

7 July 2004

Below are the changes that have been made to the TacOps4 program since v403_FE.

The current version is v405_AP.

Best regards, Major H.

v405AP

User request. Added the following unit types to the database: GM FSCV Marder FO, GM APC Boxer ISC, GM SAMV Gepard Stinger, GM AAA SP Gepard, and GM SAMV Marder Roland.

User request. Added a "FSC Bonus" filter check box to the Add One Unit Window and to the Unit Data Base Report Window. When this item is check marked, only unit types that provide an artillery direction bonus will be displayed in the unit selection lists.

Bug Fix. The program would crash when a helicopter was placed on or tried to land on urban terrain.

Bug Fix. The range of the Milan ATGM was changed from 2000 meters to 1950 meters.

Bug Fix. The Photo Database Report displayed an incorrect photo for US Sniper Team Heavy and failed to draw a photo for US Ships Amphibious Task Force.

v405AO

Developer initiative. US Inf LRASS Team and US RECV HMMWV LRASS now provide an artillery direction bonus

Bug Fix. The program would crash when the Weapon Data Base Report window was opened and closed.

v405AN

Developer initiative and user requests. Added 130 new unit types to the v4 database. See list below.

User request. Helicopters with a turning rotors footprint of 15 meters or less can now land in town terrain.

Hobby user request. An infantry unit that is capable of providing an artillery direction bonus, such as FSCE FOO Team, FSCE Forward Observer Team, or FSCE COLT Team, can now provide its bonus while inside of a vehicle as well as when dismounted. Previously such units had to be dismounted in order to provide their artillery direction bonus.

Hobby user request. Changed the Front/Side/Rear armor values for the T84 and T90 tanks as follows. Changed T84 from KE 525/180/100 and CE 950/195/100 to KE 846/200/100 and CE 1270/220/100. Changed T90 from KE 810/190/100 and CE 1120/205/100 to KE 810/200/100 and CE 1250/220/100.

Backfitted from TacOpsMC v5. The unit type names in the selection lists in the Add One Unit window can now be optionally filtered so as to show only the following types of units to the user: aircraft only, amphibious only, APCs only, artillery/mortar only, ATGMs only, boats/ships only, engineer items only, infantry only (dismounted personnel), SAMs only, tanks only, tracked vehicles only, or wheeled vehicles only. The Unit Data Base Report Window can also now be optionally filtered in the same way.

Backfitted from TacOpsMC v5. Added the unit type "US Inf, Casualty". The casualty unit type is immobile, unarmed, and can represent 1 to 15 personnel. It can be picked up and transported by any friendly unit that can carry personnel. It can not spot/reveal enemy units. It can not be fired on with direct fire but can be inadvertently harmed by airstrikes and indirect fire. A casualty marker will be automatically removed from play as "captured" if the center point of a qualified hostile unit is located within 50 meters of its center point at the end of any combat/movement phase. The hostile unit must be stationary, have no pending orders, and must be a ground unit or a landed transport helicopter. The program does not currently generate casualty markers as a result of combat - they must be manually placed by the umpire or scenario designer by use of the "Options/Add One Unit" menu item. The computer opponent (AI) in a solitaire game will normally ignore casualty icons but may coincidentally capture them if one of its units happens to end the turn within 50 meters.

Backfitted from TacOpsMC v5. Added a special bomb marker named "Demolition Charge" for various uses including the destruction of bridges. This item currently functions exactly the same as "Bomb Portable".

Backfitted from TacOpsMC v5. Added an "Aircrew" unit type to represent downed aviators for TRAP training. The aircrew marker is armed with one pistol per person and can contain 1 to 15 personnel. It functions as any other dismounted infantry unit type.

Backfitted from TacOpsMC v5. Added an "Aircraft Wreck" unit type to represent downed but not completely destroyed aircraft for TRAP training. Added a span of five generic unit types to represent wreckage with a weight varying from 2 tons through 20 tons: Aircraft Wreck 2tn, Aircraft Wreck 5tn, Aircraft Wreck 10tn, Aircraft Wreck 15tn, and Aircraft Wreck 20tn. The width and length of each aircraft wreck increases with the weight. Aircraft wrecks do not spot. They can be transported by appropriate vehicles or helicopters. They can be destroyed by friendly indirect fire but not by friendly direct fire. They can be destroyed by enemy direct fire,

enemy indirect fire, and by friendly or enemy bomb portable, bomb transportable, or demolition charge.

Developer initiative. Added UK item filter to Unit Data Base Window, Weapon Data Base Window, Add One Unit Window, and Change Units Window.

Developer initiative. Added United Kingdom and German features to the "Change Units & Weapons" window.

Developer initiative. Changed M2A2 Bradley IFV (and variants) armor from KE 45/35/20 and CE KE 45/35/20 to KE 66/55/26 and CE 66/55/26.

Developer initiative. Increased armor from KE 45/35/20 and CE KE 45/35/20 to KE 66/55/26 and CE 66/55/26 for following Bradley variants: M6 Bradley Linebacker, M2 Bradley AMEV Ambulance, and M7 Bradley FIST.

Developer initiative. Decreased armor for M2 Bradley AMTV to 16/16/16.

Developer initiative/user request. Removed amphibious capability from all Bradley APCs and Bradley based variant vehicles in TacOps.

Bug Fix. The program failed to erase a unit's optional text name from the map when the unit was manually loaded onto an APC during the orders phase.

Developer initiative and user requests. Added the following 130 unit types.

Bug Fix. During the setup turn only, the line of sight tool cursor sometimes failed to change to gray when passing the current visibility limit as specified by the current scenario or user preferences setting.

Bug Fix. The following "civilian" unit types are armed with concealed pistols: Civil x1 w Pistol, Civil x5 w Pistol, and Civil x10 w Pistol. The program would wrongly reveal the pistols if a player of a different force color right clicked on one of these unit markers and selected "Info".

Developer initiative and user requests. Added the following 130 unit types to the v4 database.

AU/NZ APC, ASLAV-A Ambulance
AU/NZ APC, ASLAV-C Command
AU/NZ APC, ASLAV-CS Combat Support
AU/NZ APC, ASLAV-F Fitter
AU/NZ APC, ASLAV-PC
AU/NZ APC, NZLAVIII ISC
AU/NZ ATGM, Javelin Team P2
AU/NZ FSCE, FOO Team P3
AU/NZ FSCE, JOST P4
AU/NZ Helo, Tiger ARH
AU/NZ Helo, UH1H Gunship

AU/NZ Howitzer, Towed 155mm FH2000
AU/NZ Inf, AGL MK19 Team P3
AU/NZ Inf, MG 5.56 Team P2
AU/NZ Inf, MG 50cal Team P3
AU/NZ Inf, MG 7.62 Team P2
AU/NZ Inf, Rifles x 2 P2
AU/NZ Inf, Rifles x 4 P4
AU/NZ Inf, Section P6
AU/NZ Inf, Section P8
AU/NZ Inf, Section P9
AU/NZ Inf, Team w LMG + M203 P4
AU/NZ Inf, Team w LMG P4
AU/NZ LUV, LOV MV-A Ambulance
AU/NZ LUV, LOV MV-C Command
AU/NZ LUV, LOV MV-GS
AU/NZ LUV, LOV MV-GS + AGL
AU/NZ LUV, LOV MV-GS + HMG
AU/NZ LUV, LOV MV-GS(A) + AGL
AU/NZ LUV, LOV MV-GS(A) + HMG
AU/NZ LUV, LOV MV-GS(A) + LMG
AU/NZ LUV, LOV MV-S Shelter
AU/NZ LUV, LOV MV-SO AGL
AU/NZ LUV, LOV MV-SO HMG
AU/NZ RECV, ASLAV-25 Recce
AU/NZ RECV, ASLAV-S Surveillance
AU/NZ RECV, NZLAVIII Surveillance
AU/NZ RV, ASLAV-R Recovery Vehicle
AU/NZ RV, NZLAVIII Recovery
AU/NZ SAM, Mistral Team P4
AU/NZ SAM, Rapier Towed
AU/NZ SAM, RBS70 Team P2
AU/NZ Truck, Cargo U1700L
AU/NZ Truck, Cargo U1700L + HMG
AU/NZ Truck, Cargo U1700L + LMG
GM APC, Wiesel Ambulance
GM APC, Wiesel Command
GM APC, Wiesel ISC
GM ATGMV, Wiesel TOW
GM FSV, Wiesel MK20
GM Mortar, Carrier 120mm Wiesel
GM SAMV, Ozelot Stinger
OP AAA, SP 20mm BOV3
OP AAA, SP 30mm BOV30
OP AAA, SP 57mm ZSU-57-2
OP APC, BOVM
OP APC, BRDM1

OP APC, BTR152
OP APC, BTR40
OP APC, BTR50
OP APC, M60P
OP APC, M60PB
OP APC, M80
OP ATGMV, BOV1
OP ATGMV, BRDM1-AT
OP ATGMV, M80ALT
OP Mortar, Carrier 82mm M60
OP Tank, M84
OP Tank, M84A
OP Tank, PT76
OP Tank, T34/85
OP Tank, T54
UK APC, CVRT Samaritan Amb
UK APC, CVRT Spartan
UK APC, CVRT Sultan Command
UK APC, FV432
UK APC, FV432 Ambulance
UK APC, FV436 Command
UK APC, Warrior Command++
UK APC, Warrior IFV
UK APC, Warrior IFV+
UK APC, Warrior IFV++
UK APC, Warrior Repair
UK APCW, SAXON
UK ATGM, Milan P2
UK ATGMV, CVRT Striker
UK FSCV, Warrior OPV++
UK Howitzer, SP 155mm AS90
UK Inf, HQ Command [-] P4
UK Inf, HQ Command P8
UK Inf, Section P8
UK Inf, Team P4
UK Mortar, Carrier 81mm FV432
UK RECV, CVRT Sabre Recce
UK RECV, Scimitar Recce
UK RECV, Scimitar Recce+
UK RV, Challenger ARRV
UK RV, CVRT Samson Recovery
UK RV, Warrior Recovery
UK SAMV, Stormer Starstreak
UK Tank, Challenger 1 Mk2
UK Tank, Challenger 1 Mk3
UK Tank, Challenger 2

UK Tank, Chieftain Mk12
UK Tank, Chieftain Mk5
US Aircraft Wreck 10tn
US Aircraft Wreck 15tn
US Aircraft Wreck 20tn
US Aircraft Wreck 2tn
US Aircraft Wreck 5tn
US Aircrew P1
US APC, M2A3 Bradley ENG+
US APC, M2A3 Bradley IFV+
US APC, M3A3 Bradley CFV+
US Boat, Rigid Raider
US Demolition Charge P1
US Helo, AH6 MG
US Helo, AH6 MG + ATGM
US Helo, AH6 MG + Rocket
US Helo, MH6
US Helo, MH60
US Helo, MH60 DAP CS
US Helo, MH60 DAP GS
US Helo, MH60 DAP MR
US Inf, Casualty P1
US Inf, LRASS Team
US Inf, Sniper Team Heavy P2
US MCV, Armored Breaching Vehicle
US RECV, HMMWV LRASS
US RECV, Prophet SIGINT/EW

v405AM

Hobby user request. Made the bridge placement step in the Options/Engineering/Build Bridge menu item consistent with all other engineering items. The user can now continue to place bridges on the map until pressing a key or right clicking on the map. Previously the user could only place one bridge on the map before being returned to the Engineering Window.

Hobby user request. Made the LZ placement step in the Options/Engineering/Build LZ menu item consistent with all other engineering items. The user can now continue to place LZs on the map until pressing a key or right clicking on the map. Previously the user could only place one LZ on the map before being returned to the Engineering Window.

Bug fix. Fixed a rare crash bug in the pop up menu that is summoned by right clicking on an on map unit marker.

Bug fix. Due to unintended side effects, deleted the following item which was added to the program on 040122. Hobby user request. The resupply window now remembers and defaults on opening to check mark whichever of the following check boxes was last selected: "Conceptual" or "Logistics Package".

Developer initiative. Multiplayer Teams mode. Changing fog of war settings on host now does not require a situation update before advancing to the combat/movement phase. Done in v5 on 040125.

Developer initiative. Removed the English language check box from the startup screen. The French language user interface is disabled and out of date so there was no need to retain the English box.

v405AL

Hobby user request. Reordered the target priority groups in the Direct Fire Target Priorities window so that their top to bottom order matched the left to right order of the target priority buttons in the Unit Orders window

Hobby user request. Added the following keyboard short cuts:

- Do Blue Unit Orders Ctrl + 1 (Mac Cmd + 1).
- Do Red Unit Orders Ctrl + 2 (Mac Cmd + 2).
- Do Green Unit Orders Ctrl + 3 (Mac Cmd + 3).
- Do Gray Unit Orders Ctrl + 4 (Mac Cmd + 4).
- Do Ivory Unit Orders Ctrl + 5 (Mac Cmd + 5).
- Do Orange Unit Orders Ctrl + 6 (Mac Cmd + 6).
- Do Gold Unit Orders Ctrl + 7 (Mac Cmd + 7).
- Do Yellow Unit Orders Ctrl + 8 (Mac Cmd + 8).

Hobby user request. The resupply window now remembers and defaults on opening to check mark whichever of the following check boxes was last selected: "Conceptual" or "Logistics Package".

Hobby user request. The standard Ctrl + C keystroke for copying text (Mac Cmd + C) now works in the Name Unit window. The standard Ctrl + V keystroke for pasting text (Mac Cmd + V) now works in the Name Unit window.

Hobby user request. When the Name Unit window is opened, the check box labeled "Use Same Name For Mounted Troops" is now check marked by default.

Hobby user request. Changed the "Display way point times" button icon in the Orders frame of the Unit Orders window from a question mark icon to a clock icon. Changed the "Display engagement range rings" button icon in the Fire Control frame of the Unit Orders window from a question mark icon to a circles icon. The use of the question mark icon for these icons was

judged to be an unintuitive conflict with the "Help" button icon (a question mark inside of a yellow circle) that is used in other places in the program.

Hobby user Request. Changed unit names containing "XIAV" to use "Stryker" or "XStryker" instead of "XIAV".

NAVAIR request. Changed the unit type name for the unmanned aerial vehicle from "UAV" to "Aircraft, UAV".

Developer initiative. Completed work on changes to network code which produced a 50% decrease in the time required to transmit those portions of the situation update that are related to game status statistics, common random number array, mines, bridges, LZs, obstacles, entrenchments, smoke, and wreck markers. This change produced no significant improvement in the transmission speed for the unit order of battle portion of the situation update/orders exchange.

Developer initiative. The Orders Time Limit window now always remembers and defaults on opening to display the last used settings for minutes and seconds. Previously these settings were zeroed whenever the user turned this feature off. This created extra work for the umpire in a Multiplayer Teams Network game, who often needs to briefly disable this feature in order to do an administrative task and then turn it on again.

Bug Fix. The unit data base record for the US AAVV wrongly included an ATGM flag when no ATGM weapon is in fact present.

Bug Fix. The unit data base record for the US Helo AH64 GS wrongly included an ATGM flag when no ATGM weapon is in fact present.

Bug Fix. The unit data base record for the OPFOR SNAR10 Surveillance Radar wrongly included an ATGM flag when no ATGM weapon is in fact present.

Bug Fix. The unit data base record for the OPFOR ARK1M Artillery Locating Radar wrongly included an ATGM flag when no ATGM weapon is in fact present.

Bug Fix. Corrected a minor cosmetic drawing bug present in most buttons.

Bug Fix. The Network Status window was wrongly named "Network Report".

Bug Fix. The program failed to instantly update the ammunition status line at the bottom of the Unit Orders window when a user resupplied an on map artillery or mortar unit.

Bug Fix. Multiplayer Teams Network mode. If the umpire was using the Orders Phase Time Limit feature and if he selected the "Network/Pause Game" menu item, the program failed to cancel the count down timer for the Orders Phase Time Limit. When the timer reached zero the umpire computer would wrongly start the combat/movement phase despite the Pause Game instruction.

Bug Fix. The US D7 Bulldozer was wrongly coded as amphibious.

Bug Fix. When a user opened the "Change Air Support" window or the "Change Artillery" window, the program displayed an incorrect hint in the information line at the bottom of the map window. The program now correctly displays "Select one item from a list". Previously it wrongly displayed "Click on minefield to delete. Touch a key or click on empty map to quit".

Bug Fix. When in "Play by Email" mode, the program failed to disable the "Options/Engineering" menu item during the orders phase. The program does not currently support the use of this umpire function during a Play by Email game.

Bug Fix. Multiplayer teams hosting mode. The program failed to automatically enable and check mark the "Options/Ignore Unit Setup Limits" menu item when a scenario was initially loaded on the host computer.

v405AK

Bug Fix. The program failed to consider the current eye visibility limit when checking spotting of bridges, obstacles, and landing zones. The program would wrongly reveal these items based only on a line of sight check.

v405AJ

Bug Fix. The program would wrongly display information for unspotted obstacles and minefields if the user right clicked on the map at the location of a currently unspotted (invisible) obstacle or minefield.

Bug fix. The constant for number of items in the Network menu was too high by one number. Effect on program unknown but believed to be harmless.

v405AI

Bug fix. The up and down arrow keys failed to scroll the map when the Artillery Support Window or the Air Support Window were open.

Bug fix. "Armored" was misspelled in the unit type name for "M9 Armored Combat Earthmover".

Bug fix. "Inflatable" was misspelled in the unit type names for "Boat, Inflatable" and "Boat,

Inflatable + Motor".

Bug fix to Map231c dat file. The UTM grid coordinates were displayed incorrectly on Map231c.

Bug fix to Map240c dat file. The UTM grid coordinates were displayed incorrectly on Map240c. Incremented Map version to 301.

v405AH

Bug fix. The Windows version wrongly inflated the cargo weight capacity for units with very large capacities such as landing craft.

v405AG

Bug fix. In a few scenarios with Red defending, where certain units were coded as mobile security forces, the program always failed to order those units to fall back to alternate positions after contact.

v405AF

Bug fix. If OPFOR was allowed to have thermal sights and if an OPFOR unit was added (via an options menu item) to game play after turn one it would intermittently not actually receive thermal sights unless and until the player visited the preferences settings window or unless and until the game engine visited the preferences settings internally (which happens automatically during many scenario editing and network activities)- even though the info window might show that unit to have thermal sights. This bug would only appear if OPFOR units were added to game play after turn on and only then if the preferences settings were never visited thereafter either intentionally by the player or coincidentally by the game engine.

Bug fix. The engineering object design windows used in creating minefields, entrenchments, obstacles, bridges, and landing zones were misleading in that the "location known to" check boxes wrongly appeared to suggest that one of these objects could be created so that its location was not known to the force color that built it. The location of these objects is in fact always known to the force color that built them. The "location known to" check box that matches the building force color is now disabled so that it can not be unchecked.

v404AC through v404AE

[AU/NZ request] Changed name of AU Tank Leopard 1A5 to 1A5+ to indicate its possession of thermal sights. Added additional data base entry for AU Tank Leopard 1A5 without thermal sights.

[AU/NZ request] Added the following units to the unit data base: AU/NZ Infantry Section P7, AU/NZ Recon Team P5, AU/NZ Sniper Pair P2, AU/NZ Engineer Section P7, AU/NZ Subunit HQ P5, AU/NZ Subunit HQ P10, AU/NZ Inf SRAWW 84mm CG Team.

[AU/NZ request] Deleted AU/NZ Inf Section P6.

[AU/NZ request] Added the following photos to the zPhotos folder: 1536 AU/NZ Carl Gustav SRAWW, 1531 AU/NZ Recon Team.

[Developer initiative] Australian and New Zealand units are now labeled as AU/NZ in various list selection windows rather than only as AU or only as NZ. Done to eliminate or reduce the number of duplicate data base entries for units that are essentially identical in both armies.

[Developer initiative] Abandoned use of zFanfareA.wav and zFanfareB.wav as sources for game music bits. Program now uses the appropriate wave files from the zSounds folder for each version of TacOps. Done to make the distribution packages for the various versions of TacOps more consistent so as to facilitate single version recompiles installer building, and CD burning.

[USMC request] Multiplayer teams mode. When the joining request window is shown to the umpire, the default setting for the check box labeled "Send situation update" is check marked.

[USMC request] Added the MK154 Mine Clearing Line Charge and the MK155 Mine Clearing Line Charge to the weapon data base.

[USMC request] Changed the type of mine clearing line charge carried by the AAVP7 LMC from "M58A3 MICLIC" to "Mk154 LMC".

[USMC request] Added the following USMC items: Truck Cargo 7t Mk23/25, Truck Cargo 7t Mk23/25 + HMG, Truck Cargo 7t Mk27/28, Truck Cargo 7t Mk27/28 + HMG, Truck Cargo Mk48/14/17 LVS, Truck Cargo Mk48/14/17 LVS + HMG, and Truck Mk48/16/970 LVS HET, OCV D7 Bulldozer.

[USMC request] Added the following USMC items: Small Emplacement Excavator, TRAM Forklift, and TRAM Front End Loader. Note: These items were added as placeholders - they don't have any game relevant special capabilities.

[USMC request] Added the following USMC item: Mk155 MICLIC Trailer. Any vehicle (that is otherwise allowed to tow items) can now tow and launch the Mk155 MICLIC. A "Launch

Line Charge" button will now appear in the unit orders window for any vehicle that is towing a Mk155 MICLIC Trailer.

[USMC request] Added the following US unit: Engineer Squad USMC P9.

[Developer Initiative] Added more information to the error alert that is displayed when the program is unable to find a map legend text file for the current map after a user selects the "Map/Map Legend" menu item and.

[Developer Initiative] Added more information to the error alert that is displayed when the program is unable to find a place names text file for the current map after a user selects the "Map/View Place Names" menu item.

[User request] The following vehicles are now allowed to carry infantry on top of the hull: US M60 AVLB, US M1 HAB, US M1 OBV, OPFOR MTU72 AVLB and OPFOR 1MR2 Dozer.

[User request] Multiplayer teams mode. The program will now not allow the umpire to send a pause game command unless all remote computers have finished the combat/movement phase.

[User request] Rubber boats can now be transported by cargo trucks and cargo helicopters. The routine that determines how many rubber boats will fit in a given truck or helicopter is imperfect so use of this feature should be tempered by user judgement for maximum realism.

[Developer Initiative] Shortened the name of the unit "MCV, M60 AVLM Mine Clearing Veh" to "MCV, M60 AVLM".

[User request] Added the following USMC units: Inf Military Police P1, Inf Military Police P2, and Inf Military Police P4.

[Developer Initiative] Revised unit lethality values downward for numerous trucks and wheeled light utility vehicles. Most such vehicles now have a value of 12 if no weapons are carried other than crew rifles and or LAAW or 15 if a light or heavy machine gun is mounted.

[Developer Initiative] The country display filter values for the database report dialogs and the add one unit dialog are now included in the Preferences B file.

[Developer Initiative] Replaced the unit "HMMWV + MICLIC Trailer" with the unit "M58A3 MICLIC Trailer". Since MICLIC trailers can now be towed by any vehicle there was no reason to retain the dedicated combination unit "HMMWV + MICLIC Trailer".

[Developer Initiative] Added photos for the following units: Truck Cargo 7t Mk23/25, Truck Cargo Mk48/17 LVS, Truck Mk48/16/970 LVS HET, D7 Bulldozer, Small Emplacement Excavator, TRAM Forklift, TRAM Front End Loader, and Mk155 MICLIC Trailer.

[Developer Initiative] Changed photos for the following units: USMC AAVP7 with MICLIC, US Army M58A3 MICLIC trailer.

Bug fix. The AU/NZ list filer variable was being wrongly set to 256 whenever the program exited.

[Bug fix] When displaying the contents of a place names file, the program failed to consider that a user created map might start over in mid map with "00" Easting and or with "00" Northing.

[Bug fix] After the selection of the "Game Replay" game startup feature, the program would sometimes refuse to replay turn one of a solitaire game.

[Bug fix] The Mac version file finder window sometimes failed to display the file names of PBEM saved game files that had been saved by the PC version (extensions ".bmo" and ".rmo").

[Bug fix] In the Mac version, pressing the Tab key failed to display unit names on the map if the complete map was smaller than the user's screen.

[Bug fix] Corrected typo in the TacOps acronym window. FIST was listed twice. Changed one of the entries from FIST to FISTV.

[Bug fix] The program failed to draw black lines between the unit information blocks in the arty support window, as shown in the user guide. [Bug fix] A click on a stack of red units on the map would sometimes wrongly display, inside the expanded unit selection window, one or more Blue units that were actually currently in an open deployment window.

[Bug fix] When in game replay mode the program failed to allow the selection of the "Plot Unit Names" and "Plot Mission Objectives" menu items while the game replay was paused/idle.

[Bug fix] The program would sometimes fail to execute the expected SOP reaction (the one with the highest priority) in cases where the user had selected multiple SOP reactions and where those multiple reactions included any "do if spot enemy" reaction and where an ambiguous battle situation was encountered.

[Bug fix] If a user was in Solitaire mode, and if the user had a scenario loaded that was capable of solitaire play against the computer AI, and if the user then started a new game in a non-solitaire mode by selecting the "File/New Game" menu item, then some portions of the computer AI would wrongly continue to operate in the new game session - such as calling for Red force artillery fire support and air support against the Blue force.

[Bug fix] The program failed to show an entry for the M58A3 MICLIC in the Weapons Report.

[Bug fix] Changed the name of the unit "MLV, AAVP7 LMC" to "MCV, AAVP7 LMC".

[Bug fix] The program displayed an incorrect photo for the US 60mm mortar.

[Bug fix] Reduced the width of M9 ACE from 320cm to 280cm - ignoring the 1 foot of width actually added by the dozer wings. Needed to allow program to load M9 ACE on the M870 trailer.

[Bug fix] The program wrongly offered to load saved game files ending in extensions other than ".tac" while in replay mode.

v404AB

Bug fix. If a user loaded a custom scenario template while in solitaire mode rather than in two player or multiplayer mode and then selected "Do Red Orders" and then selected "Add Optional Units", the program would sometimes fail to display a setup window for the newly added Red units. Instead it would place the newly added Red units in a single pile in the extreme, upper left corner of the map. Also in this situation Blue units would sometimes continue to be shown on the map after the user had selected "Do Red Orders".

Bug fix. If a user loaded a custom scenario template while in solitaire mode rather than in two player or multiplayer mode and then selected "Do Red Orders", the Blue units would sometimes continue to be shown on the map.

Bug fix. The scenario named "Custom Scenario CA CMBG.sce" failed to offer the following items in the "Add Optional Units" list for the Blue player: artillery registration markers, hand laid mines, arty laid mines, and entrenchments.

Bug fix. The Quit menu item failed to Quit if a game replay was paused rather than stopped.

v404AA

User Request. Added the following US vehicles: Truck M977 + HMG, Truck 939 + HMG, Truck M923 + HMG, Truck M35A2, and Truck M35A2 + HMG.

User Request. Increased speed of dismounted infantry in Rough 3 terrain from 1 KPH to 2 KPH. Increased speed of dismounted infantry in Rough4 terrain from .5 KPH to 1 KPH.

v403FP

Enhancement. Multiplayer Teams Mode. When an umpire chooses to run combat/movement phases that last longer than one minute, an autosave file is now created for each minute. Previously an autosave file was created only for the first minute of a multiple minute combat/movement phase.

Enhancement. Multiplayer Teams Mode. Joiners in multi mode do not save or recover a temp sit file anymore. If there is a problem during sit update or orders exchange then that player's situation is simply cleared to zero and he is informed that the host knows about the problem. Joiner in two player mode still saves and recovers a temp sit file.

Enhancement. Multiplayer Teams Mode. Improved the dependability of the cancellation process when the host/umpire chooses to cancel an ongoing orders exchange or situation update.

Enhancement. Multiplayer Teams Mode. When a joining player loses connection to the host/umpire computer the program no longer requires him to quit the program before he can attempt to rejoin the network. The program now automatically reinitializes that player's program without quitting, returns him to an empty map display with no units in play, and then restores his ability to log back onto the network.

Enhancement. Multiplayer Teams Mode. Remote players no longer automatically save a ztempSituation.net file at the beginning of each situation update or orders exchange. This change should save one or two seconds per player during situation updates and orders exchanged during Internet games - more if older computers are being used. Previously, joining players did this so as to provide a situation recovery file in case of error during the situation update or orders exchange. Recent dependability improvements in the program and the new hard line attitude toward players who can not complete a situation update or orders exchange made the joiner recovery file largely obsolete. Players who fail now during a situation update or orders exchange will be automatically reinitialized to an empty map display with no units in play. The host/umpire is also now automatically notified that such players will require a situation update before play can proceed to the next combat/movement phase.

Mac only. Enhancement. Deleted use of Mac format resource files for playing splash screen music and end of game music. Mac version now plays zFanfareB.wav and zFanfareC.wav - same as the Windows version.

Bug fix. Multiplayer Teams Mode. Autosave files created on the host/umpire computer during a multiplayer teams game failed to replay accurately when repeated. The autosave was wrongly being done before the host had collected orders from the players.

v403_FO

Enhancement. Added Game Replay feature. The game replay feature automatically links and displays a series of saved game files. The feature is controlled with an on-screen control panel containing play, pause, and skip buttons similar to a CD player. This feature is intended mainly for viewing a completed game. It is not intended for replaying turns merely to refresh the player's memory of recent game events. The latter usage is possible but it is intentionally inconvenient.

If any force color is protected by a password, the replay feature will not work unless the viewer knows the password for that force color.

In order for the automatic linking to work correctly, the saved game files must follow the following naming rules.

(1) Each filename must begin with a twelve character sequence that consists of "AutoSave" followed by four numeric characters (0 through 9) with padding zeros if needed to produce a four digit number. Examples: "AutoSave0000", "AutoSave0001", "AutoSave0100", "AutoSave9999", etc.

(2) Each filename must end with an extension of ".tac".

(3) It does not matter what if any characters appear in the filename between the first twelve characters and the ".tac" extension.

(4) There can not be a numerical gap between consecutive files that is larger than five. If a gap greater than five is encountered then the replay will stop at the gap.

Examples:

OK -> AutoSave0002.tac, AutoSave0007.tac, AutoSave0010.tac, etc.

NOT OK -> AutoSave0002.tac, AutoSave0008.tac

Note that it is possible for a folder to contain several auto save files that begin with the same twelve characters. The replay feature will display the first file that it finds that begins with the twelve characters that the program is looking for.

Example: A folder contains the following files.

AutoSave0005 021115_1835.tac
AutoSave0005 021115_1840.tac
AutoSave0005 021115_1843.tac

The program will display the file named AutoSave0005 021115_1835.tac and skip the other two.

v403_FM and v403_FN

Enhancement. Multiplayer Teams Mode. Joining players can now optionally enter a requested PIN in the joining log on window. This PIN will be passed to the host with the log on request message and will appear in the PIN assignment box in the window that is presented to the host each time that someone requests to join the game. Previously, this box was always blank on the host computer and the umpire had to manually fill it in - usually after consulting a paper memory

aid of call signs and PIN assignments. Background. The decision was made during the early Army testing to leave this task to the umpire so as to reduce log on errors by inexperienced joining players. Later experience in large exercises has shown that this significantly slows down log on cycles and also leads to log on errors. In principle it should be much easier and more efficient for a single player to remember his pregame PIN and call sign assignments than it is for the umpire to have to recall or look up 20 to 30 of them. Use of this feature is completely optional as the joining players can choose to leave this box blank and continue to rely on the umpire to set it after the joining request is received. The umpire is still allowed to overrule the requested PIN and requested call sign.

Enhancement. Multiplayer Teams Mode. The program now remembers the PIN and the force color (or observer status) that it used in the last running of the program by saving these settings in the TacOps preferences file. When a joining player opens a log on window, the program will now automatically fill in his log on request window with the last used settings. The player is free to change these settings if they are inappropriate for the current game session. Previously, the log on request window always opened with the default settings for observer status.

Bug fix. Multiplayer Teams Mode. The program would crash on the host computer if a newly joining player quit or disconnected during the joining process while the host/umpire was reviewing the log-on approval window for that player.

Bug fix. Multiplayer Teams Mode. Discovered several routines that could crash due to a player quitting or disconnecting at inappropriate times.

Bug fix. Multiplayer Teams Mode. The program wrongly allowed players and observers to save the game. Only the host/umpire is allowed to save the game during multiplayer teams network play.

Bug fix. Multiplayer Teams Mode. The program sometimes failed to divert players into the waiting room who were inadvertently trying to join the game network during a situation update, orders exchange, or a combat phase. At those times the program would wrongly display the join approval window to the umpire and then sometimes hang.

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v403_FL

Enhancement. Multiplayer Teams Mode. Added "Ping Selected Player" button to the Network Status Report. Pressing this button will send a signal to the selected player/computer. A "success" sound will be heard if the target computer automatically responds to this signal within five seconds, otherwise an error sound will be heard. Failure to respond does not always indicate that the player is off the net - the target computer may have simply missed the ping or it may be performing a TacOps task or a background application task that takes longer than five seconds to complete.

Enhancement. Artillery Support Window. The status information line for an on-map mortar or artillery unit now also displays the optional text name for that unit if the player has assigned one.

Enhancement. The time displayed in the game time clock in the lower left corner of the map window can now be changed by use of the "Options/More Options" menu item. This feature is intended mainly for use by a scenario designer who is editing an existing scenario - preferably during the first few minutes/turns of a given scenario. The time displayed by this clock is currently almost completely cosmetic, so changing the time setting will usually have little if any effect on actual game play or the current game situation. The known exceptions are possible undesired side effects if there is an activated bomb in play or if a unit is engaged in breaching operations.

v403_FK

Enhancement. Multiplayer teams mode. The situation update and order exchange processes are no longer canceled if a player computer becomes unresponsive during data exchange. Each block of data that is passed during the situation update process and in the orders exchange process now has a progress timer. If a given player computer is or becomes unresponsive during any part of the process, that computer will now be automatically dropped from the network and the situation update or orders exchange will advance to the next player computer. The default progress timer for each step is 15 seconds. The umpire can choose to shorten or lengthen the progress timer from 10 to 120 seconds by using the "Network/More Network Tools" menu item. It is likely that the progress timer will need to be increased for Internet play or if there are a very large number of unit markers in play.

Enhancement. Multiplayer teams mode. Added much more code to track when actions performed by the umpire should be followed with a situation update to one or more players.

Enhancement. Multiplayer teams mode. The program will no longer allow an umpire to optionally force the start of a combat/movement phase when the program believes that one or more players need a more current situation update. The umpire must now always either update or disconnect such players before advancing to the combat/movement phase. The Network Status Report now highlights deficient players in red plus the statement " - needs situation update" or "requires situation update". Any player with the annotation "requires situation update" must be updated or disconnected before the game will advance to the combat/movement phase. A player with the annotation "needs situation update" is an observer and does not have to be updated or disconnected in order to advance to the combat/movement phase.

Enhancement. Multiplayer teams mode. Program does additional record keeping on whether a given player has units, arty, air, mines, bridges, entrenchments, etc in play. These records are then used during sit update and orders exchange to avoid unnecessary net queries and handshake responses. This change is unlikely to be noticeable on a LAN but should take a few seconds off of each sit update or orders exchange during Internet play.

v403_FJ

Bug fix. Multiplayer teams mode. If an ATGM was fired during the last 15 seconds of a combat turn AND if the range was so great that the flying ATGM could not reach its target within the last 15 seconds of that turn THEN one or more player computers (but not the host computer) would sometimes crash during the next orders exchange or shortly after.

v403_FI

Bug fix. Map541c v1.0.0 had a defect. The file name was 541 but the map wrongly had an internal "check number" of 540. Thus when a Map 541 saved game file was reloaded, the program demanded Map 540.

Bug fix. The program failed to keep the menu bar disabled when a user opened and then closed a unit info window while the Order of Battle Report windows were open.

Bug fix. If an Order of Battle Report window contained more than one column of icons and if the user clicked on an icon in any column other than the leftmost column then the program would fail to open the correct unit information window.

Bug fix. Once all occurrences of a particular type of unit had been eliminated from a game, the program would fail to display the correct unit information window when the user clicked on a unit type icon in an Order of Battle Report window.

Bug fix. The program failed to disable control/command keystroke shortcuts while the Order of Battle Report windows were open.

Bug fix. The program would sometimes crash when the Support Report was displayed if the report included an on-map artillery piece that was being towed by a vehicle.

v403_FH

Enhancement. When the Artillery Support Window is open, if an on-map artillery or mortar unit is currently being transported its mission box will be grayed out and the phrase "unavailable - is being transported" will be shown.

Enhancement. When a unit's player PIN differs from its parent PIN, both PINs will now be displayed in some unit status displays and in all PIN change windows. The parent PIN will be listed first, then a dash, and then the player PIN. The "parent PIN" field is only relevant when a unit is embarked aboard a vehicle or helicopter or when a unit is being towed. When a unit is

loaded into a vehicle or helicopter or is towed, its player PIN temporarily changes to match the PIN of the unit that is doing the transporting. The parent PIN does not change in these situations and thus can be used to restore command of the transported unit when it is later unloaded or released from towing. The failure to previously display the parent PINs may have misled some users into making inappropriate PIN changes or into believing that some units had disappeared from play.

Enhancement. When opened in a network game the following windows will now check for certain problems in unit PIN assignment and will display any problems found in red text plus the phrase "*** PIN Assignment Error **" at the end of each unit information line: Situation Report, Support Report, Change PIN Listed Units, Change PIN Selected Units, and Change PIN Off Map Artillery. If problem lines are ever found in these reports, the umpire should immediately stop the game and attempt to manipulate the PIN assignments for the affected units until the error annotation disappears. The umpire should then send a situation update to all players. Saved game files that were produced by any previous version of TacOps should be screened for PIN assignment problems before being used again in an exercise.

Bug fix. When the following menu items in the Network menu were used by an umpire to change unit PINs they would sometimes fail to properly set/reset the parent and player PINs for on-map artillery and mortar units when such units were being transported or towed: Change PIN Listed Units, Change PIN Selected Units, Change PIN Off Map Artillery, and Change PIN All. Bugs produced by this included intermittent damage to the artillery/mortar pointer list which would then crash the program the next time that the Arty Support Window was opened, lost units, duplicated units, and orders exchange hangs/failures.

v403_FG

Bug fix. Program would sometimes crash if the user selected the "Orders/Set Engagement Range" menu item and then cancelled the operation by touching a key or by clicking on an empty point on the map.

Bug fix. Program sometimes drew a zero and a blank space at the beginning of a map place name tag.

v403_FF

Bug fix. Program would sometimes crash when a user attempted to create and place a bridge marker on the map by using the "Build Bridge" button in the Options/Engineering window.