

# Distributed Common Ground System – Army (DCGS-A) Capability Drop 2 (CD2)



The Army conducted a series of developmental tests and an Operational Utility Assessment of Distributed Common Ground System – Army (DCGS-A) Capability Drop 2 (CD2) by providing access to operationally representative intelligence units throughout the Army in September through October 2022. This assessment demonstrated both capabilities and limitations of the current version of CD2. The Army should work with DOT&E to design and execute a strategy to continue to demonstrate the operational effectiveness, suitability and survivability of the CD2.

## SYSTEM DESCRIPTION

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The DCGS-A CD2 replaces the current DCGS-A Brain data warehouse capability and is intended to be interoperable with legacy DCGS-A systems and CD1s. The CD2 is designed to provide a cloud-based Army intelligence data architecture that will bring in intelligence data from hundreds of Service and Intelligence Community data sources. The CD2 will organize and process the data to allow users to search and find relevant information and provide advanced intelligence analysis tools.

CD2 operates on SECRET and TOP SECRET/Sensitive Compartmented Information enclaves. Users will access CD2 data either directly from the cloud or by connecting to a Deployed Edge Node (DEN).

## MISSION

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Army intelligence analysts in Military Intelligence Brigades – Theater, tactical units from Corps down to battalions, and Special Operational Forces will use DCGS-A CD2 to access intelligence data. DCGS-A CD2 provides users at corps and above a set of additional advanced analytical tools. They will use DCGS-A to store, process, exploit, and disseminate intelligence data, including threat, weather, and terrain.

## PROGRAM

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The Project Manager (PM) Intelligence Systems and Analytics is managing DCGS-A as an inactive Major Defense Acquisition program, and intends to transition capabilities currently covered by DCGS-A to future programs.

There is no plan for further capability drops for DCGS-A.

The PM conducted a market survey and selected two vendors for CD2. After a series of developmental tests and a field test, the Army selected Palantir Technologies as the contractor for CD2. After the contract award, the program office conducted more developmental tests, but did not satisfactorily demonstrate CD2's ability to ingest, normalize and correlate intelligence data. In FY22, the Army decided to host the CD2 capability on the Army Commercial Cloud Service Platform (AC2SP). The CD2 on the Army Commercial Cloud Service Platform did not complete an operational test in FY22.

DOT&E did not approve the DCGS-A CD2 Operational Utility Assessment (OUA) Plan, because it did not describe an adequate plan for operational testing. While the operational test plan included plans for collecting test officer observations, surveys, interviews, and user's computer screenshots, these data are not adequate to determine the accuracy or completeness of CD's battlefield picture.

The Army will work with DOT&E to develop a path forward to conduct

continual assessments of user and system performance with unit engagements and observations to achieve operational outcomes. The updated T&E strategy will be documented in the Test and Evaluation Master Plan.

### » MAJOR CONTRACTOR

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- Palantir Technologies, Inc. – Denver, Colorado

## TEST ADEQUACY

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The Army's initial test concept called for a series of developmental tests to test system capability as the system matures, and to develop and enhance test tools and methodology. To test a complex system such as DCGS-A CD2, the program office tried to develop a "Test Harness" that is a combination of modeling and simulation tools as well as data collection and processing tools.

The Test Harness did not work as designed, however, and the Army fell back on manual and semi-automated methods to generate intelligence data, and to process the resulting test data.

The series of developmental test events was supposed to culminate in a field test in June 2021. As initially planned, the field test would have used operationally representative data on an operationally representative network. The field test was expected to be the source of quantitative performance data. However, because of the immaturity of the system and the

lack of test readiness, the Army modified the field test into a lab test, using small sample data set, conducted by the program office.

ATEC conducted a customer test of DCGS-A CD2 for the PM Intelligence Systems and Analytics in March 2022. This test was initially intended to be the first phase of an operational test, but DOT&E did not approve the operational test plan due to an inadequate plan for collecting and processing test data. Subsequently the Army modified the event to a customer test.

ATEC conducted a cooperative vulnerability and penetration assessment (CVPA) of DCGS-A CD2 on the Cloud node in July 2022. ATEC conducted a second CVPA on the DEN, also in July 2022. ATEC conducted an adversarial assessment (AA) of DCGS-A CD2 Cloud node in August through September 2022. DOT&E approved the CVPA plans and the AA plan for the cloud node. The DEN is not ready for an AA yet.

ATEC conducted an Operational User Assessment (OUA) event September 29 through October 13, 2022. The test used a subset of operationally representative real world intelligence data feeds needed for users to complete their missions. The OUA provided the

Army with useful data to improve CD2 performance. However, the OUA could not determine whether DCGS-A CD2 provided accurate and complete intelligence products to system users.

## PERFORMANCE

### » EFFECTIVENESS

The limited testing up through the CT event has indicated that users could not bring in sufficient intelligence data from the required sources to perform intelligence missions; however, the Army continues to increase the scope of data feeds. Observations indicate that Army organization, doctrine, and training to manage intelligence data need improvement. The DEN and DCGS-A CD2 Cross-Domain Solution were not available for test. During the OUA, analysts used an external cross-domain solution.

### » SUITABILITY

Limited testing to date indicates that the Army does not have sufficient capability to manage CD2 data. Management or “curation” of data is critical for a complex, data-centric system such as DCGS-A CD2 that relies on machine learning technology. The limited testing to date indicates the Army needs to improve the

organization, doctrine and training for managing the intelligence data.

### » SURVIVABILITY

The CVPAs and AA for the cloud node showed positive developments in the Army Intelligence community’s ability to defend cloud-based applications from cyber-attacks. The Army fixed most of the vulnerabilities from the CVPA, but uncovered two vulnerabilities during the AA. The Army proposed a mitigation plan for the vulnerabilities discovered during the AA, but has not conducted a validation of fixes event yet.

## RECOMMENDATIONS

The Army should

1. Work with DOT&E to design and execute a strategy to demonstrate the operational effectiveness, suitability and survivability of the CD2.
2. Develop tools, technology, and training for personnel to support testing of advanced, data-centric systems such as DCGS-A CD2, and to prepare for the advanced data analytics and Artificial Intelligence systems of the future.