
* Absoft Pro Fortran 2014 for Linux
* Release Notes
* Version 14.0.6
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--- Fixed in 14.0.6 ---

1) Default initialization in arrays of user defined types

--- Fixed in 14.0.5 ---

- 1) AbsoftTools SMP analyzer fails for source files with '(' characters in path
- 2) Compilation failure for IMPORT list with more than two items
- 3) IMPORT statements in FUNCTION interface hides intrinsic functions
- 4) SELECTED_CHAR_KIND in specification/initialization statements
- 5) AbsoftTools speed_math option not synced between Target and FORTRAN pages
- 6) BIND statement with COMMON names
- 7) AbsoftTools saving files in dual screen display mode
- 8) AbsoftTools projects saved dual screen mode do not reopen dual screen mode
- 9) Compiler drivers do not respect ordering of -Wl,--whole-archive options
- 10) Memory leak for TRIM() in ELSEIF condition, when condition is false
- 11) I Edit descriptor without W.D (extension) would not output a zero value
- 12) Code generation failure for array of allocatable components in COMMON
- 13) Error not caught for allocatable array in COMMON
- 14) AbsoftTools Clear All Bookmarks in dual screen display mode

--- Fixed in 14.0.4 ---

- 1) OpenMP environment variables in AbsoftTools project files
- 2) Compilation failure with -Rp option
- 3) Compilation failure for INDEX intrinsic with KIND argument
- 4) Incorrect result for HYPOT intrinsic function
- 5) Parse error for STRUCTURE keyword outside declaration section
- 6) Code generation failure for vector shift optimization
- 7) ENCODE/DECODE statements now accept list directed format specification
- 8) AWE program hang if terminated during a READ statement
- 9) INTEGER constant conversion overflow with -i2 option
- 10) AbsoftTools hangs during Replace All in Files operation
- 11) AbsoftTools displays "file has been edited" after Replace All operation
- 12) Compiler drivers distinguish between source code errors and compiler failures
- 13) Calling STOP from AWE_addMenu subroutine causes application hang
- 14) Error when optional argument type function returns array passed to PRESENT()
- 15) CHARACTER declarations where LEN is specified with nested intrinsic functions
- 16) Memory fault with automatic deallocation of arrays with allocatable components
- 17) Memory leak with automatic deallocation of arrays with allocatable components
- 18) Optimization failure for READ and WRITE using IOMSG= specifier

--- Fixed in 14.0.3 ---

- 1) TYPE statement with both PUBLIC and BIND(C) specifiers
- 2) PUBLIC objects appearing in BIND statement
- 3) Multiple AWE_FormDialog instances
- 4) AWE_AlertBox is not modal when called from primary FORTRAN thread
- 5) Race condition in AWE_writeXYPlot, AWE_writeBarChar, AWE_writePieChart
- 6) AbsoftTools File and Edit menu actions not disabled on launch
- 7) Spurious ANSI compatibility warning

- 8) Code generation for allocatable local in RECURSIVE routine with -s
- 9) Debug line info and error line reporting for C preprocessed files

--- Fixed in 14.0.2 ---

- 1) Default mono-space font added to Fx3 and AbsoftTools
- 2) Compilation failure for in-lining INDEX intrinsic
- 3) Incorrect debug information for PROCEDURE pointers in modules
- 4) Added new AWE_clearXYPlot() routine to AWE library

--- Fixed in 14.0.1 ---

- 1) CMPLX/DCMPLX intrinsic with mixed type constant arguments
- 2) Legacy ENCODE/DECODE transfer length limit increased
- 3) ENCODE/DECODE code generation error
- 4) Code generation with pointer checking (-Rp) and optimization

--- New in Absoft Pro Fortran 2014 ---

Absoft Window Environment - AWE-Chart
Absoft Window Environment - AWE-Plot
Absoft Window Environment - AWE-Form
Enhanced AVX Instruction set performance
Support for 999 continuation lines
F2003 ABSTRACT INTERFACE
F2003 PROCEDURE pointers
F2003 enhanced TYPE initialization
F2003 POINTER bounds remapping
F2003 recognizes ASYNCHRONOUS I/O specifiers
F2008 empty CONTAINS section
F2008 BESSEL_J0, BESSEL_J1, and BESSEL_JN intrinsics
F2008 BESSEL_Y0, BESSEL_Y1, and BESSEL_YN intrinsics
F2008 BGE, BGT, BLE, and BLT intrinsics
F2008 DSHIFTL and DSIFTR intrinsics
F2008 SHIFTA, SHIFTL and SHIFTR intrinsics
F2008 MASKL, MASKR and MERGE_BITS intrinsics
F2008 EFC_SCALED, GAMMA and LOG_GAMMA intrinsics
F2008 EXECUTE_COMMAND_LINE intrinsic
F2008 IS_IOSTAT_END and IS_IOSTAT_EOF intrinsics
F2008 SELECTED_CHAR_KIND intrinsic

--- Installation Notes ---

The file `INSTALL_PROBLEMS.txt` provides solutions to getting Absoft Pro Fortran running on specific Linux distributions.

Build Platform

The 14.0 release was built on:

Open Suse 10.2 with gcc version 4.1.2 and glibc-2.5-34.13

The 14.0 release has been validated on:

Open Suse 10.2

Ubuntu 13.04
Redhat Enterprise Linux 6.4

--- Implementation Notes ---

1) VAL intrinsics and CHARACTER arguments.

When the compiler encounters a CHARACTER variable or expression as the argument to a VAL intrinsic, it passes the address of the storage for the string. This may not be the desired behavior when interfacing with a C or C++ routine. If a C/C++ routine expects C/C++ char value, the appropriate way to pass a CHARACTER*1 FORTRAN variable (or a single character inside a larger FORTRAN CHARACTER expression) is to use the ICHAR function along with the VAL intrinsic. The following example illustrates this:

```
PROGRAM MAIN
CHARACTER*1 fortran_char_variable
fortran_char_variable = 'A'
CALL c_routine(VAL(ICHAR(fortran_char_variable)))
END
```

---NOTES ON 14.0 Windows Series ---

1) Absoft FORTRAN 77 Extension GLOBAL DEFINE obsolete

Support for the GLOBAL DEFINE extension has been removed from the 14.0 and later compilers. The functionality provided by this extension has been replaced by Fortran 90 modules. Converting code that uses the obsolete extension is a straight forward process. A small example is given below:

OLD CODE:

```
GLOBAL DEFINE
  INTEGER MAX_ITEMS
  INTEGER MAX_RESULTS
  PARAMETER (MAX_ITEMS = 100)
  PARAMETER (MAX_RESULTS = 500)
END

PROGRAM MAIN
IMPLICIT NONE
END
```

NEW CODE:

```
MODULE GLOBAL_DEFINE
  INTEGER MAX_ITEMS
  INTEGER MAX_RESULTS
  PARAMETER (MAX_ITEMS = 100)
  PARAMETER (MAX_RESULTS = 500)
END MODULE GLOBAL_DEFINE

PROGRAM MAIN
  USE GLOBAL_DEFINE
  IMPLICIT NONE
END
```

--- NOTE ON UPGRADES FROM 10.0 AND EARLIER ---

The default external name decoration was changed in Absoft Fortran 95 10.1 to enhance interoperability with other compilers and third party libraries. Users upgrading from releases prior to 10.1 should be aware of the following information.

The new name decoration is fold to lower case and append a single trailing underscore to function and subroutine names. This name decoration is the default for all three compiler drivers: f77, f90, and f95.

The following option sets can be used to match the behavior of previous Absoft compilers

Code compiled by previous Absoft f77 compiler drivers:

```
-YEXT_NAMES=ASIS -YEXT_SFX=""
```

Code compiled by previous Absoft f90 and f95 compiler drivers:

```
-YEXT_NAMES=UCS -YEXT_SFX=""
```

--- Contacting Absoft Technical Support ---

To report issues you encounter while using this product, please contact Absoft Technical Support.

Absoft Technical Support engineers are available Monday-Friday, 9 a.m. - 3 p.m. EST at 248-220-1190 or via support@absoft.com.

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