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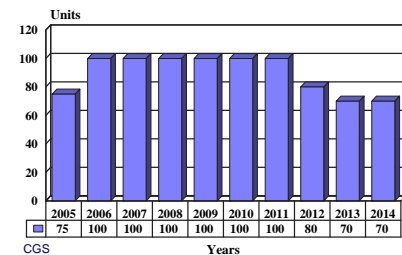
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Communications Gateway System (CGS) - Archived 5/2006

Outlook

- Recent \$1 billion contract for CGS and accompanying Defense Message System (DMS) to boost production through 2006
- System critical to U.S. government needs for advanced, secure messaging technology

10 Year Unit Production Forecast
 2005 - 2014



Orientation

Description. Off-the-shelf, portable Communications Gateway System (CGS) for U.S. Special Operations Forces.

Application. Used defense-wide by U.S. Special Operations Forces for communications control and message processing.

Status. In production.

Price Range. Based on current five-year contract and number of units projected to be manufactured, the cost is estimated to be \$75,000 per unit.

Total Produced. Approximately 250 units believed to be in operational service through 2004.

Contractors

Northrop Grumman Electronic Systems, <http://www.es.northropgrumman.com>, 1580-A West Nursery Road, Linthicum, MD 21090 United States, Tel: One (800) 443-9219, Email: ES_Communications@ngc.com, Prime

Technical Data

	<u>Metric</u>	<u>U.S.</u>
Dimensions		
Magnesium and aluminum frame laptop	40.64 cm x 45.72 cm x 10.16 cm	16 in x 18 in x 4 in
Weight	8,399 g	18.5 lb
Specifications		
Power	90-264 VAC (50, 60, 400 Hz)	
Diagnostics	Self-test and built-in-test (BIT)	
Environmental	MIL-STD-810C	
Data storage modules	One 3-1/2 in 1.44 Mb floppy disk drive One 500 Mb SCSI removable disk drive for system application One SCSI port for software load and backup	

Design Features. The Communications Gateway System (CGS) provides users with automated message preparation and handling. The Microsoft NT multiprocessor operating system is utilized for data communications interface requirements. A Pentium Pro processor, along with multiport communications co-processors, provides users with high-capacity message handling and imagery transfer capabilities. The system is housed in a portable, rugged, briefcase-sized package.

The communications architecture features a processor with multiport interfaces with AUTODIN

Modes I, II, VI, and 802.3 Ethernet Local Area Network (LAN) with TCP/IP protocol (X.25 synchronous protocol included). Connectivity to simplex tactical communications networks is provided by a SLIP packet and AX.25 asynchronous protocols.

The Windows-based message handling includes auto-message format conversion, OSSN update and insertion, message routing, and LAN message dissemination.

Variants/Upgrades

CGS-100. The original CGS, the CGS-100, utilizes multiport communications co-processors and the Microsoft NT operating system. Complete message center operations with integrated TCP/IP multiport gateway routing for message dissemination is provided by a message store-forward and switching system.

Among the system's capabilities are message preparation, validation, accounting, auditing, store-forward, and automatic format conversion. It also enables use of a relational database to store and retrieve parsed messages. The CGS-100 can also receive U.S. Navy and NATO Fleet Broadcast traffic and distribute the messages based on a variety of discriminators.

CGS-Lite. Using Modes I, II, and VI for TRI-TAC, automated switch centers, and backside users, the CGS-Lite interfaces to AUTODIN. Interfaces include SLIP, PPP, X.25, and TCP/IP LAN for network subscribers. The CGS-Lite is the portable version.

CGS-200. The CGS-200 is the desktop version.

CGS-300. The CGS-300 is the rackmount version.

CGS-400. The ruggedized CGS-400 includes all of the software of the CGS-100 along with a Pentium processor, expanded memory, a Fortezza compatible dual PCM-CIA reader, and an improved SCSI interface.

Program Review

A \$7.4 million contract was awarded by the U.S. Navy to California Microwave Systems (CMS) (now part of Northrop Grumman Corp) for a Lightweight Tactical Automated Communications Control System (LTACCS) in November 1999. The indefinite quantity/indefinite delivery five-year contract provided for contractor depot-level maintenance, operator, and maintenance training courses. The contract also covered technical software support and on-site maintenance and engineering services. The initial order called for the delivery of 11 portable LTACCS units for U.S. Special Operations Forces.

The CGS provides gateway access to current and projected tactical and strategic data communications such as the Secure Internet Protocol Router Network (SIPRNET), the Non-classified Internet Protocol Router Network (NIPRNET), the Defense Message System (DMS), and tactical digital systems.

By the start of 2001, the CGS had been approved for U.S. defense-wide use in the evolving Defense

Messaging System (DMS). Consequently, according to the system's manufacturer, the CGS was adopted throughout the Department of Defense (DoD). The DMS permits users to send electronically authenticated messages that cannot be read by an enemy.

As of 2001, funding for procurement and RDT&E of the DMS will be strong from 2002 to 2011, with roughly \$75 million spent annually. This reflected the Joint Staff's desire to phase out the U.S. DoD's antiquated Automatic Digital Network and achieve information superiority over U.S. adversaries.

By 2001, the CGS had also been adopted by the Canadian Defense Forces.

A \$1 billion contract was awarded to Northrop Grumman in late 2001 for acquisition of DMS/CGS to run through 2006. Production units of these systems would go to the Pentagon and a wide array of other government agencies.

Funding

Development/procurement funding figures for the CGS are not available at this time.

Recent Contracts

<u>Contractor</u>	<u>Award (\$ millions)</u>	<u>Date/Description</u>
Northrop Grumman	7.4	Oct 1999 – Awarded by the U.S. Navy for procurement of the CGS-Lite. Indefinite quantity/indefinite delivery five-year contract calls for the delivery of 11 Lightweight Tactical Automated Communications Control Systems. (N00421-00-D-0173)
Northrop Grumman	1,000.0	Oct 2001 – Indefinite Delivery Indefinite Quantity contract for acquisition of Secure Communications Gateway System/Defense Messaging System for Pentagon Information Technology Services Center (PITSC), and other federal agencies.

Timetable

<u>Month</u>	<u>Year</u>	<u>Major Development</u>
Mid	1990s	Initial product development
	1998	CGS-100 in use by U.S. Army
Apr	1999	California Microwave Systems (CMS) acquired by Northrop Grumman
Nov	1999	\$7.4 million contract awarded to CMS by U.S. Navy
Mid	2000	Approved by U.S. DoD for use in Defense Messaging System
Late	2000	CGS adopted throughout the U.S. DoD
	2001	CGS adopted by Canadian Defense Forces
Oct	2001	\$1 billion contract for acquisition of Defense Message System (DMS) and CGS through 2006
	2002	Formally approved for U.S. defense-wide use with DMS
	2004	U.S. Navy contract work to be completed
	2005-2014	Ongoing production

Worldwide Distribution

At present there are believed to be at least 250 CGS systems in distribution within **U.S.** defense forces. The systems have also been acquired by **Canada**.

Forecast Rationale

An exact production forecast for the U.S. Communications Gateway System (CGS) is somewhat difficult to determine, given the scarcity of open-source information regarding the system. Funding and procurement allocations are not broken out in government documents, and even a recent contract did not specify quantities. However, the system is known to be a crucial component of another high-profile government communications system and it is the activity around this system, the Defense Message System (DMS), upon which the forecast for the CGS is based.

CGS is just one of the crucial components used by the U.S. Special Operations Forces (SOF) to maintain information superiority on the battlefield. The system provides users with secure, automated message preparation and handling, as well as high-capacity

imagery transfer capabilities. Gateway access is provided to current and projected tactical and strategic data communications such as the Secure Internet Protocol Router Network (SIPRNET) and the Non-classified Internet Protocol Router Network (NIPRNET).

The DMS program, for which CGS is an important component, provides a highly secure, writer-to-reader electronic messaging system for both organizational and individual users. The U.S. Defense Information Systems Agency is expected to spend some \$72.65 million over the next decade on research and development of future versions of the DMS. The U.S. DoD's need for the most advanced, reliable, and secure e-mail system continues to inspire this funding. The two systems in tandem were also the subject of a \$1 billion, five-year acquisition contract in late 2001. As

this is a U.S. government-wide order, the potential for high production rates over the next several years is very high.

DMS, and by extension the CGS, are expected to eventually be picked up by various NATO nations and other countries closely allied with the U.S. At present,

other than Canadian forces, no other non-U.S. customers for the CGS are known at this time.

For information on the DMS, see the separate report entitled "Defense Message System (DMS)" in Forecast International's *C⁴I* Forecast.

Ten-Year Outlook

ESTIMATED CALENDAR YEAR PRODUCTION

Designation	Application	Thru 04	High Confidence Level				Good Confidence Level				Speculative			Total 05-14
			05	06	07	08	09	10	11	12	13	14		
CGS	COMMUNICATIONS GATEWAY SYSTEM (U.S. SPECIAL OPERATIONS)	250	75	100	100	100	100	100	100	80	70	70	895	