



NVIDIA DOCA Comm Channel Admin Tool

User Guide

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Chapter 1. Introduction

The Comm Channel Admin Tool is used to monitor Comm Channel services and connections on both the DPU and the host. For more information on the DOCA Comm Channel library, refer to the [NVIDIA DOCA Comm Channel Programming Guide](#).

Chapter 2. Prerequisites

NVIDIA® BlueField®-2 firmware version 24.35.1012 or higher.

Chapter 3. Description

On the DPU, Comm Channel Admin Tool can show the user which services are up alongside additional information about them:

- ▶ `service_name` – the name of the service
- ▶ `transport_type` – UD or DC
- ▶ `allowed_vhca_id` – which `vhca_id` is allowed to connect to this service
- ▶ `service_qpn_or_dct` –
 - ▶ UD transport type – indicates QP number of the service
 - ▶ DC transport type – indicates DC number of the service
- ▶ `num_connected_client` – indicates the number of current connected clients
- ▶ `max_num_connected_client` – indicates the maximum number of connected clients

Furthermore, users may query specific services according to the service name to get information about the connected clients. For every connected client the tool shows:

- ▶ `connection_id` – unique identifier for the connection
- ▶ `qpn` – QP number (or DCT) used for the connection

On the host, the tool can show the user the name of the active services on the DPU. Furthermore, it can show information about the active connections between the host and the DPU:

- ▶ `service_name` – the name of the service
- ▶ `transport_type` – UD or DC
- ▶ `my_qpn_or_dci` –
 - ▶ UD transport type – indicates QPN of the connection initiator
 - ▶ DC transport type – the field indicates the DCI of the connection initiator
- ▶ `connection_type` – `CONNECT_BY_SERVICE_ID` or `CONNECT_BY_VHCA_ID`
- ▶ `dst_vhca_id` – `vhca_id` of the target side of the connection. Valid only when the connection type is `CONNECT_BY_VHCA_ID`.

Chapter 4. Execution

To execute the DOCA Comm Channel Admin Tool, run:

```
/opt/mellanox/doca/tools/doca_comm_channel_admin_tool
```

Afterwards, users get an interactive CI that awaits a command:

```
Comm-Channel-Admin-Tool >>
```

The commands and their flags can be obtained by writing help:

```
Comm-Channel-Admin-Tool >> help
Comm-Channel-Admin-Tool CLI Commands:
  service, s      To be used on the DPU
    --all, -a          Show all services
    --service-name, -sn [service_name] Show specific service and its connected
clients

  connection, c   To be used on the host
    --all, -a          Show all connections
    --service-name, -sn [service_name] Show specific connection according to
service name

  discovery, d    To be used on the host
    --all, -a          Show all active services
    --service-name, -sn [service_name] Show specific active service according to
service name

  quit           Exit tool
```

On the DPU, to see all services, users may use the `service` (or `s`) command with the flag `--all` (or `-a`). For example:

```
Comm-Channel-Admin-Tool >> service --all
2022-09-28 09:54:28,410 - Comm-Channel-Admin-Tool - INFO - On /dev/mst/
mt41686_pciconf0:
Active services:
+-----+-----+-----+
+-----+-----+-----+
| service_name | transport_type | allowed_vhca_id |
| service_qpn_or_dct | num_connected_client | max_num_connected_client |
+-----+-----+-----+
+-----+-----+-----+
| secure_channel_server | DC | 0 |
| 4548 | 1 | 512 |
+-----+-----+-----+
+-----+-----+-----+
2022-09-28 09:54:28,886 - Comm-Channel-Admin-Tool - INFO - On /dev/mst/
mt41686_pciconf0.1:
No active services
```

To query a specific service and see its connected clients, users may use the `--service-name` (or `-sn`) flag while providing the `service_name`. For example:

```
Comm-Channel-Admin-Tool >> service --service-name secure_channel_server
```

```

2022-09-28 09:56:16,335 - Comm-Channel-Admin-Tool - INFO - On /dev/mst/
mt41686_pciconf0:
+-----+-----+-----+
+-----+-----+-----+
| service_name          | transport_type | allowed_vhca_id |
| service_qpn_or_dct   | num_connected_client | max_num_connected_client |
+-----+-----+-----+
+-----+-----+-----+
| secure_channel_server | DC             |                  | 0 |
| 4548 |                | 1 |                | 512 |
+-----+-----+-----+
+-----+-----+-----+

```

Connected clients:

```

+-----+-----+
| connection_id | transport_type |
+-----+-----+
|                |                |
|                |                |
+-----+-----+

```

```

2022-09-28 09:56:16,809 - Comm-Channel-Admin-Tool - INFO - On /dev/mst/
mt41686_pciconf0.1:
No active service by name secure_channel_server

```

On the host, to see all active services, users may use the `discovery` (or `d`) command with `--all` flag (or `-a`). For example:

```

Comm-Channel-Admin-Tool >> discovery --all
2022-09-28 12:58:42,201 - Comm-Channel-Admin-Tool - INFO - On /dev/mst/
mt41686_pciconf0:
Active services:
+-----+-----+
| service_name          |
+-----+-----+
| secure_channel_server |
+-----+-----+
2022-09-28 12:58:42,632 - Comm-Channel-Admin-Tool - INFO - On /dev/mst/
mt41686_pciconf0.1:
No active services

```

Users may also filter to show only specific services according to the `service_name` by using the `--service-name` (or `-sn`) flag while providing the `service_name`.

On the host, to see all active connections, users may use the `connection` command (or `c`) with `--all` flag (or `-a`). For example:

```

Comm-Channel-Admin-Tool >> connection --all
2022-09-28 13:01:54,420 - Comm-Channel-Admin-Tool - INFO - On /dev/mst/
mt41686_pciconf0:
Active connections:
+-----+-----+-----+-----+
+-----+-----+-----+-----+
| service_name          | transport_type | my_qpn_or_dci | connection_type |
| dst_vhca_id |
+-----+-----+-----+-----+
+-----+-----+-----+-----+
| secure_channel_server | DC             |                | 71 | CONNECT_BY_SERVICE_ID |
|                | 0 |                |
+-----+-----+-----+-----+
+-----+-----+-----+-----+
2022-09-28 13:01:54,860 - Comm-Channel-Admin-Tool - INFO - On /dev/mst/
mt41686_pciconf0.1:
No active Connections

```

Users may also filter to show only specific connections according to `service_name` by using the `--service-name` (or `-sn`) flag while providing the `service_name`.



Note: If a new service or connection is added, there is no need to restart the tool. After each command, the tool always shows the latest services and connections.

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