

# Intel® VTune™ Amplifier XE – Linux*

## Installation Guide

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# Installation Notes

If you are installing the product for the first time, please be sure to have the product serial number available so you can type it in during installation. A valid license is required for installation and use.

To begin installation, do the following:

1. *gunzip* and *untar* to retrieve the installation package.
2. Execute the `./install.sh` script file (available at the top level in the extracted contents) as a root user. Activation is required.

***NOTE:***

- To install all components to a network-mounted drive or shared file system, execute the following command in place of the one in step 2 above: `./install.sh --SHARED_INSTALL`
- The install can be run as a non-root user, but in this case not all collectors will be available to the user.
- For successful installation you should have read and write permissions for the `/tmp` directory.

## Activation

It is required to activate the product to finish installation. There are several methods for product activation:

- Activation using serial number. Internet connection is required.
- Activation using license file.
- Activation using license server.

You can also evaluate the product for 31 days.

## Installing Collectors on Remote Systems

You can install the command line data collection features of the product on remote systems to reduce overhead and simply collect data remotely. Data collection on a remote system does not require a license; however, viewing of the data cannot be done on the remote system unless a license is present.

The results of any data collection that is run on the remote system must then be copied to the system where the regular install was done for analysis, viewing, and reporting.

To do this:

1. Copy the `CLI_install` folder (found at the top level in the extracted product install package) to the remote machine.



2. Execute `./install.sh` script file (this file is located inside the `CLI_install` folder). No activation will be required.

# Default Installation Directories

The default top-level installation directory for this product is:

- `/opt/intel/vtune_amplifier_xe_2016/` - for root user;
- `$HOME/intel/vtune_amplifier_xe_2016/` - for regular users

This product installs into an arrangement of directories shown in the list below. Not all directories will be present in a given installation.

- `<install-dir>`
  - `bin32`
  - `bin64*`
  - `config`
  - `documentation`
  - `include`
  - `lib32`
  - `lib64*`
  - `man`
  - `message`
  - `resources`
  - `samples`
  - `sdksepdk`

(*) bin64 and lib64 are available for Intel® 64 architecture install package

# Establishing the VTune Amplifier XE Environment

Use the `amplxe-vars.sh` or `amplxe-vars.csh` script to establish the VTune Amplifier XE environment, depending on used command interpreter (bash or csh/tcsh).

The command takes the form:

```
source <install-dir>/amplxe-vars.sh or
source <install-dir>/amplxe-vars.csh
```

# Advanced Installation Options

VTune Amplifier XE uses kernel drivers to enable event-based sampling (EBS) analysis. If you are not using a default kernel on the supported Linux* distributions listed above, use the SEP Driver Kit in the VTune Amplifier XE to compile drivers for your kernel.

The VTune Amplifier XE installer will automatically use the SEP Driver Kit to try and build a driver for your kernel. The driver can also be built manually after the product is installed using the SEP Driver Kit. For details, see the README.txt files in the `sepdk/src` directory.

**Note**: Kernel header sources and other additional software may be needed to build and load the kernel drivers on the Linux* operating system.

When the Advanced installation is chosen, the following options are available:

- Sampling driver install type [ build driver (default) / driver kit files only ]

You may change the option to 'driver kit files only' if you do not want to build/install driver or want to do it manually after installation.

- Driver access group [ vtune (default) ]

Setting the driver access group ownership is a security feature and is used to control access to the kernel module. By default, the group for accessing the driver is “vtune”. You may set your own group during installation or change it manually after installation by executing '`./boot-script --group <your_group>`' from the `sepdk/src` directory.

- Driver permissions [ 666 (default) ]

You may change permissions for the driver. By default, permissions are granted to all users and the group is effectively ignored. Setting this value to 660 will limit access to users in the group specified above.

- Load driver [ yes (default) ]

By default, installation loads the driver into the kernel upon successfully building it.

- Install boot script [ yes (default) ]

By default, installation sets up a boot script that loads the driver into the kernel each time the system is rebooted. The boot script can be disabled later by executing '`./boot-script --uninstall`' from the `sepdk/src` directory, as well as enabled via '`./boot-script --install`'.

- Enable per-user collection mode [ no (default) / yes]

When the per-user collection mode is on, the collector gathers data only for the processes spawned by the user who started the collection. When it is off (default), samples from all processes on the system are collected.



- Driver build options …

With this option you may specify the location of the kernel header files on this system, the path and name of the C compiler to use for building the driver, the path and name of the make command to use for building the driver. Otherwise, installation will attempt to locate these by looking in the default directories.

***NOTE:*** While a number of Linux* OS distributions are supported, the product testing has been limited to the stock Linux* kernel version associated with a distribution release. Updating the kernel to a newer version after the VTune Amplifier XE has been installed will require rebuilding its sampling (SEP) driver. Since the kernel is updated, the driver may not build due to changes in the kernel. You are recommended to back out the kernel updates until the kernels are officially supported in future releases of the VTune Amplifier XE. To check availability, please submit an issue at Intel® Premier Support (https://premier.intel.com).

# Intel® Software Manager

Intel® Software Manager is a utility that allows users to:

- Download and install updates for your Intel® Software Development Products.
- Manage subscription status of installed software.
- Activate serial numbers.
- Find out about the latest news for Intel Software Development Products.
- Intel Software Manager requires an Internet connection to connect to a remote server for information and updates.

Intel Software Manager installs with Intel Software Development Products on Windows*, Linux*, and OS X* operating systems.

To obtain more information about Intel® Software Manager, please refer to the https://registrationcenter-ssl.intel.com/Docs/ism.htm web-page.

# Removing the Product

If you want to remove an installation, run the `uninstall.sh` script from the product installation folder.

# Latest Guides

The latest versions of the Intel® VTune™ Amplifier XE Installation Guides are available in the following locations:

- Intel VTune Amplifier XE for Windows* OS: https://software.intel.com/en-us/Intel-VTune-Amplifier-XE-Install-Guide-Windows
- Intel VTune Amplifier XE for Linux* OS: https://software.intel.com/en-us/Intel-VTune-Amplifier-XE-Install-Guide-Linux
- Intel VTune Amplifier XE for OS X*: https://software.intel.com/en-us/Intel-VTune-Amplifier-XE-Install-Guide-OSX



# Related Information

After installing and configuring Intel VTune Amplifier XE, the following documentation may be of interest:

**Table 1 Related Documentation**

| Document | Description |
|---|---|
| Intel VTune Amplifier Getting Started Page | The Getting Started page provides details on the features of the product, including prerequisites, key features, and suggested workflows for product use.<br><br>The Getting Started page is installed at: `<install-dir>/documentation/<locale>/welcomepage/get_started.html`. |
| Intel VTune Amplifier Release Notes | The Release Notes contain the most up-to-date information about the product, including a product description, technical support, and known limitations and issues.<br><br>The Release Notes document is installed at: `<install-dir>/documentation/<locale>/release_notes_amplifier_<OS>.pdf`. |
| Intel VTune Amplifier Tutorials | Tutorials show you how to configure remote collection with the VTune Amplifier and use basic product features. VTune Amplifier tutorials guide a new user through basic walkthrough operations with a short sample. The tutorials provide an excellent foundation before you read the VTune Amplifier help.<br><br>To view available VTune Amplifier for Systems tutorials, open the index.htm file, which is installed at `<install-dir>/documentation/<locale>/tutorials`.<br><br>Sample code is typically installed to `<install-dir>/samples/<locale>/<programming_language>`. |
| Intel VTune Amplifier Help | The help is the primary documentation for the VTune Amplifier. To view VTune Amplifier help, do the following:<br><br>• From the product interface: Choose **Intel VTune Amplifier XE 2016 Help** from the **Help** menu, or click the **Help** button on the toolbar. |

| Document | Description |
|---|---|
| | • Outside the product interface: Open the `index.htm` file, which is installed at `<install-dir>/documentation/<locale>/help`. |
| Web Resources | • Training and Documentation<br>• Tuning Guides and Performance Analysis Papers<br>• Intel® Learning Lab (white papers, articles and more)<br>• Intel® Software Documentation Library |