

FROM U.S. JOINT FORCES COMMAND

Most Promising Technologies, 2008

The interoperability trials (ITs) below successfully achieved stated objectives and favorably impressed warfighters/operators and technical assessors as relevant solutions for meeting combatant command and service capability gaps.

Based on the Quicklook survey* responses captured during the execution phase from participating warfighters/operators, Network Operating Working Group (NOWG), Systems Engineering and Integration Working Group (SEIWG) and Site



Managers/ Engineers, the highlighted trials were recommended to the Senior Management Group (SMG) as the CWID Most Promising Technologies for this year's demonstration. CWID 2008 assessed 41 trials on three operational network domains.

NOTE: Trials are listed in order of "Quicklook" survey results in each of vendor funded and government funded categories. *Quicklook" represents results from SMG-approved surveys completed by warfighters and assessors during the demonstration. It reflects immediate detailed impressions of information technologies in the CWID operational environment. Individual detailed reports in the abridged Final Report (on CD and online at www.cwid.js.mil) include in-depth analysis, extensive assessments of technical solutions demonstrated during CWID execution.

CWID 2008 Most Promising Technologies, Vendor Funded

Trial No.	Title (Acronym)	Sponsor	Developer	Page
5.73	VirtualAgility OPS Center (VOC)	Canada	IBM	44
VirtualAgility OPS Center is a browser-based software solution that enables interoperability and coordination within and among agencies to organize, plan, track and share operational activities. This open-standards technology connects incompatible systems, preserves the integrity of proprietary databases and streamlines personnel identification, location, collaboration and communications.				
1.15	Datatek IPv4-IPv6 Transformer	US Army	Datatek Applications, Inc.	26
The IPv4-IPv6 Transformer instantly converts IPv4-only legacy systems into dual-stack IPv4/IPv6 systems, to enable IPv6 messaging, while preserving IPv4 pass-through mode.				
5.34	Poliwall with HIPPIE Security Appliance	DISA	TechGuard Security LLC	42
PoliWall's HIPPIE Appliance filters block network traffic from adversary nations and gives U.S. and coalition partners higher priority to network assets. Policies can be quickly configured using a simple and intuitive world-map based interface.				
5.65	Security Information Management for Enclave Networks (SIMEN)	US Air Force	The MITRE Corp	44
SIMEN incorporates algorithms and protocols for the distributed collection and transport of IA events to a central location. SIMEN uses protocols and adaptive algorithms to dynamically respond to evolving threat environments, respect bandwidth constraints, prioritize events, and minimize fluctuating event volumes.				

IT 5.65

Security Information Management for Enclave Networks

5. ENHANCE GOVERNMENT AGENCY INTEROPERABILITY

TRIAL OVERVIEW: SIMEN, a Global Information Grid (GIG) Information Assurance (IA) project, employs an enterprise-wide sensor grid that collects and feeds event messages to a centralized security monitoring location. Timely, threat focused collection and security event data processing is challenging with bandwidth constraints, high volumes of data, and rapidly evolving threat environments typical of tactical networks. SIMEN incorporates algorithms and protocols for the distributed collection and transport of IA events to a central location. SIMEN uses protocols and adaptive algorithms to dynamically respond to evolving threat environments, respect bandwidth constraints, prioritize events, and minimize fluctuating event volumes.

SPONSOR:
US Air Force

LOCATIONS:
USNORTHCOM
NSWC Dahlgren
ESC Hanscom

PARTNERS:
IT 2.01
IT 5.34

REPORT LINKS

FULL TRIAL REPORT

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TRIAL CONTENTS

CWID SUCCESSES



ASSESSMENT RESULTS:
SIMEN operated on the HS/HD domain and received a Warfighter, Technical/Interoperability, and Information Assurance (IA) assessment.

SIMEN successfully demonstrated Objective 5.

- Filtered event messages at the collection point, threat prioritizing the remaining critical messages, and then reducing the filtered, prioritized messages in actual size before sending to the monitoring center.

- Accepted network security event messages from a commercial network security product and correctly prioritized and processed the messages based on threat level.

- Provided remote reach back to change the threat focus of its enclave collection device to quickly identify a developing network threat from a hostile country.

- Maintained a good IA security posture. No vulnerabilities found.

IT 5.73

VirtualAgility OPS Center

5. ENHANCE GOVERNMENT AGENCY INTEROPERABILITY

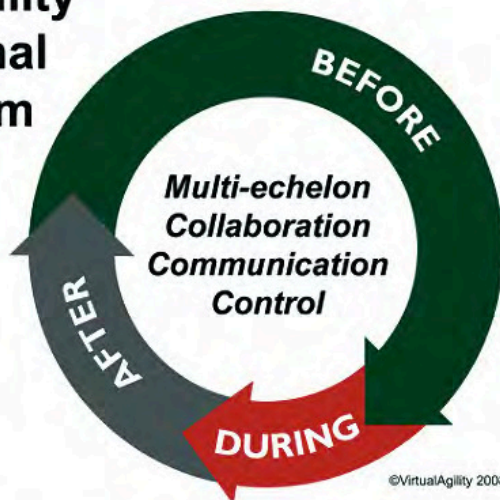
TRIAL OVERVIEW: VOC addresses the entire crisis management continuum – before, during and after an event. VOC is a solution that provides operational decision support in real time enabling multiple public and private organizations to collaborate and communicate in a single, centralized environment to plan, train, organize, track and share information and enable dynamic response to changing conditions. The VirtualAgility OPS Center (VOC) is a service-oriented architecture environment that allows multiple organizations using different technologies to plan, share, respond and recover with unprecedented levels of coordination, integration, accountability, and real-time situational awareness.

SPONSOR:
Canada

LOCATIONS:
USNORTHCOM
NSWC Dahlgren
SPAWAR
Canada
Richmond, VA

PARTNERS:
None

VirtualAgility Operational Continuum



- Situational Awareness
- Threat Assessment
- Planning
- Training

- Recovery
 - Reset
- Continuity
 - Hand Off
- Accountability

- Resource Employment
- Situation Monitoring
- Incident Reporting
- Missions
- Duties
- Tasks

ASSESSMENT RESULTS:
VOC operated on the HS/HD domain and received a Warfighter assessment and SEIWG evaluation.

VOC successfully demonstrated Objective 5.

- Provided role-based, service-oriented architecture that enabled interoperability and collaboration for multiple agencies to perform crisis, enhancing government agency interoperability.

- Used the National Response Framework (NRF) for creating new plans in response to a crisis.

- Warfighters found the trial intuitive, allowing quick access to the multi-agency collaborative data for situational awareness, identifying critical risks and impacts, discovering and mapping critical infrastructure, and for coordinating track response efforts by government agencies and first responders.

COALITION WARRIOR INTEROPERABILITY DEMONSTRATION 2008 FINAL REPORT

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IT 5.73

VIRTUAL AGILITY OPS CENTER (VOC)

WARFIGHTER/OPERATOR RESULTS

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IT 5.73 ASSESSMENT COMPONENTS

[INTRODUCTION](#) | [WARFIGHTER](#) | [TECHNICAL/INTEROPERABILITY](#) | [INFORMATION ASSURANCE](#) | [SEIWG](#)

(If a text entry is not linked, there is no assessment in that category for this trial)

PERFORMANCE

VirtualAgility Operations-Planning-Sharing (OPS) Center (VOC), IT 5.73, successfully enhanced government agency interoperability. VOC was developed by VirtualAgility in cooperation with IBM, and sponsored by the Government Operations Centre (GOC) of Public Safety Canada. A browser-based software solution, VOC provided the Common Operating Picture (COP) for the GOC role players at the Canadian site in Shirleys Bay. VOC provided a collaborative environment for managing multiple, independent, parallel activities using shared information sources.

Through IBM Websphere Portal, the system allowed for personalization, customization, and navigation on the user interface to the portal with embedded role-based security and single-sign on capabilities. To demonstrate VOC's "Operations" solution of drawing information from incompatible systems into one display, the warfighters used the combined features of the E-Team system (former CWID trial) for incident activity, a geospatial tool (ESRI ArcGIS v9.2), as well as chat tool and weather information for situational awareness. Warfighters easily "Shared" functions and created virtual groups by connecting Other Government Departments (OGD) via its integrated directory. A command structure and policy comparison was included to quickly find key stakeholders to replicate the way requirements emerge and change during an event. Key documents in the "Planning" workspace were transposed into forms for quick access to the latest status information.

VirtualAgility OPS Center performed very effectively in the HS/HD domain and received outstanding Warfighter and Technical Interoperability Assessments. Eight warfighters from Canada and the two sites in the US assessed VOC as being extremely successful in enhancing government interoperability.

Due to VOC's complexity and CWID scenario limitations, the warfighters did not fully explore all VOC's functions and capabilities. For example, the tool's analysis portion was not explored in depth. However, indications were that the tool analysis functions could be extremely beneficial for returning statistics and query replies.

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ASSESSMENT LEVEL

A core team of four experienced Watch Officers from Public Safety Canada's Government Operations Centre (GOC) assessed VOC from the main Canadian Site in Shirleys Bay, Ottawa, ON. A Canada Command liaison officer and three US warfighters assessed VOC from NORTHCOM. One NSWC Dahlgren warfighter and one SPAWAR warfighter also assessed VOC. In addition two USNORTHCOM technicians provided Site Engineer Reports and one USNORTHCOM technician provided a Systems Engineering Integration and Network report.

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TECHNICAL SUPPORT/TRAINING

VirtualAgility and IBM provided extremely knowledgeable representatives to Shirleys Bay for the three weeks of training and execution. Other IBM and VirtualAgility personnel were located at USNORTHCOM and Dahlgren. As a web-based system, VOC did not require special set-up at the sites. As the demonstration was conducted using the unclassified HS/HD network, VirtualAgility provided server and technical support from their offices in Winchester, MA.

On-site representatives at Shirleys Bay provided hands-on VOC training and conducted virtual training from Shirleys Bay to USNORTHCOM, Dahlgren and SPARWAR using Adobe Connect. The warfighters generally found the training sufficient, though they commented that hands-on training with an on-site representative was preferred. All warfighters stated the training was necessary to perform their MSEL tasks and that in the beginning, they required technical assistance in performing some of their MSELs. The user manuals and reference material proved useful.

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CAPABILITIES/FINDINGS

DEMONSTRATE DATA ACCESS, FUSION AND INTEGRATION AMONG JOINT FORCES, INTERNATIONAL, FEDERAL AND STATE AGENCIES, AND LOCAL LAW ENFORCEMENT: The majority of warfighters found it quite easy to locate/upload and modify/share appropriate plans for events taking place and to compare the plans against checklists/SOPs. The respondents leveraged external mapping web services to display contextual information and integrated RSS feeds into a VOC solution. They interpreted icons and the information they were trying to convey; and zoomed to more detailed levels on a map to obtain additional data layers.

DEMONSTRATE THE ABILITY TO DISTRIBUTE AND TRACK KEY POLICY AND STRATEGY DOCUMENTS (MEMORANDUM OF AGREEMENT, MEMORANDUM OF UNDERSTANDING, STANDARD OPERATING PROCEDURES, AND INDUSTRY STANDARD ARCHITECTURE) BETWEEN GOVERNMENT AGENCIES: Warfighters successfully used VOC to view, distribute, and track documents and plans. They created/disseminated notification templates and received a notification when a key document was updated. Using the internet, most easily navigated the organizational structure of external organizations to obtain appropriate policy documents; displayed change history on these documents; and shared/linked them with co-workers through the collaboration infrastructures.

DEMONSTRATE A SITUATIONAL AWARENESS TOOL THAT USES ADVANCED VISUALIZATION TECHNOLOGIES CAPABLE OF INTEGRATING EXISTING SYSTEMS INTO ONE COMMON OPERATIONAL PICTURE: All warfighters found VOC to be very useful in displaying incident management information. They displayed information on critical resources in a variety of ways. They found it easy to access Incident Management applications and Planning & Logistics applications. All found it very easy to locate resources based on their role; to chat with a person in their pre-defined buddy list; and to coordinate multi-agency responses. While inside VOC, they received intelligence on potential threats; viewed situational overviews from an integrated/fused picture; and determined response capabilities through analysis of available resources.

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WARFIGHTER/OPERATOR PERSPECTIVE

The warfighters found VOC extremely effective for the crisis management continuum that were simulated: identifying critical risks and impacts; developing and maintaining accurate data; creating & distributing contingency plans and check lists; discovering and mapping critical infrastructure, and enabling effective situational awareness and dissemination of the information in a timely manner. An experienced Senior Watch Officer stated that the more familiar she became with the product, the better she found it performed. The consensus of the warfighters was that VOC, while not intuitive, was straight forward and user friendly. All but

one warfighters thought that VOC would fill a current capability gap in day-to-day operations.

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WARFIGHTER/OPERATOR COMMENTS

"It brings together mismatched technologies we currently use and saves time and enhances presentation of information for situational awareness."

"This is the one product used in CWID 2008 that I have used that I would recommend for immediate fielding. It is intuitive and worked reliably for me."

"This tool is much more powerful than we were able to demonstrate. It would be a great tool to implement in the Government Operation Center."

Referring to the VOC capability to locate resources: "Again, just the tip of the iceberg, especially if it was configured and customized with our information."

"It is extremely easy to view situational overlays of ongoing events/operations. This really could not be any simpler or user friendly."

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CONCLUSIONS

The VirtualAgility OPS Center (VOC), a browser-based software solution, enabled interoperability and coordination within and among agencies to organize, plan, track, and share operational activities. VOC's open-standards technology connects incompatible systems, preserves the integrity of proprietary databases and streamlines personnel identification, location, collaboration and communications. Using VOC, managers have an interactive, dynamic platform that directly connects source data with plans, procedures and existing technologies, effectively bridging information stovepipes and creating an instant situational report for past, present and future purposes.

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RECOMMENDATIONS

- Customize the system so it best fits the GOC processes and procedures.
- Customize VOC geospatial data overlays to represent Federal response levels.

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