NAME

ppp, ppp_diag, ipd, ipdptp, ipdcm – STREAMS modules and drivers for the Point-to-Point Protocol

AVAILABILITY

SUNWpppk

DESCRIPTION

ppp is a STREAMS module which implements the *Point to Point Protocol* (PPP). PPP is a datalink protocol which provides a method for transmitting datagrams over serial point-to-point links. PPP allows for various options to be negotiated between the two hosts of a point-to-point link; these options provide things such as peer authentication, header compression, link quality monitoring, and mapping of control characters. The PPP specifications are described in RFC 1331 *The Point-to-Point Protocol (PPP) for the Transmission of Multi-protocol Datagrams over Point-to-Point Links* and RFC 1332 *The PPP Internet Protocol Control Protocol (IPCP).*

The pseudo device drivers **/dev/ipd**, **/dev/ipdptp**, and **/dev/ipdcm** form the IP-dialup layer. This layer provides IP network interfaces for dialup (connect on demand) point-to-point links. The **ipd** and **ipdptp** devices are the IP-dialup network interfaces. The **ipd** device provides a point-to-multipoint interface, and the **ipdptp** device provides a point-to-point interface. The **ipdcm** device supplies an interface between the **ipd** or **ipdptp** device and a link manager.

The **ppp** module and IP-dialup layer work together to provide IP connectivity over serial point-to-point links. A "link manager" daemon is responsible for setting up and tearing down these dialup connections. Connections are established when an IP packet needs to be sent to the remote host, or the remote host has indicated its desire to establish a PPP connection.

The **ppp_diag** module captures PPP layer packets and parses the contents for debugging purposes. Usually, the parsed output is sent to the **strlog** facility from which it is retrieved by the link manager. This module is pushed between the serial device and the **ppp** module by the link manager when debugging is enabled.

Operation

When a packet is routed to an IP-dialup point-to-point interface which is not currently connected to the remote host, the **ipdcm** driver sends a message to the link manager to establish the connection. The link manager opens a communications channel and pushes the **ppp** module onto the corresponding serial device. The **ppp** module negotiates with the remote host on which options will be used for the link. When both hosts have agreed on a set of options, the link manager links the **ppp** module and serial device underneath the **ipd** or **ipdptp** interface which is providing the IP interface to the remote host.

Similarly, a remote host may initiate a connection on an enabled communications port. In this case the link manager receives the request and pushes the **ppp** module onto the corresponding device. Once the ppp module has successfully negotiated on the set of options for the link with its peer, the link manager links the **ppp** module and serial device underneath the **ipd** or **ipdptp** interface which is providing the IP-dialup interface.

When the **ppp** module and serial device have been linked underneath the IP-dialup interface, IP packets are sent and received over the point-to-point link in PPP frames.

FILES

/dev/ipd pseudo device driver that provides point-to-ipoint interface.

/dev/ipdptp pseudo device driver that provides point-to-multipoint interface.

/dev/ipdcm pseudo device driver that provides interface between **ipd** and **ipdptp** and link manager.

SEE ALSO

aspppd(1M)