

These release notes contain a summary of new features and enhancements, late-breaking product issues, migration from earlier releases, and bug fixes.

PLEASE NOTE: The version of this document in the product distribution is a snapshot at the time the product distribution was created. Additional information may be added after that time because of issues found during distribution testing or after the product is released. To be sure you have the most up-to-date information, see the version of this document on the Rogue Wave web site:

<http://www.roguewave.com/support/product-documentation/codedynamics.aspx>

Additions and Updates

Early Access Support for Linux ARM64

Early Access support for Linux ARM64 has been added with the CodeDynamics 2016.07 release! Most functionality of the debugger is supported. We have tested on Cavium's ARM64 processor running Ubuntu 14.04 and NVIDIA's Jetson TX1 running Ubuntu 16.04. We encourage you to give CodeDynamics a try on your Linux ARM64 system and report any issues (and successes!) to tv-beta@roguewave.com. The following are the known limitations and issues:

- Hardware data watchpoints are not supported on NVIDIA Jetson TX1. Setting a watchpoint in the debugger will crash the Linux kernel.
- CodeDynamics cannot unwind stack frames that have no debug information
- CodeDynamics has limitations debugging user level threads and does not support asynchronous thread control
- Reverse debugging with ReplayEngine is not supported yet

Fortran Support

Fortran debugging is now supported in CodeDynamics. Many enhancements have been added to handle Fortran data types in the Data View including support for modules and

common blocks. Please submit any feature requests for additional Fortran functionality to support@roguewave.com!

macOS Sierra Support

The CodeDynamics 2016.07 release adds support for Apple's macOS Sierra. It has also been tested against the latest macOS Sierra update, 10.12.1.

CUDA 8 Support

CodeDynamics 2016.07 has been validated against the official CUDA 8 release.

Bug fixes and improvements

There have been a significant number of bug fixes and improvements added to the 2016.07 release including:

- Improved stepping and debugging through inlined functions.
- Significant startup and stability improvements when debugging CUDA applications. Performance and stability enhancements for TotalView's reverse debugging feature, ReplayEngine.

Platform Updates

CodeDynamics 2016.07 introduces support for the following platforms, compilers and parallel environments.

• Operating Systems:

Fedora 24

Ubuntu 16.04

macOS Sierra

• Compilers:

Intel Composer XE 2017 (17.0)

GCC 6.2

Deprecation Notices

CLI *replay* command's `-get_time` and `-go_time` deprecated

The following two CLI arguments for the *replay* (which is an alias for *dhistory*) command have been deprecated

- get_time - display the current time
- go_time - put the process back to the specified virtual time

The arguments will still be available in this release but will be removed in a subsequent release. A warning will be displayed when the arguments are used. In place of these arguments, we recommend using the new CLI Replay bookmark facility instead, which provides much better accuracy in returning you to the exact point in Replay history.

Through the Replay bookmark facility, it is now possible to create a bookmark at any point in recorded history and then go back to that exact point at any time. The Replay bookmarking facility is accessed through the CLI's *replay* command through the following new arguments:

- `-create_bookmark [comment]`
Create a replay bookmark at the current location. You can specify an optional 'comment' to this command and it will be stored with the bookmark for display purposes. A bookmark will be created with a unique numeric 'ID'.
- `-delete_bookmark ID`
Delete the bookmark with the specified ID.
- `-clear_bookmarks`
Delete all Replay bookmarks.
- `-goto_bookmark ID`
Go to the bookmark with the specified ID. This will bring the focus process back in time to the place where the bookmark was first created.
- `-show_bookmarks`
Display all Replay bookmarks. This command shows the bookmark ID along with information about what line number, pc and function the bookmark is on.

Example:

```
dhistory -show_bookmarks
bookmark: 1: pc: 0x<Address>, function: main, line: 59, comment:
Starting bookmark
bookmark: 2: pc: 0x<Address>, function: main, line: 60, comment:
bookmark: 3: pc: 0x<Address>, function: main, line: 69, comment:
```

Licensing

Linux ARM64 uses an Expiring Licensing Model

The Linux ARM64 platform uses an expiring license model since the platform is not supported by the FlexLM license manager. CodeDynamics will cease to run after six months of the 2016.07 release date. Subsequent releases will extend the expiration date or provide a FlexLM license managed solution.