



Arrow Lake S Intel® Platform for Linux* Kernel 6.11 OpenVINO™ Integration BKM

Validation Report

WW46, November 2024



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Revision History

Revision	Description	Revision Date
1.0	• Initial Release	September 2023
2.0	• Updated Kernel Version to 6.5.7	February 2024
3.0	• Updated Kernel Version to 6.8.0	June 2024
4.0	• Updated Kernel Version to 6.9.0	July 2024
5.0	• Updated Kernel Version to 6.10.1	August 2024
6.0	• Updated Kernel Version to 6.11	November 2024

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1 Overview

This document covers the BKM for integrating the OpenVINO Toolkit on Intel® Platform for Linux Kernel 6.11 platform. The document provides steps to enable the OpenVINO toolkit.

1.1 Security Considerations

This document provides a sample integration workflow to enable the OpenVINO Toolkit on Intel® Platform for Linux Kernel 6.11. These instructions shall be used as reference only, and it's the responsibility of the <integrator> to ensure that all components and their dependencies are using the latest available secure versions of the implementation. These instructions are for reference only, hence it's the responsibility of the <integrator> to take security considerations into account prior building a production capable system.

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2 OpenVINO™ Toolkit BKM

Follow the below steps to build and install the OpenVINO toolkit. The below steps provides the instructions as performed on the DUT. The toolkit has a dependency on the Graphics driver and GNA driver. Please follow the steps present in the Intel_Platform_for_Linux_Kernel_6.11_Graphics_and_Media_Driver_Integration_BKM_for_ARL-S_WW46.pdf before applying the below steps.

2.1 Setup

- Install the required package using the command
sudo apt-get install -y build-essential cmake git
- Check that the date and time on the system are correct.
- Ensure that there are no background ubuntu updates in progress as this would be a conflict in getting a dpkg lock by install script.

2.2 OpenVINO™ Toolkit

- Download the Intel OpenVino Version: 2024.2.0 source from https://storage.openvinotoolkit.org/repositories/openvino/packages/2024.2/linux/l_openvino_toolkit_ubuntu22_2024.2.0.15519.5c0f38f83f6_x86_64.tgz & untar the file
- sudo mkdir -p /opt/intel/openvino
- cp -r <content> /opt/intel/openvino/usr/local

2.3 Installing the OpenVINO™ Toolkit Dependency NEO Package

follow the below steps to install the OpenVINO toolkit dependencies.

- mkdir neo
- cd neo
 - wget https://github.com/intel/intel-graphics-compiler/releases/download/igc-1.0.16510.2/intel-igc-core_1.0.16510.2_amd64.deb
 - wget https://github.com/intel/intel-graphics-compiler/releases/download/igc-1.0.16510.2/intel-igc-opengl_1.0.16510.2_amd64.deb
 - wget https://github.com/intel/compute-runtime/releases/download/24.13.29138.7/intel-level-zero-gpu_1.3.29138.7_amd64.deb
 - wget https://github.com/intel/compute-runtime/releases/download/24.13.29138.7/intel-opengl-icd_24.13.29138.7_amd64.deb
 - wget https://github.com/intel/compute-runtime/releases/download/24.13.29138.7/libigdgmm12_22.3.18_amd64.deb
 - wget <https://github.com/intel/compute-runtime/releases/download/24.13.29138.7/ww13.sum>

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- sha256sum -c ww13.sum
- sudo dpkg -i *.deb
- sudo usermod -a -G video,render <username>

2.4 OpenVINO™ Verification

Follow the below steps to run the OpenVINO demo on the CPU, GPU and GNA.

- source /opt/intel/opencvino/usr/local/setupvars.sh
- cd /opt/intel/opencvino/usr/local/install_dependencies
- sudo ./install_opencvino_dependencies.sh
- cd /opt/intel/opencvino/usr/local/samples/cpp
- bash build_samples.sh

The samples will be built and copied to \$HOME directory.

- cd \$HOME/inference_engine_cpp_samples_build/intel64/Release
- Download the pre-trained model for squeezenet1.1 using model downloader from https://github.com/openvinotoolkit/open_model_zoo
- To verify OpenVino on CPU
 - ./classification_sample_async -i /opt/intel/opencvino/deployment_tools/demo/car_1_re.bmp -m <model.xml> -d CPU
- To verify OpenVINO on GPU
 - ./classification_sample_async -i /opt/intel/opencvino/deployment_tools/demo/car_1_re.bmp -m <model.xml> -d GPU
- To verify OpenVINO on GNA, please follow the steps present at https://docs.openvino.ai/2018_R5/_samples_speech_sample_README.html

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