

What Are "Overruns" on a Serial Interface?

Document ID: 15286

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Introduction

This document explains overruns on a serial interface.

Q. What are overruns on a serial interface?

A. Overruns appear in the output of the **show interface Serial 0** command when the serial receiver hardware is unable to hand received data to a hardware buffer because the input rate exceeds the receiver's ability to handle the data.

This occurs due to a limitation of the hardware. Overruns occur when the internal First In, First Out (FIFO) buffer of the chip is full, but is still tries to handle incoming traffic. The serial controller chip has limited internal FIFO.

Some chips, for example, have only 256 bytes of buffer space. Data from the network is received into the buffer, whereupon the chip attempts to move the data from the buffer to the router's shared memory for the CPU to process. If the chip is not able to move the data from its internal FIFO buffer into shared memory faster than the rate at which data is received on the interface, then the internal FIFO buffer is full, incoming data is dropped, and the overrun counter is incremented.

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Updated: Sep 01, 2005

Document ID: 15286
