

Global Command and Control System - Joint (GCCS-J)

Executive Summary

- In FY17, the Defense Information Systems Agency's (DISA) development of Global Command and Control System – Joint (GCCS-J) focused on the major components of GCCS-J: GCCS-J Global and Joint Operation Planning and Execution System (JOPES).

Global

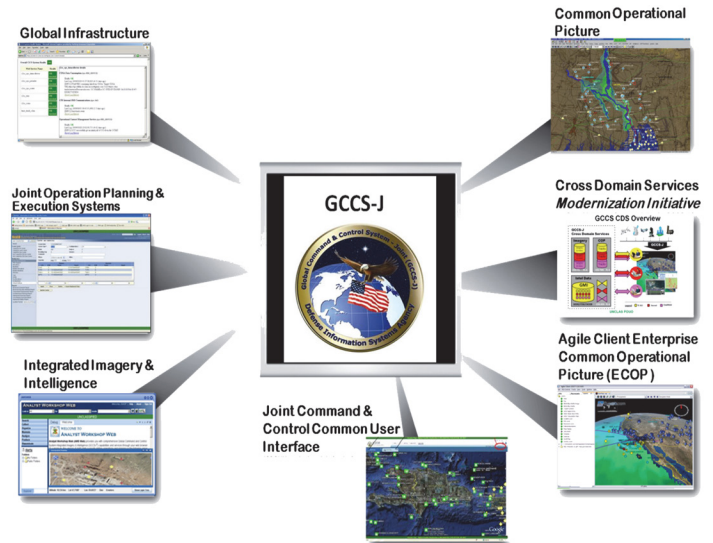
- The program manager corrected all significant defects discovered during the August 2016 operational assessment (OA), except three that affected the Joint Targeting Toolbox (JTT). The Program Executive Officer (PEO) Services Development approved Global v6.0 and Agile Client Release 7 v5.1.0.1 for limited fielding without the JTT component.
- The program manager used incremental Maintenance Releases (MRs) to develop Global v6.0, completing four Global v6.0 MRs in FY17. The Joint Interoperability Test Command (JITC) observed and reported on the Global v6.0 MR level I operational tests. Operational testing in FY17 confirmed that the program manager implemented the majority of new capabilities and defect fixes successfully. In cases where testers found defects, the program manager removed the defective capability or component prior to deploying the MR to users. DOT&E will evaluate Global v6.0 and Agile Client operational effectiveness and operational suitability once the program manager delivers a more complete set of capabilities.
- The program manager deployed Global v6.0.0.3 MR on July 5, 2017, and Agile Client Release 8, v5.2.0.1 on July 19, 2017.
- Global v6.0.0.3 MR and Agile Client Release 8, v5.2.0.1 survivability is undetermined. The program manager should complete a cybersecurity Cooperative Vulnerability and Penetration Assessment (CVPA) and Adversarial Assessment (AA) on the fielded version of Global and Agile Client to enable a survivability determination.

JOPES

- JITC operationally tested JOPES v4.2.0.3 MR4 in FY17, and found it operationally effective and operationally suitable.
- JOPES v4.2.0.3 MR4 cyberspace survivability is undetermined. The program manager should complete a cybersecurity CVPA and AA on the fielded version of JOPES to enable a survivability determination.

System

- GCCS-J consists of hardware, software (both commercial off-the-shelf and government off-the-shelf), procedures, standards, and interfaces that provide an integrated, near real-time picture of the battlespace that is necessary to conduct joint and multi-national operations. Its client/



server architecture uses open systems standards and government-developed military planning software. Global and JOPES are two of the baseline systems that comprise the operational environment of GCCS-J.

Global (Force Protection, Situational Awareness, and Intelligence applications)

- Global v4.3 Update 1 Emergency Release 1 is the currently fielded version. DISA developed Global v4.3 Update 1 to implement high-priority intelligence mission updates to the Theater Ballistic Missile correlation systems, JTT, and Modernized Integrated Database. Emergency Release 1 resolved an operational deficiency discovered in the fielded Global v4.3 Update 1 software and included some of the improvements originally planned for the canceled Global v5.0.
- Global v6.0.0.3 and Agile Client Release 8, v5.2.0.1 are currently fielded at a limited number of sites. Global v6.0.0.3 is intended to provide back-end services, databases, and system administration functions. Agile Client Release 8, v5.2.0.1 with Agile Client core services and the Agile Client plug-in, is intended to provide visualization and presentation of GCCS-J mission applications and functionality to the user.
- The program manager is using agile development to evolve Global v6.0, releasing incremental MR packages to expand capabilities available to the warfighter. DISA is developing GCCS-Joint Enterprise (JE) to replace Global v4.3 Update 1 Emergency Release 1, Global v6.0, and Agile Client Release 8 v5.2.0.1. GCCS-JE is intended to provide situational awareness using a data subscription service, ending the current dependence on a local software instantiation of GCCS-J Global. The Services and

Combatant Commands will need to modify their command and control systems to interface with the new GCCS-JE data service.

JOPES (Force Employment, Projection, Planning, and Deployment/Redeployment applications)

- JOPES v4.2.0.3 MR4 is the currently fielded version. JOPES v4.2.0.3 MR4 supports migration to 64-bit applications, Public Key Infrastructure implementation on web servers, security enhancements, and resolves 25 problem reports.
- DISA is developing Joint Planning and Execution Services (JPES) to replace JOPES v4.2.0.3 MR4. One component of JPES, referred to as the JPES Solution, provides the user interface, presentation services, search capabilities, and mobile device support. The other component of JPES, referred to as the JPES Framework (JFW), provides the software infrastructure, permissions management, core data services, business logic, and interfaces to Authoritative Data Sources. DISA plans to start moving external interfaces from JOPES to the JPES Solution and the JFW during FY18.

Mission

- Joint Commanders utilize the GCCS-J to accomplish command and control.

Global

- Commanders use Global to:
 - Link the National Command Authority to the Joint Task Force, Component Commanders, and Service-unique systems at lower levels of command
 - Process, correlate, and display geographic track information integrated with available intelligence and

Activity

Global

- The DISA PEO Services Development Office approved the limited fielding of Global v6.0 and Agile Client v5.1.0.1 in January 2017.
- The program manager conducted and JITC observed and reported on an operational test of Global Version (v) 6.0.0.1 during the Coalition Warrior Interoperability eXploration, experimentation, examination, exercise (CWIX) 2016 and at the DISA laboratory facility at Fort Meade, Maryland, from February 15-21, 2017. In accordance with DOT&E policy, this low-risk upgrade warranted a level I operational test, which did not require a DOT&E-approved test plan.
- The program manager conducted and JITC observed and reported on a level I operational test of Global v6.0.0.2 at the DISA laboratory from March 6-16, 2017, and Global v6.0.0.3 at U.S. Transportation Command at Scott AFB, Illinois, and the DISA laboratory from June 5-13, 2017.
- The program manager approved Global v6.0.0.3 MR for release on July 5, 2017.

environmental information to provide the user a fused battlespace picture

- Provide integrated imagery and intelligence capabilities (e.g., battlespace views and other relevant intelligence) into the common operational picture and allow commanders to manage and produce target data using the joint tactical terminal
- Provide a missile warning and tracking capability
- Air Operations Centers use Global to:
 - Build the air picture portion of the common operational picture and maintain its accuracy
 - Correlate or merge raw track data from multiple sources
 - Associate raw electronics intelligence data with track data
 - Perform targeting operations

JOPES

- Commanders use JOPES to:
 - Translate policy decisions into operations plans that meet U.S. requirements to employ military forces
 - Support force deployment, redeployment, retrograde, and e-posturing
 - Conduct contingency and crisis action planning

Major Contractors

- Government Integrator: DISA – Fort Meade, Maryland
- Software Developers:
 - Northrop Grumman – Arlington, Virginia
 - Leidos – Arlington, Virginia
 - Pragmatics – Arlington, Virginia
 - CSRA – Falls Church, Virginia

- The program manager approved Agile Client Release 8, v5.2.0.1 for release on July 19, 2017.
- The program manager commenced a level I test of Global v6.0.0.5 MR and Agile Client Release 9, v6.0.0.0, with JITC observation, at the DISA and JITC laboratories from August 14 through November 8, 2017.

JOPES

- Following the JITC-conducted JOPES v4.2.0.4 operational test in September and October 2016, DISA worked to resolve critical Deliberate and Crisis Action Planning and Execution System and Joint Flow and Analysis System for Transportation interface problems. In accordance with DOT&E policy, this moderate-risk release warranted a level II operational test, which did not require a DOT&E-approved test plan.
- DISA changed the JOPES version from v4.2.0.4 to v4.2.0.3 MR4 on May 11, 2017. System functionality remained unchanged.

FY17 DOD PROGRAMS

- JITC conducted a JOPES v4.2.0.3 MR4 operational test from May 22 through September 5, 2017. U.S. Army Forces Command, Fort Bragg, North Carolina; Headquarters Air Force, Pentagon, Washington, District of Columbia; U.S. Transportation Command, Scott AFB, Illinois; DISA, Fort Meade, Maryland; and Joint Service Support Center, Pentagon, Washington, District of Columbia participated in the operational test.

Assessment

Global

- The program manager corrected all significant Global v6.0 and Agile Client Release 7 v5.1.0.1 defects discovered during the August 2016 OA, except three that affected the JTT. The PEO Services Development Office approved Global v6.0 and Agile Client v5.1.0.1 for limited fielding without the JTT component.
- The program manager updated Agile Client Imagery Transformation Services and Integrated Imagery and Intelligence (I3) Imagery Plug-ins in Global v6.0.0.1 MR. Following testing, the program manager removed the Automated NATO Database Interface Agile Client plug-in due to a security concern. All other fixes worked correctly and Agile Client performed as expected.
- The program manager updated Joint Effects Model components in Global v6.0.0.2 MR. The program manager and JITC confirmed 22 of 23 defects were resolved. One low-priority defect remained unresolved, but the mission impact is limited due to a user validated operational workaround.
- The program manager updated the Common Operational Picture Transportation Interface and Integrated Command, Control, Communications, Computers, and Intelligence System Framework components in Global v6.0.0.3 MR. The program manager and JITC confirmed that 22 of 22 defects were resolved. Global v6.0.0.3 MR performed as expected.
- The program manager added Agile Client Release 9, v6.0.0.0 to the Global baseline, implemented 28 new capabilities, and fixed 28 defects in Global v6.0.0.5 MR. The Global v6.0.0.5 MR level I test results were not available for inclusion in this report.
- DOT&E will evaluate Global v6.0 and Agile Client effectiveness and suitability once the program manager delivers a more complete set of capabilities.
- Global v6.0.0.3 MR and Agile Client Release 8, v5.2.0.1 cyberspace survivability is undetermined. The program

manager should complete a cybersecurity CVPA and AA on the fielded version of Global and Agile Client to allow DOT&E to make a survivability determination.

- As part of the GCCS-JE development, the program manager is drafting a Test and Evaluation Master Plan (TEMP) for DOT&E approval. The pace of system development has slowed the program manager's TEMP progress.

JOPES

- During the JOPES v4.2.0.3 MR4 operational test, JITC assessed transition and installation activities in the operational environment and validated correction of previously identified defects. JITC identified new high severity data exchange defects during testing. However, the program manager resolved these and JITC validated correction of all defects by the completion of testing.
- JOPES v4.2.0.3 MR4 is operationally effective. JOPES users successfully created operational plans and force requirements; sourced, updated, and validated force requirements; and scheduled and moved forces. The program manager resolved all previously identified defects or identified user validated operational workarounds.
- JOPES v4.2.0.3 MR4 is operationally suitable. System administrators installed and configured the system using the available documentation. JOPES system administrators successfully transitioned to v4.2.0.3 MR4, with no loss of data or system capabilities. The test system was available 624 of 624 hours throughout the test. Both the test and operational system exceeded the availability Key Performance Requirement threshold of 99.7 percent. There was no degradation of performance or usability compared to the currently fielded version.
- JOPES v4.2.0.3 MR4 cyberspace survivability is undetermined. The program manager has not yet completed a cybersecurity CVPA and AA on the fielded version of JOPES.

Recommendations

- Status of Previous Recommendations. DISA addressed three of the five previous FY16 recommendations. However, DISA still needs to complete a cybersecurity CVPA and AA on the fielded versions of Global v6.0 and JOPES.
- FY17 Recommendation.
 1. DISA should complete the GCCS-JE TEMP for DOT&E approval.

FY17 DOD PROGRAMS