RealView® Development Suite v4.0
Installation Guide for Windows and Red Hat Linux

Release Information

The following changes have been made to this book.

Change History

Date	Issue	Confidentiality	Change
September 2003	A	Non-Confidential	RealView Developer Suite v2.0 Release
January 2004	B	Non-Confidential	RealView Developer Suite v2.1 Release
December 2004	C	Non-Confidential	RealView Developer Suite v2.2 Release
May 2005	D	Non-Confidential	RealView Developer Suite v2.2 SP1 Release
March 2006	E	Non-Confidential	RealView Development Suite v3.0 Release
March 2007	F	Non-Confidential	RealView Development Suite v3.1 Release
February 2008	G	Non-Confidential	RealView Development Suite v3.1 Professional Release
September 2008	H	Non-Confidential	RealView Development Suite v4.0 Release
6 November 2009	I	Non-Confidential	RealView Development Suite v4.0 SP3 Release

Proprietary Notice

Confidentiality Status

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Unrestricted Access is an ARM internal classification.

Product Status

The information in this document is final, that is for a developed product.

Web Address

`http://www.arm.com`

Contents

1 System requirements

The minimum specification of computer for use with ARM® *RealView® Development Suite* (RVDS) v4.0 SP3 must have a 1GHz Pentium III class processor with 512MB of system memory.

The recommended specification is a Pentium 4 class machine with 1GB of memory.

Note

If you have RVDS Professional edition, the minimum recommended specification for ARM Profiler is a 2GHz dual-core processor with 1GB of memory.

1.1 Supported platforms

RVDS v4.0 SP3 is supported on:

- Windows Vista Business, service pack 1
- Windows Vista Enterprise, service pack 1
- Windows XP Professional, service pack 2
- Windows Server 2003 (Compiler only)
- Red Hat Enterprise Linux WS version 4 for Intel x86 using Gnome Window Manager and bash Shell
- Red Hat Enterprise Linux WS version 5 for Intel x86 using Gnome Window Manager and bash Shell.

All tools support both 32-bit and 64-bit versions of these operating systems where available. However, RealView ICE does not support 64-bit versions of Red Hat Linux nor the installation of 64-bit USB drivers on Windows Vista.

Note

RVDS v4.0 uses the FLEXnet license management software, owned by Acresso Software Inc. (formerly the Software Business Unit of Macrovision Corporation). To use floating licenses, TCP/IP networking must be configured and running on every relevant computer. See the *FLEXnet for ARM Tools License Management Guide v4.2* for more information.

1.2 RealView ICE host software

The version of the RealView ICE host software available at the time of the RVDS v4.0 SP3 release is installed with the **Full** product selection. However for:

- hardware debugging you require a RealView ICE run control unit connected to the host using TCP/IP or USB
- capturing and analyzing trace with RealView Debugger requires the following:
  - capturing trace using an *Embedded Trace Buffer™* (ETB™), you require a RealView ICE run control unit connected to the host using TCP/IP or USB
  - capturing trace directly from an *Embedded Trace Macrocell™* (ETM™), you require a RealView Trace or RealView Trace 2 data capture unit connected to the host through a RealView ICE run control unit

  Note

  Trace capture and analysis with RealView Debugger is supported only on Windows platforms.
- hardware profiling you require:
  - a RealView ICE run control unit connected to the host using TCP/IP or USB
  - a RealView Trace 2 data capture unit connected to the host using USB.

You must purchase the RealView ICE, RealView Trace, and RealView Trace 2 hardware separately, depending on your debug and trace requirements. When you purchase the RealView ICE hardware, a version of the RealView ICE host software is included.

See the *RealView ICE and RealView Trace User Guide* for more information.

Networking software

To make a remote connection to the RealView ICE run control unit and target hardware, your operating system must be installed with its supplied networking software.

2 Installing RealView Development Suite on Windows

To install RVDS v4.0 SP3, you can:

- use the ARM RealView Software Wizard, and follow the on-screen prompts
- run the command-line installer, which is useful for installing from a batch file for unattended installations (see *Installing RealView Development Suite from the command line* on page 7).

Note

The product must be installed from an account with administrator privileges.

Note

It is recommended that you read the release notes for important information about this release before continuing with the installation.

2.1 Installing with the ARM RealView Software Wizard

To install RVDS v4.0 SP3:

1. Do one of the following:
   - If you are installing RVDS from a CD, insert the CD into the CD-ROM drive.

     The ARM RealView Software Wizard starts automatically. If it does not start, run the program `setup.exe` in the top-level directory of the CD-ROM.
   - If you are installing a patch, download the patch from the ARM website and run `setup.exe`.
2. Follow the on-screen prompts to install RVDS.

   The Customize panel of the ARM RealView Software Wizard lists all component software options. Select:
   - **Full** to install all component software. This is the default option.
   - **No Documentation** to install the default component software without documentation.
   - **RVCT Only** to install only the *RealView Compilation Tools* (RVCT).
   - **RVD Only** to install only RealView Debugger.
   - **RVI Only** to install only the RealView ICE host software.

   To choose your own set of installation options, then select or deselect the options as required. The installation type changes to `Custom`.

   Note

   You can set up or modify the environment variables after the installation is complete by using the `armenv` tool (see the *RealView Development Suite Getting Started Guide* for more details).
3. Continue with the installation.
4. When the software installation is complete, the ARM License Wizard is launched. If you already have a network FLEX*net* license server set up and running, or if you want to defer installing a license to a later time, click **Cancel**. Otherwise, follow the prompts to install your license file or go to the ARM licensing web site to obtain a license.
5. If you installed the RealView ICE host software, see *Completing the RealView ICE installation* on page 10 for additional steps that are required to complete the installation of the RealView ICE run control unit.

2.2 Modifying or uninstalling RealView Development Suite

To modify or uninstall RVDS:

1. Make sure that no RVDS component is running before you start.
2. Select **Start** → **Programs** → **ARM** → **Modify or Uninstall RVDS 4.0 *edition*** to launch the ARM RealView Software Wizard.
3. Follow the on-screen prompts.
4. On the Product Setup panel, select:
   - **Modify** to change the installed components
   - **Uninstall** to completely remove RVDS from your computer.

5. If you are prompted to reboot, you must reboot your computer to complete the uninstall.

Note

RealView Debugger stores RealView ICE configuration (RVConfig `.rvc`) files in your RealView Debugger home directory. The default RealView Debugger home directory is:

`C:\Documents and Settings\`*`username`*`\Application Data\ARM\rvdebug\4.0`

When RVDS is uninstalled, the files in this directory are not removed.

3 Installing RealView Development Suite on Red Hat Linux

To install RVDS v4.0 SP3, you can:

- use the ARM RealView Software Wizard, and follow the on-screen prompts
- run the command-line installer, which is useful for installing from a batch file for unattended installations (see *Installing RealView Development Suite from the command line* on page 7).

Note

Do not install as root, or other privileged user. If you do, then configuration files that might have to be modified by other RealView components (such as RealView ICE) cannot be changed, and can cause configuration failures.

Note

Read the release notes for important information about this release before continuing with the installation.

3.1 Installing with the ARM RealView Software Wizard

To install RVDS v4.0 SP3:

1. Insert the CD into the CD-ROM drive.
2. If the CD-ROM drive does not automount:
   a. `su` as root.
   b. Mount the CD-ROM drive by typing:
      `mount` *`device mount-dir`*
      where *`device`* is the path of your CD-ROM drive, for example `/dev/cdrom`, and *`mount-dir`* is the path to an existing directory where the CD-ROM is to be mounted, for example, `/mnt/cdrom`
   c. Exit as root.
3. Move to the top-level CD-ROM directory. For example:
   `cd /mnt/cdrom`
4. Start the ARM RealView Software Wizard:
   `setuplinux.bin`
5. Follow the on-screen prompts to install RVDS.
   The Customize panel of the ARM RealView Software Wizard lists all component software options. Select:
   - **Full** to install all component software. This is the default option.
   - **No Documentation** to install the default component software without documentation.
   - **RVCT Only** to install only the RVCT.
   - **RVD Only** to install only RealView Debugger.
   - **RVI Only** to install only the RealView ICE host software.

   To choose your own set of installation options, select or deselect the options as required. The installation type changes to `Custom`.

   Note

   You can set up or modify the environment variables after the installation is complete by using the `armenv` tool (see the *RealView Development Suite Getting Started Guide* for more details).
6. Before you continue with the installation, you must export your RVDS license.

   Note

   The ARM License Wizard is not available on Red Hat Linux.
7. The installer generates a script file that sets up the environment variables for RVDS v4.0, *`install_directory`*`/RVDS40env.posh`.
   Use the `source` command with the appropriate shell script to add the new environment to the current shell. You can also generate these shell script files using the `armenv` tool. See the *RealView Development Suite Getting Started Guide* for more details.

8. If you installed the RealView ICE host software, see *Completing the RealView ICE installation* on page 10 for additional steps that are required to complete the installation of the RealView ICE run control unit.

3.2 Modifying or uninstalling RealView Development Suite

To modify or uninstall RVDS:

1. Make sure that no RVDS component is running before you start.
2. Start the ARM RealView Software Wizard:
   `setuplinux.bin`
3. Follow the on-screen prompts.
4. On the Product Setup panel, select:
   - **Modify** to change the installed components
   - **Uninstall** to completely remove RVDS from your computer.
5. Follow the instructions to complete the required action.

Note

RealView Debugger stores RealView ICE configuration (RVConfig `.rvc`) files in your RealView Debugger home directory. The RealView Debugger home directory is:

`~/rvd`

When RVDS is uninstalled, the files in this directory are not removed.

Uninstalling multiple ARM products

To uninstall multiple ARM products, do one of the following:

- Run the `install_directory/bin/uninstall.sh` command.
- Launch the ARM RealView Software Wizard with the `-unistall` option:
  `setuplinux.bin -uninstall`
  If you specify the `uninstall` option without the `-` prefix, then you must also specify the ARM product to uninstall (see *Uninstalling from the command line* on page 8 for details).

4 Installing RealView Development Suite from the command line

You can install RVDS using a CLI command:

- On Windows, use:

  `setupcli.exe`
- On Red Hat Linux, use:

  `setupclilinux.bin`

These commands perform a non-interactive installation of RVDS.

Note

Also see *Completing the RealView ICE installation* on page 10 for additional steps that are required to complete the installation of the RealView ICE run control unit.

4.1 Getting help on the command line installer

You can get help on the command line installer:

- On Windows, enter:

  `setupcli.exe help [command]`
- On Red Hat Linux, enter:

  `setupclilinux.bin help [command]`

4.2 Installing on Windows

If the CD is in drive `D:`, and `C:\Program Files\ARM` is your chosen installation directory, enter the following command:

```
D:\setupcli.exe install --source D: --target "C:\Program Files\ARM" --env
SYSTEM
```

If you prefer to set up the user environment rather than the system environment, specify `--env USER` instead. This restricts the environment settings to your login on the computer.

You can also install RVDS to a network share, but each user must then setup their environment to run RVDS as follows:

```
cd "W:\ARM\bin\win_32-pentium"
armenv --system -p RVDS
```

During installation, the installer asks you to agree to the *End User License Agreement* (EULA). Enter **yes**.

Note

The product must be installed from an account with administrator privileges.

4.3 Installing on Red Hat Linux

If the media is mounted as `/mnt/cdrom` and `/opt/ARM/RVDS` is your chosen installation directory, enter the following command:

```
/mnt/cdrom/setupclilinux.bin install --source /mnt/cdrom \
--target "/opt/ARM/RVDS"
```

During installation, the installer asks you to agree to the EULA. Enter **yes**.

4.4 Choosing the level of installation

You can choose the level of installation with the optional `--level option` argument, where `option` can be one of the following:

- **Full** to install all component software. This is the default option.
- **No Documentation** to install all component software without documentation.
- **RVCT Only** to install only the RVCT.
- **RVD Only** to install only RealView Debugger.
- **RVI Only** to install only the RealView ICE host software.

For example, to install only RVCT, enter the following command:

- On Windows:

```
D:\setupcli.exe install --source D: --target "C:\Program Files\ARM"
--env SYSTEM --level "RVCT Only"
```

- On Red Hat Linux:

```
/mnt/cdrom/setupclilinux.bin install --source /mnt/cdrom \
--target "/opt/ARM/RVDS" --level "RVCT Only"
```

4.5 Installing a variant on a non-native platform

You can install the Windows or Red Hat Linux variant of RVDS on a non-native platform. For example, you might install the Red Hat Linux variant as a shared installation on a Windows server, because some of your users are using Red Hat Linux.

To install RVDS on a non-native platform, use the `--var platform [win32|linux]` argument to specify the non-native platform. For example, to install the Red Hat Linux variant of RVDS on Windows, enter:

```
D:\setupcli.exe install --source D: --target "C:\Program Files\ARM" --var
platform linux --shared
```

See *Variant syntax* on page 9 for details on the syntax of `--var`.

`--shared` prevents non-native elements of the installer from running. In this example, elements such as adding items to the Gnome Application menu are not performed.

Installing both variants on a single platform

To install both the Windows and Red Hat Linux variants of RVDS on a single platform, for example on Red Hat Linux:

1. Install the Red Hat Linux variant:

   ```
   /mnt/cdrom/setupclilinux.bin install --source /mnt/cdrom \
   --target "/opt/ARM/RVDS"
   ```

2. Install the Windows variant:

   ```
   /mnt/cdrom/setupclilinux.bin install --source /mnt/cdrom \
   --target "/opt/ARM/RVDS" --var platform win_32 --shared
   ```

   `--shared` prevents non-native elements of the installer from running. In this example, elements such as launching the ARM License Wizard and adding items to the Windows Start menu are not performed.

4.6 Uninstalling from the command line

You can uninstall RVDS from the command line:

- On Windows, enter:

  `setupcli.exe uninstall --product` *`product`* `[--var` *`variant`*`] [--root` *`root`*`] [--shared]`

- On Red Hat Linux, enter:

  `setupclilinux.bin uninstall --product` *`product`* `[--var` *`variant`*`] [--root` *`root`*`] [--shared]`

See *Product syntax* on page 9 for details on the syntax for *`product`*.

See *Variant syntax* on page 9 for details on the syntax for *`variant`*.

`--root` *`root`* is the root of your installation. The default is specified by the `ARMROOT` environment variable.

`--shared` prevents non-native elements of the uninstaller from running. For example, when uninstalling a Windows variant on Red Hat Linux, elements such as removing the ARM License Wizard and removing items from the Windows Start menu are not performed. See *Installing a variant on a non-native platform*.

Note

RealView Debugger stores RealView ICE configuration (RVConfig `.rvc`) files in your RealView Debugger home directory:

- On Windows, the default RealView Debugger home directory is:

  `C:\Documents and Settings\`*`username`*`\Application Data\ARM\rvdebug\4.0`

- On Red Hat Linux, the RealView Debugger home directory is:

  `~/rvd`

When RVDS is uninstalled, the files in these directories are not removed.

Note

To uninstall multiple ARM products, prefix the `uninstall` option with a hyphen. Do not include any other option, for example:

```
setupcli.exe -uninstall
```

4.7 Product syntax

The syntax for specifying the product is:

`-product` *`category`* [*`name`* [*`version`* [*`revision`*]]]

where:

`category` The product identifier, for example, `RVDS`.

`name` Do not use this argument (the default name is `Contents`).

`version` The version number of the product, for example, `4.0`. If you do not specify a version, the most recent version of the installed product is used.

`revision` A specific build number for the product. If you do not specify a build number, the most recent build of the installed product is used.

For example, to uninstall RVDS v4.0 on Windows, enter:

```
setupcli.exe uninstall --product RVDS 4.0
```

4.8 Variant syntax

The syntax for specifying the variant is:

`--var` *`name value`* [*`name value`*]...

Identifies a variant of the same product.

`name` The type of the variant, for example, `platform`. It is recommended that you use only the `platform` variant.

`value` The specific variant, either `linux` or `win_32`.

For example, to uninstall the Red Hat Linux variant of RVDS v4.0, enter:

```
setupclilinux.bin uninstall --product RVDS 4.0 --var product linux
```

5 Completing the RealView ICE installation

If you have chosen to install the RealView ICE host software, then you must set up the RealView ICE hardware for use. The following sections describe how to do this.

Note

You must purchase the RealView ICE hardware separately.

5.1 Using RealView ICE over a network

To use RealView ICE over a network, you must run the RVI Update application.

For information on using the RVI Update application to update the firmware on the RealView ICE run control unit, see the *RealView ICE and RealView Trace User Guide*.

5.2 Installing the USB device driver

This section describes how to install the USB driver.

Windows XP SP2 and Windows Vista

1. Connect the RealView ICE unit to your PC using a USB cable, then power-on the RealView ICE unit.
2. Windows detects the connection, and a new hardware dialog appears.
3. Follow the on-screen instructions.

Note

If you have already installed the RealView ICE host software, you can find the drivers at the following location:

`install_directory\RVI\Drivers\usb_driver\...\win_32-pentium`

Additional information

Be aware of the following when installing the RealView ICE USB driver:

- If you have USB 1.1 and USB 2.0 ports on your PC, connecting the RealView ICE unit to a USB 1.1 port results in the following message:

  ```
  HI-SPEED USB Device Plugged into non-HI-SPEED USB Hub
  ```

  RealView ICE is compatible with both ports, so you can either continue on USB 1.1 or move to an available USB 2.0 port for improved USB performance.

  If you are profiling with a RealView Trace 2 unit, use a USB 2.0 port.
- RealView ICE provides new versions of the USB drivers for RealView ICE and RealView Trace. When upgrading from an earlier RealView ICE installation you can continue using the existing drivers without any problems.

  It is possible to upgrade to the new drivers as follows:

  1. Open Windows Device Manager. To do this:
     a. Select **Control Panel** from the **Start** menu.
     b. Double-click on **System** to open the System Properties dialog box.
     c. Select the **Hardware** tab.
     d. Click **Device Manager**. The Device Manager dialog box is displayed.
  2. Expand the **Universal Serial Bus controllers** group.
  3. Select **RealView ICE Hardware on USB**.
  4. Right-click and choose **Update Driver...**. The Hardware Update Wizard is displayed.
  5. Install the USB driver as described in *Windows XP SP2 and Windows Vista*.
- RealView ICE releases earlier than the version provided with this RVDS release are unable to use the new drivers.

  To revert the USB drivers provided with an earlier RealView ICE release:

  1. Open Windows Device Manager. To do this:
     a. Select **Control Panel** from the **Start** menu.
     b. Double-click on **System** to open the System Properties dialog box.
     c. Select the **Hardware** tab.

d. Click **Device Manager**. The Device Manager dialog box is displayed.
2. Expand the **Universal Serial Bus controllers** group.
3. Select **RealView ICE Hardware on USB**.
4. Right-click and choose **Uninstall**.
5. Click **OK**.
6. RealView ICE or RealView Trace are removed from the device tree.
7. Install the earlier RealView ICE release.

- Windows XP SP1 is no longer supported by the driver that is located in:

  install_directory\RVI\Drivers\usb_driver\...\win_32-pentium.

  An earlier version that supports Windows XP SP1 is provided in:

  install_directory\RVI\Drivers\usb_driver\...\win_32-pentium\old.

  Use this location in step 3 of the procedure for reverting back to an earlier RealView ICE release on Windows XP SP1.

Red Hat Linux

Before connecting the RealView ICE or RealView Trace 2 unit on a Red Hat Linux platform, do the following:

1. If you want to connect to the RealView ICE or RealView Trace 2 unit using USB, install the `libusb` library (`/usr/lib/libusb-0.1.so.4`). This is usually located in the `libusb` or `libusb-0.1-4` package from your Red Hat Linux distribution.
2. Set the correct permissions on the USB device nodes. The `usb-install` script (as used during the RealView ICE installation) is provided to do this. You can find this script at:

   install_directory/RVI/Drivers/usb_driver/.../linux-pentium/usb-install

   Note

   You must run the `usb-install` script before connecting to RealView ICE or RealView Trace 2.

   The script requires root access to write to the `/etc` directory, and prompts for the root password if it is not run as root.

5.3 Upgrading your RealView ICE firmware

If you have a RealView ICE unit, you can upgrade the firmware to the latest version provided with RealView Development Suite. After installation, locate the version of the RealView ICE firmware you require at:

install_directory\RVI\Firmware\