



NVIDIA BlueField and DOCA User Types

Document

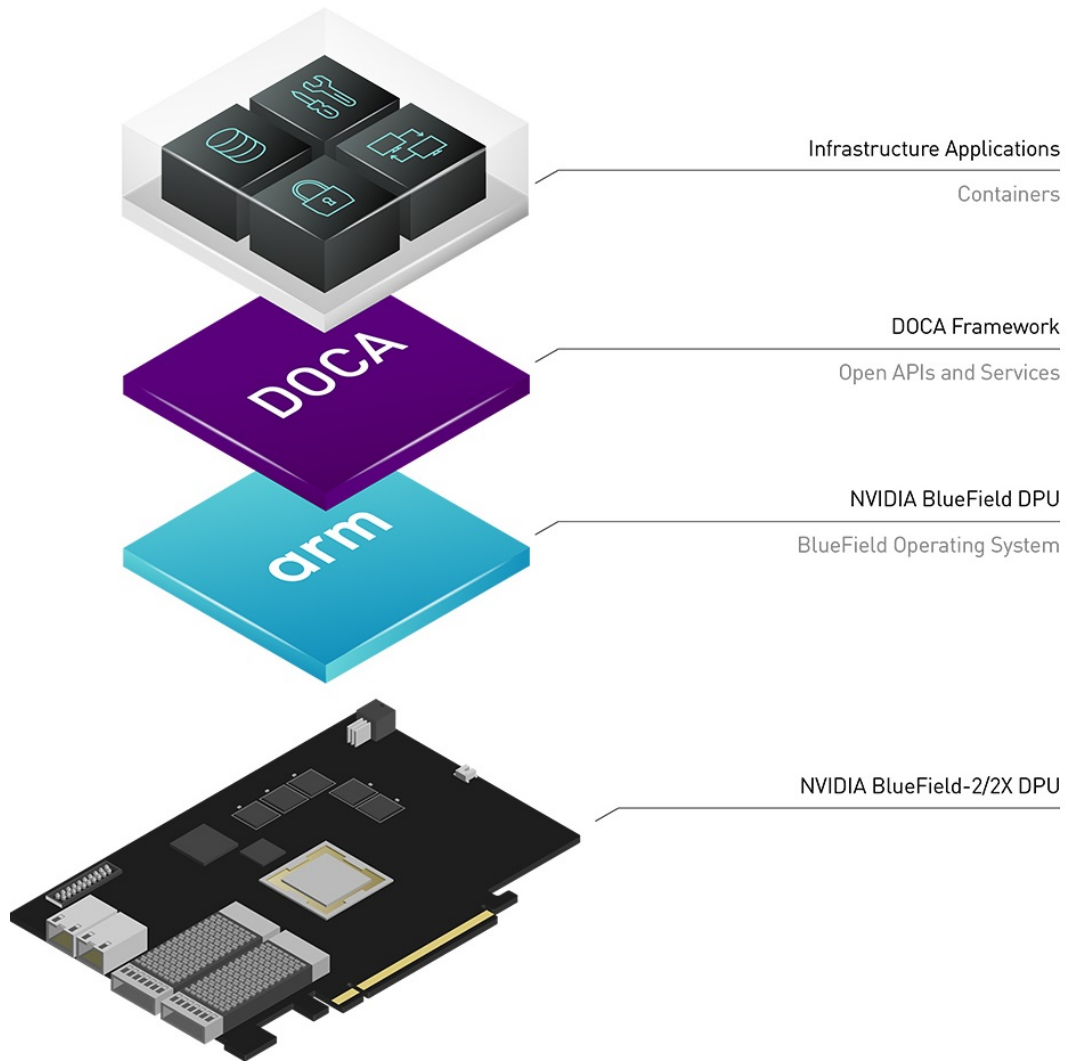
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Chapter 1. Introduction

The BlueField family of DPUs is optimized for traditional enterprise, high-performance computing (HPC), and modern cloud workloads, delivering a broad set of accelerated software-defined networking, storage, security, and management services. BlueField DPUs enable organizations to transform their IT infrastructures into state-of-the-art data centers that are accelerated, fully programmable, and armed with zero-trust security to prevent data breaches and cyber-attacks.

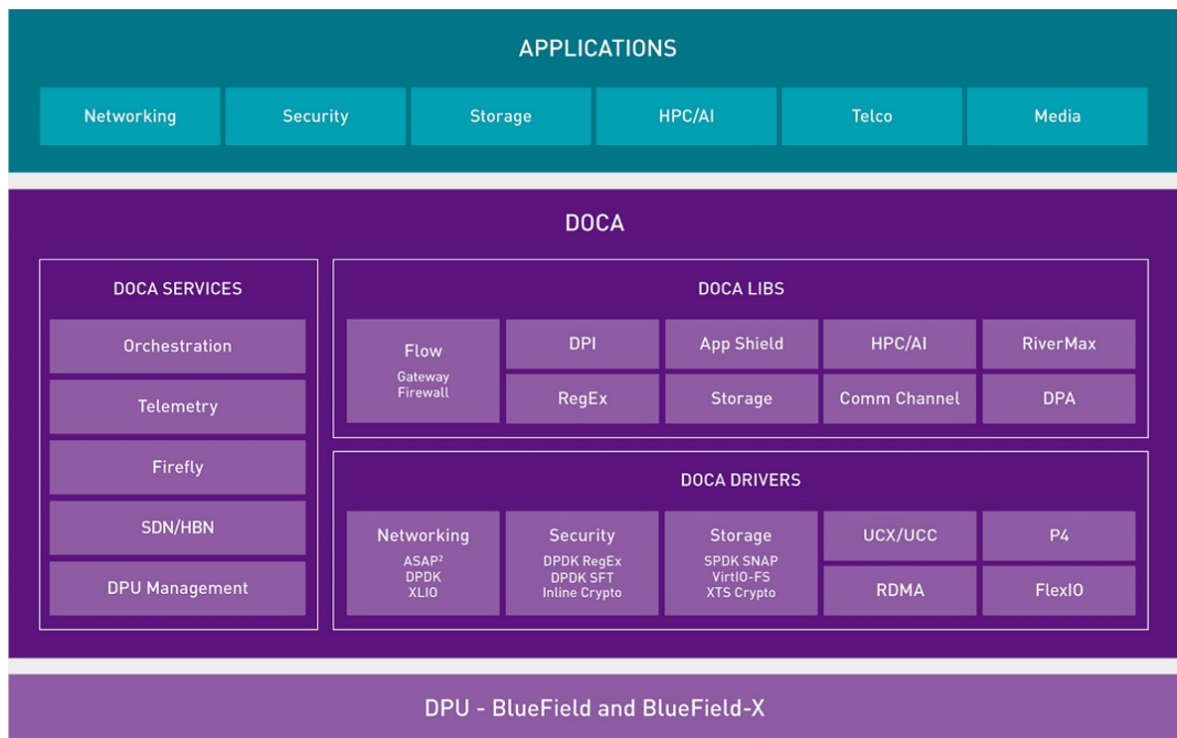
NVIDIA DOCA™ brings together a wide range of powerful APIs, libraries, and frameworks for programming and acceleration of the modern data center infrastructure. Like NVIDIA® CUDA® for GPUs, DOCA is a consistent and essential resource across all existing and future generations of DPU products.



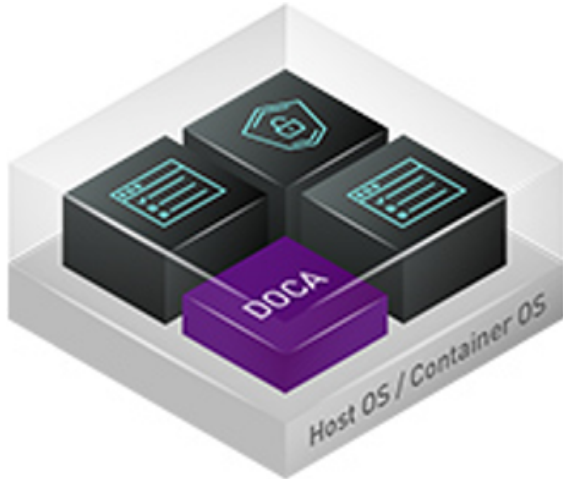
Chapter 2. DOCA Components

DOCA software consists of an SDK and a runtime environment.

- ▶ **DOCA SDK** provides industry-standard open APIs and frameworks, including Data Plane Development Kit (DPDK) and P4 for networking and security, and the Storage Performance Development Kit (SPDK) for storage. The frameworks simplify application offload with integrated NVIDIA acceleration packages. The SDK supports a range of operating systems and distributions and includes drivers, libraries, tools, documentation, and reference applications.

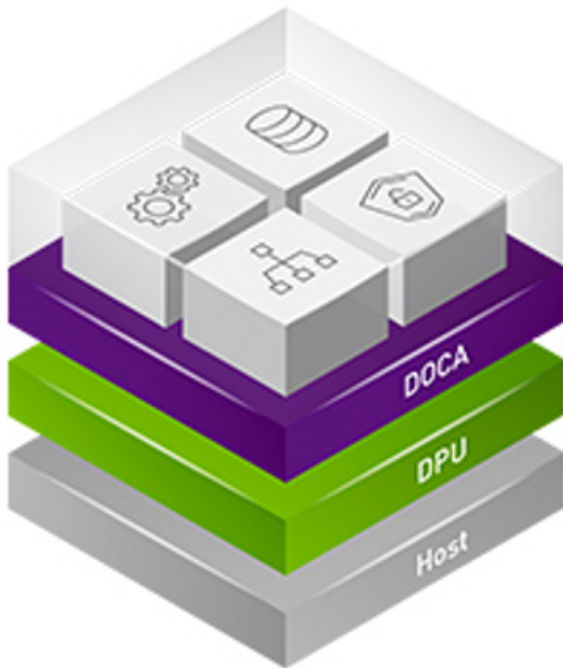


- ▶ **DOCA runtime** includes tools for provisioning, deploying, and orchestrating containerized services on DPUs in bulk across the data center.



Business Application
Domain

Functional Isolation



Infrastructure Services
Domain

Chapter 3. BlueField DPU User Types

3.1. BlueField Administrator

A BlueField administrator can be a system admin, an IT specialist, a security operations specialist, or anyone managing data center servers and their functionality. The admin would usually be interfacing with BlueField configuration and DOCA services and applications running on the BlueField DPU.

Common operations performed by the BlueField admin:

- ▶ Updating the BlueField image
- ▶ Running reference applications on the DPU
- ▶ Running DOCA services on the DPU

3.2. DOCA Developer

A DOCA developer creates the services and applications that run on top of the DPU and usually interfaces with DOCA libraries and drivers to create the necessary workflow and functionality.

Common operations performed by the DOCA developer:

- ▶ Developing DOCA applications using DOCA libraries and drivers
- ▶ Compiling DOCA reference applications
- ▶ Using DOCA sample code to create a new workflow

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