THE THETUS INTELLIGENCE FUSION PLATFORM

TECHNICAL OVERVIEW

A SEMANTIC APPROACH TO HIGH-PERFORMANCE FUSION, ANALYSIS, COLLABORATION, AND DISSEMINATION

Deploying an effective information sharing system poses significant challenges. The boundaries to efficient integration of information, people, process, and technology are many. Operational success hinges on the ability to rapidly integrate, relate, analyze, share, and disseminate actionable intelligence derived from a multitude of public and private sector constituents. Keeping pace with the amount, diversity, and sensitivity of data sources requires an innovative approach. Through a unique combination of data fusion, semantic knowledge abstraction, rules-based workflow, historical tracking, system-wide policy control, and dynamic user interfaces, Thetus provides a comprehensive platform for unified intelligence-led operations.

Taking Information Sharing to the Next Level

Collection and Description

Data formats and description varies widely from source to source. When different terms are used to describe the same data, those terms must be intelligently mapped to eliminate inefficient redundancy and enable faster, more efficient access. The Thetus platform enables database schema mapping that automates the integration process, resolves ambiguities, and includes verification tools to ensure accuracy across sources.

At the core of the Thetus platform is the ***semantic knowledge model***—a highly-descriptive, flexible structure of information comprised of domain-specific concepts and relationships. The knowledge model provides the essential layer of abstraction to enable multiple participating communities to search, access, and interact with information using the familiar language and context of their particular domain while maintaining shared meaning across systems. Metadata is extracted from fused data and incorporated into the knowledge base—eliminating the need to relocate or duplicate data.

Smarter Search

Thetus provides users with a better method of using their most critical tool: *search*. Concept-based semantic search enables users to perform more intuitive searches using the terms of their domain as opposed to the restrictive terms of the database. Users can directly annotate and relate search results and tie new discoveries back to the knowledge base where the information is made instantly available for further analysis, validation, and collaboration. The Thetus platform features inference-enabled search that allows users to discover hidden trends, patterns, and relationships among information. Critical connections that otherwise would have gone undiscovered are now exposed to the analyst through a variety of intuitive visualization interfaces—enabling thorough exploration of key links.

Information Access Control

The diversity of data sources involved in cross-community information sharing necessitates more than just standard role or group-level security. Complex information access guidelines require the implementation of system-wide policy control. Thetus enables agencies and organizations to deploy policy parameters for control over data access, processing, and publishing. Thetus' rules-based policy enforcement provides the flexibility to ensure effective information sharing while protecting sensitive data in accordance with a diverse combination of legal, cultural, and procedural environments.

Historical Tracking and Reporting

Imagine the ability to easily answer the question: ***"What did we know when we made that decision and how can we make a better decision based on what we know now?"*** Thetus tracks and records every aspect of data interaction and processing throughout the entire analysis lifecycle. From maintaining chain-of-custody to auditing and evaluating incident information tracking during the investigative process, providing an accurate historical record is imperative at both the strategic and tactical level. This comprehensive history provides the essential mechanism for monitoring the evolution of intelligence, maintaining information source integrity, and assessing operational success against overall mission objectives.

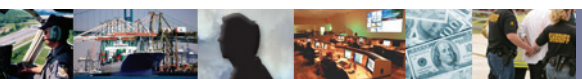
In order to support proactive intelligence-led operations, users must be able to identify and analyze the leading indicators of potential risks and threats. Understanding the history and trajectory of change is critical to accurately forecasting future events. Temporal analysis enables users to leverage historical information to inform the predictive analysis process.

Customizable Workflow Engine

Multiple information systems are difficult enough to integrate at a simple, functional level. Deploying complex workflow frameworks across distinct organizations is impossible without a means to formalize and automate the processes and rules that comprise workflow. Automated processing, notification, and dissemination of targeted information are essential for cross-organizational fusion. Thetus provides a unified analytics pipeline for automatically pre-conditioning data to deliver highly-focused information—enabling users to spend the majority of their time analyzing and making decisions as opposed to assembling intelligence for analysis. In addition to automated rules-based workflow, Thetus puts the power of the workflow engine on the desktop—allowing individual users to trigger processing tasks on-demand. The Thetus workflow engine allows for easy integration of a wide variety of analytics including entity extraction, link analysis, and geotagging.

The Knowledge Portal

The Thetus knowledge portal provides an intuitive, browser-based interface that allows users to access and interact with personalized, filterable views of information. The portal framework adheres to industry standards, enabling rapid deployment on a broad range of enterprise servers.



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