INFOTEK HUMAN INTELLIGENCE ACTIVITIES SIMULATION

Infotek provides Data Driven Modeling and Simulation (DD M&S) solutions to our customers. One example is the NavAir General Arrangements Maintenance and Manpower Analysis (GAMMA) Simulator currently under development. Infotek's contribution to GAMMA is two-fold. First, the distance between the maintenance areas and the supply compartments is determined by reading original CAD drawings and generating path information. Second, the entire maintenance activity on a CVN 21 class carrier, including operations- and intermediate-level maintenance and supply, is modeled and ship deployments are simulated. GAMMA allows the operator to run multiple scenarios to optimize the maintenance performance of the aircraft carrier.

The simulation of intelligence activities requires many of the same techniques: management of personnel, location, time, equipment, and communications for multiple scenarios with multiple perspectives. To effectively simulate human intelligence (HUMINT) activities, scenarios to cover the full range of HUMINT collection will be developed. The scenarios will range from simple to complex with the simplest having a single case officer running a single asset in a country of interest. More complex scenarios might have multiple case officers working multiple assets in multiple countries.

Working with subject matter experts, Infotek will determine the data needed by the case officers and the assets; however, methods of communication will be ignored. Continuous improvements in "asset" communications are made, and the critical factor is the time available for the communications and the method. In addition, the priority of the data transmission will be determined. Communications between case officers and assets is likely time limited, and the scenarios need to ensure that the highest priority data is transmitted in a timely manner.

The perspective of each player differs. The area commander sees the big picture and has total control of the database. Other players in the HUMINT scenario see a scene defined by their area commander, communications devices, and display equipment. For example, an asset in a restricted area receiving data on a cell phone cannot receive large data dumps to display the total scenario. More importantly, the potential loss of information due to an assest's location and vulnerablility impacts the operational risk, so limiting the amount of data to that assest limits the risk to the operation.

The scenarios will be designed to become more complex in the time dimension. Infotek proposes a design that changes based on database driven reactions and case officer inputs. The action and reactions will be played back for the user at the end of the scenario. Infotek will allow the path to be controlled by different players within the scenario. The controlling player could be the case officer, an asset, a Technical Operations Officer (TOO) or headquarters (HQ). The ability for different players to

control the scenarios will create a heightened sense of unpredictability. Different players controlling the action will allow scenarios to be rerun from a specific point in time with a different player in control to allow the users to work through another branch of the scenario. Each player with their limited view is adding to the overall intelligence knowledge and pushing the action in a different direction.

The "bad guy" view would show the perspective from the intelligence target's point of view. This view allows the scenario builder or a trainer to make counter moves based on the actions of the intelligence services. When the target detected surveillance, an unusual situation, or simply changed their routine then the scenario would change for the intelligence team.

The following example scenario provides insight into the complex interactions and level of detail required to adequately simulate the HUMINT activities. These interactions and inter-relationships are presented in Figure 1, which shows the activities in each dimension of the scenario.

1. Case officer Bob Jones is responsible for a group of Non-Official Cover (NOC) personnel (NOC) operating in Turkey.
2. A NOC, Akmed Ali takes a photo of a stranger to the neighborhood entering a known terrorist safe house in Istanbul on his cell phone. The picture is sent to Bob Jones.
3. Bob enters the picture in to the central database and receives biometric data back with the man's identity. The man is Abdul Jones a member of the Somalia Al Qaeda cell. The date, time and GPS location of the Abdul Jones is stored.
4. Abdul Jones is located two days later in the Rome airport and four days later in the Beirut airport.
5. Bob Jones sends a situation cable to the Beirut Chief of Station (COS). The Beirut COS assigns the tracking and locating (T&L) of Abdul Jones to Ahmed Sullivan.
6. Ahmed Sullivan turns on three Beirut NOCs to track Abdul Jones. Ahmed provides the three NOCs a situation report over their cell phones.
7. Ahmed asks for special T&L equipment for the NOCs.
8. A Technical Operations Officer (TOO) arrives in Beirut to do a survey of the area and deliver equipment. The survey marks critical locations in Beirut where Abdul may frequent.
9. Abdul is spotted and tracked.
10. After a week it is clear that Abdul is going to work daily in a garage.
11. One of the NOCs plants a video camera, a listening device and a chemical sensor in the garage. The video camera and chemical sensor are activated by the listening device.
12. Over a week, the garage provides video and chemical data.
13. The Beirut COS decides the best course of action is a SEAL Team 5 strike.
14. DIA builds a briefing for SEAL Team 5 based on the information in the all intelligence database. The briefing would include all applicable IMINT, ELINT, SIGINT and HUMINT.
15. Seal Team 5 is transported from San Diego to Athens for the briefing.
16. Seal Team 5 is air dropped onto the roof of the garage at a time when Abdul is expected to be bomb making.
17. Seal Team 5 is extracted by local limousines.

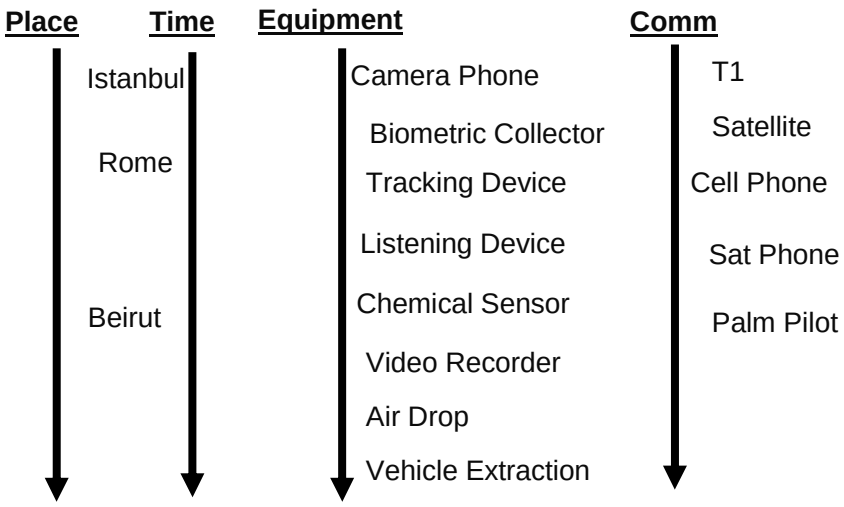

Figure 1 – HUMINT Dimensions

Infotek understands the importance of managing the scenarios in the place, time, equipment, and communications dimensions. HUMINT must be delivered in a timely manner to affect the outcome of the game. An asset at the wrong place or at the right place at the wrong time is a useless asset. Equipment at the wrong place or a day late is useless equipment. Infotek will develop a product that allows the user to understand the dimensions of HUMINT.