

The Value of the Analytic Technology Industry Roundtable

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Introduction

Fostering the exchange of technical knowledge and industry collaboration are key values in MITRE's culture; connecting a significant market segment or industry is of high value to our government sponsors. To cultivate successful collaboration and partnerships between MITRE, government, and industry requires an atmosphere primed for interaction and engagement, an appropriate business model, and a leader to serve as a catalyst to accelerate and facilitate opportunities for all parties.

This paper provides an overview of how the Analytic Technology Industry Roundtable was formed, its charter and mission statement, and the fundamental objectives of the Roundtable. We will discuss the Roundtable's accomplishments to date within these top priority areas: acquisition and procurement, and the architecture of the Analysis Exchange (AE). We will also highlight our priority for the coming year: accreditation.

Roundtable Overview

In November of 2015, a motivated group of analysis and analytic technology companies came together to discuss advancing their technologies and business in the government marketplace by addressing certain concerns and priorities together. With that in mind, the Roundtable hosted its first meeting. Founding membership consisted of about a dozen companies, and quickly expanded to sixteen. The Analytic Technology Industry Roundtable founding membership includes IBM, Centrifuge, MapLarge, Recorded Future, Cloudera, Lexis Nexis, FICO, MarkLogic, MongoDB, NetOwl SRA, Palantir Technologies, SAP NS2, Thomson Reuters, SAS, ESRI, and Tableau. The group has convened monthly since their kickoff. Meeting protocol, a mission statement and charter, a website, and other operating fundamentals were established during the Roundtable's first year.

At present, the Roundtable membership is comprised of 30 companies, which includes The MITRE Corporation as the hosting organization. The Roundtable is advised and influenced by government priorities and missions. Roundtable membership work together on industry topics

of mutual interest and concern related to analysis and analytic technology. As topics of interest are identified by the Roundtable, working groups are formed to champion and advance agreed-upon Roundtable goals within that area of interest.

Charter and Mission Statement

The Roundtable is a focal point and voice for the analysis and analytic technology industry serving the government market. The objective of the Roundtable is to bring together leaders of analysis and analytic technology companies to have open dialogue and achieve common goals. Its membership seeks to address certain industry priorities and general topics of interest and concern as related to analytic and analysis technology.

By doing this, the Roundtable can ensure U.S. government officials hear a cohesive industry voice. As an operator of federally funded research and development centers, MITRE is able to provide the Roundtable with a neutral environment, guidance, and structure. The Roundtable engages senior-level U.S. government sponsors to learn about their organizational priorities and mission requirements as related to industry and discusses and proposes improvements for engagement between the U.S. government and industry. The Roundtable uses its collective knowledge, research, and resources to inform decision-makers and the U.S. government on topics related to analytic and analysis technology.

The Roundtable operates as a collaborative organization. Technology companies engaged in the analysis and analytic technology market supporting the U.S. government may join the Roundtable. The purpose of the Roundtable is to build strong, positive, relationships between industry and the U.S. government and to achieve technical goals of community interest. The Roundtable works to engage the U.S. government on topics of concern to the analysis and analytic technology community and facilitate greater and higher quality communication between the two entities, leading to better solutions and additional support for the Roundtable's mission.

Roundtable Fundamentals

Understanding the roles and motivations of different companies and their respective representatives is important in operating the Roundtable. Many software companies in the government market are looking to sell software, and they are also looking to build strategic relationships with FFRDCs and system integrators. More recently, the software industry has embraced a culture of partnerships. These partnerships typically fall into one or more general

categories: strategic marketing, integration, technology, and financial.

Clear understanding and in-depth knowledge about the software industry, and what they sell to the government, is a necessary ingredient for working with such a roundtable and marketplace of software analytics companies. Engagement also requires a broad understanding of government needs and requirements in the business of analysis and analytics.

Acquisition and Procurement

A priority for the Roundtable is acquisition and procurement within the government market. The group recognizes this area as a topic of concern, and there are many efforts to make improvements and changes in acquisition. The Roundtable members believe that, by working together, they may address acquisition improvement as a group and make a positive impact and statement. Additionally, they believe that their Roundtable work on interoperability will help strengthen their message and ability to positively impact change in acquisition and procurement.

The Roundtable is currently working on an Acquisition study, which includes a survey of acquisition topics of concern and interest. They believe that their work, findings, and recommendations will help them to explore solutions and suggestions for improving the acquisition processes in ways that are mutually beneficial to them and their customer base. This would result in better solutions for their customers and ultimately more business for the analytic companies serving the government market.

Intelligence analysts have been employing analysis software for their work for some years. This technology is rapidly advancing, and with this advancement comes challenges for slower moving government organizations with cumbersome acquisition processes. The analytics market has experienced challenges in serving the government market, such as the extensive length of acquisition cycle and process and suitability or fitness of the rapidly changing technologies that are being procured.

The analytics market place has a wide range of companies competing for government business. In recent years, many tech companies have more closely considered the acquisition cycle, costs of competition, system requirements, and profits in government business. The Roundtable group noted that requirements for government systems seem over-prescribed and over-constrained, which can be particularly limiting for technology companies that work and operate best in innovative, agile environments, with fewer inhibitors.

Silicon Valley companies include those that were and are relative newcomers to the government

marketplace and more established companies that have been serving the government market for some years. These companies all identify the same challenges in the acquisition space. In recent years, Silicon Valley has contemplated and considered just how best to serve the government market given acquisition constraints and other considerations that are impeding their goals and work. Programs such as the Defense Innovation Unit Experimental (DIUX) look to reduce barriers between government and technology companies.¹

Similar industry groups, such as the Washington Cyber Roundtable, have also identified acquisition as a priority topic. Their report *Improving Cybersecurity and Resilience through Acquisition—Final Report of the Department of Defense and General Services Administration* cites similar areas of concern, focused on the cyber domain.² Their report discusses the current acquisition process and lack of responsiveness and the acquisition gap for cyber services and products. The report makes suggestions and improvements, given the current state of acquisition.

Architecture - Analysis Exchange Model

A second priority for the Roundtable is the Analysis Exchange Model 1.0. The two main components of the Model are its architecture and its ontology—defined as "a set of concepts and categories in a subject area or domain that shows their properties and the relations between them." The AE's architecture is a hub that brokers analytic artifacts, knowledge, and results between analytics and analyst customers. The architecture's principal components include the Collaboration Services, the Transfer Service, and the Knowledge Store. The Collaboration Service includes the software that drives and manages the workflow of analytics interacting with the AE. The Transfer Service includes the software that moves results between the AE and external providers or consumers, and the key subcomponents of this are the adapters, which convert external formats and content into a form that matches the AE's ontology. The Knowledge Store is where shared results that have been adapted are held within the AE.

The AE's ontology defines the content and format of results held within the AE, drawn from various sources that have been adapted. This ontology was designed to have a wide coverage and be extendable, but also provide the specific support needed for the use cases exhibited in Analysis Exchange Model 1.0. In the case of both the architectural components and the ontology,

¹ <https://www.diux.mil>

² <http://www.washingtoncyber.org/reports>

an overarching goal was to provide examples that could demonstrate repeatability for any number of use cases that would draw on multiple analytic sources from industry.

Accreditation

Recently, the Roundtable identified accreditation as a priority topic. In early 2018, the Roundtable will form a working group around accreditation to develop a better understanding of mutual concerns, influencers, and opportunities in their market segment. The working group may initiate surveys and/or studies to assess and measure various aspects of accreditation, such as standardized accreditation for different government organizations, what the cost of accreditation would be to industry and government, and the agility of accreditation.

Exploring accreditation will provide a "stamp of approval" for the Analysis Exchange Model 1.0, assuring current and future members that the Model has been independently evaluated and delivers on the standards set forth by the Roundtable. Working with an accredited model, vendors will be able to compete for acquisitions more efficiently and reduce costs. In turn, the government will benefit by having access to a wider variety of interoperable, standardized and cost-effective tools.

Summary and Looking Forward

During the first two years of the Analytic Technology Industry Roundtable, the group has developed a process and protocol and, more importantly, clarified its mission statement and charter. This has helped to articulate its purpose, define the Roundtable's value, and ensure its future. Both the Roundtable's mission and charter illustrate a clear path for continued success. We believe the founding membership is motivated, has good communication skills, understands business motivations, and has agreed to collaborate with good intent to help their customers with their missions. These are the driving factors for success.