

Release Notes
ATLAS Compiler
Version 03.23.00 (20050211)
11 February 2005

1.0 Overview

This release was a maintenance release whose primary purpose is to synchronize all components to use the same version number and build date.

The following describes an overview of changes included within version 20050211 (3.23.0) of the following ATLAS compiler(s)

IEEE71689 / All Stations
IEEE71695 / All Stations
IEEE71689 / FSX
IEEE71689 / TETS
ARINC / 626
ARINC / 626-3
CASS / RT
IEEE416 / ADTS
IEEE416 / ARINC
IEEE416 / GSM315
IEEE416 / GYRO
IEEE416 / PAWS
IEEE416 / TORNADO
IEEE716 / ELTA
IEEE716 / HUGHES
IEEE716 / IDL
IEEE716 / PAWS
IFTE / PAWS
MATE / ADINTS
MATE / MARTIN
MATE / MILSTAR

and version 20050211 (3.23.0) of the following ATLAS support tools:

1989 ATLAS compiler / linker
ATLAS concordance generator
PAWS ATLAS Language Encoder
ATLAS compiler / linker
Signal Resource Allocator
Device Compiler
Signal Flow Analyzer
Switch / Ita Compiler
Wirelist Generator

and version 20050211 (3.2) of the IFTE Graphics Viewer

1.1 Enhancements

1.1.1 Saving of Build Options

1.1.2 CRATE Digital Arithmetic

1.1.3 IFTE Graphics Viewer Auto Label

1.2 Problem Reports

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2.0 Detailed Description

2.1 Enhancements

2.1.1 Saving of Build Options IEEE71689, IEEE71695, ARINC/626 and ARINC/626-3

The Compile, Signal Flow Analysis and Signal Resource Allocation *build* options are saved in the object files and will be displayed by in the ACL Listing as follows:

BUILD OPTIONS:

Compile - *s*

Flow - *<none>*

Alloc - *lvpx*

The purpose was two fold.

- The Switch Server capabilities introduced in compiler release 20041216 (3.22.7) is enabled by usage of the 'q' option in the compile phase. In order for the Signal Resource Allocator to complete switching code without duplication knowledge of the compiler 'q' option was required.
- Investigation of user problem reports often requires that the 'build' options be known, recording that information in the object file will enable that information to be made available.

2.1.2 CRATE Digital Arithmetic

The legacy CRATE environment allowed the addition and subtraction of arbitrary sized DIGITAL variables. Previous releases of the PAWS CRATE ATLAS compiler allowed such arithmetic only on DIGITAL variables that were less-than-or-equal to 32 bits in *width*. This release of the PAWS CRATE ATLAS compiler and release 1.30.0 of the PAWS Studio, specifically the WRTS, supports the addition and subtraction of DIGITAL quantities up to the maximum width allowed of 255 bits. If the *width* of the two operands differ the compiler will move that operand which is smaller to a temporary variable that has the *width* of the larger operand, thus the actual operation always occurs upon operands of the same *width*. Care should be taken that the result of either the addition or subtraction operation can be represented in the number of bits available. If overflow or underflow does occur then the result will be truncated.

To ensure backwards compatibility the Atlas, other options 'p' has been added. If the 'p' option is **not** selected then the above described processing will occur. However if the 'p' is selected then the processing will be identical to previous compiler releases. That processing was for operands less-than-or-equal to 32 bit to convert the DIGITAL operands to and INTEGER, perform the arithmetic, and convert the result back to a DIGITAL of the appropriate size. For operands greater-than 32 bit to issue an ERROR message.

2.1.3 IFTE Graphics Viewer Auto Label

The property LABELLEMENTS has been added to the IFTE Graphics Viewer. If set then all elements within a GED file that are **not** labeled will be labeled. That label will consist of the concatenation of the XML element attribute and value.

Example:

```
<PolyLine polyLineNumber="2">
```

would be labeled "polyLineNumber2"

Since within a frame the attributes use unique numbers then the GroupList attributes or labels are ignored. This feature is provided as a debug aid to determine the source of a displayed GED graphics element when used with the SHOWLABEL property. It is not

2.2 Problem Reports

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GED file text elements that consisted of blank characters only resulted in the creation of *empty* string text elements. Whilst text elements can be updated the size is fixed at the time of creation. As a result the display would always be empty.

This release of the IFTE Graphics Viewer corrects the problem.