



NVIDIA DOCA Tools

Overview

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Chapter 1. Introduction

DOCA tools are a set of executables/scripts that are needed to produce inputs to some of the DOCA libraries and applications.

All tools are installed with DOCA, as part of the `doca-tools` package, and can either be directly accessed from the terminal or can be found at `/opt/mellanox/doca/tools`. Refer to [NVIDIA DOCA Installation Guide](#) for more information.

List of tools for both the host and the NVIDIA® BlueField® DPU:

- ▶ DPI compiler
- ▶ RXP compiler (rxpc)
- ▶ RXPBench

Chapter 2. DPI Compiler

CLI name: `doca_dpi_compiler`

This tool is used to create one of the necessary inputs to the DOCA DPI library.

The DPI compiler is used to compile a signature file which is loaded into the BlueField RegEx HW accelerator using a dedicated API (`doca_dpi_load_signatures(cdo_file)`). The output for the DPI compiler is a JSON-based CDO file.

Chapter 3. RXP Compiler

CLI name: `rxpc`

This tool is used to generate a ROF file that can be used by a customer application to program the NVIDIA® RXP® accelerator rules memories.

The RXP compiler is used to compile RegExes into RXP Object Format (ROF) to be executed on the RXP accelerator.

The DOCA RegEx library can be used to load the binary ROF file into the RXP.

Chapter 4. RXPBench

CLI name: `rxpbench`

RXPBench is a tool that allows performance comparison between the NVIDIA® RXP® hardware RegEx acceleration engine, found in the NVIDIA® BlueField® DPU, and the Intel® Hyperscan software library. It provides a comprehensive set of options and facilitates ingress of data from live network ports or previously recorded PCAP files.

It is designed to provide a real-world comparison of these technologies and present the results customers could expect to receive after implementing either technology in their products.

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