

Configuring PPP Address and Control Field Compression

For interfaces with PPP, PPP CCC, or PPP TCC encapsulation, you can configure compression of the Data Link Layer address and control fields, as defined in RFC 1661, *The Point-to-Point Protocol (PPP)*. By default, the address and control fields are not compressed. This means PPP-encapsulated packets are transmitted with two 1-byte fields (0xff and 0x03). If you configure address and control field compression (ACFC) and ACFC is successfully negotiated with the local router's peer, the local router transmits packets without these 2 bytes. ACFC allows you to conserve bandwidth by transmitting less data.

On M320, M120, and T-series routing platforms, ACFC is not supported for any ISO family protocols. Do not include the `acfc` statement at the [edit interfaces *interface-name* ppp-options compression] hierarchy level when you include the `family iso` statement at the [edit interfaces *interface-name* unit *logical-unit-number*] hierarchy level.



NOTE: The address and control fields cannot be compressed in Link Control Protocol (LCP) packets.

The PPP session restarts when you configure or modify compression options.

To configure ACFC, include the `compression` statement at the [edit interfaces *interface-name* ppp-options] hierarchy level, and specify `acfc`:

```
[edit interfaces interface-name ppp-options]  
[Unresolved xref] acfc;
```

This configuration causes the local router to try to negotiate ACFC with its peer. If ACFC is successfully negotiated, the local router sends packets with compressed address and control fields. When you include the `compression acfc` statement in the configuration, the PPP session restarts, and the local router sends the ACFC option in the LCP Configure-Request packet. The ACFC option informs the local router's peer that the local router can receive packets with compression. If the peer indicates that it, too, can receive packets with compression, then ACFC is negotiated. If ACFC is successfully negotiated, the local router can receive packets with or without the address and control bytes included.

To monitor the configuration, issue the `show interfaces interface-name` command. Configured options are displayed in the `link flags` field for the physical interface. Successfully negotiated options are displayed in the `flags` field for the logical interface. In this example, both ACFC and PFC are configured, but neither compression feature has been successfully negotiated.

```
user@router# run show interfaces so-0/1/1  
Physical interface: so-0/1/1, Enabled, Physical link is Up  
  Interface index: 133, SNMP ifIndex: 27  
    Link-level type: PPP, MTU: 4474, Clocking: Internal, SONET mode, Speed: OC3,  
    Loopback: None, FCS: 16  
      Payload scrambler: Enabled
```

```

Device flags      : Present Running
Interface flags: Point-To-Point SNMP-Traps 16384
Link flags       : No-Keepalives ACFC PFC
LCP state: Opened
NCP state: inet: Opened, inet6: Not-configured, iso: Not-configured, mpls:
Not-configured
CHAP state: Not-configured
CoS queues       : 4 supported
Last flapped    : 2004-12-29 10:49:32 PST (00:18:35 ago)
Input rate      : 0 bps (0 pps)
Output rate     : 0 bps (0 pps)
SONET alarms    : None
SONET defects   : None
Logical interface so-0/1/1.0 (Index 68) (SNMP ifIndex 169)
Flags: Point-To-Point SNMP-Traps ACFC Encapsulation: PPP
Protocol inet, MTU: 4470
Flags: None
Addresses, Flags: Is-Preferred Is-Primary
Destination: 3.3.3/24, Local: 3.3.3.2, Broadcast: 3.3.3.255

```