

Appendix B

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Module Identifiers and Names

Command parameters that require a module identifier as a value will accept either the module identification number or the module name.

For each software module in the router, [Table B-1 on page B-2](#) lists:

- the **module identification number (ID)** you can enter to identify the module in commands that require a module identifier
- the **module name** you can enter to identify the module in commands that require a module identifier
- the **long display name** used to identify the module in detailed output screens, debugging messages, console messages, and log messages
- the **summary display name** used to identify the module in summary output screens
- a **description** of the module

Like all command verbs, parameters, and parameter values, the module name may be abbreviated when entered in commands. The shortest valid abbreviation for each module name is shown by capital letters in the **Module Name** column.

Some modules have more than one name (synonym). All valid synonyms are listed as a comma-separated list in the **Module Name** column.

Table B-1: Module identifiers, display names, and descriptions

Module ID	Module Name	Long Display Name	Summary Display Name	Description
0	NOne	Unused	-	Reserved value for "no module".
1	NC, NODecode	Nodecode	NC	— <i>Reserved</i> —
2	FRamerelay	Frame relay	FR	Frame Relay DTE.
3	PPP	PPP	PPP	Point-to-Point Protocol.
4	APPlE	Appletalk	Aptl	AppleTalk routing.
5	IPg	IP	IP	Internet Protocol routing, including RIP, ICMP, UDP and SNMP.
6	IPX	IPX	IPX	Novell IPX routing.
7	SYN	SYN drivers	SYN	Synchronous interface drivers.
8	DNT, DECnet	DECnet	DNT	DECnet routing.
9	-	-	-	— <i>Reserved</i> —
10	-	-	-	— <i>Reserved</i> —
11	-	-	-	— <i>Reserved</i> —
12	-	-	-	— <i>Reserved</i> —
13	X25C	X.25	X.25	X.25 DCE (layer 3). Provides X.25 switching over a TCP/IP network.
14	Q931	Q.931	Q931	Q.931 ITU-T standard for ISDN call control.
15	-	-	-	— <i>Reserved</i> —
16	-	-	-	— <i>Reserved</i> —
17	LAPB	LAPB	LAPB	LAPB data link layer for X.25.

Table B-1: Module identifiers, display names, and descriptions (Continued)

Module ID	Module Name	Long Display Name	Summary Display Name	Description
18	TEST	Test	Test	Built-in test facility for network interfaces and coprocessors on the router.
19	LAPD	LAPD	LAPD	LAPD data link layer for ISDN D channel access.
20	STT	STT	STT	Synchronous Tunnelling over TCP (STT), a method for connecting two synchronous ports on different routers over a TCP/IP internet.
21	STRm, STReam	Stream ports	Strm	Streams printing, a mechanism for sending print jobs to a particular TCP connection.
22	TCP	TCP	TCP	Transmission Control Protocol.
23	ETH	ETH	ETH	Ethernet device drivers and logical link layer.
24	PERm	Perm assignments	Perm	Permanent assignments, a method for connecting two asynchronous ports on different routers over a TCP/IP internet.
25	TServer	Terminal server	TSER	Terminal server.
26	LPD	LPD	LPD	Line Printer Daemon remote printing facility.
27	BRG, BRIDgE	Bridge	BRG	Transparent bridging including Spanning Tree.
28	COMp	Compression	Comp	Compression control.
29	-	-	-	— <i>Reserved</i> —
30	X25T	X.25 DTE	X25T	X.25 DTE (layer 3). Provides network communications over an X.25 network.
31	FLash	Flash memory	Flsh	FLASH device drivers.
32	SWTh, SWItch	Switching	Swtc	Switch software.
33	TLNt, TELnet	Telnet	TELN	Telnet protocol for terminal connections over IP into and out of the router.
34	SYStem	System	SYS	General system functions.
35	CH	Command Handler	CH	Command processor.
36	TTY	TTY	TTY	Terminal drivers used by Telnet and asynchronous ports.
37	ICC, ISDNCC	ISDN Call Control	ISDN	ISDN call control.
38	MIOx	MIOX	MIOX	Multiprotocol Interconnect Over X.25. Enables network layer protocols to use X.25 in a standard way.
39	BOOTp	BOOTP	BOOT	BOOTP boot protocol. Assists devices attempting to make BOOTP requests over a wide area network.
40	NTP	NTP	NTP	Network Time Protocol, for maintaining time information throughout an IP network.
41	BRI	BRI driver	BRI	ISDN Basic Rate Interface device drivers.
42	PRI	PRI driver	PRI	ISDN Primary Rate Interface device drivers.
43	ASYN, Port	Asyn	ASYN	Asynchronous port device independent layer.
44	ENCRypt	Encryption	ENCR	Encryption module, the code that runs on the router's CPU to control encryption.

Table B-1: Module identifiers, display names, and descriptions (Continued)

Module ID	Module Name	Long Display Name	Summary Display Name	Description
45	USER	User	USER	User login handler, including the User Authentication Database and TACACS support.
46	ACC	ASYN Call Control	ACC	Asynchronous call control for calls made into and out of the router's asynchronous ports.
47	ASYN	ASYN	ASYN	Asynchronous device independent drivers.
48	LOAD	LOADER	Load	Software release, patch and script loading.
49	INSTall	INSTALL	INST	Handles installation of software at boot from ROM, FLASH and NVS.
50	OSPF	OSPF	OSPF	Open Shortest Path First routing protocol, the Internet standard routing protocol used with IP.
51	RADius	RADIUS	RADI	RADIUS support.
52	GRE	GRE	GRE	Generic Routing Encapsulation, a method for encapsulating one protocol within another.
53	TRG, TRlgger	Triggers	TRG	Trigger facility for executing router commands in response to events.
54	SCR	Script	SCR	Scripting.
55	TDM	TDM	TDM	Time Division Multiplexing module for running serial links over a Primary Rate Interface.
56	File	File	File	File subsystem that uses both BBR and FLASH Used mainly for scripts.
57	LOG	Log	Log	Logging facility that handles all router logging messages.
58	PING	Ping	Ping	Universal ping function.
59	SNmp	SNMP	SNMP	SNMP agent.
60	SCC	SCC driver	SCC	SCC drivers.
61				— <i>Reserved</i> —
62	SA	Sec Associations	SA	Security Associations.
63	SYNcc	SYNC Call Control	SYCC	Synchronous Call Control.
64	NAT	NAT	NAT	Network Address Translation.
65	-	-	-	— <i>Reserved</i> —
66	IPV6	IPv6	IPv6	Internet Protocol version 6.
67	L2TP	L2TP	L2TP	Layer Two Tunnelling Protocol.
68	ATM	ATM	ATM	Asynchronous Transfer Mode.
69	HOSTMib	Hostrec	HRM	Host Resources MIB.
70	DHCP	DHCP	DHCP	Dynamic Host Configuration Protocol.
71	INTerface	INT	INT	Interfaces module.
72	-	-	-	— <i>Reserved</i> —
73	ENCo	ENCO	ENCO	Encryption/compression services.
74	STAR	STAR	STAR	STAR key management.
75	SSH	SSH	SSH	Secure Shell client/server.
76	RSVP	RSVP	PSVP	Resource Reservation Protocol.

Table B-1: Module identifiers, display names, and descriptions (Continued)

Module ID	Module Name	Long Display Name	Summary Display Name	Description
77	FIREwall	Firewall	Fire	Stateful inspection Firewall.
78	MAIL	Mail	Mail	MAIL client.
79	TPAD	TPAD	TPAD	Transaction Packet Assembler/Disassembler.
80	-	-	-	— <i>Reserved</i> —
81	IPSec	IPSEC	IPSC	IP security.
82	ISAkmp	ISAKMP	IKMP	ISAKMP key management.
83	FINGER	Finger	FING	FINGER client.
84	HTTP	HTTP	HTTP	HTTP client and server.
85	RCapi	DCP	DCP	Device Control Protocol (DCP)
86	RMon	RMON	RMON	Remote Monitoring agent.
87	SWItch	L3 switch	SWI	Layer 3 switch module.
88	VRRP	VRRP	VRRP	Virtual Router Redundancy Protocol.
89	VLAN	VLAN	VLAN	VLANs.
90	PCI	PCI	PCI	PCI drivers.
91	GARP	GARP	GARP	General Attributes Registration Protocol.
92	STP	STP	STP	Spanning Tree Protocol.
93	GUI	GUI	GUI	Web browser based graphical user interface.
94	CLNS	OSI	OSI	Open Systems Interconnection.
95	PKI	PKI	PKI	Public Key Infrastructure.
96	LDAP	LDAP	LDAP	Lightweight Directory Access Protocol.
97	PIM	PIM	PIM	Protocol Independent Multicast.
98	DVMrp	BVMRP	DVMRP	Distance Vector Multicast Routing Protocol.
99	QOS	QOS	QOS	Quality of Service.
100	CLASSifier	CLASSIFR	CLASSIFR	Generic packet classifier.
101	SYSR	SYSR	SYSR	System Redundancy.
102	SWK	SWK	SWK	Layer 2 switching.
103	BGP	BGP	BGP	Border Gateway Protocol version 4.
104	LB, LOADBalancer	LB	LB	Load Balancer.
105	PIM6	PIM6	PIM6	Protocol Independent Multicast 6.
106	CFlash	Compact Flash	Cfl	CompactFlash.
107	ALArm	ALARM	Alrm	Environmental monitoring.
108	SSL	SSL	SSL	Secure Socket Layer.
109	DS3	DS3	DS3	DS3 interface device drivers.
110	VOIP	VoIP	VoIP	Voice over IP (for VoIP PIC).
111	TACPlus	TACP	TACP	TACACS+.
112	SKEY	SKEY	SKEY	S/Key
113	UPNP	UPNP	UPNP	Universal Plug and Play.
114	SW56	SW56	SW56	ASIC switch fabric driver.
115	SWCx	SWCX	SWCX	ASIC switch fabric driver.
116	SWMx	SWMX	SWMX	ASIC switch fabric driver.

Table B-1: Module identifiers, display names, and descriptions (Continued)

Module ID	Module Name	Long Display Name	Summary Display Name	Description
117	DHCP6	DHCP6	DHCP6	DHCP for IPv6.
118	PORTAuth	PORTAUTH	PA	802.1x port authentication.
119	M8272			MPC 8272 device driver.
120	STAck	Stack	STACK	Stacking.
121	ADSL	ADSL	ADSL	Asymmetric Digital Subscriber Line.
122	LACP	LACP	LACP	Link Aggregation Control Protocol.
123	SQOS	Software QoS	SQOS	Software Quality of Service.
124	MSTp	MSTP	MSTP	Multiple Spanning Tree Protocol.
124				— <i>Reserved</i> —
125				— <i>Reserved</i> —
126				— <i>Reserved</i> —
127	SWNp	SWNP	SWNP	IPv6 Accelerator driver.
128				— <i>Reserved</i> —
129	POE	POE	POE	Power over Ethernet.
130	WANLB	WANLB	WANLB	WAN Load Balancing.
131				— <i>Reserved</i> —
132	LLDP	LLDP	LLDP	Link Layer Discovery Protocol.
133				— <i>Reserved</i> —
134				— <i>Reserved</i> —
135	SHDSL	SHDSL	SHDSL	Symmetrical High-speed Digital Subscriber Line.
136	EPSR	EPSR	EPSR	Ethernet Protection Switching Ring
137	DHCP Snooping	DHCP Snooping	DHCP SN	DHCP Snooping.
140				— <i>Reserved</i> —
141	MACFF	MACFF	MACFF	Mac-Forced Forwarding.
142	DDNS	DDNS	DDNS	Dynamic DNS

Flash File System Message Codes

Some FFS processes generate messages in the system log (displayed with the [show log command on page 59-37 of Chapter 59, Logging Facility](#)) which include Flash File System (FFS) message codes. [Table B-2 on page B-7](#) lists the possible codes and their meanings.

Table B-2: Flash file system message codes

Code	Meaning
0	Operation successful.
1	Writing suspended until compaction completes.
2	Writing suspended until erasure completes.
3	Writing suspended until verification completes.
4	Reading suspended until compaction completes.
5	Reading suspended until erasure completes.
6	Reading suspended until verification completes.
7	Creation suspended until compaction completes.
8	Creation suspended until erasure completes.
9	Creation suspended until verification completes.
10	Deletion suspended until compaction completes.
11	Deletion suspended until erasure completes.
12	Deletion suspended until verification completes.
13	Insufficient memory space to create file.
14	File already exists - cannot create new file with same name.
15	File deleted - cannot write to a deleted file.
16	File closed - cannot write to a closed file.
17	File opened to read - cannot write.
18	Cannot write past end of file.
19	File already closed - cannot close.
20	File does not exist - cannot open.
21	Invalid file header check sum.
22	Invalid file data check sum.
23	File deleted - cannot read deleted file.
24	File closed - cannot read closed file.
25	File opened for write - cannot read.
26	Cannot read past end of file.
27	File does not exist - cannot delete.
28	File not found.
29	Device erasure failed.
30	Compaction suspended until erasure complete.
31	Verify suspended until compaction complete.
32	Verify suspended until erasure complete.
33	Erase already in progress.
34	Compaction already in progress.

Table B-2: Flash file system message codes (Continued)

Code	Meaning
35	Verification already in progress.
36	Out of memory.
37	Hardware failure has occurred.
38	Invalid operation to complete file open to read.
39	Invalid operation to close file open to write.
40	Getting file to undersized buffer.
41	File already deleted - cannot delete.
42	File not complete - cannot read incomplete file.
43	File data corruption detected.
44	Restart underway - all access is suspended.
45	FLASH device is currently busy with a previous command.
46	File does not exist - cannot check.
47	File not complete - cannot check.
48	File check sum invalid - cannot open.
49	File too large for get - use open and read.
50	No FLASH is present.
51	Operation failed - no programming power available.
52	Bad erase block encountered on flash chip.
53	Reserved.
54	Reserved.
55	An operation has been retried several times and has not completed successfully.
56	An attempt has been made to access a flash address outside the valid range for the flash chip.
57	Encountered an invalid file.

ISDN Q.931 Call Clearance Cause Codes

Table B-3 on page B-9 lists ISDN Q.931 call clearance cause codes for Q.931 call control profiles currently supported by the router. Not all cause codes are supported by all ISDN service providers.

Table B-3: ISDN Q.931 call clearance cause codes and descriptions

Code	Description
1	Unallocated
2	No route to specified transit network
3	No route to destination
6	Channel unacceptable
7	Call awarded and being delivered in an established channel
16	Normal call clearing
17	User busy
18	No user responding
19	No answer from user (user alerted)
21	Call rejected
22	Number changed
26	Non-selected user clearing
27	Destination out of order
28	Invalid format number
29	Facility rejected
30	Response to STATUS ENQUIRY
31	Normal, unspecified
34	No circuit/channel available
38	Network out of order
41	Temporary failure
42	Switching equipment congestion
43	Access information discarded
44	Requested circuit/channel not available
47	Resources unavailable, unspecified
49	Quality of service unavailable
50	Requested facility not subscribed
53	Outgoing calls barred within CUG
55	Incoming calls barred within CUG at destination
57	Bearer capability not authorised
58	Bearer capability not presently available
62	Inconsistency in designated outgoing access information and subscriber class
63	Service or option not available, unspecified
65	Bearer capability not implemented
66	Channel type not implemented
69	Requested facility not implemented

Table B-3: ISDN Q.931 call clearance cause codes and descriptions (Continued)

Code	Description
70	Only restricted digital information bearer capability is available
79	Service or option not implemented, unspecified
81	Invalid call reference value
82	Identified channel does not exist
83	A suspended call exists but this call identity does not
84	Call identity in use
85	No call suspended
86	Call having the requested call identity has been cleared
87	Destination not member of CUG
88	Incompatible destination
90	Non-existent CUG
91	Invalid transit network selection
95	Invalid message, unspecified
96	Mandatory information element is missing
97	Message type non-existent or not implemented
98	Message not compatible with call state or message type non-existent or not implemented
99	Information element non-existent or not implemented
100	Invalid information element contents
101	Message not compatible with call state
102	Recovery on timer expiry
111	Protocol error, unspecified
127	Interworking, unspecified

Log Message Types and Subtypes

Table B-4 lists the log message types and subtypes defined by the Logging Facility. Commands in the Logging Facility will recognise either the numeric identifier (ID) or the textual name. The log type name and subtype name may be abbreviated when entered in commands. The shortest valid abbreviation is shown by capital letters in the **Type ID/Name** and **Subtype ID/Name** columns. See [Chapter 59, Logging Facility](#) for more detailed information about these identifiers.

Table B-4: Log message types and subtypes

Type ID / Name	Subtype ID / Name	Meaning
000 / NULL		No type or subtype information.
	000 / NULL	Used for messages issued through the old logging system which does not support log message types. Displayed as a blank in output.
001 / REST		Router reboot.
	001 / NORM	Ordinary restart (default case).
	002 / WARN	Restart with warnings.
	003 / CRASH	Router restarted after a crash.
	004 / FAIL	Restart or self-test failure.
002 / PINT		State change or error condition on a physical-layer interface (e.g. bri0, syn1, port3, eth0).
	001 / UP	Physical interface is now available.
	002 / DOWN	Physical interface is no longer available.
	003 / WARN	Possible problem with physical interface.
	004 / ERROR	Problem detected with physical interface.
	005 / RESET	Physical interface has been reset.
	006 / NTON	CARD=x LINE=y. NT has power.
	007 / NTOFF	CARD=x LINE=y. NT power failure.
	008 / CREATE	Physical interface has been hot-inserted.
	009 / DESTROY	Physical interface has been hot-removed.
003 / CALL		State change or error condition on an ISDN or ACC call.
	001 / UP	Call has been established.
	002 / DOWN	Call has been cleared.
	003 / WARN	Possible problem with call.
	004 / ERROR	Problem detected with call.
	005 / RESET	Call has been reset.
004 / DLINK		State change or error condition on a data-link layer entity (e.g. LAPB, LAPD).
	001 / UP	Data-link layer entity is available.
	002 / DOWN	Data-link layer entity is not available.
	003 / WARN	Possible problem with data-link layer entity.
	004 / ERROR	Problem detected with data-link layer entity.
	005 / RESET	Data-link layer entity has been reset.
	006 / PNORM	CARD=x LINE=y PER normal.
	007 / PHIGH	CARD=x LINE=y PER limit exceeded.
	008 / ACTIVATE	Data link activated.
	009 / DEACTIVATE	Data link deactivated.

Table B-4: Log message types and subtypes (Continued)

Type ID / Name	Subtype ID / Name	Meaning
005 / VINT		State change or error condition on a virtual interface (e.g. ppp0, fr2, slip4).
	001 / UP	Virtual interface is operational.
	002 / DOWN	Virtual interface is not operational.
	003 / WARN	Possible problem with virtual interface.
	004 / ERRor	Problem detected with virtual interface.
	005 / RESET	Virtual interface has been reset.
	006 / ACTivate	On-demand interface has been activated.
	007 / CREate	Virtual interface has been created.
	008 / DESTroy	Virtual interface has been destroyed.
006 / CIRC		State change or error condition on a circuit (e.g. FR DLCI, X.25 circuit, PPP control protocol).
	001 / UP	Circuit is operational.
	002 / DOWN	Circuit is not operational.
	003 / WARN	Possible problem with circuit.
	004 / ERRor	Problem detected with circuit.
	005 / RESET	Circuit has been reset.
	006 / CONF	Automatic configuration/option negotiation.
007 / ATT		State change or error condition on an attachment (module interface).
	001 / ATTch, ATTach	Module has attached.
	002 / DETch, DETach	Module has detached.
	003 / FAIL	Module attachment failed.

Table B-4: Log message types and subtypes (Continued)

Type ID / Name	Subtype ID / Name	Meaning
008 / EXCEP		Unexpected exception detected.
	000 / RESet	Router reset.
	001 / EXTNO	External contact open.
	002 / EXTNC	External contact closed.
	003 / TNORM	Temperature normal.
	004 / THIGH	Temperature threshold exceeded.
	005 / TREND	Temperature trend exceeded.
	008 / BUS	Bus error.
	012 / ADDR	Address error.
	016 / INStr	Illegal instruction.
	032 / PRIV	Privilege violation.
	040 / LINEA	Line A emulator.
	044 / LINEF	Line F emulator.
	096 / SPUR	Spurious interrupt.
	128 / TRAP0	Trap #0 (fatal).
	132 / TRAP1	Trap #1 (restart).
	136 / TRAP2	Trap #2 (assert).
	140 / INP1O	Contact input 1 opened.
	141 / INP1C	Contact input 1 closed.
	142 / INP2O	Contact input 2 opened.
	143 / INP2C	Contact input 2 closed.
	144 / RLY1O	Relay output 1 opened.
	145 / RLY1C	Relay output 1 closed.
	146 / RLY2O	Relay output 2 opened.
	147 / RLY2C	Relay output 2 closed.
009 / BUFF		Significant change in the number of free buffers.
	001 / LEV1	Number of free buffers dropped below buffer level 1.
	002 / LEV2	Number of free buffers dropped below buffer level 2.
	003 / LEV3	Number of free buffers dropped below buffer level 3.
010 / LIC		Licencing information.
	001 / REL	Release licencing information.
	002 / COMP	Software compression licencing information.
011 / AUTH		Authentication requests or security issues.
	001 / OK	Successful authentication (login, connect, etc.).
	002 / FAIL	Unsuccessful authentication.
	003 / RFAIL	Repeated unsuccessful authentication.
012 / BATCh		Trigger Facility/Scripting activity.
	001 / ACT	Trigger/Script activation.
	002 / CMD	Trigger/Script command.
	003 / OUT	Trigger/Script output.
014 / LPD		LPD status information.

Table B-4: Log message types and subtypes (Continued)

Type ID / Name	Subtype ID / Name	Meaning
015 / SYSLog		Messages received via syslog.
	000 / KERn	Kernel messages.
	008 / USEr	Various user-level messages.
	016 / MAIL	Mail subsystem.
	024 / DAEMon	System daemons.
	032 / AUTH	Security/authorisation messages.
	040 / SYSLog	Messages generated internally by syslogd.
	048 / LPR	Line printer subsystem.
	056 / NEWS	Network news subsystem.
	064 / UUCP	UUCP subsystem.
	072 / CRON	Clock daemon.
	128 / LOCAL0	<i>Reserved for local use.</i>
	136 / LOCAL1	<i>Reserved for local use.</i>
	144 / LOCAL2	<i>Reserved for local use.</i>
	152 / LOCAL3	<i>Reserved for local use.</i>
	160 / LOCAL4	<i>Reserved for local use.</i>
	168 / LOCAL5	<i>Reserved for local use.</i>
	176 / LOCAL6	<i>Reserved for local use.</i>
	184 / LOCAL7	<i>Reserved for local use.</i>
016 / ACC		Asynchronous call control activity.
	001 / SCR	Script not found.
	002 / CALL	ACC call not found.
	003 / PORT	Port does not exist.
	004 / ACT	ACC call activated.
	005 / DEAct	ACC call deactivated.
	006 / DIAL	Dial-in connection established.
017 / NVS		Problems with NVS memory.
	001 / RFail	Failed to open/read NVS block.
	002 / WFail	Failed to write to NVS block.
	003 / CFail	Failed to create NVS block.
018 / FLASH		Problems with FLASH memory.
019 / USER		User activity.
	001 / LON	User logon.
	002 / LOFF	User logoff.
	003 / ADD	User account added.
	004 / DEL	User account deleted.
	005 / PWChg	User password changed.
	006 / PWErr	Error setting manager password.
	007 / PWSet	Manager password successfully set.
	008 / LOOp	Loopback problem at login prompt.
	009 / TACQ	TACACS request.
	010 / TACR	TACACS response.
	011	User logon failure.

Table B-4: Log message types and subtypes (Continued)

Type ID / Name	Subtype ID / Name	Meaning
020 / CMD		Command processing.
	001 / MGR	Manager command.
	002 / USER	User command.
021 / MSG		Router messages.
	001 / INFo	Informative (Info) message.
	002 / WARn	Warning message.
	003 / ERRor	Error message.
022 / CONfig		Router or network configuration information/warnings.
	001 / TOPo	Network topology issue.
	002 / NTNUM	Conflicting network numbering (e.g. IPX, AppleTalk).
	003 / NTNAM	Conflicting network name (e.g. AppleTalk).
	004 / SWINSert	Board has been hot-inserted.
	005 / SWIN	Board has been hot-swapped in.
	006 / SWOUT	Board has been hot-swapped out.
	007 / SWDElete	Board has been hot-replaced by a different type.
	008	Router discovery solicitation received on inappropriate address.
023 / IPFilt		IP filter matches.
	001 / PASS	IP packet passes filter.
	002 / FAIL	IP packet fails filter.
	003 / DUMP	IP packet dump.
	004 / FRag	IP packet discarded by fragment filtering.
	005 / SA	IP packet discarded by security association.
	006 / SRCrt	IP source route packet discarded.
	007 / RECrt	IP record route packet forwarded.
024 / INTerr		Unexpected internal error.
	001 / BDPkt	Bad packet detected within system code.
	002 / IVPar	Invalid parameters detected.
	003 / BDAtt	Attach to lower layer failed.
025 / IPNat		IP Network Address Translation.
	001 / FAIL	Packet discarded by NAT.
	002 / INTcp	Inbound TCP connection initiated.
	003 / INUdp	Inbound UDP flow initiated.
	004 / OTTcp	Outbound TCP connection initiated.
	005 / OTUdp	Outbound UDP flow initiated.
026 / LIMit		Internal limit exceeded.
	001 / IPXSv	IPX service table full.
	002 / IPXRt	IPX route table full.
	003 / SWCmp	All available software compression channels in use.
027 / DHCP		Dynamic Host Configuration Protocol.
	001	IP address allocated to device.
	002	Device relinquished IP address.
	003	Refused to allocate IP address to device.

Table B-4: Log message types and subtypes (Continued)

Type ID / Name	Subtype ID / Name	Meaning
029 / RSO		Remote Security Officer.
	001 / ADD	IP address range has been added.
	002 / DEL	Address range has been deleted.
	003 / ENBld	Option has been enabled.
	004 / DSBld	Option has been disabled.
	005 / ACpt	Access has been attempted and accepted.
031 / ENCO	006 / RJct	Access has been attempted and rejected.
		Encryption/Compression.
	001 / 9711	Hifin 9711 chip subsystem.
	002 / STAc	STAC SW subsystem.
	003 / CRYp	Cryptech chip subsystem.
	004 / PAC	PAC card subsystem.
032 / RSVP	005 / MAC	MAC card subsystem.
		Resource Reservation Protocol.
	001	Path has been removed.
	002	Path has been added.
	003	Session has been removed.
	004	Session has been added.
	005	Reservation has been added.
	006	Reservation has been removed.
033 / SSH	007	Reservation denied due to lack of resources.
		Secure Shell.
	001 / ADD	A Secure Shell user has been added.
	002 / DEL	A Secure Shell user has been deleted.
	003 / SET	A Secure Shell user configuration has been modified.
	004 / ENBld	A Secure Shell server has been enabled.
	005 / DSBld	A Secure Shell server has been disabled.
	006 / ACpt	Connection accepted.
	007 / RJct	Connection rejected.
034 / TPAD	008 / DISc	Connection disconnected.
		TPAD transaction processing.
	001 / CONN	A terminal session connected to TPAD.
	002 / DISC	A terminal session has disconnected from TPAD.
	003 / CALL	TPAD attempted to make an X.25 call.
	004 / CLR	X.25 call cleared by TPAD or network.
	005 / FAIL	Attempt to make an X.25 call has failed.
	006 / ACT	Call connected and ready to perform transactions.
035 / MAIL	007 / DOWN	Call completed and cleared.
		MAIL.
	001 / SUB	Mail message submitted to SMTP server.
	002 / STArT	Mail connection to SMTP server established.
	003 / END	Mail connection closed.
	004 / ERROr	Bad response from SMTP server.

Table B-4: Log message types and subtypes (Continued)

Type ID / Name	Subtype ID / Name	Meaning
036 / FIRE		Firewall Gateway.
	001 / INATcp	Inbound TCP connection initiated.
	002 / INAUdp	Inbound UDP connection initiated.
	003 / INAIcmp	Inbound ICMP connection initiated.
	004 / INAOther	Inbound Other IP connection initiated.
	005 / OUTATcp	Outbound TCP connection initiated.
	006 / OUTAUdp	Outbound UDP connection initiated.
	007 / OUTAIcmp	Outbound ICMP connection initiated.
	008 / OUTAOther	Outbound Other IP connection initiated.
	009 / INDTcp	Denied inbound TCP connection.
	010 / INDUdp	Denied inbound UDP connection.
	011 / INDIcmp	Denied inbound ICMP connection.
	012 / INDOther	Denied inbound Other IP connection.
	013 / OUTDTcp	Denied outbound TCP connection.
	014 / OUTDUdp	Denied outbound UDP connection.
	015 / OUTDIcmp	Denied outbound ICMP connection.
	016 / OUTDOther	Denied outbound Other IP connection.
	017 / ATTK	Firewall under attack.
	018 / ENBIId	Firewall has been enabled.
	019 / DISBIId	Firewall has been disabled.
	020 / DESTRoy	A firewall policy has been destroyed.
	022 / SYNQChng	Status of a firewall's SYN queue changed.
	023 / HTTP	Denied HTTP connection.
	024 / NOSEssion	No TCP session remains active.
	025 / NEWSEssion	First TCP session created.
	026 / SIPAlg	ALG Error detected.
	027 / LIMItRule	Denied connection by limit rule.
037 / ACCO		Accounting messages.
	001 / START	A flow has started.
	002 / UPDAT	Traffic statistics for a flow.
	003 / END	A flow has ended.
038 / LIC		Feature Licence log messages.
	001 / EXP	Special feature password has expired trial period.
	002 / MIS	Feature licence mismatch between SYSR master and slave controller cards.
042 / IPSC		IP security (IPsec).
	001 / MSG	General log messages.
	002 / INERR	IPsec inbound process.
	003 / OUERR	IPsec outbound process.
043 / IKMP		ISAKMP key management
	001 / XCHG	ISAKMP exchange messages.
	002 / SA	Security Association messages.
	003 / ERROR	Error messages.
	004 / MSG	General log messages.

Table B-4: Log message types and subtypes (Continued)

Type ID / Name	Subtype ID / Name	Meaning
044 / BOOTp		BOOTP auto-discovery feature.
	001 / ETHConf	Configuration of the Ethernet interface.
045 / HTTP		HTTP server.
	001 / GETOK	Successful GET request.
	002 / GETFAIL	Failed GET request.
	003 / ERRor	An exception event.
046 / VRRP		Virtual Router Redundancy Protocol (VRRP).
	001 / WITHd	Router retiring as VR master.
	002 / NEWm	A new master has been selected.
	003 / BADad	Bad advertisement packet received.
	004 / NOIP	No IP interface found for VR.
	005 / MASTr	Router is now master of the VR.
	006 / PRIoch	Router priority has changed.
	007 / PREempt	Preemption delay start or abort.
047 / PPPOE		PPP over Ethernet.
	001 / SNA	Requested service not available.
	002 / NAS	Requested service does not exist.
048		File logging.
	001	Error adding or deleting directory entry.
	002	File created.
	003	File deleted.
	004	File renamed.
049 /		Internet Protocol version 6 Filters.
	001	IPv6 packet passes filter.
	002	IPv6 packet fails filter.
	003	IPv6 packet dump.
050 / PKI		Public Key Infrastructure.
	001 / CERT	PKI certificate messages.
	002 / CRL	PKI certificate revocation list messages.
	003 / OP	PKI operational protocol messages.
	004 / MP	PKI management protocol messages.

Table B-4: Log message types and subtypes (Continued)

Type ID / Name	Subtype ID / Name	Meaning
051 / SYSInfo		System status information and alarms.
	001 / PS	Power supply status change.
	002 / FAN	Fan status change.
	003 / TEMP	Temperature status change.
	004 / ALArm	Status changes.
	005	Power supply unit fan failed.
	006	Power supply unit fan now good.
	007	Power supply unit temperature too high.
	008	Power supply unit temperature now good.
	009	Power supply unit power bad.
	010	Power supply unit power good.
	011	Fan only module failure.
	012	Fan only module now good.
	013	PSU/FOM combination is incompatible
	014	PSU/FOM combination is compatible
052 / IPDNS		DNS Cache.
	001 / CACHE	DNS Cache.
	002 / UNRES	DNS lookup failed.
053 / ATKFilt		AppleTalk Filtering.
	001 / PAss	AppleTalk packet passes filter.
	002 / FAil	AppleTalk packet fails filter.
054 / LBAL		Load balancing.
	001 / PINGfail	Resource health check ping failed.
	002 / CRITicalrst	Resource exceeded critical RST percentage.
	003 / HTTPError	Http server error status code received from resource.
	004 / PEERPresent	Fail over peer present.
	005 / PEERNotpresent	Fail over peer not present.
	006 / HTTPPacket	Http request not all contained in the first packet received.
	007 / LASTfail	No resource in a resource pool able to accept connection.
	008 / RESState	Resource state change.
	009 / VIRTState	Virtual Balancer state change.
055 / BGP		Border Gateway Protocol version 4 (BGP-4).
	001 / STAtE	Peer state changes.
	002 / MEMory	Memory low.
	003 / NOTSent	Notification sent.
	004 / NOTRecv	Notification received.
	005 / MAXDrop	Max prefix received, drop rest.
	006 / MAXTerm	Max prefix received, terminating peer connection.
	007 / BACKoff	Backoff failed to register or set, or limits have been reached.
056 / SSL		Secure Socket Layer.
	001 / HSFail	Handshake fail.
	002 / SDBFull	Session cache full.
	003 / NOENco	No enco resource.
	004 / NOLic	No feature licence.
	005 / NOCErt	No certificate loaded.

Table B-4: Log message types and subtypes (Continued)

Type ID / Name	Subtype ID / Name	Meaning
057 / GUI		Graphical User Interface.
	001 / RESrc_changed	Resource file changed.
058 / CFLAsh		Compact Flash.
	001 / READfail	Read from hardware failure.
	002 / WRItetail	Write to hardware failure.
	003 / INCARD	Card inserted.
	004 / OUTCARD	inserted card removed.
	005 / DIRfail	Directory operation failure.
059 / VOIP		Voice Over IP.
	001 / TFTP	TFTP loading information.
	002 / APPLICATION	Application code running.
	003 / CALL	Call status.
	004 / HOOK	Hook states.
	005 / REGISTRATION	VoIP PIC registration status.
	006 / ERROR	Error in PIC.
060 / TACP		TACACS+.
	001	User login authentication succeeded.
	002	User login authentication failed.
061 / ARP		ARP logging.
	001 / UPDATE	ARP cache change.
	002 / ROUTEfail	OSPF routes with unreachable nexthop deleted from ARP waiting list.
062 / DHCP6		Dynamic Host Configuration Protocol version 6.
	001 / MAIN	DHCP enabled or disabled.
	002 / AUTH	Sender has failed authentication.
	003 / ADDR	DHCP6 address messages.
063 / UPNP		Universal Plug and Play.
	001 / STATUS	UPNP status changes.
	002	An action of a service instance has been invoked.
	003	A port-map has been added.
	004	A port-map has been deleted.
	005	A port-map has been enabled.
	006	A port-map has been disabled.
	007	The logical interface that the device is advertising on.
	008	A subscriber has registered to a service.
	009	No memory available for accepting subscriptions.
	010	A subscriber has sent an incorrect delivery URL.
064 / PORTAuth		Port Authentication.
	001 / SUPP	Messages from supplicant on this device.
	002 / AUTH	Messages from authenticator on this device.
	003 / PAE	General authentication messages.
	004 / MACB	MAC-based authentication messages.
065 / PING		PING polling.
	001 / POLL	Ping polling status change.

Table B-4: Log message types and subtypes (Continued)

Type ID / Name	Subtype ID / Name	Meaning
066 / SWI		Switch.
	001 / ACCEL	Network processor accelerator card logging.
	002 / BOOT	Boot options logging.
	003 / LOCKUp	Lockup detected.
	004 / LOOP	Loop detected.
	005 / DISP	Port disabled by loop detection action.
	006 / SILICon	Silicon soft reset.
	007 / THRash	Port disabled/re-enabled by limiting rapid MAC address movement.
	008 / QOSsp	Port disabled/re-enabled by QOS storm protection.
067		Network processor accelerator card.
	001 / INIT	Network processor accelerator card initialisation.
068 / OSPF		Open Shortest Path First Protocol.
069 / STACK		Stacking.
	001 / SYSER	Stacking system error.
	002 / INFO	General event information.
070 / LACP		Link Access Control Protocol.
	001 / STATUs	LACP enabled or disabled.
	002 / CHURN	State cannot be agreed on.
071 / PIM		Protocol Independent Multicast 4.
	001 / STATus	General message.
	002 / ERRor	Error message.
072 / NEST		Nested VLANs.
	001 / DEST	Nested VLANs have been destroyed.
073 / ADSL		ADSL (Asymmetric Digital Subscriber Line).
	001 / FAULT	Major fault.
	002 / WHIP	WHIP (Windows Host Interface Program) diagnostic messages.
	003 / LINE	Normal line-related events (connect/disconnect).
074 / MSTP		Multiple Spanning Tree Protocol.
	001 / INFO	General message.
075 / SQOS		Software QoS.
	001 / PAUS	Traffic class has been paused.
	002 / UNPAUS	Traffic class has been unpaused.
	003 / QEXCE	Queue limit has been exceeded.
	004 / DCEXCe	DAR classifier limit has been exceeded.
076 / ATM		Asymmetric Transfer Mode.
	001 / INTerface	Interface type log message.
	002 / CAC	CAC type log message.
077 / WANLB		WAN Load Balancing.
	001 / RESState	Resource state change.
	002 / NORes	No active resources.
	003 / HEALthcheck	Host unreachable
	004 / DNSFailure	DNS lookup failed

Table B-4: Log message types and subtypes (Continued)

Type ID / Name	Subtype ID / Name	Meaning
078 / LLDP		Link Layer Discovery Protocol.
	001 / CDPAdd	A CDP neighbour has been added.
	002 / CDPRemove	A CDP neighbour has been removed.
	003 / ERROr	System error.
	004 / REMotetablechange	Entry created, modified or deleted in LLDP remote systems MIB.
	005 / TOOmanyneighbours	Insufficient space in LLDP remote systems MIB to store information from a new neighbour
079 / SHDsl		Symmetrical High-speed Digital Subscriber Line.
	001 / FAULT	Major fault.
	002 / WHIP	WHIP (Windows Host Interface Program) diagnostic messages.
	003 / LINE	Normal line-related events (connect/disconnect).
	004 / ALARM	Threshold exceeded events.
080 / DEBug		Global debugging control.
	001 / ALL	Debugging has been disabled for all modules.
	002 / MODule	Debugging has been disabled for a module.
081 / TTy		Terminal drivers used by Telnet and asynchronous ports.
	001 / IDle	An idle timeout period has been set for Telnet sessions.
082 / ASYN		Asynchronous ports.
	001 / IDle	An idle timeout period has been set on an asynchronous port.
083 / DHCP Snooping		DHCP Snooping.
	001 / ADD	A new entry has been added to the Binding database.
	002 / DELeTe	An entry has been deleted from the Binding database.
	003 / UPdate	An existing entry in the Binding database has been updated.
	004 / FAIL	An entry has failed to be added to the Binding database, as it is full.
084 / TCP		Transmission Control Protocol.
	001 / RESource	TCP resource allocation.
085 / EPSR		Ethernet Protection Switching Ring.
	001 / RING	An EPSR Ring has changed state.
	002 / LINK	An EPSR Port has changed state.
	003 / REMote	An EPSR Port on a remote device has changed state.
086		Internet Group Management Protocol
087 / SCP		Secure Copy Protocol.
	001 / ENBld	SCP service is enabled.
	002 / DSBld	SCP service is disabled.
	003 / CLIfI	SCP client failed to start.
	004 / SERfI	SCP server failed to start.
	005 / DNLfI	File download to the device failed.
	006 / UPLfI	File upload from the device failed.
088		<i>Reserved</i>
089 / SNmp		Simple Network Management Protocol (SNMP).
	001 / MEMory	Low memory.

Table B-4: Log message types and subtypes (Continued)

Type ID / Name	Subtype ID / Name	Meaning
091 / MACF		Mac-Forced Forwarding.
	001 / NEWServer	New entry added in the MAC-Forced Forwarding server database.
	002 / LOSTserver	Entry deleted from the MAC-Forced Forwarding server database.
	003 / CLIEntnortrs	Client has no configured routers in the database.
	004 / RTRArpfailed	MAC addresses of routers cannot be resolved.
	005 / LOSTContact	Background poll of servers cannot contact routers in database.
	006 / OVERflow	Logs have reached the log generation threshold value.
092 / MSG		Dynamic DNS.
	001 / INFO	Dynamic DNS host updated.
	002 / WARN	Dynamic DNS host update failed.

