AnywhereUSB® Manager Release Notes
Linux Versions
Version 0.2 (January 12, 2021)

INTRODUCTION

These are the release notes for the Linux version of the Manager for Digi International's AnywhereUSB® Plus.

SUPPORTED PRODUCTS

- AnywhereUSB® 2 Plus
- AnywhereUSB® 8 Plus

TESTED LINUX DISTRIBUTIONS
- Ubuntu 20.04
- Debian 10.4
- Mint 19.3
- Kubuntu 20.04

SUPPORTED LINUX KERNELS
- >=4.13.x

KNOWN ISSUES

1. Due to limitations in Linux for the number or ports supported on a hub the AnywhereUSB® 24 Plus is not currently supported.

2. No Wayland support yet.

   The AnywhereUSB® Manager requires the X Windowing system (aka Xorg or X11) and, in particular, does not currently run properly on Wayland, which has become the default on many distributions. Until we add Wayland support, a workaround on distributions like Debian 10, CentOS/RHEL 8, and OpenSUSE 15 is to select X windowing when logging in. For example, on the OpenSUSE or Debian GUI login screen (where you enter your password), click on the gear icon near the "Sign in" button and

choose "GNOME on Xorg" then continue with the sign in process.

3. Some distributions (e.g: CentOS/RHEL) do not provide the vhci_hcd driver module. Workaround: TBD: Suitable binaries may be available in EPEL or other extra package repositories.

4. Automatic discovery of AnywhereUSB® Plus hubs is not implemented in this version of the Manager. Use the Configure -> Known Hubs feature in the Manager to manually specify the IP addresses of AnywhereUSB® Plus hubs.

5. After setting the Client ID

   (File -> Preferences -> Setup -> Client ID -> Save) the field appear populated on subsequent invocations. But on Kubuntu 20.04 the field displays as blank. The value is nevertheless stored and used properly, but it should also display.

ADDITIONAL INFORMATION

Installed file locations when installed via DEB or RPM packages:
> Binary:
>> /usr/sbin/awusbmanager
>
> Release notes:
>> /usr/share/doc/awusbmanager/93001346_A.pdf
>
> udev:
>> /etc/udev/rules.d/70-awusb.rules

UPDATE BEST PRACTICES

Digi recommends the following best practices:
1. Test the new release in a controlled environment with your application before you update production devices.
2. Unless otherwise noted, apply updates in the following order:
   a. Device firmware
   b. Modem firmware
   c. Configuration
   d. Application

Digi recommends Digi Remote Manager for automated device updates. For more information, go to https://www.digi.com/products/iot-platform/digi-remote-manager. If you prefer manually updating one device at a time, follow these steps:
1. <provide pointer to firmware update method or list steps here>

TECHNICAL SUPPORT

Get the help you need via our Technical Support team and online resources. Digi offers multiple support levels and professional services to meet your needs. All Digi customers have access to product documentation. firmware, drivers, knowledge base and peer-to-peer support forums.
Visit us at https://www.digi.com/support to find out more.

UPDATE CONSIDERATIONS

Prerequisites
- Kernel version >= 4.13

- vhci_hcd driver available for the running kernel.
  To verify:

  modinfo vhci_hcd

  This command will display information about the module, rather than
  "Module vhci_hcd not found.

- X Windowing system (as opposed, for example, to Wayland, which is not
  currently supported).
  To verify:

  echo $XDG_SESSION_TYPE

  This command should return "x11".

- If the Manager is installed from the DEB or RPM package, the process will
  automatically create the "awusb" Linux group (if it doesn't already exist).
  In order to have full access to the AnywhereUSB® Plus devices, Manager
  users must belong to this group. To add a user to the awusb group:

  sudo usermod -a -G awusb <username>

  echo $XDG_SESSION_TYPEwhere "<username>" should be replaced with
  the name of the user who will run the Manager.

  NOTE: Changes to a user's group affiliations do not take effect until the
  next time the user logs in. So, while invoking the Manager immediately
  after running the above "usermod" command will appear to work, the
  user will not have permissions to connect to attached USB devices until
  first logging out and then logging back in.

  To see your current group assignments, run "groups".

- If the Manager is installed from the DEB or RPM package, udev rules are
  automatically written to /etc/udev/rules.d/70awusb.rules to ensure
  suitable awusb group access to needed resources when the vhci_hcd
  driver loads.

- If the Manager is installed manually from the TGZ package and udev is
  available, you'll want to manually copy the included 70awusb.rules file to
  etc/udev/rules.d/70awusb.rules and then instruct udev to reload its
  ruleset with:

```
                        sudo udevadm control -R
```

- If the Manager is installed manually and udev is not available on your system, manually change permissions on module resources so the Manager can access them:

```
        sudo chgrp -R awusb /sys/devices/platform/vhci_hcd.0
        sudo chmod 0220 /sys/devices/platform/vhci_hcd.0/attach
        sudo chmod 0220 /sys/devices/platform/vhci_hcd.0/detach
```

Specifics for installing these prerequisites vary between Linux distributions. For example, on Ubuntu 20.04, X windowing is the default, the vhci_hcd driver is provided as a kernel module so those prerequisites are satisfied by default. Some examples:

Prerequisites Example: Ubuntu 20.04

X windowing is the default, the vhci_hcd driver is provided as a kernel module. If the Manager displays a:

```
        Failed to load...canberra-gtk-module"
```

error message, install the missing package with:

```
        sudo apt-get install libcanberra-gtk-module
```

Prerequisites Example: CentOS 8.2

TBD

Prerequisites Example: RHEL 7.6

TBD

Prerequisites Example: Fedora 32

TBD

Prerequisites Example: Debian 10

TBD

Prerequisites Example: Kubuntu 20.04

Additional prerequisite to avoid a GTK warning:

```
        sudo apt install gnome-themes-standard
```

Without this you will likely get this:

```
        Gtk-WARNING...  Unable to locate theme engine in module_path:
            "adwaita"
```

Install/Remove

The awusbmanager files can be installed automatically using the DEB (for Debian derived distributions such as Debian, Ubuntu, Mint, etc.) or RPM (for

RedHat derived distributions such as RHEL, CentOS, Fedora, etc.) release packages, or manually using the .tgz package.

Automatic install using DEB package

Package name: awusbmanager_0.2.deb
Install:

```
# Note the leading "./"
sudo apt install ./awusbmanager_0.2.deb
```

Remove:

```
sudo apt remove awusbmanager
```

Automatic install using RPM package

Package name: awusbmanager_0.2.noarch.rpm
Install:

```
sudo dnf install ./awusbmanager_0.2.noarch.rpm
```

Remove:

```
sudo dnf remove awusbmanager
```

Note: it is also possible to install using "rpm -i" and remove using "rpm -e" but if you subsequently update to a different driver version (say updating from version 1.1 to 1.2), it will then be your responsibility to first manually remove the deprecated version. In contrast, dnf (and yum) are smart enough to recognize when you are installing a changed version of an already installed driver, in which case it tells you if it's upgrading (the version string of the candidate driver is newer than the currently installed driver) or downgrading (the version string of the candidate driver is older than the currently installed driver), and it removes the previously installed version.

Manual install using .tgz package

Package name: awusbmanager_0.2.tgz
Install:

```
#Unpack the distribution file into a temporary working directory
 tar -xvzf awusbmanager_0.2.tgz
```

TBD: Manually perform the steps delineated in debian/DEBIAN/postinst (which are run automatically when the Manager is installed from the DEB package.)

Running the Manager

Binary names and install locations.
The Manager executable are named:

```
awusbmanager64  # For 64-bit systems
awusbmanager32  # For 32-bit systems
```

When installed via the DEB or RPM packages, the proper binary for the host machine type is selected and installed as /usr/sbin/awusbmanager. When installed via the TGZ tarball, the binaries will be in the local directory where you unpacked them.

The Manager can be run by any user, but to have access to the AnywhereUSB® Plus attached devices the user must be a member of the "awusb" Linux group. See the Prerequisites section for a discussion of using usermod to do this.

While logged in as a user in the "awusb" group, invoke the binary from the Linux command line, using the pathname if needed, e.g:

```
/usr/sbin/awusbmanager    or   ./awusbmanager
```

If you get a "Failed to load...canberra-gtk-module" error message:

```
sudo apt-get install libcanberra-gtk-module
```

If you get a "vhci_hcd driver not loaded" error message:

```
sudo modprobe vhci_hcd
```

CHANGE LOG

VERSION 0.1(January 12, 2021)
This is the initial release of the AnywhereUSB® Linux Manager

NEW FEATURES
1. None

ENHANCEMENTS
1. None

SECURITY FIXES
1. None

BUG FIXES
1. None