Global Information Grid (GIG) - Archived 12/2007

Outlook

- Global Information Grid (GIG) is a U.S. Department of Defense concept – not an actual program

- GIG concept represents an Internet-like network that enables weapons, other systems, and people to share information, allowing warfighters to identify threats and respond to those threats with lethality

- Forecast International will archive this report next year in December 2007 and replace it with the following reports on the individual programs that enumerate the GIG concept: Transformational Satellites, Joint Tactical Radio System, Net-Centric Enterprise Services, and Net Centricity

Orientation

Description. The Global Information Grid (GIG) is a U.S. Department of Defense (DoD) concept that represents an Internet-like network, which enables weapons, other systems, and people to share information, and allows warfighters to identify threats and respond to those threats with lethality. The GIG concept will form the basis of U.S. network-centric warfare.

Application. Network-centric warfare.

Technical Data

The Global Information Grid is a U.S. DoD concept – not an actual program. That said, the GIG concept is enumerated in a collection of U.S. DoD programs and initiatives aimed at building a secure network and set of information capabilities modeled after the Internet. These programs are the Transformational Satellite (TSAT), the Joint Tactical Radio System (JTRS), the Net-Centric Enterprise Services (NCES), the Cryptography Transformation Initiative, and Horizontal Fusion.

Transformational Satellite (TSAT). The U.S. Air Force manages the Transformational Satellite program. The purpose of the TSAT program is to develop a new constellation of communications satellites that will transmit and route extremely large volumes of data. Some of the technologies that the TSAT program plans to use are laser crosslinks, space-based data processing and Internet routing systems, and highly agile multibeam/phased-array antennas.

Joint Tactical Radio System (JTRS). The purpose of the Joint Tactical Radio System program is to develop and produce a single, standard software-operated radio system for the U.S. armed services. The JTRS will be able to operate with different types of existing radios, and will significantly increase voice, data, and video communications capabilities.

Net-Centric Enterprise Services (NCES). Net-Centric Enterprise Services (NCES) is a U.S. Defense Information Systems Agency (DISA) program. The NCES program is charged with developing a common set of services and applications to help individuals locate and share information on the Global Information Grid. Specifically, the NCES program will create new capabilities and tools to tag data so it is useful,

Global Information Grid (GIG)

providing GIG users with the capability to identify relevant information based on content. These tools will also allow users to freely exchange and collaborate on information.
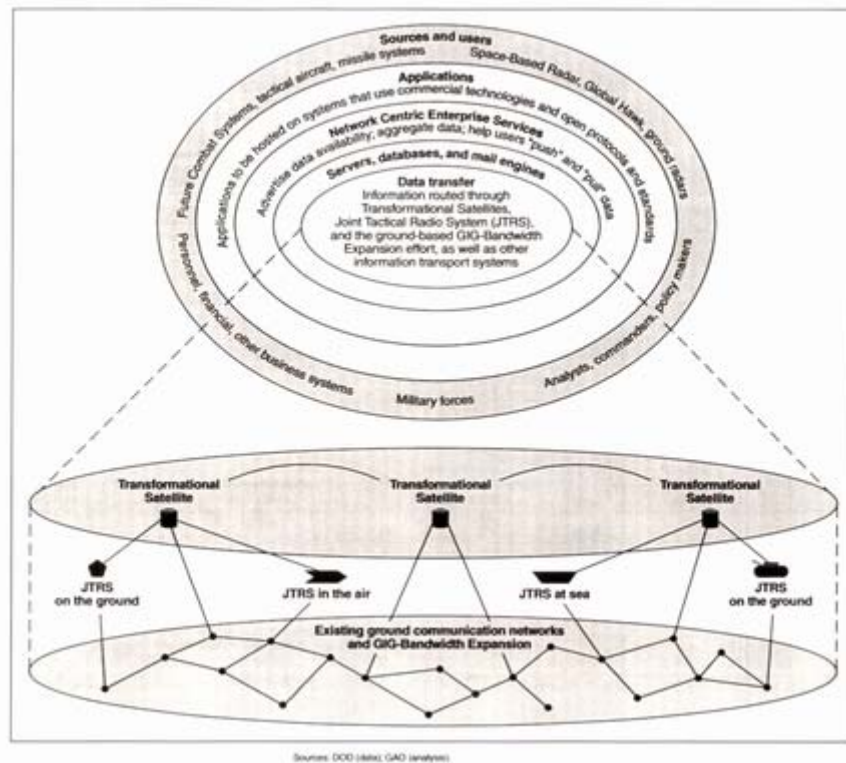
The NCES program will also develop tools to enable the U.S. DoD to monitor and manage GIG performance and problems.

Cryptography Transformation Initiative. The National Security Agency, Defense Information Systems Agency, and the U.S. military services manage the Cryptography Transformation Initiative. The purpose of the initiative is to create tools to protect sensitive information transmitted across the network, and protect the network from attack. Some of these

tools will include Internet protocol encryptors, firewalls, and intrusion detection systems.

Horizontal Fusion. Horizontal Fusion is a portfolio of initiatives managed by the Office of the Secretary of Defense for Networks and Information Integration. Horizontal Fusion initiatives focus on developing and demonstrating data applications and tools for information sharing and net-centric operations.

Global Information Grid Architecture. Below is the U.S. DoD's graphical depiction of the Global Information Grid concept architecture.

Sources: DOD (data); GAO (analysis).

Program Review

The Global Information Grid (GIG) concept is primarily being developed under the leadership and direction of the U.S. DoD's Office of the Assistant Secretary of Defense for Networks and Information Integration, in coordination with others from the Office of the Secretary of Defense and Joint Staff. The Defense Information Systems Agency, military services,

combatant commands, and other U.S. defense agencies also play roles in implementing the GIG concept.

To implement the GIG concept, the U.S. DoD has taken a two-pronged approach:

(1) Invest in a set of core programs and initiatives (communications satellites, interoperable radio systems, expanded bandwidth on the ground, and

information technology applications to support the network) to build a core network and information capability, and

(2) Bring other existing and planned weapon systems; command, control, and communications systems; sensors; information technology systems; and

logistics, personnel, and other business-related systems into the GIG concept architecture.

In September 2004, the U.S. Defense Information Systems Agency announced that the Global Information Grid-Bandwidth Expansion (GIG-BE) program reached initial operational capability.

Contracts/Orders & Options

No recent contracts have been identified.

Timetable

Month	Year	Major Development
Sep	1999	U.S. DoD unveils plan to develop the GIG
Sep	2004	Global Information Grid-Bandwidth Expansion (GIG-BE) program reaches initial operational capability

Worldwide Distribution/Inventories

The Global Information Grid (GIG) is a **U.S. DoD** concept.

Forecast Rationale

The GIG is a U.S. DoD concept that represents an Internet-like network, which enables weapons, other systems, and people to share information, and allows warfighters to identify threats and respond to those threats with lethality.

To reiterate, the GIG is a U.S. DoD concept – not an actual U.S. DoD program. As such, Forecast Inter-

national has omitted the Ten-Year Outlook chart. Forecast International will archive this report next year in December 2007 and replace it with individual reports detailing each of the following programs that enumerate the GIG concept: Transformational Satellites, Joint Tactical Radio System, Net-Centric Enterprise Services, and Net Centricity.

Ten-Year Outlook

With no outlook forecast and the archiving of this report in December 2007, Forecast International has **omitted** the Ten-Year Outlook chart.

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