



US Army Corps
of Engineers®

Engineer Research and
Development Center

Product

Commercial Joint Mapping Toolkit (C/JMTK)

Technology

C/JMTK is a standardized, commercial, comprehensive toolkit of software components for the management, analysis, and visualization of map and map-related information. C/JMTK replaces the government-owned software package, *Joint Mapping Toolkit (JMTK)*. C/JMTK is based on a single scalable open architecture, with open development environments, that incorporates industry standards. Significant research and development costs are borne mainly by vendors, who offer regular software upgrades, extended functionality, and standard, regular training. The primary commercial component of C/JMTK is the Environmental Systems Research Institute's (ESRI's) Geographic Information System (GIS) software called *ArcGIS*.

The C/JMTK Program capitalizes on the technical benefits and the economies of scale of the commercial software industry while providing the standardization, distribution mechanisms, and life-cycle oversight of National Geospatial-Intelligence Agency (NGA) and Defense Information Systems Agency (DISA). C/JMTK integrates the best of Government and industry into a common, long-term solution that advances operational Mission Application development into the next generation of interoperable systems for the warfighter. The C/JMTK architecture integrates ESRI, ERDAS, and Analytical Graphics, Inc. (AGI) tools with Northrop Grumman-IT/TASC developed components to meet Mapping, Charting, Geodesy & Imagery (MCG&I) functional requirements. The toolkit supports both legacy Mission Applications and new systems being developed throughout the DOD Command and Control (C2) Community.

The minimum hardware platform requirements for the C/JMTK Toolkit are:

- Operating System: Windows 2000 or Solaris 8
- Memory/RAM: 128MB minimum, 256MB recommended
- CPU Speed: 450MHz minimum, 650MHz recommended
- Disk Space: 605MB NTFS; 695MB FAT32
- Swap Space: 300MB
- Minimum Processor: Pentium or higher.

For the best performance, the following are recommended:

- True color monitor with a minimum of 16MB video card
- An OpenGL graphics card is recommended to optimize performance in ArcScene.
- Texture mapping will be better optimized using an OpenGL graphics card with 32MB, or more, of on-board texture memory.

Problem

Geospatial information is a fundamental factor in DOD Command, Control, Communications, Computers, and Intelligence (C4I). Numerous capabilities have been developed to exploit geospatial data to meet the military services' requirements. The common functionality found across many of these software packages resulted in duplication in software capabilities, and in maintenance and testing activities. This fragmented approach was both costly and technically inefficient. A commonality of platforms, software tools, and processes is needed to ensure interoperability across Common Operating Environment (COE) Mission Applications.

Expected Cost To Implement

NGA has negotiated an unrestricted license agreement for the toolkit configuration *only* for unlimited use by the COE Community (including Department of Defense [DOD] Intelligence Information System [DODIIS] on COE platforms for use in embedded Command, Control, Communications, Computers, Intelligence, Surveillance,

and Reconnaissance (C4ISR) Mission Applications. Under this agreement, C/JMTK can be deployed throughout the COE for embedded Mission Applications free of charge to C4ISR programs, and on payment under a contract modification for non-C4ISR programs. The three classes of C/JMTK user, matching the three different licensing agreements of the contract, are:

1. *The COE Community, who are authorized to use C/JMTK at no charge.* Those using the follow-on Net-Centric Enterprise Services [NCES]), are considered to be System Developers of COE Mission Applications, such as Global Command & Control Systems (GCCS), Maneuver Control system (MCS), and Theater Battle Management Core Systems (TBMCS). They embed the C/JMTK Toolkit into Mission Applications, which are then delivered to the end user community.
2. *The User or Extended User Community (EUC), which is responsible for funding licenses and maintenance for these products.* These users receive the standard commercial applications from ESRI, ERDAS, or AGI.
3. *The Foreign Military Services (FMS) Community, which is responsible for funding its own licenses and maintenance.* FMS users could receive either C/JMTK embedded in COE Mission Applications or the standard commercial off the shelf (COTS) applications mentioned above.

Benefits/Savings

C/JMTK facilitates the reuse of common, services-based, software architectures consistent with the DOD Joint Technical Architecture (JTA). The toolkit provides common commercially based, geospatial tools for the community while enhancing capability and performance. Its software component functionality increases the efficiency and interoperability of Mission Applications across the entire DOD spectrum. This includes a common look and feel, both horizontally and vertically, for Mission Applications in all services. C/JMTK also applies commercial industry standards to reduce overall integration costs for DOD Mission Applications.

Status

NGA released C/JMTK version 1.0 on 17 March 2004.

ERDC POC

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The C/JMTK Project contacts can be found on:
www.cjmtk.com/Contacts.aspx

Distribution Sources

C/JMTK is distributed through the C/JMTK web site. Authorized users may download the software directly from the servers. Users must first contact their C/JMTK Service/Agency Representative (see <http://www.cjmtk.com/Register.aspx>) for an account name and password to connect to the web site's restricted section. With this additional account, the designated POC for the user's C/JMTK approved program may obtain access to the restricted download area.

Available Documentation

Commercial documentation is supplemented to the extent necessary to comply with COE requirements for documentation for the COTS software. Appropriate documentation is also provided for those components that are developed under the C/JMTK contract. More information is available at: www.cjmtk.com

Available Training

While some user experience with ESRI products would be helpful, it is assumed that some application-specific training will be required. Training in C/JMTK products is available, funded by the trainee's organization, directly from the COTS vendors. Further information on available training can be found at the C/JMTK website at URL:
www.cjmtk.com/links.aspx

Available Support

Some online support (Frequently Asked Questions [FAQs]) is available for C/JMTK at www.cjmtk.com. Other online support available to registered users includes: Requirements Search and Reference Implementations, including web pages for <http://www.cjmtk.com/DecisionTree.aspx> Help Desk, Guidance, and User Forums.