



V.92 Reporting Using RADIUS Attribute v.92-info

First Published: May 14, 2003

Last Updated: October 6, 2009

The V.92 Reporting Using RADIUS Attribute v.92-info feature provides the ability to track V.92 call information, such as V.92 features that are supported, the Quick Connect feature set that was attempted, the duration for which the original call was put on hold, and how many times Modem On Hold was initiated. The vendor-specific attribute (VSA) v.92-info is included in accounting “start” and “stop” records when modems negotiate a V.92 connection.

Finding Feature Information

Your software release may not support all the features documented in this module. For the latest feature information and caveats, see the release notes for your platform and software release. To find information about the features documented in this module, and to see a list of the releases in which each feature is supported, see the [“Feature Information for V.92 Reporting Using RADIUS Attribute v.92-info”](#) section on page 17.

Use Cisco Feature Navigator to find information about platform support and Cisco IOS and Catalyst OS software image support. To access Cisco Feature Navigator, go to <http://tools.cisco.com/ITDIT/CFN/jsp/index.jsp>. An account on Cisco.com is not required.

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Prerequisites for V.92 Reporting Using RADIUS Attribute v.92-info

Before the network access server (NAS) can send attribute v.92-info information in accounting “start” and “stop” records, you must perform the following tasks:

- Configure your NAS for authentication, authorization, and accounting (AAA) and to accept incoming modem calls.
- Enable AAA accounting by using the **aaa accounting network default start-stop group radius** command in global configuration mode.
- Familiarize yourself with the V.92 Quick Connect and V.92 Modem on Hold features. See “[Related Documents](#)” section on page 15.

Restrictions for V.92 Reporting Using RADIUS Attribute v.92-info

- If V.92 is not negotiated on your server, V.92 information will not be included in the accounting record.
- Because the attribute v.92-info information is sent as a Cisco VSA, if you configure your RADIUS server as nonstandard (using a non-Cisco server), the V.92 call information will not be sent by default. However, you can still get the V.92 call information by first configuring the **radius-server vsa send** command with the **accounting** keyword (that is, **radius-server vsa send accounting**).

Information About V.92 Reporting Using RADIUS Attribute v.92-info

Before you use the V.92 Reporting Using RADIUS Attribute v.92-info feature, you must understand the following concepts:

- [V.92 Standard Overview, page 2](#)
- [VSA v.92-info, page 3](#)

V.92 Standard Overview

The International Telecommunication Union Telecommunication Standardization Sector (ITU-T) V.92 standard encompasses a number of specifications, including Quick Connect (QC), which dramatically improves how quickly users can connect with their Internet service provider (ISP), and Modem on Hold (MoH), which enables users to suspend and reactivate their dial-up connection to either receive or initiate a telephone call. V.92 also includes pulse code modulation (PCM) upstream, which boosts the upstream data rates from the user to the ISP to reduce transfer times for large files and e-mail attachments sent by the user.

VSA v.92-info

The VSA v.92-info information in RADIUS accounting “start” and “stop” records can help you track V.92 feature set information. The VSA is enabled by default for all sessions that reside over a modem call that is connected using V.92 model modulation.

The VSA information is displayed in the “start” and “stop” records as follows:

```
v92-info=<V.92 features supported>/<QC Exchange>/<Total MOH time>/<MOH count>
```

The VSA v92-info has the following four subfields:

- V.92 features supported—All features that are available for the V.92 modem user who is dialing in. These features include QC, MoH, and PCM Upstream.
- QC Exchange—If QC was initiated, this subfield states what feature set (within QC) was attempted.
- Total MOH time—If MoH was initiated, this subfield indicates the duration for which the original call was put on hold.
- MOH count—If MOH was initiated, this field indicates how many times the MOH was initiated.

The following is an example of VSA v92-info information displayed in an accounting record:

```
v92-info=V.92 QC MOH/QC Requested/60/1
```

How to Monitor and Verify V.92 Call Information

The following sections include tasks to help you monitor and verify V.92 call information:

- [Monitoring V.92 Call Information, page 3](#)
- [Verifying V.92 Call Information, page 11](#)

Monitoring V.92 Call Information

To monitor the V.92 information in the accounting “start” and “stop” records, you can perform the following task using some or all of the debug commands that are listed:

SUMMARY

1. **enable**
2. **debug aaa accounting**
3. **debug aaa authentication**
4. **debug aaa authorization**
5. **debug isdn event**
6. **debug modem csm** [*slot/port* | **group** *group-number*]
7. **debug ppp** {**negotiation** | **authentication**}
8. **debug radius**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enables privileged EXEC mode. <ul style="list-style-type: none"> Enter your password if prompted.
Step 2	debug aaa accounting Example: Router# debug aaa accounting	Displays information about accountable events as they occur.
Step 3	debug aaa authentication Example: Router# debug aaa authentication	Displays information about AAA authentication.
Step 4	debug aaa authorization Example: Router# debug aaa authorization	Displays information about AAA and TACACS+ authorization.
Step 5	debug isdn event Example: Router# debug isdn event	Displays ISDN events occurring on the user side (on the router) of the ISDN interface.
Step 6	debug modem csm [slot/port group group-number] Example: Router# debug modem csm 1/0 group 1	Displays call switching module (CSM) modem call information.
Step 7	debug ppp {negotiation authentication} Example: Router# debug ppp authentication	Displays information on traffic and exchanges in an internetwork that is implementing the PPP.
Step 8	debug radius Example: Router# debug radius	Displays information associated with RADIUS.

Examples

The following sample debug outputs display information about a V.92 reporting situation:

Debug Output 1

```
01:39:19: ISDN Se7/6:23: RX <- SETUP pd = 8 callref = 0x42A0
01:39:19:         Bearer Capability i = 0x9090A2
01:39:19:         Channel ID i = 0xA18396
01:39:19:         Progress Ind i = 0x8183 - Origination address is non-ISDN
01:39:19:         Calling Party Number i = 0xA1, '60112', Plan:ISDN, Type:National
```

```

01:39:19:          Called Party Number i = 0xA1, '50138', Plan:ISDN, Type:National
01:39:19:          Locking Shift to Codeset 6
01:39:19:          Codeset 6 IE 0x28 i = 'ANALOG,savitha'
01:39:19: ISDN Se7/6:23: Incoming call id = 0x0038, dsl 0
01:39:19: ISDN Se7/6:23: NegotiateBchan: bchan 22 intid 0 serv_st 0 chan_st 0 callid
0x0000 ev 0x90 n/w? 0
01:39:19: Negotiated int_id 0 bchan 0 cr=0xC2A0 callid=0x0038 lo_chan 22 final
int_id/bchan 0/22 cause 0x0
01:39:19: ISDN Se7/6:23: LIF_EVENT: ces/callid 1/0x38 CALL_INCOMING
01:39:19: ISDN Se7/6:23: CALL_INCOMING dsl 0 bchan 21
01:39:19: voice_parse_intf_name: Using the old NAS_PORT string
01:39:19: AAA/ACCT/EVENT/(00000007): CALL START
01:39:19: AAA/ACCT(00000000): add node, session 9
01:39:19: AAA/ACCT/NET(00000007): add, count 1
01:39:19: AAA/ACCT/EVENT/(00000007): ATTR REPLACE
01:39:19: ISDN Se7/6:23: CALL_INCOMING: call type is VOICE ULAW, bchan = 21
01:39:19: ISDN Se7/6:23: Event: Received a VOICE call from 60112 on B21 at 64 Kb/s Tone
Value 0
01:39:19: AAA/ACCT/DS0: channel=21, ds1=6, t3=0, slot=7, ds0=117465109
01:39:19: AAA/ACCT/DS0: channel=21, ds1=6, t3=0, slot=7, ds0=117465109
01:39:19: VDEV_ALLOCATE: 1/5 is allocated
01:39:19: ISDN Se7/6:23: RM returned call_type 1 resource type 0 response 2
01:39:19: EVENT_FROM_ISDN: dchan_idb=0x63B3D334, call_id=0x38, ces=0x0
      bchan=0x15, event=0x1, cause=0x0
01:39:19: dev in call to isdn : set dnis_collected & fap_notify
01:39:19: EVENT_FROM_ISDN:(0038): DEV_INCALL at slot 1 and port 5
01:39:19: EVENT_FROM_ISDN: decode:calling oct3 0xA1, called oct3 0xA1, oct3a 0x0,mask 0x3D
01:39:19: EVENT_FROM_ISDN: csm_call_info:calling oct3 0xA1, called oct3 0xA1, oct3a
0x0,mask 0x3D
01:39:19: CSM_PROC_IDLE: CSM_EVENT_ISDN_CALL at slot 1, port 5
01:39:19: CSM DSPLIB(1/5/csm_flags=0x12): np_dsplib_prepare_modem
01:39:19: CSM_connect_pri_vdev: TS allocated at bp_stream 0, bp_Ch 5, vdev_common
0x62EAD8F4 1/5
01:39:19: ISDN Se7/6:23: EVENT to CSM:DEV_INCALL: calltype=VOICE, bchan=21
01:39:19: ISDN Se7/6:23: TX -> CALL_PROC pd = 8 callref = 0xC2A0
01:39:19:          Channel ID i = 0xA98396
01:39:19: ISDN Se7/6:23: TX -> ALERTING pd = 8 callref = 0xC2A0
01:39:19: CSM DSPLIB(1/5):DSPLIB_MODEM_INIT: Modem session transition to IDLE
01:39:19: CSM DSPLIB(1/5): Modem went offhook
01:39:19: CSM_PROC_IC2_RING: CSM_EVENT_MODEM_OFFHOOK at slot 1, port 5
01:39:19: ISDN Se7/6:23: VOICE_ANS Event: call id 0x38, bchan 21, ces 0
01:39:19: ISDN Se7/6:23: isdn_send_connect(): msg 74, call id 0x38, ces 0 bchan 21, call
type VOICE
01:39:19: ISDN Se7/6:23: TX -> CONNECT pd = 8 callref = 0xC2A0
01:39:19: ISDN Se7/6:23: RX <- CONNECT_ACK pd = 8 callref = 0x42A0
01:39:19: ISDN Se7/6:23: LIF_EVENT: ces/callid 1/0x38 CALL_PROGRESS
01:39:19: ISDN Se7/6:23: event CALL_PROGRESS dsl 0
01:39:19: ISDN Se7/6:23: CALL_PROGRESS: CALL_CONNECTED call id 0x38, bchan 21, dsl 0
01:39:19: EVENT_FROM_ISDN: dchan_idb=0x63B3D334, call_id=0x38, ces=0x0
      bchan=0x15, event=0x4, cause=0x0
01:39:19: EVENT_FROM_ISDN:(0038): DEV_CONNECTED at slot 1 and port 5
01:39:19: CSM_PROC_IC6_WAIT_FOR_CONNECT: CSM_EVENT_ISDN_CONNECTED at slot 1, port 5
01:39:19: CSM DSPLIB(1/5): np_dsplib_call_accept
01:39:19: ISDN Se7/6:23: EVENT to CSM:DEV_CONNECTED: calltype=VOICE, bchan=21
01:39:19: CSM DSPLIB(1/5):DSPLIB_MODEM_WAIT_ACTIVE: Modem session transition to ACTIVE
01:39:19: CSM DSPLIB(1/5): Modem state changed to (CONNECT_STATE)
01:39:22: CSM DSPLIB(1/5): Modem state changed to (V8BIS_EXCHANGE_STATE)
01:39:24: CSM DSPLIB(1/5): Modem state changed to (LINK_STATE)
01:39:28: CSM DSPLIB(1/5): Modem state changed to (RANGING_STATE)
01:39:30: CSM DSPLIB(1/5): Modem state changed to (HALF_DUPLEX_TRAIN_STATE)
01:39:45: CSM DSPLIB(1/5): Modem state changed to (TRAINUP_STATE)
01:39:45: CSM DSPLIB(1/5): Modem state changed to (EC_NEGOTIATING_STATE)
01:39:46: CSM DSPLIB(1/5): Modem state changed to (STEADY_STATE)
01:39:46: TTY1/05: DSR came up

```

```

01:39:46: tty1/05: Modem: IDLE->(unknown)
01:39:46: TTY1/05: EXEC creation
01:39:46: CHAT1/05: Attempting line activation script
01:39:46: CHAT1/05: Asserting DTR
01:39:50: voice_parse_intf_name: Using the old NAS_PORT string
01:39:50: voice_parse_intf_name: Using the old NAS_PORT string
01:39:50: AAA/AUTHEN/LOGIN (00000007): Pick method list 'default'
01:39:50: RADIUS/ENCODE(00000007): ask "Username: "
01:39:50: RADIUS/ENCODE(00000007): send packet; GET_USER
01:39:50: TTY1/05: set timer type 10, 30 seconds
01:39:50: TTY1/05: Autoselect(2) sample 7E
01:39:50: TTY1/05: Autoselect(2) sample 7EFF
01:39:50: TTY1/05: Autoselect(2) sample 7EFF7D
01:39:50: TTY1/05: Autoselect(2) sample 7EFF7D23
01:39:50: TTY1/05 Autoselect cmd: ppp negotiate
01:39:50: TTY1/05: EXEC creation
01:39:50: CHAT1/05: Attempting line activation script
01:39:50: CHAT1/05: Asserting DTR
01:39:54: voice_parse_intf_name: Using the old NAS_PORT string
01:39:54: voice_parse_intf_name: Using the old NAS_PORT string
01:39:54: TTY1/05: no timer type 1 to destroy
01:39:54: TTY1/05: no timer type 0 to destroy
01:39:54: As1/05 LCP: I CONFREQ [Closed] id 0 len 50
01:39:54: As1/05 LCP: ACCM 0x00000000 (0x020600000000)
01:39:54: As1/05 LCP: MagicNumber 0x00002EB8 (0x050600002EB8)
01:39:54: As1/05 LCP: PFC (0x0702)
01:39:54: As1/05 LCP: ACFC (0x0802)
01:39:54: As1/05 LCP: Callback 6 (0x0D0306)
01:39:54: As1/05 LCP: MRRU 1614 (0x1104064E)
01:39:54: As1/05 LCP: EndpointDisc 1 Local
01:39:54: As1/05 LCP: (0x131701CC7F60A0E7A211D6B549000102)
01:39:54: As1/05 LCP: (0x2BC4390000000000)
01:39:54: As1/05 LCP: Lower layer not up, Fast Starting
01:39:54: voice_parse_intf_name: Using the old NAS_PORT string
01:39:54: voice_parse_intf_name: Using the old NAS_PORT string
01:39:54: As1/05 PPP: Treating connection as a callin
01:39:54: As1/05 PPP: Phase is ESTABLISHING, Passive Open
01:39:54: As1/05 LCP: State is Listen
01:39:54: As1/05 PPP: Authorization required
01:39:54: As1/05 LCP: O CONFREQ [Listen] id 1 len 25
01:39:54: As1/05 LCP: ACCM 0x000A0000 (0x0206000A0000)
01:39:54: As1/05 LCP: AuthProto CHAP (0x0305C22305)
01:39:54: As1/05 LCP: MagicNumber 0x099EBCBA (0x0506099EBCBA)
01:39:54: As1/05 LCP: PFC (0x0702)
01:39:54: As1/05 LCP: ACFC (0x0802)
01:39:54: As1/05 LCP: O CONFREQ [Listen] id 0 len 11
01:39:54: As1/05 LCP: Callback 6 (0x0D0306)
01:39:54: As1/05 LCP: MRRU 1614 (0x1104064E)
01:39:54: As1/05 LCP: I CONFACK [REQsent] id 1 len 25
01:39:54: As1/05 LCP: ACCM 0x000A0000 (0x0206000A0000)
01:39:54: As1/05 LCP: AuthProto CHAP (0x0305C22305)
01:39:54: As1/05 LCP: MagicNumber 0x099EBCBA (0x0506099EBCBA)
01:39:54: As1/05 LCP: PFC (0x0702)
01:39:54: As1/05 LCP: ACFC (0x0802)
01:39:54: As1/05 LCP: I CONFREQ [ACKrcvd] id 1 len 43
01:39:54: As1/05 LCP: ACCM 0x00000000 (0x020600000000)
01:39:54: As1/05 LCP: MagicNumber 0x00002EB8 (0x050600002EB8)
01:39:54: As1/05 LCP: PFC (0x0702)
01:39:54: As1/05 LCP: ACFC (0x0802)
01:39:54: As1/05 LCP: EndpointDisc 1 Local
01:39:54: As1/05 LCP: (0x131701CC7F60A0E7A211D6B549000102)
01:39:54: As1/05 LCP: (0x2BC4390000000000)
01:39:54: As1/05 LCP: O CONFACK [ACKrcvd] id 1 len 43
01:39:54: As1/05 LCP: ACCM 0x00000000 (0x020600000000)

```

```
01:39:54: As1/05 LCP: MagicNumber 0x00002EB8 (0x050600002EB8)
01:39:54: As1/05 LCP: PFC (0x0702)
01:39:54: As1/05 LCP: ACFC (0x0802)
01:39:54: As1/05 LCP: EndpointDisc 1 Local
01:39:54: As1/05 LCP: (0x131701CC7F60A0E7A211D6B549000102)
01:39:54: As1/05 LCP: (0x2BC43900000000)
01:39:54: As1/05 LCP: State is Open
01:39:54: As1/05 PPP: Phase is AUTHENTICATING, by this end
01:39:54: As1/05 CHAP: O CHALLENGE id 1 len 26 from "s5400"
01:39:54: As1/05 LCP: I IDENTIFY [Open] id 2 len 18 magic 0x00002EB8 MSRASV4.00
01:39:54: As1/05 LCP: I IDENTIFY [Open] id 3 len 23 magic 0x00002EB8 MSRAS-1-PTE-PC1
01:39:54: As1/05 CHAP: I RESPONSE id 1 len 34 from "Administrator"
01:39:54: As1/05 PPP: Phase is FORWARDING, Attempting Forward
01:39:54: As1/05 PPP: Phase is AUTHENTICATING, Unauthenticated User
01:39:54: AAA/AUTHEN/PPP (00000007): Pick method list 'default'
01:39:54: As1/05 PPP: Sent CHAP LOGIN Request
01:39:54: RADIUS/ENCODE(00000007): Unsupported AAA attribute parent-interface
01:39:54: RADIUS/ENCODE(00000007): Unsupported AAA attribute parent-interface-type
01:39:54: RADIUS/ENCODE(00000007): acct_session_id: 9
01:39:54: RADIUS(00000007): sending
01:39:54: RADIUS: Send to unknown id 2 10.107.164.120:1645, Access-Request, len 128
01:39:54: RADIUS: authenticator 13 E4 F2 9F BC 3E CE 52 - CC 93 0C E0 01 0C 73 7B
01:39:54: RADIUS: Framed-Protocol [7] 6 PPP [1]
01:39:54: RADIUS: User-Name [1] 15 "Administrator"
01:39:54: RADIUS: CHAP-Password [3] 19 *
01:39:54: RADIUS: Called-Station-Id [30] 7 "50138"
01:39:54: RADIUS: Calling-Station-Id [31] 7 "60112"
01:39:54: RADIUS: Vendor, Cisco [26] 30
01:39:54: RADIUS: cisco-nas-port [2] 24 "Async1/05*Serial7/6:21"
01:39:54: RADIUS: NAS-Port [5] 6 221
01:39:54: RADIUS: NAS-Port-Type [61] 6 Async [0]
01:39:54: RADIUS: Service-Type [6] 6 Framed [2]
01:39:54: RADIUS: NAS-IP-Address [4] 6 10.0.58.107
01:39:54: RADIUS: Received from id 2 10.107.164.120:1645, Access-Accept, len 62
01:39:54: RADIUS: authenticator EF 45 A3 D4 A7 EE D0 65 - 03 50 B4 3E 07 87 2E 8F
01:39:54: RADIUS: Vendor, Cisco [26] 30
01:39:54: RADIUS: cisco-nas-port [2] 24 "Async1/05*Serial7/6:21"
01:39:54: RADIUS: Service-Type [6] 6 Framed [2]
01:39:54: RADIUS: Framed-Protocol [7] 6 PPP [1]
01:39:54: RADIUS: Received from id 7
01:39:54: As1/05 PPP: Received LOGIN Response PASS
01:39:54: As1/05 PPP/AAA: Check Attr: interface
01:39:54: As1/05 PPP/AAA: Check Attr: service-type
01:39:54: As1/05 PPP/AAA: Check Attr: Framed-Protocol
01:39:54: As1/05 PPP: Phase is FORWARDING, Attempting Forward
01:39:54: As1/05 PPP: Phase is AUTHENTICATING, Authenticated User
01:39:54: As1/05 AAA/AUTHOR/LCP: Process Author
01:39:54: As1/05 AAA/AUTHOR/LCP: Process Attr: service-type
01:39:54: As1/05 CHAP: O SUCCESS id 1 len 4
01:39:54: AAA/ACCT/NET(00000007): Pick method list 'default'
01:39:54: AAA/ACCT/SETMLIST(00000007): Handle FFFFFFFF, mlist 630B11E4, Name default
01:39:54: AAA/ACCT/EVENT/(00000007): NET UP
01:39:54: AAA/ACCT/NET(00000007): Queueing record is START
01:39:54: As1/05 PPP: Phase is UP
01:39:54: As1/05 AAA/AUTHOR/IPCP: FSM authorization not needed
01:39:54: As1/05 AAA/AUTHOR/FSM: We can start IPCP
01:39:54: As1/05 IPCP: O CONFREQ [Closed] id 1 len 10
01:39:54: As1/05 IPCP: Address 10.1.1.2 (0x030646010102)
01:39:54: AAA/ACCT(00000007): Accounting method=radius (radius)
01:39:54: RADIUS/ENCODE(00000007): Unsupported AAA attribute timezone
01:39:54: RADIUS/ENCODE(00000007): Unsupported AAA attribute parent-interface
01:39:54: RADIUS/ENCODE(00000007): Unsupported AAA attribute parent-interface-type
01:39:54: RADIUS(00000007): sending
01:39:54: RADIUS: Send to unknown id 8 10.107.164.120:1646, Accounting-Request, len 243
```



```

01:39:54: As1/05 AAA/AUTHOR/IPCP: no author-info for primary dns
01:39:54: As1/05 AAA/AUTHOR/IPCP: no author-info for primary wins
01:39:54: As1/05 AAA/AUTHOR/IPCP: no author-info for seconday dns
01:39:54: As1/05 AAA/AUTHOR/IPCP: no author-info for seconday wins
01:39:54: As1/05 IPCP: O CONFREJ [REQsent] id 5 len 28
01:39:54: As1/05 IPCP: PrimaryDNS 0.0.0.0 (0x810600000000)
01:39:54: As1/05 IPCP: PrimaryWINS 0.0.0.0 (0x820600000000)
01:39:54: As1/05 IPCP: SecondaryDNS 0.0.0.0 (0x830600000000)
01:39:54: As1/05 IPCP: SecondaryWINS 0.0.0.0 (0x840600000000)
01:39:54: As1/05 IPCP: I CONFACK [REQsent] id 1 len 10
01:39:54: As1/05 IPCP: Address 70.1.1.2 (0x030646010102)
01:39:54: As1/05 IPCP: I CONFREQ [ACKrcvd] id 6 len 10
01:39:54: As1/05 IPCP: Address 0.0.0.0 (0x030600000000)
01:39:54: As1/05 IPCP: O CONFNAK [ACKrcvd] id 6 len 10
01:39:54: As1/05 IPCP: Address 70.2.2.6 (0x030646020206)
01:39:55: As1/05 IPCP: I CONFREQ [ACKrcvd] id 7 len 10
01:39:55: As1/05 IPCP: Address 70.2.2.6 (0x030646020206)
01:39:55: As1/05 IPCP: O CONFACK [ACKrcvd] id 7 len 10
01:39:55: As1/05 IPCP: Address 70.2.2.6 (0x030646020206)
01:39:55: As1/05 IPCP: State is Open
01:39:55: AAA/ACCT/EVENT/(00000007): IPCP_PASS
01:39:55: As1/05 IPCP: Install route to 10.2.2.6
01:39:55: As1/05 IPCP: Add link info for cef entry 10.2.2.6

```

Debug Output 2

```

01:40:50: ISDN Se7/6:23: RX <- DISCONNECT pd = 8 callref = 0x42A0
01:40:50: Cause i = 0x8190 - Normal call clearing
01:40:50: ISDN Se7/6:23: LIF_EVENT: ces/callid 1/0x38 CALL_DISC
01:40:50: EVENT_FROM_ISDN: dchan_idb=0x63B3D334, call_id=0x38, ces=0x0
    bchan=0x15, event=0x0, cause=0x10
01:40:50: EVENT_FROM_ISDN:(0038): DEV_IDLE at slot 1 and port 5
01:40:50: CSM_PROC_IC7_OC6_CONNECTED: CSM_EVENT_ISDN_DISCONNECTED at slot 1, port 5
01:40:50: CSM DSPLIB(1/5): np_dsplib_call_hangup reason 14
01:40:50: CSM(1/5): Enter csm_enter_disconnecting_state
01:40:50: VDEV_DEALLOCATE: slot 1 and port 5 is deallocated

01:40:50: ISDN Se7/6:23: EVENT to CSM:DEV_IDLE: calltype=VOICE, bchan=21
01:40:50: ISDN Se7/6:23: process_disc_ack(): call id 0x38, ces 0, call type VOICE cause
0x10
01:40:50: ISDN Se7/6:23: TX -> RELEASE pd = 8 callref = 0xC2A0
01:40:50: AAA/ACCT/EVENT/(00000007): CALL STOP
01:40:50: AAA/ACCT/CALL STOP(00000007): Sending stop requests
01:40:50: AAA/ACCT(00000007): Send all stops
01:40:50: AAA/ACCT/NET(00000007): STOP
01:40:50: AAA/ACCT/NET(00000007): Queueing record is STOP osr 1
01:40:50: AAA/ACCT(00000007): Accounting method=radius (radius)
01:40:50: RADIUS/ENCODE(00000007): Unsupported AAA attribute timezone
01:40:50: RADIUS/ENCODE(00000007): Unsupported AAA attribute parent-interface
01:40:50: RADIUS/ENCODE(00000007): Unsupported AAA attribute parent-interface-type
01:40:50: RADIUS(00000007): sending
01:40:50: RADIUS: Send to unknown id 9 10.107.164.120:1646, Accounting-Request, len 315
01:40:50: RADIUS: authenticator 2E 6A 04 D0 04 9A D3 D5 - F7 DD 99 E0 C3 99 27 60
01:40:50: RADIUS: Acct-Session-Id [44] 10 "00000009"
01:40:50: RADIUS: Framed-Protocol [7] 6 PPP [1]
01:40:50: RADIUS: Framed-IP-Address [8] 6 70.2.2.6
01:40:50: RADIUS: Acct-Terminate-Cause[49] 6 lost-carrier [2]
01:40:50: RADIUS: Vendor, Cisco [26] 33
01:40:50: RADIUS: Cisco AVpair [1] 27 "disc-cause-ext=No Carrier"
01:40:50: RADIUS: Vendor, Cisco [26] 35
01:40:50: RADIUS: Cisco AVpair [1] 29 "connect-progress=LAN Ses Up"
01:40:50: RADIUS: Acct-Session-Time [46] 6 56
01:40:50: RADIUS: Connect-Info [77] 26 "52000/28800 V90/V44/LAPM"
01:40:50: RADIUS: Vendor, Cisco [26] 48

```

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01:40:50: RADIUS: Cisco AVpair [1] 42 "v92-info=V.92 QC MOH/No QC
Requested/0/0"
01:40:50: RADIUS: Acct-Input-Octets [42] 6 285
01:40:50: RADIUS: Acct-Output-Octets [43] 6 295
01:40:50: RADIUS: Acct-Input-Packets [47] 6 5
01:40:50: RADIUS: Acct-Output-Packets [48] 6 5
01:40:50: RADIUS: User-Name [1] 15 "Administrator"
01:40:50: RADIUS: Acct-Status-Type [40] 6 Stop [2]
01:40:50: RADIUS: Called-Station-Id [30] 7 "50138"
01:40:50: RADIUS: Calling-Station-Id [31] 7 "60112"
01:40:50: RADIUS: Vendor, Cisco [26] 30
01:40:50: RADIUS: cisco-nas-port [2] 24 "Async1/05*Serial7/6:21"
01:40:50: RADIUS: NAS-Port [5] 6 221
01:40:50: RADIUS: NAS-Port-Type [61] 6 Async [0]
01:40:50: RADIUS: Service-Type [6] 6 Framed [2]
01:40:50: RADIUS: NAS-IP-Address [4] 6 10.0.58.107
01:40:50: RADIUS: Acct-Delay-Time [41] 6 0
01:40:50: RADIUS: Received from id 9 10.107.164.120:1646, Accounting-response, len 20
01:40:50: RADIUS: authenticator D0 3F 32 D7 7C 8C 5E 22 - 9A 69 EF 17 AC 32 81 21
01:40:50: AAA/ACCT/NET(00000007): STOP protocol reply PASS
01:40:50: AAA/ACCT/NET(00000007): Cleaning up from Callback osr 0
01:40:50: AAA/ACCT(00000007): del node, session 9
01:40:50: AAA/ACCT/NET(00000007): free_rec, count 0
01:40:50: AAA/ACCT/NET(00000007) reccnt 0, csr TRUE, osr 0
01:40:50: AAA/ACCT/NET(00000007): Last rec in db, intf not enqueued
01:40:50: ISDN Se7/6:23: RX <- RELEASE_COMP pd = 8 callref = 0x42A0
01:40:50: ISDN Se7/6:23: CCPRI_ReleaseCall(): bchan 22, call id 0x38, call type VOICE
01:40:50: CCPRI_ReleaseChan released b_dsl 0 B_Chan 22
01:40:50: ISDN Se7/6:23: LIF_EVENT: ces/callid 1/0x38 CALL_CLEARED
01:40:50: ISDN Se7/6:23: received CALL_CLEARED call_id 0x38
01:40:50: no resend setup, no redial
01:40:50: no resend setup, no redial
01:40:50: AAA/ACCT/DS0: channel=21, ds1=6, t3=0, slot=7, ds0=117465109
01:40:50: EVENT_FROM_ISDN: dchan_idb=0x63B3D334, call_id=0x38, ces=0x1
bchan=0x15, event=0x0, cause=0x0
01:40:50: ISDN Se7/6:23: EVENT to CSM:DEV_IDLE: calltype=VOICE, bchan=21
01:40:51: CSM DSPLIB(1/5): Modem state changed to (TERMINATING_STATE)
01:40:51: CSM DSPLIB(1/5): Modem went onhook
01:40:51: CSM_PROC_IC8_OC8_DISCONNECTING: CSM_EVENT_MODEM_ONHOOK at slot 1, port 5
01:40:51: CSM(1/5): Enter csm_enter_idle_state
01:40:51: CSM DSPLIB(1/5):DSPLIB_IDLE: Modem session transition to FLUSHING
01:40:51: CSM DSPLIB(1/5):DSPLIB_IDLE: Modem session transition to IDLE
01:40:51: TTY1/05: DSR was dropped
01:40:51: tty1/05: Modem: READY->(unknown)
01:40:52: TTY1/05: dropping DTR, hanging up
01:40:52: DSPLIB(1/5): np_dsplib_process_dtr_notify()
01:40:52: CSM DSPLIB(1/5): Modem went onhook
01:40:52: CSM_PROC_IDLE: CSM_EVENT_MODEM_ONHOOK at slot 1, port 5
01:40:52: TTY1/05: Async Int reset: Dropping DTR
01:40:52: tty1/05: Modem: HANGUP->(unknown)
01:40:52: AAA/ACCT/EVENT/(00000007): NET DOWN
01:40:52: As1/05 IPCP: Remove link info for cef entry 70.2.2.6
01:40:52: As1/05 IPCP: State is Closed
01:40:52: As1/05 PPP: Phase is TERMINATING
01:40:52: As1/05 LCP: State is Closed
01:40:52: As1/05 PPP: Phase is DOWN
01:40:52: As1/05 IPCP: Remove route to 70.2.2.6
01:40:52: As1/05 LCP: State is Closed
01:40:53: TTY1/05: cleanup pending. Delaying DTR
01:40:54: TTY1/05: cleanup pending. Delaying DTR
01:40:55: TTY1/05: cleanup pending. Delaying DTR
01:40:56: TTY1/05: cleanup pending. Delaying DTR
01:40:57: TTY1/05: no timer type 0 to destroy
01:40:57: TTY1/05: no timer type 1 to destroy

```

```

01:40:57: TTY1/05: no timer type 3 to destroy
01:40:57: TTY1/05: no timer type 4 to destroy
01:40:57: TTY1/05: no timer type 2 to destroy
01:40:57: Async1/05: allowing modem_process to continue hangup
01:40:57: TTY1/05: restoring DTR
01:40:57: TTY1/05: autoconfigure probe started
01:40:57: As1/05 LCP: State is Closed

```

Verifying V.92 Call Information

To verify that the V.92 call was correctly established, use the following **show** commands:

SUMMARY

- **show modem** [*slot/port* | *group number*]
- **show port modem log** [*reverse slot/port*] [*slot* | *slot/port*]
- **show users** [*all*]

DETAILED STEPS

	Command or Action	Purpose
Step 1	show modem [<i>slot/port</i> <i>group number</i>] Example: Router# show modem 1/0 group 1	Displays a high-level performance report for all the modems or a single modem inside Cisco access servers.
Step 2	show port modem log [<i>reverse slot/port</i>] [<i>slot</i> <i>slot/port</i>] Example: Router# show port modem log	Displays the events generated by the modem sessions.
Step 3	show users [<i>all</i>] Example: Router# show users	Displays information about the active lines on the router.

Examples

The following V.92 reporting outputs are from the **show port modem log** and **show users** commands:

Show Output 1

```

Router# show port modem log 1/05

Port 1/05 Events Log
 01:46:19: Service Type: DATA_FAX_MODEM
 01:46:19: Service Mode: DATA_FAX_MODEM
 01:46:19: Session State: IDLE
 01:46:19: incoming caller number: 60112
 01:46:19: incoming called number: 50138
 01:46:19: Service Type: DATA_FAX_MODEM
 01:46:19: Service Mode: DATA_FAX_MODEM

```

```

01:46:19: Session State: IDLE
01:46:19: Service Type: DATA_FAX_MODEM
01:46:19: Service Mode: DATA_FAX_MODEM
01:46:19: Session State: ACTIVE
01:46:19: Modem State event:
      State: Connect
01:46:20: Modem State event:
      State: V.8bis Exchange
01:46:20: Modem State event:
      State: Link
01:46:20: Modem State event:
      State: Ranging
01:46:20: Modem State event:
      State: Half Duplex Train
01:46:20: Modem State event:
      State: Train Up
01:46:20: Modem State event:
      State: EC Negotiating
01:46:20: Modem State event:
      State: Steady
01:46:20: Modem Static event:
  Connect Protocol           : LAP-M
  Compression                : V.44
  Connected Standard         : V.90
  TX,RX Symbol Rate         : 8000, 3200
  TX,RX Carrier Frequency   : 0, 1829
  TX,RX Trellis Coding       : 16/No trellis
  Frequency Offset           : 0 Hz
  Round Trip Delay           : 0 msec
  TX,RX Bit Rate             : 52000, 28800
  Robbed Bit Signalling (RBS) pattern : 255
  Digital Pad                 : 6 dB
  Digital Pad Compensation   : Enabled
  MNP10EC                    : Off-None
  QC Exchange                 : No QC Requested
  TX,RX Negotiated String Length : 255, 255
  DC TX,RX Negotiated Codewords : 1024, 1024
  DC TX,RX Negotiated History Size : 4096, 5120
01:46:21: ISDN Se7/6:23: RX <- SERVICE pd = 3 callref = 0x0000
01:46:21: Change Status i = 0xC0 - in-service
01:46:21: Channel ID i = 0xA98381
01:46:21: ISDN Se7/6:23: Incoming call id = 0x003A, dsl 0
01:46:21: ISDN Se7/6:23: LIF_EVENT: ces/callid 1/0x0 CHAN_STATUS
01:46:21: ISDN Se7/6:23: CHAN_STATUS B-chan=1, action=2; Maintenance.
01:46:21: ISDN Se7/6:23: TX -> SERVICE ACKNOWLEDGE pd = 3 callref = 0x8000
01:46:21: Change Status i = 0xC0 - in-service
01:46:21: Channel ID i = 1
s5400#sh port modem log 1/05
Port 1/05 Events Log
01:46:30: Service Type: DATA_FAX_MODEM
01:46:30: Service Mode: DATA_FAX_MODEM
01:46:30: Session State: IDLE
01:46:30: incoming caller number: 60112
01:46:30: incoming called number: 50138
01:46:30: Service Type: DATA_FAX_MODEM
01:46:30: Service Mode: DATA_FAX_MODEM
01:46:30: Session State: IDLE
01:46:30: Service Type: DATA_FAX_MODEM
01:46:30: Service Mode: DATA_FAX_MODEM
01:46:30: Session State: ACTIVE
01:46:30: Modem State event:
      State: Connect
01:46:30: Modem State event:
      State: V.8bis Exchange

```

```

01:46:30: Modem State event:
      State: Link
01:46:30: Modem State event:
      State: Ranging
01:46:30: Modem State event:
      State: Half Duplex Train
01:46:30: Modem State event:
      State: Train Up
01:46:31: Modem State event:
      State: EC Negotiating
01:46:31: Modem State event:
      State: Steady
01:46:31: Modem Static event:
      Connect Protocol           : LAP-M
      Compression                : V.44
      Connected Standard         : V.90
      TX,RX Symbol Rate          : 8000, 3200
      TX,RX Carrier Frequency    : 0, 1829
      TX,RX Trellis Coding       : 16/No trellis
      Frequency Offset           : 0 Hz
      Round Trip Delay           : 0 msec
      TX,RX Bit Rate             : 52000, 28800
      Robbed Bit Signalling (RBS) pattern : 255
      Digital Pad                 : 6 dB
      Digital Pad Compensation   : Enabled
      MNP10EC                    : Off-None
      QC Exchange                : No QC Requested
      TX,RX Negotiated String Length : 255, 255
      DC TX,RX Negotiated Codewords : 1024, 1024
      DC TX,RX Negotiated History Size : 4096, 5120
      Diagnostic Code            : 00 00 00 00 00 00 00 00
      V.92 Status                : V.92 QC MOH
01:46:32: Modem Dynamic event:
      Sq Value                   : 6
      Signal Noise Ratio         : 38 dB
      Receive Level              : -11 dBm
      Phase Jitter Frequency     : 0 Hz
      Phase Jitter Level        : 0 degrees
      Far End Echo Level         : 0 dBm
      Phase Roll                 : 0 degrees
      Total Retrans              : 0
      EC Retransmission Count    : 0
      Characters transmitted, received : 0, 0
      Characters received BAD     : 0
      PPP/SLIP packets transmitted, received : 0, 0
      PPP/SLIP packets received (BAD/ABORTED) : 0
      EC packets transmitted, received OK : 0, 0
      EC packets (Received BAD/ABORTED) : 0
      Total Speedshifts         : 0
      Total MOH Time            : 0 secs
      Current MOH Time          : 0 secs
      MOH Status                 : Modem is Not on Hold
      MOH Count                  : 0
      MOH Request Count         : 0
      Retrans due to Call Waiting : 0
      DC Encoder,Decoder State   : compressed/compressed
      DC TX,RX Compression Ratio : not calculated/not calculated
      DC TX,RX Dictionary Reset Count : 0, 0
      Diagnostic Code            : 00 00 00 00 00 00 00 00
01:46:35: Modem State event:
      State: Terminate
01:46:35: Service Type: DATA_FAX_MODEM
01:46:35: Service Mode: DATA_FAX_MODEM
01:46:35: Session State: FLUSHING

```

```

01:46:35: Service Type: DATA_FAX_MODEM
01:46:35: Service Mode: DATA_FAX_MODEM
01:46:35: Session State: IDLE
01:46:35: Modem End Connect event:
  Call Timer                               :    65 secs
  Disconnect Reason Info                   :    0x220
    Type (=0 ): <unknown>
    Class (=2 ): EC condition - locally detected
    Reason (=32 ): received DISC frame -- normal LAPM termination
  Total Retransmits                         :    0
  EC Retransmission Count                   :    0
  Characters transmitted, received         :   677, 817
  Characters received BAD                   :    0
  PPP/SLIP packets transmitted, received   :   10, 10
  PPP/SLIP packets received (BAD/ABORTED) :    0
  EC packets transmitted, received OK      :   10, 21
  EC packets (Received BAD/ABORTED)       :    0
  TX,RX Bit Rate                           :  52000, 28800
  Total Speedshifts                        :    0
  Total MOH Time                            :    0 secs
  Current MOH Time                          :    0 secs
  MOH Status                               : Modem is Not on Hold
  MOH Count                                 :    0
  MOH Request Count                         :    0
  Retransmits due to Call Waiting           :    0
  DC Encoder,Decoder State                  : compressed/compressed
  DC TX,RX Compression Ratio                :   1.67:1/1.65:1
  DC TX,RX Dictionary Reset Count          :    0, 1
  Diagnostic Code                           :   00 00 00 00 00 00 00 00 00
01:46:37:Modem Link Rate event:

```

Show Output 2

Router# **show users**

Line	User	Host(s)	Idle	Location
* 0 con 0		idle	00:00:00	
tty 1/05	Administra	Async interface	00:00:29	PPP: 70.2.2.6

Interface	User	Mode	Idle	Peer Address
-----------	------	------	------	--------------

Troubleshooting Tips

If you see that V.92 call information is not being reported by AAA, ensure that the call is a V.92 call by using the **show modem** command or by looking at the modem logs by using the **show modem log** command.

Additional References

The following sections provide references related to the V.92 Reporting Using RADIUS Attribute v.92-info feature.

Related Documents

Related Topic	Document Title
AAA accounting	“AAA Accounting” module.
AAA accounting commands	Cisco IOS Security Command Reference
V.92 Quick Connect feature	V.92 Quick Connect for Cisco AS5300 and Cisco AS5800 Universal Access Servers
V.92 Modem on Hold feature	V.92 Modem on Hold for Cisco AS5300 and Cisco AS5800 Universal Access Servers

Standards

Standards	Title
None.	—

MIBs

MIBs	MIBs Link
None.	To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL: http://www.cisco.com/go/mibs

RFCs

RFCs	Title
None.	—

Technical Assistance

Description	Link
<p>The Cisco Support website provides extensive online resources, including documentation and tools for troubleshooting and resolving technical issues with Cisco products and technologies.</p> <p>To receive security and technical information about your products, you can subscribe to various services, such as the Product Alert Tool (accessed from Field Notices), the Cisco Technical Services Newsletter, and Really Simple Syndication (RSS) Feeds.</p> <p>Access to most tools on the Cisco Support website requires a Cisco.com user ID and password.</p>	<p>http://www.cisco.com/techsupport</p>

Feature Information for V.92 Reporting Using RADIUS Attribute v.92-info

Table 1 lists the release history for this feature.

Not all commands may be available in your Cisco IOS software release. For release information about a specific command, see the command reference documentation.

Use Cisco Feature Navigator to find information about platform support and software image support. Cisco Feature Navigator enables you to determine which Cisco IOS and Catalyst OS software images support a specific software release, feature set, or platform. To access Cisco Feature Navigator, go to <http://tools.cisco.com/ITDIT/CFN/jsp/index.jsp>. An account on Cisco.com is not required.



Note

Table 1 lists only the Cisco IOS software release that introduced support for a given feature in a given Cisco IOS software release train. Unless noted otherwise, subsequent releases of that Cisco IOS software release train also support that feature.

Table 1 Feature Information for V.92 Reporting Using RADIUS Attribute v.92-info

Feature Name	Releases	Feature Information
V.92 Reporting Using RADIUS Attribute v.92-info	12.3(1)	The V.92 Reporting Using RADIUS Attribute v.92-info feature provides the ability to track V.92 call information, such as V.92 features that are supported, the Quick Connect feature set that was attempted, the duration for which the original call was put on hold, and how many times Modem On Hold was initiated. The vendor-specific attribute (VSA) v.92-info is included in accounting “start” and “stop” records when modems negotiate a V.92 connection. This feature was introduced in Cisco IOS Release 12.3(1).

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