Roundtable Study: Analytic and Use Cases

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Analysis Exchange Model
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*Is not...*

- A Software Program
- A Database
- A Network
- A Computer System

*Is...*

A reference vocabulary for consistent reusable exchanges of information and analysis with:

- Normalized data services with a “common vocabulary”
- Rules and methodologies around the creation and use of data services with metadata in support of analytics and fact-based decision support.
- **Tool agnostic, executable anywhere** (in-Memory, in-Database, in-Hadoop, in-Cloud, in-Stream, in-Device), **portable to any IT environment** (desktop, server, grid, cluster, or cloud), **capable of management and inventory of all analytics assets**
Benefit:

✓ Infrastructure *interoperability* & *portability*

✓ Systems and user *collaboration*

✓ Accelerates *deployment*
Purpose: **Interoperability, Usability & Collaboration**

- **Data Scientist**: Expand analytic toolkit. Code in the language of your choice. Scale methods without redefining code.
- **Soldier**: Easily wrangle data. Interactively interrogate. Discover insights through visual interface.
- **Application Developer**: Embed analytics in applications. Documented, public REST APIs. Rapid analytic release.
- **IT**: Centralized management of analytic assets. One governed environment. Multi-cloud for flexibility. Failover protection.
- **Command**: Consistent, trustworthy answers. Nurture innovation. Addressing strategic issues.
The core purpose of any analytic or investigative organization is discern the insights needed for mission or task-centric activities: “maximize the value of the mass of information available to them and translate this into actionable intelligence for faster, more informed decision making”

This study posits that the essential elements of an analytic or investigative solution are the effectively the same, whether in a government or commercial environment:

- Define a set of the most common use cases across government and commercial organizations
- Express the use cases as a set of commonly asked questions or requests for information (RFI’s) and their expected outcome.
- Contrast the commercial and government aspects of each use case
Commercial drivers

- Government intelligence workers *migrate* to commercial organizations
- Commercial organizations see value in running government style intelligence systems
- Availability of data provided via *open source* provides commercial organizations with the information resources to run advanced intelligence missions

Commercial advantages

- **Agility**, faster procurement deployment and operational cycles and a move towards continuous delivery
- **Less constrained environment**, more open infrastructure and data sharing and collaboration
- **Adoption**, Due to agility and lesser constraint environment commercial organizations are quicker to adopt new technology

It is more favorable for systems to evolve in commercial commercial organization

To leverage the commercial gain in government use COTS
Roadmap to Adoption

**ANALYTICALLY IMMATURE**

**LEVEL 1**
- Isolated analytics use.
- Unsophisticated tools and practices predominate

**LEVEL 2**
- Predictive analytics usage is part of mission critical applications only.
- Full benefits are not understood by a majority in the agency.

**LEVEL 3**
- Analytics usage consists primarily of tactical and ad hoc approaches.
- Analytics dev. and deployment is constrained, yet departments have their own experts and/or initiatives.

**LEVEL 4**
- Analytics talent is centralized into larger groups.
- Management understands and supports analytics for strategic value, thus bringing units into alignment

**LEVEL 5**
- Agency is committed to analytics as part of its future growth plan.
- Analytical Framework supports rapid response.
- Analytical output integrated seamlessly into end-user applications and workflow
A large clothing manufacturer decides to implement a single fraud investigation project office to identify the source of counterfeit fraud. The submits an RFP looking for a turn-key solution that can be rapidly deployed. Key elements include:

- Ability to connect to and load information from key corporate data sources.
- Tools for exploring open source (aka internet) for information related to the counterfeiting operations.
- Support investigators to search for relationships between the individual cases in order to identify larger counterfeit networks.
- Case management tools for lead (tip) management system.
- Analyst facing tools to explore source information, identify key evidence (“intelligence”) and combine evidence to identify counterfeit actors / organizations (“insight”).
A large financial institution with a global footprint is going through a risk mitigation modernization effort in order to meet new regulatory compliance requirements and further reduce operational and financial risk.

They view risk mitigation as being an imperative that can only be achieved at the industry level versus an individual corporation, so they reached out to several competitors and created a financial crimes consortium.

The initial consortium conference resulted in the following working groups:

- regulatory compliance
- data governance
- network security risk (internal/external threat)
- money laundering & terror finance prevention

Example 2: Financial Crimes Fusion Center