

RELEASE NOTES for MIWS Version 3.0

These notes are intended to inform the user community of recent developments or special concerns relating to a release of the Marine Air-Ground Task Force (MAGTF) Tactical Warfare Simulation System (MIWS).

A complete and detailed list of additions and corrections related to this version is contained in the MIWS Version Description Document (VDD). Issues and recent developments which have not yet been incorporated into MIWS documentation are included here for system operator and user information.

Note: The use of MIWS software in forms other than a complete installation is not recommended. With respect to all MDS (Maui) stations, any application running on a Maui workstation during the execution of Maui, or any of the other Maui software suite applications (e.g. MapGen or Apex), is not advised. Running extraneous programs during the execution of any of the components of the Maui software suite may severely degrade Maui's performance.

**** General Notes ****

**** Port to Linux

The MAN and MSC components have been ported from the HP-UX platform to the PC/Linux platform. This version has been developed and tested to run under the Red Hat Linux v7.2 operating system; kernel version 2.4.7-10smp. See Volume IV of the version 3.0 documentation suite for details on configuring the operating system; and for minimum hardware requirements.

This port necessitated modifications too numerous to identify individually. Some of the key changes resulting from this port are discussed in the "Port to PC/Linux" section below.

Note that there is no HP-UX-based equivalent of MIWS v3.0.

**** CART

In MIWS v3.0, the Combat Analysis and Review Toolkit (CART) replaces the MIWS After-action Review System (MARS). Generally speaking, CART consists of a database server, and one or more client workstations. Each client workstation includes a web browser, plus a graphical user interface. The graphical user interface is provided by the Maui software executing "in CART mode". Several of the notes below address issues regarding running Maui software "in CART mode" (also referred to as the CART client) and "in Maui mode". See Volumes IV and V of the MIWS documentation suite for information on installing and running CART.

**** Command Entry Rule Files

As of v3.0, the command entry rule files no longer reside on the MSC, but rather, have been integrated into the Maui software suite, residing on each Maui workstation in compressed format.

A 'Send Rule Files to the MSC' option has been added to the Maui installation. This utility will send the uncompressed rule files and associated command entry files to the MSC for use by the batch file conversion program (see next paragraph). This utility need only be run once to place the files on the MSC for the batch file conversion program to access. This utility is also available, post-Maui software suite installation, in the MIWS Tools folder on the Maui workstation.

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**** Batch File Conversion

Conversions are required to upgrade existing batch files from v2.3 to v3.0. This is due to the addition of a new parameter - Minimum Number of Aircraft - to the AIR_MISSION; DEFINE command. It is necessary to convert all v2.3 batch files prior to their initial use with v3.0. See /mtws/bin/README.Batch_Convert for instructions on converting batch files.

**** Parametric Data Baseline

A revised version of BASELINE parametric data is part of Apex v3.0. This data set is a combination of the v2.3 baseline; plus the v2.3 ALSP_BASELINE data set; plus v3.0 modifications. Note that the ALSP_BASELINE data set no longer exists.

The BASELINE parametric data set must be loaded into the MTWS v3.0 software after it is installed. User-defined parametric data from v2.3 must be cycled through Apex v3.0 before it will work with the MTWS v3.0 software. See the 'Parametric Data' section of the 'MTWS Installation' chapter in Volume IV of the v3.0 documentation suite for details.

**** Port to PC/Linux ****

**** Number of MAN Hosts Supported

The number of MAN hosts supported has been reduced from 6 to 2. Due to significant increases in performance derived from the port to the PC platform, 6 MAN hosts are no longer necessary.

The recommended configuration is a single MAN host. Performance tests using one PC MAN host show an increase in performance of approximately 6 times over a 4-MAN TAC-4 system. In the table below, the PCs used were dual processor 1.8GHz Dell 4600s.

	Ground Combat Cycle Time	Intel Cycle Time
4-MAN TAC-4	31 - 32 sec	41 - 51 sec
2-MAN PC	12 - 14 sec	12 - 14 sec
1-MAN PC	6 - 7 sec	6 - 7 sec

Note that the performance of the 1-MAN PC configuration is approximately twice that of the 2-MAN PC configuration. This is due the increase in overhead involved in synchronizing the database between two MAN hosts. The tests from which this data was derived do not measure the full range of system performance. However, in all tests to date, the performance of the 1-MAN configuration equals or exceeds that of the 2-MAN configuration.

**** MSC Desktop Environment

The default desktop environment configured by the MTWS installation for the MSC, MAN, and CART server hosts is the K Desktop Environment, or KDE. An alternative desktop environment, GNOME (part of the Gnu project), is also available as part of the Red Hat Linux v7.2 distribution. The KDE environment is recommended. See the 'Selected Deficiencies in MTWS v3.0' section below for discussion of GNOME-related issues.

**** Deletion of smpadrg and addition of MapGenPlus

With the port of MTWS to PC/Linux, the smpadrg tool used to convert ADRG map data to MTWS GeoTIFF maps is no longer supported. In its place is a Maui

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resident utility program called MapGenPlus, which is available from the MIWS Tools folder on the Maui workstation. It is also accessible while running Maui via the Maui main map's Tools menu. See Maui Help for more details on how to use this application.

**** Deletion of the Kernel Configuration Parameter Checker (Config_Checker)
This was an administrative tool that evaluated the kernel parameters of MSC and MAN HP-UX Unix workstations. There is currently no Linux equivalent.

**** MAN/MSC ****

**** Maritime Capability
Significant enhancements to MIWS's maritime model are the primary functional difference between version v3.0 and previous versions of MIWS. The enhancements include the introduction of submarines, sonars, and airborne ASW capabilities. These capabilities are discussed and explained fully as part of the training for MIWS v3.0.

**** Consolidation of Unit Asset Reports
In previous versions, terminal operators frequently needed to obtain both Summary and Detailed Unit Asset reports to obtain all the information they needed. Only the Summary report provided unit fuel, rations, and water data; and only the Detailed report provided a break-down of casualties and equipment by damage type.

The Summary report has been modified (SCR 13470) to provide fuel, rations, and water data; and a break-down of casualties and equipment by damage type. In addition, the Summary report now also provides the name of a unit's higher headquarters. As a result of these changes, the Detailed Unit Asset report became redundant, and was therefore deleted (SCR 15760).

**** Multiple Simultaneous NGF Fire Missions
The following changes were made to parametric data so that ships (NGFS) could fire multiple simultaneous fire missions.

1. The 5/54-NAV-GUN was removed from the TO/TEs of the NGFSs.
The SACs for these TO/TEs are:
 - o Ship/Company/USN/CA_CLASS
 - o Ship/Company/USN/KIDD_CLASS
 - o Ship/Company/USN/SPRUANCE_CLASS
 - o Ship/Company/USN/TI CO_CLASS
 - o Ship/Company/USN/VA_CLASS
2. The 5/54-NAV-GUN was made the primary weapon and a secondary weapon of these ships. The ships are:
 - o CALIFORNIA-CLASS
 - o KIDD-CLASS
 - o SPRUANCE-CLASS
 - o TICONDEROGA-CLASS
 - o VIRGINIA-CLASS.

This pattern must be followed for any newly-defined NGFS. That is, for a newly-defined NGFS to be able to fire multiple simultaneous fire missions, the 5/54-NAV-GUN, or similar asset, must not be a part of the TO/TE definition; and it must be both the primary weapon and a secondary weapon of the NGFS.

**** Daylight Savings Time

MIWS software does not attempt to account for daylight savings time. All MIWS times are expressed in Zulu and/or some other standard time zone - zone R for the east coast of the US; zone U for the west coast; etc. Changes between standard and daylight savings times do not affect Zulu (or other standard time zone) times. This is why Zulu is a standard. For example, when the east coast of the US switches to daylight savings time, the difference between zone R and zone Z is unchanged. Local clocks' relationships to R and Z times change, but not R and Z times themselves.

MIWS time calculation software is based upon the time of day as determined by the operating system on the MSC host. The operating system must be configured to ignore/not recognize daylight savings time. Otherwise, if an exercise is running when the local time switches from standard to daylight savings time, the exercise time will "jump" ahead one hour. To configure the system to ignore daylight savings time, force '/etc/localtime' to point to a 'zoneinfo' file that does not implement daylight savings time. The simplest way to do this is, as the 'root' user, enter:

```
In -sf /usr/share/zoneinfo/GMT /etc/localtime
```

This will force the system to use Greenwich Mean Time (GMT) as the system time.

**** Exercise Clock Synchronization

Previous versions of MIWS supported the option to run with clock synchronization either enabled or disabled. This option is no longer supported. The system always runs as if clock synchronization were enabled. This means that exercise time will advance only when all MAN applications have completed their processing for the current minute.

The concept of disabling clock synchronization was introduced as a mechanism for avoiding situations where the relatively long cycle time of some MAN application would, if clock synchronization were enabled, retard the advance of exercise time. Improvements in the performance of the software, coupled with the improved throughput of the Linux hosts to which the system has been ported, have made this capability obsolete.

**** "Can Not Advance Clock" Alerts

A sequence of alerts with the following form is sometimes generated.

```
WARN : Clocks.Ex_Clock: Can NOT advance clock - waiting for: MANxxx
WARN : Clocks.Ex_Clock: Clock Slip this cycle: (x) seconds
WARN : Clocks.Ex_Clock: Total Clock Slip (x) seconds
```

The MSC attempts to update the system time every 15 seconds; or every 60 seconds when joined in a Joint Training Confederation (JTC, formerly ALSF) confederation. The above sequence of alerts will be generated whenever a MAN host has not completed its processing within 15 seconds. When this happens, MSC delays the system time update until the MAN host is finished. If this time is more than five (5) seconds, the "Clock Slip this cycle" and "Total Clock Slip" alerts are generated. If this time is less than 5 seconds, only the "Can NOT advance clock" is generated.

This alert sequence is rare. It occurs relatively often during the first minute of an exercise; but only under relatively stressful circumstances thereafter. These alerts are intended to give some insight into the level of load under which the system is running. There is no cause for concern unless the "Clock Slip this cycle" is large - e.g., on the order of a minute.

When running in real time (1:1 clock rate), the system will attempt to make up for clock slip by shortening the system clock update period, until clock slip has been reduced to zero.

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**** Maximum Number of Asset Types

The MAN and MSC software has a hard-coded maximum of 3,000 types of assets. To configure the system to use a parametric database with fewer than 3,000 assets, add the following entry to the /mtws/db/max_sizes file:

Para_Data_Assets xxxx

where "xxxx" is the number of different types of assets in the parametric database. Note that this value cannot be larger than 3,000. Also note that there is rarely, if ever, an advantage in doing this. Configuring the system to accommodate 3,000 asset types, but actually having only e.g. 1,500 asset types, is technically a waste of memory; but there is no associated performance penalty. The only known case where this might be of some benefit is in an exercise with a very large number of units and assets, but only e.g. 300 asset types (note the distinction between assets and asset types). The large numbers of units and assets will require large amounts of memory; and reducing the memory required for the number of assets types may be of significant benefit.

**** Controller Selection on MSC

All spot reports are automatically sent to MSC's spot report window; and are logged on the MSC. It is no longer possible, or necessary, to select/de-select controllers on the MSC.

**** MWS Start-up

The MDS interface can no longer be enabled prior to exercise start-up. It becomes available after `Start Applications` is complete.

**** Maui ****

**** Default Memory Utilization

The default maximum Java heap memory utilization for Maui and the CART client is set to 512 MB. This imposes an unnecessary limitation for machines with more than 512 MB of memory. See Volume IV of the MWS documentation suite for instructions on modifying the maximum Java heap memory utilization for Maui and the CART client on machines which have more than 512 MB of memory.

**** Filters and Profile Settings

The Maui Filters interface has been changed to accommodate the modification and addition of filters running Maui in CART mode as the CART client. Modification of some filters, including environment settings, are user privilege protected. CART filters which are not applicable to Maui are not available while running Maui. New CART filters also are not currently available in Maui.

When exiting Maui, filter settings are saved to a Maui user profile. When exiting the CART client, filter settings are saved to a CART user profile. While running Maui or CART, a 'Restore' option is available, by which either the last saved 'Profile Settings', or the 'Default Settings' defined at installation time, can be restored. Restoring from 'Profile Settings' restores the filters to the last saved settings for the Maui or CART client's profile, depending on the mode in which the application is currently being run. 'Default Settings' restores the filters to the installed settings.

Note that separate profiles are created for each user/workstation running Maui, versus running the CART client. Therefore, a given workstation may have

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different object filter - and other (e.g., controller selection) - settings when running Maui versus when running the CART client.

**** Filters for CE Batch and Command History

A filtering feature has been added to CE batch and command history interfaces. The lists of batch files, and master batch files; and the list of commands in the command history window, can be filtered to display only those entries which meet the filter criteria.

Note that these settings are saved as part of the user profile (see previous section) when their windows are closed or when Maui is exited. The filter must be modified if the user wishes to view a different set, or all, entries. See Maui Help for more details on how to use these features.

**** Batch File Submission

The interface for batch file submission has been modified to accommodate the viewing, editing, and validation of batch files during batch file submission. See Maui Help for more details on how to use these features.

**** Map Zoom Defaults

The default zoom in (F3) has been changed from 1/10 to 1/2.
The default zoom out (F2) has been changed from 10x to 2x

**** Log Files

In addition to Maui's Alert.log, System_Err.log and System_Out.log, Command History, Spot Report, and C4I log files are now automatically saved upon graceful shutdown. These logs are time-stamped and saved in similarly named folders under the \MauiData\logs\app directory on the same drive in which Maui was installed.

As a reminder, unlike the MIWS folder, which is deleted as part of the Maui Software Suite installation process, \MauiData and its subfolders are not deleted. An option is provided during installation to delete the log folders. It is advised to periodically archive and clean up these log files if disk space is at a premium.

**** Command Entry Context-Sensitive Map Selection

A change has been made in determining which icon is selected from the map when multiple icons are included in the map click. The selected icon is based on the context of the parameter in the command entry form to which the data is to be entered. This prevents data that is not applicable for the current command parameter from being entered into the form.

For example, with the UNIT;MODIFY command, unit ID parameter, a click on the map on a group of icons will place the name of the first icon of type unit into the parameter form. If no units have been selected, no data will be placed into the parameter form.

**** Chain of Command

A feature has been added to Maui, and to the CART client, which allows the user to graphically display the current chain of command; and to view, print, or save a chain of command report. See Maui Help for more details on how to use this feature.

**** Right-Click on Icon for Info

A feature has been added to Maui which provides quick access to commonly used operations for MIWS simulation objects (icons) displayed on the map. Right-

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clicking on an icon brings up a short menu of operations specific to that icon or set of icons, allowing the user to quickly access a command, a report request, or object details about the selected icon. See Maui Help for more details on how to use this feature.

**** TerrGen Installation

The terrain generation tool, Terrgen, has been added to the Maui Software Suite installation as an installation option. Due to a limitation in the current version of TerrGen, the application only works properly when run from a virtual or physical drive letter of 'D' through 'I'. Because of this limitation, the installation of TerrGen is not allowed on systems with only a single hard drive, drive letter 'C'. See the 'Selected Deficiencies in MTWS v3.0' section, below, for known TerrGen deficiencies.

**** Apex ****

**** Parametric Data - Context-Sensitive Help

A context-sensitive Help capability has been added to Apex. For help on a parametric data element, select the element with the cursor, and press the F1 function key. Note that the Help is displayed at the position of the cursor. Once an element has been selected, the cursor may be moved away from the data element before F1 is selected, so that the Help does not obscure the relevant data.

**** Invalid Unit Type/Hierarchy Combination

Any user-defined parametric database populated into Apex containing an invalid T0/TE, will be interpreted by Apex as having an empty 'Unit Hierarchy' field. If the user accesses a record with one of these invalid unit type/hierarchy combinations, a message will be displayed indicating that the hierarchy is invalid for the given unit type.

If no changes are made to these invalid T0/TE entries, the invalid combinations will still exist in Apex; and will be loaded into an exercise. They will not be accessible from Command Entry, and so cannot be used to create a unit via Command Entry. However, if they exist in a batch file, they will generate a batch file submission error when submitted, and can be corrected at that time.

The following T0/TE records were deleted from BASELINE parametric data because they are no longer valid.

SAC	TYPE	HIERARCHY	SUBTYPE
NKPA	SUP	BATTERY	SUP
OPFOR	SUP	BATTERY	SUP_NI
OPFOR	SUP	BATTERY	SUP
ROK	SUP	BATTERY	ARTY
USMC	TANK	SQUAD	TK_SCOUT
USMC	SUP	BATTERY	ARTY
USMC	AD	SQUADRON	HQ
USMC	AD	SQUADRON	MACS

**** Parametric Data - Known Invalid Type/Subtype Entries

The following T0/TE unit type/subtype combinations in Apex do not work correctly.

TYPE	SUBTYPE
----	-----

TPT DS_TRANS
 AA DET_AVV
 ARTY ARTY_105T

Even though the items exist in the unit subtype list in the database, Apex extracts this data incorrectly. As a result, Command Entry displays these subtypes in lists as 'DS-TRANS', 'DET-AVV', and 'ARTY-105T', respectively ('_' is incorrectly replaced by '-'). Because of the name mismatches, these subtypes cannot be used in Command Entry.

For example, using the UNIT_DEFINE command to create an ASSAULT AMPHIBIAN unit with a subtype of DET-AVV returns the error response "Invalid Conversion". Similarly, using the UNIT_DEFINE command to create an ARTILLERY unit with a subtype of ARTY-105T returns the error response "Invalid Conversion". Finally, using the ASSETS_TRANSFER command to transfer BY_TOTE, using a subtype of DS-TRANS, returns the error response "Unable to find T0/TE entry".

Since these subtypes cannot be used in Command Entry, they should not be used to create T0/TE entries.

**** Apex: Changes to Baseline Parametric Data
 The trafficability percentages for tracked and wheeled vehicles have been changed for the listed obstacles as follows.

OBSTACLES	FOOT (FROM/T0)	TRACKED (FROM/T0)	WHEELED (FROM/T0)	L/CRAFT (FROM/T0)	SHIP (FROM/T0)
AT-DITCH	0.90/0.50	0.50/0.00	0.20/0.00	1.00/1.00	1.00/1.00
BARBED-WIRE	0.80/0.50	0.90/0.90	0.85/0.85	0.90/0.50	1.00/1.00
CRATER	0.90/0.50	1.00/0.00	1.00/0.00	1.00/1.00	1.00/1.00
LOG	0.80/0.50	0.70/0.70	0.70/0.00	0.80/0.00	1.00/1.00
STEEL-BEAM	0.80/0.50	0.60/0.00	0.50/0.00	0.70/0.00	1.00/0.00
TETRAHEDRON	0.90/0.50	0.90/0.00	0.90/0.00	0.70/0.00	1.00/0.00

 **** Selected Deficiencies in MIWS v3.0 ****

 The following describes selected known deficiencies and, if available, workarounds, found in MIWS v3.0. Those chosen for inclusion below are deficiencies which may cause unexpected or confusing operational behaviors in MIWS and its subsystems including Maui, Apex, MapGen, and CART.

MSC DESKTOP ENVIRONMENT

Problem:
 In the KDE and GNOME environments, a menu on the desktop can sometimes hang/freeze.
Solution:
 Press the <Escape> key.

GNOME DESKTOP ENVIRONMENT - UNEXPECTED WINDOW CLOSURE

Problem:
 Under GNOME, clicking on the icon in the upper left-hand corner of some MIWS windows - especially the ALSP translator windows - closes the window, and un-gracefully terminates the associated application.
Solution:
 Use the recommended KDE desktop environment.

GNOME DESKTOP ENVIRONMENT - WINDOW POSITIONS

Problem:

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Under GNOME, windows are initially positioned at the upper left-hand corner of the display.

Solution:

This behavior can be corrected, for 'primary' windows, by placing each window at its desired position; and then selecting History->Remember Position from the window's system menu. There is no known way to correct this problem for 'secondary' /' pop-up' windows.

MARITIME: A0 AND STS ON SAME MAN HOST (no SCR)

Problem:

Air missions cannot launch torpedos unless the A0 and STS applications reside on the same MAN box. SCR 15118 modified the application/host mapping so that, by default, A0 and STS reside on the same MAN host. However, the user may still elect to assign these applications to different MAN hosts, which will render air missions incapable of launching torpedos.

Solution:

Do not change the default application distribution settings.

TIMED SUSPEND NOT SAFE FOR RESTART (SCR 15446)

Problem:

A timed suspend (using the CLOCK;ADVANCE command) causes the system to immediately go into SUSPEND when the specified time is reached, without waiting for the applications to finish their processing. If a shutdown is performed after the suspend, it is likely that a restart at end will be corrupted.

Solution:

Do not perform a shutdown immediately after the system indicates that SUSPEND has been achieved. Monitor the Cycle Time and Database metrics in MSC's exercise status window. Continue to refresh these metrics displays until they indicate all cycles have ceased; and all database updates have ceased. Then, put the system into ADMIN state; this will cause all database updates to be flushed to disk. It is then safe to shut down the system; and it is also safe to perform a restart at end.

CLOCK RATE AND ADVANCE HANG CLOCK (SCR 15642)

Problem:

Using the CLOCK;RATE command, if you enter HH:MM duration for rate or DTG for which the rate expires, the exercise clock hangs when the rate expires. Also, using the CLOCK;ADVANCE command, if you enter a ZULU DTG and select "do not suspend", the clock hangs when the entered time/rate expires. The clock advances one minute when the selected rate/time expires and then it hangs. This is an intermittent problem.

Solution:

The operator can restart the clock by entering a clock rate without a designated time.

MSC: CLOCK ADVANCE OVERRIDE (SCR 15643)

Problem:

Using the CLOCK;ADVANCE command, if a command is entered to advance the clock for e.g., two hours; and then, before the clock has advanced two hours, another command is entered to advance one hour, the second command is ignored. The clock continues to run past the second time entered.

Solution:

None.

CADRG PROCEDURES (SCR 14848)

Problem:

The MapGen tool (part of the Maui Software Suite) does not gracefully

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handle attempts to convert CADRG maps to TIFF that exceed the bounds of the application, or host system's memory.

Workaround:

If the application 'crashes' or an error message " " appears, try splitting the source map into smaller pieces; and then restart the application, specifying the coordinates for each of the smaller maps. It may be necessary to re-run the application for each of the smaller maps to be processed.

Note: The application should be restarted every time a map is generated. During its execution, the application allocates memory, but does not free it. Restarting the application frees this memory.

MAUI/C4I: HIERARCHY RADIO BUTTON DOES NOT APPLY (no SCR)

Problem:

When setting up C4I output channels, selecting the 'Hierarchy' radio button should automatically enable the 'Hierarchy Routes' button, allowing the user to access the Hierarchy Routing interface.

Solution:

If the 'Hierarchy' radio button on a given output channel tab is selected, click on the 'Apply' button to enable the Hierarchy Routes button.

MAUI/C4I:

Problem:

When running Maui with C4I, if the user changes the output log names and then attempts to display the details of a specific message, the message at the location in the original file will be displayed instead of the message from the current file. In addition, when Maui is shut down and then restarted, it does not remember the changed output log file name, but rather loads the default C4I log file names.

Solution:

Either do not change the name of the output log file name, or if you do, exit Maui prior to attempting to view a message. After Maui is shut down, locate the desired log file and rename it to its default name, e.g., if the file was Messages_Generated.log and you renamed it to MyC4IMsgGen.log, rename the latter to the former and then restart Maui.

MAUI: TERRAIN GENERATOR WINDOW FREEZES (SCR 15452)

Problem:

The terrain generator tool may not run properly on PCs which have an advanced or dual-display graphics card.

Solution:

If you experience problems please try a system with a single display graphics card.

MAUI: TERRAIN GENERATOR DISK DRIVE LIMITATIONS (no SCR)

Problem:

TerrGen does not work properly unless it is installed/executed from a drive letter between "D" and "I". It will not execute properly from the "C" drive. Therefore, if the Maui Software Suite is not installed on one of the drive letters between "D" and "I", the installation of TerrGen is not allowed.

Solution:

By default, the first available CD-ROM drive is used. For machines that have more than one CD-ROM drive, if you wish to use a drive other than the default, edit the file: \MIWS\TERRGEN\terrain\TerrGen.bat and change the line: "SET CDROMDSK=<CD-ROM letter>" to specify the desired CD-ROM drive letter.

CART - CLIENT CONNECTION (SCR 15802 CARTC: UPDATE EXERCISE DATA ON RECONNECT)

Problem:

When the CART client starts up, some exercise-specific data, such as the exercise name, controllers, and parametric data, are retrieved; but the client remains 'disconnected' - it does not retrieve the first minute of exercise data. When the user does connect the CART client, the first minute of exercise data is retrieved. However, the exercise name, controllers, and parametric data are not re-retrieved. If the exercise on the CART server is changed between the time the CART client was started, and the time it connects to the CART server, there could be a mismatch in the exercise name and/or controllers and/or parametric data. As a result, the CART client may not function properly, if at all. This holds true if the CART client toggles from CONNECTED-DISCONNECTED-CONNECTED, and the CART exercise database is changed during the DISCONNECTED period.

Solution:

Make sure the CART server's database is available prior to starting the CART client. If the database on the server has changed (e.g., the exercise has changed), restart the CART client to ensure the retrieval of the correct exercise-specific data.

CART CLIENT STARTUP

Problem:

After a CART server installation, the CART client cannot connect to the CART server until an exercise database has been established on the CART server. If the CART client is started up prior to this time, a dialog window will be displayed, indicating that there was a problem connecting to the server; and asking whether you wish to continue. Regardless of which choice ('Yes' or 'No') is selected, the application then closes.

Solution:

Bring up the CART client after loading an exercise, and after the CART server has been initialized.

CART - GROUND DETECTION IDENTIFIERS (no SCR)

Problem:

Ground detections are identified in the CART client by the name of the detected unit, unlike in MTWS/Maui where they are identified by a unique numeric ID. In the CART client, Locate and Identify, when a ground detection identifier is entered, only the first detection associated with that unit is displayed.

Workaround:

None.

CART - CARGOS AND UNIT ASSETS

Problem:

When a cargo is defined prior to exercise initialization, the CART Asset History report for the supplying unit does not specifically list the transfer of the cargo's contents. For example, if a unit is defined with 100 troops, and 60 of those troops are included in a cargo before the exercise is initialized, the unit's Asset History report will show 40 troops as the initial value; and there will be no reference to the cargo.

Workaround:

Define cargos after the exercise has been initialized, and after the CART server has been started; but before the exercise is placed into RUN state.

CART - DISPLAY DISCREPANCIES (SCR 15937)

Problem:

When an object transitions between "active" and "inactive" status - e.g., a radar area - there can be discrepancies between the graphical display of the object, and the object's attributes in a CART report. For example, a radar may be graphically displayed (i.e., it will be interpreted as

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being active); but the CART report will show it as being inactive.

Workaround:

This situation is self-correcting; it exists only during the exercise minute when the transition occurs.

ALSP - DIRECTION OF MOVEMENT OF GHOSTED UNITS

Problem:

The direction of movement for ghosted units detected by sensors is always due north. This is because the ghosted unit's direction of movement is not among the attributes received from the JTC.

Workaround:

None.

**** Simulation Database Identifiers ****

Alerts generated by the MAN/MSO software can contain numeric references to database components. For example, in the alerts:

ERROR : PDSO 106 UPDATE/- 1929095349 PDSO.In_Access(Update): CONSTRAINT_ERROR
... etc ...

ERROR : MMDF.Update_XDE had ... <some error> ... xde Id: 106

"PDSO 106" and "xde Id: 106" both refer to the assets database.

To assist system operators in monitoring the status of an exercise, a complete list of databases and their corresponding numeric references follows.

Database Component	Numeric Reference
Air Missions	100
Air Engagements	101
Air Mission History	102
Air Tracks	103
Aircraft	104
Airfields	105
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