Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE 2008		2. REPORT TYPE		3. DATES COVERED 00-00-2008 to 00-00-2008	
4. TITLE AND SUBTITLE				5a. CONTRACT NUMBER	
Enabling Coordination During Security, Stabilization, Transition, and Reconstruction Operations				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Research Laboratory,4555 Overlook Avenue SW,Washington,DC,20375				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFIC	17. LIMITATION OF	18. NUMBER	19a. NAME OF		
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified	Same as Report (SAR)	of Pages 3	RESPONSIBLE PERSON

Standard Form 298 (Rev. 8-98) Prescribed by ANSI Std Z39-18

## Enabling Coordination During Security, Stabilization, Transition, and Reconstruction Operations

R. Mittu<sup>1</sup> and S. Guleyupoglu<sup>2</sup> <sup>1</sup>Information Technology Division <sup>2</sup>ITT Advanced Engineering Sciences

Introduction: The emergence of Department of Defense Directive 3000.05<sup>1</sup> is enabling Security, Stabilization, Transition, and Reconstruction (SSTR) operations to become a core U.S. military mission. These operations are now given equal priority to combat operations. The immediate goal in SSTR is to provide the local populace with security, restore essential services, and meet humanitarian needs. The longterm goal is to help develop indigenous capacity for securing and maintaining essential services. Therefore, many SSTR operations are best performed by indigenous groups, with support from foreign agencies and professionals. However, SSTR operations in response to large-scale disasters may benefit from military involvement. This article describes a conceptual portal, Share-InfoForPeople, that incorporates advanced Information and Communication Technology (ICT) to enable collaboration, coordination, and information sharing across the civil-military boundary during SSTR operations.

Security, Stabilization, Transition, and Reconstruction: SSTR operations are conducted outside the boundaries of U.S. lands and territories, and are best performed by indigenous groups, with support from foreign or U.S. civilian professionals. Complex and large-scale disasters are an example where military support to SSTR operations will undoubtedly provide significant value to foreign governments and nongovernmental organizations, which may already be under great stress to respond in a timely manner. The command and control structure, resources, and assets the military can offer in such situations can shorten the response timeline. However, without the means to properly coordinate the efforts of such a large and diverse group spanning the civil-military boundary, basic assistance and relief operations may be severely impacted, leading to delays or waste in the overall response cycle.

A key element in the success of SSTR operations is the ability of the U.S. (or other lead activity) to obtain and process information about the situation and status of participating partners, while disseminating (or making accessible) the widest amount of relevant information to the partners in the ad hoc coalition. Through the sharing of unclassified information via an appropriate ICT framework and supporting analytical tools, the goal is to increase the overall level of coordinated activity among the participants.

Information and Communication Technologies: The Internet is driving emergent behavior in personal and group communications and is leading to new forms of interaction, as witnessed through the growing popularity of social networking web sites. The DoD is also experimenting with social networking as a mechanism for improving SSTR operations. The ShareInfo-ForPeople portal (Fig. 7), being developed by NRL, provides a set of social networking tools through a web browser interface to enable coordination and information sharing. The key features and capabilities of the portal include the following:

- Fully Indexed Site, based on user-defined keyword tags to facilitate efficient search.
- Real Simple Syndication (RSS) and Geospatial RSS Feeds, to incorporate real-time content from external sites, which can be visualized on various maps.
- Collaborative Authoring, via a wiki capability to promote shared knowledge. A community wiki should enable convergence toward accurate information being shared.
- Upload or Create Content, such as video, audio, and pictures within a group-based structure. Additional content such as weblogs (a.k.a. blogs), events, and disaster assessment reports can also be created. The various forms of content are indexed to support search, and can be geo-referenced for visualization on various maps.
- Picture Annotation Capability, which enables a bounding box to be overlaid on the stored picture, including an area for free-form comments to describe the image under the bounding box. User-defined keyword tags facilitate searching through the image gallery, and the images are geo-referenced for display on various maps.
- Subscription-based Email Notifications, to permit users to receive email notification when new or relevant content has been posted to a group.
- Subject Matter Expert (SME) Registry, to enable users to find individuals who are able to offer specific services, support, or other assistance during a crisis situation.
- Multilingual Chat, to enable real-time language translation, allowing communication between those who do not share a common language.

The baseline implementation of ShareInfoFor-People is providing the foundation on which more sophisticated capabilities are being developed, such as social network analysis and task management tools. Furthermore, the design philosophy embraces free and open software and standards to enable interoperability



**FIGURE 7** ShareInfoForPeople portal.

with other systems. We believe this philosophy offers an increased opportunity to instantiate an enterprise-wide capability composed of loosely coupled, agile systems that provide synergistic capabilities.

**Experimentation in Trident Warrior:** The Share-InfoForPeople portal underwent user assessment during the Trident Warrior experimentation exercise in March 2007. Trident Warrior is a yearly exercise that provides a venue for technology experimentation in support of the Navy's FORCEnet<sup>2</sup> vision. The portal was used by various civil and military groups in response to a hypothetical scenario consisting of a bird flu outbreak on the Cape Verde Islands off the coast of West Africa.

Through participation in Trident Warrior, valuable feedback was collected in order to improve the future capabilities of the portal. The portal underwent similar user assessment during the U.S. Joint Forces Command's Noble Resolve experiment in 2007.

**Summary:** The ShareInfoForPeople portal enables coordination and information sharing between the civil and military communities during SSTR operations.

The architecture is based on the Drupal<sup>3</sup> framework, an open source content management system. Furthermore, the design philosophy embraces open source software and standards to enable future interoperability with other portals that provide complementary capabilities. The portal was used at the Trident Warrior 2007 experiment in order to gather user feedback to support near-term improvements. The portal is expected to be included in future experiments in order to collect additional user requirements, which will enable the portal's capabilities to be refined for eventual transition into operational usage.

[Sponsored by OSD/Network and Information Integration]

## References

<sup>1</sup>U.S. Department of Defense, DoD Directive 3000.05, "Military Support for Stability, Security, Transition, and Reconstruction (SSTR) Operations," November 28, 2005. http://www.dtic. mil/whs/directives/corres/html/300005.htm, last accessed July 23, 2007.

<sup>2</sup> FORCEnet, http://www.globalsecurity.org/military/systems/ ship/systems/forcenet.htm, last accessed February 8, 2008.

<sup>3</sup> Drupal, http://www.drupal.org, last accessed July 23, 2007.