**Software Version Description (SVD)
for
Mission Command Staff Trainer (MCST)**

**Version 3901 / BC 10.3.0.1
for
Army Golden Master (AGM) Windows XP
and
Army Golden Master (AGM) Windows Vista**

21 May 2012

Prepared for:

**Product Director, Strategic Mission Command
Aberdeen Proving Ground, MD 21005**

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1. Scope

1.1 Identification

The identification information for the Mission Command Staff Trainer (MCST) Software Version Description (SVD) is as follows:

Segment Name:	MCST
Version (V) Number(s):	3901 / BC 10.3.0.1
Platform(s):	Windows XP SP2 and Windows Vista SP2

1.2 System Overview

MCST is a stand-alone software training tool to train Strategic Mission Command (SMC) staff officers in staff operations in pre-deployment environments. It uses real ground force data and allows users to simulate sending various tactical messages on the real battlefield communication networks, as well as, situational awareness (SA) data to the Common Operation Picture (COP) using a built-in lightweight mapping tool.

MCST communicates with the SMC network by publishing information to PASS or DDS, by broadcasting to SA multicast groups, and by sending tactical messages directly to BFAs.

MCST is designed for deployment and operation on standard COTS hardware running Microsoft Windows XP SP2 or greater as well as Microsoft Windows Vista SP2 or greater.

This SVD identifies and describes the current version of the MCST.

For technical assistance and problem reporting, contact the following:

C4ISR Support Operations Center
Toll Free: 1-877-839-0813
Commercial: 1-254-287-1608
NIPR: c4isr.support@us.army.mil
Web: https://hd.kc.us.army.mil

1.3 Product Information

1.3.1 Product Qualification

Test and evaluation were performed at Future Skies, Inc. computer test facility in Wall Township NJ prior to the delivery of the SW. Testing followed the procedures outlined in the Software Test Report (STR) for MCST.

1.3.2 Product Restrictions

Not applicable

1.3.3 Product Dependencies

Depending upon the software block to be supported, MCST product dependencies/prerequisites include the Ground Tactical Communications Server (GTCS), Common Message Processor (CMP), PASS Client Interface (PCI), DDS Client Interface (DCI), and Java JRE 1.6, and MS .NET Framework 2.0. All necessary prerequisites are provided by the MCST installer.

1.3.3.1 Security Certificates

MCST relies on certificates to communicate with ABCS components that require secure links. Certificates at both ends of the link must be compatible and unexpired for communication to occur. For information and procedures on how to identify certificate expiration and how to replace certificates, please refer to the companion **Installation Procedures (IP) document, Section 3.2.1.1, Security Certificates**.

1.3.3.2 Operating Systems

This product has been successfully tested on Microsoft Windows XP SP2 and Microsoft Windows Vista SP2.

MCST software has been successfully tested on Windows 7. However, the prerequisite or optional software that are installed with MCST (see sections 3.2.1.3 and 3.2.1.4 of the companion **Installation Procedures (IP)** document) did not have a requirement from the Army to support Windows 7 at the time of their release, therefore we cannot guarantee that any issues found relating to Windows 7 are addressed.
See **Appendix B** of the **Installation Procedures (IP)** for the full list of issues found during MCST 3901 test on Windows 7 system.

1.3.3.3 Required Segments

Refer to the MCST Installation Procedures (IP) document, Section 3.2.1 System Configuration.

1.3.3.4 Required Software

Refer to the MCST IP document, Section 3.2.1 System Configuration.

1.3.3.5 Configuration

Refer to the MCST IP Section 4.2 Initializing the Software.

2. Referenced Documents

The following documents are referenced within this SVD:

Table 2-1. Referenced Documents

Document Identifier	Title	Version	Date
MCST.3901 / BC 10.3.0.1 IP	Installation Procedures (IP) for Mission Command Staff Trainer (MCST)	3901 / BC 10.3.0.1	21 May 2012

3. Version Description

3.1 Inventory of Materials Released

Mission Command Staff Trainer for Windows is released on Compact Disk-Read Only Memory (CD-ROM), and is available for download from the MCST Knowledge Center at:

https://www.us.army.mil/suite/kc/10244567

MCST Certificate of Net Worthiness can be downloaded from:

https://home.kc.us.army.mil/sifsplash.nsf/psplash.

3.2 Pertinent Documentation

The following documents are not referenced within this SVD, but provide additional information about the system:

Table 3-1. Pertinent Documentation

Document Identifier	Title	Version	Date
MCST 3901 / BC 10.3.0.1 UM	User Manual (UM) for Mission Command Staff Trainer (MCST)	3901 / BC 10.3.0.1	21 May 2012

3.3 Inventory of Software Contents

The following subsection lists all libraries and files that comprise the Mission Command Staff Trainer SW.

To install the entire MCST software segment under the segment home directory, 270MB of disk space is needed for SWB 1.5 and SWB 2 MCST. 370MB of disk space is required to install

MCST for SWB BC Marshall. By nature of this training application, up to 25MB of additional disk space should be considered to be held in reserve for keeping user input information related to the different training scenarios, tactical events and messages in the embedded database. The directory organizes the files as they appear in the segment.

3.3.1 Windows Software Contents for SWB 2 (no TMS) install

Table 3-2. Bin Directory Files

Name	Description
runMCST.bat	Start MCST application
cp.bat	Secondary file for classpath compilation
lib\	Directory used by MCST to store jar files
lib\AbsoluteLayout.jar	Classes used by embedded MCST mapping tool
lib\activation.jar	Classes needed for Java Mail
lib\axis.jar	WebServices communication classes
lib\bcst.jar	MCST java classes
lib\C2R.jar	Classes used for C2R communication
lib\CMP.jar	Classes used for CMP communication
lib\cntry02.jar	Classes used by embedded MCST mapping tool
lib\commons-logging-1.0.4.jar	Classes used to enable MCST logging.
lib\CountryFlagFetcher.jar	Icons to display country's flag for Bluefor tree
lib\DaffodillDB_Browser.jar	Classes used by MCST project repository
lib\DaffodillDB_Common.jar	Classes used by MCST project repository
lib\DaffodillDB_Embedded.jar	Classes used by MCST project repository
lib\dciAPI.jar	Classes used for DCI communication
lib\GtcsAPI.jar	Classes used for GTCS communication
lib\jaxrpc.jar	Remote Procedure Calling classes
lib\jlfgr-1.0.jar	Classes used by embedded MCST mapping tool
lib\ldapjdk.jar	Classes used for C2R communication
lib\log4j.jar	Logging API classes
lib\mail.jar	Java classes for mail
lib\milStd2525_png.jar	Classes used by MCST to generate military map icons
lib\omcorba.jar	Classes used by embedded MCST mapping tool
lib\omj3d.jar	Classes used by embedded MCST mapping tool
lib\omsvg.jar	Classes used by embedded MCST mapping tool
lib\openmap.jar	Classes used by embedded MCST mapping tool
lib\PCI.jar	Classes used by MCST for message simulation
lib\PCIAPI.jar	Classes used for PCI communication
lib\ServiceIconSelector.jar	Classes used by MCST to generate military map icons
lib\swing-layout-1.0.jar	Classes used by MCST for GUI
lib\xerces-J_1.4.0.jar	XML parser for MCST

Table 3-3. Data Directory Files

Name	Description
bcst.properties	Properties file for MCST application.
bcst.bookmarks	Bookmarks file.
urnmapping.dat	Data initialization file
backup\bcst_blank\ systemdatabase\systemdatabase.ddb	MCST template repository file
backup\bcst_blank\bcst\bcst.ddb	MCST template repository file
c2r	Directory used for C2R data
c2r\data	Directory used for C2R data
c2r\data\C2REnv.xml	Property file used for C2R configuration
c2r\data\boot.ldif	Ldif file
icons\	Directory used by MCST for icon files
icons\bcst.ico	Desktop icon for MCST software
fbcb2	Directory used for FBCB2 files
fbcb2\data	Directory used for FBCB2 files
fbcb2\data\global_urn_r.csv	Sample data load file for FBCB2 (bluefor tree)
logs\	Directory used by MCST to create main application log files
logs\logging.properties	Properties files
mailserver\james-2.3.1\apps\dummy.txt	Default files and sub-directories for the James Mail server installation (open source)
mailserver\james-2.3.1\apps\james.sar	
mailserver\james-2.3.1\apps\james\conf\james-fetchmail.xml	
mailserver\james-2.3.1\apps\james\conf\ james-liststores.xml	
mailserver\james-2.3.1\apps\james\conf\james-smtphandlerchain.xml	
mailserver\james-2.3.1\apps\james\conf\ miResources.xml	
mailserver\james-2.3.1\apps\james\conf\ sqlResources.xml	
mailserver\james-2.3.1\apps\james\conf\samples\ fetchmail	
mailserver\james-2.3.1\apps\logs	
mailserver\james-2.3.1\apps\SAR-INF	
mailserver\james-2.3.1\apps\var	
mailserver\james-2.3.1\apps\conf	
mailserver\james-2.3.1\apps\ext	
mailserver\james-2.3.1\apps\lib	
mailserver\james-2.3.1\apps\logs	
mailserver\james-2.3.1\apps\temp	
mailserver\james-2.3.1\apps\tools	
mailserver\james-2.3.1\apps\tools\lob	
mailserver\james-2.3.1\apps\work	
mailserver\james-2.3.1\apps\work\james-	

Name	Description
1259589193640	
mailserver\james-2.3.1\apps\work\james-1259589193640\SAR-INF	
mailserver\james-2.3.1\apps\work\james-1259589193640\SAR-INF\lib	
projects\	Directory used by MCST to store project related data
projects\mcst\	Project related data
projects\mcst\bcst	Project related data
projects\mcst\bcst\bcst.ddb	MCST repository file
projects\mcst\systemdatabase	Project related data
projects\mcst\systemdatabase\systemdatabase.ddb	MCST repository file.

3.4 Changes Installed

For a list of modifications, refer to APPENDIX A.

3.5 Adaptation Data

N/A

3.6 Installation Instructions

See the companion Installation Procedures (IP) for Mission Command Staff Trainer (MCST).

3.7 Possible Problems and Known Errors

N/A

4. Notes

4.1 Acronyms and Abbreviations

BFA   Battlefield Functional Area

C2R   Command and Control Registry
CD-ROM   Compact Disk-Read Only Memory
CMP   COE Message Processor
COE   Common Operating Environment
COP   Common Operation Picture
COTS   Commercial Off The Shelf

DB   Database
DCI   DDS Client Interface
DDS   Data Dissemination Services

GTCS   Ground Tactical Communications Server

IP   Installation Procedures
             Internet Protocol

MB   Megabyte
MCST   Mission Command Staff Trainer

N/A   Not applicable

OS   Operating System

PASS   Publish and Subscribe System
PCI   PASS Client Interface
PdM   Product Manager
PM   Project Manager
PM BC   PM Battle Command

SA   Situational Awareness
STR   Software Test Report
SVD   Software Version Description
SW   Software

TS3   Tactical Services Security System

UM   User's Manual

USMTF   United States Message Text Format
VMF   Variable Message Format

5. Documentation Improvement and Feedback

Comments and other feedback on this document should be directed to:

C4ISR Support Operations Center
Toll Free: 1-877-839-0813
Commercial: 1-254-287-1608
NIPR: c4isr.support@us.army.mil
Web: https://hd.kc.us.army.mil

6. Export Control

The MCST contains components of the Common Message Processor (CMP). CMP is ITAR Restricted-Use Data and is not to be copied or transferred to unauthorized third parties. It may not be transferred, trans-shipped on a non….approval of the US state Department. The CMP software is copyright 2002 JB Management, Inc- Sponsored by US Government under Task Orders 02FM22625A and GST0205CJ009 issued against JB Management, Inc's GSA Schedule Contract No GS-35F-0106M. The US Government has a paid-up, non-exclusive, irrevocable worldwide license in the CMP Software product to reproduce, prepare derivative works, and utilize the CMP software by and on behalf of the US Government. However, the US Government's license does not include the right to distribute the CMP Software to the general public or otherwise outside the US Government for work not specifically on behalf of the US Government. That right belongs exclusively to JB Management, Inc.

APPENDIX A: Release Change History

Current Patch 3.9.0.1 / BC 10.3.0.1

- Added the fix for the Ticket 1561, so FBCB2-BFT can continuously update positions of air objects based on tactical position report messages received via SA Multicast.

Release 3.9.0.0 / MC 10.3.0.0

- Added the ability to generate and send TMS positions to TMS server. The data will be generated using ICSF and TMS API.
- Added the functionality to create and import AIRTRACK data before publishing to PASS for ABCS SWB1.5 and SWB2 and to DDS for ABCS BC Marshall. The data will be prepared and published as per AMDTrack.xsd schema.
- Added the capability to create and import TARGET data before publishing to PASS for ABCS SWB1.5 and SWB2 and to DDS for ABCS BC Marshall. The data will be prepared and published as per ABCSTarget.xsd schema.
- Documented list of known issues found during test on Windows 7. See Installation Procedures, Appendix B.
- Added an enhancement for a new UI control to USMTF User Interface. This will allow a user to configure the baseline per each USMTF message.
- Added the functionality to enhance MCST to setup the environment for icons to move by default. The user will be able to move individual icons, icons on a route, multiple selected icons or all icons on the map. The 'Turn Icon Movement On/Off' menu item from BlueFor menu is eliminated.
- Added an ability to send/receive messages to/from multiple recipients. The feature has two enhancements:
  - The receiver of the free text message from Messaging tab will see the receiver's information as URN concatenated with MCST configured name instead of just MCST configured name.
  - The message is sent/received to/from multiple recipients.
- The following enhancements added:
  - ground Red icons can be attached to route.
  - right clicking on the stacked red and blue icons will display list of red and blue icons.
  - each pub/sub report in the event tab is sent as a separate message with different itemID. The edited report is sent with the same itemID.
  - newly created project can be opened automatically. A message box displayed to confirm that the new project should be reopened automatically.
  - red icon can be searched.
  - individual/multiple icons can be reset to original position.
  - the following custom controls are added to Map tab in addition to the Icon movement controls added in FD6:

- Exercise Timer – Verify that the timer is started when the exercise starts and resets after exercise is complete.

- PASS/DDS ,Multicast , GCCS Indicator – Verify that Map tab indicates if PASS/DDS, Multicast and GCCS is checked on/off in Global settings.

o added Find Map Object Combo Box to search for:

- Route

- Formation

- Overlay

- Blue

- Red

- Location

o added Mail Icon which displays the number of messages received in the Messaging tab. The counter is reset when the Messaging tab is clicked.

o 'Go To' menu item indicates the location on the map in addition to centering the map. The indicator vanishes as soon as the user clicks on the map.

o existing toolbar icons containing zoom, layers etc. can be hidden and unhidden.

Release 3.8.0.0 / BC 10.2.0

- Added the ability to create and import ENSIT data before publishing to PASS for ABCS SWB1.5 and SWB2 and to DDS for ABCS BC Marshall. The data will be prepared and published as per EnemySituation.xsd schema.
- Added an ability to group multiple platforms on the map and be able to do the following.
- reposition the group of platforms.

- attach platforms in the group to a route.

- start or stop platforms in the group on the route.

- be able to reverse and set speed/altitude for selected platforms on route.

- To have an ability to save groups to reuse them later.

- create Formations: group multiple platforms in two or more ground/air platform size elements. Once grouped, these platforms will act synchronously of each other. Other functions should include the ability to change the formations of these grouped icons while stationary as well as on the move and be able to set distances between icons, speed and set to follow a lead icon.

- Added an ability to group Red Icons by Echelons. The user will be able to create Red Icons on map manually and select an echelon for it.
- Provided the capability to pause a platform or the entire convoy on a route for a particular amount of time before continuing to the desired destination. This will give the user the ability to preset convoy movement type events such as refuel on the (ROM).
- Added the capability for a user to right click on the friendly icon and select Damage/Destroyed status which in turn will trigger Entity State message, K05.19.

- Added the ability to send air specific type information in K5.01 position report.
The following is a list of VMF messages that is addressed in this release:

  K02.44   Target Element Data Entry
  K02.09   Target data
  K02.11   Ammunition Inventory
  K02.18   Fire Unit Status
  K02.50   Commanders Target Acquisition Guidance
  K02.47   Launcher Configuration Update
  K02.40   Cannon/Mortar Fire Orders
  K02.12   Command To Fire

  The following is a list of USMTF messages that is addressed in this release:

  C281   Artillery Target Intelligence – Artillery Target Report
  S308   Artillery Target Intelligence – Intelligence and electronic warfare (ATI-IEW) Target Coordination Message
  D281   Artillery Target Intelligence – Target Criteria
  D280   Artillery Target Intelligence – Target Information Request

- Added an ability to send air specific type information in K5.01 position report.
- Added an ability to send all different types of stability operations MOOTW symbols. When Military Operations Other than War (MOOTW), Violent Activities is selected, the second drop down list contains 'IED' as specified in MILSTD2525C: ARSON/FIRE; KILLING -> Murder, Execution, Assassination; BOMB/BOMBING; BOOBY TRAP; DRIVE-BY SHOOTING; SNIPING; POISONING; EXPLOSION; IED EXPLOSION.
- Added an enhancement to fix Pause/Resume of exercise. When 'Pause' button will be pressed, the timer will stop i.e. all the planned exercises set with a fixed time will be stopped and all the Icon movement (Map Event) which was started before will be stopped. On 'Restart', all icons which were moving at the time of Pause, will start moving.

Release 3.7.0.0 / BC 10.1.0
- Added support for rendering 2525B Tactical Graphics.
- Added support for editing 2525B Tactical Graphics.
- Added support for editing WayPoints.
- Added Support for Publishing FBCB2 VMF Messages.
- Added support for Icon ETA.
- Added support for Publishing Weather/Weather2 reports.
- Added support for Publishing Geo-Ref reports.
- Added the ability for the user to highlight multiple platforms located within the global URN and drag them all to the map simultaneously.

Release 3.6.0.0
- Added support for downloading operational and obstacle overlays from PASS and DDS
- Added support for publishing operational and obstacle overlays to PASS and DDS
- Added support for these new map route features:

- Auto-generation of a map route from an overlay route
- Icon attachment to the middle of a map route
- Auto-reverse to permit continuous icon movement on a map route
- Continuous/circular map route
- Added support for publishing positions as MCS, CPOF, GCCS-A, AFATDS, and BCS3
- Added Event Tab enhancements to support automatic event execution:
  - Flag column to select events for automatic execution
  - Event sorting based on automatic execution schedule
  - Color-coded completion status for automatically executed events

Release 3.5.1.0
- Applied fix for MR 2535 (Field Issue: Cannot enter MGRS coordinates manually *in* MCST 3500).
- Applied fix for MR 2548 (Field Issue: Map View Icons Sometimes Stray Off the Map Routes)

Release 3.5.0.0
- Added support for MCST installation and operation on Windows Vista SP2 for all software blocks.
- Added support for SMTP (sendmail) delivery of USMTF tactical messages.
- Added USMTF message import capability for creating exercise events.
- Upgraded tactical messaging and pub/sub components to the current
- (9/30/2009) BC Marshall baseline.
- Added support for these new exercise events:
- Create and publish SIGACT reports to PASS and DDS
- Create and send USMTF Airspace Control Order tactical messages (USMTF F756)
- Create and send USMTF Air Tasking Order tactical messages (USMTF A659)
- Create and send USMTF Support Battlefield Geometry tactical messages (USMTF S201)
- Create and send USMTF Air Early Warning tactical messages (USMTF
- E500)
- Create and send USMTF NBC1 NUC reports (USMTF C488)
- Create and send USMTF NBC1 BIOCHEM reports (USMTF C448)
- Create and send USMTF NBC1 ROTA reports (USMTF C454)
- Create and send USMTF Friendly Nuclear Strike Warning tactical messages (USMTF C505)

Release 3.4.1.0
- Support loading blue force data from FBCB2 global_urn_r files
- Support transmission of friendly and hostile air track data to FAAD Data Link (FDL)
- Support custom definition of Unicast Message Routes for stimulating systems not addressable using C2R message routes
- Provide map route color selection
- Upgrade PASS, DDS, and C2R Web Service communication security certificates from August 4, 2009 expiration to May 20th 2012 expiration.

Release 3.4.0.0

- Install-time software block selection
- Support for ABCS BC Marshall architecture
- Publication to BCCS Data Dissemination Service (DDS)
- Support loading blue force data from BCCS C2R Web Service
- BC Marshall messaging
- New programmable events supported:
  - Security Report (VMF K00.03)
  - Bridge Report (VMF K04.09)
  - Mayday Report (VMF K03.06)
  - Unit Task Organization Report (PASS/DDS TASK-ORG)
  - Airspace Control Means Request (USMTF F658)
  - Airspace Control Order (USMTF F756 & Pass/DDS ACO)
- SA Multicast address/port customization
- Click and drag map panning
- Streamlined product installation
- Starting with the version 3.4.0.0, MCST is backwards compatible. Projects created with the version 3.3.0.0 can be used with subsequent versions.

Release 3.3.0.0
- Updated Route Manager to build routes directly from C2R blue force data.
- Added ability to create and save a route not associated with a Unit and attach it later.
- Support route editing.
- Ability to change speed and reroute Units on the fly.
- Represent route waypoints with map icons.
- Map Event category added to enable execution of internal MCST events related to the objects located on the Map (icon movement for example).
- Custom track settings for OTH Gold messages

Release 3.2.0.0
- Streamline event modification so all facets of an event may be modified from a single panel.
- Reduced number of popup windows as much as possible.
- Allow an icon to be placed or moved to a specific position entered by the user
- Removed initial dialogs
- Normalized data repository to provide data integrity

Release 3.1.0.0
- Added ability to switch between Software Block 1+ and Software Block 2
- Added ability to publish to PASS through PCI

Release 3.0.0.0
- Added ability to stimulate AMDWS
- When 'Find Icon' operation is executed, automatically bring unit/system icon of interest to foreground of all other layers
- Add internal MCST ability to parse and properly display text elements associated with MCS-generated XML overlays

- Allow user to perform search operations from Blue Forces Role List using search-by URN criteria
- Add functionality to each message manager window, allowing the user to sort messages by name or by number
- Remove position functionality for SPOT objects that are event-generated

Release 1.0.0.0
- Original release