

# show ppp

This chapter describes the output of the **show ppp** command.


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## show ppp

***Table 1: show ppp Command Output Descriptions***

| Field | Description |
|---|---|
| PPP Summary | The total number of PPP sessions that are in progress (either active, dormant, being set up, and being disconnected). |
| Layer Info | The layer status for the various control protocols used in the establishing of the PPP status. Information is displayed for the following:<br>• **LCP:** Link Control Protocol<br>• **IPCP:** Internet Protocol Control Protocol<br>• **CCP:** PPP Compression Control Protocol<br>The information provided represents the total number of sessions that have successfully negotiated the specified control protocol. |

| Field | Description |
|---|---|
| Compression | The total number of PPP sessions that meet of each of the following specified characteristics:<br>Sessions using Van Jacobsen (VJ) header compression in either direction (local to remote or remote to local).<br>Sessions using Robust Header Compression (ROHC) in either direction (local to remote or remote to local).<br>Sessions using either the Normal or Stateless compression modes.<br>Sessions using no compression or one of the following compression protocols in either direction (local to remote or remote to local):<br>• STAC<br>• MPPC<br>• DEFLATE |
| Errors | The total number of errors recorded for all of the PPP sessions that are in progress (either active, dormant, being set up, and being disconnected). Many of the error statistics are recorded for the receiving (indicated by In) and transmission (indicated by Out) of data packets. |
| Data Stats | Displays cumulative statistics for all of the data received (indicated by In) and transmitted (indicated by Out). |

# show ppp full username

***Table 2: show ppp full username Command Output Descriptions***

| Field | Description |
|---|---|
| Username | The subscriber's username. |
| Callid | The subscriber's call identification (callid) number. |
| Msid | The subscriber's mobile station identification (MSID) number. |
| LCP State | Indicates whether or not the Link Control Protocol (LCP) was successfully negotiated (Opened). If not, Not Opened will be displayed. |
| mtu | The subscriber's maximum transmission unit (MTU) size in octets. |
| mru | The subscriber's maximum reception unit (MRU) size in octets. |
| auth algorithm | The protocol the subscriber used for authentication. Possible protocols are:<br>• **CHAP:** Challenge Handshake Authentication Protocol<br>• **PAP:** Password Authentication Protocol |

| Field | Description |
|---|---|
| PFC (loc to rem): (rem to loc): | The PPP PFC transmit and receive settings.<br>(loc to rem): Specifies how Protocol field Compression is applied for PPP packets transmitted to the Peer. Possible values are:<br>• ignore<br>• apply<br>• reject<br>(rem to loc): Specifies whether Protocol Field Compressed PPP packets can be received from the Peer. Possible values are:<br>• allow<br>• deny |
| ACFC (loc to rem): (rem to loc): | Information is displayed for both directions of the session (remote-to-local and local-to-remote). |
| async map | The PPP asynchronous control character mapping (a 32-bit map). Information is displayed for both directions of the session (remote-to-local and local-to-remote). |
| IPCP State | Indicates whether or not the Internet Protocol Control Protocol (IPCP) was successfully negotiated (Opened). If not, Not Opened will be displayed. |
| IP Header comp | Indicates whether or not Van Jacobsen (VJ) header compression or Robust Header Compression (ROHC) is being implemented for the subscriber's session. If neither, none is displayed.<br>Information is displayed for both directions of the session (remote-to-local and local-to-remote). |
| Local Address | The PPP local address for the subscriber session. |
| Remote Address | The IP address assigned to the subscriber's mobile device for the duration of the session. |
| Primary DNS | Indicates the IP address of the primary Domain Name Server (DNS) assigned to the subscriber. |
| Secondary DNS | Indicates the IP address of the secondary Domain Name Server (DNS) assigned to the subscriber. |
| Primary NBNS | Indicates the IP address of the primary NetBIOS Name Server (NBNS) assigned to the subscriber. |
| Secondary NBNS | Indicates the IP address of the secondary NetBIOS Name Server (NBNS) assigned to the subscriber. |
| IPV6CP State | Indicates whether or not the Internet Protocol v6 Control Protocol (IPv6CP) was successfully negotiated (Opened). If not, Not Opened will be displayed. |
| In octs(unframed) | The total number of unframed octets received. |

| Field | Description |
|---|---|
| In pkts | The total number of packets received |
| Out octs(unframed) | The total number of unframed octets sent |
| Out pkts | The total number of packets sent |
| In ctrl octs | The total number of control octets received |
| In ctrl pkts | The total number of control packets received |
| Out ctrl octs | The total number of control octets sent |
| Out ctrl pkts | The total number of control packets sent |
| In framed octs | The total number of framed octets received |
| Out framed octs | The total number of framed octets sent |
| In data (unfr/data-cmp) octs | The total number of unframed data compressed data octets received |
| Out data (unfr/data-cmp) octs | The total number of unframed data compressed data octets sent |
| In data (iphdr-cmp) octs | The total number of data octets with IP header compression received |
| Out data (iphdr-cmp) octs | The total number of data octets with IP header compression sent |
| In data (iphdr-cmp-fail) octs | The total number of data octets with failed IP header compression received |
| In data (iphdr-cmp-fail) pkts | The total number of data packets with failed IP header compression received |
| In data (iphdr-rohc) octs | The total number of data octets with ROHC IP header compression received |
| Out data (iphdr-rohc) octs | The total number of data octets with ROHC IP header compression sent |
| In data (iphdr-rohc-fail) octs | The total number of data octets with failed ROHC IP header compression received |
| In data(iphdr-rohc-fail) pkts | The total number of data packets with failed ROHC header compression received |
| In discards | The total number of input discards |
| In errors | The total number of input errors |
| Out discards | The total number of output discards |
| Out errors | The total number of output errors |
| Bad address | The total number of bad addresses |
| Bad control | The total number of bad control messages |
| Pkt too long | The total number of packets that were too long |
| Bad FCS | The total number of bad Frame Check Sequences (FCS) |
| Bad pkt length | The total number of bad packet lengths |

| Field | Description |
|---|---|
| Echo req rcvd | The total number of echo requests received |
| Echo rsp rcvd | The total number of echo responses received |
| Echo req sent | The total number of echo requests sent |
| Echo rsp sent | The total number of echo responses sent |
| Invalid magic-number rcvd | The total number of invalid magic numbers received |

# show ppp statistics pdsn-service

***Table 3: show ppp statistics pdsn-service Command Output Descriptions***

| Field | Description |
|---|---|
| PPP statistics for pdsn-service | Indicates the name of the PDSN service for which PPP statistics are being displayed. |
| total sessions initiated | Indicates the total number of subscriber sessions that have been received by the by the system for processing. |
| session re-negotiated | Indicates the total number of subscriber sessions that have been re-negotiated by the by the system. |
| successful sessions | Indicates the total number of subscriber sessions that have been successfully connected by the by the system. |
| failed sessions | Indicates the total number of subscriber sessions that the system has/have failed to process. |
| total sessions released | Indicates the total number of subscriber sessions that have been disconnected. |
| failed re-negotiations | Indicates the number of PPP calls that failed while LCP or IPCP was being re-negotiated. |
| released by local side | Indicates the total number of subscriber sessions that have been dropped by the system. |
| released by remote side | Indicates the total number of subscriber sessions that have been dropped by the mobile nodes. |
| **Session Failures** | |
| LCP failure max-retry | Indicates the number of sessions that were released during setup due to the system not receiving a response prior to the expiration of the maximum number of Link Control Protocol (LCP) retries. |
| LCP failure option-issue | Indicates the number of sessions that were released during setup due to failed negotiations between the system and the mobile nodes over Link Control Protocol (LCP) options. |
| LCP failure unknown | Indicates the number of calls that failed because of miscellaneous LCP failures. |

| Field | Description |
|---|---|
| IPCP failure max-retry | Indicates the number of sessions that were released during setup due to the system not receiving a response prior to the expiration of the maximum number of Internet Protocol Control Protocol (IPCP) retries. |
| IPCP failure option-issue | Indicates the number of sessions that were released during setup due to failed negotiations between the system and the mobile nodes over Internet Protocol Control Protocol (IPCP) options. |
| IPCP failure unknown | Indicates the number of calls that failed because of miscellaneous IPCP related failures. |
| IPv6CP failure max-retry | Indicates the number of IPv6CP calls that failed after the maximum number of retries. |
| IPv6CP failure option issue | Indicates the number of sessions that were released during setup due to failed negotiations between the system and the mobile nodes over IPv6CP options. |
| IPv6CP failure unknown | Indicates the number of calls that failed because of miscellaneous IPv6CP related failures. |
| Authentication failures | Indicates the number of sessions that were released during setup due to subscriber authentication failures |
| Authentication aborted | Indicates the number of times that authentication was not successful because the peer failed to provide the required request or response packet in time. |
| remote terminated | Indicates the number of sessions that were released by the mobile node. |
| lower layer disconnected | Indicates the number of times that the peer terminated the lower protocol layer. |
| miscellaneous failures | Indicates the number of session failures that occurred due to reasons other than those listed here. |
| **Session Progress** | |
| sessions (re)entered LCP | Indicates the number of sessions entering or re-entering the Link Control Protocol (LCP) phase of call setup. |
| sessions (re)entered Auth | Indicates the number of sessions entering or re-entering the authentication phase of call setup. |
| sessions (re)entered IPCP | Indicates the number of sessions entering or re-entering the Internet Protocol Control Protocol (IPCP) phase of call setup. |
| sessions (re)entered IPv6CP | Indicates the number of sessions entering or re-entering the IPv6CP phase of call setup. |
| successful LCP | Indicates the number of calls that completed LCP successfully. |
| successful Authentication | Indicates the number of calls that completed authentication successfully. |
| **Session Re-negotiations** | |
| initiated by local | Indicates the number of session re-negotiations initiated by the system. |
| initiated by remote | Indicates the number of session re-negotiations initiated by the mobile nodes. |

| Field | Description |
|---|---|
| address mismatch | Indicates the number of session re-negotiations that occurred due to mis-matched IP addresses. |
| lower layer handoff | Indicates the number of times that the PDSN service renegotiated PPP because of a suspicious RP handoff. |
| parameter update | Indicates the number of times that the PDSN service renegotiated PPP to update some PPP parameters (e.g. DNS address obtained from HA for regular MIP) |
| other reasons | Indicates the number of session re-negotiations that occurred due to reasons other than those listed here. |
| connected session re-neg | Indicates the number of PPP renegotiation happened for sessions which are already in connected/established state. |
| **Session Authentication** | |
| CHAP auth attempt | Indicates the number of sessions that attempted to authenticate using the Challenge Handshake Authentication Protocol (CHAP). |
| CHAP auth success | Indicates the number of sessions that successfully authenticated using the Challenge Handshake Authentication Protocol (CHAP). |
| CHAP auth failure | Indicates the number of sessions that failed authentication using the Challenge Handshake Authentication Protocol (CHAP). |
| CHAP auth aborted | Indicates the number of times that CHAP authorization was aborted due to the fact that the peer failed to provide the required CHAP response packet in time. |
| PAP auth attempt | Indicates the number of sessions that attempted to authenticate using the Password Authentication Protocol (PAP). |
| PAP auth success | Indicates the number of sessions that successfully authenticated using the Password Authentication Protocol (PAP). |
| PAP auth failure | Indicates the number of sessions that failed authentication using the Password Authentication Protocol (CHAP). |
| PAP auth aborted | Indicates the number of times that PAP authorization was aborted due to the fact that the peer failed to provide the required PAP response packet in time. |
| MSCHAP auth attempt | Indicates the number of sessions that attempted to authenticate using MicroSoft CHAP (MS CHAP). |
| MSCHAP auth success | Indicates the number of sessions that successfully authenticated using MicroSoft CHAP (MS CHAP). |
| MSCHAP auth failure | Indicates the number of sessions that failed authentication using MicroSoft CHAP (MS CHAP). |
| MSCHAP auth aborted | Indicates the number of times that MSCHAP authorization was aborted due to the fact that the peer failed to provide the required CHAP response packet in time. |

| Field | Description |
|---|---|
| sessions skipped PPP Auth | Indicates the number of sessions that skipped PPP authorization. |
| **Session Disconnect reason** | |
| remote initiated | Indicates the number of sessions for which the mobile node initiated the disconnection. |
| remote disc. lower layer | Indicates the number of sessions in which the mobile node disconnected the lower layers of the protocol stack. |
| admin disconnect | Indicates the number of sessions for which the system initiated the disconnection. |
| local disc. lower layer | Indicates the number of sessions in which the system disconnected the lower layers of the protocol stack. |
| idle timeout | Indicates the number of sessions disconnected due to exceeding their idle timeout limit. |
| absolute timeout | Indicates the number of sessions disconnected due to exceeding their absolute timeout limit. |
| keep alive failure | Indicates the number of sessions disconnected due to keep alive failures. |
| no resource | Indicates the number of sessions disconnected due to lack of resources on the local side (CPU and memory). |
| flow add failure | Indicates the number of sessions for which the Network Processor Unit (NPU) failed to add a flow. |
| exceeded max LCP retries | Indicates the number of sessions disconnected due to exceeding their maximum number of Link Control Protocol (LCP) retries. |
| exceeded max IPCP retries | Indicates the number of sessions disconnected due to exceeding their maximum number of Internet Protocol Control Protocol (IPCP) retries. |
| exceeded max setup timer | Indicates the number of sessions disconnected due to exceeding their maximum amount of time allotted for session setup. |
| invalid dest-context | Indicates the number of sessions disconnected due to the specification of an invalid destination context.<br>**NOTE:** Refer to the System Administration and Administration Reference for additional information about destination contexts and how they are determined. |
| LCP option-neg failed | Indicates the number of sessions that were disconnected due to failed negotiations between the system and the mobile nodes over Link Control Protocol (LCP) options. |
| IPCP option-neg failed | Indicates the number of sessions that were disconnected due to failed negotiations between the system and the mobile nodes over Internet Protocol Control Protocol (IPCP) options. |
| no remote-ip address | Indicates the number of sessions that were disconnected due to the lack of an IP address for the mobile node. |

| Field | Description |
|---|---|
| call type detect failed | Indicates the number of sessions that were disconnected due to the system not being able to determine what type of service to provide for the session. The possible services are:<br>• pdsn-simple-ip<br>• pdsn-mobile-ip<br>• ha-mobile-ip |
| source address violation | Indicates the number of sessions that were disconnected due to source address violations. |
| exceeded max IPv6CP retries | Indicates the number of sessions disconnected due to exceeding their maximum amount of time allotted for IPv6CP setup. |
| IPv6CP option-neg failed | Indicates the number of sessions that were disconnected due to failed negotiations between the system and the mobile nodes over IPv6CP options. |
| remote disc. upper layer | Indicates the number of times a session was disconnected because the remote peer disconnected the upper protocol layer. |
| long duration timeout | The number of sessions disconnected due to expiration of the long duration timer. |
| PPP auth failures | The number of sessions that failed due to PPP authorization failures. |
| miscellaneous reasons | Indicates the number of sessions that were disconnected for reasons other than those listed here. |
| **Session Data Compression** | |
| sessions negotiated comp | Indicates the total number of sessions that negotiated the use data compression. |
| STAC Compression | Indicates the total number of sessions that negotiated the use data compression using the STAC protocol. |
| MPPC compression | Indicates the total number of sessions that negotiated the use data compression using the MPPC protocol. |
| Deflate Compression | Indicates the total number of sessions that negotiated the use data compression using the DEFLATE protocol. |
| CCP negotiation failures | Indicates the number of Compression Control Protocol negotiation failures. |
| **Session Header Compression** | |
| VJ compression | Indicates the total number of sessions that negotiated the use of Van Jacobsen (VJ) header compression. |
| ROHC Compression | Indicates the total number of sessions that negotiated the use of Robust Header Compression (ROHC). |
| LCP Echo Statistics | |
| total LCP Echo Req. sent | The total number of LCP Echo requests sent to the peer. |

| Field | Description |
|---|---|
| LCP Echo Req. resent | The total number of LCP echo requests retransmitted to the peer. |
| LCP Echo Reply received | The total number of LCP echo replies received from the peer. |
| LCP Echo Request timeout | The total number of LCP Echo timeouts that occurred since a Reply was not received. |
| **Receive Errors** | |
| bad FCS errors | Indicates the number of packets received with an invalid Frame Check Sequence (FCS). |
| unknown protocol errors | Indicates the number of packets received with an invalid protocol type. |
| bad Address errors | Indicates the number of packets received with a bad address field. |
| bad control field errors | Indicates the number of packets received with a bad control field. |
| bad pkt length | Indicates the number of packets received with an invalid packet length. |