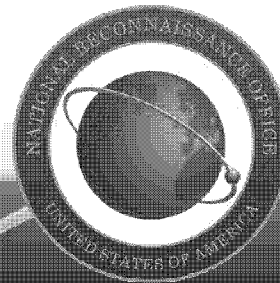


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(U) Sentient Overview

12 January 2015



Classified By [REDACTED]
DECLASSIFY ON: 25X1, 20641001
DRV FM: INCG 1.0, 13 February 2012
INCG Annex T-1, V1.2, 14 Jan 2013

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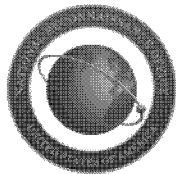
ALL RELEASABLE INFORMATION IN THIS
BRIEFING IS REL TO USA, FVEY

(b)(3)

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Sentient Grand Vision

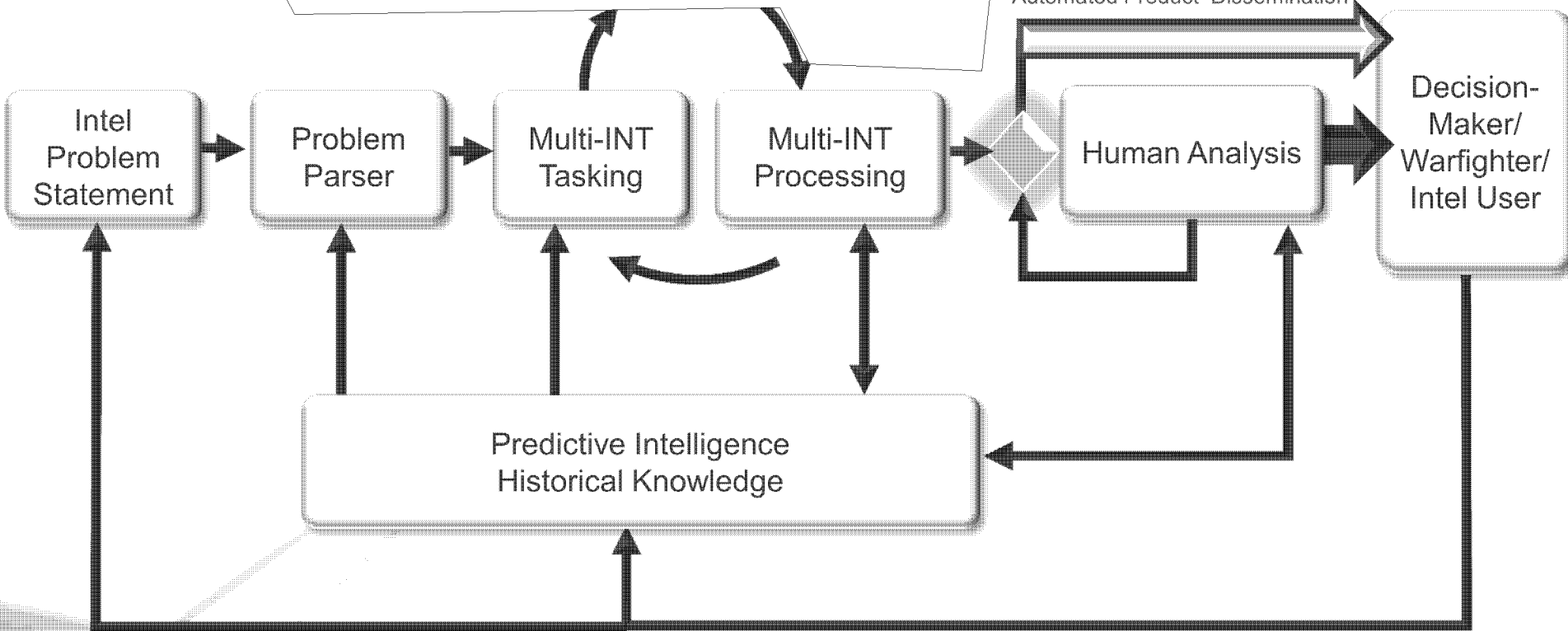


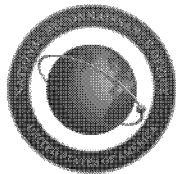
(b)(1)
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Orchestrated Collection

- Integrated and Problem Centric
- Multi-INT End-to-End
- Adaptable, Learning System
- Automated Decision Making

Automated Product Dissemination





Automated sense-making from multi-INT source data to influence automated collection and actionable response

+ R&D Prototype Environment

- + Problem statement driven
- + Exercising new collection CONOPS
- + data feeds (b)(1) (b)(3)
- + Dedicated collection assets
- + More than just a simulation

+ Intelligence Problem-Centric

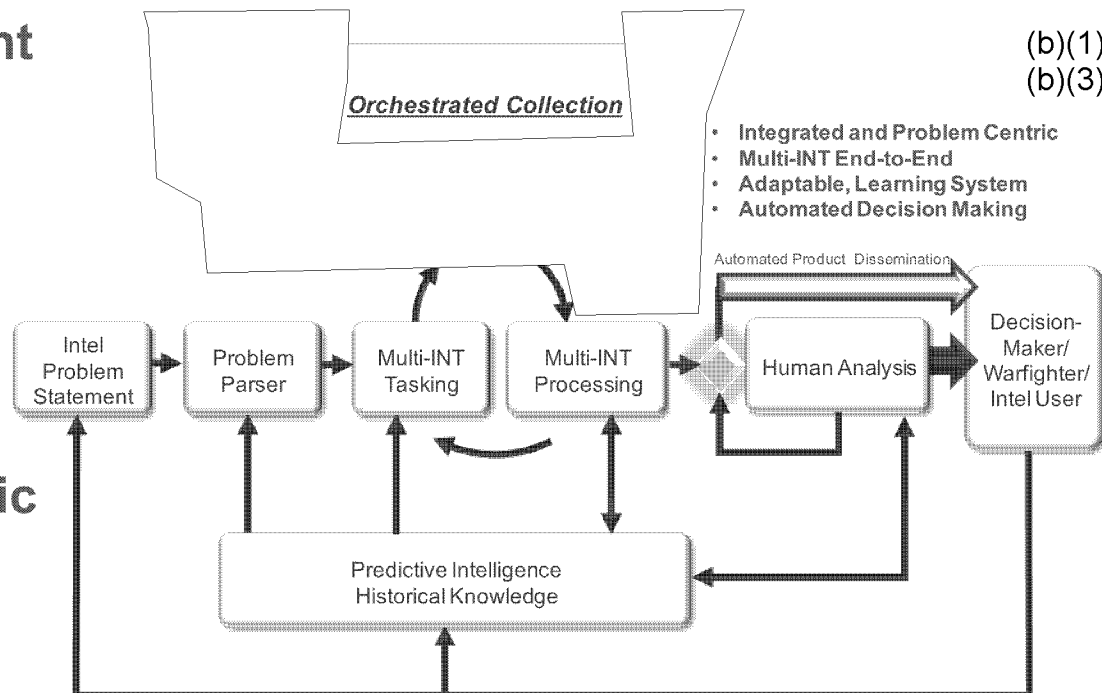
+ Multi-INT From End-To-End

+ Mission-Aware

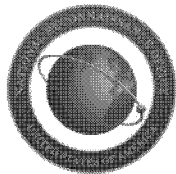
- + Anticipatory, Event-driven
- + Employ historical knowledge, target signatures, and target patterns

+ Self-Aware – available collection assets and capabilities

+ Automated To The Maximum Extent Possible



Automated Data Fusion & Resource Management → Tightens the Intelligence Operations Loop



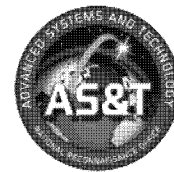
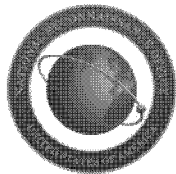
(U) Sentient Challenges to the IC

- (U) **Problem Decomposition:**
 - Creating a machine-understandable representation of intelligence problems
 - Critical to enabling a problem-centric solution
 - Requires explicit representation of sensor phenomenologies, collection capabilities and target systems

- (U) **Sensemaking:**
 - Provides machine awareness – the heart of the Sentient paradigm
 - Essential to achieve the level of automation and sentience required to provide global awareness

- (U) **Orchestrated Collection:**
 - Necessary for fully-automated execution in a multi-INT environment
 - Requires optimization of space, air and other collectors against complex target dynamics in a scalable and sustainable fashion

Capabilities must be Scalable and Sustainable



Sentient Concept

+ **Problem-Centric**

- Not Tasking-Centric

+ **Mission-Aware**

- What Priority Intel Problems Must be Addressed, Historical Knowledge, Target Signatures, Target Patterns

+ **Self-Aware**

- What Collection Assets are Available, Capabilities, System Performance

+ **Multi-INT**

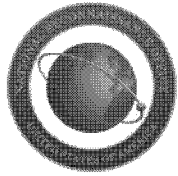
- Integration of multiple intelligence sources and domains (legacy systems, all-source)

+ **Automated Tasking & Collection**

- Tasking, Collection, Processing, and Products

+ **End-to-End Systems Design Approach**

- From User Problem Statement To User Product Interpretation

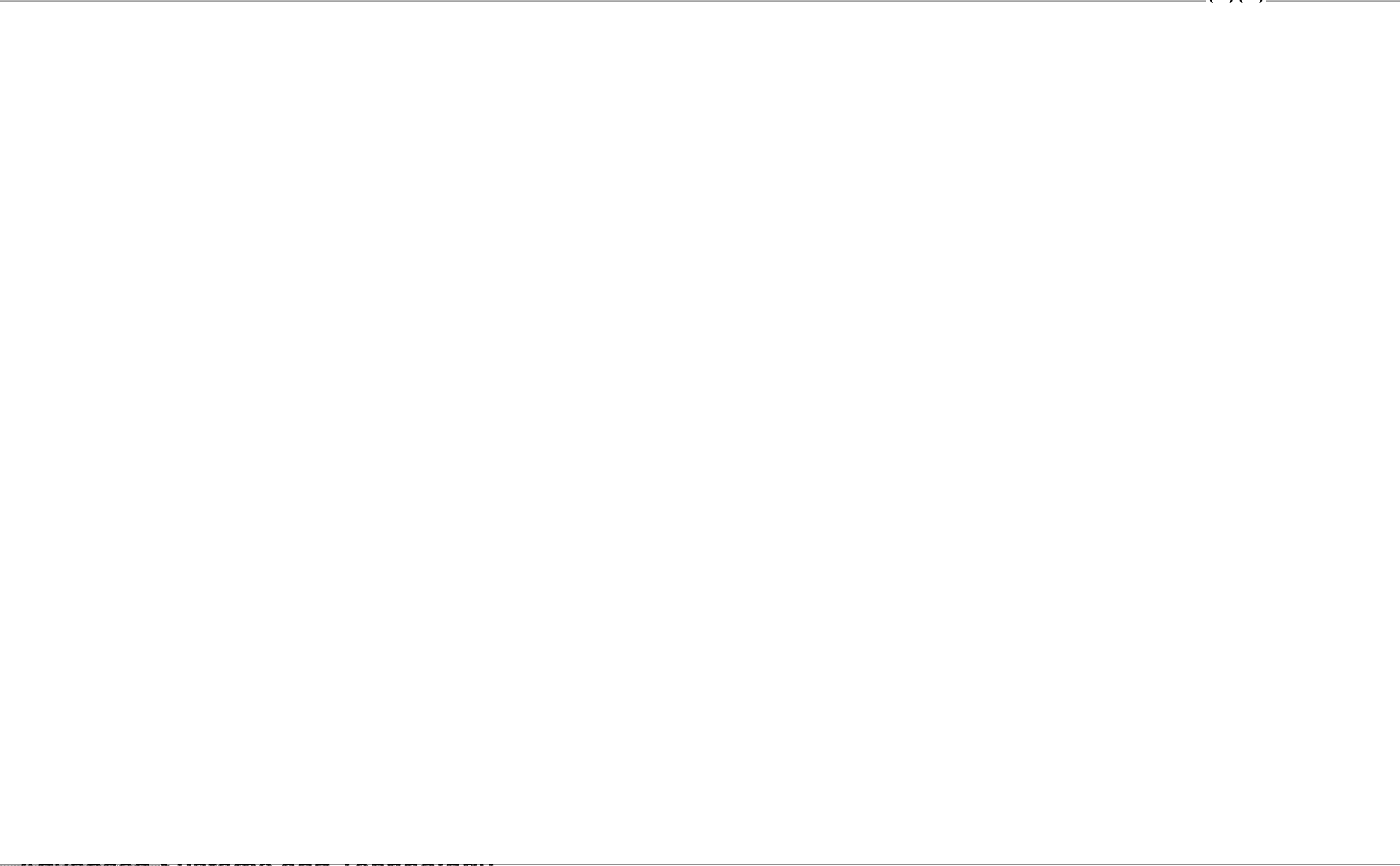


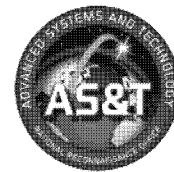
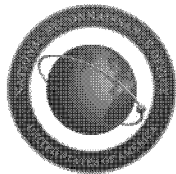
Potential for Orchestrated National/Tactical Collecti



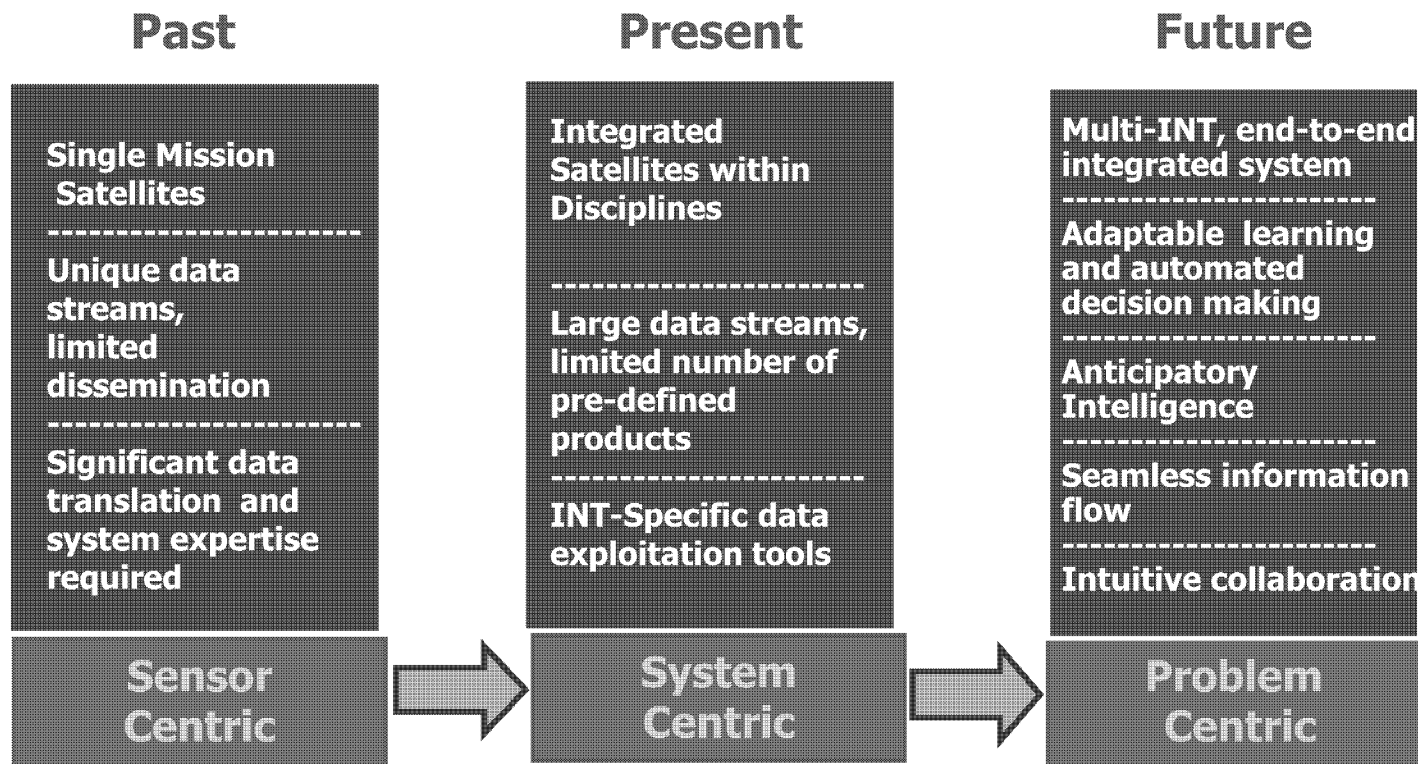
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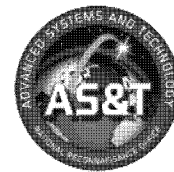
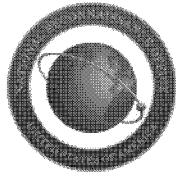




(U) Background

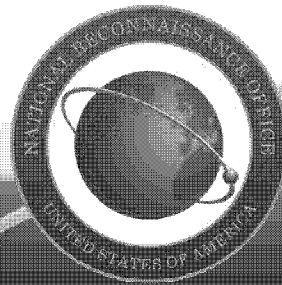


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