



How to Enable the VTune™ Performance Analyzer on MontaVista Linux* Carrier Grade Edition 3.1

Application Note

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Contents

1.0	About This Guide	4
1.1	Related Publications	4
1.2	Document Conventions	4
2.0	Introduction	4
1.3	Linux Compatibility and Support.....	4
3.0	Recompiling the Kernel	5
1.4	Prerequisites.....	5
1.5	The Problem	5
1.6	The Solution.....	5
4.0	Installing the VTune™ Performance Analyzer	6
1.7	Prerequisites.....	6
1.8	Installing the Performance Analyzer.....	6
1.9	Installing the Remote Data Collector.....	6

Revision History

Date	Revision	Description
February 2005	001	Initial release of this document.

1.0 [About This Guide](#)

This guide describes how to use the VTune™ Performance Analyzer on MontaVista Linux* Carrier Grade Edition (CGE) 3.1. This guide contains the following chapters:

- *Chapter 1, About This Guide*— describes contents of this guide.
- *Chapter 2, Introduction*— provides background information.
- *Chapter 3, Recompiling the Kernel*— provides tips on recompiling the MontaVista kernel.
- *Chapter 4, Installing the VTune Performance Analyzer*— describes how to install the VTune Performance Analyzer and build the VTune Performance Analyzer driver for MontaVista.

1.1 [Related Publications](#)

The following table lists related topics and links that provide more information:

Topic	Link
VTune Performance Analyzer	http://www.intel.com/software/products/vtune/
MontaVista	http://www.mvista.com

1.2 [Document Conventions](#)

This document assumes the following terms and conventions:

- File names and command-line entries use `this` notation.
- Hyperlinks use [this notation](#).

2.0 [Introduction](#)

The VTune Performance Analyzer is supported on several Linux distributions, but none that specifically target the Embedded Intel® Architecture marketplace. Even though the analyzer is not supported on a given Linux distribution, it may be possible to compile the VTune Performance Analyzer driver for your specific kernel environment. This document details the necessary steps to use the sampling technology in the analyzer on MontaVista Linux CGE 3.1. These platform notes (steps, hints, and techniques) apply to the specific platform used in these notes. They may apply to other operating systems, but there is no guarantee that the user who employs these notes will successfully use the analyzer on their specific platform.

1.3 [Linux Compatibility and Support](#)

The feasibility of using the VTune Performance Analyzer on an unsupported Linux distribution depends upon how similar the distribution is to a supported Linux distribution—the greater the similarity, the greater the chance of successful use. The following instructions detail how to install and use the VTune Performance Analyzer on MontaVista Linux CGE 3.1 with a 2.4.20 kernel version. The VTune Performance Analyzer has not been validated on this platform and there is a potential for defects in the software to occur. Any such defects can be reported to Intel® Premier Support (<https://premier.intel.com>). If the defect can be reproduced on a supported Linux

distribution, the defect will be fixed. Defects specific to the MontaVista kernel will be evaluated on a case-by-case basis.

3.0 [Recompiling the Kernel](#)

1.4 Prerequisites

- MontaVista Linux* CGE 3.1 target installation
- The GNU Compiler (GCC)

1.5 The Problem

In this release of MontaVista Linux CGE 3.1, the binary kernel that is shipped with the product does not match the kernel sources available on the target system. This results in unresolved symbols when trying to compile and load the VTune™ Performance Analyzer Driver Kit.

As a workaround to this problem, it is recommended that the kernel be recompiled.

1.6 The Solution

Warning: The following instructions provide an outline for recompiling the kernel. Save a copy of the original kernel as a backup. Please refer to the MontaVista documentation for step-by-step instructions.

1. Rebuild the kernel with the default configuration (root access is required).

```
# cd /usr/src
# ln -s /opt/montavista/devkit/lsp/<your_package>/linux-
2.4.20_mvlcge31 linux
```

Where <your_package> is the name of the MontaVista install (e.g., generic_x86-pc_target-x86_pentium4)

```
# cd linux
# make oldconfig
# make dep
# make bzImage
```

2. Copy the kernel and system map to /boot.
3. Configure lilo.conf for the new kernel.
4. Run /sbin/lilo to load the new kernel.
5. Reboot the machine.

4.0 Installing the VTune™ Performance Analyzer

1.7 Prerequisites

- VTune Performance Analyzer 7.2
- Microsoft Windows* machine for hosting the VTune Performance Analyzer
- MontaVista Linux* CGE 3.1 target machine with recompiled kernel

1.8 Installing the Performance Analyzer

1. Download the VTune Performance Analyzer 7.2 package from Premier Support.
2. Run the self-extracting executable install package and follow the instructions presented by the InstallShield* wizard.
3. When the Autorun Index.htm page appears, select VTune Performance Analyzer in the installation section on the left. On the page that opens click the Install Now button.

1.9 Installing the Remote Data Collector

1. On the Index.htm page of the installation, select the Linux Remote Agent link on the left.
2. After the Linux Remote Agent has been downloaded, transfer the setup_rdc.tar file to the target MontaVista machine.
3. Untar the Linux Remote Data Collector (RDC)

```
# tar -xvf setup_rdc.tar
```
4. Run the install script to install the RDC on the target system.

```
# ./install.sh
```
5. During the installation, pressing <Enter> will select the default response.
6. Answer No to the question “Would you like to load the VTune Performance Analyzer driver at this time?”
7. Once the installation has completed, change to the directory where the VTune Analyzer Driver Kit (VDK) sources were installed.

```
# cd /opt/intel/vtune/vdk/src
```
8. Build the sampling driver using the provided script.

```
# ./build-driver
```
9. When prompted, enter the directory where the kernel sources reside.

```
/usr/src/linux
```
10. Once the driver has been built, load the driver into the kernel.

```
# ./insmod-vtune
```
11. Start the RDC server.

```
# /opt/intel/vtune/bin/vtserver -d /tmp
```

At this point, the VTune Performance Analyzer should operate as normal. Please refer to the VTune Performance Analyzer documentation for usage instructions.