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Making It Work – The Net-Centric Global Information Grid NetOps Strategy

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The Joint Network of Operations (NetOps) Concept of Operations is assigning overall responsibility for NetOps to Commander, United States Strategic Command (CDRUSSTRATCOM) and has enabled the Department of Defense (DoD) to begin improving the operations and defense of the Global Information Grid (GIG). However, there is still only limited progress in implementing an enterprise-wide construct that fully addresses all aspects of NetOps in a dynamically changing global environment. Observations from Operation Iraqi Freedom (OIF) continue to reinforce that the DoD has only limited abilities to provide commanders with relevant and timely GIG situational awareness or mission impact assessments and that lack of abilities to effectively de-conflict, coordinate, and control spectrum use represents a very real and operationally critical problem that must be solved. These deficiencies coupled with sometimes confusing or even conflicting policies and guidance, significantly impact the ability of the operators/defenders of the GIG to fully support ongoing warfighting and peacekeeping missions in an increasingly joint and multi-partner environment. To provide a way ahead and to foster unity of effort across the DoD, the DoD Chief Information Officer (CIO) is developing the Net-Centric GIG NetOps Strategy to describe a net-centric vision and mission for GIG NetOps along with the necessary high-level goals and objectives.

The Joint NetOps Concept of Operations and assignment of overall responsibility for NetOps to CDRUSSTRATCOM has enabled the DoD to begin improving the operations and defense of the GIG. However, there is still limited progress in implementing an enterprise-wide construct that fully addresses all aspects of NetOps in a dynamically changing global environment. Observations from OIF continue to reinforce the following:

- There is only limited ability to provide commanders with relevant and timely GIG situational awareness or mission impact assessments.
- There are confusing and sometimes conflicting NetOps policies and guidance.
- There is limited ability to de-conflict, coordinate, and control spectrum use.

Across the DoD, there is little, if any, coordination or synchronization amongst the many independent NetOps acquisition and fielding activities that are currently under way. Additionally, there is a general lack of metrics and processes to measure the health and readiness of the GIG. These deficiencies significantly impact the ability of the operators/defenders of the GIG to fully support ongoing warfighting and peacekeeping missions in an increasingly joint and multi-partner environment.

To provide a way ahead and to foster unity of effort across the department, the DoD CIO is developing the Net-Centric GIG NetOps strategy to describe a net-centric vision and mission for GIG NetOps along with the necessary high-level goals and objectives.

Highlights of the strategy are introduced in this article.

Vision and Mission of Net-Centric GIG NetOps

The vision for Net-Centric GIG NetOps is to transform existing and new capabilities into a force multiplier that enables the warfighting, business, intelligence

“The vision of the Net-Centric GIG NetOps is to transform existing and new capabilities into a force multiplier that enables the warfighting, business, intelligence and enterprise information environment mission areas to fully employ the power of the GIG.”

and enterprise information environment mission areas to fully employ the power of the GIG. The corresponding mission is to enable the DoD to employ the GIG as a unified, agile, and adaptive enterprise that does the following:

1. Facilitates Net-Centric Operations (NCO) by enabling authorized users

and mission partners to access and share timely and trusted information from any location at any time.

2. Ensures that GIG capabilities can be fully employed as a joint weapon system that meets warfighter mission needs and priorities.

As shown in Figure 1 (see page 12), NetOps forms the core of GIG operations in a net-centric framework and is a critical enabler of the NCO. NetOps (center) ensures that the key components of the GIG (transport and computing infrastructure, data, services, and information assurance) create a supportive environment (inner ring) that protects and maintains the integrity and quality of information (middle ring), thereby ensuring that users can easily post, access, and share relevant information and collaborate to conduct NCO (outer ring).

Goals of Net-Centric GIG NetOps

The Net-Centric GIG NetOps goals are focused on achieving positive operational mission outcomes and reflect an emerging recognition across the department that the majority of the challenges associated with transforming NetOps into a net-centric enabler are organizational or cultural in nature.

Goal 1: Enable authorized users, including mission partners, to access and share information and collaborate at any time, from any location.

Fundamental to the mission of Net-Centric GIG NetOps is to enable authorized users (including mission partners)

to access and share information and collaborate among those involved from any location at any time within the limitations imposed by technology, deployed GIG capabilities, laws, and policies. Achieving this goal will require that NetOps play a dual role with respect to the Net-Centric Data Strategy. NetOps must be able to manage and facilitate the visibility, accessibility, and understandability of information, along with the ability to share information within and across DoD mission areas. NetOps data must also be made visible, accessible, and understandable to all authorized users to facilitate end-to-end GIG situational awareness.

Goal 2: Enable the DoD to employ the GIG as a unified, agile, and adaptive joint weapons system that meets warfighter mission needs.

The DoD's growing dependence on the GIG as the primary means of enabling and delivering a wide variety of command and control to decision makers at all levels highlights the need for reconsidering how this critical warfighting

capability is perceived, employed, and managed. Ensuring that the combatant commands can effectively employ the GIG will require that it be dynamically operated and employed as a single unified agile and adaptive enterprise, responsive to the holistic needs of the DoD priorities and goals. Having the ability to maneuver critical data or employ GIG capabilities when and where they are needed most or to rapidly change the configuration of the GIG in response to changing mission parameters will significantly enhance the value of the GIG to the warfighter and allow the warfighter to fully and confidently leverage the power of GIG.

Goal 3: Co-evolve and mature NetOps in-stride with GIG capability increments.

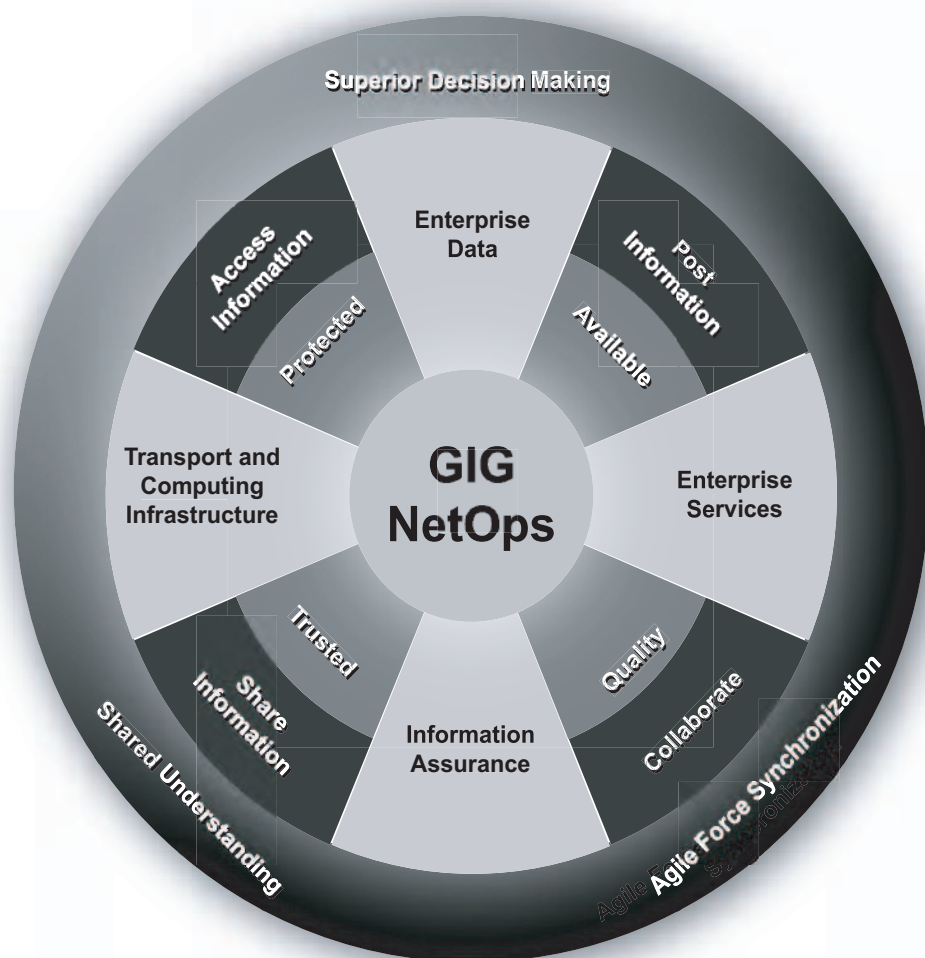
As GIG capabilities are transformed to support NCO, it will be critical to implement and mature NetOps capabilities in a structured and consistent fashion. It will require that NetOps capabilities be developed and deployed as time-phased

capability increments that are consistent with the defined GIG capability increments and support them. A critical aspect of NetOps transformation is the creation of policy, governance structure, implementation plans, and metrics for measuring progress that will be necessary to guide NetOps evolution.

Conclusion

Developing, designing, deploying and operating future GIG NetOps capabilities and forces will require a unity of effort across the DoD. It will require active participation from across the broadest possible cross-section so that the DoD can achieve the common goal of a GIG that can be effectively employed to support the many missions of the DoD in an increasingly joint and multi-partner environment. ♦

Figure 1: Core of Net-Centric Framework



About the Author



Thomas Lam is the Office of the Assistant Secretary of Defense (NII) DoD CIO NetOps Lead. He led the development of the DoD Net-Centric GIG NetOps Strategy. He assists the DoD CIO as the principal staff assistant and advisor to the Secretary of Defense and Deputy Secretary of Defense on NetOps in directing and overseeing various NetOps activities across the DoD. Lam has more than 25 years of experience in the design, development, and implementation of telecommunication systems and NetOps solutions. During the last 20 years with the Defense Information Systems Agency, he held various engineering and management positions. Lam has a bachelor's degree in electrical engineering from George Washington University, a master's degree in electrical engineering from Rensselaer Polytechnic Institute, and completed the Office of Personnel Management Executive Leadership Development program.

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