

Sensor Integration using OASIS Common Alerting Protocol (CAP) Messaging

Objective: Provide sensor tailored CAP messages to local/national Indication and Warning (I&W) Systems

Background: The Organization for the Advancement of Structured Information Standards (OASIS) Common Alerting Protocol (CAP) is already in use by numerous Warning and Reporting systems. Integration of Detection, Surveillance, and Event Characteristic Sensors would provide significant capabilities for Indications and Warning (I &W) systems supporting the War on Terrorism

CBRNE Detection Systems Environments and CONOPs

Detection Technology

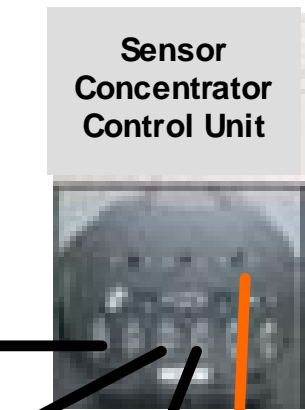
- Platform (Radar, Sonar, Camera, etc.)
- Pre Event (Radiological, Nuclear, Explosive, etc.)
- Post Event (Chemical, Biological, cloud, etc.)

Characteristics

- Autonomous monitoring 24/7
- Detection Data Push

Functions

- Enables Event detection and assessment
- Provides local warning and directed response



Concentrator Technology

- Embedded Computer – Proprietary Operating System
- Multiple communications media (input/output)

Characteristics

- Autonomous 24/7
- Data must be pulled for analysis and response planning

Functions

- Detection communication media conversion
- Detection data (fusion / conversion / encryption)
- Detection site (status / detector SOH / warning)

Surveillance Technology

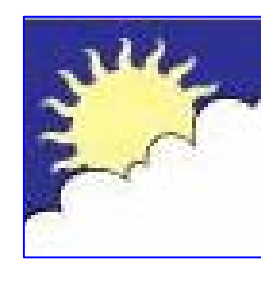
- Camera (Fixed & PTZ)
- Response Forces (Visual)

Characteristics

- Requires 24/7 manning
- Assessment data both pushed and pulled
- Video data often recorded for later review

Functions

- Enables Event assessment
- Evaluate circumstances and local response



Event Characteristic Technology

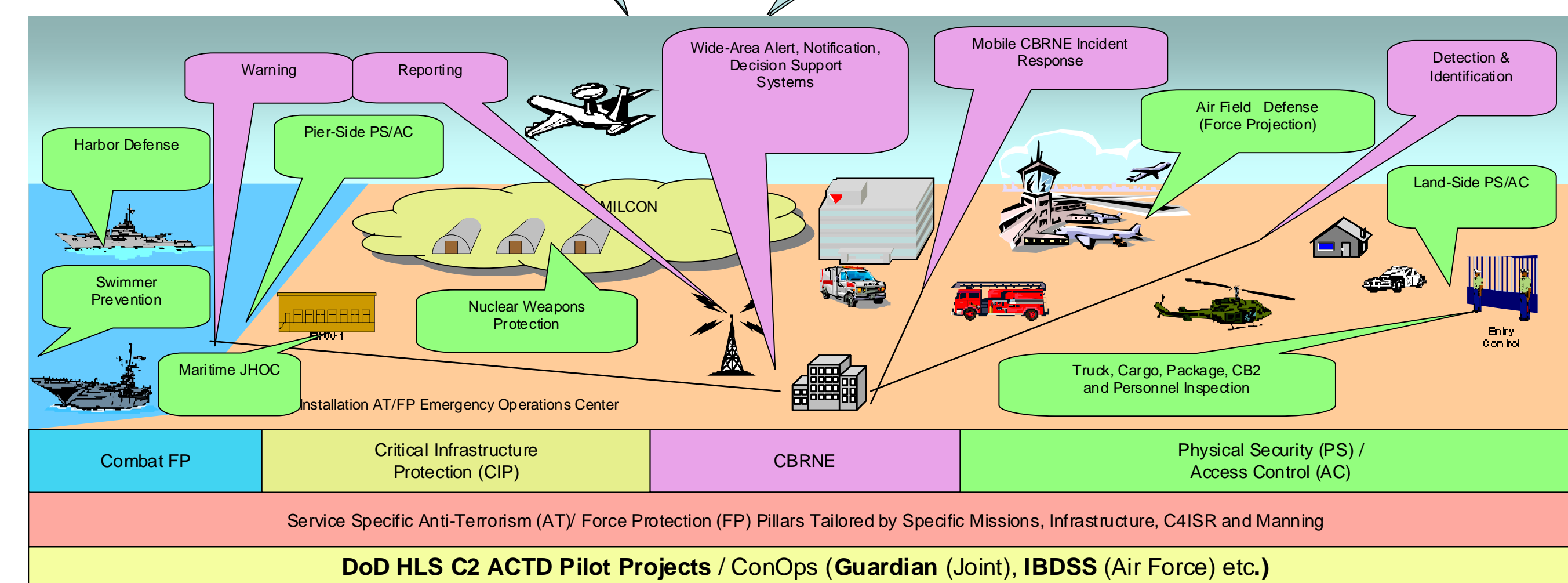
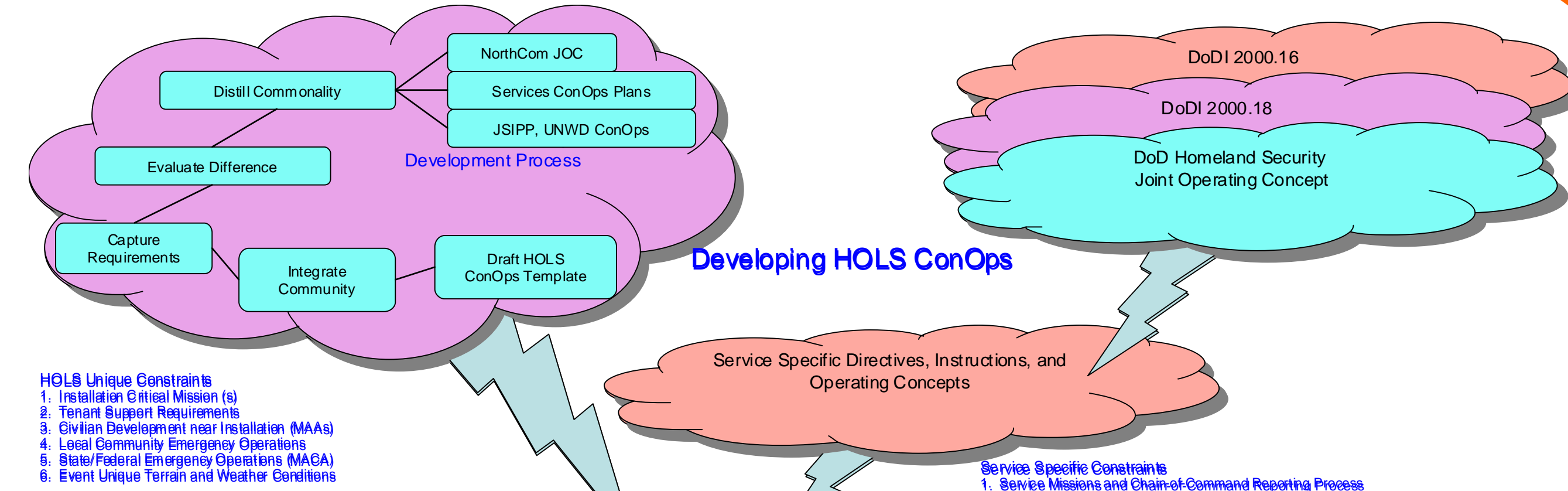
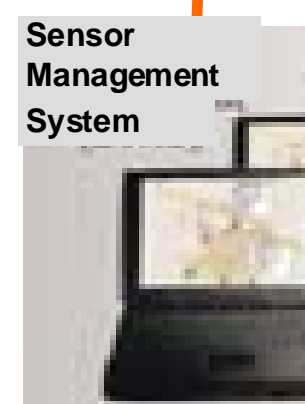
- Distribution vector (wind speed, direction, etc.)
- Infected personnel movement (cars, airplanes, etc.)

Characteristics

- Autonomous and manned 24/7
- Data must be pulled for analysis and response planning

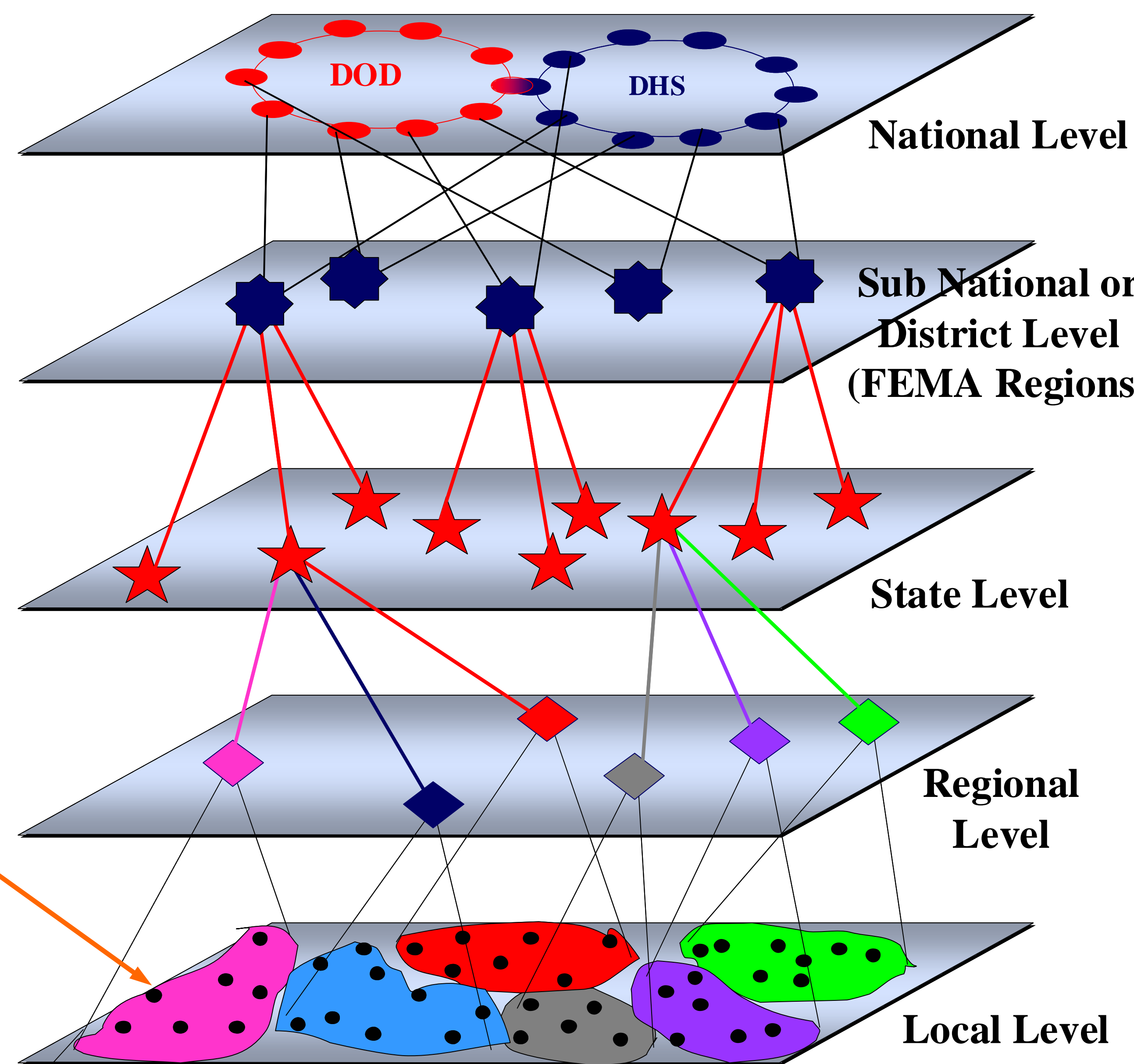
Functions

- Event analysis and response options
- First and Emergency response command and control



Weapons of Mass Effect (WME) I&W Systems and Reachback

Detection System Subscribers



Local Capability

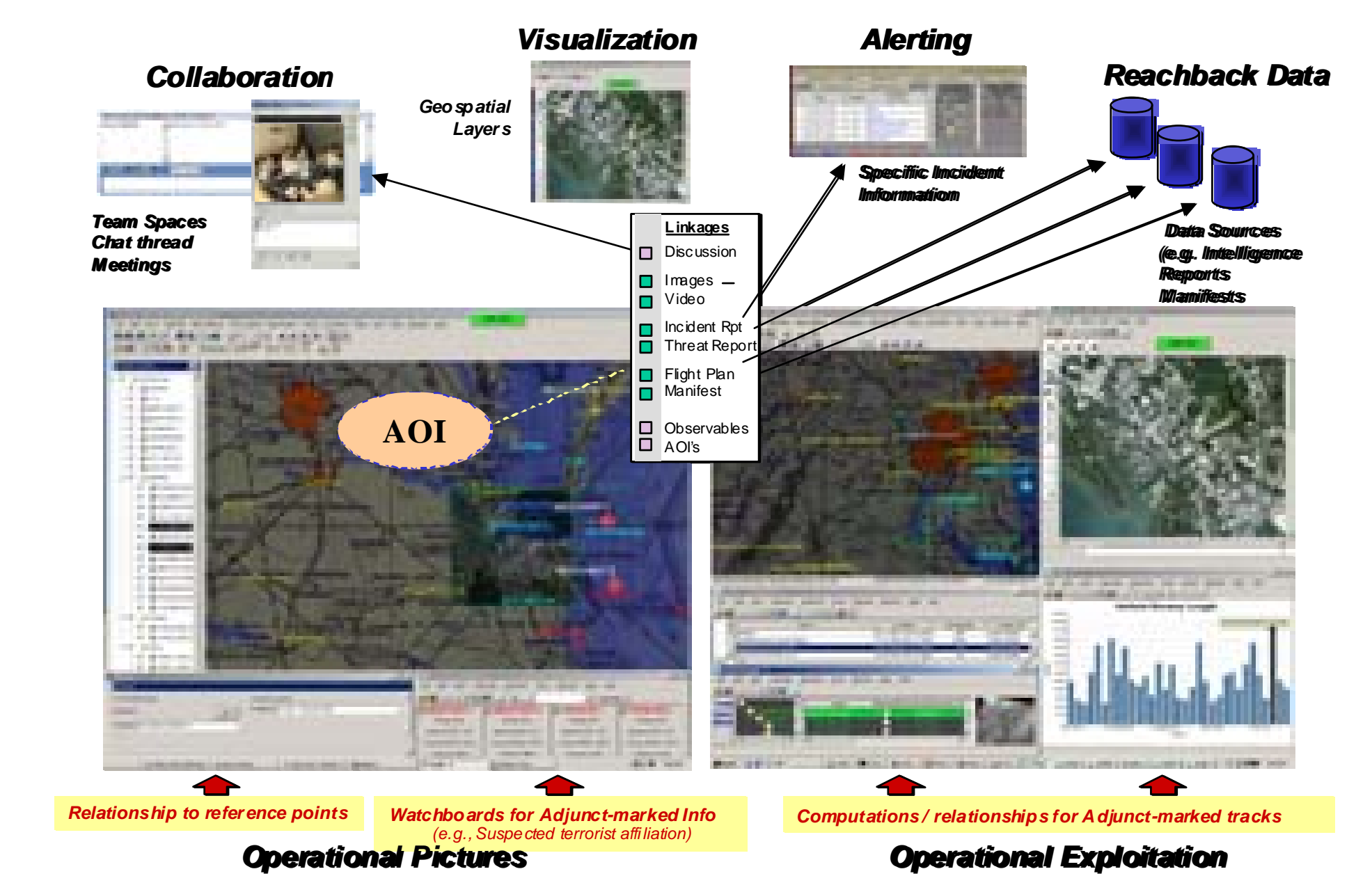
- WME indication and warning systems
- Local warning and reporting
- Distributed public awareness
- Multiple SMS situational awareness fusion
- Pre-/post-event assessment and analysis

Participants:

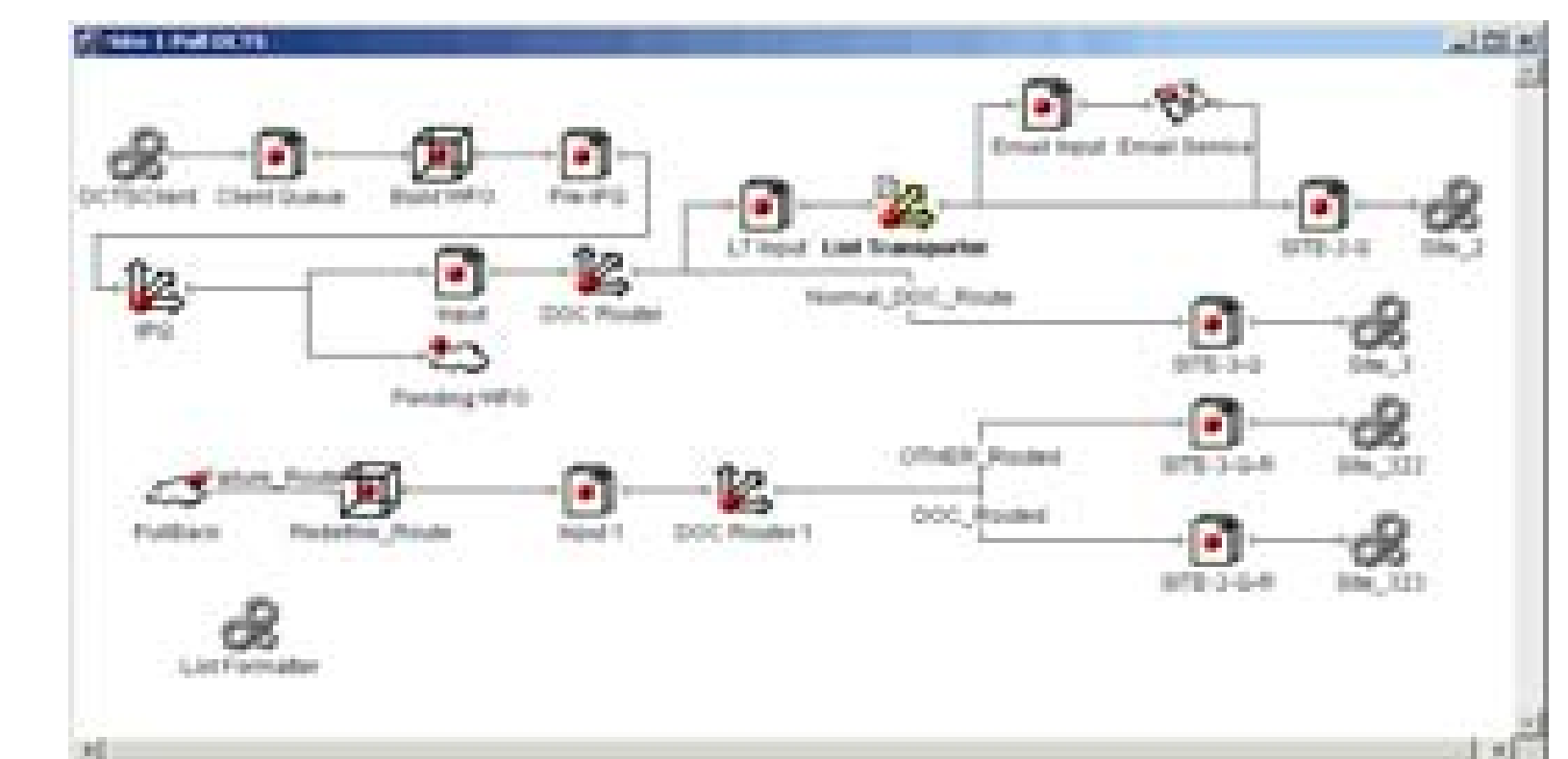


HLS C2 ACTD On-Line Services Information System Components

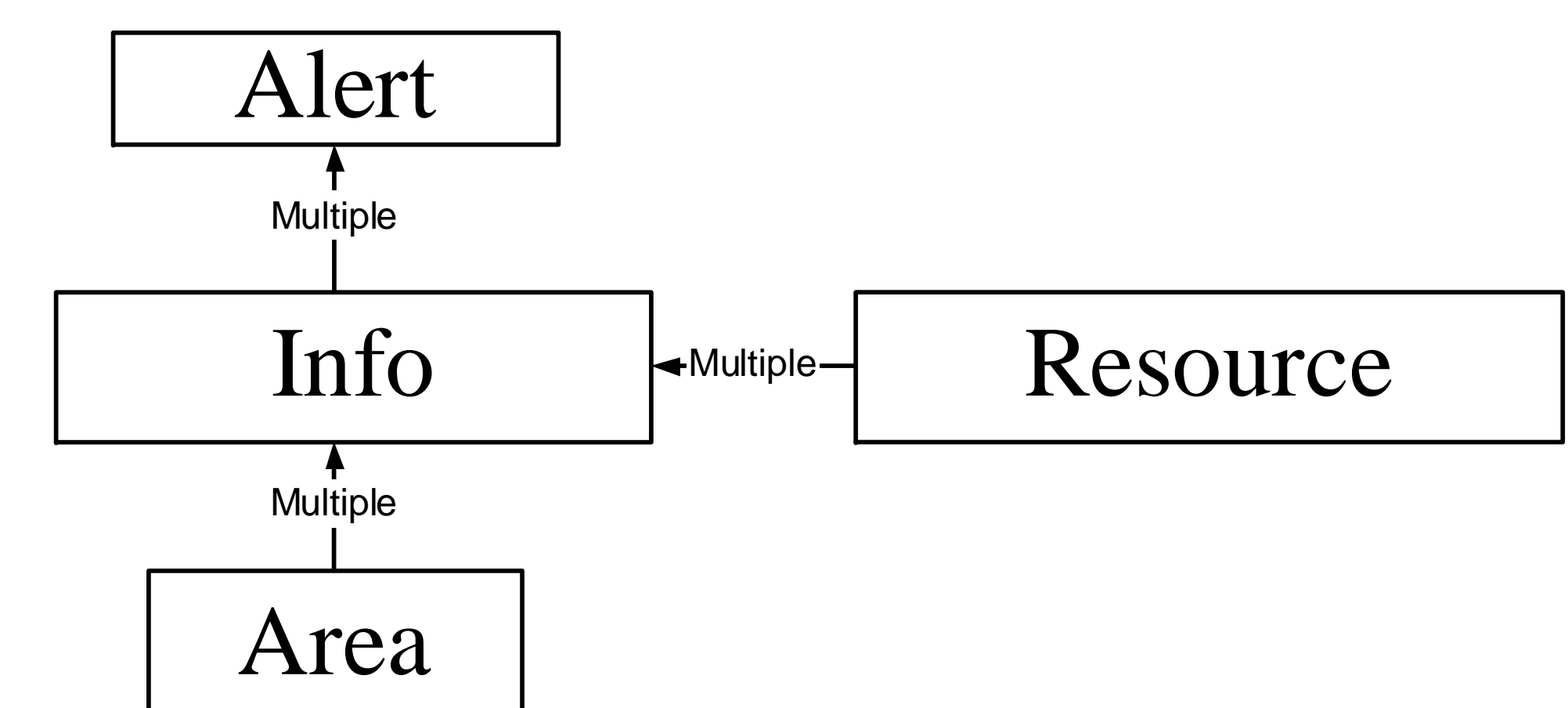
HOLS Integrated Service Vision



NuParadigm Foundation Message Delivery Agent Rules



CAP Alert Message Structure Document Object Model



Potential Programs:

- Homeland Security Command and Control Advance Concept Technology Demonstration (HLS C2 ACTD) On-Line Services (HOLS)
- Joint Program Manager - Guardian (JPM - G)