PV-WAVE

by Perforce

PV-WAVE 2023.4 UPDATE NOTICE

This file contains a list of Change Requests (CRs) that have been addressed for PV-WAVE 2023.4. For a summary of enhancements and modifications in this release, see the Release Notes.

For questions or comments, please contact [Perforce Technical Support](#).

PV-WAVE 2023.4

- Fixed an error in which an option library would not unload. (PVW-19166)
- Option libraries now support optional `opi_init` and `opi_fini` functions that are called when the library is loaded and unloaded (respectively). (PVW-19163)
- Fixed an error in the initialization and cleanup of the Winsock library in the Socket and SSL_connect option libraries that could cause unexpected disconnects. (PVW-14519)

PV-WAVE 2023.3

- SSL_connect no longer requires the LD_LIBRARY_PATH be defined for the distributed OpenSSL location on Solaris. (PVW-18824)
- Removed `alib.h` from Windows installer. (PVW-18815)
- Fixed an error when locating the directory of an option library. (PVW-18988)
- When loading an option library DLL, dependent DLLs in the same directory are also loaded. (PVW-19001)
- XML option was upgraded from Libxml2 2.4.23 to 2.11.5. (PVW-18933)
- Fixed uninitialized memory read in XML option that could lead to undefined behavior. (PVW-18328)
- HDF5 option was upgraded from HDF5 1.8.8 to 1.8.23 (PVW-18977)
- Fixed HELP function call without keyword(s) resulting in a 404 page not found error. (PVW-18947)
- VTK7 now uses the system TCL/TK on Linux. (PVW-18976)
- TCL/TK, used in VTK7, was upgraded from 8.6.6 to 8.6.13. (PVW-18976)
- HDF4 option was upgraded from HDF 4.2.15 to 4.2.16-2 (PVW-18978)
- Fixed a crash when `wave_assign_num` is called with a large array and `make_copy` keyword is TRUE. (PVW-19025)
- Fixed `wave.exe` icon and file metadata. (PVW-19051)
- `wavewin2.exe` has been removed from the product. Use `wave.exe` instead. (PVW-19047)
- Fixed logic error in `wvsetup.sh` that prevented adding WAVE_RT_PATH to WAVE_PATH. (PVW-14881)
- Fixed variable expansion in `wvsetup` to resolve error `Bad : modifier in $ '$'`. (PVW-14881)
- Fixed "can't find object for ID" error when invoking H5PGET_BTREE_RATIOS. (PVW-19026)
- Fixed "can't find object for ID" error when invoking H5PGET_CACHE. (PVW-19027)
- Fixed an error in XmlNewDoc that could fail to detect when a DOCTYPE element should be present. (PVW-19050)
- Fixed a crash when calling unsupported method GET_SYMBOL. (PVW-19074)

- Fixed an error in WV_H5ESET_AUT0 that caused PV-WAVE to crash when printing an HDF5 error. (PVW-19052)
- Fixed copying of user data with more than one dimension for WtAddHandler, WtInit, WtInput, WtSet, WtTimer, and WtWorkProc in PV-WAVE 64-bit on Windows. (PVW-19056)
- Image and Photo options' third party dependencies were upgraded:
  - libpng 1.6.19 to 1.6.40 on Windows (PVW-19089)
  - LibTIFF 4.0.6 to 4.0.9 on Windows (PVW-19089)
  - zlib 1.2.8 to 1.3 on Windows (PVW-19089)
  - libjpeg 8c to 8d on Solaris (PVW-19090)
  - libpng 1.6.16 to 1.6.40 on Solaris (PVW-19090)
  - LibTIFF 3.9.4 to 4.0.9 on Solaris (PVW-19090)
  - zlib 1.2.7/1.2.8 to 1.3 on Solaris (PVW-19090)
- Fixed linker error "unresolved external symbol" when using Fortran OPI functions on Windows. (PVW-19085)
- Fixed compiler error "undeclared identifier" when calling OPI functions wave_onerror, wave_is_onerror, wave_onerror_continue, and wave_is_onerror_continue. (PVW-19085)
- Updated wavevars to initialize return variables to TYP_UNDEF if the source variable's type is undefined or a conversion is unavailable. (PVW-19086)
- Fixed "X Toolkit Error: Window creation failed" error when invoking WwSeparator on Windows. (PVW-19087)
- Fixed reading of DOUBLE value for READ and READF. (PVW-19100)
- Updated WV_H5AREAD and WV_H5DREAD to return an error if an unknown type is encountered. (PVW-19082)
- Fixed Z-buffer output device INF0 resolution format. (PVW-19101)
- Fixed display of extremely large values from RENDER function on Windows 64-bit. (PVW-19103)
- VTK7 option third party dependencies were upgraded:
  - libtommath (used by TCL) 1.2.0 to 1.2.1 (PVW-19091)
  - vtkfreetype 2.4.7 to 2.12.0 (PVW-19092)
  - vtkpng 1.2.55 to 1.6.37 (PVW-19092)
  - vtktiff 4.0.6 to 4.6.0 (PVW-19092)
  - vtkzlib 1.2.8 to 1.2.13 (PVW-19092)
  - zlib (used by TCL) 1.2.12 to 1.2.13 (PVW-19091)
- Fixed a crash during printing with the WMF driver when the printer becomes unavailable. (PVW-19108)
- Renamed opi_f_devel.h to opi_devel.f to match Fotran standards. Fixed the formatting of opi_devel.f. Removed the copy of the file from the demo/interapp/linknloadfor_opi directory. (PVW-19095)
- Fixed an error displaying the printer dialog when calling WIN32_PICK_PRINTER on Windows. (PVW-19105)
- SSL_connect was upgraded from OpenSSL 1.1.1s to 3.0.12 (PVW-18142)
- Fixed a memory corruption error in LF_WAVE_ASSIGN_STRING when assigning an array of length 1. (PVW-19151)

PV-WAVE 2023.2

- Line breaks in CGM graphics file are now handled consistently on all platforms. (PVW-18258)
- White space padding is now consistent for small values when writing out a variable of long integer with 64-bit PV-WAVE. (PVW-18271)
- Fix logic error that prevented correct unprintable character identification. (PVW-18262)
- Refactor read_srf.pro in demo/gallery3 to allow compilation with 64-bit PV-WAVE. (PVW-18231)
- PV-WAVE only installs files for the platform you selected. (PVW-18330)
- Addressed a potential resource leak in message generation. (PVW-18461)
- Fixed an issue where the LBP Device Driver crashes when opening a file. (PVW-18628)

- SSL_connect now uses the system OpenSSL on Linux. (PVW-18317)
- Fixed an issue where 64-bit PV-WAVE running as an RPC server or client is unable to send/receive TYP_INT32 data type. (PVW-18627)
- Fixed an out-of-bounds array access that resulted in undefined behavior when subscripting an array. (PVW-18668)
- Fixed wvh_askeys return value to match documentation. (PVW-18758)
- Fixed a null pointer dereference that resulted in undefined behavior when passing an empty associative array to wvh_askeys. (PVW-18700)
- Restructured interapp examples and updated them to use the CMake build system. (PVW-18733)
- PV-WAVE is compiled on Linux with GCC instead of Oracle Solaris Studio. (PVW-18319)
- Upgraded PV-WAVE Database Connection support on Linux from Oracle 11i to 19c. (PVW-18682)
- Replaced call to deprecated gets function with fgets (PVW-18871)
- Fixed the version reported by the socket option. (PVW-18745)
- Added support for RHEL 8 / GCC 8. (PVW-14635)

PV-WAVE 2023.1

- PV-WAVE socket connections failing on Windows 10 after a few minutes (PVW-14519)
- wave_assign_num does not work with large arrays when the make_copy keyword is TRUE (PVW-14027)
- Fixed potential double-free when destroying Motif widgets (PVW-17866)
- HDF4 was upgraded from 4.2r0 to 4.2.15. (PVW-16988)
- RWalib has been removed from the product. The functionality provided by RWalib is still provided in the product, however directly calling it from C is no longer supported. (PVW-17748)
- The PV-WAVE Eclipse IDE plugin has been removed from the product. (PVW-17723)
- The Database Connection Toolkit no longer supports connecting to Sybase ASE. (PVW-17055)
- The PV-WAVE installer has been updated/replaced. (PVW-17197)
- PV-WAVE now uses a local system Open Motif library. You need to update any code using the previous statically linked Open Motif libraries. (PVW-17869)
- PV-WAVE now uses the RTLD_DEEPBIND flag when opening dynamic libraries on Linux operating systems. (PVW-17869)
- SSL_connect was upgraded from OpenSSL 1.1.0f to 1.1.1s (PVW-15120)

PV-WAVE 2017.1

- Print alignment on Linux (PVW-13486)
- PV-WAVE crash with compiled .cpr files when compiled 64 bit but run on 32 bit (PVW-13920)
- Keep window open even if license is expired (PVW-14040)
- PV-WAVE hangs on Windows 10 when launched with wavewin2 (PVW-14177)
- Operating system commands executed in wavewin2.exe cause PV-WAVE MFC application to stop working and close on Windows 10. (PVW-14189)
- CPR alignment issues on Windows when executing compiled files on 32-bit PV-WAVE created with 64-bit PV-WAVE. (PVW-13920)

PV-WAVE 2017.0

- PV-WAVE Home Window correctly handles mid-command returns (PVW-8411)
- STRUCTREF: handle calls with non-existent structure names (PVW-9542)

- Update the square button on `Pushbutton(OptionMenu)` widgets with a downward triangle (PVW-13102)
- `PHOTO_QUERY_FILE` (and `PHOTO_READ`) routines: Update the `Default_filetype` keyword to match the rules listed in the discussion section. (PVW-13108)
- `PHOTO_COLOR_QUANT`: Improve error checking for the `Intleave` keyword (PVW-13109)
- SPAWN: no longer saves result in the output parameter on Windows (PVW-13192)
- DC_READ_FREE: Error reading big integer values in PV-WAVE 64-bit on Windows (PVW-13193)
- DC_READ_* routines: File is locked when using `Nrecs` keyword on Windows (PVW-13201)
- `Map_contour.pro` (or mapping demo in gallery) ignores `!PVWDATA` when creating a tmp file (PVW-13272)
- Added support for Windows Gestures in the drawing area widget (PVW-13285)
- Demo Gallery: Update the display color mode error message to include the commands for setting the color mode. (PVW-13317)
- Add support for the latest Visualization Toolkit (VTK) 7.1.0 (PVW-13390)
- Update the interapp build scripts that build/link with `gcc` to also include `libc_supp.a` (PVW-13466)
- Eclipse fails at opening `.pro` file in the PV-WAVE editor (PVW-13487)
- DC_READ_FREE: Improperly skipping the correct number of records when `Nskip` is used while ignoring $BLANK_LINES and/or $TEXT_IN_NUMERIC (PVW-13543)
- Docs: Update the `Eclipse_PV-WAVE_Plug-in_Tutorial.pdf` (PVW-13592)
- DC_READ_FREE: Incorrectly counts the number of records read and corrupts the output when text is found in a numeric field. (PVW-13624)
- DC_READ_FREE: Row-oriented reads with the `Nskip` keyword and $TEXT_IN_NUMERIC skips the entire line and doesn't count the valid record on that line. (PVW-13627)
- Segmentation Violation when defining an array with an undefined variable in 64-bit PV-WAVE (PVW-13647)

PV-WAVE 2016.1

- Update the documentation for linking an application to PV-WAVE using `quick.mk` (PVW-10551)
- Add support for '32-bit Grayscale DirectClass' GeoTIFF files as part of the `PHOTO_READ` function (PVW-10965)
- Support for Mac OS X version 10.10 (PVW-11903)
- As a PV-WAVE user I want to read a series of DICOM files rapidly using the new `PHOTO_*` functionality (PVW-12588)
- As a PV-WAVE user I want to extract a ROI from an image file using the new `PHOTO_*` functionality (PVW-12589)
- As a PV-WAVE user add support for larger image pixel sizes - 32-bit pixels (PVW-12620)
- As a PV-WAVE user, I want a tag added to the `!version` structure so I can determine the name of product release I'm using (PVW-12729)
- Interapplication communication (Interapp) demo README files need to be updated for new compilers, etc. (PVW-12730)
- Retire HPGL and PCL as supported PV-WAVE graphics device drivers (PVW-12732)
- Change the Mac OS X compiler to use the provided Clang compiler - 7.0.2 (PVW-12865)
- `linux.mkcfg`: libncurses depends on `libtinfo` (add `-ltinfo` to the make config file) (PVW-12871)
- Linux 32-bit: address cwavefor and LINKNLOAD FORTRAN example failures (PVW-12893)
- Linux 32-bit: address wavevars C LINKNLOAD example failure (PVW-12894)
- JWAVE: connection errors using Java 8 (PVW-12898)
- JWAVE: fixes for session startup timeouts and alarming exception message (PVW-12917)

- LFPOINT_LUN no longer works in 64-bit PV-WAVE on Linux (PVW-12943)
- Update the Motif license agreement in the PV-WAVE distribution files (PVW-13059)
- PHOTO_READ allows multiple image files to be read in a single command (Series keyword) (PVW-13066)
- Docs: Type keyword for the ERRCHECK Procedure needs to reflect the code when type=-1 (PVW-13115)
- IMAGE_READ: Improve error checking for results of file system interactions (PVW-13221)

PV-WAVE 12.0

- Uninstall program fails with: "Installer User Interface Mode Not Supported" (PVW-10326)
- Windows Surface and High Res monitor: Fluid particle tracking demo buttons disappear (PVW-11741)
- Adjust layout of several demos to accommodate high resolution display (PVW-11742)
- Windows Surface: Improve performance of some demos (PVW-11743)
- PV-WAVE Product Installation: "Graphical Installers are not supported" error on Linux platforms. (PVW-11745)
- Promote user library routine SIZEOF to standard library (PVW-11835)
- MEDIAN: incorrect results due to rounding errors (PVW-11983)
- Resolve image library conflicts on Linux RHEL 7.1 32-bit (PVW-11993)
- Linux 64-bit RHEL 7.1: statically link with libXm.so.2.3.3 to avoid conflicts with system libpng (PVW-11994)
- Update WacTextSize to default to use larger size.cx/size.cy for drawing rectangles (PVW-12027)
- flashing occurs with repeated updates of WwList widget on Linux and Mac OSX (PVW-12039)
- RESTORE cannot restore strings longer than 32,767 characters (PVW-12086)
- PLOT does not ignore data value if first data element is 1.#QNAN or 1.#IND0 (PVW-12145)
- Update user lib routines riff_read/riff_write.pro for 64-bit (PVW-12187)
- POLYFILL, PLOTS, CONTOURFILL: Pattern keyword works on UNIX only (PVW-12427)
- JWAVE make_config setting wrong IP address (JWAVE-154)
- Update JWAVE version number to 3.6. JWAVE directory changed to jwave-3_6. (JWAVE-184)