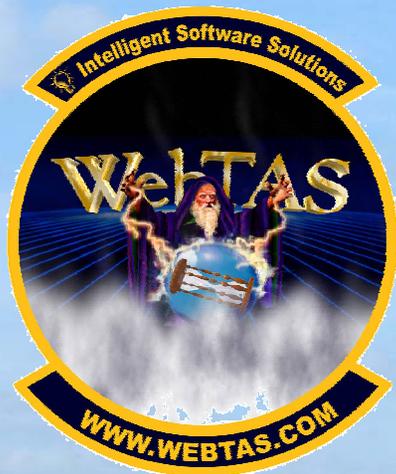




WebTAS Application to Rivet Joint



Carl Houghton
Director, Information Fusion Programs
Intelligent Software Solutions



Vision Statement

Fusion is a ubiquitous requirement and capability within the NCSFIS. Fusion shall provide the basis for integration of discrete observations into data, data correlated into information, and information inferred upon to achieve actionable knowledge. Our ultimate goal is to leverage the power of automated processing combined with human cognition to achieve wisdom.

RJ WebTAS Programs

- **Fused SIGINT Information System**
 - On-board automated SIGINT situation awareness
 - Standardized pre, execution and post mission analysis
- **Net-Centric SIGINT Focused Information Enterprise**
 - Building a network centric automated collection management and situation awareness system
 - Employment of Intelligent Agent based integration architecture
- **Fused SIGINT Network Centric**
 - Applies ontology development technology and agent integration of K-PASA to the NCCT network

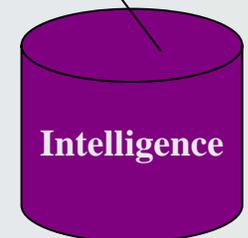
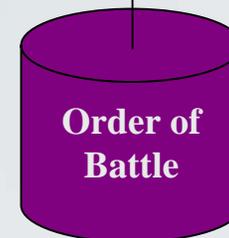
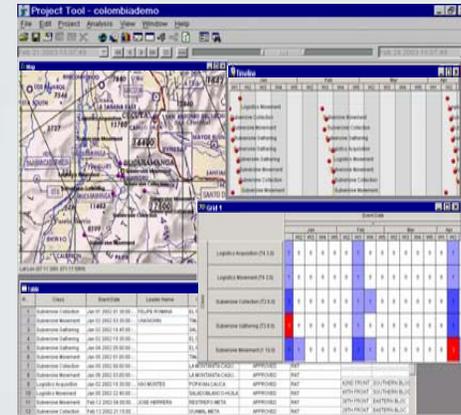
WebTAS Application in Rivet Joint

*On Board Situation Assessment
& Predictive Analysis*

*Ground Operations Planning, Data
Mining and Model Development*



*Mission-Relevant
Behavior Models &
Reference Data*



FSIS in Use



Preparation

Capture user experience
in knowledge models



Knowledge models used to
assist operators during
mission

Execution



Recovery and

Analysis

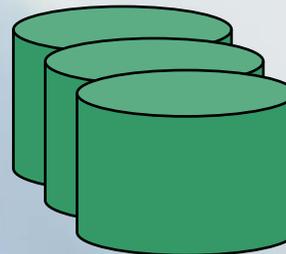
Results from
multiple missions
compared and new
models created



Preparation

- User knowledge captured in models
- Area of Interests defined with activities to be monitored defined

Known Hide
Sites
Adversary COA's
Order of Battle
Air Spaces



Knowledge Models



*Areas of
Interest*

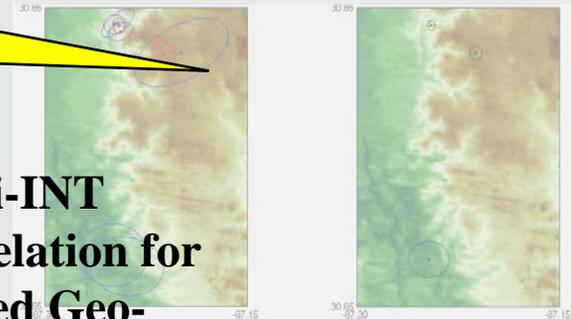
Execution

1. X12345 active
2. MTI Target
3. Z4321 active

Operators alerted to a sequence of events that fit model of significant activity



Operators alerted to specific activity in a specified area of interest



**Multi-INT
Correlation for
refined Geo-
Location**

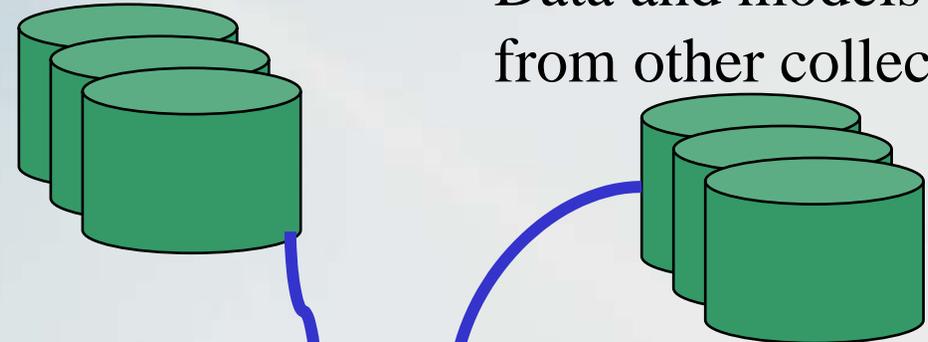
Recovery and Analysis

Data from previous missions

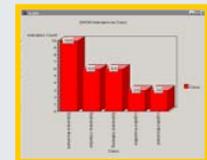
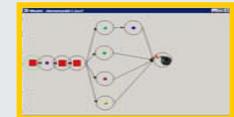
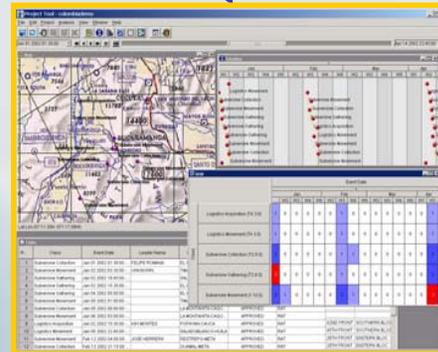
Data and models from other collectors

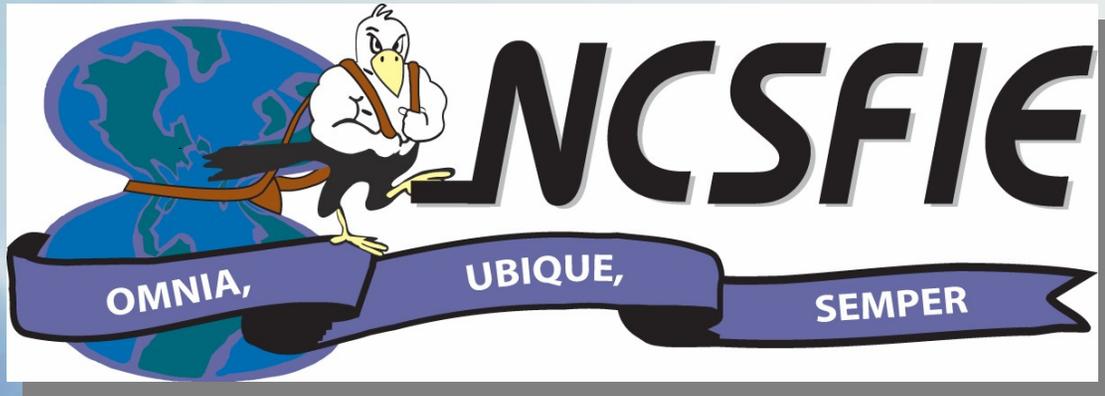
Operators/Analysts

- Compare signals and events from multiple missions
- Generate activity reports
- Perform QA on existing models
- Generate and distribute updated models



Reports, New Models





NCSFIE Goals

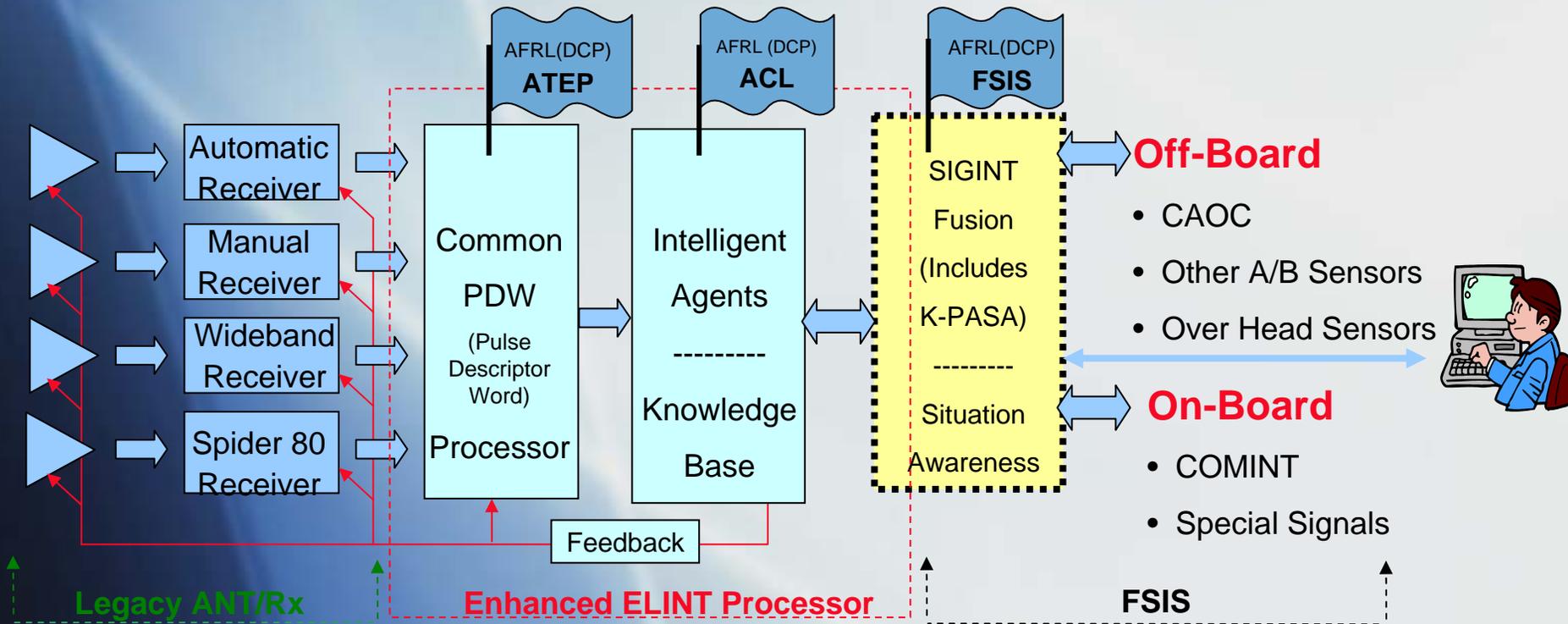
- Real-Time, net-centric information in operations
- Fused SIGINT
- Automated collection management across multiple platforms
- Automated sensor management and cueing across multiple sensors
- Man-on-the-Loop –vs- man-in-the-loop

NCSFIE Purpose

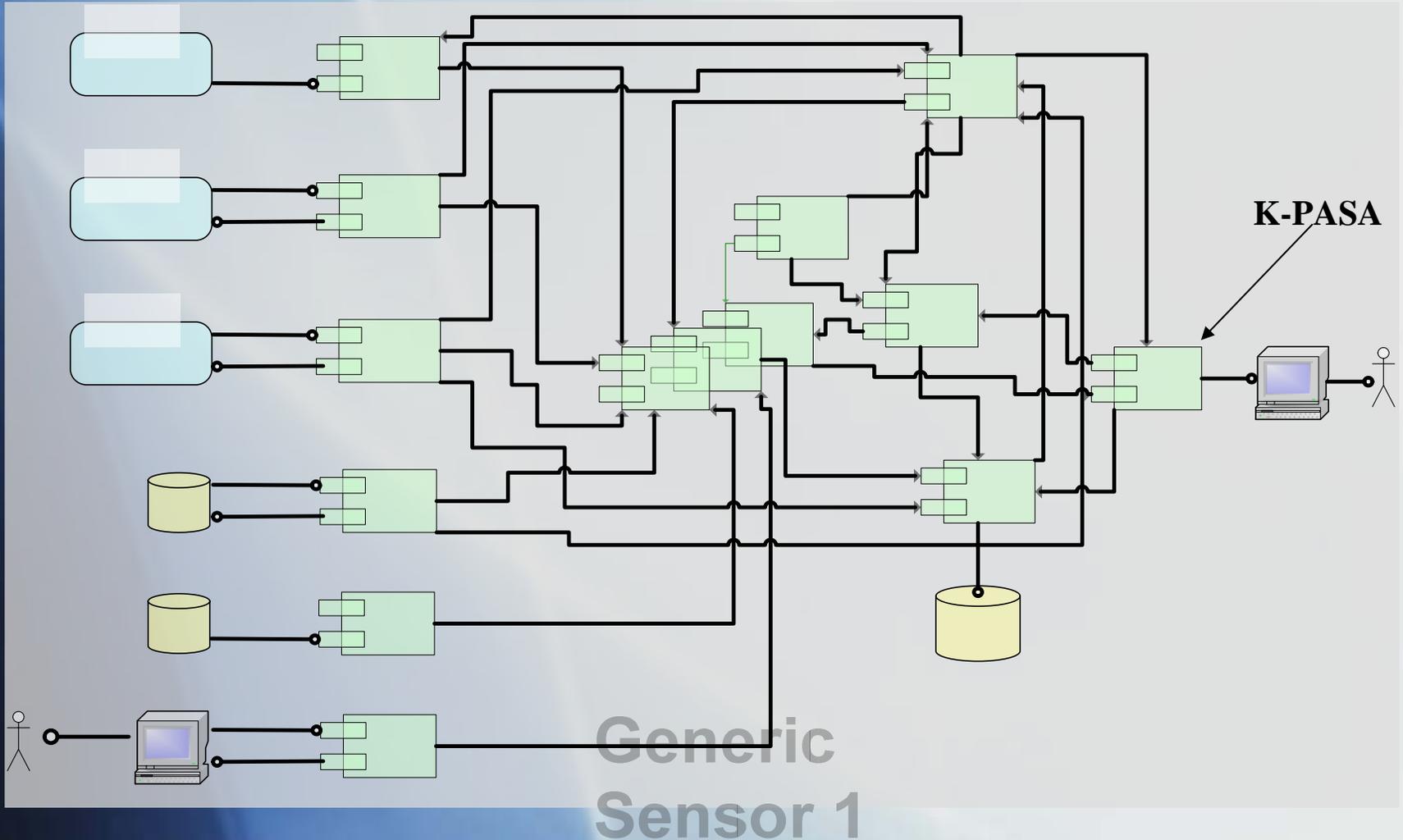
- Rapidly synchronize and manage SIGINT sensors collaboratively in a net-centric environment (*sensor grid*)
 - Detect
 - Identify
 - Locate
 - Track
 - Access
- Autonomously cue, tune, and control SIGINT sensors to focus on modern *technology* signals and modulations in a net-centric environment
- Fuse information from multiple sources, including national and tactical assets, to maximize collection in support of F2T2EA
 - Situation awareness
 - Situation assessment
 - Prediction

NCSFIE Concept

Legacy Systems integrated into **ONE, Automated, Adaptive, Intelligent ELINT Collection System**

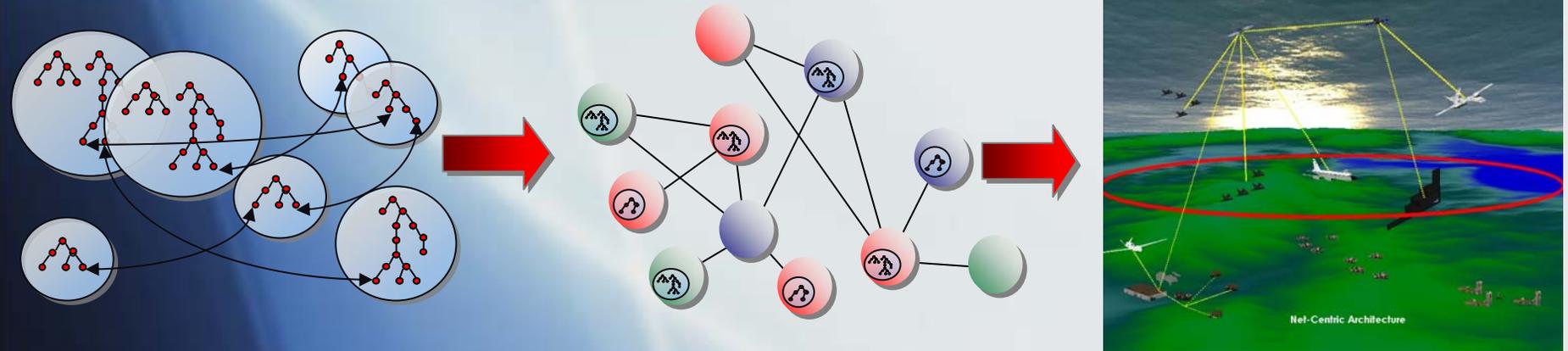


NCSFIE Spiral 2 System



FSNC Vision

Application of NCFSIE to Network Centric Operations



Questions???