Installing and Configuring AMD Diagnostics on Ubuntu

Configuration Guide

Part Number: 55704_1.00

Disclaimer

The information contained herein is for informational purposes only, and is subject to change without notice. While every precaution has been taken in the preparation of this document, it may contain technical inaccuracies, omissions and typographical errors, and AMD is under no obligation to update or otherwise correct this information. Advanced Micro Devices, Inc. makes no representations or warranties with respect to the accuracy or completeness of the contents of this document, and assumes no liability of any kind, including the implied warranties of noninfringement, merchantability or fitness for particular purposes, with respect to the operation or use of AMD hardware, software or other products described herein. No license, including implied or arising by estoppel, to any intellectual property rights is granted by this document. Terms and limitations applicable to the purchase or use of AMD's products are as set forth in a signed agreement between the parties or in AMD's Standard Terms and Conditions of Sale.

Trademarks

AMD, the AMD Arrow logo, and combinations thereof are trademarks of Advanced Micro Devices, Inc.
Linux is a registered trademark of Linus Torvalds.
Other product names used in this publication are for identification purposes only and may be trademarks of their respective companies.

Dolby Laboratories, Inc.

Manufactured under license from Dolby Laboratories.

Rovi Corporation

This device is protected by U.S. patents and other intellectual property rights. The use of Rovi Corporation's copy protection technology in the device must be authorized by Rovi Corporation and is intended for home and other limited pay-per-view uses only, unless otherwise authorized in writing by Rovi Corporation. Reverse engineering or disassembly is prohibited.

USE OF THIS PRODUCT IN ANY MANNER THAT COMPLIES WITH THE MPEG ACTUAL OR DE FACTO VIDEO AND/OR AUDIO STANDARDS IS EXPRESSLY PROHIBITED WITHOUT ALL NECESSARY LICENSES UNDER APPLICABLE PATENTS. SUCH LICENSES MAY BE ACQUIRED FROM VARIOUS THIRD PARTIES INCLUDING, BUT NOT LIMITED TO, IN THE MPEG PATENT PORTFOLIO, WHICH LICENSE IS AVAILABLE FROM MPEG LA, L.L.C., 6312 S. FIDDLERS GREEN CIRCLE, SUITE 400E, GREENWOOD VILLAGE, COLORADO 80111.

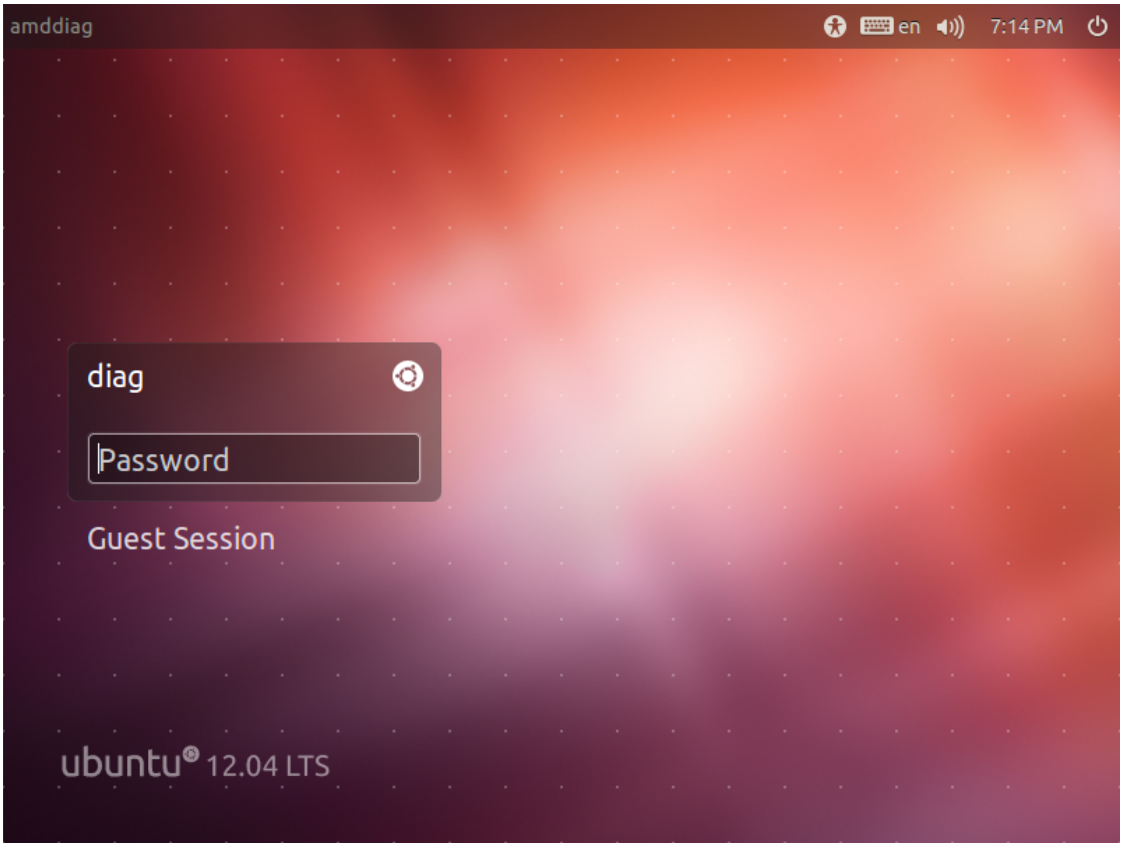
1 Introduction

This document describes how to install and configure AMD diagnostics tools that are intended for the testing of AMD graphics products. AMD diagnostics tools are required to be run on a Linux®-based operating system, such as Ubuntu.

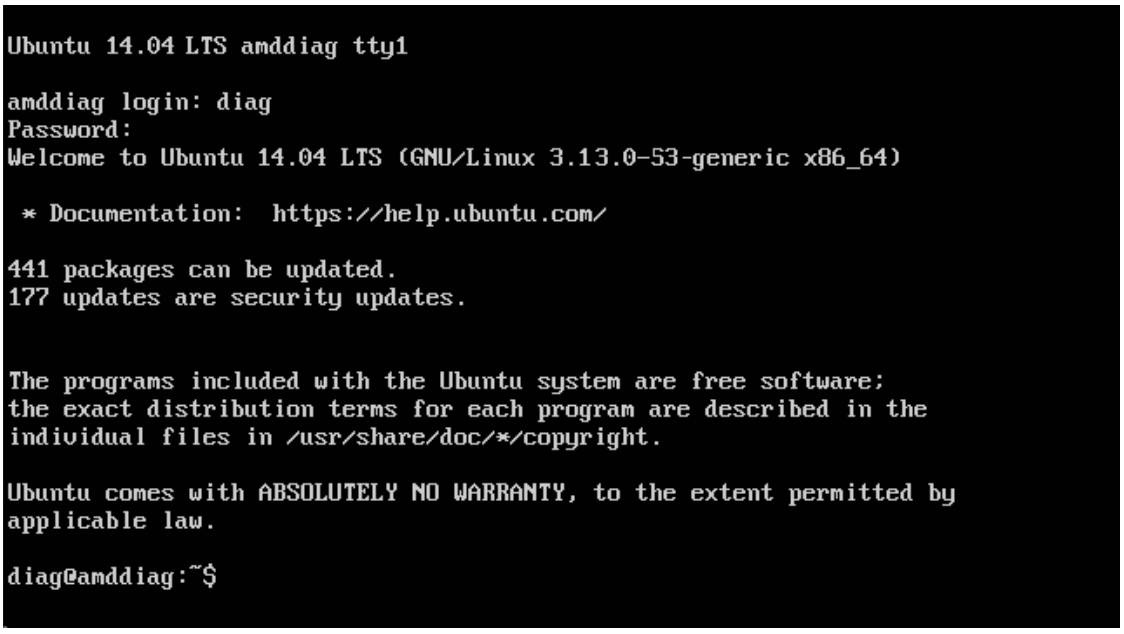
Please contact your AMD Field Applications Engineer or technical representative with any questions about this document.

2 Installing and Configuring AMD Diagnostics

1. Start up your system. If needed, press **Ctrl + Alt + F1** to switch from GUI mode (shown below) to text mode.



2. Provide your credentials as required.



3. Type **sudo passwd root** to change the root password (and to enable the root user account).

4. Type **su -** to switch to the root user.

   Note: All steps from this point must be carried out by the root user. If the system restarts, log on to the system as the root user as shown below.

5. **(Optional)** Enable automatic login as the root user by doing the following:

   a. Type **sudo pico /etc/init/tty1.conf** and edit the line **exec /sbin/getty -8 38400 tty1** to read **/sbin/getty -a root -8 38400 tty1**.

      Press **Ctrl + X** to exit the file and press **Y** when prompted to save your changes.

   b. Type **pico /etc/lighdm/lightdm.conf** and add **greeter-show-manual-login=true** to the end of the file.

      Press **Ctrl + X** to exit the file and press **Y** when prompted to save your changes.

6. Install the AMD diagnostics tools and set up the test environment as required:
   a. Download the **setup_client.sh** script from the Partner ORC at http://secure.amd.com using the **wget** command (i.e., `wget [Web_address_of_script]`).
   b. Type **chmod 777 setup_client.sh** to make the script executable.
   c. Type **./setup_client.sh** to install the tools.

```
root@amddiagg:~# ./setup_client.sh
Installing openssh-server...
Reading package lists...
Building dependency tree...
Reading state information...
openssh-server is already the newest version.
0 upgraded, 0 newly installed, 0 to remove and 623 not upgraded.


Installing vim...
Reading package lists...
Building dependency tree...
Reading state information...
vim is already the newest version.
0 upgraded, 0 newly installed, 0 to remove and 623 not upgraded.


Installing g++...
Reading package lists...
Building dependency tree...
Reading state information...
```

You can also use the following commands for installation.

Table 2–1 Additional Installation Commands

App	Command
Install openssh-server	apt-get -y -q install openssh-server
Install vim	apt-get -y -q install vim
Install g++	apt-get -y -q install g++
Install make	apt-get -y -q install make

7. Type **nano /etc/default/grub** to edit the grub configuration file and:
   a. Add **#** before **GRUB_HIDDEN_TIMEOUT=0**.
   b. Add **text mem=1024M iommu=off efi=old_map consoleblank=0** to **GRUB_CMDLINE_LINUX_DEFAULT** and **GRUB_CMDLINE_LINUX**.
   c. Press **Ctrl + X** to exit the file and **Y** when prompted to save your changes.

```
# If you change this file, run 'update-grub' afterwards to update
# /boot/grub/grub.cfg.
# For full documentation of the options in this file, see:
#   info -f grub -n 'Simple configuration'

GRUB_DEFAULT=saved
#GRUB_HIDDEN_TIMEOUT=0
GRUB_HIDDEN_TIMEOUT_QUIET=false
GRUB_TIMEOUT=10
GRUB_DISTRIBUTOR=`lsb_release -i -s 2> /dev/null || echo Debian`
GRUB_CMDLINE_LINUX_DEFAULT="quiet text mem=1024M iommu=off efi=old_map consoleblank=0"
GRUB_CMDLINE_LINUX="mem=1024M iommu=off efi=old_map consoleblank=0"
```

Note: The recommended system memory for diagnostics is at least 2 GB for mem=1024M.

8. Type **update-grub** to update your settings.
9. Configure SSH to allow its use in root user mode and to prevent it from timing out too quickly:
   a. Type **nano /etc/ssh/sshd_config**, add **#** before **PermitRootLogin without-password**, change the **StrictModes** setting to **no**, and reboot your system by typing **reboot**.

```
# Authentication:
LoginGraceTime 120
#PermitRootLogin without-password
StrictModes no
```

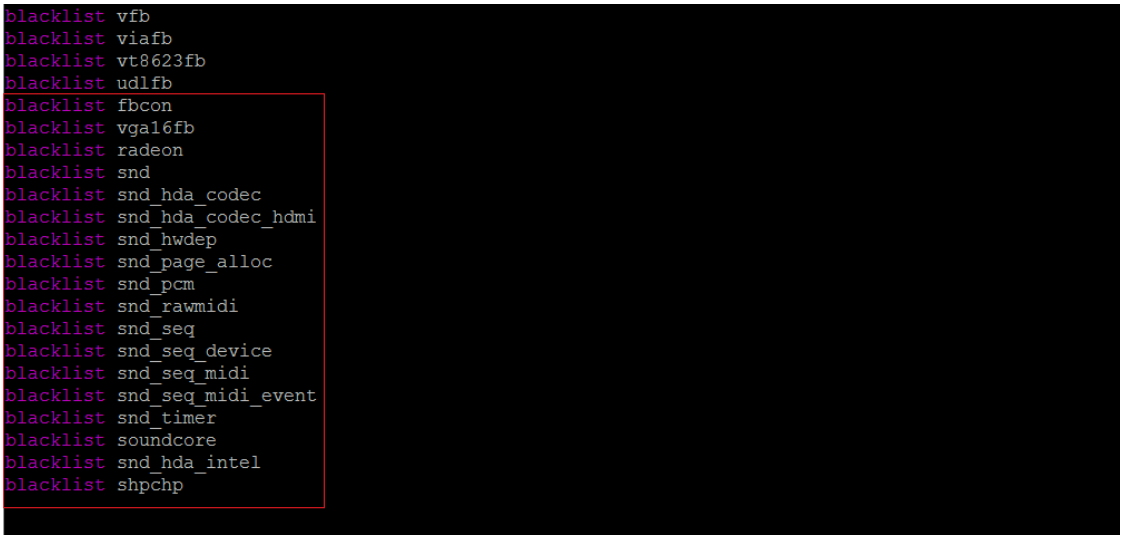
   b. To prevent the SSH client from timing out, type **nano /etc/ssh/ssh_config**, add **#** before **Keep SSH Session From Disconnecting**, add **ServerAliveInterval 60**, and reboot your system.

```
    SendEnv LANG LC_*
    HashKnownHosts yes
    GSSAPIAuthentication yes
    GSSAPIDelegateCredentials no
#Keep SSH Session From Disconnecting
   ServerAliveInterval 60
```

10. Add the following modules/drivers to the black list. This is required for compatibility with AMD Diagnostics tools.
    a. Type **nano /etc/modprobe.d/blacklist-framebuffer.conf**.

b. Make sure the following lines appear in the file:

```
blacklist fbcon
blacklist vga16fb
blacklist radeon
blacklist snd
blacklist snd_hda_codec
blacklist snd_hda_codec_hdmi
blacklist snd_hwdep
blacklist snd_page_alloc
blacklist snd_pcm
blacklist snd_rawmidi
blacklist snd_seq
blacklist snd_seq_device
blacklist snd_seq_midi
blacklist snd_seq_midi_event
blacklist snd_timer soundcore
blacklist snd_hda_intel
blacklist shpchp
```



c. Press **Ctrl + X** to exit the file and **Y** when prompted to save your changes.

Revision History

Rev 1.00 (December 2, 2015)

- Initial release.