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# Data buffer commands

Inappropriate data buffer changes can cause system problems. Before manually changing data buffer settings, make sure you understand its impact on your device. As a best practice, use the **burst-mode enable** command if the system requires large buffer spaces. The **burst-mode enable** command and the **buffer apply** command are mutually exclusive. If you have configured the data buffer by using one command, you must execute the **undo** form of the command before using the other command.

## buffer apply

Use **buffer apply** to apply manually configured data buffer settings.

Use **undo buffer apply** to restore the default.

### Syntax

```
buffer apply
undo buffer apply
```

### Views

System view

### Predefined user roles

network-admin

### Usage guidelines

For data buffer settings to take effect, you must execute this command after configuring data buffer settings.

After applying manually configured data buffer settings, you cannot directly modify the applied settings. To modify them, you must cancel the application, reconfigure data buffer settings, and reapply the new settings.

### Examples

```
# Apply manually configured data buffer settings.
<Sysname> system-view
[Sysname] buffer apply
```

## buffer queue guaranteed

Use **buffer queue guaranteed** to set the fixed-area space for a queue.

Use **undo buffer queue guaranteed** to delete the fixed-area space setting of a queue.

### Syntax

```
buffer egress [ slot slot-number ] { cell | packet } queue queue-id
guaranteed ratio ratio
undo buffer egress [ slot slot-number ] { cell | packet } queue queue-id
guaranteed
```

### Default

The cell resource ratio for a queue is 12% of the total cell resources. The packet resource ratio for a queue is 12% of the total packet resources.

## Views

System view

## Predefined user roles

network-admin

## Parameters

**egress**: Specifies the egress buffer.

**slot** *slot-number*: Specifies an IRF member device by its member ID (slot number). If you do not specify an IRF member device, this command applies to all IRF member devices.

**cell**: Specifies cell resources.

*queue-id*: Specifies a queue by its ID in the range of 0 to 7.

**ratio** *ratio*: Specifies the fixed-area space ratio, in percentage. The value range for *ratio* is 1 to 100.

## Usage guidelines

By default, all queues have an equal share of the fixed area. You can set the fixed-area ratio for a queue. The other queues equally share the remaining part.

The fixed-area space for a queue cannot be used by other queues. Therefore, it is also called the minimum guaranteed buffer for the queue. The sum of fixed-area space configured for all queues cannot exceed the total fixed-area space. Otherwise, the configuration fails.

## Examples

```
# Configure queue 0 to use 20% fixed-area space of cell resources in the egress buffer.
```

```
<Sysname> system-view
```

```
[Sysname] buffer egress cell queue 0 guaranteed ratio 20
```

## buffer shared

Use **buffer shared** to set the maximum shared-area ratio for each port or a queue.

Use **undo buffer shared** to delete the maximum shared-area ratio setting of each port or a queue.

## Syntax

```
buffer egress [ slot slot-number ] { cell | packet } [ queue queue-id ] shared  
ratio ratio
```

```
undo buffer egress [ slot slot-number ] { cell | packet } [ queue queue-id ]  
shared
```

## Default

The maximum packet resource ratio for a port is 10% of the total packet resources.

The maximum cell resource ratio for a port is 10% of the total cell resources.

## Views

System view

## Predefined user roles

network-admin

## Parameters

**egress**: Specifies the egress buffer.

**slot** *slot-number*: Specifies an IRF member device by its member ID (slot number). If you do not specify an IRF member device, this command applies to all IRF member devices.

**cell**: Specifies cell resources.

**packet**: Specifies packet resources.

**queue-id**: Specifies a queue by its ID in the range of 0 to 7. If you do not specify a queue, this command sets the maximum shared-area space for each port.

**ratio** *ratio*: Specifies the maximum shared-area space ratio, in percentage. The value range for *ratio* is 0 to 100.

## Usage guidelines

By default, all ports or queues have an equal share of the shared area. You can set the shared-area ratio for each port or a queue. The unconfigured queues use the default setting. The shared-area space for each port or queue is finally determined by the chip based on your configuration and the number of packets to be received and sent.

## Examples

```
# Configure queue 0 to use up to 10% shared-area space of cell resources in the egress buffer.
<Sysname> system-view
[Sysname] buffer egress cell queue 0 shared ratio 10
```

# buffer total-shared

Use **buffer total-shared** to set the total shared-area ratio.

Use **undo buffer total-shared** to delete the total shared-area ratio setting.

## Syntax

```
buffer egress [ slot slot-number ] { cell | packet } total-shared ratio ratio
undo buffer egress [ slot slot-number ] { cell | packet } total-shared
```

## Default

The default for this command can be displayed by using the **display buffer** command.

## Views

System view

## Predefined user roles

network-admin

## Parameters

**egress**: Specifies the egress buffer.

**slot** *slot-number*: Specifies an IRF member device by its member ID (slot number). If you do not specify an IRF member device, this command applies to all IRF member devices.

**cell**: Specifies cell resources.

**packet**: Specifies packet resources.

**ratio** *ratio*: Specifies the ratio of the shared area, in percentage. The value range for *ratio* is 0 to 100.

## Usage guidelines

After you set the shared-area ratio, the remaining buffer space is automatically assigned to the fixed area.

## Examples

```
# Configure the shared area to use 50% space of cell resources in the egress buffer.
<Sysname> system-view
[Sysname] buffer egress cell total-shared ratio 50
```

## burst-mode enable

Use **burst-mode enable** to enable the Burst feature.

Use **undo burst-mode enable** to disable the Burst feature.

### Syntax

```
burst-mode enable
undo burst-mode enable
```

### Default

The Burst feature is disabled.

### Views

System view

### Predefined user roles

network-admin

### Usage guidelines

The Burst feature is especially useful for reducing packet losses under the following circumstances:

- Broadcast or multicast traffic is intensive, resulting in bursts of traffic.
- Traffic enters a device from a high-speed interface and goes out of a low-speed interface.
- Traffic enters a device from multiple same-rate interfaces and goes out of an interface with the same rate.

The default data buffer settings will be changed after the Burst feature is enabled. You can display the data buffer settings by using the **display buffer** command.

## Examples

```
# Enable the Burst feature.
<Sysname> system-view
[Sysname] burst-mode enable
```

## display buffer

Use **display buffer** to display buffer size settings.

### Syntax

```
display buffer [ slot slot-number ][ queue [ queue-id ]]
```

### Views

Any view

### Predefined user roles

network-admin  
network-operator

## Parameters

**slot** *slot-number*: Specifies an IRF member device by its member ID (slot number). If you do not specify an IRF member device, this command displays buffer size settings for all IRF member devices.

**queue** *queue-id*: Specifies a queue by its number in the range of 0 to 7. If you specify a queue, this command displays the fixed-area ratio and shared-area ratio for the specified queue. If you specify the **queue** keyword without the *queue-id* argument, this command displays the fixed-area ratio and shared-area ratio for each queue. If you do not specify the **queue** keyword, this command displays the total shared-area ratio.

## Examples

# Display buffer size settings.

```
<Sysname> display buffer
```

```
Slot  Type      Eg(Total-shared , Shared)
1     packet    50 , 10
1     cell      52 , 10
```

Eg: Size of the sending buffer

Total-shared: Size of the shared buffer for all ports

Shared: Size of the maximum shared buffer per port

Unit: Ratio

# Display the fixed-area ratio and shared-area ratio for the queues.

```
<Sysname> display buffer queue
```

```
Slot  Queue      Type      Eg(Guaranteed , Shared)
1     0-7         packet    12 , --
1     0-7         cell      12 , --
```

Eg: Size of the sending buffer

Guaranteed: Size of the minimum guaranteed buffer per queue

Shared: Size of the maximum shared buffer per queue

Unit: Ratio

**Table 1 Command output**

Field	Description
Type	Resource type: packet or cell.
Queue	Queue ID in the range of 0 to 7.
Eg	Egress buffer.
(Total-shared , Shared)	Total-shared indicates the total shared-area ratio. Shared indicates the shared-area ratio of a port.
(Guaranteed , Shared)	<ul style="list-style-type: none"> <li><b>Guaranteed</b> indicates the fixed-area ratio of a queue.</li> <li><b>Shared</b> indicates the shared-area ratio of a queue.</li> </ul> <p>If the device does not support a resource type, this field displays two hyphens (--).</p>

# display buffer usage

Use `display buffer usage` to display buffer usage.

## Syntax

```
display buffer usage [ slot slot-number ]
```

## Views

Any view

## Predefined user roles

network-admin

network-operator

## Parameters

`slot slot-number`: Specifies an IRF member device by its member ID (slot number). If you do not specify an IRF member device, this command displays buffer usage for all IRF member devices.

## Examples

```
# Display buffer usage.
```

```
<Sysname> display buffer usage
```

```
Egress total-shared cell buffer usage on slot 1 :
```

```
Total:    2964 KB
```

```
Used:      0 KB
```

```
Free:     2964 KB
```

```
                    5sec    1min    5min
-----
Block 1                0%     0%     0%
GigabitEthernet1/0/1   0%     0%     0%
GigabitEthernet1/0/2   0%     0%     0%
GigabitEthernet1/0/3   0%     0%     0%
GigabitEthernet1/0/4   0%     0%     0%
GigabitEthernet1/0/5   0%     0%     0%
```

**Table 2 Command output**

Field	Description
Egress total-shared cell buffer usage on slot	Usage of cell resources in the shared area on an IRF member device.
Block	Block where the port resides. The block where the ports on the front panel of the device reside is fixed to Block 1.
Total	Total size of the data buffer.
Used	Size of used data buffer.
Free	Size of free data buffer.
5sec	Percentage of the buffer that the port uses for the last 5 seconds.
1min	Percentage of the buffer that the port uses for the last 1 minute.
5min	Percentage of the buffer that the port uses for the last 5 minutes.