Application Note: 267 Version 1.3

Using alternative Arm Compiler releases in MDK

Abstract

This application note describes how to install and use a specific version of Arm compilation tools without updating MDK.

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Directory Structure

Assuming the default directory layout, the Arm compilation tools are installed in **C:\Keil_V5\ARM** in the **ARMCC** and **ARMCLANG** directories which contains the sub-folders and executables listed in the table below.

Sub-Folder	Description
\bin	Contains Arm compilation tools binaries: - **armar.exe** – Librarian Manager - **armasm.exe** – Assembler - **armcc.exe** – C\C++ Compiler (Version 5) - **armclang.exe** – C\C++ Compiler (Version 6) - **armlink.exe** – Linker - **fromelf.exe** – Image Converter
\include	C and C++ library header files
\lib	Arm Standard C and C++ library files and the microlib library files
\sw	License mapping definition files

Obtain a specific version of Arm Compilation Tools

Arm compilation tools can be downloaded in a stand-alone installer from the Download page of the Arm Developer website. Go to:

https://developer.arm.com/products/software-development-tools/compilers/arm-compiler/downloads

From there you can select various Arm Compiler 6, Arm Compiler 5 and Safety / LT Maintenance releases.

Notes:

- Make sure that the release date of the selected Arm compiler toolchain is within the support period of your MDK license.
- If you choose to download and install an Arm Compiler version 6, ensure downloading the **Windows 32-bit** installer variant to work with MDK licenses!
- Some Arm compiler tools require a login with an Arm account.

Extract the downloaded ZIP file to a temporary directory. For Arm Compiler 5, run the **setup.exe** located in the **Installer** folder. For Arm Compiler 6, run the **setup.exe** located in the **win-x86_32** folder. Follow the instructions and when prompted for a destination directory enter **<Keil_Installation_Path>\ARM\ARMCC_*xx*** where ***xx*** is the version and build number, and <Keil_Installation_Path> is C:\Keil_V5\ by default. For example: **C:\Keil_V5\ARM\ARMCC_504_b49**.

Note: The new compilation tools must be installed in a sub-folder of **<Keil_Installation_Path>\ARM**

Configuration (prior to MDK V5.12)

µVision must be configured to point to the new compilation tools.

- **Configure µVision IDE**

  µVision maintains the path to the compilation tools in the `TOOLS.INI` file located in the <Keil_Installation_Path> folder. Open `TOOLS.INI` with a text editor and find the `[ARMADS]` section.

  The entry `PATH1` points relatively to the compilation tool **\bin** folder. `PATH1` needs to be changed to point to the new directory. For example: **.\ARMCC_504_b49\bin**

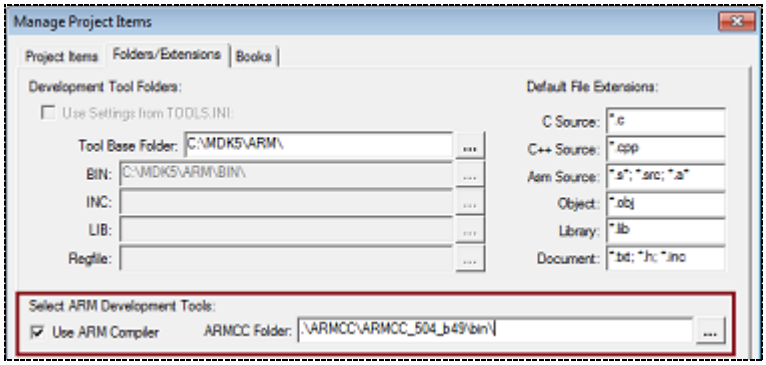
  Make your changes and save `TOOLS.INI`. The new entry might look like the snippet below:

```
...
[ARMADS]
...
PATH1=".\ARMCC_504_b49\bin\"
...
```

  Open µVision and make sure an Arm project is loaded. Check the compilation tool version with the menu **Help - About µVision**. The dialog should show the new version, for example:

- **Alternative configuration**

  It is also possible to change the path to the Arm Development Tools binaries via the µVision dialog field **Project - Manage - Components, Environment, Books... Folder/Extensions** tab **- ARMCC Folder**. Here you can enter the path `<Keil_Installation_Path>\ARM\ARMCC_504_b49\bin\` to point to the new binary directory of the new version.



Note: This works only if an Arm project is currently opened in µVision.

Configuration (MDK V5.12 and newer)

The registration of new compilation tools is described in the µVision manual:

http://www.keil.com/support/man/docs/uv4/uv4_armcompilers.htm

Revision History

- July 2014: Initial Version
- November 2014: Update description to reflect changes in MDK V5.12
- May 2018: Released V1.1 for MDK V5.12 and later.
- June 2018: Released V1.2 - Changed “ARM to Arm”, “MDK-ARM to MDK” and other minor clean-up.
- October 2018: Released V1.3
  - Changed the Arm Compiler tools download link to developer.arm.com.
  - Clarified that 32-bit version of Arm Compiler 6 must be used with MDK license.
  - Used a link to the µVision manual rather than a separate description.