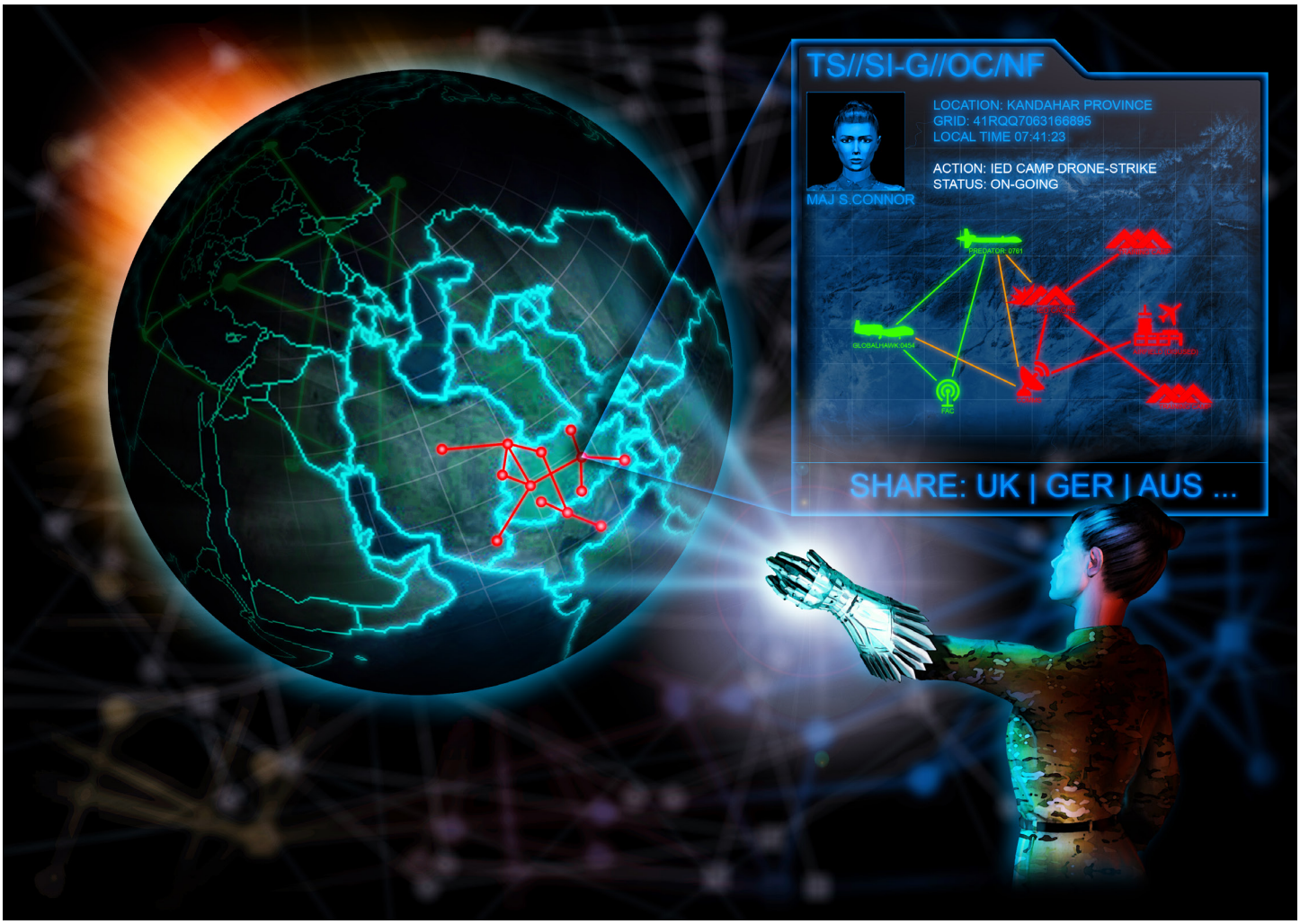

INFINITY STONE

A proposed multi-purpose 3D visualization system and information system for Department of Defense missions with multilevel security and cross-domain information sharing.

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EXECUTIVE SUMMARY

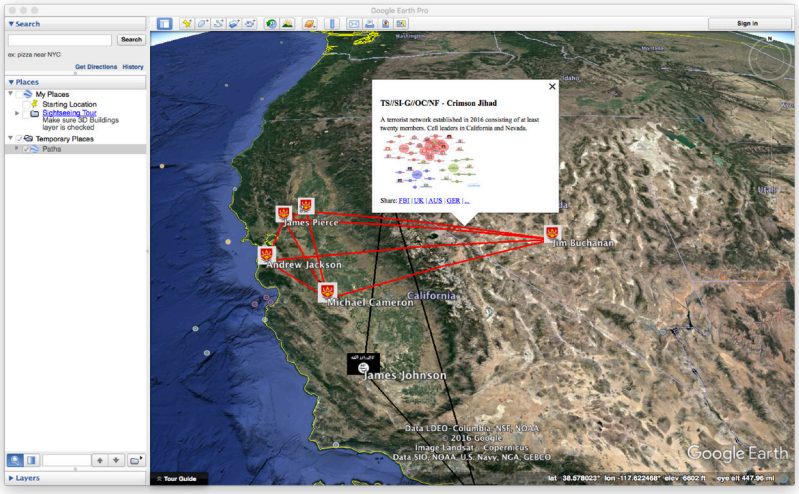
Infinity Stone provides an intuitive spatial paradigm for the processing, dissemination, and preservation of knowledge in support of military operations. The platform is a digital globe that shows layers of information derived from disparate sources across the Department of Defense, including but not limited to:

1. Network diagrams of intelligence targets.
2. Link analysis graphs of intelligence targets.
3. Streaming position data from ground and air assets.
4. Background information on persons of interest.
5. Satellite imagery (current and historical).
6. Sensor data from, e.g., counter-proliferation sensors.

The platform permits the rapid processing and sharing of information across security levels and domains, with appropriate and automatic excision of classified information from recipients who are not cleared for it, such as allied partners and local law enforcement. Infinity Stone is expected to run a modified version of the open source application Marble, which is similar to Google Earth, on the General Dynamics PitBull operating system.

Infinity Stone stems from a conversation the submitting party had with two officers from U.S. Army SOCOM at a defense industry innovation conference. Apparently, the existing system they are trying to procure has been in development for the last fifteen years and is still not done. Infinity Stone matters because it will actually work and be delivered within one to two years. The submitting party is an agile, non-traditional research and development company with the capability needed to accomplish this.

The following screenshot shows a very basic but already-functioning demonstration of how the application would look, with sample data.



BIG PICTURE DESIGN

Infinity Stone will have three main components: (1) a control center running Marble on PitBull that shows the user a complete digital globe at multiple security levels, and that enables visualization and tasking, as well as cross-domain sharing; (2) an interface between the government's data sources and the control center; (3) a tasking/command/sharing module that communicates with remote assets and/or allied partners by generating encrypted, customized, security labeled KML files that can be opened in Marble, Google Earth, or other KML-based applications.

A KML file (Keyhole Markup Language) is a file in a standardized format that contains all of the instructions and data needed to render map data in an application such as Marble or Google Earth.

As to the control center, development will focus on making Marble PitBull-aware with multilevel security, which is accomplished with the PitBull software development kit and manuals. These are included with the purchase of PitBull. The developer will have a PitBull development workstation for his or her use. As a side note, the developer must also add an interpreter that converts latitude and longitude to military grid references, and vice versa (there are already publicly available tools that do this). This phase will probably take one to two years of part-time effort by one C++ developer.

As to the interface, this requires an application that interprets the government's data sources and generates KML files at multiple security levels, which are then fed to the control center. This is probably going to be the hardest part of the system because there is no way to know what the data sources actually look like until a contract is awarded. Therefore, the demonstration version of the application will have to use mockups of the data sources and be agnostic to the schema of the actual data sources. This will probably take one to two years of part-time effort by one web application developer. The assumption is that the government has the raw data in SQL databases on a private network that is accessible to authenticated requesters. The main data needed for the interface is position data (either latitude/longitude or grid reference) combined with a unique identifier that allows the interface to build data sets from the data sources available across the Department of Defense. The interface will be responsible for interpreting the data and generating all the KML instructions needed by the control center, including but not limited to network analysis, images, paths, and clickable links.

As to the tasking module, this is an extension of the control center. The tasking module communicates between the control center and the remote assets. The critical feature of the tasking module is that the recipient does not have to have PitBull; he or she just has to have an application that can open KML files and a secure channel cleared for the security level of the information received. The remote assets will have a mobile app or desktops running Google Earth, or similar applications, and the KML files from the control center get pushed to the app or desktops. In this way, the remote asset sees the portion of the picture that he or she needs to see, and can use his or her preferred application to view the files. This phase will probably take one year of part-time effort by one C++ developer as well as one web application developer. If a mobile app is developed, probably another six months to a year will be needed to write, test, and deploy the mobile app.

The total cost is unknown, but significant. Because the web application portion of the project is available in-house at minimal expense, a lot depends on the arrangement with the C++ developer in terms of rates, amount of work done per month, and so on.

OTHER

The submitting party would like to offer Infinity Stone to the government (this proposal is being submitted first to the National Security Agency, followed by the Department of Defense at large if rejected). Depending on specific feature requests, the platform would cost between $400,000 and $600,000 to deliver, primarily composed of software engineering and integration with existing systems.

PERSONNEL

1. Andrew Watters -- program manager, web application developer, and "idea guy." Mr. Watters is funding the development of Infinity Stone and will also develop the interface between the control center and the data sources.

[Begin confidential/proprietary section]

2. [redacted] -- computer programmer and consultant with government contracting experience. Mr. [redacted] will program the control center and tasking module.

3. [redacted], Ph.D. -- psychologist/research scientist. Dr. [redacted] will contribute original research in the area of psychology and human factors.

4. [redacted], Ph.D. -- scientist and software engineer. Dr. [redacted] will contribute original research in the area of graph theory, and will also contribute C++ and Python programming.

5. [redacted] -- Concept artist and digital illustrator. U.K. national (resides in England and would not receive any classified information). Mr. [redacted] will contribute graphics and illustrations.

[End confidential/proprietary section]