

## Crew Communications

### Bringing Real-Time Voice Communications to Air Force-DCGS Mission



**The U.S. Air Force Material Command at Warner Robins Air Force Base, Georgia, is the contracting agency for the Crew Comm Program**

The Distributed Common Ground System (DCGS) program is a multi-service initiative to integrate tactical Intelligence, Surveillance and Reconnaissance (ISR) assets into a worldwide, network-centric enterprise to facilitate real-time information sharing, collaborative data exploitation and rapid intelligence generation.

A key component of the Air Force's DCGS system is an Enterprise Intercom product suite that permits DCGS Mission Crew members to communicate in real time regardless of geographical distance or security boundaries. The Crew Communication System (Crew Comm) program was launched by the Air Force to develop a DCGS multi-INT, multiple security level, enterprise wide real-time voice communication system designed to support the execution of the ISR missions. Providing voice collaboration channels between internal DCGS crew position, and to external communication gateways, Crew Comm connects the DCGS Warfighter with combatant forces across the battlespace.

Crew Comm is extendable and scalable to support a large distributed enterprise operation, including reach-back and forward operating locations. As the system's primary secure voice communication medium, Crew Comm is central to the DCGS's mission objective of providing time-critical actionable intelligence to combatant commanders.

Built on commercial communication protocol standards and off the shelf hardware, Crew Comm provides simultaneous bi-directional and unidirectional connections between end-points. The system features a web services GUI to support a variety of host workstation environments. It includes a comprehensive call capability that allows connections to be made anywhere in the enterprise.

Interoperability with external VoIP networks is achieved through the use of industry standard SIP and H.323 protocols. The Crew Comm program's integrated technology refresh plan will evolve the product forward as new technologies are adopted in the commercial communication market place, reduce the product's form factor, and enhance its operational capabilities.

## Key Features and Benefits of Crew Communications

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### Architecture:

Enterprise-class highly scalable and extendable modular approach IP Based Peer-to-Peer (direct station-to-station; no centralized call manager)  
Local site standalone operation  
Standard SIP & H.323 VoIP Interfaces for external network interoperability  
Site tailorable & configurable

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### Security:

Real-Time voice interface between security enclaves IP level connection blocking GUI visual indicators for real-time security level awareness of connections  
DCID 6/3 PL-4 Accredited

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### User Interface:

Browser based GUI customized by operator profiles  
View current connections of any operator

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### Crew Communications:

Bringing Real-Time Voice Communications to AF-DCGS Mission Crews  
Conference member's display  
Individual and master source volume controls

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### Intercom Capabilities:

Calls  
Direct  
Listen Only  
Conferences – pre-defined and ad-hoc (managed)  
Initiator, manager, inherited manager  
Leave/terminate  
Re-join

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### Calling Capabilities:

All Call (unmanaged conferences)  
Suspend a call  
Multiple monitors of same audio source  
Simultaneous monitor of multiple stations  
Call ring tones to queue the operator of incoming/ outgoing calls

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### Audio:

Separate and independent left and right ear  
Microphone input  
External audio input source  
Side-tone audio injection and side tone suppression

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### Network Management:

QoS over WAN – prioritized voice traffic  
Separate Intercom network

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### Recording:

Configurable digital voice streaming in real-time to an external archive device

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### Administration:

Standalone Windows-based GUI

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### Physical:

Small footprint – single 2U 19" rack mount unit per intercom station (excluding workstation)



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