

Topic: OSD11-DR6

DECISIVE ANALYTICS Corporation

Discovering Valued Information in a Cloud Environment (DVICE)

In combating terrorism, Warfighters must monitor threatening individuals and groups. The data sources needed to monitor such entities can consist of military sensors as well as open source data sources. Key data types include unstructured text, audio, imagery, and biometric data. Currently, there does not exist a way to run specific searches in response to a tactical information need against large distributed heterogeneous data stores. To address this, we have developed a system called Discovering Valued Information in a Cloud Environment (DVICE). DVICE provides a framework to correlate, fuse, and exploit key observations which have been extracted from distributed data sources to provide a consolidated and correlated knowledge product to the Warfighter. DVICE is based on a cloud computing platform. Decisive Analytics is an Employee-owned company providing data processing capabilities that move beyond simple extraction by automatically organizing, identifying, and extracting activities and relationships from large corpora of text, imagery, video, and audio. We are seeking opportunities to transition this capability to programs where identifying threats from a large corpus of multi-source data set in real time is a difficult challenge.

Technology Category Alignment:

Information Collection/Management

Synthesis/Analytics/Decision Tools

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SYSCOM: ONR

Contract: N00014-15-C-0054

 Corporate Brochure: https://navystp.com/vtm/open_file?type=brochure&id=N00014-15-C-0054

Department of the Navy SBIR/STTR Transition Program

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WHO

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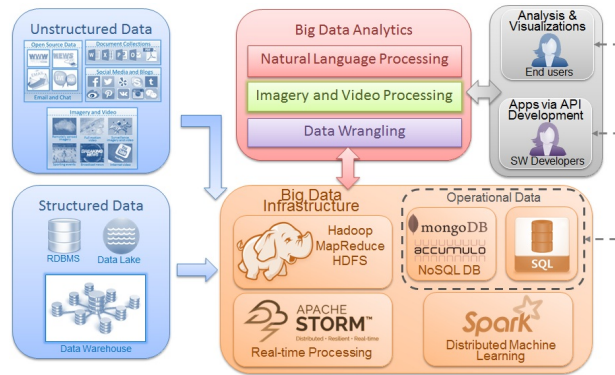
Sponsoring Program:
Expeditionary Maneuver Warfare
and Combating Terrorism
Department - ISR Programs

Transition Target: Distributed
Common Ground System-Navy
(DCGS-N)

TPOC:
Mr. Martin Kruger
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Other transition opportunities:
DCGS-A, AF DCGS, Special
Operations Command, FBI

Notes: Image created by Decisive
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WHAT

Operational Need and Improvement: Military and open-source data sources contain a wealth of information about individuals and groups of interest to US and coalition forces. This information is in the form of unstructured text, audio, imagery, video, and soft-biometric data. Warfighters have access to these distributed, disparate data sources but are severely limited in exploiting the information.

Specifications Required: In combating terrorism the need exists to monitor at risk individuals and groups. The data sources to achieve this goal can consist of military sensors and sources as well as open source literature. Key data types that may contain valued information include unstructured text, audio files, images, high resolution imagery, wide area airborne imagery and biometric data. Currently, there does not exist a way to run specific searches in response to a tactical information need against large distributed data stores.

Technology Developed: We have developed three components to solve the problem of generating consolidated and correlated knowledge from disparate data sources: First, we provide information extraction techniques that are aligned with the key questions asked by Warfighters. Warfighters have meaning-based information needs and being able to align those needs with extraction capabilities is crucial. Second, we provide a common framework for correlating, fusing, and analyzing the knowledge extracted from these large distributed data sources. Third, the volume of available data demands a scalable cloud architecture that can host distributed processes for information extraction and data fusion.

Warfighter Value: The capability allows Warfighters to quickly and easily understand large unstructured repositories of data faster and more accurately than ever before.

WHEN

Contract Number: N00014-15-C-0054 **Ending on:** September 2, 2018

Milestone	Risk Level	Measure of Success	Ending TRL	Date
Multi-modal (text, imagery, video) analytic cloud implementations	Med	Demonstrate multi-modal analytics scale to the cloud environment	4	December 2013
Global Knowledge Environment (GKE) demonstrations	Med	Demonstrate multi-modal analytics for automated product generation	5	October 2014
Integration into Advanced Video Activity Analytics (AVAA) framework	Med	Transition to DCGS-N for Trident Warrior 2016	6	July 2016
Integration and testing within DCGS-N Inc 2	Med	Passing of all user functionality testing and IA requirements	8	January 2019
Deployment within DCGS-N Inc 2	Med	Inclusion in FCR 2 Release	9	June 2019

HOW

Projected Business Model: The business model for this effort is a mix of license fees and custom development for various user communities. Through our experience, we know that this capability requires some custom development for different domains to produce effective results.

Company Objectives: Below is a list of transition partners that can benefit from this technology. DCGS-N / DCGS-A / AF DCGS: All source analytics are a powerful and flexible tool to help analysts gain situational awareness over a geographic region. DAC's automated capability results in a large reduction in the labor required to perform data analysis. Inclusion of methods for processing large scale multi-modal data stores will be important to these customers.

The Intelligence Community including the CIA, DIA, NSA, NASIC, MSIC, NGA, and others have requirements for analysts to automatically make senses out of large amounts of unstructured multi-modal data.

Potential Commercial Applications: Financial Analysts: Investment management and other financial market analysts have a need to analyze complex data sets about companies and industries. Many of these problems mimic the problems facing intelligence analysts: analysis must draw from huge amounts of data, a variety of expertise is required, and understanding and managing the data is crucial to success. Through a self-funded marketing effort, DAC has past performance and relationships with banks, hedge funds, and investment advisors in the financial markets and has validated this requirement.

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