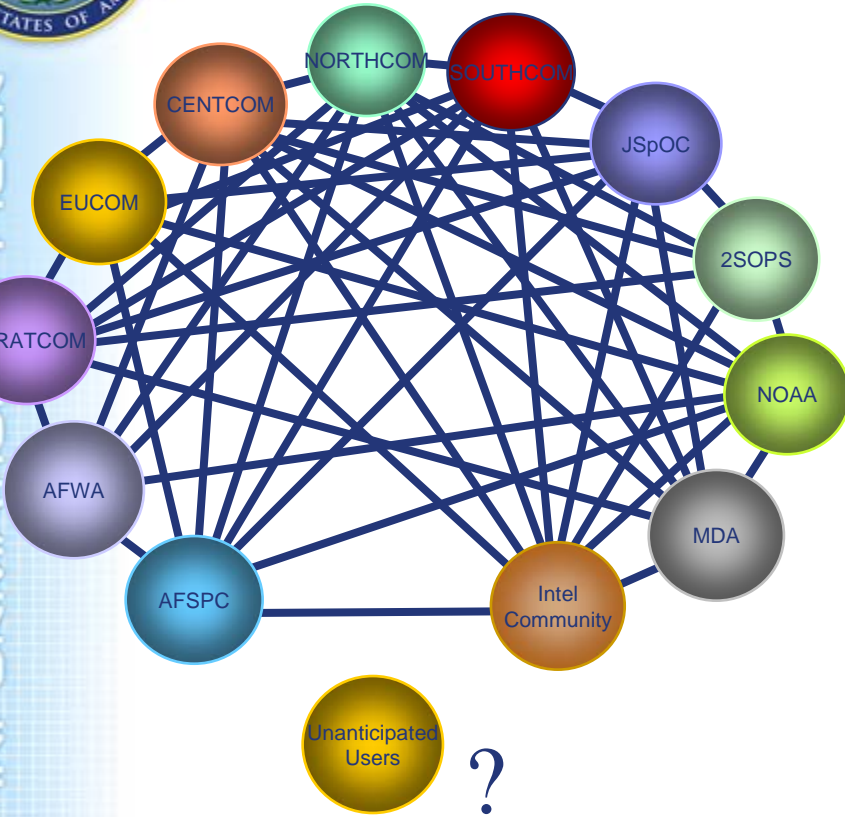
### ➤ **Pre-defined Templates**

### ➤ **BackUp: References**



# Background: *Changing the Paradigm*

DEPARTMENT OF DEFENSE  
CHIEF INFORMATION OFFICER



... Point-to-point (coupled) data sharing ...  
... Not extensible, agile or flexible ...  
... Grows exponentially in both complexity and expense ...

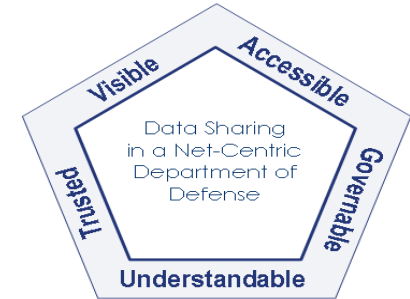


... Net-Centric data sharing ...  
... Decouples data providers and consumers ...  
... Extensible, flexible and responsive ...





## Strategic Guidance: *The Net-Centric Data Strategy and 8320.02*



- The [Net-Centric Data Strategy](#) is a key enabler of the Department's transformation
  - Additionally, DoDD 8320.02 policy directs implementation of the Net-Centric Data Strategy
  - DoD 8320.02–G provides guidance for implementing the DoD Net-Centric Data Strategy
- The strategy for enterprise services enables [secure information sharing](#)

### Key Data Strategy Components

- Visible: Users can find data on the network.
- Accessible: Users can get to data.
- Understandable: Users can find metadata that describes data so others can understand how to use it.
- Trusted: Data is protected as required by policy and law to users with appropriate credentials
- Governable: A structure exists for managing data products and access.

- Net-Centric solutions support [authorized, unanticipated users](#) !



## Objectives and Initiatives:

### *Communities of Interest, Pilots, & Experimentation (CPE)*

**Advocate, facilitate, influence proof-of-concept developments to improve data sharing and enterprise services driving process improvements.  
Provide policy, process, training and technical guidance.**

#### Communities of Interest (COIs)

- IT Asset Management (ITAM)
- Acquisition Visibility (AV)
- Interoperability & Supportability (I&S)
- Strike, FFATA/Recovery Act
- Maritime Domain Awareness
- Migrant Operations
- DOD-VA Health Information Sharing
- UOCAVA, SAR, JSpOC
- GADSS (NetOps), Stability Operations
- Business Transformation Agency
- Spectrum, Anti-Submarine Warfare
- **more to come...**

#### Pilots & Experimentation

- Enterprise Services Initiative / Empire Challenge 09
- Content Delivery & Retrieval on Portal Platforms
- Data Harmonization Tool
- Information Sharing Operations
- Net-Centric Security Pilot (NCSP)
- Agile Data Attribute Service (ADAS)
- **more to come...**

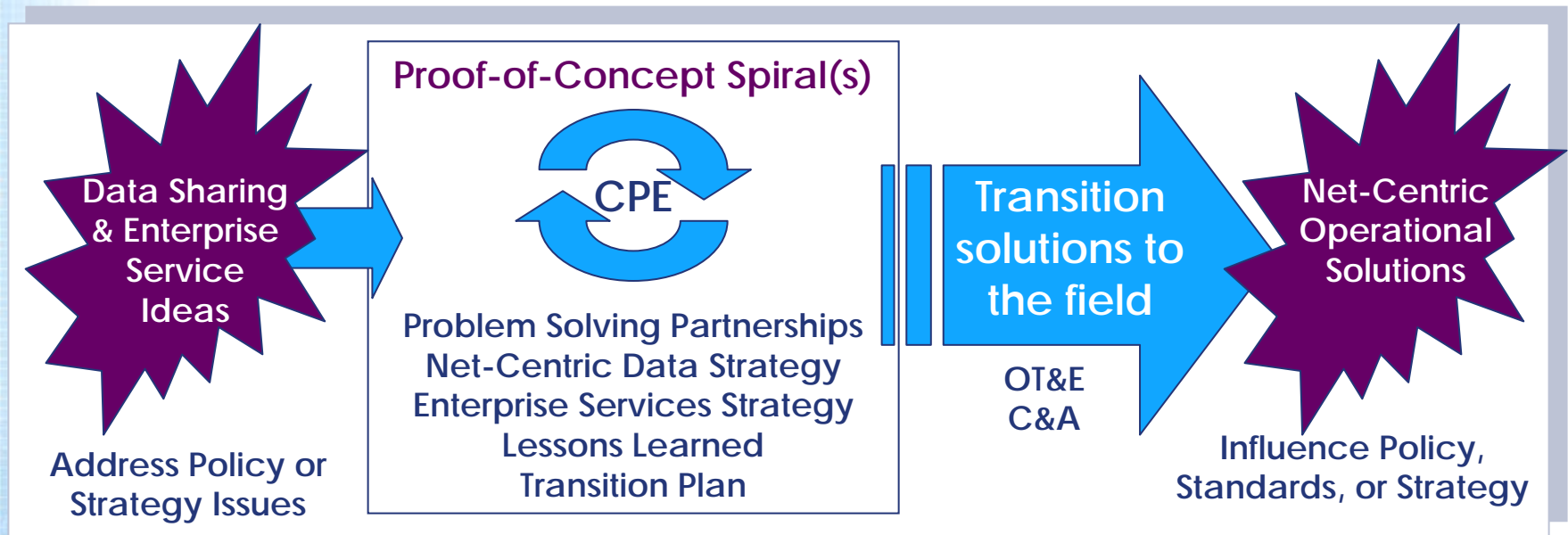
#### Training

- Quarterly Training Seminars
- Digital Training Curriculum
- Service School Training Curriculum



## Process: *Communities of Interest, Pilots, & Experimentation (CPE)*

- CPE initiatives are collaboratively formed teams working together to solve a [data sharing problem](#) or address an [enterprise service capability gap](#)
- The CPE construct provides collaborative opportunities to develop repeatable [CPE processes](#) defining common [vocabularies](#), exposing data to larger communities, and reusing [enterprise services](#)



Planning

Implementation

Operations

OT&E = Operational Test and Evaluation, C&A = Certification & Accreditation



## Highlighting Examples of Successful CPEs:

Successful CPEs	Purpose	Key Players	Spirals	Results
Maritime Domain Awareness Data Sharing COI	Enable net-centric information sharing of MDA data across the federal MDA community using core enterprise services to improve maritime situational awareness for the warfighters, law enforcement and analysts.	DoN DOT USCG ONI Canada	<b>Completed Spiral 1:</b> OCT 06 <b>Completed Spiral 2:</b> APR 08 <b>Spiral 3:</b> Exposing Single Integrated Look Out data using NCES Exposing Advance Notice of Arrival Data using NCES	<b>Spiral 1 completed in eight months !</b> Successful federation partnerships, proof <b>Data Strategy</b> works, proof <b>NCES</b> works ! Delivered MDA services of increasing <b>operational utility</b> across three development Spirals !
Strike COI	Enable all authorized users to discover, access and collaborate on the data necessary to conduct time sensitive strikes.	STRATCOM JFCC-GSI J32 Tomahawk C2 NAVSEA Dahlgren Army PEO C3T UK MoD	<b>Completed Spiral 1:</b> DEC 07 Exposed Blue Force location data Spiral 2 Exposing Course of Action Request/Response planning data	Successful <b>Joint partnerships</b> , leveraged Blue Force Tracking and Time Sensitive Targeting products to deliver <b>integrated solutions !</b> Successful development and implementation of <b>UCore !</b>

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- (6) Migrate solutions

### ➤ Pre-defined Templates

### ➤ BackUp: References



## Executing a Successful CPE: 6 Phases:



- 1) Collaboratively define a concise objective and vision
- 2) Establish team and governance structure with strong leadership and effective partnership
- 3) Adopt and adhere to “Spirals” and develop a POA&M
- 4) Define and capture metrics for each spiral
- 5) Document results/lessons learned from each spiral
- 6) Develop a plan for migrating technical solutions from the pilot effort into an operational environment supporting operational users

Planning

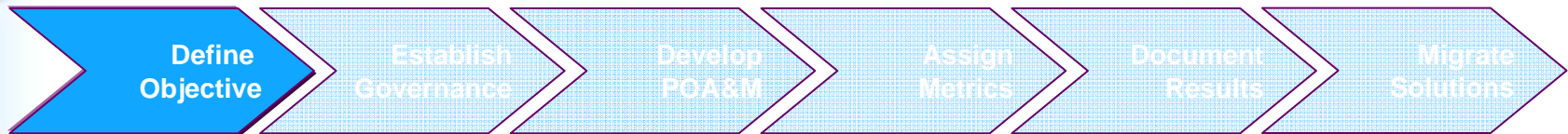
Implementation

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## Executing a successful CPE – 6 Phases

### (1) *Define the Objective/Vision*



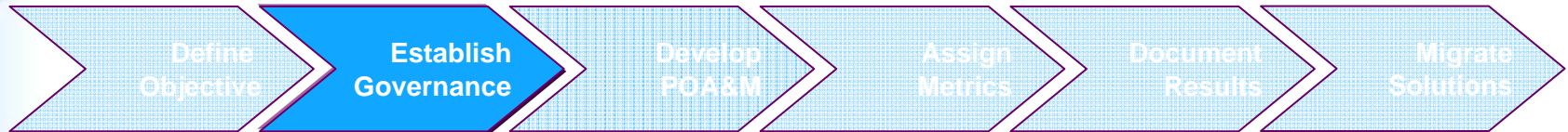
- **Define the objectives in terms of the current problem, opportunity, and net-centric outcome:**
  - 1) **Problem Statement**: What is the current data and/or information sharing defect?
  - 2) **Business Case**: What is the value?
  - 3) **Scope**: What useful outcomes/capabilities can be developed/proven within first incremental plan of 6-9 months?
  - 4) **Outcome**: What is the desired data and/or information sharing outcome?
  - 5) **Vision**: What is the architectural concept?



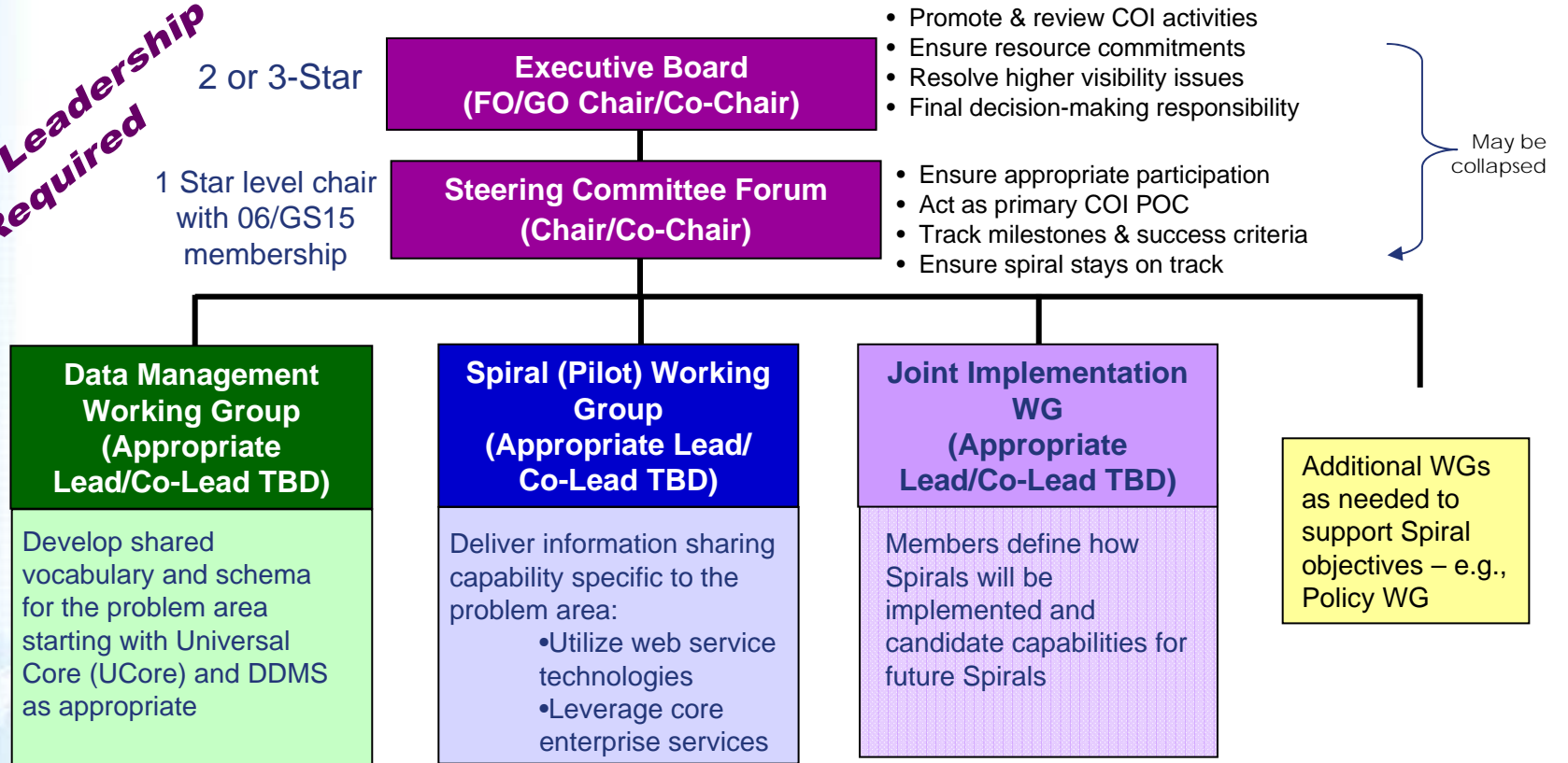
# Executing a successful CPE – 6 Phases

## (2) Establish strong team and community-based governance structure

\*Notational structure depicted



**Strong Leadership Required**



**Note: Recommended Governance structure for COIs.**

**Leverage existing structures or streamline for effectiveness as appropriate.**





## Executing a successful CPE – 6 Phases (4) *Assign/Capture Metrics*

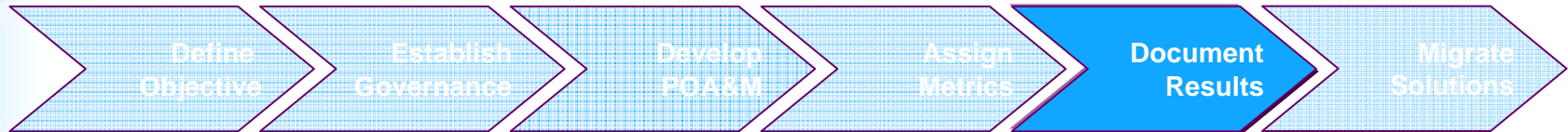


- **Metrics should be expressed in terms of output and outcome metrics**
  - **Output** metrics should represent the **project's** ability to meet its identified goals/objectives
    - Additionally, should address how many services used, PORs affected
  - **Outcome** metrics should address real operational outcomes such as policy and operational use, from a **Departmental** perspective
    - Did we meet the objectives in key strategies (Data/8320.02), what is impact?
    - What information sharing improvements were achieved?
    - What capability gaps were closed?
    - Did we improve operational decision making?
    - Did did we improve operational processes?
    - How have we impacted Departmental costs/ROI?



## Executing a successful CPE – 6 Phases

### (5) Document Results/Lessons Learned



- **Lessons learned are a crucial part of the knowledge and technology transfer with the participating PoRs**
  - For every lesson learned should have a corresponding recommendation
- **Things to keep in mind during Spiral execution:**
  - What challenges and benefits were associated with implementing web services technologies with the participating systems already in-place?
  - What challenges and benefits were associated with having a shared vocabulary and information exchange schema?
  - What challenges and benefits were associated with leveraging core enterprise services?
  - What are the lessons that will assist transition from a proof-of-concept to an operational service?



## Executing a successful CPE – 6 Phases (6) *Migrate Solutions*



- **Determining operational needs early in the process and requiring stakeholder participation reduces operational transition risks**
  - Operational transitions include:
    - Integration with legacy & emerging programs of record
    - Impacts on enterprise strategy, policy, standards and training
    - Sustaining operations and maintenance
  - Considerations include:
    - Developing Operational Test & Evaluation plan
    - Developing operational certification and accreditation plan
    - Helping to implement and deploy Programs/Systems of record functional implementation

**Note: A detailed transition plan should be developed with appropriate process owners.**



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[Template]

## Define the Objective/Vision

### Problem Statement

[Replace this text with the specific problem being solved. Clearly define the data/information sharing problem or service capability gap to be addressed. Keep it simple, 1 to 3 sentences.]

### Business Case/Value

[Replace this text with the specific opportunities/stakeholder; whether reducing cost; improving data/info sharing, compliance, PoR risk reduction, capability gap resolved, etc...]

### Project Scope

[Replace this text with technical and/or process elements included, examples may include COTS versions, architecture components, networks, joint-exercises, sub-processes. Scope should be narrowly defined to meet rapid schedule development within limited resources.

**NOTE: Scope for 6-9 month Spirals that are narrowly defined, with clear, focused, concise objectives. Problem is unique, with limited (or no) overlap with existing initiatives.]**

### Operational Expectation

[Replace this text with the specific operational outcomes/goal of project. Also list the transition expectation – whether to a PoR or key process.]

Define overall Project plan and individual Spiral plans.



[Template]

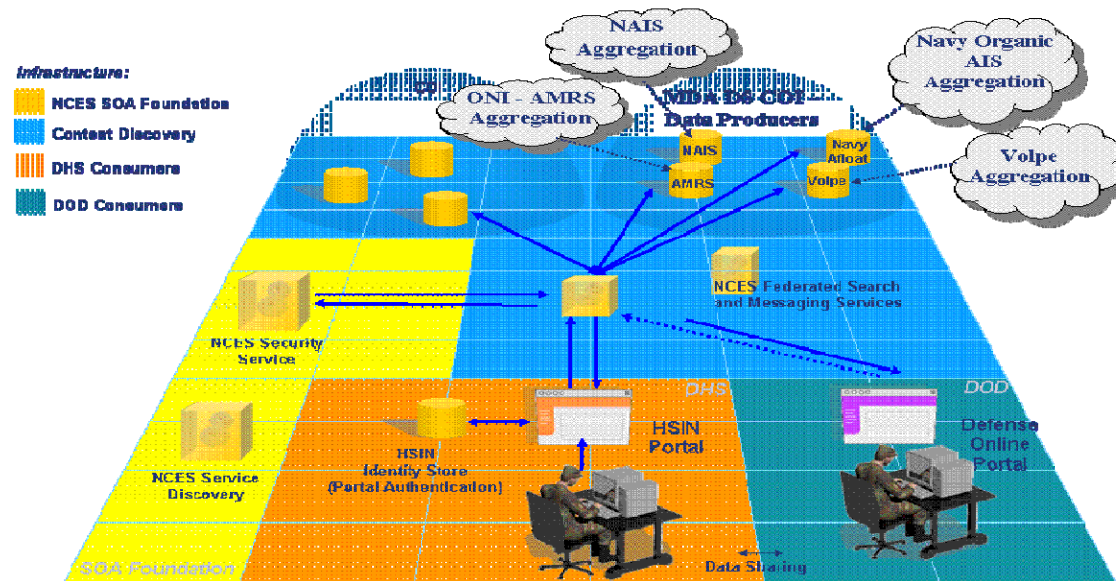
## Define the Objective/Vision

### Pilot Demonstration

[Replace this diagram with high-level vision for adopting services within pilot. This should serve as example of the envisioned operational solution which allows for further use case development.

- 1) Include Data Producers, Data Users/Operators, Enterprise Services employed, and process flows to illustrate a balance of operational and technical designs.
- 2) Identify the programs that support the production or use of the information.
- 3) Recommend a simple Operational View – 1 (OV-1).]

### Example - High-Level Pilot Architecture – Maritime Domain Awareness Data Sharing COI





[Template]

## Develop POA&M

### Develop POA&M

[Replace conceptual POA&M below with month/date, major milestones, and move schedule bars for appropriate timeframe. May opt to identify a high-level POA&M for a project accompanied by more detailed POA&M charts where multiple Spirals are planned. Balance level of detail for an executive summary and project planning purposes.]

#### Spiral 1

Activities/ Work Steps	Months											
	1	2	3	4	5	6	7	8	9	10	11	12
Planning	[Bar from month 1 to 8]											
Data Schema Definition		[Bar from month 2 to 5]										
Service Development				[Bar from month 4 to 7]								
Technical Demonstration							[Star]					
Reporting					[Bar from month 5 to 8]							

#### Spiral 2

#### Spiral 3

Activities/ Work Steps	Months											
	1	2	3	4	5	6	7	8	9	10	11	12
Plan	[Placeholder for Spiral 2 bar]											
Data	[Placeholder for Spiral 3 bar]											
Serv	[Bar from month 1 to 8]											
Tech		[Bar from month 2 to 5]										
Repo				[Bar from month 4 to 7]								
Technical Demonstration							[Star]					
Reporting					[Bar from month 5 to 8]							



[Template]

## Establish strong project governance & teams

### Form Project Team

[Include in table below the project teammates, including the Champion, Stakeholders, Working Group members, WG leads, Program Managers, Process Owners, Data Producers, Data Consumers/Users, Capability Developers, etc...]

Name	Organization	Role	Phone Number	Email



[Template]

## Assign and Capture Metrics

### Assign and Capture Metrics

[List the goal(s) for the project, metrics, and methods for capturing each metric in the table below.]

<b>Goal</b> <state project goals – should correspond to overall objectives>	<b>Metric (Output and Outcome)</b> <state metrics related to each goal>	<b>Methodology</b> <state approach to capturing each metric>



[Template]

## Document Results/Lessons Learned

### Document Results/Lessons Learned

[List the key data and information sharing results in the table below. This can include technical, terminology, policy, standards and enterprise strategies.]

Results/Lessons Learned	Recommendation



[Template]

## Migrate Solutions

<b>Operational Expectation</b>
[Replace this text with the specific operational outcomes/goal of the project as defined in objective statement. Also list the transition expectation – whether to a PoR or key process.]
<b>Expected Transition Timeframe</b>
[Document transition milestones based on POA&M.] [Include timeline for C&A]
<b>Transition Risks and Mitigation</b>
[Replace this text with transition risks and appropriate mitigation.]
<b>Affected PoR</b>
[List affected PoRs.]
<b>Affected Process/Policy/Standards</b>
[List affected Processes, Policies and Standards.]
<b>Roles &amp; Responsibilities</b>
[Replace this text with roles and responsibilities of COI teammates.]



## Backup: References

<b>Data Sharing in a Net-Centric DoD, DODD 8320.02 &amp; DOD 8320.02-G</b>	Policy directive and Guidance for implementing the DOD Net-Centric Data Strategy.
<b>DOD Metadata Registry (MDR)</b>	Web-based registry and a related metadata registration process for the collection, storage and dissemination of structural metadata information resources (schemas, data elements, attributes, document type definitions, style-sheets, data structures etc...).
<b>Net-Centric Publisher</b>	The Net-Centric Publisher is a tool that provides users with a simplified workflow for publishing metadata to the NCES Metadata Environment.
<b>DOD Discovery Metadata Specification (DDMS)</b>	The DoD Discovery Metadata Specification (DDMS) defines discovery metadata elements for resources posted to community and organizational shared spaces.
<b>COI Directory</b>	Directory of information about Communities of Interest.
<b>DOD Enterprise Service Registry (UDDI)</b>	The NCES Service Registry is a repository of IT Service descriptions and makes them discoverable from a centrally managed, reliable, and searchable location. This registry provides enterprise-wide insight, control and leverage of an organization's IT Service assets, fully supporting the UDDI registry standard.
<b>NCES Service Discovery</b>	The Search Service Providers page allows you to find Service Providers registered in the Service Registry. The Search Services page allows you to find Services registered in the Service Registry.
<b>Universal Core (UCore)</b>	An information exchange specification and implementation profile or vocabulary of commonly exchanged concepts such as Who, What, When, and Where.
<b>Net Centric Enterprise Services (NCES) Developer Site</b>	Systems developer guidance and tools for the implementation of NCES services.