

# SAVANNA

## WHITE PAPER

Analyzing Cartels with Savanna

© 2015 Thetus Corporation. All rights reserved.

The content of this guide is furnished for informational purposes only and is subject to change without notice. Thetus Corporation assumes no responsibility or liability for any errors or inaccuracies that may appear in this guide.

If this guide is distributed with software that includes an end user agreement, this guide, as well as the software described in it, is furnished under license and may be used or copied only in accordance with the terms of such license. No part of this guide may be reproduced without the prior permission of Thetus Corporation except as permitted by any such license. Note that the content of this guide is protected under copyright law even if it is not distributed with software that includes an end user license agreement.

Thetus, the Thetus logo, Thetus Publisher, and Savanna are either registered trademarks or trademarks of Thetus Corporation. All other trademarks referenced herein are the property of their respective owners.

Thetus Corporation, 326 SW Broadway, Portland, Oregon 97209, USA.

## TABLE OF CONTENTS

EXECUTIVE OVERVIEW	1
ANTICIPATING OUTCOMES WITH SAVANNA	2
SPOTLIGHT: METH RING	6
BENEFITS	7
CONCLUSION	8

## **EXECUTIVE OVERVIEW**

When news broadcasts tells the story of a meth lab brought down by law enforcement, we don't often hear about what went into the final arrest. With drug investigations spanning multiple regions and departments, interagency collaboration is detrimental to advancing an investigation. With pressure from the media and public to make quick arrests, law enforcement agencies must utilize all available resources in an efficient and collaborative environment.

Law enforcement leaders must make decisions based upon their present understanding of crimes, regardless of how imperfect the available information. Anecdotal knowledge provides spotty insights, commercial media is too broad, and quantitative data requires appropriate context. Yet by synthesizing these and other forms of data into a comprehensive narrative, analysts can investigate each point of interest, discovering connections and evidence to implement strategies for countermeasures.

Employing models to extend the utility of qualitative information, and working within a single shareable, secure platform, analysts can further operationalize tacit knowledge and contextualize information, providing decision-makers with the insight needed to prepare for the unknown.

To address this rapid evolution of cartel organization and activity, law enforcement is turning to big data analytics to detect and prevent crime. However, the sheer volume of data reporting and false positive rates are daunting to analyze and require a solution to extend data results. Savanna's dynamic, all-source analysis environment gives analysts the ability to investigate each point of interest, discovering connections and evidence to implement strategies for effectively preventing drug-related crimes.



1

## ANTICIPATING OUTCOMES WITH SAVANNA

Complex, multi-agency investigations require a unique, multi-faceted approach to assessing and dealing with drug trafficking. With the appropriate tools and expertise, law enforcement can anticipate potential outcomes and prepare accordingly.

Savanna, Thetus Corporation's flagship browser-based analysis platform, enables analysts to model complex problems. By identifying key information and visualizing relationships between structured and unstructured data, Savanna users construct holistic narratives that convey known risks as well as information gaps.



## Access data via Savanna's web interface for easy file sharing

Savanna is browser-based, meaning that any authorized user with an Internet connection can access the Savanna platform and all public content created by other users on the network.



## Contextualize and synthesize information with Crumbnet

Savanna Crumbnets serve as white boards for free-form analysis. Crumbnets allow analysts to capture questions, hypotheses, and assumptions to create an analysis narrative and place relevant data in context (e.g., Analyst's Notebook Charts, documents, images, other Crumbnets, videos, and much more). Analysts use Crumbnets to collaboratively ask and answer questions, pose hypotheses, note assumptions and state relevant facts to contextualize data. Crumbnets also serve as a navigation tool to guide audiences through the analysis.



## Ignacio Sebastian CHAVEZ 🛓 😔



## Ignacio Sebastian CHAVEZ

Birth: Uninoun dute Aliases: B Rey Skills: Uninoun Ignacio Sebastian OHAVEZ is an American citizen and the prime suspect in KINGBREAKER. OHAVEZ is believed to control an organization that smugg in used v ...

<ul> <li>Profile</li> </ul>		
Primary name	Ignacio Sebastian OHRVEZ	
Alternate names	E Rey	
Description	Ignado Sebastian OHRIEZ Is an American otizen and the prime suspect in a major onug trafficking investigation, Operacion KINGBREAKER, OHAVEZ IS	

### Build interconnected information networks with Occurrences

Occurrences are the problem-specific building blocks of an information network that any Savanna user can access and quickly add new discoveries and pull on existing data to connect information. With Occurrence templates, analysts can set requirements, define important fields and identify information gaps. These templates capture problem-specific information in a uniform way, eliminating redundancy and creating a common analytical framework that analysts can build on. Occurrences are fully sourced and linked between related profiles, allowing users to easily navigate between connected information.



### Visualize connections and relationships with Linknet

Analysts can add multiple Occurrences from the information network to a Linknet to view interconnected people, places, organizations, events and things by simply dragging and dropping. Occurrences in the Linknet are fully sourced, allowing analysts to easily access information about individual entities on the Linknet.



### Temporally visualize information with Timeline

With Timeline, analysts can temporally visualize Occurrences (people, organizations, places, events and things) and their associated events by simply dragging Occurrences onto the Timeline. With Timeline, users can interact with Occurrence events by zooming, panning, drilling down for more specific information, and filtering with a temporal filter.





## Visualize geographic data in Savanna's enterprise-level mapping tool

Using geographic data or a CSV file containing geographic coordinates, analysts can create and stylize maps to complement their analysis. Automated mapping of data sets facilitates visualization of large quantities of geographic information while customization tools allow the user to modify colors, base layers, and data visibility.



## Support analysis conclusions with evidence created in Savanna and from other sources

Analysts collaborate on Crumbnets to support their conclusions with content created in Savanna, such as a screenshot image of a Map and relevant research. Viewers explore evidence in the form of documents, images, videos, maps, notes, quantitative data, and profiles of people, places and organizations.



## Discover external data and Savanna content through keyword search and filtering

Savanna's search capabilities enable analysts to find relevant data and model content among public material on the shared network through searching for keywords and other filters, such as file type and classification level. Search results can then be added to the user's Space and incorporated into their analysis. Searches can also be saved so that analysts can be alerted when new relevant content becomes available.





#### 🗊 Methamphetamine 🛓 🛞 E1 F Create \* Open Recent \* FIELD-LEVEL SOURCES Methamphetamine 0 = ----Expand all | Close all - Primary name: Meth 0 + Alternate names: Desoxyn (0) Alternate names: meth (0) Alternate names: ice (0) Prof Alternate names: crank (0) Alternate names: chalk (0) Alternate names: crystal Alternate names: fire (0) Primary nam ire. 10 glass. 10 po fast Alternate names: glass (0) + Alternate names en fast (0) Types Alternate names: speed (0) DEA Schedule: II (0) Descriptio How Administered: swallowed, s., (0) DEA Schedul Acute Effects: Increased heart ra., (0) How Adn (0) Health Risks: Weight loss; insom... (0) Acute Eff ine.jpg (0) Health Risk

### Visualize structured data as charts

With the Graphic tool, users can visualize structured data inside Savanna as charts (pie, bar, scatter, line) by simply dragging and dropping datasets onto the Graphic background. With Graphic, analysts can pick multiple columns of data to visualize on the chart, and choose custom style settings to visually differentiate the data.

## Understand how information changes over time by tracking provenance and lineage

Savanna users have multiple options to describe information, including adding citation details, linking to contributing sources, attaching reference materials, and organizing related information in a Space. Savanna automatically captures details like citations and user activity for content created within Savanna.

il:	
JSA FRA	
ssemination:	
FOUO	
PROPIN	
DEA SENSITIVE	
FISA	

## Manage privacy settings to control access to classified information

Administrative controls enable careful management of user access to information. Users select private or public settings for material they create or upload. They can also mark information according to its classification level, thereby permitting public view of the information only for those users whose accounts are set to the same classification level.



## SPOTLIGHT: METH RING



Long before we see the grizzled mug shots of drug lords on TV and in newspapers, there is a thorough process that leads to the snap of their handcuffs. With pressure from the media and public to make quick arrests, law enforcement agencies must utilize all available resources in an efficient and collaborative environment.

A group of law enforcement analysts wants to explore the arrest of drug king pin Ignacio Sebastain "El Rey" Chavez, and his relation to other drug busts that have occurred Amarillo, Texas. They begin by framing the problem in a Crumbnet, Savanna's narrative mind mapping tool. They outline the original traffic stop that lead to his arrest, adding known facts about the car search, as well as early hypotheses and assumptions.

With Savanna's dynamic Occurrence dossiers, the analysts collaboratively populate an information network about dealers, distributors, and purchasers of methamphetamene in the U.S. In this case, the analysts use a Person Occurrence to profile Chavez. Under the Relationships section, they link to Raymond Travis Schmidt, another known drug lord, and attach Chavez's past arrests under Events.

Then, they use a Linknet to add multiple Occurrences from the information network to visualize connections between Chavez and Schmidt.

With Map, the analysts can connect geospatial data of Methamphetamine production in the US and link it to the locations of where Chavez's various allies have been arrested. A temporal filter allows them to examine production and arrests from the last 10 years, and they add stylized filters to distinguish between them.

Cartel

-

With Timeline, they can drop multiple Occurrences, such as various suspected meth distributors, onto a visual span of time to draw connections between events within each Occurrence.

At this point, they're curious about common hiding strategies for Methamphetamine. Because Savanna's Search feature can pull indexed mentions of key terms from within PDFs and Analyst's Notebook Charts, they are able to find a previously built Chart uploaded by another Savanna user that outlines a recent investigation in Amarillo who hid pounds of Methamphetamine in cat litter.

## The Result

Now, with the supporting evidence they have created and gathered, they're ready to compile their findings to build a report in Savanna's Note tool detailing found information and new hypotheses. In Note, they drag the Map image captured earlier, as well as some thoughts on new findings. Once complete, the Note is shared directly with team members using Savanna and exported to PDF to send to fellow analysts and decision-makers for further action.



## BENEFITS



### Decision-making insight

Whether reviewing content from a bird's-eye view or focusing on a detailed event profile, decision-makers gain the critical insight they need to determine when to adjust organizational strategy in response to growing risk indicators.

### Agility

Using Savanna's dynamic information management capabilities in coordination with Analyst's Notebook's data analysis tools, organizations can maintain current intelligence needed to respond to rapidly evolving situations and perspectives.

### Productivity

Savanna eliminates the time required for integrating analytical output and sharing and formatting files, resulting in more time to devote to analysis and review.

### Expanded source material

The ease of uploading and manipulating diverse forms of data frees analysts from technological limits to incorporating all relevant information. Should a growing conflict present incomplete or fuzzy data, analysts can utilize such information in Savanna and update it as clarifying details emerge.

### **Reduced** exposure

Savanna minimizes exposure to error resulting from bad information by offering users the ability to annotate all source material and analysis products. Automatic updates documenting user activity further assign ownership while privacy settings maintain protected data.



7



Complex problems require multi-part solutions. With the rise of tools to mine large data sets, businesses have reaped greater knowledge from structured data<sup>1</sup>. However, challenges involving human variables like drug trafficking require a more nuanced understanding of context. Particularly when information is scarce, analysts must give special attention to informal knowledge, which they can use to construct formal models of how their problem space works.

Only by viewing problem spaces through multiple lenses and exposing inconsistencies can companies identify and begin to quantify—risks. In doing so, alternatives become clear, imperatives become known, and negative consequences are avoided.

### ENDNOTES

1. Furrier, J, "Big Data Is Big Market & Big Business - \$50 Billion Market by 2017," Forbes, last modified February 17, 2012, accessed September 25, 2014, from http://www.forbes.com/sites/siliconangle/2012/02/17/big-data-is-big-market-big-business/.

### **FIND OUT MORE**

Learn more about how Savanna can streamline your analysis process by visting our website at www.thetus.com.

326 SW Broadway, Portland OR 97219 P: 1.503.294.0900 F: 503.595.5828 8

