Optical Module Communication Optical Module

Overview

An optical module is a typically hot-pluggable optical transceiver used in high-bandwidth data communications applications. Optical modules typically have an electrical interface on the side that connects to the inside of the syst. An optical module is a typically hot-pluggable optical transceiver used in high-bandwidth data communications applications. Optical modules typically have an electrical interface on the side that connects to the inside of the system and an optical interface on the side that connects to the outside world through a fiber optic cable. The form factor and electrical interface are often specified by an interested group using a (MSA). Optical modules can either plug into a front panel socket or an on-board socket. Sometimes the optical module is replaced by an electrical interface module that implements either an active or passive electrical connection to the outside world. A large industry supports the manufacturing and use of optical modules. There have been multiple variants of the electrical interface of optical modules that have been used over the years. The earliest forms of optical modules had an analog electrical interface. In the transmit direction, the optical module would directly drive the laser or LED with the analog signal coming from the front system card. In the receive direction, the module would directly drive the receive electrical interface with the output of the analog optical-to-electrical receiver circuit. As speeds increased, the electrical interface was changed to a retimed digital interface. The (CEI), defined by the (OIF) served as the central defining document for these interfaces. The IEEE 802.3 working group has also been influential in the definition of the module interface. In order to save power within the module, optical modules have been made that used the digital interface definition, such as the CEI, but without retiming the signals within the module. These modules delivered an analog connection between...

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