

Configuring the Layer 2 Circuit Cell-Relay Cell Maximum

By default, each frame contains one cell. For ATM interfaces with Layer 2 circuit cell-relay transport mode configured, you can configure the maximum number of ATM cells per frame on the physical or logical interface. To set the maximum number of cells per frame, include the `cell-bundle-size` statement:

```
cell-bundle-size cells;
```

You can include this statement at the following hierarchy levels:

- [edit interfaces *interface-name* atm-options]
- [edit interfaces *interface-name* unit *logical-unit-number*]
- [edit logical-systems *logical-system-name* interfaces *interface-name* unit *logical-unit-number*]

The cell bundle size can be from 1 through 176.

After 125 microseconds, cell bundling times out. This means that after 125 microseconds if the frame does not contain the configured value, the frame is transmitted anyway.

If you include the `cell-bundle-size` statement at the [edit interfaces *interface-name* atm-options] hierarchy level, then the configured value becomes the default for all the logical interface units configured for that physical interface. If you include the `cell-bundle-size` statement for a logical interface, the logical interface configuration overrides the value configured at the physical interface level.

The transmit rates you configure on the routing platforms at each end of the connection must be the same value.

Class-Based Cell Bundling

For Layer 2 circuit trunk mode only, cell bundling is enhanced by a set of CoS and traffic shaping rules, as follows:

- CBR and real-time variable bit rate (RTVBR) cells are not bundled. They are always sent as single-cell packets.
- Cells with the same CLP bits are bundled together. This means all the cells in a bundle contain the same CLP value.
- Cells with the same CoS bits are bundled together. This means all the cells in a bundle belong to the same class of service.
- As alluded to in the previous rules, several triggers cause early packet transmission, meaning that the packet is transmitted before the number of cells received is equal to the value configured with the `cell-bundle-size` statement. These triggers are as follows:
 - The next cell is of type CBR or RTVBR.
 - The next cell has a different CLP bit.

- The next cell has different CoS bits.
- The 125-microsecond timer expires.

CoS-based cell bundling optimizes the release of a bundle by sending out the cell that triggers early packet transmission as a single-cell packet. This means that when a cell triggers early packet transmission, that cell is not bundled. Consequently, certain input data patterns might cause primarily single-cell packets to be transmitted. For example, say the output interface receives a steady pattern of two cells from a non-RTVBR queue, followed by two cells from a UBR queue. In this case, all transmitted packets contain a single cell because the first cell triggers a transition and is transmitted by itself. The second cell is also transmitted by itself because the third cell triggers another transition, and so on. This effect might not be dramatic with a mix of traffic; it is most evident with steady traffic patterns, as generated by ATM test equipment programmed to emit regular sequences of CoS queue transitions.