

TOPIC NUMBER:
 AF071-082

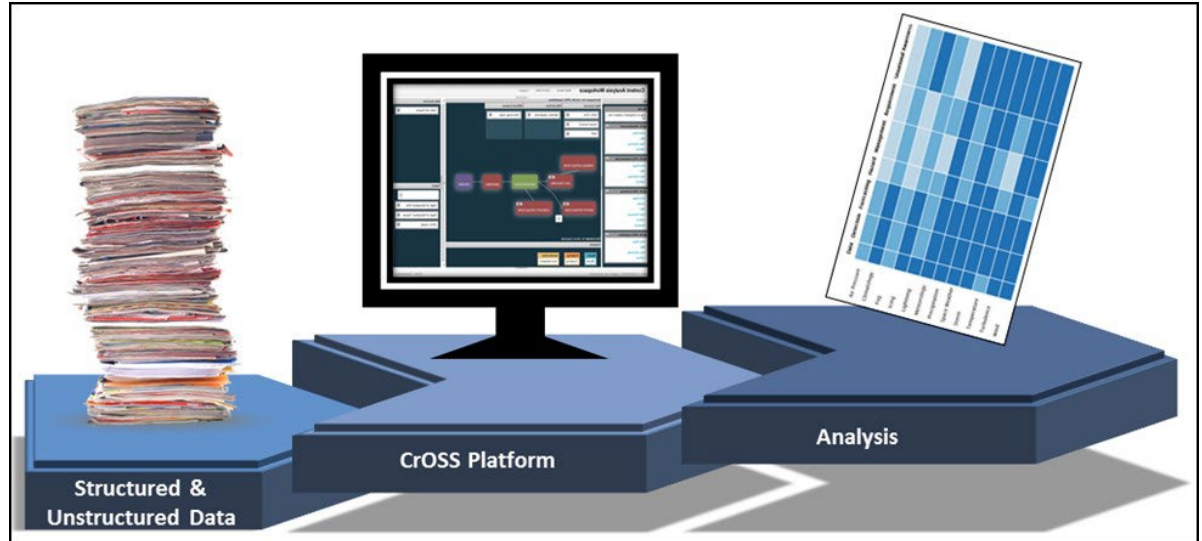
TOPIC TITLE:
 Advanced Self-Learning Ontologies

CONTRACT NUMBER:
 FA8750-13-C-0243

SBIR COMPANY NAME:
 Securboracion, Melbourne FL

TECHNICAL PROJECT OFFICE:
 AFRL Information Directorate Rome, NY

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Securboracion's work involves the application of new text mining and analysis technologies to automate the process of reviewing large collections of documents. (Courtesy illustration)

TIME-SAVING SOFTWARE TOOL

BOOSTS INTER-AGENCY R&D PARTNERSHIPS

The Air Force faced a monumental task in preparing to work with the Federal Aviation Administration on its Next Generation Air Transportation System.

Throughout this comprehensive overhaul of the national air traffic management system, widely known as NextGen, the FAA is requiring the Air Force and other agencies to make significant investments in new, coordinated infrastructure. The inter-agency collaboration needed to comply with these mandates involves the analysis of massive amounts of information across a wide variety of forms and artifacts, including many in unstructured formats.

To meet the challenge, officials at the Air Force Research Laboratory's Information Directorate searched for a partner and found Florida-based Securboracion. With the backing of an Air Force Small Business Innovation Research (SBIR) award, Securboracion was able to adapt newer technologies to handle the work.

HOW IT STARTED

The FAA was relying on contractors to manually review documents in search of potential opportunities to leverage Department of Defense research in building NextGen. Not only was this costly and time consuming, but human limitations reduced what could be covered and increased the odds of overlooking critical information.

Securborator's work involved the application of new text mining and analysis technologies to automate the process of reviewing large collections of documents. Dubbed CrOSS – for Cross Organizational Semantic Services – the company's platform helped the FAA analyze tens of thousands of Department of Defense and FAA sources to discover potential research and development relationships. What would have been a year-long job was reduced to about a month using CrOSS.

BEHIND THE TECHNOLOGY

The CrOSS platform builds on previous work done by Securborator for USTRANSCOM. An Air Force transition agent helped the company coordinate with multiple stakeholders and build a plan to tailor the software to FAA use.

Formally modeling the Air Force and FAA domains provided concepts and entities with unique, machine-readable names. This appropriate and unambiguous naming allowed the analysis of linked data on a large scale.

Securborator successfully completed development of the underlying infrastructure and software as well as transition of CrOSS to the FAA NextGen Prototyping Network. As a result, the Air Force has a useful new tool in its effort to adopt NextGen and comply with its mandates.

MORE OPPORTUNITY TO COMMERCIALIZE

Funding from the Air Force SBIR Program helped Securborator establish CrOSS as a time-savings tool and demonstrated how it could be used to deliver document search and analysis capabilities of large repositories.

With more widespread use by other agencies, CrOSS could improve the identification of opportunities for inter-agency research and development collaborations; improve collaboration between the Department of Defense and other research programs and projects; and create a big picture understanding of research and development portfolio relationships.

Securborator attracted Phase III funding – investments from outside the SBIR program – with assistance from the Air Force SBIRs Commercialization Readiness Program. CrOSS will be further developed for the Defense Technical Information Center and for the Department of Defense Unmanned Aircraft Systems Common Development Program. New efforts will aim to provide expanded analysis and reporting features and extend CrOSS from a single-use application to a network-based, multi-use application.



U.S. AIR FORCE

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