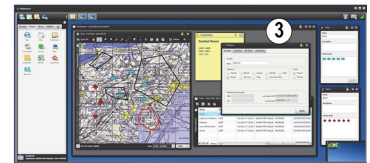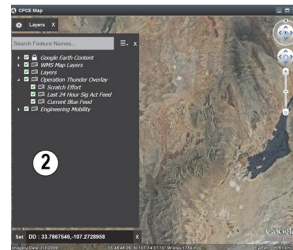# Command Web

Executive Summary
- Command Web is the Army's lead program to field a web-based set of tools designed in accordance with Common Operating Environment (COE) architectures and standards.
- During 2016, the Army conducted a two-phase Command Web Limited User Test (LUT) at Grafenwoehr, Germany, and Fort Bliss, Texas. The test was conducted in accordance with a DOT&E-approved test plan.
- The Army intends to use the results of the Command Web LUT to support a 3QFY17 material release decision.
- DOT&E's preliminary results for the Command Web LUT indicate:
  - Soldiers found Command Web tools easy to use and were successful at creating and posting engineer tasks on the Common Operational Picture (COP).
  - Since Command Web is a client-based application, the unit could install the tools on any computer within the command post. This allowed staff sections (beyond the intended engineer cell) to access the COP without the need of a legacy mission command hardware/software suite.
  - Lack of trained system administrators to manage tactical operations center (TOC) servers hinders Command Web's ability to support soldiers in the accomplishment of their mission. Training afforded soldiers did not allow them to troubleshoot server problems and share the COP between unit echelons and mission command applications.
  - Command Web demonstrated its reliability requirement.
- Command Web experienced cybersecurity vulnerabilities that could affect its ability to support the unit's mission.

System
- Command Web is a collection of web-based applications or "widgets" designed to provide combat engineer staffs and leaders with tools that enhance tactical mission command at brigade and battalion command posts, and support their functional responsibility for the planning and execution of combat engineer tasks.
- The Army designed Command Web to fill an engineer capabilities gap created with the termination of the Maneuver Control System (MCS). Command Web provides web-based engineer tools to enhance the operations of Command Post of the Future (CPOF), which replaced MCS.
- Command Web includes the Obstacles and Hazards Services and Engineering Mobility Services widgets. These tools provide soldiers the ability to create, receive, and analyze obstacle and hazard information; road, route, and bridge information; and engineering project information.
- The Maneuver widget allows soldiers to view relevant COP information (e.g., maneuver graphics, friendly position location information, enemy situation) to provide context for executing combat engineer functions. The Maneuver widget

1 - Soldier operating Command Web
2 - Command Post Computing Environment Map Widget
3 - Maneuver Widget

supports collaboration with other engineer staff cells and with the integrated battle staff through the use of mission command applications during planning and execution phases of mission operations. Data and products from Command Web widgets are displayed on the Common Map widget.
- Command Web is the Army's lead program to field a web-based set of tools designed in accordance with COE architectures and standards. The Army intends for the Command Post Computing Environment V3.0 to provide these capabilities as part of a larger set of mission command tools and replace Command Web when fielded in FY19.

Mission
- Army combat engineer leaders and soldiers use Command Web tools to perform technical and operational tasks for mobility, counter-mobility, survivability, and construction to support the synchronization of engineer activities and their integration into maneuver operations.
- Engineer staff use Command Web widgets to synchronize engineer products via the COP, create and disseminate graphics, and publish/subscribe to data feeds from other Warfighter Functional Area mission command applications. Engineer soldiers and other Command Web users within the TOCs share and collaborate using a variety of data sources visualized on a common map. The Army intends Command Web products to inform commanders during the military decision-making process.

Major Contractor
- U.S. Army Communications – Electronics Command, Software Engineering Center, Aberdeen Proving Ground, Maryland

Activity

- During 2016, the Army conducted a two-phase Command Web LUT at Grafenwoehr, Germany, and Fort Bliss, Texas. The test was conducted in accordance with a DOT&E-approved test plan. The purpose of the Command Web LUT was to:
  - Assess Command Web effectiveness, suitability, and survivability, and provide an evaluation in support of the Army's planned 3QFY17 material release decision.
  - Assess Command Web's ability to fill the engineer capability gap created with the termination of MCS, and enhance the mission support provided by CPOF.
  - Assess Command Web's ability to support combat engineer functions at battalion and brigade, and update relevant engineer information to the unit's COP to share information across brigade mission command applications.
  - Provide performance insights and lessons learned for future testing and development of the Army's Command Post Computing Environment.
- The Army conducted the first phase of the Command Web LUT at Grafenwoehr, Germany, as part of a U.S. European Command joint coalition exercise during February 2016. The Germany test consisted of two assessment activities:
  - Soldiers and leaders from the 15th Engineer Battalion manned TOCs representing three battalions, a brigade, a division, and corps. The soldiers responded to operations orders and fragmentary orders to create combat engineer tasks in support of larger mission requirements using Command Web and mission command applications associated with their TOCs. The resulting products were posted to the COP and reviewed by subject matter experts for completeness and accuracy.
  - Soldiers and leaders from the 173rd Airborne Brigade Combat Team employed Command Web within the brigade's TOC in support of the unit's real-time training mission within the U.S. European Command joint coalition exercise. The unit integrated Command Web into their existing TOC servers, and distributed Command Web widgets to the brigade's combat engineer cell and other staff within the TOC. The brigade conducted noncombatant evacuation operations and used Command Web to produce engineer staff products in support of the unit's mission.
- The Army conducted the second phase of the Command Web LUT during the April through May 2016 Network Integration Evaluation (NIE) 16.2. The operational test employed the 2nd Brigade, 1st Armored Division conducting operationally realistic missions at Fort Bliss, Texas, and White Sands Missile Range, New Mexico. This phase of the test focused on unit's use of Command Web at brigade and battalion TOCs while performing operationally realistic missions supported by tactical communications.
- DOT&E approved a Command Web Test and Evaluation Master Plan update on July 21, 2016.

Assessment

- DOT&E and the Army are assessing Command Web LUT data to produce evaluations in support of the Army's 3QFY17 material release decision.
- DOT&E's preliminary results for the Command Web LUT indicate:
  - Soldiers found Command Web tools easy to use and were successful at creating and posting engineer tasks on the COP.
  - The airborne brigade commander was innovative in using Command Web by installing the tools in several staff sections within his TOC. Although Command Web was intended for the combat engineer cell, the unit could install the tools on any TOC computer since Command Web is a client-based application. This allowed staff sections to access the COP without the need of a legacy mission command hardware/software suite (e.g. CPOF).
  - Lack of trained system administrators to manage TOC servers hinders Command Web's ability to support soldiers in the accomplishment of their mission. During the Germany phase, system administrators were not able to troubleshoot server problems that slowed Command Web operations, and had to reboot the servers. During NIE16.2, system administrators were not able to configure TOC servers to share the COP with Command Web products between brigade and battalion, but could share the COP between Command Web and other mission command applications within their TOC.
  - Command Web demonstrated its reliability requirement during the Germany phase of test.
  - During NIE 16.2, Command Web experienced cybersecurity vulnerabilities that could affect its ability to support the unit's mission.

Recommendations

- Status of Previous Recommendations. This is the first annual report for Command Web.
- FY16 Recommendations. The Army should:
  1. Improve Command Web training to include system administrator training to install, operate, and maintain it, and integrate the unit's COP across mission command applications.
  2. Correct cybersecurity vulnerabilities and validate corrections during operational test.