

JTLS-GO

Version Description Document

July 2023



DEPARTMENT OF DEFENSE
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**JOINT THEATER LEVEL SIMULATION - GLOBAL OPERATIONS
(JTLS-GO 6.2.2.0)**

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ABSTRACT

The Joint Theater Level Simulation - Global Operations (JTLS-GO[®]) is an interactive, computer-based, multi-sided wargaming system that models air, land, naval, and Non-Governmental Organization (NGO) functions within a combined joint and coalition environment.

This *JTLS-GO Version Description Document (VDD)* describes the new features of the Version 6.2.2.0 delivery of the configuration-managed JTLS-GO software suite.

JTLS-GO 6.2.2.0 is a Maintenance release of the JTLS-GO 6.2 series that includes an updated repository of standard data, a demonstration scenario based in the western Pacific, as well as a few minor model functionality improvements implemented as Engineering Change Proposals (ECPs). These ECPs are summarized in Chapter 2. Code modifications that represent corrections to known Software Trouble Reports (STRs) 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-GO 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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TABLE of CONTENTS

ABSTRACTiii

1.0 INTRODUCTION 1-1

 1.1 SCOPE 1-1

 1.2 INVENTORY OF MATERIALS 1-1

 1.2.1 Obsolete/Outdated Documents..... 1-1

 1.2.2 Unchanged Documents 1-1

 1.2.3 Updated Documents..... 1-2

 1.2.4 New Documents..... 1-2

 1.2.5 Delivered Software Components 1-2

 1.2.6 Released Databases..... 1-4

 1.3 INTERFACE COMPATIBILITY 1-5

 1.3.1 Support Software 1-5

 1.3.2 JTLS-GO Cybersecurity Compliance 1-7

 1.3.3 JTLS-GO High Level Architecture Compliance 1-8

 1.4 DATABASE MODIFICATIONS 1-8

 1.4.1 JTLS-GO Using Legacy Default Symbol Set 1-9

 1.4.2 JTLS-GO Using New Default Symbol Set..... 1-9

 1.4.3 Standard Repository Changes 1-10

 1.5 INSTALLATION 1-10

2.0 ENGINEERING CHANGE PROPOSALS..... 2-1

 2.1 JTLS-2023-16227 IMPLEMENT FIRE MISSILE TARGET SPREADSHEET 2-1

 2.2 JTLS-2023-16248 ADD SURFACE STRIKE WEAPONS TO WEAPON USAGE REPORT 2-1

 2.3 JTLS-2023-16268 NEW ORDER DELAY MESSAGE 2-1

 2.4 JTLS-2023-16282 EXPORT LC2IS OVERLAY FORCE STRUCTURE ONLY 2-2

3.0 SOFTWARE TROUBLE REPORTS 3-1

 3.1 JTLS-2023-16216 ATO GENERATOR MISMATCHED FILE NAMES 3-1

 3.2 JTLS-2023-16217 LIMIT POPUP MENU TEXT LENGTH 3-1

 3.3 JTLS-2023-16219 ERROR 424 INSERT RECORD WITH ALL ZEROS 3-1

 3.4 JTLS-2023-16221 ERROR 416 ADD SVPR OPTION TO SET SORTIE RATE 3-2

 3.5 JTLS-2023-16222 WHIP MAP FAILS TO SEARCH AND RIGHT CLICK UNITS 3-2

 3.6 JTLS-2023-16223 WARNING 1127 CHECKS INSTANTANEOUS SENSORS 3-2

 3.7 JTLS-2023-16225 ERROR 240 CORRECTIONS NONFUNCTIONAL 3-2

 3.8 JTLS-2023-16229 WARNING 1238 NEEDS IMPROVEMENT 3-3

 3.9 JTLS-2023-16231 MULTIPLE AIRLIFTS FOR SAME UNIT PROBLEM 3-3

 3.10 JTLS-2023-16233 ATTACK PACKAGE MISSION MISSING TARGETING OPTION 3-3

 3.11 JTLS-2023-16234 IMT MULTIPLE GEO REGION FILTERING NOT WORKING 3-3

 3.12 JTLS-2023-16235 AAR IMPROVEMENTS CRASH CEP 3-4

 3.13 JTLS-2023-16236 SYNAPSE ATOT LOCK FILE NOT REMOVED 3-4

 3.14 JTLS-2023-16241 SQUADRON COMBAT SYSTEM IMT INACCURATE COUNT 3-4

3.15 JTLS-2023-16244 CRASH REPAIRING RUNWAY TWICE 3-5

3.16 JTLS-2023-16246 DOUBLE COUNTING DAMAGED SUPPLIES 3-5

3.17 JTLS-2023-16247 SEAD MINIMUM NUMBER FOR ATTACK PACKAGE 3-5

3.18 JTLS-2023-16250 NON-KILL CS WITH ACTIVE LANCHESTER DEBUG CRASH 3-5

3.19 JTLS-2023-16252 CHANGE WARNING 1488 TO PROTOTYPE WARNING 3-5

3.20 JTLS-2023-16254 UNDEFINED WHIP CRASH 3-6

3.21 JTLS-2023-16256 DDS COMMAND HIERARCHY REPORT VISIBILITY 3-6

3.22 JTLS-2023-16257 RESTART FAILS WHEN AIR MISSION ACM TASK EXISTS 3-6

3.23 JTLS-2023-16258 UNIT MOVE MISSILE LAUNCH IMPROPERLY UPDATED 3-6

3.24 JTLS-2023-16261 JXSR REPLY TO SOME FILL REQUESTS NOT RECEIVED 3-6

3.25 JTLS-2023-16264 NAVAL FORMATION SIDE CHANGE ERROR 3-7

3.26 JTLS-2023-16267 WARNING 1903 NETWORK IDENTIFIER 3-7

3.27 JTLS-2023-16272 UPDATE JAVASCRIPT MAKEFILE 3-7

3.28 JTLS-2023-16274 WARNING 1901 FLIGHT PATH/SEA LANE NETWORKS 3-8

3.29 JTLS-2023-16275 LINK 16 MESSAGE SERVICE ISSUES 3-8

3.30 JTLS-2023-16276 LOGGING JODA STOPS WHEN PRIMARY JODA RESTARTED 3-9

3.31 JTLS-2023-16279 OTHGOLD HANDLE NATO CLASSIFICATIONS 3-9

3.32 JTLS-2023-16280 ADD JTOI ICC 3.5.0 3-9

3.33 JTLS-2023-16281 NECCIS SUPPORTS LONGER SQUADRON NAMES 3-9

3.34 JTLS-2023-16283 UPDATE JTLS-GO LOGFAS INTERFACE 3-9

3.35 JTLS-2023-16286 TERRAIN REPORT FAILS FOR EQUIPMENT SHELTERS 3-10

3.36 JTLS-2023-16289 OTH-GOLD COUNTRY CODE FORMAT 3-10

3.37 JTLS-2023-16290 PSQL STATEMENT FAILS FOR SVP WARNING CORRECTION ... 3-10

3.38 JTLS-2023-16292 INSUFFICIENT HELP FIELDS FOR CREATE UNIT ORDER 3-11

3.39 JTLS-2023-16293 NO RANGE RINGS FOR NEW TARGETABLE WEAPON 3-11

3.40 JTLS-2023-16294 DDS COMMAND HIERARCHY REPORT INCORRECT 3-11

3.41 JTLS-2023-16296 GIS TOOL SEA LANE MAXIMUM ARC LENGTH 3-11

3.42 JTLS-2023-16299 UNNECESSARY FIRE ARTILLERY UNIT CHECK 3-11

3.43 JTLS-2023-16301 JSAT ROUTE POINT TIMES ROUND-OFF ERRORS 3-12

3.44 JTLS-2023-16305 ALTERNATE WHIP WORLD MAP 3-12

3.45 JTLS-2023-16306 MISSION LOAD MEMORY LEAK 3-12

3.46 JTLS-2023-16309 INCORRECT IDENTIFICATION CODES FOR SYMBOLS 3-12

3.47 JTLS-2023-16311 WHIP MANAGE LOCATIONS, FILTERS AND VIEWS 3-13

3.48 JTLS-2023-16312 WHIP CLIENT CERTIFICATE ACCESS BY ALIAS UNNECESSARY 3-13

3.49 JTLS-2023-16313 JODA FIND COMMAND MISSING SEARCH OPTION 3-13

3.50 JTLS-2023-16314 REMOVE BUFFER OVERFLOW ISSUES IN LIBRARIES 3-13

3.51 JTLS-2023-16315 AAR FILTERING INTERFACE CUT OFF LAST LIST ITEM 3-14

3.52 JTLS-2023-16316 REMOVING WHIP AND DDSC HTTP SUPPORT 3-14

3.53 JTLS-2023-16317 AARC PERFORMANCE ISSUES 3-14

3.54 JTLS-2023-16318 WHIP SAVE DIALOG USED INCORRECT FILE PATH DELIMITER 3-15

3.55 JTLS-2023-16319 JTOI ICC 3.0.2 LIBRARY FAILS TO BUILD 3-15

3.56 JTLS-2023-16320 DDS MAP DOES NOT SHOW LAST SAVED VIEW 3-15

4.0 REMAINING ERRORS..... 4-1

APPENDIX A. ABBREVIATIONS AND ACRONYMSA-1

APPENDIX B. VERSION 6.2.0.0 DATABASE CHANGES B-1

APPENDIX C. VERSION 6.2.0.0 REPOSITORY CHANGES C-1

1.0 INTRODUCTION

1.1 SCOPE

This *JTLS-GO Version Description Document (VDD)* describes Version 6.2.2.0 of the configuration managed Joint Theater Level Simulation - Global Operations (JTLS-GO[®]) software suite. JTLS-GO 6.2.2.0 is a Maintenance delivery for the JTLS-GO 6.2 series of releases.

JTLS-GO 6.2.2.0 includes the entire JTLS-GO suite of software, a repository of engineering level data, and a realistic demonstration scenario based on the Western Pacific theater of operations called “wespac62”. Detailed descriptions of some minor Engineering Change Proposals (ECPs) implemented for this release are provided in [Chapter 2.0](#), and [Chapter 3.0](#) describes the software errors that have been fixed since the last release of the JTLS-GO 6.2 series.

JTLS-GO 6.2.2.0 executes on the Red Hat Enterprise Linux Server Version 8.7 64-bit operating systems. The Web-Hosted Interface Program (WHIP[®]) user workstation interface can be executed on any operating system from any Java-compatible Web browser.

1.2 INVENTORY OF MATERIALS

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

1.2.1 Obsolete/Outdated Documents

No documents have been deleted or become outdated as a result of this release.

1.2.2 Unchanged Documents

- *JTLS-GO Analyst Guide* (JTLS-GO Document 01, Version 6.2.0.0)
- *JTLS-GO Executive Overview* (JTLS-GO Document 02, Version 6.2.0.0)
- *JTLS-GO Configuration Management Plan* (JTLS-GO Document 03, Version 6.2.0.0)
- *JTLS-GO Data Requirements Manual* (JTLS-GO Document 05, Version 6.2.1.0)
- *JTLS-GO Director Guide* (JTLS-GO Document 07, Version 6.2.0.0)
- *JTLS-GO Installation Manual* (JTLS-GO Document 09, Version 6.2.1.0)
- *JTLS-GO Player Guide* (JTLS-GO Document 12, Version 6.2.1.0)
- *JTLS-GO Repository Description* (JTLS-GO Document 14, Version 6.2.0.0)
- *JTLS-GO Software Maintenance Manual* (JTLS-GO Document 15, Version 6.2.0.0)

- *JTLS-GO Entity Level Server User Guide* (JTLS-GO Document 19, Version 6.2.0.0)
- *JTLS-GO Federation User Guide* (JTLS-GO Document 20, Version 6.2.0.0)
- *JTLS-GO DoD Architecture Framework* (JTLS-GO Document 22, Version 6.2.0.0)
- *JTLS-GO Air Services User Guide* (JTLS-GO Document 24, Version 6.2.0.0)

1.2.3 Updated Documents

- *JTLS-GO Controller Guide* (JTLS-GO Document 04, Version 6.2.2.0)
- *JTLS-GO DDS User Guide* (JTLS-GO Document 06, Version 6.2.2.0)
- *JTLS-GO WHIP Training Manual* (JTLS-GO Document 10, Version 6.2.2.0)
- *JTLS-GO JOBE Quick Start Guide* (JTLS-GO Document 11, Version 6.2.2.0)
- *JTLS-GO Technical Coordinator Guide* (JTLS-GO Document 16, Version 6.2.2.0)
- *JTLS-GO Version Description Document* (JTLS-GO Document 17, Version 6.2.2.0)
- *JTLS-GO C4I Interface Manual* (JTLS-GO Document 21, Version 6.2.2.0)
- *JTLS-GO DDS Training Manual* (JTLS-GO Document 23, Version 6.2.2.0)

Additionally, all documents have updated the Joint Chiefs of Staff crest, but have otherwise had no significant changes.

1.2.4 New Documents

No new documents are delivered with this version of the software.

1.2.5 Delivered Software Components

JTLS-GO 6.2.2.0 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. The following software components are included with this release:

- Combat Events Program (CEP)
- Scenario Initialization Program (SIP)
- Interface Configuration Program (ICP)
- Reformat Spreadsheet Program (RSP)

- JTLS Symbols Application (JSYMS)
- Database Development System (DDS)
 - Database Configuration Program (DCP)
 - DDS Client User Interface (DDSC)
- ATO Translator Service (ATOT)
- ATO Generator Service (ATOG)
- ATO Retrieval Program (ATORET)
- JTLS Convert Location Program (JCONVERT)
- 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)
 - The current JODA build number is 188.
- Web Services Manager (WSM)
- Web-Hosted Interface Program (WHIP) and its component programs:
 - Apache Server (APACHE)
 - JTLS XML Serial Repository (JXSR)
 - Order Management Authority (OMA)
 - Synchronized Authentication and Preferences Service (SYNAPSE)
 - XML Message Service (XMS)
 - Total Recall Interactive Playback Program (TRIPP)
- Entity Level Server (ELS)

- JTLS Operational Interface (JOI) for both OTH-Gold and Link-16 generation
- Tactical Electronic Intelligence (TACELINT) Message Service
- Keyhole Markup Language (KML) Operational Interface (KOI)
- JTLS Transaction Interface Program (JTOI)
- JTLS Interface Network Navigator (JINN)
- JTLS Order of Battle Editor (JOBIE)
- JTLS Geographic Information System (GIS) Terrain Building Program
- JTLS Master Integrated Database (MIDB) Tool
- JTLS Version Conversion Program (VCP)

VCP60 - Converts a JTLS-GO 5.1 database to a JTLS-GO 6.0 formatted database.

VCP61 - Converts a JTLS-GO 6.0 database to a JTLS-GO 6.1 formatted database.

VCP62 - Converts a JTLS-GO 6.1 database to a JTLS-GO 6.2 formatted database.

Instructions for installing JTLS-GO 6.2.2.0 are provided in the *JTLS-GO Installation Manual*. Installing a previous version of JTLS-GO prior to installing JTLS-GO 6.2.2.0 is not necessary. The software provided with this delivery is a complete release that includes all files and code required to execute JTLS-GO.

The basics of installation have not changed significantly, but due to many Cyber-Security improvements, a new Linux RPM package named "xerces-c", is required to run JTLS-GO 6.2.2.0. The Synapse will not function without this package. Prior to installing JTLS-GO 6.2.2.0, please run the RPM checking script delivered with JTLS-GO to ensure that this package and all other packages are installed as part of your Linux operating system.

1.2.6 Released Databases

This release includes the following sample unclassified databases:

- The scenario that serves as a repository of engineering level data called "repository62". Although not useful as a scenario, it does follow all of the database requirements for a scenario, and should be loaded into your PostgreSQL scenario table-space.
- The scenario "wespac62", which is suitable for training and demonstrations.

1.3 INTERFACE COMPATIBILITY

1.3.1 Support Software

JTLS-GO 6.2.2.0 requires the following versions of support software, including operating systems, compilers, scripting utilities, database tools, transfer protocols, and display managers.

- Operating system for the model: Red Hat Linux Enterprise Server (ES) Edition Version 8.7, 64-bit architecture.

JTLS-GO 6.2 has been tested with the following versions of Linux 8:

RedHat Linux 8.7 - this operating system license must be purchased.

Oracle Linux 8.7 - This operating system is free to download, use, and distribute, and is provided in a variety of installation and deployment methods. It has been approved by DISA for use by U.S. Government Agencies.

- There are no restrictions on the operating system for client workstations, except that the operating system must have a Java-enabled web browser. JTLS-GO 6.2.2.0 has been tested on the following operating systems:

Red Hat Linux Enterprise Server Edition Version 7.9, 8.4, and 8.7

Oracle Linux 8.4 and 8.7

Windows 10, which can be used only if the workstation is an external HTTP client of the simulation network.

- JTLS-GO 6.2.2.0 is delivered with the Adoptium project Temurin Java Development Kit (JDK) 1.8 Update 382 package, which is equivalent to the current version of OpenJDK.
- JTLS-GO uses IcedTea to provide the Java Web Start capability that implements the web-enabled JTLS-GO functionality. JTLS-GO supports IcedTea version 1.8.8.
- JTLS-GO database tools require a certified PostgreSQL 11.19 database server and the full PostgreSQL installation. A containerized solution, that fulfills this specification, is provided as part of the JTLS-GO download. It is not necessary to use the delivered containerized solution, but it is the easiest method to meet the requirements of JTLS-GO 6.2.2.0. There are several alternative methods available for obtaining the PostgreSQL 11.19 software. Refer to Chapter 6 of the *JTLS-GO Installation Manual* 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-GO 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 III (SIMSCRIPT to C) translator/compiler: SIMSCRIPT is required for recompiling JTLS-GO code. It is not necessary to have a SIMSCRIPT compiler to execute JTLS-GO, because all JTLS-GO 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-GO SIMSCRIPT code.
- ANSI C Compiler: It is not necessary to use a C compiler to execute JTLS-GO. This compiler is used only by U.S. Government organizations that can obtain source code and intend to re-compile any of the JTLS-GO 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-GO. This compiler is used only by U.S. Government organizations that can obtain source code and intend to re-compile any of the JTLS-GO HLA component programs. The C++ Compiler version delivered with the supported versions of Red Hat Linux ES is sufficient.
- The JTLS-GO DDS application uses these open source libraries:

JFreeChart, licensed under a GNU Lesser General Public License (LGPL) 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-2.0>HLA 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 an operational Command, Control, Communication, Computer Information (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-GO C4I Interface Manual* describes requirements and procedures for using the KOI capabilities.

1.3.2 JTLS-GO Cybersecurity Compliance

Because of recent incidents of intrusions into software systems, the United States Department of Defense (DoD) has implemented a strong and strictly enforced Cybersecurity program. JTLS-GO, as software that executes on DoD systems, must comply to the mandates of the program, along with all of the third party software used by JTLS-GO, such as PostgreSQL and Java.

JTLS-GO has moved to Adoptium, a full OpenJDK Java environment with licensing alternations allowing an application to deliver the software. The following procedure has been established and approved by the JS/J7 Cybersecurity branch:

- Within days of an Oracle Java security release, Adoptium produces an equivalent version using infrastructure, build and test scripts to produce pre-built binaries of the OpenJDK class libraries. All Adoptium binaries and scripts are open source licensed and available for free.
- Within two-weeks of the Adoptium release, JTLS-GO provides a bug release version (JTLS-GO 6.2.n.0) including a full Version Description Document (VDD) for download to all authorized agencies. All DoD agencies using JTLS-GO will be in full compliance with this specific Cybersecurity mandate as long as they download and use the bug released versions when distributed.

Contact the U.S. Government Program Manager, Ms. Jessica Camacho by email at jessica.l.camacho.civ@mail.mil to obtain the completed Cybersecurity paperwork and a current Gate completion certificate.

As a result of new security requirements built into JTLS-GO 6.2.0.0 as part of ECP JTLS-2022-15976 “Encrypt Passwords To Start WHIP/DDSC”, users must delete **all** existing scenarios in their \$JGAME directory. This will require you to set up your scenarios from a fresh state:

1. Convert your scenarios to JTLS-GO 6.2.0.0 using the Version Conversion Program (see Chapter 13 of the *JTLS-GO DDS User Guide* for instructions).
2. Perform Option 3, “Setup System For A Specific Scenario”, for each scenario.
3. Perform Option 5, “Run Interface Configuration Program”, for each scenario.

This is **not** a requirement if you have already installed JTLS-GO 6.2.0.0 and are upgrading to JTLS-GO 6.2.1.0.

1.3.3 JTLS-GO High Level Architecture Compliance

The JTLS-GO 6.2.2.0 release is fully High Level Architecture (HLA) compliant, and includes all the programs required to run JTLS-GO in an HLA mode. JTLS-GO currently belongs to one federation known as GlobalSim. GlobalSim is a comprehensive constructive simulation solution for joint training and wargaming that helps commanders and all levels of staff prepare for a range of operational scenarios.

The solution combines JTLS-GO with CAE's GESI constructive tactical entity-level simulation system. CAE's GESI constructive simulation system is designed to run complex and comprehensive exercises from the company level up to division level. The GESI system is used to represent a virtual battlefield, including weapons, vehicles, aircrafts, ground forces and more.

Combining JTLS-GO and GESI brings together operational and tactical level constructive simulations to prepare commanders and staff to make timely, informed and intelligent decisions across the full spectrum of operations, including conventional combat, disaster relief, and operations other than war.

From the JTLS-GO perspective, all software needed to run GlobalSim is included in this delivery. JTLS-GO uses the Federation Object Model (FOM) located in the \$JGAME/data/hla directory. Federation testing of JTLS-GO 6.2.0.0 with CAE's GESI model has not been accomplished. CAE should be contacted concerning the continued support of GlobalSim.

The HLA RTI (Run Time Infrastructure) executive program (rtiexec) recommended for use with this release is Pitch pRTI Evolved 4.4.2.0. However, this program is not included in the JTLS-GO 6.2.2.0 delivery. Users may obtain a full installation package of the RTI software from 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

Several database structure differences exist between JTLS-GO 6.2 series and the previous JTLS-GO 6.1 series database structure.

To upgrade your JTLS 6.1 scenario to JTLS-GO 6.2 compatibility, see instructions listed in the *JTLS-GO DDS User Guide*, Chapter 3.1, followed by the instructions in Chapter 13 of the *JTLS-GO DDS User Guide*.

Users should download and re-load their scenarios, due to changes made in STR JTLS-2023-16290 PSQL Statement Fails For SVP Warning Correction, included in JTLS-GO 6.2.2.0 and released in July 2023. This will recreate the related check constraints in the database schema.

1.4.1 JTLS-GO Using Legacy Default Symbol Set

If a user organization is still using the pre-JTLS-GO 5.0.0.0 legacy default symbol set, prior to unloading your JTLS-GO 6.2.0.0 formatted data from your PostgreSQL database server into the JTLS-GO 6.2.0.0 scenario American Standard Code for Information Interchange (ASCII) text files, you must execute the JSYMS program using the procedure outlined in the *JTLS-GO DDS User Guide*, Appendix B.11. This procedure will reorganize the structure of the <scenario_name>.gs and databases symbol.scf file.

1.4.2 JTLS-GO Using New Default Symbol Set

The symbol 2525 ID Codes, which are used by C4I systems to identify the type of object, have been expanded and refined in this release. If you have scenarios based on the JTLS-GO repository symbols, you are encouraged to update the symbol sets for those scenarios. This can be accomplished by executing the following steps:

1. Go to the \$JDATA/scenario/<scenario_name>/symbols directory. Enter the following command:

```
cd $JDATA/scenario/<scenario_name>/symbols
```

2. Compare your symbol.scf file to the JTLS 6.0 version under the repository62 scenario. Enter the following command:

```
diff symbol.scf $JDATA/scenario/repository62/symbols/symbol.scf_jtls60
```

3. If the files are identical, or if your symbols are a subset of the JTLS 6.0 version, you should update your symbol file (otherwise, perform Steps 4 through 6). Enter the following command:

```
cp $JDATA/scenario/repository62/symbols/symbol.scf ./symbol.scf
```

Your symbol set will now be updated.

4. If your symbol file has additional symbols not found in the JTLS 6.0 version, you can still update your symbol file, but will need to perform a manual integration of the symbol.scf file.

Bring up the jsyms program for your scenario, by selecting Option 1 "Prepare or Alter a Scenario Database", and then Option 5 "Configure Symbols", from the JTLS Menu.

5. Perform a save in the jsyms program. Selecting "Yes" will update the <scenario_name>.gs file, and update the graphic symbols in the DDS if the scenario is loaded; selecting "No" will only update the <scenario_name>.gs file.

If your scenario is not loaded into the DDS, the next time you perform a load the updated symbols will be loaded from the <scenario_name>.gs file.

6. Exit the jsyms program.

1.4.3 Standard Repository Changes

R&A has continued to improve and expand the unclassified data repository, which has been renamed to “repository62”. The DDS comparison and synchronization function can be used to determine if any of the changes delivered are of use to a JTLS-GO user organization.

1.5 INSTALLATION

The *JTLS-GO Installation Manual*, a Portable Document Format (pdf) file available for direct download, is part of this JTLS-GO delivery. It provides detailed instructions for installing the new version of JTLS-GO and the installation of PostgreSQL 11.19 required to operate JTLS-GO 6.2.2.0.

2.0 ENGINEERING CHANGE PROPOSALS

This chapter summarizes model capabilities added to JTLS-GO 6.2.2.0 as a result of implementing authorized minor Engineering Change Proposals (ECPs).

2.1 JTLS-2023-16227 Implement Fire Missile Target Spreadsheet

Summary of Model Change Request

A quick method to submit a large number of Fire Missile orders was necessary. The spreadsheet was already implemented as part of the Fire Missile Order, but it was not implemented to be called up from the Target_Intel IMT screen.

Design Summary

The Target Intel IMT screen can now be used to highlight several targets that have been detected and place them into a WHIP spreadsheet for missile assignment,

2.2 JTLS-2023-16248 Add Surface Strike Weapons To Weapon Usage Report

Summary of Model Change Request

The AAR Weapon Usage Report allows the analyst to request weapon expenditure for Air-Air and Surface-Air engagements, but not for Surface engagements. There was a need at the analysis event to collect all weapon usage.

Design Summary

The AAR Weapon Usage Report was expanded to allow the collection of surface and sub-surface strike weapons.

2.3 JTLS-2023-16268 New Order Delay Message

Summary of Model Change Request

Players sometimes become impatient after submitting an order when no immediate response or resulting action is observed. This situation arises when communications jamming has delayed receipt of the order by the Unit involved. The Player, unaware of the jamming delay, may then resubmit the same order in a vain attempt to force the model to react. A new message is required to notify the Player when an order has been delayed.

Design Summary

In the CEP routine that first receives a submitted order, a delay time (if any) is calculated and applied to the scheduled receipt time (i.e. the time the order is actually received by the Unit to

act upon). Logic was added to generate a Player message if the delay time is greater than new global value MAX.ORDER.DELAY.MSG.TIME.

The default value in the model is 2 minutes, but can be modified using the Controller Set Model Time order. A value of 1 second (or less) will prevent the message from being generated, regardless of the delay time. The value is saved in the <scenarioname>.mop_ascii file. Note the variable is not kept in the scenario database.

2.4 JTLS-2023-16282 Export LC2IS Overlay Force Structure Only

Summary of Model Change Request

The NATO Land Command & Control Information System (LC2IS) can ingest SICF files, which are in XML format, to provide information on force layout and weapon systems. In JTLS-GO the LC2IS Message Service (LC2MS) is designed to provide the SICF files for a running game. The LC2MS-produced SICF files have always contained the force structure and the full list of weapon systems, which can result in a large file. Some LC2IS users do not care about the weapon systems and are only interested in a SICF file that provides the force layout and status.

Design Summary

The ICP was modified to allow the Controller to specify whether the LC2MS should be run with “Force Structure Only” output, or with the full force structure and weapon systems. This selection is then output into the LC2MS initialization file and the LC2MS will produce either the full file, with weapon systems, or a truncated file.

3.0 SOFTWARE TROUBLE REPORTS

Software Trouble Reports (STRs) describe software code errors that have been discovered by JTLS-GO users or developers and have been corrected.

3.1 JTLS-2023-16216 ATO Generator Mismatched File Names

The WHIP was modified to append a file extension to the ATO Generator's (ATOG) user parameters files. When the WHIP sent the generate request to the ATOG, it was also appending on the file extension, which the ATOG was not expecting. Because the ATOG was only expecting the ATO name it was appending on the proper file extension before opening the file, but this resulted in a file name with the extension twice, and the ATOG unable to find the file. Once that was fixed, it was also noted that the ATOG was not producing the order spreadsheet files with the new file extension expected for those type of files.

To identify the name problem in the generation of an ATO, the ATOG was modified to show the name of the file when a parse error occurs. This debugging is useful and was left in place.

Because the ATOG was expecting the ATO name on a generate request, which the ATOG uses in many places, the WHIP was modified to provide only the name. The WHIP still uses the name with the file extension when saving the user parameters, but not when making a generate request.

The ATOG was modified to use the proper file extension for order spreadsheets when it produces the JTLS-GO orders in an order spreadsheet. This allows the file to be properly recognized, and verified if need be, by the Synapse.

3.2 JTLS-2023-16217 Limit Popup Menu Text Length

Some menu items in the WHIP are dynamically generated. For example, right-clicking on an order in the Order Group Editor will create a menu that includes the selected order's name. This same concept applies to the Web Services Manager, where multiple web services may be selected, and a dynamic right-click menu displays the names of the services for certain actions.

In the case where many services items are selected, the menu became very large as it listed every selected item. This menu size should be limited.

The WHIP's Order Group Editor and the Web Services Manager have been modified to limit the length of each menu item's text.

3.3 JTLS-2023-16219 Error 424 Insert Record With All Zeros

The correction for Error 424 creates a record with all zero values.

Error 424 is generated when a combat system has a specified supply category to fight, but does not have ANY of the required supplies. Under some circumstances the value need for the TUP or

SUP was very small. The output was truncated for two decimal digits. This caused the values in the correction to be zero.

The output values were increased to four decimal digits. If a computed value was less than .0001 then it was set to .0001. This problem also existed when values needed to be increased. The same modification was made for this correction.

3.4 JTLS-2023-16221 Error 416 Add SVPR Option To Set Sortie Rate

An option needed to be added to Error 416 to automatically set a unit's MAX SORTIES PER DAY.

A unit owning aircraft combat systems must have a MAX SORTIES PER DAY value specified to compute daily surge rates. The SVP checks that the database parameter is greater than zero. An automatic correction was added to the SVPR to automatically correct the issue by setting the value to the number of aircraft combat systems the unit has.

3.5 JTLS-2023-16222 WHIP Map Fails To Search And Right Click Units

The WHIP map was failing to find and produce context sensitive menus for known objects. The internal search function failed, due to other map objects with empty name values.

Additional checks have been added to prevent the map's internal search function from failing when it encounters a map object with an empty name. The core cause of the issue is still being investigated.

3.6 JTLS-2023-16223 Warning 1127 Checks Instantaneous Sensors

Warning 1127 compares the distance an aircraft moves with the maximum surface-based sensor range on board the mission. If the distance an aircraft moves each time is greater than half the distance of its maximum sensor, there will be a gap that is not covered between moves. This logic should only be applied to sensors whose SURFACE DETECTION METHOD is OBSERVED.

The code was modified to ignore those sensors with a SURFACE DETECTION METHOD set to INSTANTANEOUS.

3.7 JTLS-2023-16225 Error 240 Corrections Nonfunctional

The two corrections for Error 240 look identical, and one of them does not work.

Error 240 is reported when a TUP, HUP or SUP does not have a associated graphic symbol. It is also used when either the global GENERAL UNIT or SHIP graphic symbol is blank. Both correction options were worded identically, but the first was intended for TUPs, HUPs and SUPs, while the second was intended for global symbols. So, no matter which error was being reported, both correction options appeared but only one would work.

To correct the issue, Error 240 was retained for reporting bad TUP, HUP and SUP graphic symbols, and new Error 243 was created for reporting missing UNIT or SHIP global graphic symbols. Both errors were reworded to provide a better explanation of the problem.

3.8 JTLS-2023-16229 Warning 1238 Needs Improvement

Warning 1238 is reported when an ELINT emitter has a output power value of zero, and needs to be improved to indicate whether an emitter is used or unused.

The correction message was modified to indicate whether the emitter is used or unused.

3.9 JTLS-2023-16231 Multiple Airlifts For Same Unit Problem

A Player submitted two different orders to airlift a single unit. The destination for each of the orders was slightly different. The unit was unexpectedly placed at the destination location specified in the second order.

When the first mobility mission was processed in the model, the destination was stored on the unit. However, when the second mission was ordered, that destination was overwritten with the new destination.

The code was meant to check if the locations were the same, but that check was not properly executed. This check was corrected and the model now verifies the destination before proceeding with any additional airlift orders. If the destinations do not agree, then the mission enters a wait state and a message informing the Player is generated.

3.10 JTLS-2023-16233 Attack Package Mission Missing Targeting Option

When creating an attack mission in an air mission package, the Player order did not include the option to specify a priority target type for a multi-object attack.

An order field was added to allow the Player to specify a target type for multi-object attack missions in packages. The associated code in the model was modified to incorporate the use of prioritized target types.

3.11 JTLS-2023-16234 IMT Multiple Geo Region Filtering Not Working

When filtering an IMT screen with multiple geographic regions, the table only displayed the last region's objects. This was due to the list of regions in the JXSR request being separated by a comma character, instead of a space.

The request was modified to use a space instead of the comma character to separate a list of regions selected to do geographic filtering.

3.12 JTLS-2023-16235 AAR Improvements Crash CEP

The CEP crashed due to minor coding errors in three different routines, related to improvements to the collection of logistics data in the AAR.

These crashes were caused by argument mismatches, and were corrected.

3.13 JTLS-2023-16236 Synapse ATOT Lock File Not Removed

The Synapse maintains a special lock file for the ATOT for the WHIP on which the ATOT is run. If a WHIP terminates abruptly, this lock file is on the Synapse filesystem. If another WHIP attempts to run the ATOT with an existing lock file already residing on the system, it will refuse to start. Not all of these lock files were being removed properly.

The Synapse command interface needed a special command for removing old ATOT lock files not properly removed from previous use. This capability has been added as a console command and allows users to easily remove the lock file from the Synapse file system. This method prevents Tech Control personnel from having to manually delete the files, their associated metadata file, and restarting the Synapse in order to initialize a new listing of files.

3.14 JTLS-2023-16241 Squadron Combat System IMT Inaccurate Count

Three DCA air missions, each consisting of four aircraft, were launched from a single squadron. The “Unavailable” column in the squadron Combat System IMT showed 12 aircraft, as expected.

The first mission lost three aircraft in combat. The squadron “Unavailable” column decreased to 9, as expected. A Change Mission Parameter order was sent to the first mission to alter its return airbase. The “Unavailable” column decreased to 5 (instead of the expected 8).

The second mission then lost one aircraft and the “Unavailable” column decreased to 4.

The third mission, suffering no losses, was then ordered to return to a different airbase, and the “Unavailable” column decreased to 0.

The second mission was then ordered to return to a different airbase, and the “Unavailable” column decreased to -4.

By design, the “Unavailable” column in the squadron's Combat System IMT contains the total number of aircraft currently active in all missions (i.e. flying or on alert). When the Change Mission Parameter order was sent to a mission, the aircraft transfer logic incorrectly decreased the “Unavailable” column by the number of launched aircraft, which did not take into account that some aircraft may have been lost.

The code was corrected to use the current number of aircraft in the mission to reduce the “Unavailable” count at the parent squadron, and to increase the “Unavailable” count at the divert squadron.

3.15 JTLS-2023-16244 Crash Repairing Runway Twice

The CEP crashed when attempting to repair a runway that did not have any existing cuts. An analysis of the situation revealed that a single cut had been inflicted on the runway, but multiple repair events had been scheduled for the single cut. The first repair event repaired the runway and removed the cut. The second repair event attempted to access the cut, which no longer existed, and crashed.

The code was modified to avoid scheduling a repair event for a runway cut that already has a repair event.

3.16 JTLS-2023-16246 Double Counting Damaged Supplies

Air, Missile, and Artillery attacks against units may result in the destruction of supplies owned by the unit. These losses are saved with a damage event, and are reported to the AAR via the AAR Surface Engagement logic. Additional code was added that also reported these losses via the AAR Other Losses logic, which caused double-counting in the AAR tables.

The code to report the losses via the AAR Other Losses logic was removed.

3.17 JTLS-2023-16247 SEAD Minimum Number For Attack Package

The format of the Manage Attack Package order was modified in JTLS-GO 6.2 to make the order more user-friendly. This resulted in all the fields except the order reference being added to tabs. This required modifications to the code to extract the data from the tabs, instead of from the main order panel. The code to change the minimum number of escorts missions and Suppression of Enemy Air Defense (SEAD) missions needed for package viability was still being extracted from the order, when it should have been extracted from the package tab.

The code was modified to check the proper tab for the changes and adjust the values as needed.

3.18 JTLS-2023-16250 Non-Kill CS With Active Lanchester Debug Crash

The model crashed when the Controller turned on the Ground Combat Lanchester flag if there was a non-killing Combat System in the battle.

An appropriate check was added for this circumstance.

3.19 JTLS-2023-16252 Change Warning 1488 To Prototype Warning

Warning 1488 is generated when there is a possible overlap of Air Search sensors in conjunction with a ADA site. Warning 1488 is specifically created only if all targets involved are Prototype Owned Targets, so it should be a Prototype Warning and not a Unit Warning.

The Warning was renumbered as 1214 and was moved into the Prototype Owned Target checks.

3.20 JTLS-2023-16254 Undefined WHIP Crash

The Shadow game crashed attempting to generate a Player message in response to a pushed order that was sent from a WHIP that did not exist.

The Interface Configuration Program (ICP) database configuration file, which establishes the Player WHIPs, had not been copied from the main game to the Shadow game before starting. The WHIPs were therefore not available in the Shadow game.

To avoid a crash, logic was added when the order is first received for processing in the CEP. If the WHIP is not defined, the Force Side of the originating order is determined from the specified Unit/HRU (if applicable), or from the order's Force Side attribute itself. If neither is valid, the Controller Side is selected. The Primary Player for the Side is then found and assigned to the WHIP.

3.21 JTLS-2023-16256 DDS Command Hierarchy Report Visibility

In the DDS Command Hierarchy Report, Units and Targets use a hyphen to indicate their position in the hierarchy, but the hyphens are too thin to be seen clearly.

The hyphens were **bolded** to make them more visible in the report.

3.22 JTLS-2023-16257 Restart Fails When Air Mission ACM Task Exists

Restarting from an ASCII checkpoint, in which an Air Mission exists that has a task using an Air Control Mean (ACM) area, fails.

The ACM information was being read from the ASCII point after the Air Mission Data. The ASCII checkpoint was good. The model simply needed to read in the ACM data before reading in the Air Mission data. The ASCII restart logic was altered to read the checkpoint data in the proper order.

3.23 JTLS-2023-16258 Unit Move Missile Launch Improperly Updated

If a unit that is scheduled to launch a missile in the future moves, and the launch time is based on a user-specified Impact Time, the model did not properly reschedule the missile launch.

The problem only existed if the missile was designated to attack a target with a specified impact time. A variable that indicates that a target was being attacked was not properly interpreted and so the perceived location of the target was not properly accessed. This has been corrected.

3.24 JTLS-2023-16261 JXSR Reply To Some FILL Requests Not Received

For some orders, the WHIP may send numerous field FILL requests to establish the drop-down lists from which the user may select the desired value. This process greatly reduces the number of values presented to the user, making the order more efficient. For the Manage TPFDD order, the WHIP sends ten FILL requests to the JXSR, but some are returned empty. The request and

reply process is being interrupted. The user must manually refresh each field of the order where the FILL request failed.

The operating system used within the JTLS-GO development environment began more strictly enforcing Transmission Control Protocol (TCP) anti-flood policies. One of these policies prevents the rapid transmit of TCP request packets from the same client over a short period of time, with the idea that some of the request packets would be rejected and a legitimate requester would naturally resend the legitimate requests. This policy started to apply to the FILL request packets the WHIP needed to send for some of the JTLS-GO orders.

The solution was to have the TCP-requesting client simply detect the rejection and send the request a second time. This was implemented in the module used by the Apache process to send requests to the JXSR. The JXSR module was changed so a zero-length reply from an unexpectedly closed connection would wait half a second, and then try resending the request.

3.25 JTLS-2023-16264 Naval Formation Side Change Error

Naval units from different Force Sides belonged to the same formation. A Player from the Side owning the formation sent a Naval Move order to an own-Side vessel in the formation, and the model crashed.

The model logic allowed the vessel to leave the formation, leaving only the vessel from the other Side in the formation. The model correctly determined that the formation Side should change. The routine that changed the Side did not recognize a formation object type, due to a typographical error. As a result, the formation's old Side was not assigned to a local variable. The logic then tried to call an AAR routine to record the event and crashed attempting to access the variable, which had a zero value. The typographical error has been corrected.

3.26 JTLS-2023-16267 Warning 1903 Network Identifier

The message for Warning 1903 does not specify what network type has the problem.

The message for Warning 1903 does not specify the problem is associated with a SEALANE. The word "SEALANE" was prefaced to the existing message.

3.27 JTLS-2023-16272 Update Javascript Makefile

The Makefile template for NodeJS-based Javascript projects expected a package manager to be specified by each project. This was unnecessary and restrictive.

The Makefile template for NodeJS-based Javascript projects was updated to only expect each project to provide clean and build targets. It is then up to the project to determine how to implement those targets. The d3-org-chart project was updated to use this new template.

3.28 JTLS-2023-16274 Warning 1901 Flight Path/Sea Lane Networks

The JTLS-GO master data repository has Flight Path and Sea Lane Networks with overlapping arcs and no node present at the location, creating SVP warning messages and potential movement issues during a game.

All known Sea Lane and Flight Path network arc issues were repaired and saved to the master data repository. If a user organization has used the repository sea lane and/or flight path data in their own scenario, the JTLS-GO Development Team strongly suggests that the new data delivered with this version of JTLS-GO should be used be moved into each organization scenario.

3.29 JTLS-2023-16275 Link 16 Message Service Issues

The Link 16 Message service underwent several large changes this year and several issues were introduced in JTLS-GO 6.2:

- Tracks were not being dropped properly when a user toggled the Send checkbox in the Link 16 WHIP module.
- Missiles were not being accounted for in logic dealing with Air Track messages, and were being treated as Air Missions, which can now send multiple types of messages.
- In an improvement to tracking Altitude Source of Air Tracks of Air Missions, Missiles failed to fill that same value. This resulted in mal-formatted Missile tracks.
- Searching for objects by track or PPLI in the service console was not working correctly due to incorrect parsing of the value.
- The C4I Interface Manual did not state which order needs to be sent to enable Self Tracking PPLIs.

Each issue was solved:

- Tracks are now correctly dropped when users toggle the Send checkbox from the Link 16 WHIP module.
- Missiles are now accounted for in logic specifically dealing with Air Track message types.
- Missiles now explicitly fill their Altitude Source value, resulting in correctly formatted Air Track messages.
- Searching for objects by track or PPLI number in the service console is now possible.
- The C4I Interface Manual has been updated to state that Self Tracking PPLIs can be enabled through the Controlled Debug Flags order.

3.30 JTLS-2023-16276 Logging JODA Stops When Primary JODA Restarted

The Logging JODA records data packets from the Primary JODA in a log file for later replay using the TRIPP. When the Primary JODA is restarted, the Logging JODA simply stops recording. It does not receive any further data even after the Primary JODA is restored and running following its restart.

The Logging JODA typically makes a connection to the Primary JODA and receives data packets continuously through this connection. When the Primary JODA is stopped, the connection is closed, but the Logging JODA was not being notified of this closed connection. The Logging JODA continues to wait for packets from the closed connection.

The Logging JODA was changed to register a function to be called when the connection to the JODA fails or is closed. This way, the Logging JODA will be notified when the connection is lost to the Primary JODA and begin the reconnection process. Data will be received and processed once the Primary JODA is restarted.

3.31 JTLS-2023-16279 OTHGold Handle NATO Classifications

The OTHGold message headers contain the first character of the message classification. If the classification is NATO UNCLASSIFIED, this resulted in N as the first character, which is incorrect. The OTHGold message service should handle NATO classifications appropriately.

The OTHGold message service was updated to parse NATO classification strings and output the appropriate first letter of the classification, such as U for UNCLASSIFIED or S for SECRET.

3.32 JTLS-2023-16280 Add JTOI ICC 3.5.0

ICC version 3.5.0 was released, requiring updates to the JTOI for support.

A JTOI for ICC version 3.5.0 has been created. The JTLS-GO menus have been updated to list this new version. Additionally, the many JTOI projects have been moved to a common directory under the main source tree.

3.33 JTLS-2023-16281 NECCIS Supports Longer Squadron Names

Northern European Command - Command and Control Information System (NECCIS) had a limitation of 8 characters for unique squadron identifiers. This length has been updated to 30 characters. The NECCIS JTOI required updates to remove handling for the old limitation.

The NECCIS JTOI no longer truncates squadron identifiers to 8 characters.

3.34 JTLS-2023-16283 Update JTLS-GO LOGFAS Interface

JTLS-GO produced a NATO Logistics Functional Area Services (LOGFAS) initialization file and updated the LOGFAS using an XML file for LOGFAS Version 6.0. This version of the LOGFAS XML

file is no longer supported by LOGFAS, so JTLS-GO could not provide an initialization file for the system.

A number of changes were made to support the LOGFAS upgrade:

- The SIP was modified to produce a LOGFAS initialization files using the Version 8 format.
- The SIP will ingest an optional LOGFAS XML file that specifies equipment weight and dimensions, and use the data in its initialization file.
- The SIP will ingest a new 2525 symbology XML file that links a symbol's hierarchy to its ID Code. The hierarchy is then used in the Force ID for units and HRUs, as desired by LOGFAS personnel.
- The JLOI was updated to produce the Version 8 XML files for a running game.
- The JLOI was modified to read a LOGFAS XML file and produce a mapping between unit names and the Force ID, and between Item RIC values and the Item ID, and use the Force ID and Item ID when producing XML update files.

3.35 JTLS-2023-16286 Terrain Report Fails For Equipment Shelters

If a grid contains an Equipment Shelter, the Terrain Report fails and cannot be viewed.

The code used to close the Equipment Shelter submessage was incorrectly formatted. This has been corrected. A similar error was discovered for grids containing chemical or nuclear contamination, which was also corrected.

3.36 JTLS-2023-16289 OTH-Gold Country Code Format

The Maritime Command and Control Information System (MCCIS) system does not recognize "GE" as a valid country code when sent with OTH-Gold messages. This is because JTLS-GO has always sent NATO DiGraph codes, and "GE" is the valid code for Germany. We have always assumed this disparity was the result of an error in MCCIS, but OTH-Gold does not use NATO DiGraphs, and has its own version of country codes that JTLS-GO does not have.

We obtained valid country codes for OTH-Gold and have added them as a valid format to the XML file that holds all the recognized JTLS-GO formats and values. The various code that accesses the country code file has been updated to read and recognize this new format.

3.37 JTLS-2023-16290 PSQL Statement Fails For SVP Warning Correction

When running the SVP, correcting the First Adjust Supply Time for units whose TPFDD Time was changed to a value greater than 365 days caused the PostgreSQL psql update statement to fail. This error was caused because of a 365 day upper limit for the First Adjust Supply Time.

All time database attributes had their time limits changed to unlimited to match the constraint of a unit's TPFDD time. Implementing this consistency eliminated the possibility of future errors.

3.38 JTLS-2023-16292 Insufficient Help Fields For Create Unit Order

The Create Unit order did not contain useful information in the help fields for the CQR data.

The relevant help fields were improved.

3.39 JTLS-2023-16293 No Range Rings For New Targetable Weapon

When a Controller added a new targetable weapon to the game, the weapon was available for firing, but no range rings could be displayed for it.

When created, the new weapon was not properly added to the weapon items held by any owning units. This meant that the supply check found no associated supplies, so the range ring was not created. The code was modified to correctly initialize the data at the owning units.

3.40 JTLS-2023-16294 DDS Command Hierarchy Report Incorrect

The DDS Command Hierarchy Report sorted its results unnecessarily and incorrectly.

The Sort statement was removed from the report.

3.41 JTLS-2023-16296 GIS Tool Sea Lane Maximum Arc Length

A user applied the Maximum Arc length criterion to the Sea Lane Network and observed that, while some arcs were sub-divided correctly, there were other arcs that were not divided at all.

The problem was that a set that was supposed to keep track of arcs that have been processed was not being filled properly. That problem has been fixed.

The Air Corridor and Sea Lane Networks in the GIS Tool's default database contained a number of overlapping arcs. These networks were updated.

3.42 JTLS-2023-16299 Unnecessary Fire Artillery Unit Check

The Fire Artillery order has an option for selecting the Unit that should be attacked. This selection indicated that if a Controller submits the order, any unit in the game can be fired upon. It is impossible for the Controller to submit a Fire Artillery order, so the option made no sense.

Although wrong, the Controller option had no impact on the way the Fire Artillery Order operated. It was confusing to leave the option within the order definition, so it was removed.

3.43 JTLS-2023-16301 JSAT Route Point Times Round-Off Errors

When the JSAT was used to create satellites in the game, the times specified for the route points did not always correspond to the intended schedule of points. If the interval between points was meant to be one minute, consecutive points would sometimes be assigned the same time, and sometimes be separated by two minutes.

The erroneous times for the route points were seen in the order which was submitted to the CEP to create the satellites. Code for the JSAT had round-off errors, which resulted in bad times in the output orders. The code was corrected and these errors were eliminated.

3.44 JTLS-2023-16305 Alternate WHIP World Map

The current world map displayed by the WHIP shows a border between Morocco and Western Sahara. Neither Morocco nor the United States recognize this border and it should be removed from the world map.

JTLS-GO will provide two world map files with each future release:

- The shape file `ne_10m_admin_0_sovereignty_ws.shp` contains the legacy Morocco-Western Sahara border. This is the previous world map shape file, which has been renamed to indicate that it contains the Morocco-Western Sahara border.
- The shape file `ne_10m_admin_0_sovereignty.shp` does not contain the Morocco-Western Sahara border. This is a new file, but has the same name as the older world map shape file. The WHIP will use this file by default.

If a user prefers to see the border, they can refer to Section 6.3.2 of the *JTLS-GO Technical Coordinator Guide* for instructions on how to switch to the alternate shape file.

3.45 JTLS-2023-16306 Mission Load Memory Leak

There was a memory leak in the routine that initializes mission loads when an air mission is first created or when its load is changed by the Change Mission Parameter order.

The logic first creates the new load as specified in the order (or determined by the database default). Before accepting the new load and assigning it to the mission, the logic checks the load's validity. If the load's assets (weapons, sensors, and jammers) are not appropriate for the mission type and target list (if any), the new load is rejected. However, the newly created load was not deleted from memory in this case. Code was added to do so.

3.46 JTLS-2023-16309 Incorrect Identification Codes For Symbols

Some of the JTLS-GO 2025 Symbols had incorrect or missing Identification Codes.

The symbols that had incorrect or missing Identification Codes were corrected. The related scenario.gs files were re-generated using the JSYMS application. Chapter 1 indicates how a user can use the newly delivered codes with their organization scenarios.

3.47 JTLS-2023-16311 WHIP Manage Locations, Filters And Views

After saving WHIP Map Locations, Filters and Views, the Manage dialog did not use the proper file extension when performing a Rename or Copy of the saved item. This caused the Synapse service to reject the request, making the saved item unavailable including when restarting the WHIP. The saved name also did not display the full name when the name contained periods.

The Rename and Copy options now use the proper file extension when interacting with the server. Saved names containing periods now display the full name.

3.48 JTLS-2023-16312 WHIP Client Certificate Access By Alias Unnecessary

When enabling JTLS-GO to run with PKI, the WHIP was accessing the certificate from the provided PFX file with an incorrect alias name. This step is not needed to configure the HTTPS connections with the client certificate.

Access to the client certificate by alias name was removed.

3.49 JTLS-2023-16313 JODA FIND Command Missing Search Option

The JODA does not allow a FIND command to include an object class and an object name while conducting a search of the repository. The current FIND will accept an object class and an ID, but not the name of an object. This requires the user to know the ID of the specific object in order to find and display it.

The JODA service has several options for searching and displaying objects in its data repository. Each option includes one or more arguments that are used as the criteria to refine the search and yield a smaller set of objects matching the search. The two-argument FIND option includes an object class and an ID number. The resulting search of the repository locates all objects having the specified ID and specified object class.

The JODA code for the FIND option was modified to also use an object's name as the second of the two-argument FIND command. This new command requires parentheses enclosing the name whenever the name includes spaces. The command has been documented in the *JTLS-GO Technical Coordinator's Guide*.

3.50 JTLS-2023-16314 Remove Buffer Overflow Issues In Libraries

JTLS-GO code used the strcat, strcpy, and sprintf functions, instead of the more secure strncat, strncpy, and snprintf functions, within some of the JTLS-GO libraries. These libraries are used by a number of programs within JTLS-GO, introducing the unsafe code into each of those programs.

The JTLS-GO library functions had all uses of the `strcat`, `strcpy`, and `sprintf` functions switched to the more secure counterparts.

3.51 JTLS-2023-16315 AAR Filtering Interface Cut Off Last List Item

The AAR Filtering Interface cut off bottom of the list of selection items, so the last item cannot be selected.

The preference size settings for the table panel were removed, because the dimensions were set to a fixed value and were not adjustable.

3.52 JTLS-2023-16316 Removing WHIP And DDSC HTTP Support

Two instances of Apache could not run on the same server, due to an HTTP port number conflict.

The development team decided to completely remove support for insecure HTTP from JTLS-GO. Only HTTPS will be supported in the future.

3.53 JTLS-2023-16317 AARC Performance Issues

The CEP generated over 1.8 million AAR Logistics Usage packets when assessing Lanchestrian combat for a wespac62-sized scenario. The AARC was not able to read and process this number of records from the JODA in a timely manner. This caused the queue to back up on the JODA side until, via numerous Assess Combat events, the queue grew too large and the JODA disconnected the AARC.

An additional issue has been noted at recent exercises where, when restarting the AARC for a running game, the restart can take half an hour to process the existing Pending Tasks within the database, which can number in the hundreds of thousands.

A review of the AAR Logistics Usage events was performed and numerous places were discovered where events were being sent when the data should have been accumulated and then a single event for the accumulated data sent. This reduced the number of records being generated by an Assess Combat event to less than 1% of the previous number.

As a fail-safe, to prevent such situations from adversely affecting an exercise, code was also added to permit the Controller to turn off the collection of some AAR data on the CEP side, thus preventing the JODA packets from being created.

The retrieval of existing objects within the AARC was modified to ignore objects that have already had a destroyed event, thus reducing the number of Pending Tasks that must be processed on startup.

3.54 JTLS-2023-16318 WHIP Save Dialog Used Incorrect File Path Delimiter

The WHIP was not using the forward slash ("/") file path delimiter when preparing the file name and path location for a save on the server. Instead, the file path delimiter was based on the operating system's convention, and this caused a save to fail when running the WHIP on Windows.

The save dialog was corrected to use the forward slash when preparing the save request to server.

3.55 JTLS-2023-16319 JTOI ICC 3.0.2 Library Fails To Build

The ICC JTOI for version 3.0.2 builds a library that is linked with the executable. After an update of its build process, the library was failing to build.

The makefile responsible for defining the library build process has been updated.

3.56 JTLS-2023-16320 DDS Map Does Not Show Last Saved View

When the user launches a DDS client, the Map supposed to show the last saved view if the previous session had several views. However, the DDS client always showed the default center view, instead of the last saved view.

The code written to retrieve saved map properties file only worked when the Glassfish server was running with the http protocol. However, Glassfish now only runs under https protocol, so the client always received a 404 error when retrieving the file, and the saved map properties could not be loaded. The code is now fixed to retrieve the file with the https protocol as well.

The same problem also existed for the custom-defined filter region. This problem is now fixed as well.

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.

The following list of issues is known and have not been fixed in time to make it into this release of JTLS-GO 6.2.2.0.

- The ATOT Spreadsheet Parser has been found to have numerous issues within the Spreadsheet format that are not caught and cause the spreadsheet parser to crash. Fixing the uncovered issues are being worked and should be fixed prior to the next maintenance release of the JTLS-GO 6.2 series.

APPENDIX A. ABBREVIATIONS AND ACRONYMS

Terms are included in this Appendix to define their usage in JTLS-GO 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
EI	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
JTLS-GO	Joint Theater Level Simulation - Global Operations
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
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

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
pD	Probability of Detection
pE	Probability of Engage
pH	Probability of Hit
pK	Probability of Kill
PKI	Public Key Infrastructure
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

APPENDIX B. VERSION 6.2.0.0 DATABASE CHANGES

Refer to the JTLS-GO 6.2.0.0 Version Description Document (VDD) for the list of database changes between the JTLS-GO 6.1 series and the JTLS-GO 6.2 series.

APPENDIX C. VERSION 6.2.0.0 REPOSITORY CHANGES

The R&A Database Team is continually adding and vetting unclassified data to expand and maintain the JTLS-GO Data Repository. Over the last year as part of the JTLS-GO 6.2 development effort, this entire process has been conducted in both the JTLS-GO 6.1 and JTLS-GO 6.2 versions of the repository. No specific, unique, additions were made to the JTLS-GO 6.2 repository. The repository delivered with this initial version of JTLS-GO 6.2 contains the same data as the JTLS-GO 6.1 version of the repository, except the format has been altered to meet the requirements of JTLS-GO 6.2.

Although R&A will continue to support JTLS-GO 6.1 for a minimum of one year, from here forward, all repository work will only be accomplished within JTLS-GO 6.2 only.