



## 15th ICCRTS

### “The Evolution of C2”



#### **Paper 001: On Facilitating Stability Operations: A Net-Centric, Federated Approach to Information Sharing**

Topics:

1. Information Sharing and Collaboration Processes and Behaviors
2. C2 Architectures and Technologies

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UNCLASSIFIED



# Agenda



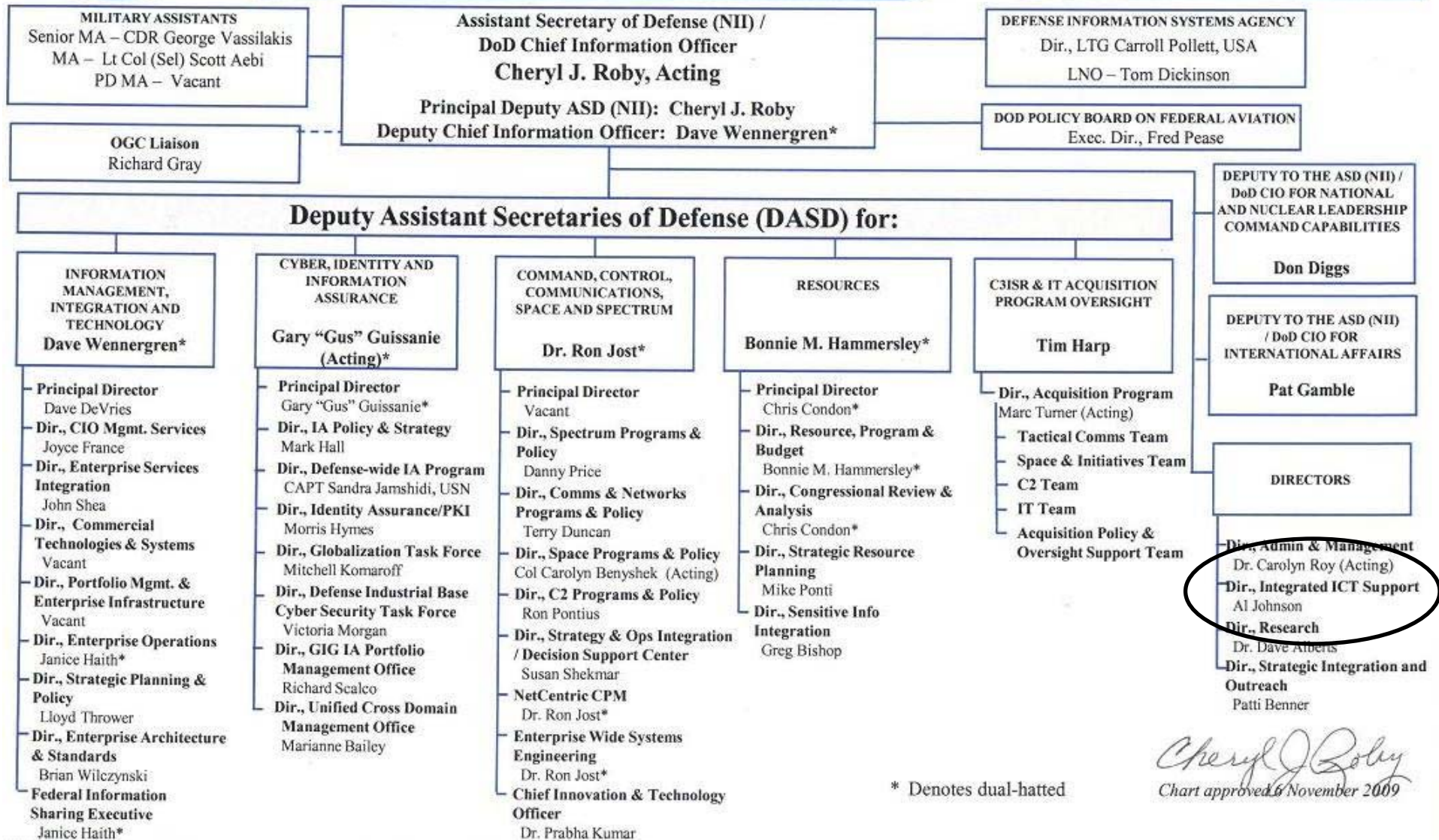
- Organization, Vision, Mission
- Roles/Mission and DoD policy
- Actions underway to improve unclassified information
- Next Steps for implementation and experimentation
- Conclusions and challenges



# Networks and Information Integration

## Chief Information Officer

### OASD(NII) / DoD CIO







# IIS Vision



A DoD enterprise that enables rapid, agile, and persistent sharing of civil-military information and situational awareness to facilitate coordination and cooperation with the interagency and external mission participants across the full range of irregular warfare and stability operations.

## IIS Mission Statement

Develops and oversees policy that shapes ICT enablement of irregular warfare, stability operations, and theater security cooperation. IIS identifies ICT gaps, recommends solutions, and assesses the Department's progress towards **improved information sharing and more effective civil-military coordination**, situational awareness, and decision making. IIS engages with the Joint Staff, Interagency, and external organizations to facilitate resolution of COCOM and Service contingency operation ICT support issues.



# Data and Information Policy Guidance



- **DoD Directive 8320.02 Data Sharing in a Net-Centric Department of Defense; Certified Current as of April 23, 2007**
  - 4.1 **Data is an essential enabler** of network-centric warfare (NCW) and shall be made **visible, accessible, and understandable** to any potential user
  - 4.2 **Data** assets shall be made visible by creating and associating metadata (“tagging”). All metadata shall be **discoverable, searchable, and retrievable** using DoD-wide capabilities.
- **DoD Instruction 8220.02 Information and Communications Technology (ICT) Capabilities for Support of Stabilization and Reconstruction, Disaster Relief, and Humanitarian and Civic Assistance Operations, April 30, 2009**
  - 4.a. To the extent authorized by law, .....information-sharing activities that facilitate coordination and cooperation between DoD and non-DoD partners will be established to enable common understanding of the stabilization and reconstruction, disaster relief, and humanitarian and civic assistance environment; and to support an integrated Whole-of-Government response<sup>5</sup> capability.



# Leveraging the Interagency



**“But for all the improvements of recent years, the United States’ interagency tool kit is still a hodgepodge of jury-rigged arrangements constrained by a dated and complex patchwork of authorities, persistent shortfalls in resources, and unwieldy processes.”**

Gates, R. M. (2010, May/June). Helping Others Defend Themselves. *Foreign Affairs*, 89(3).



# The Interagency Mission Statements: DOS, S/CRS, USAID and OFDA



- **DOS** – To create a more secure, democratic, and prosperous world for the benefit of the American people and the international community.
- **S/CRS** - To lead, coordinate and institutionalize U.S. Government civilian capacity to prevent or prepare for post-conflict situations, and to help stabilize and reconstruct societies in transition from conflict or civil strife so they can reach a sustainable path towards peace, **democracy and a market economy**. The office, created in July 2004, is composed of an 88 member interagency staff, including 11 Active members of the Civilian Response Corps. This whole-of-government planning framework utilizes the Essential Task Matrix and compiles best practices for **Reconstruction and Stabilization (R&S)**, developing common R&S training for civilians and the military.
- **USAID** – (An independent federal government agency that receives overall foreign policy guidance from the Secretary of State) To support long-term and equitable economic growth and advances U.S. foreign policy objectives by supporting:
  - economic growth, agriculture and trade;
  - global health; and,
  - **democracy, conflict prevention and humanitarian assistance.**
- **OFDA** - The Office of U.S. Foreign Disaster Assistance is the office within USAID responsible for facilitating and coordinating U.S. Govt emergency assistance overseas. As part of USAID's Bureau for Democracy, Conflict, and Humanitarian Assistance (DCHA), OFDA provides **humanitarian assistance to save lives, alleviate human suffering**, and reduce the social and economic impact of humanitarian emergencies worldwide.



# DoD Information Sharing Implementation Plan

## Focus Area 6



Develop an enterprise approach that enables sharing of unclassified DoD information in support of civil support and Stability Operations

### Current Efforts

- Federal Law
- Executive Orders
- Asia Pacific Area Network v.4
- HarmonieWeb
- inRelief.org
- Stability Operations Community of Interest
- OUSD(I) Efforts
- HD & ASA Efforts
- Inter Agency Efforts
  - JCTDs
  - LOEs

### ISIP Focus Area 6 and Associated Actions



*Analysis  
Partnerships  
Collaboration  
Staffing*

### Planned Outcomes

Policy, Technology and Cultural Change that leads to enhanced information sharing for both Civ Mil and Stab Ops missions





# Enable Processes with Information

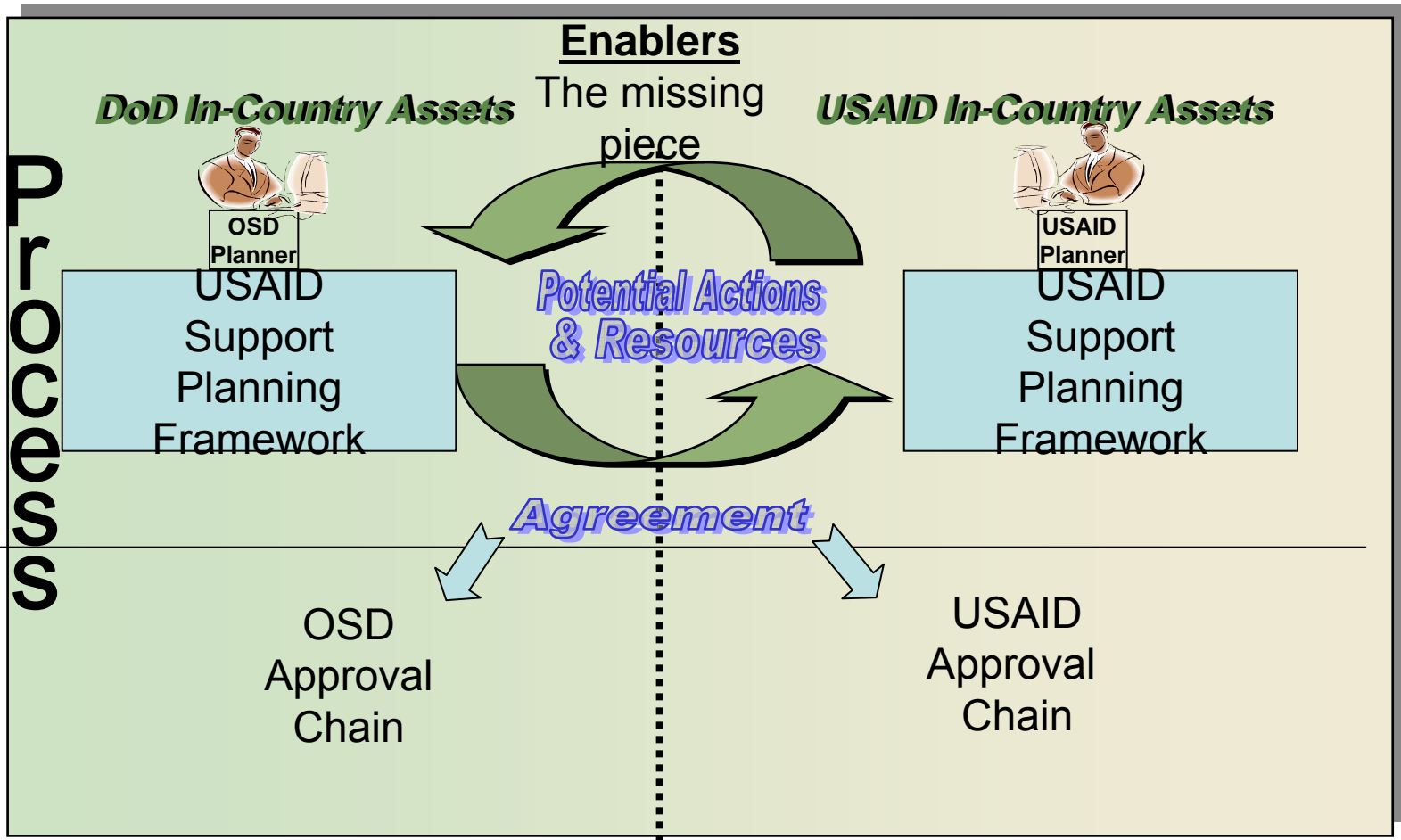


## Enablers

- Provide Web Enabled Forms
- Use Web to Coordinate
- Forward for approvals

- Provide Document Manager For staffing

- Provide repository For archiving



## HOW:

1. Expose Data and expose services
2. Use Open System Standards



# The Problem Set: What Information is Common to All Responders?

## Key Information Requirements

- Imagery
- Assessments
- Incident Reports
- Maps
- Org Charts
- Foreign Disclosure guidance
- Situational Awareness
- Ops/Intel Fusion
- Access to SMEs
- In Depth Country Knowledge
- High Level Contacts

## Relevance to Key Consumers

- Assess what is going on
  - Situation
  - Possible actions
  - Actions of others
  - Resources needed
  - Resources available
- Decide on possible actions
- Self-identify my interest, intended actions, and resources
- Network
- Collaborate
- Synchronize Actions



# What Information is Common to All Responders



## Key Information Requirements to Key Consumers

- What is happening?
- Do I care?
- What do I care about?
- What can I do about it?
- What can't I do? Why?
- What do I want to happen?
- Who agrees with me?
- Can I help/work with others who share my goals and objectives?
- Can someone help me with my gaps?
- How do I find them?
- How do they find me?
- How can we work together?

• In Dep

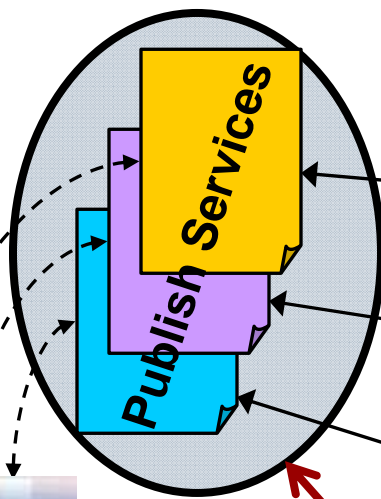
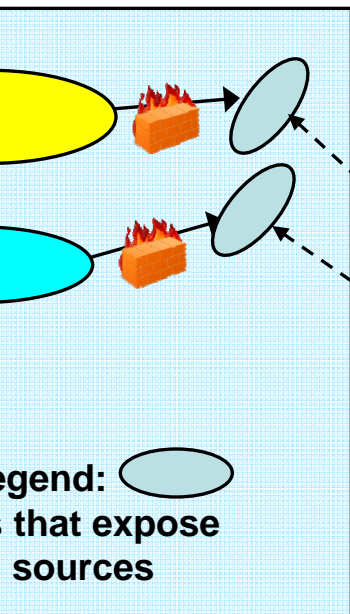
• High Level C... Synchronize Actions



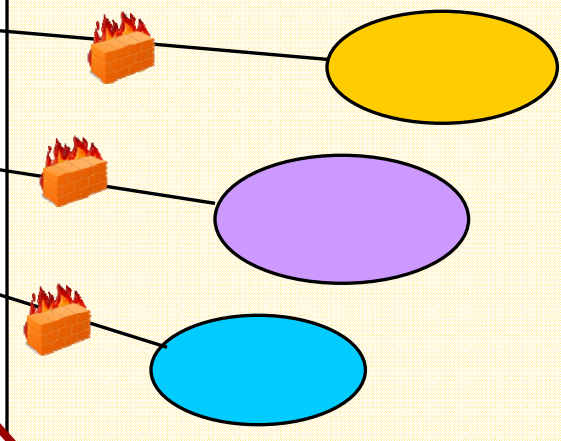
# JFCOM Interagency Shared Situational Awareness (IASSA) LOE - Jul 09



Organizations that expose their data sources outside the firewall



Organizations that DO NOT expose their data sources outside the firewall



For this experiment, a location was provided for these organizations to Publish outside the firewall

*Hosted on APAN or HarmonieWeb*



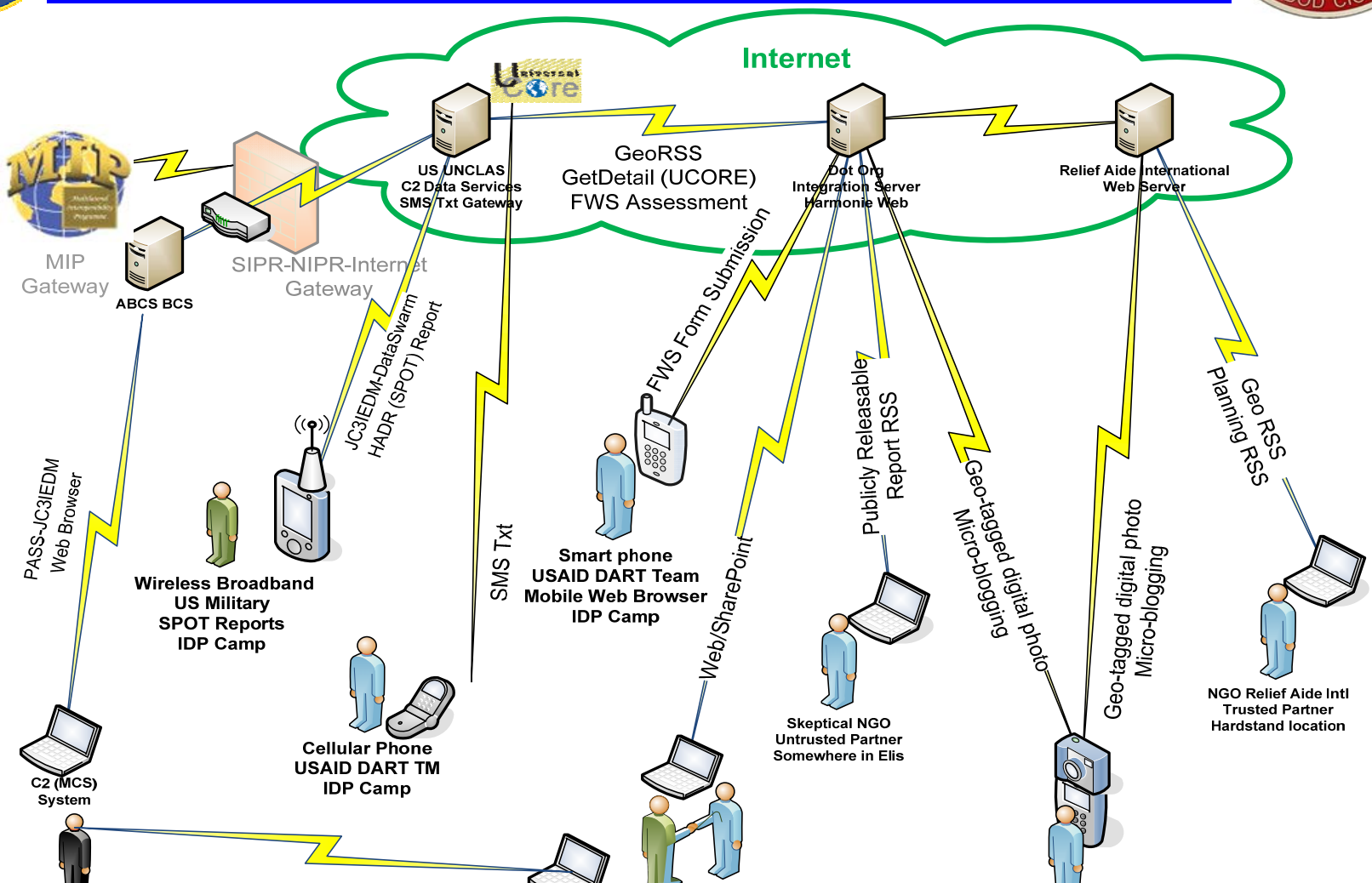
Facilitates Development of user defined, Focused Views







# OASD(NII) Stab Ops Pilot Operational View Architecture





# Paper to Net-Enabled Processes



## REQUEST FROM THE HUMANITARIAN COMMUNITY TO THE US MILITARY (RFA)

**example only**

Request Date: 13-Sep-08  
 Date of Service: 16-Sep-08  
 Pack/DOD: Logistics Coordinator

OPDA USE ONLY:  
 Approved:  YES  NO  PRIORITY: URGENT-VIP  
 Mission #: 104 Date of mission: 16-Sep-08  
 Signature: [Signature]

Where does it need to go?  
 Place Name: Pap (Airport) Place Name: Gonaives (Mistah Base)  
 Coordinates: 78°34'30N, 67°22'42W Coordinates: 78°34'30N, 67°22'40W  
 POC on-site Name: Roscoe Zebkuaki POC on-site Name: Hachuri Ramadambuhli  
 POC Phone: 399.78883-7884 POC Contact Info: 399.78883-7903  
 POC email: rzebus@fyu.org POC email: H.Ramadambuhli@fyu.org

	Item 1	Item 2	Item 3	Item 4
Description	Collapsible water jugs (10 lb each)	Plastic Sheeting	Hygiene Kits	10,000 Ltr Water Bladders
Place Count	16,000	2500	5000	410
Packed in	cardboard boxes	cardboard boxes	cardboard boxes	wooden crate
Place Count	320	1	6	3
Total Packages	320	2,500	833	3
Weight Package	20	120	34	410
Weight Unit of Measure	Lbs	Lbs	Lbs	Lbs
Dimensional Package	48"x14"x11"	42"x24"x16"	24"x20"x10"	42"x40"x24"
Volume Package	4.28	0.33	2.78	23.33
Volume Unit of Measure	cu ft	cu ft	cu ft	cu ft
Total weight shipment	8400	300000	20333	1700
Total volume shipment	1370	23225	2217	70
Any Hazardous materials?	YES	none	none	none
if yes, what:	Alcohol and Battery acid	N/A	N/A	N/A
The boxes must not get wet under any circumstances	none	none	none	none
Will you coordinate for Security on the Landing Zone to you need?	YES	Have you coordinated for workers to be on site to receive the goods?	YES	YES

**example only**

WHO needs to travel?  
 Last & First Name Nationality Passport #  
 1. Yachin, Henri France 9648809987  
 2. Zootona, Mawabli Togo 2208027-869  
 3. Schmetterling, Otto Germany 877-XX-90007  
 4. Krastavac, Don Serbia S-CGCC-39  
 5. Robson, Barbara USA 910589917  
 6. Robapiens, Arnauld France 3300FEL-TUV  
 7. La Morsa, Evila Costa Rica 8302734848  
 8. Peng, George Shiao PRC 8338MA208600

### Food Assessment Form

Date of Request: 01/26/2009  
 Date of Need: 01/29/2009  
 Regular Quantity:  Tons  
 Vegetarian Quantity:  Tons  
 Non Pork Quantity:  Tons  
 Location: Latitude  Longitude   
 POC at required location: (Lastname, Firstname)  
 Gender:  Male  Female  
 Requiring/Requesting Entity:

### Potable Water Assessment Form

Date of Request: 01/26/2009  
 Date of Need: 01/29/2009  
 Quantity:  Liters  
 Location: Latitude  Longitude   
 POC at required location: (Lastname, Firstname)  
 Gender:  Male  Female  
 Requiring Entity:   
 Entity Address:

### Shelter Assessment Form

Date of Request: 01/26/2009  
 Date of Need: 01/29/2009  
 Quantity:  20 person tents  
 Location: Latitude  Longitude   
 POC at required location: (Lastname, Firstname)  
 Gender:  Male  Female  
 Requiring Entity:   
 Entity Address:   
 Point of Contact: (Lastname, Firstname)  
 Contact Information:  
 POC Location:   
 Telephone:   
 Skype Name:   
 Email Address:

## FWS Assessment Report

**Organization Making FWS Request**

Organization: Relief International  
 Name: Relief International  
 Address: 5455 Wilshire Blvd, Suite 1280  
 City: Los Angeles State: CA  
 Zip: 90036 Country: USA

**Organization Point of Contact**

First Name: Thomas Last Name: Doyle

**Delivery Location**

Location Name: Camp #  
 Latitude: 36.874 Longitude: -107.991028  
 Effective Delivery Start Time (GMT): 10/20/09 12:00:00 p.m.  
 Effective Delivery End Time (GMT): 9/20/09 6:00:00 p.m.

**Location Point of Contact**

First Name: Lauren Last Name: Wright  
 Gender:  Male  Female  
 Email Address: LW@rcblme.com  
 Mobile Phone Number: 1-123-456-789  
 Skype Name: LWright

**Potable Water Transfer Request**

Quantity: 1000 Liters

**Food Transfer Request**

Regular Rations: 1000  
 Vegetarian Rations: 0  
 Non Pork Rations: 0

**Shelter Transfer Request**

Number of people requiring shelter: 0  
 Quantity: 0

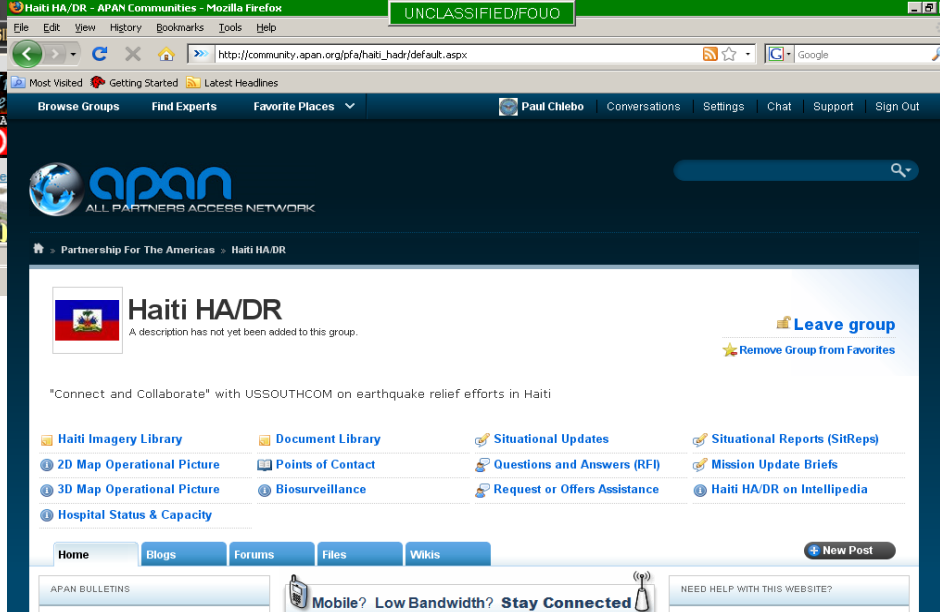
**Submit Request**

Submit FWS Report

# USD(AT&L) TISC JCTD in Support of Operation Unified Response (Haiti Earthquake)



13 Jan 2010:  
SOUTHCOM directs use of APAN Web 2.0 Group for all DoD unclas info sharing in support of the response.



17 Feb 2010:  
United Nations OCHA rep states US DoD level of information sharing surpassed all expectations – resulting in reduced loss of life.

Next Steps:

- RSS Feed to UN (onerresponse.org)
- RSS Feed to WHO (Strategic Health Operations Center)



# Strategy to Achieve Unclas Info Sharing Capability for the DoD Enterprise Service

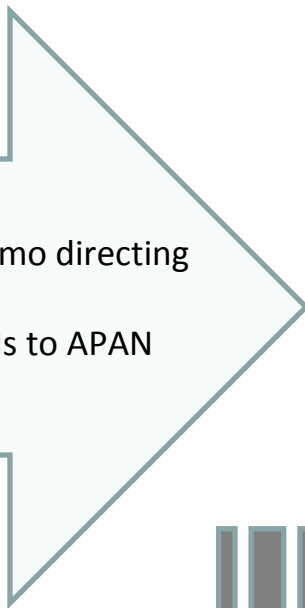


Multiple Solutions

Today



Issue Memo directing  
COCOMs to APAN



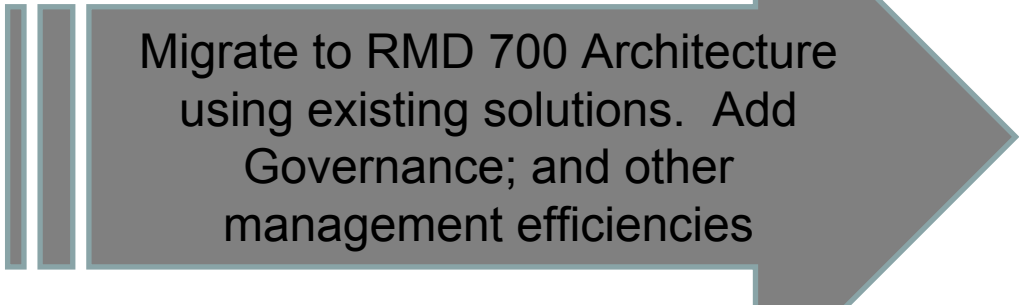
TISC/  
APAN

Governance, funding,  
configuration control, R&D,  
testing , etc  
(no more studies)

Achieve Interim  
Integration



Desired Endstate:  
A Standardized  
Portal Environment



Migrate to RMD 700 Architecture  
using existing solutions. Add  
Governance; and other  
management efficiencies



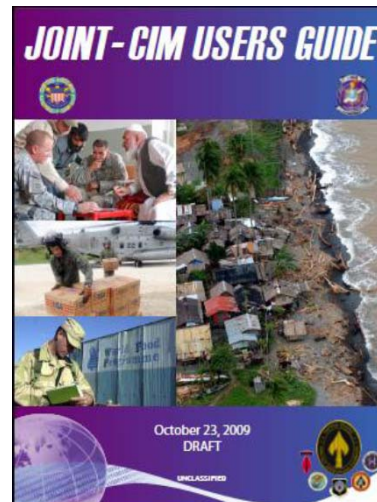
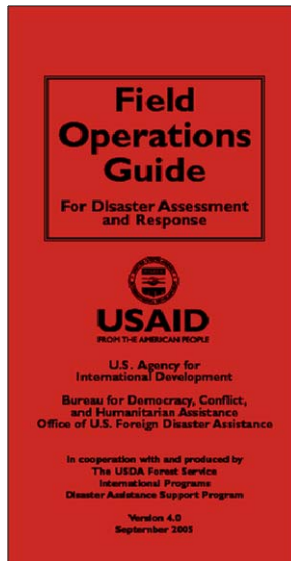


# Standardized Assessment Areas



Displaced persons

on  
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ulture & Livestock  
n & Rescue  
ics  
structure



- Farm
- Veterinary-local
- Veterinary-National
- Airport
- Ports and Harbors
- Railway
- Router
- Roads
- Market/Store
- School
- Historical Cultural Religious site
- Police station
- Fire Station
- Fuel Point
- Building
- Village
- Warehouse
- Police and Security Forces
- Contractor
- Arts and Monuments Storage
- TCAPF-Tactical Conflict Assessment Planning Framework
- Village Health
- Hospital/Clinic
- Sewage System
- Trash
- Civilian Engagement



# Integrate Standardized Collection Tools



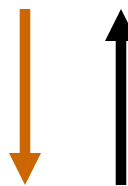
Mobile GATER



Desktop GATER



Online GATER



Graphic Visualization



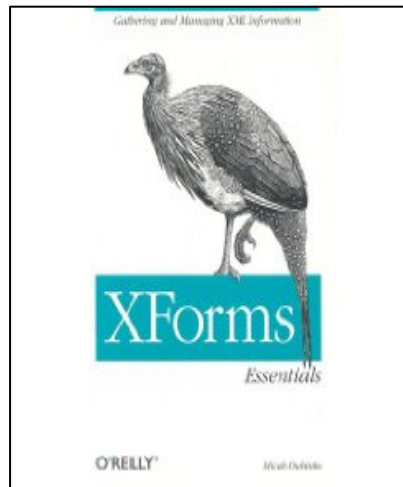
Tabular Visualization

ID	Delete	Substructure	Target	Assessments	Reports	Media	Locate	Condition	Category	Structure	Year	Survey Date	Exp. Date	Accession	Documents	QC Status	QC Status	DATA TYPE	Use	Expire
487	Delete	Edit/View	Edit/View	View	View	View	On Map	Green	Algebra	Air Bld main & Tower		02/12/2007	04/28/2008	Dave Howard			Joseph richard	Production		07
490	Delete	Edit/View	Edit/View	View	View	View	On Map	---	Communications	118		02/06/2007	04/28/2008	ED DEHAVEN			Joseph richard	Production		07
531	Delete	Edit/View	Edit/View	View	View	View	On Map	Green	Communications	135		02/06/2007	04/28/2008	ED DEHAVEN				Production		07
541	Delete	Edit/View	Edit/View	View	View	View	On Map	Green	Communications	T343		02/06/2007	04/28/2008	ED DEHAVEN			Joseph richard	Production		07
542	Delete	Edit/View	Edit/View	View	View	View	On Map	Green	Communications	T342		02/06/2007	04/28/2008	ED DEHAVEN			Joseph richard	Production		07
543	Delete	Edit/View	Edit/View	View	View	View	On Map	Green	Communications	T341		02/06/2007	04/28/2008	ED DEHAVEN			Joseph richard	Production		07
544	Delete	Edit/View	Edit/View	View	View	View	On Map	Green	Communications	T340		02/06/2007	04/28/2008	ED DEHAVEN			Joseph richard	Production		07
580	Delete	Edit/View	Edit/View	View	View	View	On Map	---	Communications	gulf bldg		02/06/2007	04/28/2008	ED DEHAVEN			Joseph richard	Production		07





# Enablers

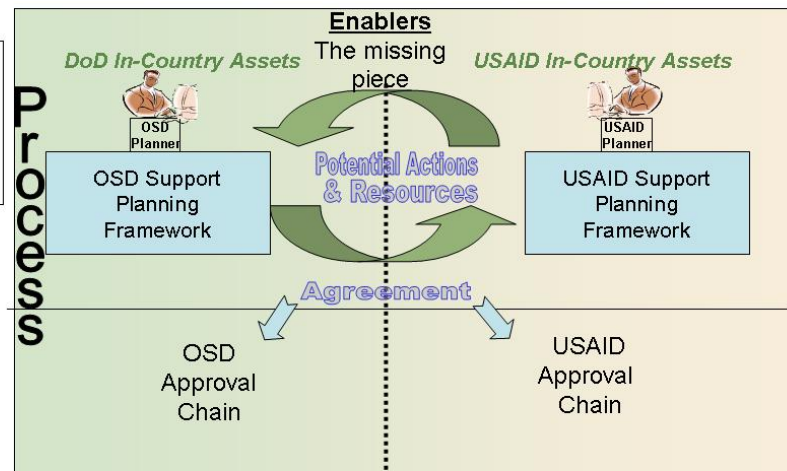


## Enablers

- Provide Web Enabled Forms
- Use Web to Coordinate
- Forward for approvals

- Provide Document Manager For staffing

- Provide repository For archiving



- HOW:**
1. Expose Data and expose services
  2. Use Open System Standards



[click logo for video]

PROJECT MACHO



Diverse content and formats across 5 sectors to form an extensive knowledge base



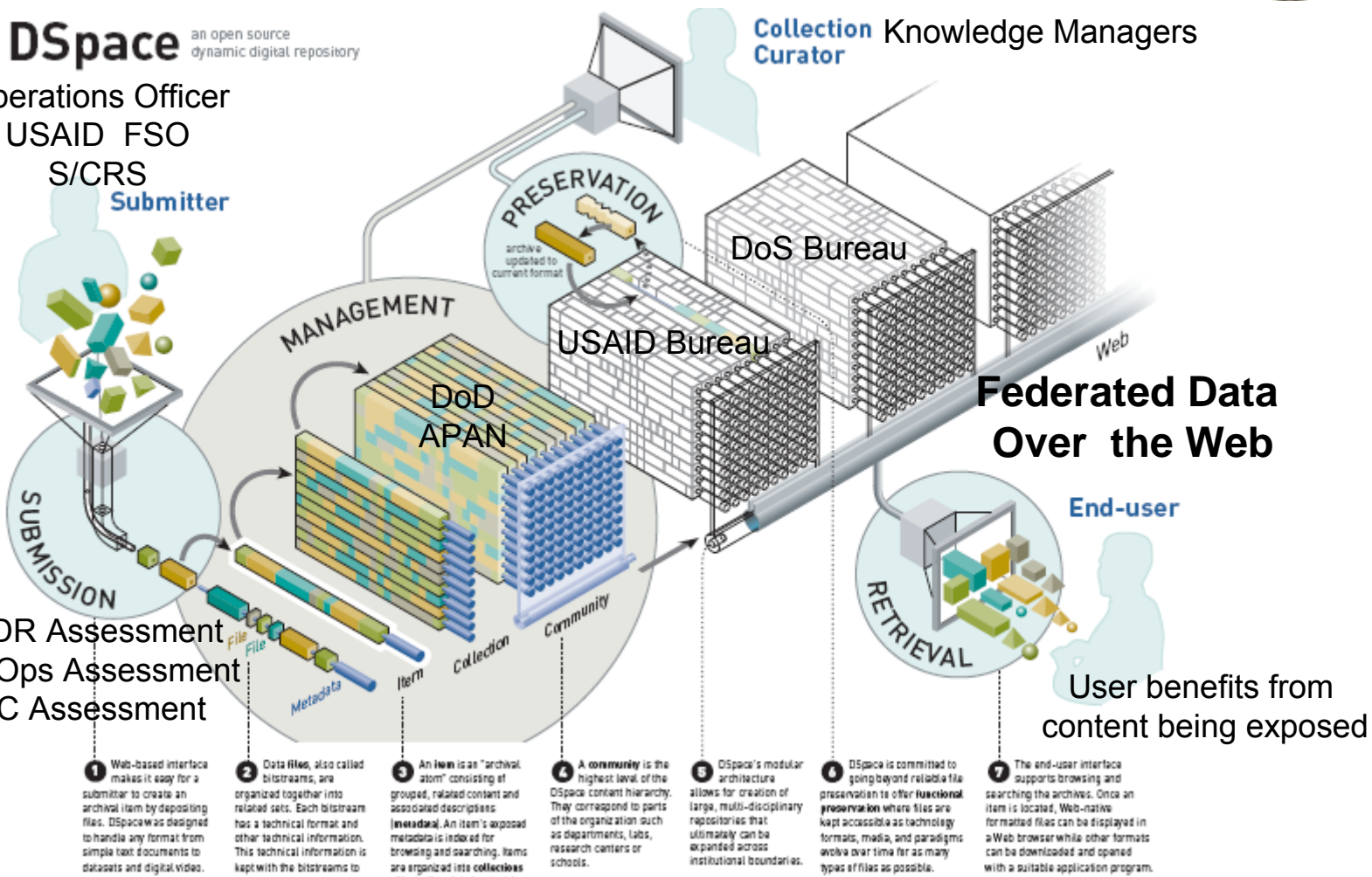
# Repository Services



**DSpace** an open source dynamic digital repository

Operations Officer  
USAID FSO  
S/CRS  
Submitter

Collection Knowledge Managers  
Curator



1 Web-based interface makes it easy for a submitter to create an archival item by depositing files. DSpace was designed to handle any format from simple text documents to datasets and digital video.

2 Data files, also called bitstreams, are organized together into related sets. Each bitstream has a technical format and other technical information. This technical information is kept with the bitstreams to

3 An item is an "archival atom" consisting of grouped, related content and associated descriptors (metadata). An item's exposed metadata is indexed for browsing and searching. Items are organized into collections of logically-related material.

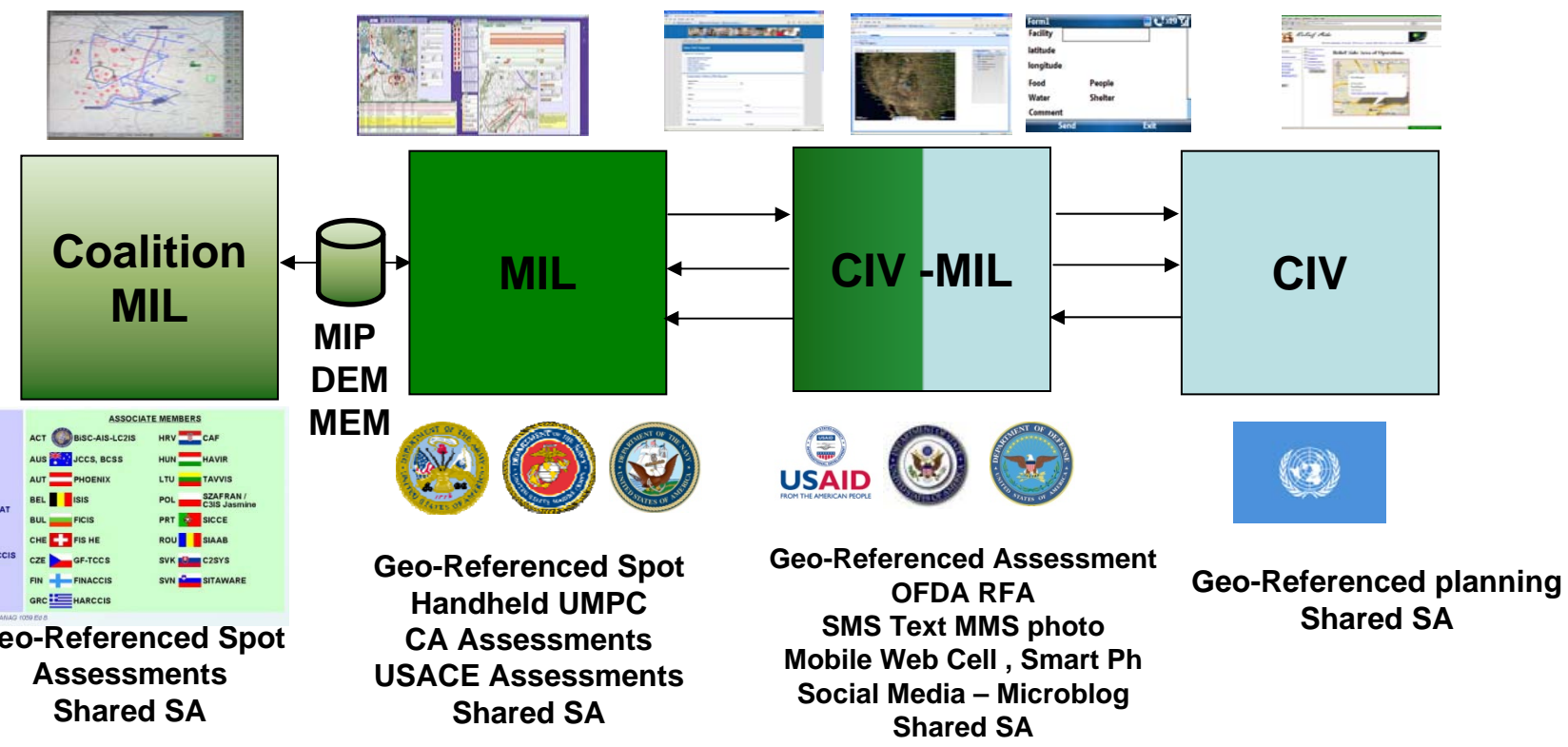
4 A community is the highest level of the DSpace content hierarchy. They correspond to parts of the organization such as departments, labs, research centers or schools.

5 DSpace's modular architecture allows for creation of large, multi-disciplinary repositories that ultimately can be expanded across institutional boundaries.

6 DSpace is committed to going beyond reliable file preservation to offer functional preservation where files are kept accessible as technology formats, media, and paradigms evolve over time for as many types of files as possible.

7 The end-user interface supports browsing and searching the archives. Once an item is located, Web-native formatted files can be displayed in a Web browser while other formats can be downloaded and opened with a suitable application program.





**Connecting the Dots: Who are the Stakeholders and how are they working this?**

**OASD(NII) - Stab Ops COI WG Pilot**

**JFCOM Warfighter Challenge**

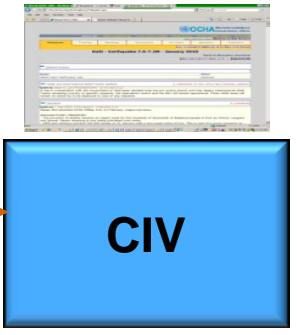
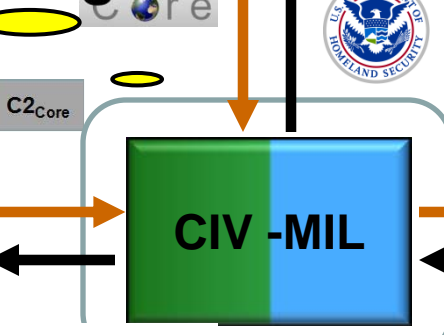
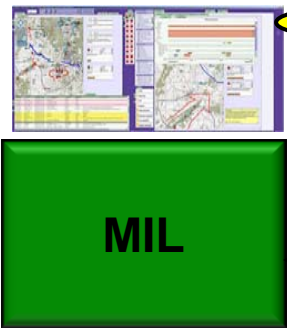
**PM BC - MIP WG**

- DDR&E - Common Ground JCTD
- DDR&E- TEDS JCTD
- USACE- IKE/GATER
  - 95<sup>th</sup> CA BDE- WCID/CAOS
- DOT&E- J-CIM Test

- DDR&E PROVIDES JCTD
- DDR&E - TISC JCTD
- DDR&E- CSE JCTD
- JFCOM- CABP LOE

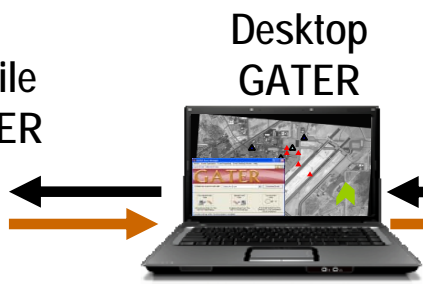
- UN OCHA
- DoS HIU
- InterAction
- World Health Organization

**Shared Enterprise Data Mediation Services for U-Core, C2-Core, JC3IEDM**



**ASSOCIATE MEMBERS**

ACT	BISC-AIS-LC2IS	HRV	CAF
AUS	JCCS, BCSS	HUN	HAVIR
AUT	PHOENIX	LTU	TAVVIS
BEL	ISIS	POL	C3SI Janszine
BUL	FICIS	PRT	SICCE
CHE	FIS HE	ROU	SIAB
CZE	SF-TCCS	SVK	C2SYS
FIN	FINACCIS	SVN	SITAWARE
GRK	HARCCIS		



Online GATER

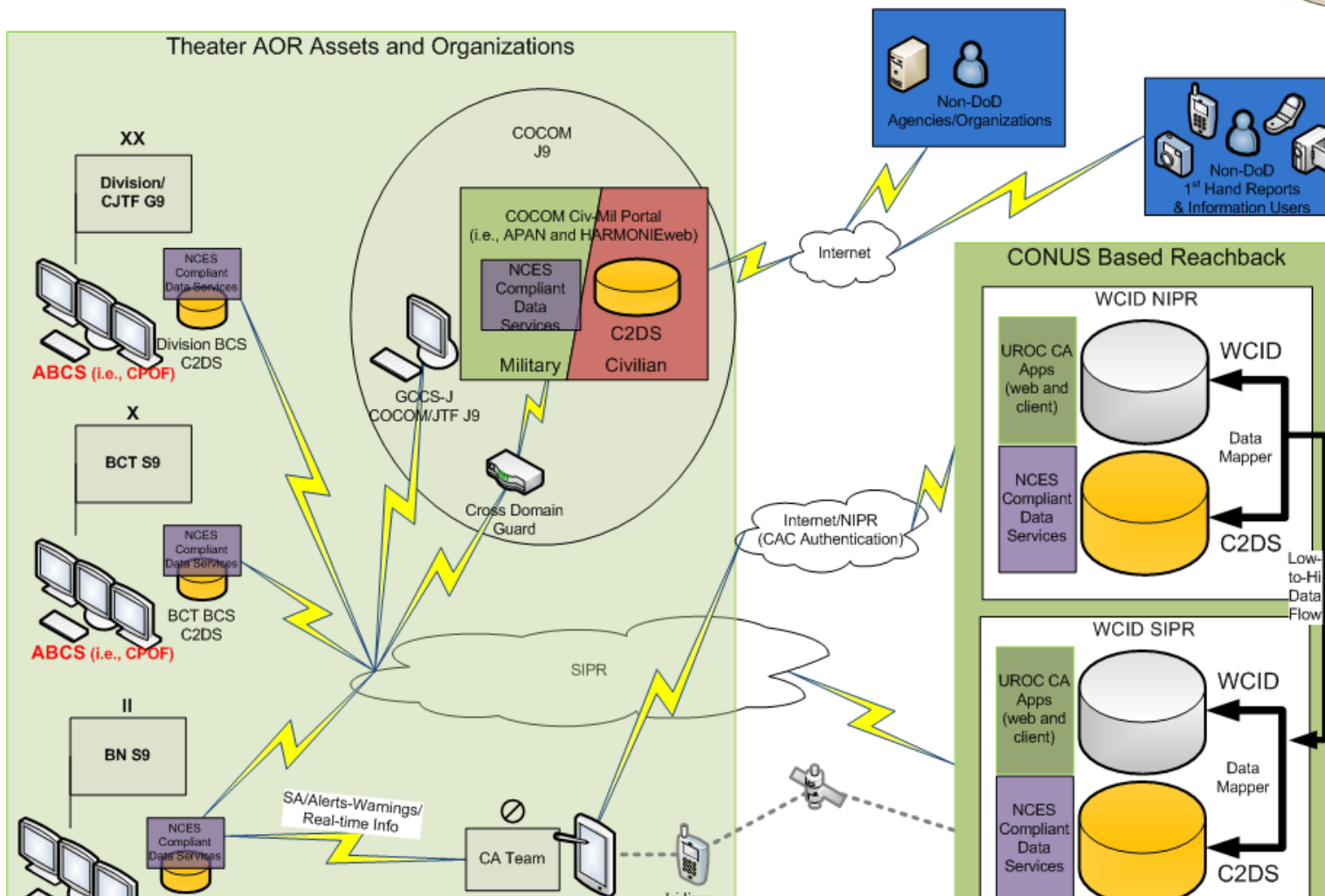


IKE/GATER

FIST



# Conceptual System View

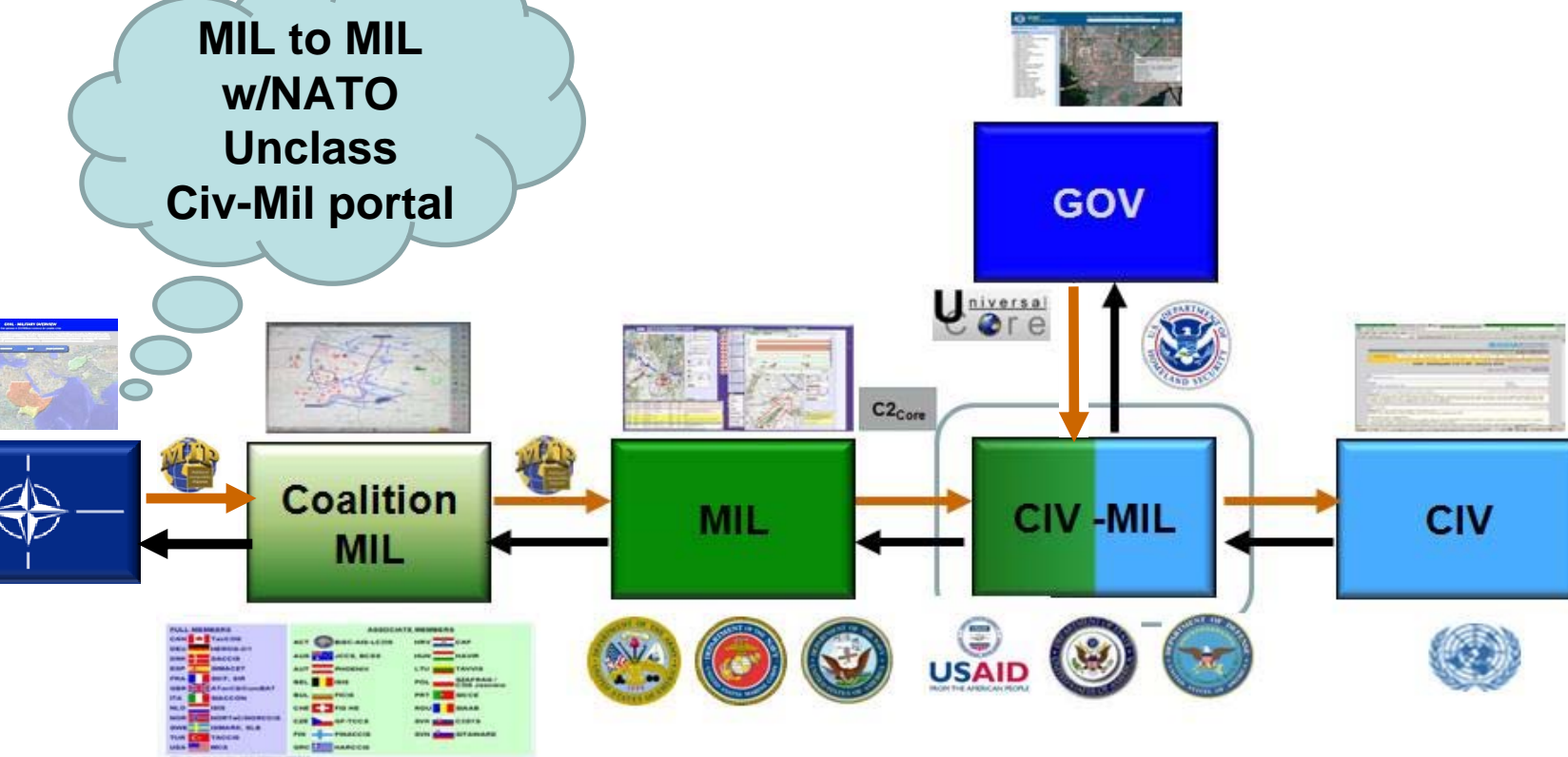




# MIP-Based Concept for Future Research



MIL to MIL  
w/NATO  
Unclass  
Civ-Mil portal



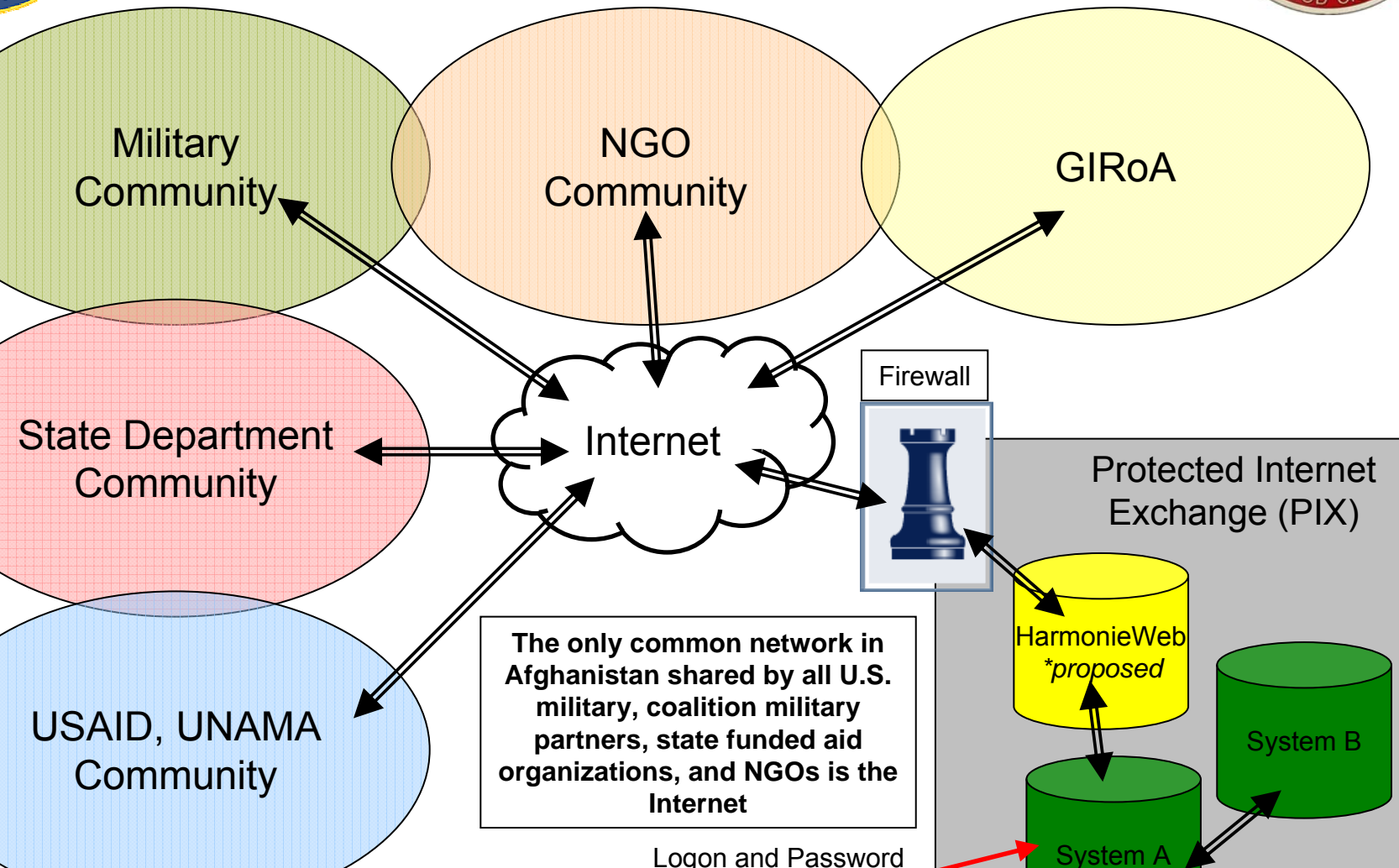
verage MIP  
ral exchange





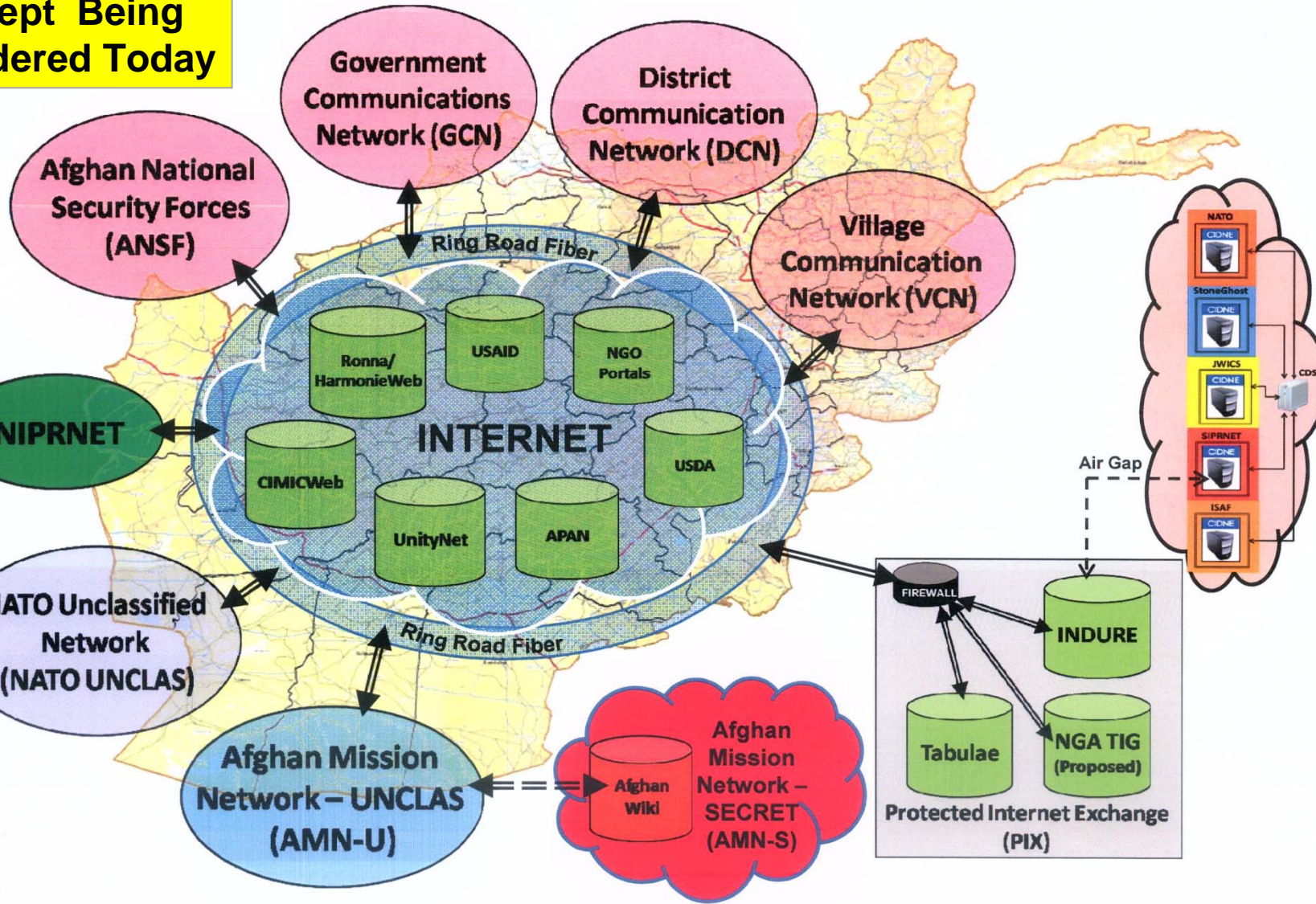
# AFFPAK TF:

## Focus on Unclassified Information Sharing Initial Concept 2009



# Afghanistan Unclassified Networks

cept Being  
dered Today







# “Ronna” Harmonieweb Screenshot



The Guiding Light

Afghanistan time: **Tuesday, February 16, 2010 4:44:22 AM**  
 Welcome to the Ronna-Afg

[Governance](#) | [Development](#) | [If you have comments/questions/ideas: please email \[ijcadmin@harmonieweb.org\]\(mailto:ijcadmin@harmonieweb.org\)](#)

<https://ronna-afghan.harmonieweb.org/Pages/Default.aspx>

## The Guiding Light - Afghanistan



### History of Islamist Extremism in Afghanistan

Political and/or extremist Islam was not a significant force in Afghanistan before the 1979 Soviet invasion; how or why did it become such a dominant force (if, indeed, it really is one). A history or survey of known information about how Afghans were proselytized by fundamentalist preachers would add to our in-depth long term understanding-research of the process of religious radicalization in the area. [read more](#)

<p><b>Governance News</b></p>	<p><b>Development News</b></p>	<p><b>Security News</b></p>
<p><b>FUNDAMENTALS OF GOVERNANCE IN AFGHANISTAN"</b></p> <p>The 2004 Afghan Constitution revived a highly centralized government with a strong presidency; five years on, it is apparent that this arrangement is failing</p>	<p><b>Small vanguard of female police risk shame, death to work in south Afghanistan</b></p> <p> <b>KABUL, Afghanistan</b> — The young Afghan woman leaves home every morning with</p>	<p><b>Rodriguez: Less Aggressive Posture Is A Necessary Risk In Afghanistan</b></p> <p>(Mideast Stars and Stripes)...Heath Druzin -- Coalition troops will have to accept more risk as commanders push</p>



# Next Steps 1 of 2

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Implement Standardized Assessments developed by J-CIM Joint Test

Implement Shared Enterprise Service (TISC/APAN)

Develop data mediation services to support MIP, U-Core, C2-Core data standards to/from the dot org to/from the dot mil

Integrate civ-mil data sources beginning with IKE/GATER tool used by Army Civ Affairs

Publish civ-mil data to C2 systems





## IIS Next Steps 2 of 2

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Consider strong repository services to aid in discoverability and collection federation

Leverage JFCOM Warfighter Challenge, JCTDs, Exercises to assess then close gaps

Complete ISIP FA 6 POA&M and submit recommendations to ISIP lead



# Conclusions / Challenges



- Not build new systems - Integrated, non stove-piped data must be the focus for interoperability
  - Visible, discoverable, searchable, accessible, retrievable, and understandable
- DoD is moving forward with implementing an enterprise level service for unclassified external sharing
- Resourcing solutions that meet guidance and IPLs
- Successful transition of solutions for long term sustainment – where does it belong



# Potential Next Steps for Collaboration with NATO

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Recommend a partnership between NC3A, NATO ACT and OASD(NII) to:

1. Develop a proposal for a net-centric unclassified information sharing demonstration at one or more of the following:

- CWID
- Combined Endeavor
- MIP – Greding
- Other?

2. Once demonstrated, resource production quality capability

3. Develop a plan to field, train, and maintain the capability



# Contact Information

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