# JTLS
# Version Description Document

## January 2016



DEPARTMENT OF DEFENSE
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**JOINT THEATER LEVEL SIMULATION**
**(JTLS 4.1.11.0)**

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# ABSTRACT

The Joint Theater Level Simulation (JTLS®) is an interactive, computer-based, multi-sided wargaming system that models combined joint and coalition resource air, land, naval, and Non-Governmental Organization (NGO) environments.

This *JTLS Version Description Document (VDD)* describes specific features of the Version 4.1.11.0 delivery of the configuration-managed JTLS software suite.

JTLS 4.1.11.0 is a maintenance release of the JTLS 4.1 series that includes code modifications that represent corrections to known Software Trouble Reports (STRs), which are described in Chapter 3. Remaining and outstanding STRs are described in Chapter 4.

This publication is updated and revised as required for each Major or Maintenance version release of the JTLS model. Corrections, additions, or recommendations for improvement must reference specific sections, pages, and paragraphs with appropriate justification and be forwarded to:

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# 1.0  INTRODUCTION

## 1.1  SCOPE

This *JTLS Version Description Document* (VDD) describes Version 4.1.11.0 of the configuration managed Joint Theater Level Simulation (JTLS®) software suite. JTLS 4.1.11.0 is a Maintenance delivery for the JTLS 4.1 series of releases. JTLS 4.1.11.0 includes the entire JTLS suite of software and the SDBKOR41 Standard Database that supports a realistic scenario based on the current Korean Peninsula theater of operations.

Detailed descriptions of Engineering Change Proposals (ECPs) and minor model enhancements implemented for this release are provided in Chapter 2.0. Chapter 3.0 summarizes all of the bug fixes made since the previous official release of JTLS. Finally Chapter 4.0 lists all known bugs that have not been fixed. Each of these known issues includes a description of the problem's impact on execution of JTLS and suggestions for avoiding or working around the issue to reduce the impact on the operational use of JTLS.

The format of the database, as well as the suggested default data, as contained the SDBKOR41 scenario, has not changed since the release of JTLS 4.1.10.0.

JTLS 4.1.11.0 executes on the Red Hat Enterprise Linux Version 5 or 6 64-bit operating systems. The Web-Hosted Interface Program (WHIP®) user workstation interface can be executed from any Java-compatible Web browser available on any operating system.

## 1.2  INVENTORY OF MATERIALS

This section lists documents and software that are relevant to JTLS. All JTLS documents included in this delivery are provided in PDF format within a documents subdirectory.

### 1.2.1  Obsolete/Outdated Documents

No documents have been removed from the JTLS documentation suite for this release.

### 1.2.2  Unchanged Documents

The following documentation is provided for this release:

- *JTLS Analyst Guide* (JTLS Document 01, Version 4.1.11.0)

- *JTLS ATOT User Guide* (JTLS Document 03, Version 4.1.11.0)

- *JTLS Controller Guide* (JTLS Document 04, Version 4.1.11.0)

- *JTLS Data Requirements Manual* (JTLS Document 05, Version 4.1.11.0)

- *JTLS DDS User Guide* (JTLS Document 06, Version 4.1.11.0)

- *JTLS Director Guide* (JTLS Document 07, Version 4.1.11.0)

- *JTLS Executive Overview* (JTLS Document 08, Version 4.1.11.0)

- *JTLS Installation Manual* (JTLS Document 09, Version 4.1.11.0)

- *JTLS WHIP Training Manual* (JTLS Document 10, Version 4.1.11.0)

- *JTLS Player Guide* (JTLS Document 12, Version 4.1.11.0)

- *JTLS Standard Database Description* (JTLS Document 14, Version 4.1.11.0)

- *JTLS Software Maintenance Manual* (JTLS Document 15, Version 4.1.11.0)

- *JTLS Technical Coordinator Guide* (JTLS Document 16, Version 4.1.11.0)

- *JTLS Entity Level Server User Guide* (JTLS Document 19, Version 4.1.11.0)

- *JTLS Federation User Guide* (JTLS Document 20, Version 4.1.11.0)

- *JTLS C4I Interface Manual* (JTLS Document 21, Version 4.1.11.0)

- *JTLS DDS Training Manual* (JTLS Document 23, Version 4.1.11.0)

### 1.2.3  Updated Documents

- *JTLS Version Description Document* (JTLS Document 17, Version 4.1.11.0)

### 1.2.4  Delivered Software Components

JTLS 4.1.11.0 may be delivered either on a CD or as a set of compressed TAR files to be downloaded. Either method includes the complete suite of software executable code and command procedures. These software components are included with this release:

- Database Configuration Program (DCP)

- DDS User Interface (DDS)

> In order to use the DDSC, the GlassFish domain must be re-saved as follows:
>
> 1.  In the DCP, stop the GlassFish server.
>
> 2.  Change the execution host and then change it back.
>
> 3.  Save (After the save, the server will be left running).

- Combat Events Program (CEP)

- Scenario Initialization Program (SIP)

- Interface Configuration Program (ICP)

- Reformat Spreadsheet Program (RSP)

- Database Development System (DDS)

- Terrain Modification Utility (TMU)

- JTLS Symbols Application (JSYMS)

- Lanchester Development Tool (LDT)

- ATO Translator Program (ATOT)

- ATO Retrieval Program (ATORET)

- Convert Location Program (XCONVERT)

- Count Critical Order Program (CCO)

- JTLS HLA Interface Program (JHIP)

- After Action Review Client (AARC)

- Scenario Data Client (SDC)

- Order Entry Client (OEC)

- Order Verification Tool (OVT)

- JTLS Object Distribution Authority (JODA)

- Web Services Manager (WSM)

- Web-Hosted Interface Program (WHIP) and its component programs:

  a.  Apache Server, version 2.4.12 (APACHE)

  b.  JTLS XML Serial Repository (JXSR)

  c.  Order Management Authority (OMA)

  d.  Synchronized Authentication and Preferences Service (SYNAPSE)

  e.  XML Message Service (XMS)

f.   Total Recall Interactive Playback Program (TRIPP)

In order to use After Action Reports in the TRIPP the GlassFish domain must be re-saved as follows:

1.   In the WSM, stop the AAR GlassFish server.

2.   In the ICP, on the GlassFish tab, deselect, and then reselect GlassFish.

3.   In the ICP, save.

4.   Restart the AAR GlassFish server.

- Entity Level Server (ELS)

- JTLS Operational Interface (JOI)

- KML Operational Interface (KOI)

- TBMCS/ICC Interface Program (JTOI)

- JTLS Interface Network Navigator (JINN)

- JTLS Order of Battle Editor (JOBE)

- Technical Control Tool (TechTool)

Instructions for installing JTLS 4.1.11.0 are provided in the *JTLS Installation Manual*. Installing a previous version of JTLS prior to installing JTLS 4.1.11.0 is not necessary. No other upgrade beyond installation of the compressed TAR files (or CD) is required. The software provided with this delivery is a complete release that includes all files and code required to execute JTLS.

1.2.5  Released Databases

This release includes these sample unclassified databases:

- The scenario developed as the Korea Standard Database and named SDBKOR41 is a large-scale, seven-sided scenario database reflecting the approximate starting positions of units involved in the Korea Peninsula theater of operations. This example scenario was developed using unclassified data sources and is consequently not completely accurate. Discrepancies among actual units and their locations are not detrimental to the intended purpose of this database, which is to provide a recognizable and realistic scenario that demonstrates the simulation capabilities and supports JTLS training.

- The scenario DEMSDBKOR41, which is a reduced version of SDBKOR41, has **not** been updated from JTLS 4.1.10.0 for this release and contains the most current engineering level data from the SDBKOR41 scenario.

- The scenario blank40 is the SDBKOR41 database, with all force structure data removed, can be used as a framework for building your customized database. This database has been updated and contains the most current engineering level data from the SDBKOR41 scenario.

## 1.3  INTERFACE COMPATIBILITY

### 1.3.1  Support Software

JTLS 4.1.11.0 requires the following versions of support software, including operating systems, compilers, scripting utilities, database tools, transfer protocols, and display managers.

- Operating systems for the model:

    Red Hat Linux Enterprise Edition Version 5 or 6 (ES), 64-bit architecture.

    CentOS Linux Version 5 and 6

    > Security Enabled (SE) Linux must not be enabled on systems used to execute JTLS or its components. Tests reveal that SE Linux-enabled systems cause frequent and random JXSR crashes and errors. Use of SE Linux to support JTLS is currently not authorized.

    > When running JTLS on any Version 6 Red Hat Linux Enterprise Edition system, do not run the SYNAPSE and APACHE services on the same machine. This is a known issue, and the development team is continuing to find a solution, so that this restriction will not be necessary.

    > The Development Team has started to investigate the impact of Version 7 Red Hat Linux on JTLS. This testing is not complete; therefore, JTLS 4.1.11.0 is not approved for use with Version 7 of Red Hat Linux.

- There are no restrictions on the operating system for client workstations, except that the operating system must have a Java-enabled web browser. JTLS 4.1.11.0 client software has been tested on the following operating systems:

    Red Hat Linux Enterprise Edition Version 5 and 6

    CentOS Linux Version 5 and 6

Windows Vista, Windows 7, or Windows 8 can be used only if the workstation is an external HTTP client of the simulation network.

- Java 1.7.0 Update 80 for model server machines.

- Java 1.8.0 Update 66 for client workstations.

Oracle has announced that Java 1.7.0 Update 80 is the last public update for Java 7. Java 1.7.0 Update 80 has expired as of July 15, 2015 and can no longer run the WHIP, TRIPP and DDSC via a web browser on the model server machines.

Server machines cannot be upgraded to Java 8, because the Glassfish server software will not run under Java 8. To work around this problem, three new scripts have been added to run the WHIP, TRIPP and DDSC from the command line on model server Linux machines. Typing either "whip", "tripp", or "ddsc" in a terminal window will print the usage instructions.

Client machines must be upgraded to Java 8 Update 66 to run the WHIP, TRIPP, and DDSC.

- JTLS database tools require use of a certified Oracle database server and the full Oracle Client installation for runtime requirements. Refer to Section 1.5.2 of this chapter for additional installation details.

- Windows software, X11R5 server, Motif 1.2 Library, Motif Window Manager: These items are included as part of the supported versions of Red Hat Linux ES.

- TCP/IP is required for inter-process communication between the JODA data server and all user interface programs. The version of TCP/IP included with the supported versions of Red Hat Linux ES is sufficient.

- The Perl script language is used by the JTLS system and game setup scripts. The version of Perl included with the supported versions of Red Hat Linux ES is sufficient. The Perl program is typically located in the /usr/bin directory. If Perl is installed in a another location, a link should be created from the /usr/bin directory to this program.

- SIMSCRIPT II.5 (SIMSCRIPT to C) translator/compiler: SIMSCRIPT is required for recompiling JTLS code. It is not necessary to have a SIMSCRIPT compiler to execute JTLS, because all JTLS software executables are statically linked with the SIMSCRIPT libraries. The compiler is needed only if you are a U.S. Government organization that can obtain source code and plan to re-compile JTLS SIMSCRIPT code. To obtain a SIMSCRIPT compiler, contact CACI Inc.

- ANSI C Compiler: It is not necessary to use a C compiler to execute JTLS. This compiler is used only by U.S. Government organizations that can obtain source code and intend to re-compile any of the JTLS component programs. The C Compiler version delivered with the supported versions of Red Hat Linux ES is sufficient.

- C++ Compiler: It is not necessary to use a C++ compiler to execute JTLS. This compiler is used only by U.S. Government organizations that can obtain source code and intend to re-compile any of the JTLS HLA component programs. The C++ Compiler version delivered with the supported versions of Red Hat Linux ES is sufficient.

- The JTLS DDS (Database Development System) application uses these open source libraries, which are delivered with JTLS:

     JFreeChart, licensed under LGPL (GNU LESSER GENERAL PUBLIC LICENSE) by Object Refinery Limited, http://www.object-refinery.com

     JCommon, licensed under LGPL2.1 (GNU LESSER GENERAL PUBLIC LICENSE version 2.1 or later) by Object Refinery Limited, http://www.object-refinery.com

     Commons-math3-3.0.jar, licensed under Apache Software Foundation (Apache License, Version 2.0) http://www.apache.org/licenses/LICENSE-2.0HLA Compliance

- KML Operational Interface (KOI)

     The Keyhole Markup Language (KML) Operational Interface (KOI) server utility enables the model to feed operational simulation data to any version of Google Earth™. The display capabilities and data transfer features of this terrain viewer are sufficiently robust to be used as a base-level operational interface. Operational Players who may be restricted from using the COP, C2PC, or other C4I systems may be able to install and use Google Earth and configure the KOI to provide a capability that resembles C4I for observing perception Force Side data.

     Chapter 3 of the *C4I Interface Manual* describes requirements and procedures for using the KOI capabilities.

## 1.3.2  Special Consideration for the JTLS Air Tasking Order Translator (ATO-T)

The ATO-T executes in two modes:

- In the basic mode, one or more files containing the translated orders is created and the Controller is responsible for submitting an appropriate READ ORDER FILE Order that submits these orders to the model.

- In the advanced mode, the ATO-T connects to the Oracle-based Scenario Database Repository (SDR) and places the translated orders into the appropriate Order Entry Client (OEC) tables. The OEC is responsible for submitting the orders to the model.

The SIMSCRIPT and Oracle libraries needed to support both ATO-T modes are delivered as part of the JTLS software package with the permission of CACI, Inc and Oracle Corporation. The necessary SIMSCRIPT libraries are released in the ~/bin_support/Linux64/simscript directory. The Oracle libraries are released in the ~/bin_support/Linux64/oracle directory.

To run the advanced mode, users must have access to an Oracle server. Users must obtain, install, and configure the most current Oracle Full Client to use the ATO-T in the OEC mode.

### 1.3.3  JTLS High Level Architecture Compliance

The JTLS 4.1.11.0 release is fully High Level Architecture (HLA) compliant, and includes all the programs required to run JTLS in an HLA mode. JTLS has moved to a new Federation Object Model (FOM) located in the $JGAME/data/hla directory. Federation testing of JTLS is not complete, but some initial tests with CAE's Gefechts-Simulation system (GESI) have been accomplished. Future plans include expanding the capabilities to fully establish the GlobalSim Federation.

The HLA RTI (Run Time Infrastructure) executive program (rtiexec) recommended for use with this release is RTI-NG-Pro-v7.0 or Pitch pRTI Evolved 4.4.2.0. However, these programs are not included in the JTLS 4.1.11.0 delivery. Users may obtain a full installation package of the RTI software from either vendor: Raytheon Company (http://www.raytheon.com) or Pitch Corporation (www.pitch.se). For information about executing the HLA RTI Executive and other HLA-related software, refer to the appropriate HLA documentation and user guides.

### 1.4  DATABASE MODIFICATIONS

### 1.4.1  Database Upgrade to JTLS 4.1 Series

No database structure differences exist between JTLS 4.1.11.0 and any previous 4.1 series database.

There are no changes between the database structure in JTLS 4.1.10.0 and JTLS 4.1.11.0. There are no special requirements to upgrade your database for JTLS 4.1.11.0.

To upgrade your previously installed and modified JTLS 4.1.5.0 scenario or earlier for JTLS 4.1.11.0, you must unload and reload your scenario. This will recreate the modified stored procedures, database triggers, etc. Failing to do so will cause issues in DDS operations, such as renaming, copying, and deep copying existing records.

If you are upgrading to JTLS 4.1 from JTLS 4.0 or earlier, you must unload and reload your scenario after the modification is completed.

The JTLS Default Symbol Set has not changed since the initial delivery of JTLS 4.1.0.0, If this version of JTLS is your first JTLS 4.1 series installation, then the Default Symbol set must

propagated to any of your scenarios that originated under JTLS 4.0 or any previous version. Use the procedure that follows. You should not make any modifications to the Default Symbol Set.

Use this procedure to start the JSYMS program to update the Default Symbol Set used by one or more scenarios.

1. Enter the command "jsyms --edit-default" from a command prompt window. Do not use the JTLS Menu > Database Menu for this purpose. This message appears:

   "!!! JSYMS Allows Editing and Saving the Default Symbol Set."

2. Select the Default Symbol Set from the drop-down menu and select OK.

3. Select Symbols from the menu bar, and select Save to update all scenarios that use the Default Symbol Set.

4. Close JSYMS.

5. Use the JTLS Menu Option 1 > 1 > 6 (Load Symbols) to load the current Default Symbol Set to your scenario account in the Oracle database.

1.4.2  Database Upgrade from JTLS 4.0 or Earlier

Users who currently possess a JTLS scenario (ASCII file set) compatible with a version earlier than Version 4.1.0.0 can use this recommended modification procedure after installing this new version of JTLS:

1. Create a new Oracle account for the scenario.

2. From the new JTLS account, load the scenario ASCII files to the newly created Oracle account.

This process creates the JTLS schema that matches the previous JTLS version. After all data are loaded to the database tables, the process modifies the schema to match the current JTLS version. For JTLS 4.1, this process supports JTLS 3.0 (or higher) series scenarios only. If your scenario version is older than 3.0, the scenario must be upgraded to Version 3.4 first, by using the JTLS 3.4 version upgrade process. Consult Section 1.5.2 of the *JTLS 3.4.0.0 Version Description Document* for details and procedures.

JTLS users must consider that the automatic modification program inserts default values to the new database fields. Also, a new JTLS version may use previously existing data fields in a different way. Consult the appropriate *JTLS Version Description Document* to identify data fields that must be updated. The Database Modify program is the first process to use to update your databases to the new JTLS version. Changing the values in new or changed data fields is equally important.

The JTLS scenario/database modification process requires a full Oracle Client version 10.2.0.5.4 or higher installation.

1.5   INSTALLATION

1.5.1   Installation Instructions

The *JTLS Installation Manual* included in the documents compressed TAR file that is part of this JTLS delivery provides detailed instructions for installing a new version of JTLS.

1.5.2   Oracle Compatibility and Installation

A full Oracle Client installation (not Instant Client) that matches your database server version is currently a requirement for running JTLS applications. The Oracle Instant Client is not sufficient for JTLS applications because Oracle utilities, such as sqlldr, imp, exp, tnsping, etc., are missing. If you have applied a patchset to your database server, the same patchset should be applied to the Oracle Client installation. For the 64-bit version of JTLS, a 64-bit Oracle Client installation must be used. The JTLS scenario/database modification process also expects 10.2.0.5.4 or higher full Oracle Client installation. Some sites NFS mount their database server as Oracle Client; other sites prefer a full install of the Oracle Client to a different directory that mounts (simple NFS will suffice) to JTLS. Your system administrator can choose the appropriate installation. Assigning the full Oracle Client installation location (or mount point) as the ORACLE_HOME in the JTLS .cshrc file allows connecting to an Oracle database server (10.2.0.5.4 or higher - including 11g XE) running on any Oracle-certified database server platform.

The DDS application utilizes the Oracle GlassFish J2EE server, which, like the JTLS WHIP Apache server, is delivered with JTLS and requires no separate installation.

Refer to Chapter 5 of the *JTLS Installation Manual* for additional details pertaining to the Oracle installation.

1.5.3   Disabling Certificate Authority

Keeping with high security standards, R&A has opted to sign its web-enabled applications with a certificate from the COMODO Certificate Authority (CA). It uses the Public Key Infrastructure (PKI) to validate the digital signature. The PKI attempts to validate the certification on COMODO's servers via the Internet. Because of security issues and the expiration of versions, it is strongly recommended that Web Start technologies be signed by a CA to validate that an application being run comes from a trusted and registered source under the PKI.

Local area networks, intra-nets and standalone systems that have no outside connection to the Internet must configure their installation to disable certificate revocation checks. If this step is not taken under a closed environment, the JTLS web enabled applications will experience a significant delay in start up.

The following outlines how to turn off certificate revocation checks. Again, this step should only be taken if the WHIP, TRIPP and/or DDS are going to be run in a closed environment.

Bring up the Control Panel. On Linux, typing 'jcontrol' in a terminal window will bring up the configuration panel. On Windows, go to the Windows Control Panel and select 'Java'. Both Linux and Windows will display the same configuration panel.

Navigate to the 'Advanced' tab and scroll down to the 'Perform certificate revocation checks on' heading. Select the 'Do not check (not recommended)' radio button and click 'OK'. The image below illustrates the corresponding selection in the Control Panel.

Completing this step will allow you to run the JTLS web enabled applications without any external checks and launch the application without the validation delay.
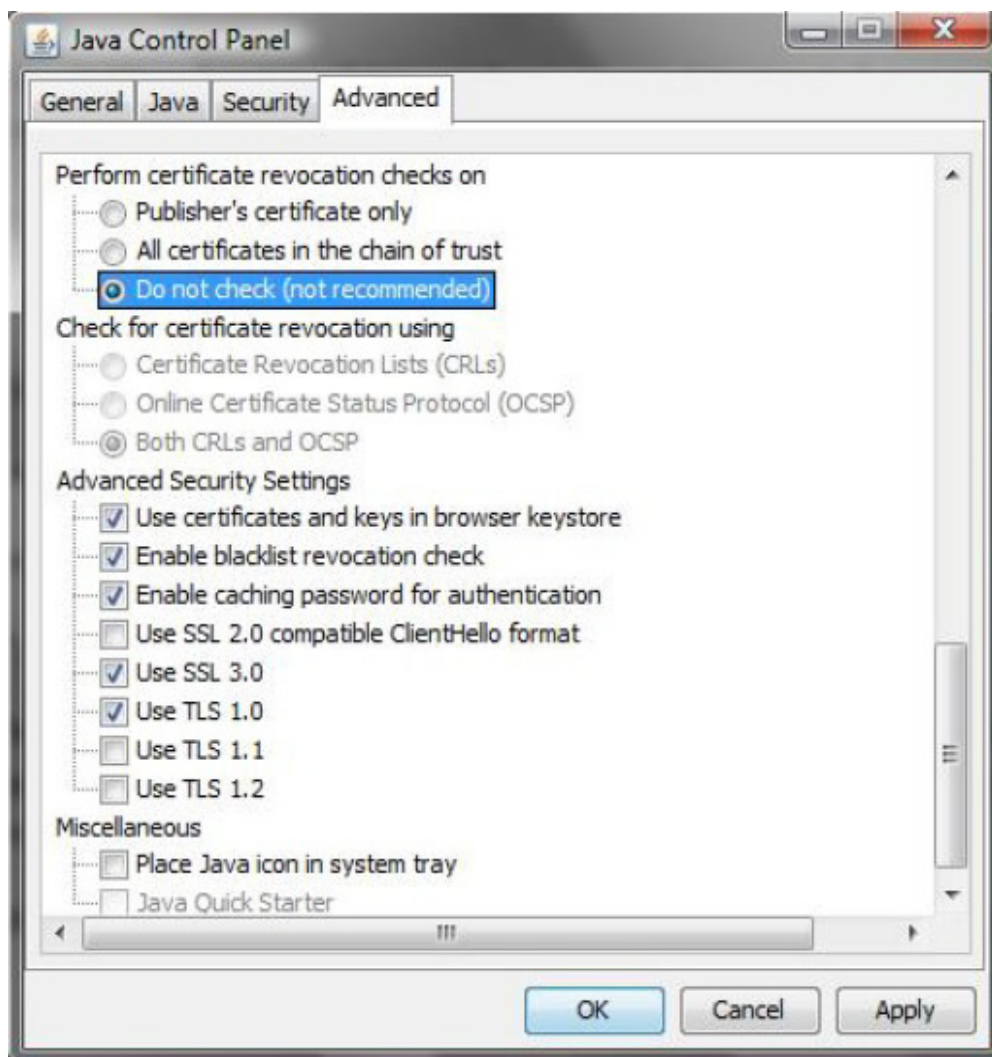


**Figure 1.1   Control Panel**

# 2.0  MINOR MODEL ENHANCEMENTS

This chapter summarizes model capabilities added to JTLS 4.1.11.0 as a result of implementing minor Engineering Change Proposals (ECPs). No major design related ECPs are delivered with JTLS 4.1.11.0.

## 2.1  JTLS-2015-12514 JTOI Do Not Provide Full Update During Initial Download

### Summary of Model Change Request

The operator wanted a way to have the JTLS Transaction Operational Interface (JTOI) open quickly and provide mission updates to the C4I system. During an exercise, the JTOI occasionally gets disconnected from the Integrated Command and Control (ICC) system and needs to be restarted. When the JTOI starts in update mode, it sends full updates for all active objects, causing slowdown at startup.

### Design Summary

A toggle titled "Repopulate Orbat When Starting in Running Mode" was added to the Setup window. If the toggle is set to "off", the JTOI will not send updates while it receives the data download from the JTLS Object Distribution Authority (JODA). Once the download completes, it will start sending updates whenever it receives updates from JODA.

With the toggle set to "off", the JTOI can restart quickly to start sending updates. After the download, the operator can perform the send of all objects, objects of one object type (for example, air mission), or single objects, as necessary.

## 2.2  JTLS-2015-12530 Provide NO Update Capability In JOI For OTH-Gold Tracks

### Summary of Model Change Request

The JTLS Operational Interface (JOI) provides various filter options to stop OTH-Gold messages from being sent to the C4I system. When a single object is filtered off, the status changes to Unseen and a delete track message is sent to remove the object from the Common Operational Picture (COP). A request was made to add a capability to stop the messages without deleting the object.

### Design Summary

A toggle titled "Send NO Update" was added to the Object Update dialog. If the toggle is set to "on", the object is in "no update" state and no additional updates will be sent out for the object, but the object will remain on the C4I device because a delete track message is not sent. This information is also saved during checkpoint.

## 2.3  JTLS-2016-12550 JOI Filter By JU Block

### Summary of Model Change Request

It is not possible to block a groups of Link-16 tracks within the JOI, though various filtering methods are available to control the OTH-Gold message feed. A filtering mechanism by JU number was requested so that Link 16 track data can be sent to two independent C4I systems with two JOIs running.

Note: Though this ECP is delivered with JTLS 4.1.11.0, the detailed design information is included in the JTLS-GO 5.0 ECP (JTLS-2015-12507) list due to significant JOI changes in the JTLS-GO 5.0.X.X series.

### Design Summary

A separate filtering menu option and dialog were added to add/modify/remove JU block entries. Each entry specifies Type (SOURCE or TRACK), Start JU number, and End JU number. The PPLI message is not sent if its JU number falls between the Start and End JU for SOURCE entries. For Track messages, both the Source and Track JU numbers are checked against the entries in Block list. The filtering is done automatically when the filter change is applied and JOI will send Drop track message if necessary. The JU block entries are saved into the filter file when the save option is selected.

# 3.0  SOFTWARE TROUBLE REPORTS

Software Trouble Reports (STRs) describe software code errors that have been discovered by JTLS users or developers and have been corrected. The following STRs have been identified for this JTLS Maintenance release.

STRs that remain outstanding from previous JTLS versions are listed and described in Chapter 4.0.

## 3.1  JTLS-2015-12508 Crash Running Scenario Verification From DDS

*When the user ran the Scenario Verification Program (SVP) within the Database Development System (DDS), the program window locked up because of an SVP crash. Under normal operation, the SVP stops with a debug prompt when the program crashes. This interactive debugging state is not properly captured by an SVP window that was started within the DDS. It appeared to the user that the SVP was stuck, with no error reporting and no means to recover from the situation.*

The SVP code was modified to include an option to allow execution without using any interactive debugging capabilities. When used with the DDS, the SVP invocation works using a new command line argument to skip the debug mode. When the database developer calls the SVP from within the DDS, a program crash will result in the printing of an run-time error code followed by an exit from that verification cycle. This prevents the SVP from appearing to be stuck in an unresponsive window.

## 3.2  JTLS-2015-12509 WHIP Problems With Non-US Locale

*If a WHIP was run on a client that had its Locale set to ja_JP instead of en_US, there were issues with displaying game time.*

The WHIP code was modified to set the Locale to en_US prior to any DateFormat objects being initialized.

## 3.3  JTLS-2015-12510 ICP Cannot Change Host If Old Host Not Reachable

*If the previous Glassfish host is unreachable, the Interface Configuration Program (ICP) could not change the host. This would leave the ICP configuration file out of synch with some of the application configuration files.*

The ICP code was modified to ignore any IO errors while attempting to make sure Glassfish was stopped on the old host.

## 3.4  JTLS-2015-12511 Wrong Entity Accessed When Writing Checkpoint Data

*When writing out the Facility Type data for a Combat Events Program (CEP) checkpoint, the code mistakenly accessed a Sensor Type attribute that represented the Link 16 Capability instead of*

*the equivalent Facility Type attribute. Thus, the data that was saved did not match the data held by the model. This would also cause a crash in the unlikely situation that there were more Facility Types than Sensor Types within the database.*

The CEP code was changed to access the proper Facility Type attribute instead of the Sensor Type attribute.

### 3.5  JTLS-2015-12512 Crash From Missing Units In Amphibious Operation

*If the list of units to participate in either an Amphibious Assault or Amphibious Pickup operation was empty, the CEP would crash.*

The CEP code was attempting to determine the name of the first unit in the list of participating units. Since this list was empty, there was no unit from which to extract a name. This would always cause a crash. The CEP code was modified to eliminate this problem.

### 3.6  JTLS-2015-12513 TACELINT Message Causing Parsing Error

*When the JTLS Operational Interface (JOI) was used to produce the TACELINT messages, a missing dash (-) caused a parsing issue. For each TACELINT message field, a dash must be provided (/-/) if the data is not available for the field. The JOI-produced TACELINT message did not have the dash between two slashes (//), causing the parser to interpret this as the end of a line.*

The JOI code was modified to correct the problem.

### 3.7  JTLS-2015-12515 Bad Order Type In OEC Does Not Generate Error

*If a bad order type is entered into the oec_master_order table in the Order Entry Client (OEC), the OEC does not send the order, but neither does it produce an error message in the oec_error_message table, nor set the status flag in the oec_master_order table to indicate an error. There is no feedback to the user informing them of the problem.*

The OEC was producing the error, but never called the necessary function to move all errors into the oec_error_message table. This function is now being called and takes care of both putting the errors in the oec_error_message table and changing the status of the orders to E, for error, in the oec_master_order table.

### 3.8  JTLS-2015-12516 SVP Crashes With Future COMM Site Creation

*The SVP crashed when the initialization database contained an External Event to create a Communications Site at a future time. The code was not expecting this situation.*

The SVP code was expanded to include the possibility that the initialization database contained data indicating that a Communication Site should be created automatically after the game starts. The model handled the situation correctly but the SVP did not.

3.9  JTLS-2015-12517 SVP Crash Entering Future Target In BE Facility

*The SVP crashed when an initialization database indicated that a BE Facility contained a target that was scheduled to be created after game start. This is an Error condition that is reported as part of the SVP function, but the SVP should not crash when the situation occurs.*

The SVP code was corrected. It no longer crashes when reading in an initialization database with the specified error. The SVP does correctly report the error so the database builder can correct the problem.

3.10  JTLS-2015-12518 SVP Error For Runway Target Reported Incorrectly

*The SVP was incorrectly reporting Error 614, which is meant to show that a runway target was placed at an off-board location. Sometimes this error was generated when the target location was correctly placed in theater.*

The code for Error 614 was working correctly, but when one instance of the error was found, the code incorrectly reported other instances. This problem was the result of using a local variable in the code which was not being reset when the SVP accessed another target. Once this error-reporting variable was set to Yes, then it was never reset to No. A change was made to re-initialize this variable and now Error 614 was only generated when there was truly an error.

3.11  JTLS-2015-12519 Insufficient Characters For Writing Sensor Types

*The model allowed only three characters in write statements for Sensor Type integer references. Some databases now have more than 999 Sensor Types.*

The affected CEP routines were changed so that now Sensor Type integer references allow four characters (values up to 9999).

3.12  JTLS-2015-12521 Inconsistent Data And Slides Produced By JSAT

*The JTLS Satellite Service (JSAT) is used to predict the orbital locations of satellites. In some cases, the passage of a single satellite over the game board would occur for one start date, but would be absent over the same time period when a different starting date was used for the calculations. When producing slides to show the orbital data, some file formatting errors were also found.*

The inconsistent orbital data occurred because the code for the calculations had an error in the logic. The code would normally loop over a time period, working in six hour blocks. If a satellite pass occurred during one of those blocks, the data would skip to the next block without saving the orbital data. This error in the looping code resulted in very inconsistent data, with some data that was simply missing. A correction was made which produced more consistent data from the JSAT.

The JSAT produces slides which can be shown on the WHIP. These slides depict the actual paths of satellites as they cross over the game board. The slides are read by the SYNAPSE service and are displayed on the WHIP map window. In some cases, the slides produced by the JSAT had formatting and content errors. When the same time period was used for more than one execution of the JSAT, then the current data were appended to the existing file. This duplication of data produced an error in for format of the file. Changes to the JSAT code were made to eliminate these errors.

3.13  JTLS-2015-12522 Airlift Mission Not Computing Launch Time Correctly

*An Airlift Unit mission is designed to compute its launch time so it reaches the unit drop-off location at the user-specified time. This worked fine if the designated path between the pickup location and the drop-off location had no interim points. If the user specified a transit route between the pickup and drop-off location, the computation was inaccurate.*

The launch time computation ignored the transit route and always assumed that the mission would travel a straight line path between the pickup and drop-off location. The problem was corrected.

3.14  JTLS-2015-12524 MDP Crashed When Parsing Message Data

*The Message Delivery Program (MDP) crashed when processing the NATO Difference Report during an exercise.*

The MDP translates message data from Extensible Markup Language (XML) to the specified language (English, MTF, etc.). In the NATO Difference Report, the object locations were being reported using scientific notation. The MDP translation engine crashed because it was not properly handling the scientific notation. The code was modified to translate it correctly and the crash was resolved.

3.15  JTLS-2015-12525 Incorrect Relationship Data Displayed In JOI Object List

*When a Side Relationship was changed by a Player order, the relationships shown on the JOI Object List were not being updated. The JOI updated the OTH-Gold Force Code field and Link16 Identity field correctly, but the displayed relationship data did not get updated.*

The JOI code was modified to correct the problem.

3.16  JTLS-2015-12526 Unit Believes It Took Supplies From Supply Storage Area

*A unit was below its Reorder Level and never requisitioned supplies from its support unit.*

The problem was that the unit that needed supplies was sitting next to a Supply Storage Area (SSA). The model had the unit look into the SSA to see if the supplies were available. If the unit had found an empty supply record, the unit would have correctly determined there were no supplies there and would have properly requisitioned the supplies. Instead, the unit saw no

supply record for the needed type of supply. This is completely legal, but the model incorrectly interpreted this situation to mean the unit found everything it needed in the SSA target.

The model was corrected to properly realize that a lack of a supply record meant that the supplies were not obtained. The unit then properly requisitioned its supplies.

### 3.17  JTLS-2015-12527 Submarine Charging At Checkpoint Restart

*When the CEP was restarted from a checkpoint, the Estimated Battery Depletion Time in the Naval Unit Information Management Tool (IMT) was blank for a submarine that was currently recharging its batteries. The Estimated Battery Depletion Time should have displayed "CHARGING" for that submarine.*

The JTLS Data System (JDS) Unit Initialization logic, invoked during a checkpoint restart, correctly calculated and displayed the Est Battery Depletion Time for submarines that were not charging, but ignored any that were charging. The missing logic was added to the routine to display "CHARGING" in the IMT for charging submarines after checkpoint restart.

### 3.18  JTLS-2015-12528 Squadron Periodically Loses Aircraft

*For no apparent reason, a squadron may lose track of an aircraft. The scenario is such that the reporter is certain that they were not killed.*

The situation was replayed during the exercise and the problem found and fixed.

Mission A needs two aircraft, but because of the data, the model says 1 will be enough. When the mission goes through resourcing it finds only one aircraft and becomes launch capable. Later, prior to initial launch, one more aircraft becomes available. The model attempts to give this extra aircraft to the mission, so it is a complete mission. The problem is that an additional aircraft is available but all of the supplies to fill this extra aircraft are not available.

In this case, the model correctly comes to the conclusion not to give this aircraft to the mission. In this circumstances, the single aircraft that was to be added is lost to the squadron because the algorithm does not put the aircraft back in the squadron's available count. This problem was corrected.

### 3.19  JTLS-2015-12529 Side Incorrectly Detects Aircraft

*If a Link 16-capable Air Search Radar from a non-Link 16 side detects an air mission, the radar incorrectly shares its detected information with other Link 16 sides.*

The problem was corrected. Before sharing information from a Link 16 capable radar, the model now makes sure that the side that owns the radar is from a Link 16 side.

## 3.20  JTLS-2015-12531 Cannot Specify Desired Load For EC Mission

*The Electronic Combat (EC) order was constantly rejected if users entered a specific load to be placed on the mission or specified their own unique load for the mission. The model rejected the user-selected load as invalid and sent the mission with the model-selected load instead.*

The problem was a mismatch between the code and the EC order. This mismatch was corrected and now the code correctly gets the load information from the order and correctly determines if the load is or is not valid.

## 3.21  JTLS-2015-12532 Order Errors In Sensor And Jammer Utility Lists

*Many orders for creating and modifying air missions contained utility lists for Sensors and Jammers. These lists allowed the user to build a custom Sensor and/or Jammer load for a mission. The order panel for these utilities included the name of the Sensor or Jammer and a column with an On or Off option. The On or Off column was meant to keep or remove the specified object in the mission load. This column did not appear to work as described.*

The On or Off column in the Sensor and Jammer lists was not being used by the code. When creating an air mission, the user should only be allowed the specify the name of the Sensor or Jammer, and not whether it should be on or off of the load. For all orders to create or modify an air mission, the utility lists were changed to use only the name of the Sensor or Jammer.

For the Emission Control Order, two separate utility lists were added. These new lists contain the name of the Sensor or Jammer and a column specifying whether the Sensor or Jammer should be turned on or off. These new utilities allow the user to control the emission from specific Sensors and Jammers.

## 3.22  JTLS-2015-12533 "UNKNOWN" SUP Name Caused Naval Unit Data To Send

*When naval units were filtered off by the Ship Unit Prototype (SUP) name in the JOI, updates for those units were still sent to the Norwegian Command and Control Information System (NORCCIS) when the prototype attribute of "UNKNOWN" was received.*

The JOI code was modified to include "UNKNOWN" SUP, TUP, and HUP names for prototype filter panels.

## 3.23  JTLS-2015-12534 Unable To Change Sensors And Jammers On Air Missions

*The Change Mission Parameter order allowed changes to most attributes on an existing air mission. The order panel included data fields to change the onboard Sensors and Jammers when the mission was on the ground. Including changes in these order fields would pass the order checks, but no resulting changes occurred in the model.*

The Change Mission Parameter order data was reaching the model, but the specific code to process the ordered changes did not exist. At some point this code was removed from the model,

but the order panel was not changed to match the CEP. Since this was a desired capability, replacement code was added to the CEP to support ordered changes to the Sensors and Jammers for air missions on the ground.

Changes to the onboard Sensors and Jammers are allowed for an ordered or customized mission load. If the user tried to change one of the pre-defined mission loads, a custom load was created before the customization. The user may not change the default mission load.

### 3.24  JTLS-2015-12535 DDS Table Jumps To First Row When Editing Locations

*When editing locations in the DDS, the first row of the table would be selected when hitting "Enter" instead of going to the next row.*

The DDS code was modified to reselect the correct row after hitting "Enter".

### 3.25  JTLS-2015-12536 New Submarine Had Incorrect Battery Depletion Time

*A new submarine unit was created by the Controller sometime after the model began running. When the new submarine arrived in the game, the Estimated Battery Depletion time in the Naval Unit IMT incorrectly matched the time of arrival. Submarines that were part of the scenario database, and present at the start, showed the correct Estimated Battery Depletion Time.*

The problem occurred because the Estimated Battery Depletion Time was calculated before the battery strength had been determined during the new unit arrival process. Consequently, a zero battery strength was used in the depletion calculation, resulting in an Estimated Battery Depletion time of now. This situation did not exist for submarines already in the scenario. To correct the problem, the logic was re-sequenced so that the initial battery strength is determined before the depletion time calculation.

While testing this solution, it was discovered that the Estimated Battery Depletion time for newly created nuclear-powered submarines incorrectly displayed "CHARGING". The problem occurred because the arrival process updated the new unit's location, which in turn triggered an update of the submarine's depth, and then, because the battery strength was still zero, caused the submarine to start charging. To correct this problem, the logic was changed to bypass the routine that starts the charging if the submarine is nuclear.

### 3.26  JTLS-2015-12539 Time Failed To Increment In MSEND

*When issuing msend orders with a 1 Minute time increment, the time failed to increment.*

An intermediate value was being stored as floating point instead of a long integer, causing the value to be truncated.

3.27  JTLS-2015-12540 Ballistic Missile Locations Not Updated For Controller

*The location of ballistic missiles was not updating correctly on the WHIP for the Controller side. Missile locations were properly shown for the firing side, but the Controller was not mirroring those data.*

The code to update the location for missiles used two important values to represent the relevant force sides. One value is the side which owned/fired the missile. The second value was the side which has perceived the location. The code was erroneously using the correct perceived side, but was setting the owning side to zero. This had the unexpected result of never updating the Controller side on the WHIP. This error occurred in several locations in the code, it was fixed such that non-zero values are always sent for both the owning side and the perceiving side for missile updates.

3.28  JTLS-2015-12541 Errors In Predicted Satellite Locations From JSAT

*Satellite orbital data are predicted by the JSAT program. These data are used to model the passage of satellites as they transit across the JTLS play box. During an exercise, real-world satellite orbital locations for some unclassified assets were provided. These data did not agree with the predicted locations generated by the JSAT for JTLS.*

When using the JSAT in JTLS-GO Version 5.0, the predicted satellite locations matched the real satellite data provided. An extensive comparison between the two versions of the JSAT revealed a problem with the satellite longitudes in JTLS Version 4.1. The core code for the JSAT program had a built-in assumption that all longitudes were in the west. This implied that the resulting locations were reported in the wrong longitudinal hemisphere. After correcting this issue, both the 4.1 and the 5.0 versions of the JSAT correctly predict the orbital locations of satellites.

3.29  JTLS-2015-12542 Improper Assignment Of Attribute Equivalence

*There are several instances where a structure attribute is equivalenced (set as equivalent to another term) to one or more set memberships. In that relationship, the attribute should not be assigned a value directly.*

*There was an instance in a CEP routine where the attribute values from an air mission were being copied to the attribute values of a split air mission by simple assignment statements, including the AM GUIDE attribute. The AM GUIDE is equivalenced to M UT GUIDING MISSION SET, M.NF.GUIDING.MISSION.SET, and M.GO.GUIDING.MISSION.SET. Such a direct assignment to the AM.GUIDE could have corrupted the membership representation internally and possibly caused a crash.*

The error was corrected by removing the direct assignment of the AM GUIDE attribute. Instead the code now files the split air mission in the appropriate set, based on the parent mission's guiding object type.

While correcting this error, two similar issues were discovered and corrected.

- The HRU.FIRST.ORDER.POINTER attribute was assigned a value of .NONE, instead of removing the HRU from the equivalenced set. The error was corrected by removing the direct assignment statement and removing the HRU from the set.

- The TG.ASSOCIATED.UNIT attribute was assigned THE.SHIP in an attempt to "replace" the force side commander as the minefield's associated unit. The error was corrected by removing the assignment, removing the target from the force side commander's UT.ASSOCIATED.TARGET.SET, and then filing the minefield in the Ship's UT.ASSOCIATED.TARGET.SET.

### 3.30  JTLS-2015-12543 SSL Data Cannot Be Modified

*The Controller Set Ship Level order did not allow existing Ship Speed Level (SSL) data to be modified. When the "Modify Existing Entry" option was selected, the order could not be submitted unless all the SSL attributes were modified.*

An error in the constraint logic prevented the order from being accepted unless all the SSL attributes were changed. The constraint was meant to apply only when an entirely new SSL entry was Created, not Modified. The XML code was corrected in the order panel to apply only to the "Create New Entry" option. Additionally, a new constraint was created to require at least one SSL attribute value be entered for the "Modify Existing Entry" option.

### 3.31  JTLS-2015-12544 OVT Controller Sending Side Order Improper Message

*A Read Order File was built with some orders for a side Player. The Read Order File was run through the Order Verification Tool (OVT), but the submitting WHIP was wrongly specified as a Controller WHIP. The OVT correctly flagged the error, but the resultant message stated "Order Number 23 Is Not Defined For A Controller Client." This message should have read that the order is not defined for a Side Client.*

The problem existed with both this message, and the message for the reverse situation, verifying a Controller order with a Player WHIP specified. The problem was that the two messages were reversed, and the code was modified to correct this.

### 3.32  JTLS-2015-12545 Unable To Modify Category Codes

*The Controller Manage Category Code order did not allow changes to existing Category Code attributes (i.e. Description, Associated Damage Sayings, and Final Damage Saying).*

The Modify Category Code option in the order panel (under the Manage Option) was assigned the wrong index number in the XML code. This incorrect index caused the underlying subroutine to skip over the logic that modifies the Category Code attributes. To correct the problem, the index number was changed to the correct value. At the same time, the subroutine and associated player messages were cleaned-up for efficiency and clarity.

## 3.33  JTLS-2015-12546 Crash Sweeping Naval Mines Without Capability

*A naval ship without an inherent Mine Search Capability (MSC) was sent a Mine Sweeping order. When the ship encountered a minefield the damage algorithm attempted to access the database parameter for the ship's MSC. Since the ship did not have an inherent MSC, this caused a crash.*

All units have a backup Mine Search Capability via the factional attribute IIP.VISUAL.MSC.ENTITY. Since this exists, it has been decided that sending the ship on the Mine Sweeping mission was an allowed action. But when the ship encountered the minefield it should have first checked for the inherent MSC, and if not present used the default IIP.VISUAL.MSC.ENTITY value. The CEP code has been changed to implement this new logic.

## 3.34  JTLS-2015-12547 Crash When Ship Auto Fire Missiles

*Blue naval ships with SSM targets that contained missiles were set to auto-fire against some OPFOR SUPs. The Blue ships were positioned near some OPFOR ships of the proper SUP, intelligence on the OPFOR ships was generated, and the ground combat ROE for the Blue ships was modified to allow free fire against OPFOR. The missiles auto-fired, but on their first movement event they crashed because the fire mission did not contain a route owner to indicate the target position.*

Two things were done to correct the problem. First, the resultant fire mission, created when the missiles auto-fire, was assigned a route owner. Second, it was necessary to set the Range Remaining variable of the fire mission to the range of the Targetable Weapon. With only the first correction the model did not crash, but the missiles had instantaneous impact instead of paying a flight time.

## 3.35  JTLS-2015-12548 DDSC: When Scale Changes, CADRG Map Disappears

*When the DDSC map projection was set to CADRG projection, and the user went into the Preference Tool and changed the preferred map projection scale, the CADRG map was lost and the screen went black.*

The DDSC code was modified to correct the issue.

## 3.36  JTLS-2015-12549 Wrong UOM For Aircraft Carry, Unlimited Wet Weight

*There are two database parameters within JTLS that a user might assume are measurements in weight wet when in fact they are dry weight measurements. These are specifically the Aircraft Wet Weight and the Unlimited Wet Weight parameters. The first specifies how many tons of wet supplies the aircraft class can carry when those supplies are converted from gallons to tons. The second specifies how many tons an airlift or sealift needs to lift for a unit that has an Unlimited (greater than 1.0E+30) amount of a wet supply. The problem was that the order panels and*

*messages related with these two database parameters had the Unit of Measures associated with wet weights (gallons), not dry weights (tons).*

The Unit of Measure (UOM) for both fields was changed on the order panel to switch the field from being a wet supply to a dry supply. In addition the UOM conversion data for the resultant message from setting or viewing these parameters was switched from converting the value as a wet weight to a dry weight.

# 4.0  REMAINING ERRORS

Every effort has been made to correct known model errors. All reproducible errors that resulted in CEP catastrophic software failures (crashes) have been corrected. Other corrections were prioritized and completed according to their resource cost-to-benefit relationship.

Correction of the remaining STRs, however, must be postponed to a later version due to time and resource constraints. These problems may be corrected prior to the next release of JTLS. If an immediate need arises for code corrections to remedy any of these outstanding STRs, such as an exercise planned to occur before the next release, contact the JTLS Development Team Leader. Refer to the Abstract of this document for the current address.

Code errors described in this chapter should be noted specifically because they affect the basic functionality of JTLS. Information is provided regarding the extent of the error, as well as suggestions to avoid or minimize the effects of the problem.

## 4.1  JTLS-0942 CEP: Air Transport Cannot Combine Wet And Dry Supplies

When both wet and dry supply categories are included in the same Transport Instructions List for an Air Transport mission, they will not be transported at the same time. The first supply category shipment type will be loaded, but the second will not. If both are included in the same Supply List, the wet category is preferred. The aircraft go through the motions as if loading and delivering the denied category, including MISREP confirmation. No pickup or delivery is made, although an empty storage area may be created. There is no documentation to support this situation, and the user is not notified of the problem.

## 4.2  JTLS-0956 CEP: MPP Messages For Canceled Missions In Error

If an airbase is magic moved with several squadrons on active missions that need to be canceled or with squadrons in the middle of a self lift, the subsequent message generated for the situation has several errors. The changes required are too risky during the exercise. The problem will not cause a crash, but will cause the MPP to incorrectly display the message contents.

## 4.3  JTLS-0961 CEP: Group Ground Move Delayed To Lead Unit

There is a problem when a group ground move is sent. The directive is delayed to the lead unit. When the lead unit learns about the move, it immediately tells the units in the follow-on group. This could lead to directives being received out of order. Assume the user sends a directive at 0100 and the CEP determines the lead unit should receive the message at 0200. The lead unit cannot receive any other directives until after 0200. The CEP ensures that directive receipt is in the same order as the user sent the directives. This is not true for the follow-on units. If the user sent an order at 0115 directly to one of the follow-on units, the follow-on unit could receive the 0115 directive prior to the order sent at 0100. If this error is causing problems for upcoming exercises, the Configuration Manager should be contacted for a code fix to solve this problem.

## 4.4  JTLS-0968 CEP: Inconsistency Between Regular Run And Pusher

There is a major inconsistency between a regular run and a run created using pusher. When an order with ASAP is sent, the READ KEYWORD routine sets the data parameter to TIME.V. When pusher reads in the order, TIME.V is much earlier than it was when the order arrived in the first place. For orbiting missions and alert missions, this alters when they will go off alert by a great deal. This must be fixed and made consistent. It appears that both TIME.V and order receipt time must be saved to the ci1 file to accomplish this task.

## 4.5  JTLS-0973 CEP: Periodic Report Air Supplies And Fuel Not Correct

The arrays which hold air supply usage are not being maintained correctly given the new MISSION RESOURCE ALLOCATION event.

## 4.6  JTLS-0974 CEP: Submarine Detection By Ground Sensors

A moving submarine does not get full credit for coverage time by sonars on board other ships or submarines. It gets full coverage time for airborne sensors but not ground based sensors.

## 4.7  JTLS-1384 Documentation: Area, Target, And Unit Report Documentation

Some users have indicated that the documentation of Area Report, Unit Report, and Target Report similarities and differences are incomplete or inaccurate. A review of this documentation is needed.

## 4.8  JTLS-2014-12093 CEP - HRU Reports Do Not Include Detected HRUs

Periodically, an HRU will report what it has seen. It reports units moving into and out of the area. The data is collected when it detects HRUs moving into and out of the area, but this information is not included in the generated report. This should be done in the routine GENERATE HRU REPORT.

## 4.9  JTLS-2014-12094 DDS/SVPR - UOM Flicker

It appears that the UOM periodically changes and then changes back in the SVPR, but it doesn't stay changed long enough to see what it changes to.

## 4.10  JTLS-2014-12096 APACHE/SYNAPSE Cannot Run On Same CentOS 6 Machine

When the Synapse and Apache are run on the same instance of CentOS 6 or Red Hat 6 on the same machine, the Synapse will back up. Running the Synapse and Apache on separate virtual machines or two difference physical machine works correctly. The JTLS Development Team have continue to consider this a high priority item.

**4.11  JTLS-2014-12098 CEP - Moved Units Do Not Remove CS From Shelters**

Units moved out of a hex do not remove combat systems from shelters.

**4.12  JTLS-2014-12099 SVPR - Ensure DDS Sending SVP Info To Debug**

The SVP crashed while running the SVP from the SVPR, but the only sign there was a problem was that nothing was happening. The output of what was being read by the SIP was hung, without any information in the debug console or other information.

**4.13  JTLS-2014-12101 SVPR - Auto-Fix Not Selecting Affected Supply Category**

When auto-selecting a TUP/SUP supply category to fix, the SVPR always opens the corresponding column in the first supply category, rather than the affected supply category.

**4.14  JTLS-2014-12102 DDS - SVPR Warning 1223 Empty Table**

When clicking on the solution for Warning 1223 in the SVPR to bring up the CSP_CS table, an empty table is brought up instead.

**4.15  JTLS-2014-12103 DDS - No Change For Default UOM For Basic Categories**

Since the CEP is coded to expect a default UOM of the raw data for each basic category. The user should not be able to delete or edit these UOM.

**4.16  JTLS-2014-12104 WHIP - Issues On 32 Bit Machines**

WHIPs being run on a 32 bit Windows machine were using over 1 gigabyte of memory each. In addition, the WHIPs would often lock up or the Map would not respond to Sitreps, route requests, and so on. This problem will be corrected with the release of JTLS 5.0.

**4.17  JTLS-2014-12106 AAR - Exception When Translating Report**

When a report is rendered in the TRIPP, the report is rendered in English even if another language is selected. Two FileNotFoundExceptions are found in the GlassFish log, indicating that the language properties and default language properties are not found.

**4.18  JTLS-2014-12107 WSM - Apache Status Fails When Firewall Blocks HTTP**

The WSM always uses HTTP to get the Apache status even when running with HTTPS. Both ports are open on the server, so this fails when the firewall blocks HTTP.

**4.19  JTLS-2014-12108 CEP - BDA Reports Inaccurate On Sheltered CS Kills**

When air missions attacked airbase targets sheltered in barracks shelters and killed combat systems, the BDA Report for the attacking side showed grossly inflated numbers of combat

systems killed. The BDA report is much more accurate when killing systems by attacking the unit or a location. The false numbers only happen when killing an occupied shelter.

## 4.20  JTLS-2014-12110 DDS - Printing Multiple DDS Reports Needs Correction

One can print multiple DDS Reports with one print command. This is done by selecting the reports individually. With more than one highlighted, a single print command can be used. However, in the resulting print, the reports run together - the second report starts on the next line after the previous report ended. Also, it adds a line of text that looks like the last line of the first report. This added line is actually the title of the second report, left justified and inserted in a smaller font. You see the title of the second report twice, and it looks unprofessional.

## 4.21  JTLS-2014-12112 DDS - Oracle Error Display Dialog

A dialog currently exists in the DDS that pops up when an error condition happens. This dialog should be used to display Oracle errors as well, given that the user sees nothing happening when a command is executed and it fails for one reason or another and is confusing them. When no action is displayed, the interpretation is that the DDS is failing and not the database layer.

## 4.22  JTLS-2014-12114 DDS - Add New Validator To Check For "NotOffspring"

Current validators for fields like "HHQ" cannot verify that the assigned unit is not an "offspring" of the unit that is being modified. Even though this type of mistake can be caught by SVP eventually, it still can have ill effect to components like Command Hierarchy once the data committed to the database. It needs to be caught and prevented.

## 4.23  JTLS-2014-12116 DDS - Railroad Name Remains On Map After Deletion

If a user deletes a Railroad Network from the Map, the Name remains displayed. It stays even if Railroad Edit Mode is exited and reentered. Stopping and restarting the DDS is necessary to remove the Railroad Network Name from the Map.

## 4.24  JTLS-2014-12117 DDS - Map Create Railroad Network Works Deceptively

When you select the "New Railroad" button in the DDS, the cursor becomes a "pointing finger," allowing you to select a location on the map to place the first Railroad node. However, after you place the first node, the cursor reverts to its default appearance. One expects that selecting a new location will place the next node there, but no matter what location you select, the second node is always created on the hex due east of the first node.

## 4.25  JTLS-2014-12119 DDS - Columns Data From Another Table Not Updated

Some tables have columns whose data is retrieved using a "Select" statement that queries data from another database table (e.g. the formation column in the naval unit screen). For these columns, when DDS does a flashback version query for the updates, Oracle does not report any

update if the actual update occurs in the other table. Therefore, these columns' data are not updated in the DDS.

4.26  JTLS-2014-12121 DDS - Drag/Drop Problems Modifying Rail Networks

When clicking and dragging a Node or an Arc, one has to be careful to make sure the correct item is selected. One can, for example, drag an arc completely away from its endpoint nodes. In addition, Java exceptions can occur when the correct item is not selected.

4.27  JTLS-2014-12122 DDS - No Spaces in Long Name After Hierarchy DeepCopy

A user cannot enter spaces in the long name replacement string after a Hierarchy Deep Copy, although spaces are allowed in long names.

4.28  JTLS-2014-12123 DDS - Add UIC Replacement Option In Hierarchy DeepCopy

The short name replacement string should be added to the UIC, so that hand-editing UICs after a Hierarchy DeepCopy is not necessary.

4.29  JTLS-2014-12125 DDS - Editing Location Fields XX-60-60.0N Can Be Entered

It is possible to enter a location such as 10-60-60.0N in a location field in the DDS, The location field text formating functions needs to be improved.

4.30  JTLS-2014-12126 AAR - Aircraft Kill Summary Report Time Format

AAR reports can contain times, but these are currently being generated using the url time format, which is difficult to read by the end user. These times need to be output in a more user friendly format.

4.31  JTLS-2014-12131 DDS - Add Report Title To Report

All DDS Reports should have titles. If a user prints out several reports, it is difficult to know what each report contains. The title should help with this.

4.32  JTLS-2014-12132 DDS - Confusing Report Popup Menu Item

The bottom of the report browser popup menu has part of the stylesheet name (e.g., 01-dcr). This is confusing.

4.33  JTLS-2014-12133 DDS - Reports Order Help Text Needs Improvement

DDS report orders help text needs improvement.

## 4.34  JTLS-2014-12136 DDS - TMU Different Algorithms For Polygons, Areas

The DDS TMU Map Polygon algorithm is different from the TMU Area algorithm. In other words, drawing a rectangular Polygon does not result in the same area having its attributes changed as does drawing a rectangular Area of exactly the same size.

## 4.35  JTLS-2014-12140 DDS - Flight Paths Difficult To See

Flight Paths are difficult to see because the default color is white. The color should be changed to Cyan. Cyan is currently the color used to display OPAREAs, so the default OPAREA color should be changed to Orange. This change should be made in both the DDS and the WHIP for consistency.

## 4.36  JTLS-2014-12143 DDS - REPORTS - Rename the MUSE report to DIS.

The MUSE Report should be renamed to the DIS (Distributed Interactive Simulation) Report. The report is no longer just used for MUSE. There are several other models that need to know the current set of DIS codes in a specific scenario.

## 4.37  JTLS-2014-12144 DDS - Exception While Opening TUP From SVPR

An exception occurs when opening a TUP from the SVPR. The exact circumstances have still not been identified, and so a correction could not be implemented.

## 4.38  JTLS-2014-12145 DDS - Exception Logged With No Stack Trace

A ClassCastException in the DDS was logged, but no Stack Trace was saved. The exact circumstances have still not been identified, and so a correction could not be implemented.

## 4.39  JTLS-2014-12146 DDS - Cannot Delete Illogical Pipeline Arc From Map

You cannot delete an illogical Pipeline arc from the Map. An illogical Arc is one that would create an illogical flow. An example of an illogical flow would be one connecting nodes: A to B to C to A. The Map will not let you create Arc C to A. But you can create that illogical arc in the Pipeline Arc table. IF you do so, the arc will show up on the Map and exist in the arc table, and you cannot delete it from the Map. You must use the table to delete it.

## 4.40  JTLS-2014-12147 DDS - Flight Path With Min Altitude Higher Than Max

When you create a Flight Path between two Nodes, you are asked to assign a Minimum and a Maximum altitude along the path. You can assign a Minimum that is greater than the Maximum. You cannot do this in the Table, but the Map allows it.

## 4.41  JTLS-2014-12148 DDS History Table Missing Record Identifier

The DDS keeps track of when data is changed in a table history table. If an attribute of a child table is changed, the history table does not list exactly what is changed. For example, assume

you change the quantity of a CL.V supply category with which an SSA Target. This supply information is in a child table for the SSA target type table. The problem is that this one change generates a single history record which properly indicates the old value and the new value, but does not list what SSA SC category record was changed.

## 4.42  JTLS-2014-12264 CEP - Naval Mine Damage Documentation Obsolete

The discussion of Naval Mine Damage in the Analyst Guide is obsolete. It does not address the use of lanes nor the current variables used in the determination of encounter and damage.

## 4.43  JTLS-2014-12265 DDS - Need "Not In" Validator For Composite Unique Key

Currently, the "not in" validator has limited capability, meaning it can only check for single column. But many database tables have composite unique keys, which can take up to N number of columns. Therefore to check their uniqueness, the current "notin" validator is not sufficient. It needs to be expanded or a new validator needs to be introduced that can check uniqueness for multiple columns. This problem will be corrected in JTLS 5.0.

## 4.44  JTLS-2014-12266 WSM - Reloading Database While Starting Service Lockup

If the ICP database is reloaded while a service is starting, the WSM appears to freeze for a period of time.

## 4.45  JTLS-2014-12270 WHIP - Message Browser Moves With New Message

If the user selects a message and then scrolls down, the Message Browser jumps to the selected message when the next message arrives.

## 4.46  JTLS-2014-12272 WHIP - Incorrect Behavior Selecting Multiple Messages

If a number of messages are selected using the shift key in the WHIP Message Browser, and an attempt is made to select more, the second batch begins with the last message selected in the first batch, thus excluding many messages from the first batch.

## 4.47  JTLS-2014-12275 DDS - Mouse Panning Documentation Needed

New documentation on how to use the Mouse Panning map mode needs to be added to the DDS User Guide.

## 4.48  JTLS-2014-12277 DDS - NB Map Filter Does Not Turn NB On/Off

National Boundaries and hex barriers are not displayed on the DDS map.

## 4.49  JTLS-2014-12278 DDS - Targets Gone When Parent Unit's Name Changed

On the DDS Command Tree, when a Unit name changed on the 'Reset Tree' mode, all or a part of Targets under the Unit disappeared.

## 4.50  JTLS-2014-12279 DDS - Remove Reference Field From Report Orders

The reference field for report orders appears to be unused, but is required to be filled in. It should be removed.

## 4.51  JTLS-2014-12280 JTLSConsole - Needs Recall Command Similar To Xterm

The JTLSConsole needs a library for managing command history.

## 4.52  JTLS-2014-12281 SVPR - Error Corrective Action Finds Target, not JDPI

The corrective action for Error 634 centers the map on a target of the same name as the JDPI, rather than the intended JDPI.

## 4.53  JTLS-2014-12282 WHIP - On Demand Range Ring Remained After Deletion

An on-demand weapon range ring was added and then deleted, but remained visible until the next screen update.

## 4.54  JTLS-2014-12284 SVPR - Various Error/Warning Issues

A number of issues have been noted in the format of the SVPR Errors and Warnings, including Warnings 2000-2008 being documented but not implemented anywhere, a number of Error and Warning numbers not currently being used, and many Errors and Warnings requiring a minor correction or clarification.

## 4.55  JTLS-2014-12285 AAR/DDS Reports - User Added Reports Documentation

New documentation on how to create custom AAR and DDS reports needs to be added.

## 4.56  JTLS-2014-12286 CEP - Improper Calculation Manifest Processing Time

The routine MANIFEST.PROCESSING.TIME specifies that all manifests take one hour to load or offload. This routine needs to be made more robust, and examine the contents of the manifest, the A/C load/offload time, and the possibility of using MHE. Additionally, the 4th argument within the calls to this routine, which specifies whether it is a loading or offloading event, need to be standardized.

4.57  JTLS-2014-12287 DDS - Oracle Error Windows When DDS Reconnects

With DDS sessions up at two separate workstations, the primary DDS user shut down and restarted GlassFish for the scenario. The DDS at the second workstation lost, and then attempted to re-establish connection (as it should have). However, at the DDS that was up during the GlassFish stop and restart, a pop-up "Oracle Error" window was displayed.

The problem was that NUMEROUS versions of this error window are present, and clicking to close each window simply reveals more error windows, even though the DDS is by now reconnected. The error window probably came up every time the DDS tried to update some table. This error window should, if possible, only be displayed once.

4.58  JTLS-2014-12288 AAR - Target Damage History Report Missing Table

The Target Damage History detailed report outputs the data as a block quote, rather than the expected table.

4.59  JTLS-2014-12289 CEP - Amphibious Assault Crash

When two ground units, magic moved onto a naval formation, were ordered to conduct an amphibious assault using vehicles and helicopters (which were magic moved onto the formation after having their Naval Qualified flag changed to YES), the CEP crashed. This problem is related to but separate from JTLS-2014-12154, which has been fixed in release 4.1.9.0.

4.60  JTLS-2014-12290 CEP - Amphibious Assault Not Completing

Out of two ground units, magic moved onto a naval formation, and ordered to conduct an amphibious assault using vehicles and helicopters (which were magic moved onto the formation after having their Naval Qualified flag changed to YES), one ground unit completed the assault, while the other (which arrived onto the game board through a port) never assaulted. This problem is related to but separate from JTLS-2014-12154, which has been fixed in this release.

4.61  JTLS-2014-12291 AAR - Add AAR Documentation

New documentation on how to run AAR reports needed to be added to the WHIP Training Manual.

4.62  JTLS-2014-12292 ICP - Saving Caused Connect Request to CEP

The JXSR execution host was changed while the JXSR is running, and then changed back. When the ICP was saved and the WSM was refreshed, the CEP crashed. It appears the JXSR sent a new connection request.

## 4.63  JTLS-2014-12293 WSM - Add Web Services Documentation

New GlassFish documentation, adding instructions for modifying a game in progress (such as adding new WHIPs or moving web services to a different host) needs to be added to the Technical Controller's Guide.

## 4.64  JTLS-2014-12295 DDS - SQLException With Copied TUP

When copying a TUP and attempting to fill in the number of location transponders on the copy, an error message pops up, saying that "this feature is still in development. This is an error expected by the development team. It is not necessary to report this error." This error is caused by attempting to insert a null value in a field that cannot hold a null character.

## 4.65  JTLS-2014-12296 SVPR - Warning To Find CEP Crash, Never Generated

Warning 1137 states: Database Entity ENTITY.NAME, index INDEX, should have at least one record. The absence of at least one record for a permanent entities causes a CEP Crash during start. It happens, for example, when the CEP tries to reserve certain arrays using a zero length. There is SIP code to generate this Warning, but the Warning will never be generated. The SIP first crashes during Read, for the same reason the CEP would crash during its Read.

The resolution to this problem involves four actions:

- The DDS should prevent removal of the last remaining record for selected tables holding Permanent Entity data.

- The DDS should perform checks for selected tables being empty whenever a Download is generated from the DDS. Tables could have been emptied by direct sql statements.

- The SIP read code should, when reading the record count file, cease execution if any zeros are found. It will generate a message to the execution window saying why.

- Warning 1137 should be removed.

## 4.66  JTLS-2014-12297 WHIP - Coordinate Converter Cannot Find Lat/Lon

As with the WHIP IMT windows, the Coordinate Converter tool should allow users to locate a Lat/Log point on the Map, but it currently does not.

## 4.67  JTLS-2014-12298 DDS - History Table Field Not Updated For POT Targets

The DDS History Table "Record Identifier" field was not updated for SUP/TUP POT targets.

## 4.68  JTLS-2014-12299 DDS - Strange Behavior In Hierarchy DeepCopy

A ground unit had 10 ground subordinates and 1 depot subordinate (Hierarchy A). When Hierarchy Copy was performed (from the Command Hierarchy window) it only copied the top unit and the subordinate depot. After using this copy as Hierarchy B, and just copying the individual subordinate units and re-parenting them under Hierarchy B, a successful Hierarchy Copy of Hierarchy B in its entirety was able to be performed.

## 4.69  JTLS-2014-12300 SVPR - Auto-Fix Terrain Problems Nonfunctional

The SVPR was unable to auto-fix mismatched barriers.

## 4.70  JTLS-2014-12301 CEP - No Divert When Friendly Air Refuel Flag Changes

Commented out code exists in the routine CHANGE.REFUEL.FLAG when the Friendly Refuel Flag for a tanker mission is switched to NO. The code appears to have been commented out because it was causing an infinite loop, but there may be a problem with foreign missions that are heading for the tanker when the flag changes not diverting elsewhere.

## 4.71  JTLS-2014-12303 WHIP - TRIPP Running With Shut Down Web Services Lock

The TRIPP will sometimes freeze when running with web services shut down.

## 4.72  JTLS-2014-12304 WHIP - New WHIP Pushed When Running Security Exception

A security exception is thrown when a WHIP component is used for the first time after a new WHIP is pushed while the WHIP is running.

## 4.73  JTLS-2014-12305 WHIP - Route Deselected Using Context Menu Stays

A route that was deselected using the context-sensitive menu stayed on the map. The route could be removed using the routes filter panel for demand routes.

## 4.74  JTLS-2014-12306 WHIP - Deadlock While Saving Map Filters

The WHIP froze while trying to save map filters.

## APPENDIX A.  ABBREVIATIONS AND ACRONYMS

Terms are included in this Appendix to define their usage in JTLS design, functionality, and documentation.

| | |
|---|---|
| AAA | Anti-Aircraft Artillery |
| AADC | Area Air Defense Commander |
| AAL | Air-to-Air Lethality |
| A/C | Aircraft |
| ACP | Air Control Prototype |
| ADA | Air Defense Artillery |
| AEW | Airborne Early Warning |
| AFB | Air Force Base |
| AG | Air-Ground (Air-to-Ground) |
| AI | Air Interdiction |
| AIM | Air Intercept Missile |
| AIREF | Air Refueling |
| AKL | Area Kill Lethality |
| AMMO | Ammunition |
| AO | Area of Operations |
| AOC | Air Operations Center |
| APC | Armored Personnel Carrier |
| ARECCE | Armed Reconnaissance |
| ARTE | Air Route |
| ARTY | Artillery |
| ASC | Automatic Supply Calculation |
| ASCII | American Standard Code for Information Interchange |
| ASW | Anti-Submarine Warfare |
| ATC | Aircraft Target Category |
| ATGM | Anti-Tank Guided Missile |
| ATK | Attack |
| ATO | Air Tasking Order |
| ATORET | Air Tasking Order Retrieve Program |
| ATOT | Air Tasking Order Translator |
| AWACS | Airborne Warning And Control System |
| AZ | Altitude Zone |

BADGE       Bilateral Air Defense Ground Environment (used by Japan Defense Agency)

BAI         Battlefield Air Interdiction

BDA         Battle Damage Assessment

BDE         Brigade

BN          Battalion

C3          Command, Control, and Communications

C3I         Command, Control, Communications, and Intelligence

C4I         Command, Control, Communications, Computers, and Intelligence

CA          Civil Affairs

CADRG       Compressed ARC Digitized Raster Graphics

CAP         Combat Air Patrol

CAS         Close Air Support

CAT         Category

CCF         Central Control Facility

CCP         Command Control Prototype

CCU         Controller Change Unit

CEP         Combat Events Program

CMDR        Commander

COP         Common Operational Picture

CP          Combat Power

CS          Combat System

CSP         Combat System Prototype

CTAPS       Contingency Tactical Air Planning System

CTG         Commander Task Group

CTRL        Control keyboard command

DCA         Defense Counter Air

DCL         Digital Command Language

DDS         Database Development System

DEMSDB      Demonstration Standard Database

DISA        Defense Information Systems Agency

DIV         Division

DMA         Defense Mapping Agency

DoD         Department of Defense

DOS         Days of Supply

| DPICM | Dual Purpose Improved Conventional Munitions |
| DS | Direct Support |
| DSA | Directed Search Area |
| DTG | Date Time Group |
| EC | Electronic Combat |
| ECM | Electronic Counter Measure |
| ECP | Engineering Change Proposal |
| EEI | Essential Elements of Information |
| ELINT | Electronic Intelligence |
| ELS | Entity Level Server |
| EODA | Entity Level JTLS Object Data Authority |
| ETA | Estimated Time of Arrival |
| FARP | Forward Arming and Refueling Point |
| FLP | Fire Lethality Prototype |
| FLOT | Forward Location of Troops |
| FOL | Forward Operating Location |
| FWL | Frederick W. Lanchester (originated a differential equation model of attrition) |
| GAL | Gallon |
| GCCS | Global Command and Control System |
| GRTE | Ground Route |
| GS | General Support |
| GSR | General Support Reinforcing |
| GUI | Graphical User Interface |
| HARM | High-speed Anti-radiation Missile |
| HE | High Explosive |
| HELO | Helicopter |
| HMMWV | High Mobility Multipurpose Wheeled Vehicle |
| HQ | Headquarters |
| HRU | High Resolution Unit |
| HTML | Hypertext Markup Language |
| HTT | High resolution unit Target Type |
| HUP | High resolution Unit Prototype |
| ICM | Improved Conventional Munitions |
| ICP | Interface Configuration Program |

| ICPLogin | Interface Login Program |
|----------|-------------------------|
| ID | Identifier |
| IFF | Identification Friend or Foe |
| IIP | Intelligence Information Prototype |
| IMT | Information Management Tool |
| INFO | Information |
| INTEL | Intelligence |
| JCATS | Joint Conflict And Tactical Simulation |
| JDA | Japan Defense Agency |
| JDPI | Joint Desired Point of Impact (formerly DMPI: Desired Mean Point of Impact) |
| JDS | JTLS Data System |
| JDSP | JTLS Data System Protocol |
| JEDI | JODA Entity Data Identifier |
| JMCIS | Joint Maritime Combat Information System |
| JMEM | Joint Munitions Effectiveness Manuals |
| JODA | JTLS Object Distribution Authority |
| JOI | JTLS Operational Interface |
| JPL | Jet Propulsion Laboratory |
| JRSG | Joint Rapid Scenario Generation (formerly JIDPS: Joint Integrated Database Preparation System) |
| JSDF | Japanese Self-Defense Force |
| JTLS | Joint Theater Level Simulation |
| JTOI | JTLS Transaction Operational Interface |
| JXSR | JTLS XML Serial Repository |
| KIA | Killed In Action |
| KM | Kilometer |
| KNOTS | Nautical miles per hour |
| LA | Lethal Area |
| LAN | Local Area Network |
| LAT | Latitude |
| LB | Login Build (JTLS order type) |
| LDAP | Lightweight Directory Access Protocol |
| LDT | Lanchester coefficient Development Tool |
| LOG | Logistics |
| LOGIN | Logistics Input |

LOGREP          Logistics Report

LONG            Longitude

LOTS            Logistics Over The Shore

LR              Long Range

M&S             Modeling and Simulation

MAPP            Modern Aids to Planning Program

MB              Megabyte

MCP             Mobility Counter-mobility Prototype

MCR             Model Change Request

MDP             Message Delivery Program

MG              Machine Gun

MHE             Material Handling Equipment

MIP             Model Interface Program

MOGAS           Motor Gasoline

MOPP            Mission-Oriented Protective Posture

MOSAIC          NCSA user interface software

MOTIF           X Window System graphical interface

MP              Maneuver Prototype

MPP             Message Processor Program

MSC             Major Subordinate Command

MSG             Message

MTF             Message Text Formats

MUREP           Munitions Report

MUSE            Multiple Unified Simulation Environment

NCSA            National Center for Supercomputing Applications (University of Illinois)

NEO             Noncombatant Evacuation Operations

NFS             Network File Server

NGO             Non-Governmental Organization

NIS             Network Information Service or Network Information System

NM              Nautical Mile

NTSC            Naval Telecommunications System Center

OAS             Offensive Air Support

OBS             Order of Battle Service (formerly UGU: Unit Generation Utility)

OCA             Offensive Counter-Air

| | |
|---|---|
| OEC | Order Entry Client |
| OJCS | Organization of the Joint Chiefs of Staff |
| OMA | Order Management Authority |
| ONC | Operational Navigation Chart |
| OPM | Online Player Manual |
| OPP | Order Preprocessing Program |
| OTH | Over The Horizon |
| OTH Gold | Over The Horizon message specification |
| OTH-T | Over The Horizon-Targeting |
| OVT | Order Verification Tool |
| pD | Probability of Detection |
| pE | Probability of Engage |
| pH | Probability of Hit |
| pK | Probability of Kill |
| PKL | Point Kill Lethality |
| POL | Petroleum, Oil, and Lubricants |
| POSIX | International operating system standard based on System V and BSD |
| PPS | Postprocessor System |
| PSYOPS | Psychological Operations |
| RAM | Random Access Memory |
| RDMS | Relational Database Management System |
| RECCE | Reconnaissance (air missions) |
| RECON | Reconnaissance (ground missions) |
| REGT | Regiment |
| RNS | Random Number Seed |
| ROE | Rules Of Engagement |
| RPT | Report |
| RSP | Reformat Spreadsheet Program |
| SAL | Surface-to-Air Lethality |
| SAM | Surface-to-Air Missile |
| SAM/AAA | Surface-to-Air Missile/Anti-Aircraft Artillery |
| SC | Supply Category |
| SCP | Simulation Control Plan |
| SDB | Standard Database |

| SEAD | Suppression of Enemy Air Defense |
|---|---|
| SIMSCRIPT | Simulation programming language (product of CACI, Inc.) |
| SIP | Scenario Initialization Program |
| SITREP | Situation Report |
| SLP | Sustainment Log Prototype |
| SOF | Special Operations Forces |
| SP | Survivability Prototype |
| SQL | Structured Query Language |
| SR | Short Range |
| SRP | Start/Restart Program (a JTLS component) |
| SRTE | Sea Route |
| SSM | Surface-to-Surface Missile |
| STR | Software Trouble Report |
| SUP | Ship Unit Prototype |
| SVP | Scenario Verification Program |
| SYNAPSE | Synchronized Authentication and Preferences Service |
| TADIL | Tactical Digital Interface Link |
| TCP/IP | Transmission Control Protocol/Internet Protocol |
| TEL | Transporter Erector Launcher |
| TG | Target entity attribute prefix |
| TGS | Terrain Generation Service (formerly TPS:Terrain Preparation System) |
| TGT | Target |
| TMU | Terrain Modification Utility |
| TOE | Table of Organization and Equipment |
| TOT | Time Over Target |
| TOW | Tube-launched Optically-tracked Wire-guided missile |
| TPFDD | Time-Phased Force Deployment Data |
| TTG | Target Type Group |
| TTL | Target Types List |
| TUP | Tactical Unit Prototype |
| TW | Targetable Weapon |
| UBL | Unit Basic Load |
| UIM/X | GUI builder tool |
| UNIX | POSIX-compliant operating system |

| | |
|---|---|
| UNK | Unknown |
| UOM | Unit Of Measure |
| USA | United States Army (U.S. and U.S.A. refer to United States and United States of America) |
| USAF | United States Air Force |
| USCG | United States Coast Guard |
| USMC | United States Marine Corps |
| USMTF | United States Message Text Format |
| USN | United States Navy |
| UT | Unit entity attribute prefix |
| UTM | Universal Transverse Mercator |
| VIFRED | Visual Forms Editor |
| VMS | Virtual Memory System |
| VTOL | Vertical Take-Off and Landing aircraft |
| WAN | Wide Area Network |
| WDRAW | Withdraw |
| WEJ | Web Enabled JTLS |
| WHIP | Web Hosted Interface Program |
| WIA | Wounded In Action |
| WPC | Warrior Preparation Center |
| WPN | Weapon |
| WT | Weight |
| WW | Wild Weasel |
| XMS | XML Message Service |