JTLS

Version Description Document

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DEPARTMENT OF DEFENSE
JOINT STAFF J7
116 LAKE VIEW PARKWAY
SUFFOLK, VA 23435-2607

JOINT THEATER LEVEL SIMULATION
(JTLS 4.1.14.0)

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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 4.1.14.0 delivery of the configuration-managed JTLS software suite.

JTLS 4.1.14.0 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:

> JTLS Development Team Leader
> ROLANDS & ASSOCIATES Corporation
> 120 Del Rey Gardens Drive
> Del Rey Oaks, California 93940 USA
> jtlsdev@rolands.com

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TABLE of CONTENTS

1.0 INTRODUCTION

1.1 SCOPE

This *JTLS Version Description Document* (VDD) describes Version 4.1.14.0 of the configuration managed Joint Theater Level Simulation (JTLS$^{®}$) software suite. JTLS 4.1.14.0 is a Maintenance delivery for the JTLS 4.1 series of releases. JTLS 4.1.14.0 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 problem corrections made since the previous official release of JTLS. Finally Chapter 4.0 lists all known problems 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 4.1.11.0.

JTLS 4.1.14.0 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.

> JTLS 4.1.14.0 is the final release of the JTLS 4.1 series. JTLS 4.1.14.0 will continue to be supported until 1 January 2018.

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 4.1.14.0)

- *JTLS ATOT User Guide* (JTLS Document 03, Version 4.1.14.0)

- *JTLS Controller Guide* (JTLS Document 04, Version 4.1.14.0)

- *JTLS Data Requirements Manual* (JTLS Document 05, Version 4.1.14.0)

- *JTLS DDS User Guide* (JTLS Document 06, Version 4.1.14.0)

- *JTLS Director Guide* (JTLS Document 07, Version 4.1.14.0)

- *JTLS Executive Overview* (JTLS Document 08, Version 4.1.14.0)

- *JTLS Installation Manual* (JTLS Document 09, Version 4.1.14.0)

- *JTLS WHIP Training Manual* (JTLS Document 10, Version 4.1.14.0)

- *JTLS Player Guide* (JTLS Document 12, Version 4.1.14.0)

- *JTLS Standard Database Description* (JTLS Document 14, Version 4.1.14.0)

- *JTLS Software Maintenance Manual* (JTLS Document 15, Version 4.1.14.0)

- *JTLS Technical Coordinator Guide* (JTLS Document 16, Version 4.1.14.0)

- *JTLS Entity Level Server User Guide* (JTLS Document 19, Version 4.1.14.0)

- *JTLS Federation User Guide* (JTLS Document 20, Version 4.1.14.0)

- *JTLS C4I Interface Manual* (JTLS Document 21, Version 4.1.14.0)

- *JTLS DDS Training Manual* (JTLS Document 23, Version 4.1.14.0)

1.2.3 Updated Documents

- *JTLS Version Description Document* (JTLS Document 17, Version 4.1.14.0)

1.2.4 Delivered Software Components

JTLS 4.1.14.0 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)

- 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)

- 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 4.1.14.0 are provided in the *JTLS Installation Manual*. Installing a previous version of JTLS prior to installing JTLS 4.1.14.0 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 4.1.11.0 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 4.1.14.0 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 during a large exercise, do not run the APACHE service on the same machine as other JTLS services. This is a known Linux issue for which Red Hat has not provided a solution. The development team has made some changes to minimize the issue, but for large exercises R&A suggests APACHE should run on its own machine.

The Development Team has started to investigate the impact of Version 7 Red Hat Linux on JTLS. This testing is not complete; therefore, JTLS 4.1.14.0 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 4.1.14.0 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 102 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 112 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 1.5.3 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 *JTLS 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 4.1.14.0 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 4.1.14.0 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 4.1.14.0 and any previous 4.1 series database.

There are no changes between the database structure in JTLS 4.1.0.0 and JTLS 4.1.14.0, but DDS coding errors found in JTLS 4.1.5.0 did result in some changes to stored procedures.

If upgrading from JTLS 4.1.5.0 or earlier within the JTLS 4.1 series, you must unload and reload each of your Oracle stored scenarios after the installation of this version. 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 installation of this version 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 Special Release Installation Instructions

Depending on the version of 4.1 from you are upgrading your system, it may be necessary to recreate the GlassFish domain. For safety purposes the development team strongly suggests that the following procedure be followed to insure your system is using the correct Glassfish domain.

For the DDS Glassfish server, do the following:

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)

For the AAR Glassfish server, do the following:

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 from the WSM

1.5.3 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 6 of the *JTLS Installation Manual* for additional details pertaining to the Oracle installation.

1.5.4 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.
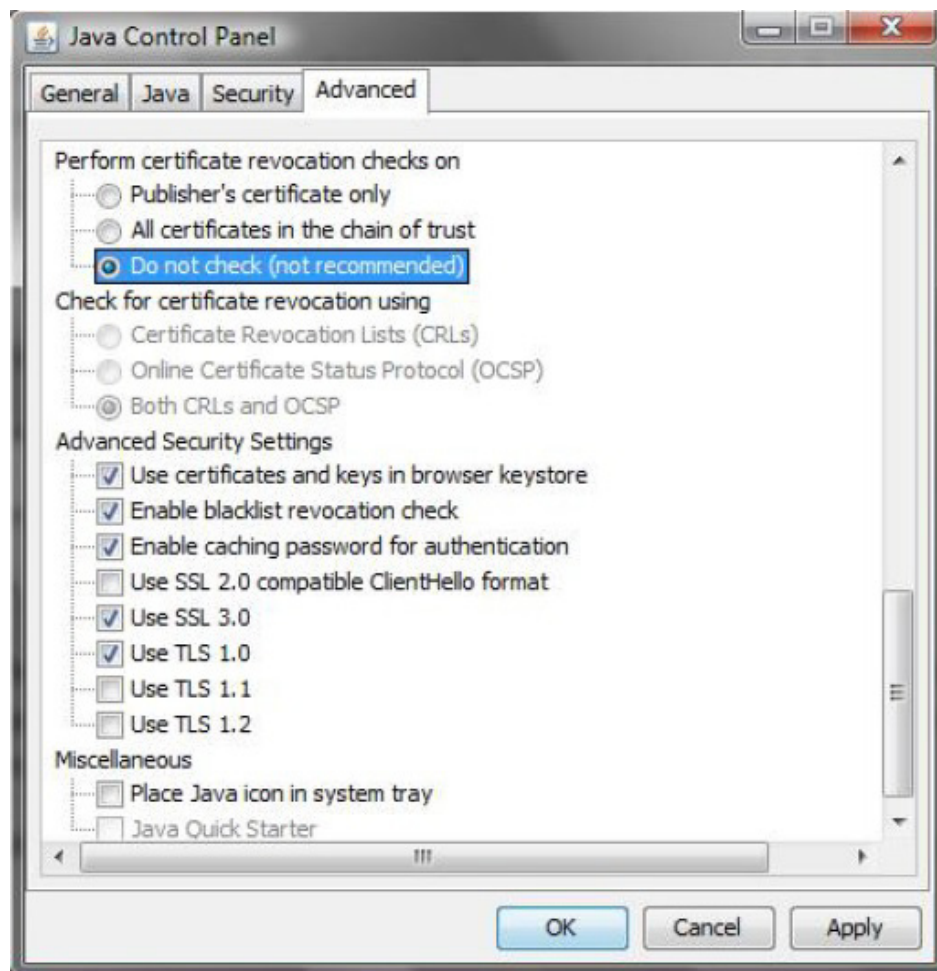
Figure 1.1   Control Panel

2.0 MINOR MODEL ENHANCEMENTS

This chapter summarizes model capabilities added to JTLS 4.1.14.0 as a result of implementing minor Engineering Change Proposals (ECPs). No major design related ECPs are delivered with JTLS 4.1.14.0.

2.1 JTLS-2016-12662 Generate Combat System Summary Files

Summary of Model Change Request

During an exercise, the training audience requested summary data on the status of combat systems in all units in the game. The request was for all combat systems, in a machine readable format.

Design Summary

To produce these data, new subroutines were written. The new code is executed each time the model creates a periodic report and when a checkpoint is saved. The data a produced in several files, one for each force side. The output uses a file format of comma-separated values (CSV) which is compatible with most spreadsheet programs.

Data in this file include the combat system statistics for all non-naval units. It includes the Unit Short Name, the Command Level, the Posture, Mission, the Combat System specific name (by CS Prototype), the counts for TOE, Available, Manned, Unavailable, Maintenance, Cumulative KIA, and Cumulative WIA. Two sets of data are generated: one is the counts for the individual unit, and the roll-up counts for the combat systems from all of the subordinates of this unit. For the top unit on each force side, the reported roll-up counts represent all of the combat systems on that side.

These output files are found in the $JGAME/<scenario_name>/location directory. The user can simply open the generated file in any spreadsheet program that supports CSV files. This includes Microsoft Excel, OpenOffice and Libre Calc.

2.2 JTLS-2016-12685 Add Fire Mission Quick Button To Naval Unit IMT Screen

Summary of Model Change Request

TLAMS are often fired by naval units, but for the naval player to view the current fire missions for any unit they must bring up the Ground Unit IMT screen and then pick the Fire Mission quick button. It would be preferable to have the Naval Unit IMT screen provide the same quick button capability.

Design Summary

The quick button has been added to the Naval Unit IMT Screen.

2.3 JTLS-2016-12686 Only Permit Owning Side To Query Or Delete DSA

Summary of Model Change Request

When creating a new DSA, the OMA verifies that the specified owning Faction is on the side of the submitting WHIP. However, when describing or deleting a DSA there is no verification by the OMA that the DSA is owned by the WHIP side.

Design Summary

The checking of the DSA ownership is actually handled by the CEP, however, the goal is to catch issues as early in the process as possible. To allow the OMA to catch this problem, the data file that defines the Manage DSA order was modified to permit only DSAS owned by the WHIP's side to appear in a Query or Delete order. When implementing this improvement, it was discovered that the Force Side was not being assigned to the DSA in the JODA. The CEP was modified to correct this oversight.

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-2016-12647 Switch DDS Fields To Duration

Two fields were encountered in the DDS that were properly duration fields but whose values was being displayed in decimal days. One of the fields, SSM Setup Time, also had a column title of "SET Unit Posture Time".

The renderer and editor for both fields was updated to signify they are duration fields. In addition, the improper column title and associated help was updated to reflect the proper title of the data.

3.2 JTLS-2016-12648 SVP Crash Checking Fuel At Naval Unit

The SVP crashed while attempting to verify the quantity of aviation fuel available on board a naval unit with squadrons assigned. The problem was due to accessing the prototype of the unit as a Tactical Unit Prototype instead of a Ship Unit Prototype.

The code was modified to check whether we are dealing with a naval unit or ground-based unit before accessing the proper prototype and using it in the error message.

3.3 JTLS-2016-12649 Fire Mission Report Reflects Real Name Of Unit

The operator sent a Fire Missile order against a unit with only partial identification, UIXXXX. The first report back stated that the fire mission against UIXXXX was received. The second report stated that the fire mission against DDG-63 was scheduled. By using the actual name of the unit being targeted, instead of the perceived name, additional information is being provided to the operator.

The code was modified to access and use the perceived name of the targeted unit, or target, when generating the second message.

3.4 JTLS-2016-12653 Crash Following Magic Move Ground Unit During Combat

A low strength ground unit was Magic Moved out of active combat. During magic move processing, the model does a final assessment on the unit and the battle. The unit died following final assessment in this case, and was removed from its hex and set to a UT THEATER STATUS of REMOVED FROM GAME. The Magic Move order continued and put the dead unit in its new location.

The Controller then sent a resurrect unit order. The model checked that the UT THEATER STATUS was REMOVED FROM GAME, which was true. The model then tried to put the unit in a hex. As the Unit was already in a hex, the model crashed.

Checks for UT THEATER STATUS equal to REMOVED FROM GAME were added in two locations. These additional checks ensure that if a unit is killed during final processing in the midst of a Magic Move, it will be removed from the game and not Magic Moved.

3.5 JTLS-2016-12654 Jammers Stop Own Side Radar Detection

Long-range Link-16 capable radar was not detecting and reporting their own side air missions.

Friendly air missions that were not being detected had self-protection jammers with power that was greater than the sensor power. The design team consulted with subject matter experts and decided that although self-protection jammers would in fact interfere with your own sensors, they probably would not be turned on when in range of those sensors. The decision was made to assume that the aircraft crew would properly engage and disengage their self protection jammers.

The new logic does not allow air mission self-protection jammers to interfere with own-side sensors or those sensors owned by a coalition partner side. Whether a sensor is owned by a coalition partner side is determined by matching the air mission faction's Air Control Prototype (ACP) ACP AIR INFORMATION PROTOCOL and the target faction's ACP. If the air mission's value for this data parameter matches the value of the sensor's database parameter, the sensor and the mission are assumed to be coalition partners and self-protection jammers will no longer stop detection.

3.6 JTLS-2016-12655 Wrong Side ICAO

When running the Civilian Air Transport mission generation of the ATO Translator, the Translator routinely tries to map an Airbase and ICAO from the wrong Force Side.

The code was changed to include the requirement that the selected Airbase/ICAO combination is on the same Force Side as the side generating the Air Transport Missions.

3.7 JTLS-2016-12656 Crash Modifying Spreadsheet Identifier

The ATO Translator crashed every time an attempt was made to change the Spreadsheet Identifier using the Civilian Air Traffic Function.

There was a mismatch in the field name for the Spreadsheet Identifier between the code and the form field name. The code was corrected.

3.8 JTLS-2016-12657 DDS Parent Unit For Squadron Cannot Be Assigned

User could not assign "Parent Unit" for squadrons from the Squadron table in the DDS. When the user selected a unit from the Parent Unit field's pulldown list, an Oracle Error would result informing the user that the parent key was not found, and the field's new value reverted to the old value.

This error was due to the fact that the units in the pulldown list were incorrectly limited to "Airbase" types only. In the database, the Parent Units and land units must have matching types. Therefore, the Squadron table's screen definition file was changed to populate the Parent Unit's pulldown menu with "Squadron" type units.

3.9 JTLS-2016-12658 Crash When Ship Moves From Missile Impact Location

The CEP crashed when a ship, with a scheduled fire missile mission, moved further away from the missile target location. The ship moved just before the missile firing event took place, and the extra distance made the missile late for its desired impact time. The model then tried to schedule the missile fire in the past, which resulted in the crash.

The crash happened in a section of the code that was updating the launch time of the missile due to the ship's movement. A check was added to determine if the new launch time is in the past, and if so, the launch time is adjusted to the current time plus 1 second. This might make the missile late for its on-target time, but the difference should be negligible.

3.10 JTLS-2016-12659 Misspelled Name In Organization Type Symbology File

A data file that specifies the recognized Organization Types for the JSYMS program had a misspelling for the Meteorological and Oceanographic organization long name.

The misspelling was corrected in the data file.

3.11 JTLS-2016-12660 Jammer Targets Not Being Seen On The IIR Report

Jammer targets that were covered by a DSA and which should be detectable are not showing up on the IIR Report generated by a Recce mission. A code error was found that was treating Comm Sites, Sensors, and Jammer targets the same and checking the ST.JAM.CAPABLE.FLAG of the target subcategory. Communication Centers and Jammer Types do not have an ST.JAM.CAPABLE.FLAG, since this is an attribute of Sensor Types. This code error is actually a potential crash situation if the number of Communication Centers or Jammer Types ever exceeded the number of Sensor Types.

The code to handle Sensor Types and the check on ST.JAM.CAPABLE.FLAG was separated from the code that handles Jammer Types and Communication Centers.

3.12 JTLS-2016-12661 IIR Report Not Convertable To XML

An error was generated when attempting to convert a CEP-generated IIR Report into XML for writing onto disk and displaying in the Message Browser. The exact error was caused by the lack of a space between the end of one message sub and the start of another.

The code was modified to ensure a space appears between the two message sub sections.

3.13 JTLS-2016-12663 Naval Vessel Jumps When Joining Formation

A naval unit with a passive sonar, that was currently moving and was within sonar range of a foreign vessel, was included as part of a formation order. The naval unit accepted the new instructions, displayed a course and speed to move to the station location, and then after some time made a single eight-hex jump to the station location instead of moving in smaller increments.

The problem was tracked down to the naval unit determining if a route exists to the station location, and if so the route is stored in a system working set. The next step of the logic cancels any current operations, specifically the former move instruction. As part of canceling the move the naval unit's speed is altered which means that all sonar contacts must be recalculated. Sonar calculations clear and use the system working set to ensure there is ocean between the naval unit and any foreign vessel. This results in the naval unit's path to its station location being wiped out.

The end result is that the naval unit has a single move from its current location to the station location and the jump occurs. This was fixed by saving the system working set route before the sonar calculations are performed, and then restoring it once they are done.

3.14 JTLS-2016-12664 RSP Does Not Recognize Standard Text Duration Format

A spreadsheet was created to set the Ground Tactical Intel Duration for a number of Tactical Unit Prototypes (TUPS) to 1 hour. The common text duration input of 1H was used in the spreadsheet. The Reformat Spreadsheet Program (RSP) was then run to convert the spreadsheets into JTLS orders. The JTLS orders expect a duration in decimal days since game start. Instead the RSP left the duration as the text 1H instead of the decimal 0.0416667.

No code existed in the RSP to check for text durations vs decimal durations. Since the format of the text duration is used extensively on the WHIP and Message Browser, the RSP needed to recognize it and convert it. This capability has been added with the generation of an error if the text version does not adhere to the simple duration format used on the WHIP.

3.15 JTLS-2016-12666 Writing JTOI Data Not Consistent Between SIP And CEP

The writing of the JTOI initialization data between the CEP and SIP was not consistent. The SIP only outputs information about Sensor Types and Air Defense Classes if their Build In DDS

database flag is set to yes. The CEP writes the information on all Sensor Types and Air Defense Classes.

The CEP was modified to follow the restriction used by the SIP. In addition, some minor SIP comments were clarified.

3.16 JTLS-2016-12667 Controller Action And DDS Discrepancies

At the end of an exercise, the final checkpoint was taken and loaded into the database. Due to some Controller setting of variables some records were in violation of database constraints are failed to load. Specifically, the Controller was permitted to set an Aircraft Class range to a value greater than that allowed by the database; a Controller created faction failed to load because the value for the WIA Evacuation Time was 0.0; some Sensor Types failed to load because the Controller had adjusted their range to less than their Recognition and/or Identification distances.

The Set Aircraft Class order was modified so that the maximum value that could be input for a range matches the maximum allowed by the DDS. When a faction is created from another faction the WIA Evacuation Time was not being set. Now the new faction inherits this value from its parent faction.

The order to set Sensor Types was modified so that if the Controller sets a range that is less than either the Identification Distance or Recognition Distance that these two distances will also be adjusted to the lesser value. It was decided to auto-adjust the distances rather than refuse the change because the ability of the Controller to quickly make changes is often important for MEL/MIL activity.

3.17 JTLS-2016-12689 Sinking Ship Reporting Sonar Contacts

A ship was damaged and sinking but was still generating sonar detections. The operator feels that when a ship is sinking that the reporting of detections would be an unlikely situation.

The code already existed to switch off jammers and jammable sensors when the ship started sinking. However, sonar is generally a non-jammable sensor so it was not being switched off. The code was modified to switch off all jammers, sensors, and air defense with the assumption that all required personnel would be helping with damage control or would be evacuating. It could be argued that some systems would never be switched off, but there is not enough information in the database to distinguish between those requiring personnel and those that would be automatic. A change was also made to prevent the WHIP operator turning the systems back on as long as the ship was sinking.

Finally, the code was changed to automatically turns on air defense and non-jammable sensors if a Hull hit is repaired and the ship is no longer in danger of sinking.

3.18 JTLS-2016-12692 JSYMS: Long Name Saves Incorrectly In Symbol File

When saving the Organization Type long name in the symbol.scf file, if an identical short name exists that corresponds to the long name, the correct long name does not save in the file.

The hash map that consists of short name and long name was removed from the code, because the key that is used by the short name is not unique. The organization longname that is set when the user selected it is now used.

3.19 JTLS-2016-12721 Missions Flying Very Low

Several missions were flying at very low altitudes.

The model was incorrectly calculating mission altitudes using the data provided on the ACO EFFLEVEL record. The calculation was corrected.

3.20 JTLS-2016-12722 Residual Mission Indicator

The translator is not recognizing the residual mission indicator output by the ICC system. This caused problems with the mission call sign and duplicate missions being generated.

To date, the common placement of the residual mission indicator was part of the mission name. For this exercise, the generated ATO file had the residual mission indicator appended to the mission call sign.

The code has been modified to check for the residual mission indicator based on the system generating the ATO file output. If it is USMTF, it will look at the mission name. For ICC, it will parse it from the mission call sign.

3.21 JTLS-2016-12727 JTLS 4.1.14.0 Documentation Updated

JTLS 4.1 series documentation required updating to bring it in line with changes for the 4.1.14.0 maintenance release.

The DDS User Guide and Version Description Document were updated for JTLS 4.1.14.0.

3.22 JTLS-2016-12728 Sample User Data Files Cause ASC crash

During use of the Automatic Supply Calculation Tool on sample user data files for sdbkor41, the ASC crashed. The configuration-managed sample user data files were not updated with current sdbkor41 database changes.

The sample user data files for the ASC located in scenario/alterdata were updated to reflect the current sdbkor41 database.

Specifically the Targetable Weapons, Supply Categories, Combat Systems, Fire Lethality Prototypes, and Sustainment Logistic Prototypes were refreshed in the sample user data files. See Data Files for the specific file names that were updated. No code changes were made in the ASC, SIP or CEP.

Documentation changes were made to include the data format for the ASC sample user data files.

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