Buffer Tuning Commands

The buffer tuning commands are:

- `buffer (Buffer Profile)`
- `buffer (Configuration)`
- `buffer-profile (Configuration)`
- `buffer-profile (Interface)`
- `show buffer-profile`
- `show buffer-profile interface`

⚠️ **Warning:** Altering the buffer allocations is a sensitive operation. Do not use any buffer tuning commands without first contacting the Dell Force10 Technical Assistance Center.

`buffer (Buffer Profile)`

Allocate an amount of dedicated buffer space, dynamic buffer space, or packet pointers to queues 0 to 3.

**Syntax**

```
buffer [dedicated | dynamic | packets-pointers] queue0 number queue1 number queue2 number queue3 number
```

**Parameters**

- **dedicated**
  - **Enter this keyword to configure the amount of dedicated buffer space per queue.**

- **dynamic**
  - **Enter this keyword to configure the amount of dynamic buffer space per Field Processor.**

- **packets-pointers**
  - **Enter this keyword to configure the number of packet pointers per queue.**

- **queue0 number**
  - **Enter this keyword to allocate an amount of buffer space or packet pointers to Queue 0.**
  - **Dedicated Buffer Range: 0-2013**
  - **Dynamic Buffer Range:**
    - **FP:** 0-2013
    - **CSF:** 0-131200 (in multiples of 80)
  - **Packet Pointer Range:** 0-2047
buffer-profile (Configuration)  Create a buffer profile that can be applied to an interface.

buffer (Configuration)  Apply a buffer profile to all Field or Switch Fabric processors in a port-pipe.

```
buffer [csf | fp-uplink] linecard slot port-set port-pipe buffer-policy buffer-profile
```

### Parameters

- **csf**: Enter this keyword to apply a buffer profile to all Switch Fabric processors in a port-pipe.
- **fp-uplink**: Enter this keyword to apply a buffer profile to all Field Processors in a port-pipe.
- **linecard slot**: Enter the keyword `linecard` followed by the line card slot number.
- **port-set port-pipe**: Enter the keyword `port-set` followed by the port-pipe number. Range: 0-3 on C-Series, 0-1 on S-Series
- **buffer-policy buffer-profile**: Enter the keyword `buffer-policy` followed by the name of a buffer profile you created.

### Defaults

None

### Command Mode

BUFFER PROFILE

### Command History

- **Version 7.7.1.0**: Introduced on S-Series
- **Version 7.6.1.0**: Introduced on C-Series

### Related Commands

- **buffer-profile (Configuration)**  Create a buffer profile that can be applied to an interface.
If you attempt to apply a buffer profile to a non-existent port-pipe, FTOS displays the following message. However, the configuration still appears in the running-config.

```%
DIFFSERV-2-DSA_BUFF_CARVING_INVALID_PORT_SET: Invalid FP port-set 2 for linecard 2. Valid range of port-set is <0-1>
```

When you remove a buffer-profile using the command `no buffer-profile [fp | csf]` from CONFIGURATION mode, the buffer-profile name still appears in the output of `show buffer-profile [detail | summary]`. After a line card reset, the buffer profile correctly returns to the default values, but the profile name remains. Remove it from the show `buffer-profile [detail | summary]` command output by entering `no buffer [fp-uplink | csf] linecard port-set buffer-policy` from CONFIGURATION mode and `no buffer-policy` from INTERFACE mode.

## Command Mode

`BUFFER PROFILE`

## Usage Information

If you attempt to apply a buffer profile to a non-existent port-pipe, FTOS displays the following message. However, the configuration still appears in the running-config.

```%
DIFFSERV-2-DSA_BUFF_CARVING_INVALID_PORT_SET: Invalid FP port-set 2 for linecard 2. Valid range of port-set is <0-1>
```

When you remove a buffer-profile using the command `no buffer-profile [fp | csf]` from CONFIGURATION mode, the buffer-profile name still appears in the output of `show buffer-profile [detail | summary]`. After a line card reset, the buffer profile correctly returns to the default values, but the profile name remains. Remove it from the show `buffer-profile [detail | summary]` command output by entering `no buffer [fp-uplink | csf] linecard port-set buffer-policy` from CONFIGURATION mode and `no buffer-policy` from INTERFACE mode.

## Command History

| Version 7.7.1.0 | Introduced on S-Series |
| Version 7.6.1.0 | Introduced on C-Series |

## Related Commands

- `buffer-profile (Configuration)` Create a buffer profile that can be applied to an interface.

## buffer-profile (Configuration)

Create a buffer profile that can be applied to an interface.

### Syntax

```
buffer-profile { {fp | csf} profile-name | global {1Q|4Q} }
```

### Parameters

- **fp** Enter this keyword to create a buffer profile for the Field Processor.
- **csf** Enter this keyword to create a buffer profile for the Switch Fabric Processor.
- **profile-name** Create a name for the buffer profile.
- **global** Apply one of two pre-defined buffer profiles to all of the port-pipes in the system.
- **1Q** Enter this keyword to choose a pre-defined buffer profile for single queue (i.e non-QoS) applications.
- **4Q** Enter this keyword to choose a pre-defined buffer profile for four queue (i.e QoS) applications.

### Defaults

- **global 4Q**

## Command Mode

`CONFIGURATION`

## Command History

| Version 7.8.1.0 | Added `global` keyword. |
| Version 7.7.1.0 | Introduced on S-Series |
| Version 7.6.1.0 | Introduced on C-Series |

## Related Commands

- `buffer (Buffer Profile)` Allocate an amount of dedicated buffer space, dynamic buffer space, or packet pointers to queues 0 to 3.
The `buffer-profile global` command fails if you have already applied a custom buffer-profile on an interface. Similarly, when `buffer-profile global` is configured, you cannot not apply buffer-profile on any interface.

If the default buffer-profile (4Q) is active, FTOS displays an error message instructing you to remove the default configuration using the command `no buffer-profile global`.

You must reload the system for the global buffer-profile to take effect.

### buffer-profile (Interface)

**Apply a buffer profile to an interface.**

**Syntax**

```
buffer-profile profile-name
```

**Parameters**

- **profile-name**
  
  Enter the name of the buffer profile you want to apply to the interface.

**Defaults**

None

**Command Mode**

INTERFACE

**Command History**

- Version 7.7.1.0 Introduced on S-Series
- Version 7.6.1.0 Introduced on C-Series

**Related Commands**

- `buffer-profile (Configuration)` Create a buffer profile that can be applied to an interface.

### show buffer-profile

**Display the buffer profile that is applied to an interface.**

**Syntax**

```
show buffer-profile {detail | summary} {csf | fp-uplink}
```

**Parameters**

- **detail**
  
  Display the buffer allocations of the applied buffer profiles.

- **summary**
  
  Display the buffer-profiles that are applied to line card port-pipes in the system.

- **csf**
  
  Display the Switch Fabric Processor buffer profiles that you have applied to line card port-pipes in the system.

- **fp-uplink**
  
  Display the Field Processor buffer profiles that you have applied to line card port-pipes in the system.

**Defaults**

None

**Command Mode**

INTERFACE

**Command History**

- Version 7.7.1.0 Introduced on S-Series
- Version 7.6.1.0 Introduced on C-Series
show buffer-profile interface

Display the buffer profile that is applied to an interface.

Syntax

show buffer-profile {detail | summary} interface interface slot/port

Parameters

detail Display the buffer allocations of a buffer profile.

summary Display the Field Processors and Switch Fabric Processors that are applied to line card port-pipes in the system.

interface interface Enter the keyword interface followed by the interface type, either gigabitethernet or tengigabitethernet.

slot/port Enter the slot and port number of the interface.

Defaults

None

Command Mode

INTERFACE

Command History

Version 7.7.1.0 Introduced on S-Series

Version 7.6.1.0 Introduced on C-Series

Example

Figure 46-1. show buffer-profile Command Example

```
Force10#show buffer-profile summary fp-uplink
Linecard Port-set Buffer-profile
0 0 test1
4 0 test2
Force10#
```

Figure 46-2. show buffer-profile interface Command Example

```
Force10#show buffer-profile detail csf linecard 4 port-set 0
Linecard 4 Port-set 0 Buffer-profile test
Queue# Dedicated Buffer Buffer Packets
(Bytes) (Bytes)
0 36960 718
1 18560 358
2 18560 358
3 18560 358
4 9600 64
5 9600 64
6 9600 64
7 9600 63
Force10#
```

Related Commands

- **buffer-profile (Configuration)** Create a buffer profile that can be applied to an interface.