NVIDIA DRIVEWORKS 3.5 FOR DRIVE OS 5.2.0 LINUX

Installation Guide
1.0 Installing DriveWorks 3.5 for DRIVE OS 5.2.0 Linux

1.1 Prepare Your System

1.2 Install DriveWorks 3.5 for DRIVE OS 5.2.0 Linux

1.3 Build the DriveWorks SDK Samples (Optional)

1.4 Verify the DriveWorks Installation

1.5 Uninstall DriveWorks
1.0 Installing DriveWorks 3.5 for DRIVE OS 5.2.0 Linux

This user guide demonstrates how to set up DriveWorks 3.5 for DRIVE OS 5.2.0 Linux.

1.1 Prepare Your System

1. Install DRIVE OS 5.2.0 Linux.

2. Follow the instructions under NVIDIA DRIVE OS 5.2 SDK Developer Guide > Host/Target Setup and Configuration > DRIVE OS Linux SSH Server, to enable and configure the SSH server on the DRIVE AGX platform.

3. Install X Window extension library libxinerama on the DRIVE AGX platform, by entering the following in the terminal window:
   - `sudo apt update`
   - `sudo apt install libxinerama1`

4. Ensure that CMake 3.17 or greater is installed on the host machine.
   - If you installed DRIVE OS 5.2.0 Linux per Step 1, CMake 3.17 is installed by default.
   - If you installed DRIVE OS 5.2.0 Linux from NVOnline, CMake 3.17 may not have been installed by default. To install CMake 3.17:
     - Enter `sudo apt remove cmake` in the terminal window.
     - Remove any manual builds or alternative package manager installations (suggested command: `snap remove cmake`).
     - Enter `sudo apt install cmake-data=3.17.3-0kitware1` in the terminal window.
5. Install DriveWorks dependencies, if not already installed, by executing the following command in the terminal on the host machine:

```
sudo apt install libx11-dev libxrandr-dev libxcursor-dev libxxf86vm-dev libxinerama-dev libxi-dev libglu1-mesa-dev libglew-dev libgles2-mesa-dev
```

6. Manually start X Server if the execution of graphical samples is planned:

- Enter `sudo -b X -ac -noreset -nolisten tcp` in the terminal window.
- Enter `export DISPLAY=:0` in the terminal window.
- Follow the instructions in **Window Systems > X11 Window System** within the [DRIVE OS 5.2 Linux SDK Developer Guide](#) for additional instructions.

### 1.2 Install DriveWorks 3.5 for DRIVE OS 5.2.0 Linux

1. **Download the following DriveWorks 3.5 packages** onto your host machine:

- driveworks_3.5_x86.tar
- driveworks_3.5_linux.tar

2. **Install DriveWorks 3.5 on your host machine:**

- **Extract the** driveworks_3.5_x86.tar **file:**
  - Enter `tar -xvf driveworks_3.5_x86.tar` in the terminal window on your host machine.
  - It will extract the following debians:
    - driveworks-<vsn and rel_info>-amd64-ubuntu.deb
    - driveworks_data-<vsn and rel_info>-amd64-ubuntu.deb
    - driveworks_samples-<vsn and rel_info>-amd64-ubuntu.deb
    - driveworks_doc-<vsn and rel_info>-amd64-ubuntu.deb

- **Extract the Cross-Compilation debian from** driveworks_3.5_linux.tar:
  - `tar -xvf driveworks_3.5_linux.tar driveworks_cross_linux-<vsn and rel_info>_drive-linux-5.2.0.0.deb`

- Follow the instructions in [DriveWorks SDK Reference > Getting Started > Installation on Linux Desktop](#) within the DriveWorks SDK Reference Documentation.

3. **Install DriveWorks 3.5 on the NVIDIA DRIVE AGX Platform:**
• Copy driveworks_3.5_linux.tar to the target DRIVE AGX platform by executing the following on the platform:
  
  - scp <user_name_on_Host>@<IP_address_of_Host>:/home/<path to driveworks_3.5_linux.tar on Host>/driveworks_3.5_linux.tar <path on AGX> where <path on AGX> can be any directory on the DRIVE AGX Platform.

• Extract the driveworks_3.5_linux.tar file on the DRIVE AGX Platform:
  
  - Enter tar -xvf driveworks_3.5_linux.tar in your terminal window.

  It will extract the following debians:
  
  - driveworks-<vsn and rel_info>_drive-linux-5.2.0.0.deb
  - driveworks data-<vsn and rel_info>_drive-linux-5.2.0.0.deb
  - driveworks samples-<vsn and rel_info>_drive-linux-5.2.0.0.deb
  - driveworks cross_linux-<vsn and rel_info>_drive-linux-5.2.0.0.deb
  - driveworks doc-<vsn and rel_info>_drive-linux-5.2.0.0.deb

• Follow the instructions in DriveWorks SDK Reference > Getting Started > Installation on NVIDIA DRIVE Platform (Linux) within the DriveWorks SDK Reference Documentation.

• Note: You may see the following output from dpkg at the post-initialization stage when installing driveworks-<vsn and rel_info>_drive-linux-5.2.0.0.deb:

  Setting up driveworks (3.5.75) ...
  (-- install): installed driveworks package post-installation script subprocess returned error exit status 2 Errors were encountered while processing

  o You can safely ignore this message; the post initialization script is lacking and does not affect the installation.

  o Consecutive dpkg commands generate the following output, due to dependency on the package in the note above. Ignore messages such as dependency problems - leaving unconfigured.
1.3 Build the DriveWorks SDK Samples (Optional)

While building the DriveWorks Samples is not a required installation step, we recommend performing this step to help validate that DriveWorks successfully installed.

1. Build the DriveWorks SDK Samples on your host machine.
   - Follow the instructions in DriveWorks SDK Reference > Tutorials > Basic Tutorials > DriveWorks 101 > Building the Samples > Building for the Linux Host System within the DriveWorks SDK Reference Documentation.

2. Cross-compile the DriveWorks Samples for NVIDIA DRIVE Platform:
   - Follow the instructions in DriveWorks SDK Reference > Tutorials > Basic Tutorials > DriveWorks 101 > Building the Samples > Cross-Compiling for the NVIDIA DRIVE Platform (Linux) within the DriveWorks SDK Reference Documentation.
   - Note: There are occasional erroneous references to NVIDIA DRIVE OS 5.1 in the DriveWorks SDK Reference Guide. You must have NVIDIA DRIVE OS 5.2 instead of NVIDIA DRIVE OS 5.1 to cross-compile the samples.

1.4 Verify the DriveWorks Installation

1. To verify your DriveWorks installation, follow the instructions in DriveWorks SDK Reference > Getting Started > Verify Your Installation within the DriveWorks SDK Reference Documentation.

1.5 Uninstall DriveWorks

To uninstall DriveWorks, execute the following commands:

- List the DriveWorks packages:
  ```bash
dpkg --list | grep drive
  ```

- Uninstall DriveWorks package with all dependencies:
  ```bash
dpkg --purge <package name>
  ```
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