

ADVANCED INSIGHT SCRIPTS 3.7R2.0 RELEASE NOTES

30 August 2013
Revision 1

These release notes accompany Release 3.7R2.0 of Advanced Insight Scripts (AI-Scripts). AI-Scripts are Junos OS event scripts used to enable devices running Junos OS to do the following:

- React to specific events that occur in a Junos device and provide relevant information for analysis.
- Periodically collect data on events that can be used to predict and prevent risks in the future.
- Package all incident and intelligence event data into a structured format, such as a Juniper Message Bundle (JMB), and send it to an archive location to be collected and displayed by Service Now and Junos Space.

You can also find the Advanced Insight Scripts (AI-Scripts) Release Notes on the Juniper Networks Technical Publications webpage at <http://www.juniper.net/techpubs/software/management/ais/>.

Contents

Summary of Release 3.7R2.0 Features	3
AI-Scripts 3.7R2.0	3
Compatibility Note	3
Features	3
Bugs	3
Event-Scripts	3
AI-Scripts Operation	3
AI-Scripts Operation	4
AI-Script Modes	4
Using Service Now and Service Insight Without Deploying AI-Scripts in Junos OS Devices	4
Using Service Now and Service Insight with AI-Scripts Installed in Junos OS Devices	4
Platforms Supported by AI-Scripts	5
Platforms Not Recommended for AI-Scripts Production Deployment	8
Events Detected by AI-Scripts	8

Issues in Advanced Insight Scripts (AI-Scripts)	43
Current Software Release	43
Outstanding Issues	43
Issues Fixed Since Last Release	43
Junos OS PRs That Affect AI-Scripts	43
Junos Space Service Now and AI-Scripts Compatibility Matrix	44
Installing AI-Scripts	44
AI-Scripts Install Package Versioning	44
AI-Scripts Installation Methods	45
Downloading AI-Scripts Install Packages	45
AI-Scripts Install Locations on Devices	45
Automatically Installing AI-Scripts	45
Manually Configuring and Installing AI-Scripts on Devices	46
AI-Scripts Command Operations	48
Deleting an AI-Scripts Package	49
Rolling Back an AI-Scripts Package	49
Not Saving Copies of AI-Scripts Package Files During Installation	49
Removing AI-Scripts Packages After Installation	49
Junos OS Documentation and Release Notes	49
Requesting Technical Support	49
Self-Help Online Tools and Resources	50
Opening a Case with JTAC	50
Revision History	51

Summary of Release 3.7R2.0 Features

This section describes key features of the current AI-Scripts release. Following the description is the PR number to refer for further information.

- [AI-Scripts 3.7R2.0 on page 3](#)

AI-Scripts 3.7R2.0

Compatibility Note

- The AI-Scripts 3.7R2.0 release image is the minimum required AI-Scripts release version to support the new core file upload feature introduced in Junos Space Service Now release 13.1. The core file upload feature does not currently work with the off-box on-demand event feature.

Features

- AI-Scripts is modified to change the permissions on older Junos core files so that Service Now can read the files and transfer to Juniper Technical Assistance Center (JTAC). This modification adapts AI-Scripts so that the chmod function behaves the same, regardless of whether the AI-Scripts bundle is installed using Service Now, or manually using the Junos OS CLI. (897092)
- AI-Scripts does not modify the new directory structure of core files introduced in Junos OS 13.3 release. (897913)

Bugs

- Change AI-Scripts Juniper Message Bundle (JMB) <product-name> tag for EX virtual chassis to pull the master Model number independent of the FPC number. (895625)

Event-Scripts

- The AI script for the RPD_KRT_Q_RETRIES event ignores false positive triggers related to Device busy messages. (914259)

AI-Scripts Operation

The following sections describe AI-Scripts in more detail and its various modes of operation.

- [AI-Scripts Operation on page 4](#)
- [AI-Script Modes on page 4](#)
- [Using Service Now and Service Insight Without Deploying AI-Scripts in Junos OS Devices on page 4](#)
- [Using Service Now and Service Insight with AI-Scripts Installed in Junos OS Devices on page 4](#)
- [Platforms Supported by AI-Scripts on page 5](#)

- [Platforms Not Recommended for AI-Scripts Production Deployment on page 8](#)
- [Events Detected by AI-Scripts on page 8](#)

AI-Scripts Operation

AI-Scripts do the following tasks:

- React to specific incidents that occur on devices and provide relevant information about the problems for analysis
- Periodically collect data on incidents that can be used to predict and prevent risks in the future
- Package all incident and intelligence event data in a structured format, such as a Juniper Message Bundle (JMB), and send it to a remote archive location so that the JMB can be collected and displayed by Service Now

AI-Script Modes

AI-Scripts operate in three distinct modes:

- **Reactive (incident-driven)**—An AI-Script is executed in response to an incident occurring on the device. The AI-Script builds a JMB with the event and router data, and sends it to a designated Service Now archive location. Each AI-Script corresponds to a specific device event. The list of device problem events that can be detected and reported will evolve over time. See [Table 3 on page 8](#).
- **Proactive (intelligence-driven)**—AI-Scripts monitor device system resources for fluctuations that could signal a future problem. AI-Scripts collect intelligence data for analysis. A tailored AI-Script builds a JMB with intelligence data and sends it to a designated remote Service Now archive location.
- **On-demand**—An AI-Script can be executed at any time through Service Now to trigger it to collect troubleshooting data or JTAC case submission.

Using Service Now and Service Insight Without Deploying AI-Scripts in Junos OS Devices

In Junos Space 13.1, users can generate on-demand Incidents by using Service Now Event profile if AI-Scripts is not installed. In this case, users need to select the 'Use Service Now to Generate Incident' checkbox to create an On-demand Incident. Service Now collects the information required to construct an Incident from the existing Device Management Interface (DMI) connection. If the check box is not selected, AI-Scripts must be installed in the device; else an on-demand Incident will not be generated.

Without deploying AI-Scripts in target devices, generating an event-based Incident is not possible. Only on-demand Incidents can be generated.

Using Service Now and Service Insight with AI-Scripts Installed in Junos OS Devices

AI-Scripts must be installed in Junos OS devices to generate event-based Incidents in Service Now. AI-Scripts are optimized to substantially reduce the processing and memory required to generate Service Now Incidents on resource constrained devices such as low-end firewall and switch products. This helps in using AI-Scripts effectively in a larger

number of Junos platforms. However, there is a tradeoff – limited diagnostic information is collected for branch SRX and low-end EX devices. In spite of these improvements, system resources are still consumed when Service Automation is active in Junos OS devices. As a result, Juniper recommends to test and qualify Service Automation before deploying it in a production environment. See section [“Platforms Supported by AI-Scripts”](#) on [page 5](#) for a complete list of supported platforms.

Platforms Supported by AI-Scripts

[Table 1 on page 5](#) lists the active Junos OS platforms supported by Release 3.7 of AI-Scripts.

Table 1: Platforms Supported by AI-Scripts

Platform Family	Platform
ACX Series	ACX2000
	ACX2100
	ACX2200
EX Series	EX2200
	EX3200
	EX3300
	EX4200
	EX4500
	EX4550
	EX6210
	EX8208
	EX8216
	EX9208

Table 1: Platforms Supported by AI-Scripts (*continued*)

Platform Family	Platform
EX Virtual Chassis Series	EX3300-VC
	EX4200-VC
	EX4500-VC
	EX6200-VC
	MIXED-MODE-EX-VC
	EX-XRE
	QFX Series
	QFX3500
	QFX3500S
	QFabric System
J Series	J2320
	J2350
	J4350
	J6350
SRX Series (Branch)	SRX110
	SRX210
	SRX220
	SRX240
	SRX550
	SRX650

Table 1: Platforms Supported by AI-Scripts (*continued*)

Platform Family	Platform
SRX Series (Data Center)	SRX1400
	SRX3400
	SRX3600
	SRX5600
	SRX5800
LN Series	LN1000-V
	LN2600
M Series	M71
	M101
	M120
	M320
MX Series	MX5
	MX10
	MX40
	MX80
	MX240
	MX480
	MX960
	MX2010
MX2020	
T Series	T320
	T640
	T1600
	T4000

Table 1: Platforms Supported by AI-Scripts (continued)

Platform Family	Platform
TX Matrix Series	TX Matrix
	TX Matrix Plus

Platforms Not Recommended for AI-Scripts Production Deployment

Table 2 on page 8 lists the active Junos OS platforms that are currently not recommended for AI-Scripts production deployment. The installation of AI-Scripts on these platforms could exhaust the system resources and testing cannot be completed during the time of publication. The full support of AI-Scripts on these platforms is planned for future releases of AI-Scripts and Junos OS. This coverage change only applies to this release of AI-Scripts; and not to Junos Space or the applications running on Junos Space. Table 2 on page 8 displays the complete list of devices in which installing AI-Scripts is not recommended. See section “Using Service Now and Service Insight Without Deploying AI-Scripts in Junos OS Devices” on page 4 to generate on-demand incidents without installing AI-Scripts.

Table 2: Junos Platforms Not Recommended for AI-Scripts Production Deployment

Platform Family	Platform
ACX Series	ACX1000
	ACX1100
SRX Series (Branch)	SRX100

Events Detected by AI-Scripts

Table 3 on page 8 lists the events detected by Release 3.7 of AI-Scripts.

Table 3: Events Detected by AI-Scripts

Event ID	Description
ACCT_MALLOC_FAILURE	The accounting statistics process could not allocate memory from the heap.
ACCT_XFER_POPEN_FAIL	A failed call to the popen() function when the accounting statistics process invokes the indicated command to transfer the indicated file.
ASP_IDS_INV_CLEAR_QUERY	The intrusion detection services (IDS) receives a request to clear information from the IDS tables. The request includes the indicated type of query, which the IDS cannot interpret.

Table 3: Events Detected by AI-Scripts (*continued*)

Event ID	Description
ASP_IDS_INV_CLEAR_QUERY_VER	The intrusion detection services (IDS) receives a request to clear information from the IDS tables. The request version number did not match the version number of requests that the IDS can service.
ASP_L2TP_NO_MEM	The Layer 2 Tunneling Protocol (L2TP) could not allocate the memory it needed to create a flow for the indicated tunnel and session.
ASP_L2TP_OBJ_CAC_FAIL	The Layer 2 Tunneling Protocol (L2TP) could not allocate memory from an object cache for the flow defined by the indicated unit, tunnel, and session.
ASP_PGCP_IPC_MSG_WRITE_FAILED	The Packet Gateway Control Protocol (PGCP) client on the Services Port Interface Card failed to write an inter-process communication (IPC) message to the end of its pipe.
ASP_PGCP_IPC_PIPE_WRITE_FAILED	The Packet Gateway Control Protocol (PGCP) client on the Services Port Interface Card failed to write the contents of its inter-process communication (IPC) pipe to the socket layer.
AUDITD_RADIUS_OPEN_FAILED	The audit process (auditd) could not create a RADIUS object handle used for various RADIUS operations.
AUDITD_RADIUS_REQ_CREATE_FAILED	The audit process (auditd) could not create a RADIUS accounting request for the indicated reason.
AUDITD_SOCKET_FAILURE	The audit process (auditd) listens on a Transmission Control Protocol (TCP) socket for system accounting events reported by other processes on the device. The indicated socket operation failed with the indicated error.
AUTHD_AUTH_CREATE_FAILED	The generic authentication service process (authd) could not allocate an authentication object for the indicated reason.
AUTHD_SERVER_INIT_BIND_FAIL	The generic authentication service process (authd) could not bind the server to the address specified.
SYSTEM:Alarm set: CB color=RED, class=CHASSIS, reason=CB	The "CB . Failure" message reports a hardware issue. Usually this is with the referenced Control Board, although sometimes it may be with an FPC.
SYSTEM:Alarm set RE Host hard-disk drive error	The ""hard-disk drive error"" message reports that a hard drive on the specified Routing Engine is no longer available to the kernel. Usually, either the message is reported from the Backup Routing Engine, or the Master Routing Engine gets the bootlist corrupted, reboots to fix that, and in the process Routing Engine Mastership switches. If there is only one Routing Engine, it will reboot also on occurrence of this message. At that point the affected Routing Engine will run off its alternate media, usually Compact Flash.

Table 3: Events Detected by AI-Scripts (*continued*)

Event ID	Description
AUTHD_SERVER_INIT_LISTEN_FAIL	The generic authentication service process (authd) could not initialize listening on the server for the indicated socket.
AUTHD_SETSOCKOPT_FAILED	The generic authentication service process (authd) could not set socket options during the indicated operation.
AUTHD_SOCKET_FAILED	The generic authentication service process (authd) could not open a socket during the indicated operation.
AUTOCONFD_AUTH_NO_MEM	The memory allocation (malloc) for username authentication failed.
AUTOD_RECV_FAILURE	The autoinstallation process (autod) received the indicated error when it tried to receive data on a socket.
AUTOD_SEND_FAILURE	The autoinstallation process (autod) receives the indicated error when it sends data on a socket.
AUTOD_SOCKET_CREATE_FAILURE	The autoinstallation process (autod) receives the indicated error when it creates a socket.
AV_PATTERN_KL_CHECK_FAILED	The device is unable to use the Kaspersky pattern file. The error message provides information to give to Juniper Networks technical support.
AV_PATTERN_TOO_BIG	The pattern file size specified in the server initialization file (server.ini) exceeds the maximum prescribed limit.
AV_PATTERN_WRITE_FS_FAILED	The device is unable to save the contents of an antivirus pattern file to the file system.
BFDD_READ_ERROR	The bidirectional forwarding detection process (bfd) could not read a message available on the indicated type of pipe.
BFDD_WRITE_ERROR	The bidirectional forwarding detection process (bfd) could not write a message to the indicated type of pipe.
BOOTPD_HWDB_ERROR	The boot parameter process (tnp.bootpd) could not complete an operation in the hardware database maintained by the chassis process (chassisd), for the indicated reason.
CFMD_RTsock_OPEN_FAILURE	The connectivity fault management process (cfmd) could not successfully open a routing socket to the kernel, for the indicated reason.
CHASSISD_BUS_DEVICE_OPEN_FAILURE	The chassis process (chassisd) could not open the indicated bus device, for the indicated reason.

Table 3: Events Detected by AI-Scripts (*continued*)

Event ID	Description
CHASSISD_CFEBC_POWER_FAILURE	The chassis process (chassisd) could not turn on or turn off the power to the indicated Compact Forwarding Engine Board (CFEB).
CHASSISD_CLOCK_FAILURE	The chassis process (chassisd) determined that the indicated clock source failed in the indicated way.
CHASSISD_CMB_READBACK_ERROR	The chassis process (chassisd) could not read back information from the Chassis Management Bus (CMB) about the indicated component (field-replaceable unit, or FRU).
CHASSISD_COMMAND_ACK_ERROR	The chassis process requested that the indicated component (field-replaceable unit, or FRU) confirm that it was online. The indicated error occurred when the FRU sent its response. In the normal case, the chassis process performed any additional action necessary to guarantee that the FRU came online.
CHASSISD_COMMAND_ACK_SFM_ERROR	The chassis process (chassisd) requires an acknowledgment from each Switching and Forwarding Module (SFM) before it registers a Flexible PIC Controller (FPC) as online. The acknowledgment message from the indicated SFM failed for the indicated FPC.
CHASSISD_FAN_FAILURE	The indicated fan or impeller failed. The chassis process (chassisd) raised an alarm and increased the speed of the remaining fans (and impellers, if applicable) to full speed.
CHASSISD_FASIC_FTOKEN_ERROR	The chassis process (chassisd) detected an underflow or overflow error on the indicated F chip on the indicated Control Board (CB).
CHASSISD_FASIC_FTOKEN_INIT_ERROR	The chassis process (chassisd) encountered an error while initializing memory at the indicated address for the indicated F chip on the indicated Control Board (CB).
CHASSISD_FASIC_HSL_CONFIG_ERROR	The chassis process (chassisd) could not configure high-speed links (HSL) for the indicated F chip on the indicated Control Board (CB).
CHASSISD_FASIC_HSL_LINK_ERROR	The chassis process (chassisd) detected an error for the indicated high-speed link (HSL) for the indicated F chip on the indicated Control Board (CB).
CHASSISD_FASIC_INIT_ERROR	The chassis process (chassisd) detected that F chips were not yet initialized on the Control Board (CB).
CHASSISD_FASIC_INPUT_DROP	The Packet Forwarding Engine divides packets into smaller units called cells for more efficient processing. As the indicated F chip on the indicated Control Board (CB) processed data that was received from the indicated Packet Forwarding Engine on the indicated Flexible PIC Concentrator (FPC), it dropped the indicated number of cells per second.

Table 3: Events Detected by AI-Scripts (*continued*)

Event ID	Description
CHASSISD_FASIC_OUTPUT_DROP	The Packet Forwarding Engine divides packets into smaller units called cells for more efficient processing. As the indicated F chip on the indicated Control Board (CB) processed data before sending it to the indicated Packet Forwarding Engine on the indicated Flexible Port Concentrator (FPC) for outgoing transmission, it dropped the indicated number of cells per second.
CHASSISD_FASIC_PIO_READ_ERROR	The indicated routine failed with a read error at the indicated address and register for the indicated F chip and link on the indicated Control Board (CB).
CHASSISD_FASIC_PIO_WRITE_ERROR	The indicated routine failed with a write error at the indicated address and register for the indicated F chip and link on the indicated Control Board (CB).
CHASSISD_FASIC_PLL_ERROR	The chassis process (chassisd) could not lock a phased-lock loop (PLL) for the indicated F chip on the indicated Control Board (CB).
CHASSISD_FASIC_RESET_ERROR	The chassis process (chassisd) could not reset the indicated F chip on the indicated Control Board (CB).
CHASSISD_FASIC_SRAM_ERROR	The chassis process (chassisd) detected that SRAM failed to initialize for the indicated F chip on the indicated Control Board (CB).
CHASSISD_FCHIP_CONFIG_MD_ERROR	The chassis process (chassisd) detected an invalid number of Md chips for the indicated F chip, Packet Forwarding Engine, and Flexible PIC Concentrator (FPC).
CHASSISD_FCHIP_HSR_ERROR	The chassis process (chassisd) detected an error in the high-speed receiver (HSR) subsystem for the F chip with the indicated characteristics.
CHASSISD_FCHIP_HST_ERROR	The chassis process (chassisd) detected an error in the high-speed transmitter (HST) subsystem for the F chip with the indicated characteristics.
CHASSISD_FCHIP_LINK_ERROR	The chassis process (chassisd) detected an error for the indicated high-speed receiver (HSR) or high-speed transmitter (HST) link for an F chip on the indicated Switch Interface Board (SIB).
CHASSISD_FCHIP_MONITOR_ERROR	The chassis process (chassisd) detected an invalid F-chip module while enabling or disabling the monitoring of F-chip functional blocks.
CHASSISD_FCHIP_PIO_READ_ERROR	The indicated routine failed with a read error at the indicated address and register for the indicated F chip and link.

Table 3: Events Detected by AI-Scripts (*continued*)

Event ID	Description
CHASSISD_FCHIP_PIO_WRITE_ERROR	The indicated routine failed with a write error at the indicated address and register for the indicated F chip and link.
CHASSISD_FEB_SWITCHOVER	The chassis daemon (chassisd) switched to the indicated FEB from the specified FEB.
CHASSISD_FHSR_READ_REG_ERROR	The high-speed receiver (HSR) read routine failed at the indicated address on an F-chip register.
CHASSISD_FHSR_WRITE_REG_ERROR	The high-speed receiver (HSR) write routine could not record the indicated value at the indicated address on an F-chip register.
CHASSISD_FHST_READ_REG_ERROR	The high-speed transmitter (HST) read routine failed at the indicated address on an F-chip register.
CHASSISD_FHST_WRITE_REG_ERROR	The high-speed transmitter (HST) write routine could not record the indicated value at the indicated address on an F-chip register.
CHASSISD_FILE_OPEN	The chassis process (chassisd) could not open the indicated file for the indicated reason.
CHASSISD_FM_ERROR	During execution of the indicated fabric management routine, the indicated error occurred between the indicated Switch Interface Board (SIB) and the indicated Packet Forwarding Engine on the indicated Flexible PIC Concentrator (FPC).
CHASSISD_FM_ERROR_F13_FB_HSR_TXP	In a Tx-Plus routing matrix, packets traverse both electrical and optical media as they travel between the Switch Interface Boards (SIBs) in the T1600 routing nodes (called ST-SIB-Ls) and the SIBs in the TX Matrix Plus platform (called F13SIBs and F2S-SIBs). The chassis process (chassisd) on the routing node that houses the indicated F13SIB detected an error in the electrical path between the indicated ports on the F13SIB and the indicated ST-SIB-L on the indicated LCC.
CHASSISD_FM_ERROR_F13_FB_RX_VC	In a Tx-Plus routing matrix, packets traverse both electrical and optical media as they travel between the Switch Interface Boards (SIBs) in the T1600 routing nodes (called ST-SIB-Ls) and the SIBs in the TX Matrix Plus platform (called F13SIBs and F2S-SIBs). The chassis process (chassisd) on the routing node that houses the indicated F13SIB detected the indicated error as packets that were traveling in the in the optical media from the indicated ST-SIB-L on the indicated LCC.

Table 3: Events Detected by AI-Scripts (*continued*)

Event ID	Description
CHASSISD_FM_ERROR_F13_FB_TX_VC	In a Tx-Plus routing matrix, packets traverse both electrical and optical media as they travel between the Switch Interface Boards (SIBs) in the T1600 routing nodes (called ST-SIB-Ls) and the SIBs in the TX Matrix Plus platform (called F13SIBs and F2S-SIBs). The chassis process (chassisd) on the routing node that houses the indicated F13SIB detected the indicated error as packets that were traveling in the indicated direction were translated between electrical and optical media.
CHASSISD_FM_ERROR_SIB_L_FB_HSR	In a routing matrix, packets traverse both electrical and optical media as they travel between the Switch Interface Boards (SIBs) in the T640 router (called SIB-Ls) and the SIBs in the TX Matrix platform (called SIB-Ss). The chassis process (chassisd) on the routing node that houses the indicated SIB-L detected an error in the electrical path between the indicated ports on the SIB-L and the corresponding SIB-S.
CHASSISD_FM_ERROR_SIB_L_FB_SMF	In a routing matrix, packets traverse both electrical and optical media as they travel between the Switch Interface Boards (SIBs) in the TX Matrix (the switch-card chassis, or SCC) and the SIBs in the T640 routers (called SIB-Ls). The chassis process (chassisd) on the T640 router that houses the indicated SIB-L detected the indicated error as packets that were traveling in the indicated direction were translated between electrical and optical media.
CHASSISD_FM_ERROR_SIB_S_FB_HSR	In a routing matrix, packets traverse both electrical and optical media as they travel between the Switch Interface Boards (SIBs) in the TX Matrix platform (called SIB-Ss) and the SIBs in the T640 routers (called SIB-Ls). The chassis process (chassisd) on the TX Matrix detected an error in the electrical path between the indicated port on the indicated SIB-S and the indicated port on a SIB-L installed in the indicated T640 router (line-card chassis, or LCC).
CHASSISD_FM_ERROR_SIB_S_FB_SMF	In a routing matrix, packets traverse both electrical and optical media as they travel between the Switch Interface Boards (SIBs) in the TX Matrix (called SIB-Ss) and the SIBs in the T640 routers (line-card chassis, or LCCs). The chassis process (chassisd) on the TX Matrix platform detected the indicated error as packets that were traveling to or from the indicated LCC were translated between electrical and optical media.
CHASSISD_FM_SIB_ERROR	The chassis process (chassisd) detected the indicated type of error on the indicated Switch Interface Board (SIB) and performed the indicated action.
CHASSISD_FPC_PIC_DETECT_TIMEOUT	The chassis process (chassisd) expects to receive notification within a timeout period that each Flexible PIC Concentrator (FPC) has attached the PIC that it houses. It did not receive notification from the indicated FPC.

Table 3: Events Detected by AI-Scripts (*continued*)

Event ID	Description
CHASSISD_FRU_INVALID_SLOT	The chassis process (chassisd) detected that the indicated hardware component (field-replaceable unit, or FRU) was inserted in a slot that is not valid for that component type.
CHASSISD_FRU_IO_ERROR	The chassis process (chassisd) could not perform the indicated I/O operation on the indicated component (field-replaceable unit, or FRU).
CHASSISD_FRU_OFFLINE_NOTICE	The chassis process (chassisd) took the indicated component (field-replaceable unit, or FRU) offline for the indicated reason.
CHASSISD_GBUS_NOT_READY	The GBUS was not ready when the chassis process (chassisd) first tried to power it on, and the power-up operation timed out.
CHASSISD_GBUS_READBACK_ERROR	There was an error when the chassis process (chassisd) tried to read back information from the GBUS on the indicated component (field-replaceable unit, or FRU).
CHASSISD_HSR_FIFO_ERROR	A first-in, first-out (FIFO) read error occurred during execution of the indicated routine on the indicated high-speed receiver (HSR).
CHASSISD_HWDB_ERROR	The operation performed on the hardware database was unsuccessful.
CHASSISD_I2C_BAD_IDEEPROM_FORMAT	The chassis process (chassisd) determined that the ID EEPROM format specified for the indicated type of hardware component (field-replaceable unit, or FRU) is not valid for it.
CHASSISD_I2C_READ_ERROR	The chassis process (chassisd) cannot read I2C data from the indicated device.
CHASSISD_I2CS_READBACK_ERROR	The chassis process (chassisd) cannot read back information from the I2C slave (I2CS) about the indicated component (field-replaceable unit, or FRU).
CHASSISD_IFDEV_DETACH_FPC	The chassis process (chassisd) detached the interface devices for all PICs on the indicated Flexible PIC Concentrator (FPC).
CHASSISD_IFDEV_DETACH_PIC	The chassis process (chassisd) detached the interface devices for the indicated PIC.
CHASSISD_IPC_CONNECTION_DROPPED	The chassis process (chassisd) dropped the interprocess communication (IPC) connection to the indicated component (field-replaceable unit, or FRU).
CHASSISD_IPC_DAEMON_WRITE_ERROR	The chassis process (chassisd) could not write to a socket because of the indicated error. The socket is for a connection to another process that runs on the Routing Engine and helps manage the chassis.

Table 3: Events Detected by AI-Scripts (*continued*)

Event ID	Description
CHASSISD_IPC_MSG_DROPPED	The chassis process (chassisd) dropped an interprocess communication (IPC) message because the message queue had already reached maximum capacity.
CHASSISD_IPC_MSG_UNHANDLED	The chassis process (chassisd) received an interprocess communication (IPC) message about the indicated FRU. The message had the indicated characteristics. chassisd could not handle the message.
CHASSISD_IPC_WRITE_ERR_NULL_ARGS	The chassis process (chassisd) could not send a message to the indicated component (field-replaceable unit, or FRU) because one or more required parameters had a null value.
CHASSISD_ISSU_ERROR	The chassisd process (chassisd) encountered an error during the In Service Software Upgrade Process.
CHASSISD_MAC_ADDRESS_ERROR	The chassis process (chassisd) could not obtain a media access control (MAC) address for the indicated interface because of an internal error.
CHASSISD_MAC_ADDRESS_FABRIC_ERROR	The chassis process (chassisd) could not obtain a media access control (MAC) address for the indicated fabric interface because of an internal error.
CHASSISD_MALLOC_FAILURE	The chassis process (chassisd) could not allocate memory. chassisd tried to continue functioning, but the lack of memory usually causes the process to fail. An administrator needs to restart it.
CHASSISD_MBE_DETECTED	A multibit ECC parity error was detected in the Routing Engine DRAM.
CHASSISD_OVER_TEMP_CONDITION	The temperature of one or more components (field-replaceable units, or FRUs) exceeded the indicated temperature, which is the upper of two thresholds. The fans (and impellers, if applicable) were in the indicated state. If the temperature does not go below the threshold within four minutes after the chassis process (chassisd) detects this condition, chassisd shuts down the device. When this message was logged, the indicated number of seconds remained before shutdown.
CHASSISD_OVER_TEMP_SHUTDOWN_TIME	The chassis process (chassisd) shut down the device because the temperature of one or more components exceeded the indicated threshold temperature for the indicated amount of time. Continued operation at the excessive temperature could damage the device.
CHASSISD_PEM_INPUT_BAD	The chassis process (chassisd) detected the indicated error condition for the indicated power entry module (PEM).

Table 3: Events Detected by AI-Scripts (*continued*)

Event ID	Description
CHASSISD_PEM_OVERLOAD	The indicated power entry module (PEM) reported an output voltage overload condition.
CHASSISD_PEM_TEMPERATURE	The chassis process (chassisd) detected that the 'temperature check bit' was set in the status bit mask for the indicated power entry module (PEM).
CHASSISD_PEM_VOLTAGE	The indicated power entry module (PEM) reported a problem with its output voltage.
CHASSISD_PIC_HWERROR	The indicated PIC experienced a hardware error. The chassis process (chassisd) did not bring the PIC online.
CHASSISD_POWER_CHECK	The chassis process (chassisd) could not power up the indicated component (field-replaceable unit, or FRU), because the FRU did not respond.
CHASSISD_POWER_CONDITION	The temperature of the indicated Routing Engine exceeded the indicated temperature, which is the upper of two thresholds.
CHASSISD_PSU_ERROR	The chassis process (chassisd) detected the indicated error condition for the indicated power supply unit (PSU).
CHASSISD_PSU_FAN_FAIL	The PSU fan-fail bit is set in the status for the indicated power supply unit (PSU).
CHASSISD_PSU_INPUT_BAD	The chassis process (chassisd) detected the input voltage/warning fault condition for the indicated power supply unit (PSU).
CHASSISD_PSU_OVERLOAD	The indicated power supply unit (PSU) reported an output voltage overload condition.
CHASSISD_PSU_TEMPERATURE	The chassis process (chassisd) detected that the temperature check bit was set in the status bit mask for the indicated power supply unit (PSU).
CHASSISD_PSU_VOLTAGE	The indicated power supply unit (PSU) reported a problem with its output voltage.
CHASSISD_RE_OVER_TEMP_CONDITION	The temperature of the indicated Routing Engine exceeded the indicated temperature, which is the upper of two thresholds.
CHASSISD_RE_OVER_TEMP_SHUTDOWN	The chassis process (chassisd) performed the indicated action because the temperature of the indicated Routing Engine exceeded the maximum threshold for more than four minutes. Continued operation at the excessive temperature could damage device components.

Table 3: Events Detected by AI-Scripts (*continued*)

Event ID	Description
CHASSISD_RE_OVER_TEMP_WARNING	The temperature of the indicated Routing Engine exceeded the indicated temperature, which is the upper of two thresholds. If the temperature does not go below the threshold within four minutes after the chassis process (chassisd) detects this condition, chassisd shuts down the indicated component. When this message was logged, the indicated number of seconds remained before shutdown.
CHASSISD_SBE_DETECTED	Too many single-bit correctable ECC parity errors were detected in Routing Engine DRAM.
CHASSISD_SHUTDOWN_NOTICE	Although the chassis process (chassisd) normally does not exit or shut down except when the Routing Engine reboots, it shut down for the indicated reason.
CHASSISD_SIB_INVALID_SLOT	The chassis process (chassisd) detected the presence of a Switch Interface Board (SIB) in an invalid slot. The SIB remains offline.
CHASSISD_SMB_INVALID_PS	The chassis process (chassisd) could not set the status (enabled or disabled) for a power supply because it received the indicated power supply status code, which is invalid.
CHASSISD_SMB_IOCTL_FAILURE	The indicated ioctl() operation failed at the indicated address on the system management bus (SMB).
CHASSISD_SMB_READ_FAILURE	A read() operation failed at the indicated address on the system management bus (SMB).
CHASSISD_TEMP_SENSOR_FAILURE	The temperature sensor for the indicated component (field-replaceable unit, or FRU) either did not respond to a request from the chassis process (chassisd) for a temperature reading or sent a value that is outside the normal operating range.
CHASSISD_TIMER_VAL_ERR	The chassis process (chassisd) started a timer to track the timeout period for an event. The timer returned a null identifier, so chassisd could not clear the timer.
CHASSISD_UNEXPECTED_EXIT	The chassis process (chassisd) exited unexpectedly and reported the indicated error.
CHASSISD_VOLTAGE_READ_FAILED	The chassis process (chassisd) could not read the voltage data from the indicated component (field-replaceable unit, or FRU).
CHASSISD_VOLTAGE_SENSOR_INIT	The chassis process (chassisd) could not initialize the voltage sensor for the indicated component (field-replaceable unit, for FRU).
CONNECTION_CHASSISD_FAIL	The alarm process (alarmd) was unable to connect to the chassis process (chassisd).

Table 3: Events Detected by AI-Scripts (*continued*)

Event ID	Description
CONNECTION_CRAFTD_FAIL	The alarm process (alarmd) was unable to connect to the craft process (craftd).
CONNECTION_RTLOGD_FAIL	The alarm process (alarmd) was unable to connect to the Juniper Networks J Series Services Router (JSR) log process (rtlogd).
CONNECTION_SEND_ERROR	The alarm process (alarmd) received an error while it was trying to send a message.
COSD_GENCFG_WRITE_FAILED	The class-of-service (CoS) process (cosd) uses GENCFG to read and write data from the kernel. If the write fails, the kernel returns an error.
COSD_MALLOC_FAILED	The class-of-service (CoS) process (cosd) could not dynamically allocate memory, for the indicated reason.
COSD_RTsock_LIB_ERR	The class-of-service (CoS) process (cosd) uses rtsock library for reading and writing data from and to kernel. The specified error occurred while using rtsock library to read/write data.
COSD_RTsock_WRITE_FAILED	The class-of-service (CoS) process (cosd) uses rtsock to read/write data from kernel. If the write fails kernel returns an error.
COSD_UNEXPECTED_EXIT	The class-of-service (CoS) process (cosd) waits for the event notifications and processes the events that it is registered for. There was an error during event-handling initialization.
COSD_UNKNOWN_TRANSLATION_TABLE	The class-of-service (CoS) process (cosd) did not recognize the indicated translation table type from the rtsock library.
Daemon Crash	A Junos OS daemon crash occurred with a core dump.
DCD_CONFIG_WRITE_FAILED	The interface process (dcd) encountered an error while trying to send an interface configuration to the kernel over the routing socket.
DCD_GET_ERROR	The interface process (dcd) encountered an error while trying to load the kernel interface configuration over the routing socket.
DCD_PARSE_STATE_EMERGENCY	The interface process (dcd) encountered an unhandled internal state during interface parsing.
DCD_RTsock_READ_SYNC_NOBUF	The interface process (dcd) communicates with the kernel by writing messages to and reading messages from routing sockets. The DCD could not allocate memory to use to read messages from the kernel.

Table 3: Events Detected by AI-Scripts (*continued*)

Event ID	Description
DCD_RTsock_SEND_NOBUF	If the Routing Engine is busy or operating under a heavy load, messages between the interface process (dcd) and the kernel may be dropped. To detect whether messages have been dropped, dcd and the kernel place sequence numbers in messages. dcd detected that a message was dropped. In an attempt to recover the message, dcd retries the operation.
DCD_TRASHED_RED_ZONE	When DCD is allocating heap memory, it uses a private memory allocator that writes a special pattern at the end of each allocated segment of heap memory. Later, when de-allocating this memory, DCD checks for the pattern. Not finding the previously written pattern means the memory was overwritten, which indicates an error in DCD.
DFCD_GENCFG_MALLOC_FAILED	The dynamic flow capture process (dfcd) could not allocate memory for the GENCFG message.
DFCD_GENCFG_WRITE_FAILED	The dynamic flow capture process (dfcd) could not send the GENCFG message for the indicated reason.
DFCD_LINH_MALLOC_FAILED	The dynamic flow capture process (dfcd) could not allocate memory for the LINH message.
DFWD_CONFIG_WRITE_FAILED	The firewall process (dfwd) encountered an error while trying to send an interface configuration to the kernel over the routing socket.
DFWD_MALLOC_FAILED	The firewall process (dfwd) must dynamically malloc memory for its needs. This allocation request failed. The specific data structure that was being allocated is listed in the message.
DFWD_PARSE_STATE_EMERGENCY	The firewall process (dfwd) encountered an unhandled internal state while parsing an interface.
DFWD_TRASHED_RED_ZONE	When the firewall process (dfwd) is allocating heap memory, it uses a private memory allocator that writes a special pattern at the end of each allocated segment of heap memory. Later, when de-allocating this memory, dfwd checks for the pattern. Not finding the previously written pattern means the memory was overwritten, which indicates an error in dfwd.
DH_SVC_LOGIN_FAILURE	The Dynamic Host Configuration Protocol (DHCP) services process (dhcp-service) could not log the client in with the indicated application and the indicated session ID on the indicated interface (interface name) due to the indicated failure (pre-authentication or post-authentication failure).
DH_SVC_RTsock_OPEN_FAILURE	The Dynamic Host Configuration Protocol (DHCP) services process (dhcp-service) could not successfully open a routing socket to the kernel. The error string accompanying this log entry indicates the specific error.

Table 3: Events Detected by AI-Scripts (*continued*)

Event ID	Description
DH_SVC_RTsock_REGISTER_FAILURE	The Dynamic Host Configuration Protocol (DHCP) services process (dhcp-service) could not successfully register a callback function with a routing socket. The error string accompanying this log entry indicates the specific error.
DH_SVC_SETSOCKOPT_FAILURE	The Dynamic Host Configuration Protocol (DHCP) services process (dhcp-service) could not set the indicated socket option.
DH_SVC_SOCKET_FAILURE	The Dynamic Host Configuration Protocol (DHCP) services process (dhcp-service) could not create a socket.
ESPTASK_PARSE_BAD_SWITCH	This process terminated because of an invalid option.
ESPTASK_PARSE_CMD_ARG	This process terminated because of an internal error.
ESPTASK_PARSE_CMD_EXTRA	This process terminated because of an invalid option.
ESWD_DAI_FAILED	The ARP request/response received on this port cannot be linked to any of the IPs assigned by DHCP.
ESWD_DHCP_UNTRUSTED	DHCP server packets are being received on a port that was not meant to receive server traffic.
ESWD_PPM_READ_ERROR	The ethernet bridging process (eswd) could not read a message available on the read pipe from the periodic packet management process (ppmd).
ESWD_PPM_WRITE_ERROR	The ethernet bridging process (eswd) could not write a message on the pipe to the periodic packet management process (ppmd).
ESWD_ST_CTL_ERROR_IN_EFFECT	This condition occurs when storm control error condition is detected.
ESWD_STP_BASE_MAC_ERROR	This condition occurs when STP cannot derive the base MAC address of the system.
EVENTD_EVENT_SEND_FAILED	Junos OS processes can request that the event processing process (eventd) notify them when a specific event occurs. eventd could not send an event notification for the indicated reason.
EVENTD_FORK_ERR	The event processing process (eventd) could not create a child process for executing policies.
EVENTD_PIPE_ERR	The event processing process (eventd) could not create a pipe for interprocess communication.

Table 3: Events Detected by AI-Scripts (*continued*)

Event ID	Description
EVENTD_VERSION_MISMATCH	The event processing process (eventd) received an event with the indicated version indicator, which does not match the indicated version expected by eventd.
FPCLOGIN_IP_ADDRESS_GET_FAILURE	The fpclogin module attempted to get the IP address of the physical interface module. The attempt failed.
FSAD_ERROR	The file system access process (fsad) internal error message.
FUD_MEMORY_ALLOCATION_FAILURE	The UDP forwarding process (fud) could not allocate the indicated amount of memory from the heap.
FUD_RTsock_WRITE_FAILURE	The UDP forwarding process (fud) could not write to its routing socket for the indicated reason.
FUD_SENDMSG_FAILURE	The UDP forwarding process (fud) could not send data to the indicated destination port and address using the indicated interface and routing instance, which it needs to do during normal operation.
FUD_SENDMSG_NOINT_FAILURE	The UDP forwarding process (fud) could not send data to the indicated destination port and address using the indicated routing instance, which it needs to do during normal operation.
FUD_SETSOCKOPT_FAILURE	The UDP forwarding process (fud) could not set the indicated socket option.
FUD_SOCKET_FAILURE	The UDP forwarding process (fud) could not create a socket.
GGSN_ALARM_TRAP_SEND	An alarm trap to be relayed by the services PICs process (serviced) failed to initialize.
GGSN_TRAP_SEND	The system sent a GGSN trap of an unrecognized type.
GRAPH_NO_MEMORY	The graphing process could not allocate memory while trying to create a graph.
HNCACHED_PATRICIA_ERROR	A call to a Patricia tree library function returns an error.
ICCPD_ASSERT_SOFT	The source code for the interchassis communication process (iccpd) includes internal self-consistency checks. As iccpd with the indicated process ID (PID) executed the binary compiled from the indicated source file, a check failed at the indicated line number in the file. iccpd created a diagnostic core file for analysis by technical support personnel and continued to run.
ICCPD_OPEN_ERROR	The interchassis communication process (iccpd) could not initialize.

Table 3: Events Detected by AI-Scripts (*continued*)

Event ID	Description
IDP_DAEMON_INIT_FAILED	An attempt to start the IDP policy daemon failed because an error was encountered during initialization.
IDP_INTERNAL_ERROR	The IDP daemon encountered an internal error.
IKED_CFG_PATRICIA_ERROR	A call to a Patricia tree library function returned an error.
INTERVAL: ICHIP non-RED vpls tail drops	The script associated with this event will check for non-red packets (tails drops) on all FPCS with tunnel-services enabled.
INTERVAL: VPLS tunnel usage exceeded threshold	The event script checks periodically to see if any tunnel interface (vt-*/**/*) is experiencing usage of 65% or greater.
JCS_BBD_LOAD_FAILURE	The JCS process (jcsd) could not load blade bay data for the specified blade.
JCS_BBD_LOCAL_MISMATCH	The blade bay data retrieved for the specified blade does not match the data loaded during the reboot process. This error usually indicates that blade bay data in the JCS Management Module was changed since the last reboot.
JCS_BBD_NOT_FOUND	The blade bay data was not found for the specified blade.
JCS_BBD_NOT_VALID	The blade bay data for the specified blade is invalid.
JCS_BBD_PARSE_ERROR	The blade bay data for the specified blade did not parse correctly.
JCS_BBD_PEER_MISMATCH	The blade bay data retrieved for the specified peer blade does not match the data retrieved for the local blade. This error indicates that blade bay data in the JCS Management Module was not configured properly.
JCS_KERNEL_RSD_LINK_DOWN	The JCS process (jcsd) has disabled kernel RSD communication for the specified reason.
JCS_MM_COMMUNICATION_ERROR	The JCS process (jcsd) could not send an SNMP request to the Management Module because of the indicated error.
JCS_READ_BANDWIDTH_ERROR	The indicated error occurred when attempting to read the current switch bandwidth.
JCS_READ_BBD_ERROR	The indicated error occurred when attempting to read the current blade bay data via a sysctl call.
JCS_SWITCH_COMMUNICATION_ERROR	The JCS process (jcsd) could not send an SNMP request to the indicated Switch Module because of the indicated error.

Table 3: Events Detected by AI-Scripts (*continued*)

Event ID	Description
JSRPD_DAEMONIZE_FAILED	The Juniper Services Redundancy Protocol process (jsrpd) could not create a version of itself to run in the background as a daemon.
JSRPD_EVLIB_EXIT_FAILURE	The Juniper Services Redundancy Protocol process (jsrpd) returned from an event loop, which it should never do.
JSRPD_RG_STATE_CHANGE	The Juniper Services Redundancy Protocol process (JSRPD) detected an event that caused the state of the chassis cluster redundancy group to change due to the reason indicated in the log.
JSRPD_SET_SPU_MON_FAILURE	The Juniper Services Redundancy Protocol process (JSRPD) detected Services Processing Unit (SPU) monitoring failure for a redundancy group.
JSRPD_SOCKET_CREATION_FAILURE	The jsrpd process (jsrpd) could not successfully create a socket.
JSRPD_SOCKET_LISTEN_FAILURE	The Juniper Services Redundancy Protocol process (jsrpd) could not successfully listen on a socket.
JSRPD_SOCKET_RECV_HB_FAILURE	The Juniper Services Redundancy Protocol process (jsrpd) was not successfully received on a socket.
KERNEL:*i2c_s1.*group.*device	Fan tray response error. Error due to the fan tray processing a different task.
KERNEL: rdp retransmit error	Kernel is indicating the no system buffer space is available.
KERNEL:*cksum.*out of data.*	"/kernel: cksum: out of data" is logged in the system log.
KERNEL:*jsr_prL_rcv_ack_msg.* received PRL ACK message	Non-stop routing replication message acknowledgment received by backup Routing Engine.
KERNEL:*Voltage Fail Shutdown.*device.*	The ' Voltage Fail Shutdown' message is reported into the system message file if the indicated device in the syslog message has or is about to undergo a reset or due to improper grounding of the FRU causing it to go offline.
KERNEL:*WRITE_DMA UDMA ICRC error.*	This message is seen when there is hardware fault either on the hard drive or communication between hard drive and kernel or RE and the motherboard.
Kernel:/kernel: pfe_send_failed, err=32	This is an internal message generated by the Kernel. There is a keepalive sent to the PFE to check the status. The kernel missed keepalive for the CFEB because hardware failure.
KERNEL:GENCFG: op 2 (Gencfg Blob) failed.*	Kernel error message generated because it does not have a handler for a certain GENCFG blob message.

Table 3: Events Detected by AI-Scripts (*continued*)

Event ID	Description
KERNEL:general-authentication-service terminated by signal number 11	The "general-authentication-service terminated" message reports that the authentication daemon has crashed and is being restarted. An associated core dump file has also been created on the device.
KERNEL:ifd_request: RTM_ID.*	Some Junos OS daemons were not originally included in a list of processes that can modify an interface definition. These messages are only informational and can be ignored.
KERNEL:parity error detected, fll reinit: mpfe.*	The message indicates that the Packet Forwarding Engine was reset when detecting a parity error in the ASIC.
KERNEL:pfestat_req_receive: request.*	Kernel message regarding PFE statistics counter request.
KERNEL:Process .* has exceeded 85% of RLIMIT_DATA	This message indicates that the virtual memory size of a process's data-segment area (RLIMIT_DATA) has exceeded its current soft limit.
KERNEL:RT_PFE: RT msg op 1 (PREFIX ADD) failed	When the Routing Protocol Process (rpd) is running out of all available memory, kernel may fail to allocate memory for new prefixes. In this case a message of the following form may appear in the Syslog message file: kernel: RT_PFE: RT msg op 1 (PREFIX ADD) failed, err 6 (No Memory).
KERNEL:unilist found on the rnhlist_deleted_root patnode	When Graceful Routing Engine Switchover (GRES) is enabled this message may be logged by the Master RE's kernel, as it is trying to add a unilist next hop route; however there is already a delete request pending acknowledgement from the Backup RE's kernel. So, the add request is deferred until the delete request is acknowledged. The number printed is the Next Hop Index in the Packet Forwarding Engine.
KERNEL:rpd retransmit error	The kernel is indicating that no system buffer space is available.
KERNEL:RT_PFE: NH IPC failed, err 6 (No Memory)	The kernel is reporting that the Packet Forwarding Engine cannot install or change routing table entries because it is running out of memory.
KERNEL:vlan MAC filter: .* from port .* rejected	If a protocol is not configured on EX but it receives VRRP packets, all those packets will be dropped in kernel with message as ""/kernel: vlan MAC filter: 01:00:5e:00:05: reject"" can be seen in /var/log/messages. This message is seen when packets arrive for all those protocol packets for which EX is not configured/enabled. When RVI is configured on vlan , a copy of all L3 multicast control packets (IEEE well known multicast macs, like OSPF, VRRP, PIM, etc) is sent to the kernel.
KMD_SNMP_PIC_NO_RESPONSE	The indicated PIC did not respond to a request from the key management process (kmd) for Simple Network Management Protocol (SNMP) statistics about IP Security (IPSec) security associations.

Table 3: Events Detected by AI-Scripts (*continued*)

Event ID	Description
L2ALD_IPC_PIPE_WRITE_ERROR	The Layer 2 address learning process (l2ald) could not write to an interprocess communication (IPC) pipe for the indicated reason.
L2ALD_PIP_IFD_READ_RETRY	The Layer 2 address learning process (l2ald) could not read the provide-in-provider interface (pip0) interface from the kernel.
L2CPD_ABORT	The Layer 2 Control Protocol process (l2cpd) terminated because of an internal error.
L2CPD_ASSERT	The source code for the Layer 2 Control Protocol process (l2cpd) includes internal self-consistency tests. l2cpd with the indicated executable name and process ID (PID) terminated because the indicated test failed at the indicated line number in the indicated source file. The process created a diagnostic core file for analysis by technical support personnel.
L2CPD_ASSERT_SOFT	The source code for the Layer 2 Control Protocol process (l2cpd) includes internal self-consistency tests. l2cpd with the indicated executable name and process ID (PID) terminated because the indicated type of check failed at the indicated line number in the indicated source file. The process continued to run, but created a diagnostic core file for analysis by technical support personnel.
L2CPD_PPM_WRITE_ERROR	The Layer 2 Control Protocol process (l2cpd) could not write a message on the pipe to the periodic packet management process (ppmd).
L2CPD_SCHED_SLIP	The Layer 2 Control Protocol process (l2cpd) delayed an event, such as issuing an adjacency establishment message that was supposed to occur at a particular time. The event did not occur at the right time.
L2CPD_SYSTEM_CALL_FAILED	A system call made by the Layer 2 Control Protocol process (l2cpd) failed.
L2TPD_EVLIB_CREATE_FAILED	The Layer 2 Tunneling Protocol process (l2tpd) could not create a context for handling asynchronous events.
L2TPD_EVLIB_CREATE_FAILED	The Layer 2 Tunneling Protocol process (l2tpd) could not create a context for handling asynchronous events.
L2TPD_SERVER_START_FAILED	The Layer 2 Tunneling Protocol (L2TP) server did not start.
LACPD_DAEMONIZE_FAILED	The Link Aggregation Control Protocol process (lacpd) could not create a version of itself to run in the background as a daemon.
LIBESPTASK_SNMP_CONN_PROG	The indicated error occurred while the process using libesptask was connecting to the SNMP master agent.

Table 3: Events Detected by AI-Scripts (*continued*)

Event ID	Description
LIBESPTASK_SNMP_SOCKETOPT_RECVBUF	The process using libesptask could not set the size of the kernel receive buffer, which allows it to accept the largest possible packet from the Simple Network Management Protocol (SNMP) master agent.
LIBESPTASK_SNMP_SOCKETOPT_SENDBUF	The process using libesptask could not set the size of the kernel send buffer, which allows it to send the largest possible packet to the Simple Network Management Protocol (SNMP) master agent.
LIBJNX_DEFAULT_IP_ADDR_NOT_SET	A Junos OS process could not retrieve the system default IP address from the kernel because the address is not defined there.
LIBJNX_EVLIB_FAILURE	A Junos OS process called the indicated function in the event library. The function failed for the indicated reason.
LIBJNX_EXEC_SINGALED	A Junos OS process created a child process to execute the indicated command. The child process received the indicated signal and exited.
LIBJNX_REPLICATE_RCP_ERROR	The rcp command failed during replication.
LIBJNX_SNMP_ENGINE_FILE_FAILURE	A Junos OS process could not perform the indicated operation on the indicated SNMP engine data file.
LIBJNX_SNMP_ENGINE_SCAN_FAILURE	A Junos OS process could not perform the scan operation on the indicated SNMP engine data file.
LIBJNX_SOCKET_FAILURE	Various system processes use Transmission Control Protocol (TCP), User Datagram Protocol (UDP), and Reliable Data Protocol (RDP) sockets. The indicated socket operation failed for the indicated reason.
LIBJSNMP_NS_LOG_EMERG	SNMP errors with LOG_EMERG as severity.
LIBJSNMP_NS_LOG_ERR	SNMP errors with LOG_ERR as severity.
LIBMSRPC_CLIENT_INIT_FAILED	A Junos OS process (mspinfo) could not establish initialization of the RPC client.
LIBMSRPC_CLIENT_KCOM_FAILED	A Junos OS process (mspinfo) could not establish initialization of the KCOM subsystem.
LIBMSRPC_CLIENT_KCOM_NO_IF	A Junos OS process (mspinfo) could not find any configured and active extension-provider interfaces.
LIBMSRPC_CLIENT_NO_CONNECTION	Remote execution of the command given from the Routing Engine to the PIC failed. The Routing Engine cannot connect to the PIC.

Table 3: Events Detected by AI-Scripts (*continued*)

Event ID	Description
LIBMSRPC_CLIENT_NO_REPLY	Remote execution of the command given from the Routing Engine to the PIC failed. There was no reply from the PIC.
LIBMSRPC_CLIENT_PIC_DOWN	Remote execution of the command given from the Routing Engine to the PIC failed. The PIC is down.
LIBMSRPC_CLIENT_WRONG_OUTPUT	Remote execution of the command given from the Routing Engine to the PIC failed. The PIC returned unexpected output.
LIBSERVICED_CLIENT_CONNECTION	An attempt to establish a client connection failed.
LIBSERVICED_SOCKET_BIND	An attempt to bind a server socket for receiving client requests failed.
LIBSERVICED_SOCKET_PRIVATIZE	An attempt to attach a socket to the management routing instance for communication between the Routing Engine and GGSN-C PICs failed.
LICENSE_EXPIRED	A time-based license for a feature has expired. The feature will remain inactive until a new license is installed.
LICENSE_GRACE_PERIOD_APPROACHING	The grace period for a licensable feature is about to expire. Unless a new license is installed, the feature will become inactive after the grace period expires.
LICENSE_GRACE_PERIOD_EXCEEDED	The grace period for a scale license is about to expire. Unless the scale license is upgraded, the license will scale back to the licensed limit after the grace period expires.
LICENSE_GRACE_PERIOD_EXPIRED	The grace period for a licensable feature has expired. Strict license enforcement will remain active until a new license is installed.
LICENSE_NEARING_EXPIRY	A time-based license for a feature is about to expire. Unless a new license is installed, the feature will become inactive after the license expires.
LICENSE_SOCKET_FAILURE	The indicated process encountered a system error when manipulating a socket.
LLDPD_SYSTEM	A system call made by the Link Layer Discovery Protocol process (LLDPD) failed.
LPDFD_DYN_PDB_OPEN_FAILED	The local policy decision function process (lpdfd) failed to open the profile database.
LPDFD_DYN_REGISTER_FAILED	The local policy decision function process (lpdfd) failed to register with the dynamic configuration subsystem.

Table 3: Events Detected by AI-Scripts (*continued*)

Event ID	Description
LPDFD_DYN_SDB_OPEN_FAILED	The local policy decision function process (lpdfd) failed to open the session database.
LPDFD_PCONN_SERVER	The local policy decision function process (lpdfd) pconn server failed to initialize.
LPDFD_RTsock_OPEN_FAILURE	The local policy decision function (LPDF) services process could not successfully open a routing socket to the kernel. The error string accompanying this log entry indicates the specific error.
MIB2D_REALPATH_FAILURE	When MIB2D is copying the /var/db/dcd.snmp_ix file, it could not resolve its real path.
MIB2D_RTSLIB_READ_FAILURE	A call to the indicated function in the routing socket library failed during the indicated operation on the indicated object.
MIB2D_SNMP_INDEX_ASSIGN	MIB2D cannot assign an SNMP index for each interface.
MIB2D_SNMP_INDEX_DUPLICATE	The first interface name was assigned the same SNMP index as the second interface name.
MIB2D_SNMP_INDEX_UPDATE_STAT	MIB2D cannot get the status of the SNMP index file.
MIB2D_SNMP_INDEX_WRITE	MIB2D cannot write to a file containing all the indices.
NSD_MEMORY_ALLOC_FAILED	The network security process (nsd) could not allocate the indicated number of bytes of memory.
NSD_SEC_NODE_COMP_SYNC_FAILED	One or more subcomponents of the network security process (nsd) failed to synchronize their state when the nsd restarted on secondary mode.
NSTRACED_MEMORY_ALLOC_FAILED	The USP trace process (nstraced) could not allocate the indicated number of bytes of memory.
NSTRACED_SSAMLIB_CALL_FAILED	The indicated error occurred when the usp trace daemon process (nstraced) called a function in the ssamlib library or tried to process a callback from the library.
PFE Crash	Any Packet Forwarding Engine board crash that occurs in conjunction with a system exception message.
PFE: .*ichip_f_check_dest_errors.*	FPC is reporting a bad fabric connection to one or more destinations. Another FPC is likely to be causing the packet corruption.
PFE: .*L2 Cache Single-bit ECC errors.*	PFE component is reporting that L2 Cache Single-bit ECC errors were detected in the last 30 seconds. If problem persists, this is likely to result in a component crash or failure.

Table 3: Events Detected by AI-Scripts (*continued*)

Event ID	Description
PFE: .*new crcerror errors in NLIF.*	Outbound FPC is reporting a corrupt packet received on the Nchip to Lchip interface. Another FPC is likely to be causing the packet corruption.
PFE: ASIC Initialization Error	Any Packet Forwarding Engine ASIC initialization error that occurs in conjunction with a system exception message, such as: router-name fpc5 CMG: Fatal ASIC initialization error, Offlining FPC
PFE: CMRFEB: Fatal HSL2 errors for FPC	A switching board (for example, FEB) is reporting a bad fabric connection to an FPC.
PFE: DFW: jtree cutover failed	The firewall filter configuration cannot be applied due to insufficient amount of contiguous memory on the SRAM.
PFE: Failed to find MC RT_NH entry.*	Informational message logged when multicast next-hop traffic ages from the switch routing tables.
PFE: HSL2–HSL2 detected fatal error	The FPC detected a fatal HSL2 error.
PFE: I-CHIP New illegal link errors in WO DESRD	Potential ICHIP stream problem possibly due to IFL flooding. Potential match with PR/289104—may need software upgrade.
PFE: I-CHIP New packet errors in WO HDRF, iwo_hdrf_poll_stats	Potential ICHIP stream problem possibly due to IFL flooding. Potential match with PR/289104—may need software upgrade.
PFE: imq_stream_disable_stream	The I-chip wedge issue described in PR 277853, which can lead to packet corruption or packet loss. The Event trigger contains the string: imq_stream_disable_stream.
PFE: JBUS error	An error occurred on the FPC control bus used for packet memory allocation.
PFE: LCHIPnew errors in LSIF	The FPC is reporting LCHIP interface errors.
PFE: mrvl_dfw_log_effuse_status:Firewall rows	The TCAM error messages listed indicate a permanent non-fixable error with TCAM, if they persist after rebooting the EX Switch or Virtual Chassis (VC). These errors are TCAM hardware issues on this FPC and are not harmless. ACLs will be unreliable on this FPC.
PFE: Multi-bit ECC error	The Packet Forward Engine detected a multi-bit error correcting code (ECC) error in one of the forwarding engine boards.
PFE: Multiple Correctable ECC	The Packet Forward Engine board is reporting multiple correctable ECC memory errors.
PFE: Multiple UnCorrectable ECC	The Packet Forward Engine board is reporting multiple uncorrectable ECC memory errors.

Table 3: Events Detected by AI-Scripts (*continued*)

Event ID	Description
PFE: NFAB(x/y): z new CRC errors detected	Fabric connection to ingress FPC is reporting a bad connection.
PFE: Packet drop in lchip	The lchip packet writer drop counter is incrementing, possibly indicating packet drops which may, but not necessarily, be due to a faulty switching board.
PFE: RCHIP: SRAM parity error	SRAM parity error detected on FPC RCHIP.
PFE: Route TCAM rows could not be redirected on device	The TCAM error messages listed indicate a permanent non-fixable error with TCAM, if they persist after rebooting the EX Switch or Virtual Chassis (VC). These errors are TCAM hardware issues on this FPC and are not harmless. ACLs will be unreliable on this FPC.
PFE: RT: Failed prefix change	These messages indicate that the Routing Engine is trying to delete routes from the Packet Forwarding Engine, but it can't because the routes aren't there. This usually means the Packet Forwarding Engine has run out of memory. For example, if you bring up many BGP peers, the number of routes the Routing Engine can hold may surpass the number the Packet Forwarding Engine can hold. In this case, the Packet Forwarding Engine runs out of memory and can't add the routes. Later, when the Routing Engine tries to remove the routes, the prefix it's looking for is unknown.
PFE: SDRAM ECC Error	Any Packet Forwarding Engine SDRAM ECC error that occurs in conjunction with a system exception message, for example: router-name fpc0 ADPC: detected 1 DDR SDRAM Single-bit ECC errors in the last 30 seconds.
PFE: SHEAF: possible leak	Possible FPC SHEAF memory leak.
PFE: SRAM Parity Error	Any Packet Forwarding Engine SDRAM ECC error that occurs in conjunction with a system exception message, for example: router-name ssb CCHIP: %PFE-3:SRAM parity error 0x80000 bank 0x1.
PFE: SRCHIP-SRAM parity error	The FPC SRCHIP has detected an SRAM parity error.
PFE: TOXIC SFP	The TOXIC SFP message is logged when an SFP I2C (the bus via which the router monitors the SFP and updates diagnostic data) transaction fails. Junos then marks the SFP as toxic.
PFE:%PFE- PIO Read error.	The PIO read error could indicate a hardware issue with the PIC.
PFE:.*CCHIP:.*abnormal discard seen.*	Packet Forwarding Engine board is reporting CCHIP abnormal discard errors.
PFE:.*clock error.*	Clock error reported on PFE board.

Table 3: Events Detected by AI-Scripts (*continued*)

Event ID	Description
PFE:.*CRC link error detected for FPC	Errors are a result of HSL CRC errors sent from Switch Fabric to DPC.
PFE:.*DFW: jtree cutover failed.*	Firewall filter configuration cannot be applied due to insufficient amount of contiguous memory on the sram.
PFE:.*HSL2: HSL2 detected fatal error.*	FPC detected fatal HSL2 error.
PFE:.*mrvl_brg_port_stg_cist_init.*	Initialization Warning message pertaining to MSTP/STP/RSTP configured ports for any spanning tree groups shared common IST(CIST).
PFE:.*ICHIP:.* New illegal link errors in WO DESRD.*	Potential ICHIP stream problem possibly due to IFL flooding. Potential match with PR/289104 -- may need software upgrade.
PFE:.*ICHIP:.*New packet errors in WO HDRF, iwo_hdrf_poll_stats.*	Potential ICHIP stream problem possibly due to IFL flooding. Potential match with PR/289104 -- may need software upgrade.
PFE:.*mrvl_dfw_log_effuse_status: Firewall rows.*	The TCAM error messages listed indicate a permanent non-fixable error with TCAM, if they persist after rebooting the EX Switch or Virtual Chassis (VC). These errors are TCAM hardware issues on this FPC and are not harmless. ACLs will be unreliable on this FPC.
PFE:.*RCHIP:.* SRAM parity error.*	SRAM parity error detected on FPC RCHIP.
PFE:.*RSMON: Resource Category:jtree Instance.*less than LWM limit.*	RSMON is reporting critical jtree memory resource shortage.
PFE:.*SFP receive power low warning	SFP receive power low warning.
PFE:.*COSMAN-FPC allocation of scheduler failed for stream type	The COSMAN-FPC allocation failure event message is generated when a scheduler has to be allocated, but the action results in failure.
PFE:.*CXGE_SPI42: cxge_spi42_update_errors: snk: pkt end with eop abort	2HX FPGA error The S2HX FPGA is reporting it received an invalid cell. This does not mean the chip caused the error, only that it is reporting it.
PFE:.*DFPGA got error events on non-zero link in last one second	The "DFPGA got .* error events on non-zero link in last one second" message reports that the associated PIC has sent the stated number of spurious interrupts.
PFE:.*Errors ucode data error	The "Errors ucode data error" message is logged each time an ASIC fails its periodic code check.
PFE:.*EZsrhStruct_StatEntry_DoesExist failed	The message is emitted by the interface statistics module. The module is expecting a particular interface to be present, and did not find the data structure for that interface.

Table 3: Events Detected by AI-Scripts (*continued*)

Event ID	Description
PFE:Failed to find MC RT_NH entry:.*	Informational message logged when multicast next-hop traffic ages from the switch routing tables.
PFE:Fatal Error Encountered by .*	The "Fatal Error Encountered by" message reports that the specified hardware is not able to handle some transit traffic internally.
PFE:HSR:Too many crc errors	The "HSR: Too many crc errors" message reports that the indicated part in the message has gone into link error and may require reseating and/or replacement. It may also indicate a false alarm thrown by the SIB/FPC.
PFE:ICHIP(.) Queue Wedge detected in physical queue	The "Queue Wedge detected in physical queue" message indicates that there was traffic queued on a specific interface queue that was being dropped.
PFE:ICHIP(.) Queued traffic in physical queue .* not transmitted	This message reports that ICHIP Queued traffic in a physical queue is not being transmitted. When this condition is seen, the router will automatically change the COS configuration for the queue in order to force the queue to empty. The COS parameters will then be restored again after one second.
PFE:ICHIP IMQ: error sid detected	The "error sid .* detected" message is reporting that the Packet Forwarding Engine (PFE) is receiving instructions from the IMQ (Inbound Message Queuing) to forward data to a SID (system ID) that is either a duplicate or that does not exist. The ICHIP is only reporting the condition. It is not the cause of the issue.
PFE:ICHIP(.*)_REG_ERR:.*	An ICHIP(.*)_REG_ERR message occurs when an ICHIP reports an issue detected on an incoming fabric stream. The ICHIP is only reporting the event, and is not the source of the fabric issue.
PFE:LUCHIP Wedge Detected, Active Zones	The "Wedge Detected, Active Zones" message reports transit traffic congestion on the associated LU chip on the FPC listed in the syslog message.
PFE:MQCHIP timed out waiting for phy_stream	The "timed out waiting for phy_stream" syslog message reports an error found by the MQ chip in the traffic stream. Most likely the error occurred elsewhere, as the MQ chip is only detecting the issue.
PFE:MQchip.*XE.*Throttle: Last.*seconds have seen interrupt throttling at	The MQ chip has limited the number of interrupts being triggered on the PFE.
PFE:MQCHIP(.) FI Reorder cell timeout	The "FI Reorder cell timeout" message reports there was a packet drop in fabric traffic.
PFE:PIO error indicated	The "PIC <number> PIO error indicated " message may report that the indicated PIC had connectivity issues or has experienced a hardware failure.

Table 3: Events Detected by AI-Scripts (*continued*)

Event ID	Description
PFE:phy_BCM8726_read_i2c: pumaj phy eeprom read failed	When the "phy_BCM8747_read_i2c: phy eeprom read failed" log message is seen on EX 8200 switches, the system missed a read from the EEPROM.
PFE:port command handler failed processing cmd	This message is seen when there is an error with incorrect polling status for SFP on copper interfaces.
PFE:PPE PPE HW Fault Trap	A trap occurred when microcode attempted to interpret data past the end of the packet. This can also be seen in connection with this syslog message: fpc1 LU 1 PPE_12 Errors lmem addr error
PFE:Reflective Relay set Failed	Reflective Relay failed to be enabled on the specified interface.
PFE:Route TCAM rows could not be redirected on device.*	The TCAM error messages listed indicate a permanent non-fixable error with TCAM, if they persist after rebooting the EX Switch or Virtual Chassis (VC). These errors are TCAM hardware issues on this FPC and are not harmless. ACLs will be unreliable on this FPC.
PFE:sntl_f_check_dest_errors: Fabric request time out for plane	The "sntl_f_check_dest_errors: Fabric request time out for plane" message is logged when an issue with a fabric connection is detected. The message reports the hardware that detected the issue, not the hardware that produced it.
PFE:SIB_STATE_ONLINE-> SIB_STATE_OFFLINE_ACK_WAIT	<p>"When a ""state transition SIB_STATE_ONLINE -> SIB_STATE_OFFLINE_ACK_WAIT"" event occurs, a message similar to one of the following is reported:</p> <pre>sfc0-spmbo CMGSIB: SIB #14 state transition SIB_STATE_ONLINE -> SIB_STATE_OFFLINE_ACK_WAIT sfc0-spmbo CMGSIB: %PFE-6: SIB #1 state transition SIB_STATE_ONLINE -> SIB_STATE_OFFLINE_ACK_WAIT</pre> <p>This message may be associated with one or more of the following messages in the syslog output:</p> <pre>CMGSIB: SIB #0 state transition SIB_STATE_OFFLINE_ACK_WAIT -> SIB_STATE_OFFLINE CMGSIB: cmg_sib_button_action(): 0 CMGSIB: Offline button request for SIB 0 CMGSIB: %PFE-3: SIB#1 voltage outside tolerance! spmb0 CMGSIB: SIB#0 voltage outside tolerance for channel: 10! sfc0-spmbo CMGSIB: %PFE-3: Taking SIB#1 offline! chassisd[3247]: CHASSISD_FRU_OFFLINE_NOTICE: Taking SIB 1 offline: Offlined by cli command chassisd[2906]: CHASSISD_SNMP_TRAP10: SNMP trap generated: FRU power off (jnxFruContentsIndex 15, jnxFruL1Index 22, jnxFruL2Index 0, jnxFruL3Index 0, jnxFruName SFC0 SIB F2S 1/2, jnxFruType 9, jnxFruSlot 21, jnxFruOfflineReason 7, jnxFruLastPowerOff 423594357, jnxFruLastPowerOn 159058) When a SIB goes offline, this can trigger an alarm on the system."</pre>

Table 3: Events Detected by AI-Scripts (*continued*)

Event ID	Description
PFE:SONN errors	The "SONN errors" message is logged periodically when the FPC loses track of notification cell traffic, and reports the number of frames dropped.
PFE:SRCHIP(.): RKME int_status 10x100	RKME is a key match engine located in the FPC SRCHIP/RCHIP hardware. The RKME engine received the error interrupt shown.
PFE_NH_RESOLVE_THROTTLED	The Packet Forwarding Engine throttled next-hop resolution requests from the indicated interface, because the high number of requests might constitute an attempted denial-of-service (DoS) attack. Examples of events that generate next-hop resolution requests include an attempt to forward a packet without an Address Resolution Protocol (ARP) entry and receiving a multicast data packet with no matching route. Normally, the Packet Forwarding Engine forwards the requests to the Routing Engine.
PFE_PACKET_DISCARD_ERROR	The counter for tag /pfe-hardware-statistics/fabric-discard from the junoscript call get-pfe-statistics (show pfe statistics) incremented.
PIC Crash	Any PIC crash that occurs in conjunction with a system exception message.
PPMD_ASSERT_SOFT	The source code for the periodic package management process (ppmd) includes internal self-consistency checks. As ppmd with the indicated process ID (PID) executed the binary compiled from the indicated source file, a check failed at the indicated line number in the file. ppmd created a diagnostic core file for analysis by technical support personnel and continued to run.
PPMD_READ_ERROR	The source code for the periodic package management process (ppmd) includes internal self-consistency checks. As ppmd with the indicated process ID (PID) executed the binary compiled from the indicated source file, a check failed at the indicated line number in the file. ppmd created a diagnostic core file for analysis by technical support personnel and continued to run.
problem-event-ichipfcheck	The FPC is reporting a bad fabric connection to one or more destinations. Another FPC is likely to be causing the packet corruption.
problem-event-jbuserror	An error occurred on the FPC control bus used for packet memory allocation.
problem-event-l2cacheerror	The Packet Forwarding Engine component is reporting that Layer 2 Cache Single-bit ECC errors were detected in the last 30 seconds. If the problem persists, this situation is likely to result in a component crash or failure.

Table 3: Events Detected by AI-Scripts (*continued*)

Event ID	Description
problem-event-lchipcrc	The outbound FPC is reporting a corrupt packet received on the Nchip-to-Lchip interface. Another FPC is likely to be causing the packet corruption.
problem-event-nfabrcrcerror	The fabric connection to the ingress FPC is reporting a bad connection.
RDD_EVLIB_CREATE_FAILURE	The redundant interfaces process (rdd) could not create a context used for handling all asynchronous events (such as timers and message availability).
Reboot reason(s): 0x2: watchdog	RE watchdog timeout event. Related to PSN-2008-07-017 and PR/297313. Event will be triggered by string: Reboot reason(s): 0x2: watchdog.
RMON_EVENT_fpc_high_buffer_utilization	Remote monitoring event reporting high buffer utilization on FPC.
RMON_EVENT_fpc_high_cpu_utilization	High CPU utilization on FPC.
RMON_EVENT_fpc_high_heap_utilization	Remote monitoring event reporting high heap utilization on FPC.
RPD_ABORT	The routing protocol process (rpd) terminated because of an internal error.
RPD_ACTIVE_TERMINATE	After receiving multiple termination requests, the routing protocol process (rpd) exited without performing the indicated cleanup tasks.
RPD_ASSERT	The source code for the routing protocol process (rpd) includes internal self-consistency checks. A check failed at the indicated line number in the indicated source file, causing the instance of rpd that was using the indicated binary and had the indicated process ID (PID) to terminate. The process created a diagnostic core dump for analysis by technical support personnel.
RPD_ASSERT_SOFT	The source code for the routing protocol process (rpd) includes internal self-consistency checks. A check failed at the indicated line number in the indicated source file, but the instance of rpd that was using the indicated binary and had the indicated process ID (PID) continued running. The process created a diagnostic core dump for analysis by technical support personnel.
RPD_BGP_NEIGHBOR_STATE_CHANGED	During the BGP negotiation with the local router, the state of the indicated BGP neighbor (peer) changed as indicated. The ESTABLISHED state is the final state in the neighbor negotiation.
RPD_DYN_CFG_BAD_REQ_OPCODE	The routing protocol process (rpd) received a dynamic configuration request with an unexpected operation code.

Table 3: Events Detected by AI-Scripts (*continued*)

Event ID	Description
RPD_DYN_CFG_BUSY_SIGNAL_FAILED	The routing protocol process (rpd) failed to notify dynamic configuration clients about its availability to process dynamic configuration requests.
RPD_DYN_CFG_GET_PROF_NAME_FAILED	The routing protocol process (rpd) tried to get the profile name from the session snapshot and failed.
RPD_DYN_CFG_GET_PROFILE_FAILED	The routing protocol process (rpd) tried to load a profile from the database and failed.
RPD_DYN_CFG_GET_SES_STATE_FAILED	The routing protocol process (rpd) failed to get the session state from the session snapshot.
RPD_DYN_CFG_GET_SNAPSHOT_FAILED	The routing protocol process (rpd) tried to load client session data from the database and failed.
RPD_DYN_CFG_PDB_CLOSE_FAILED	The routing protocol process (rpd) tried to close the profile database and failed.
RPD_DYN_CFG_PDB_OPEN_FAILED	The routing protocol process (rpd) tried to open the profile database and failed.
RPD_DYN_CFG_PROCESSING_FAILED	The routing protocol process (rpd) tried to process dynamic configuration and failed.
RPD_DYN_CFG_REGISTER_FAILED	The routing protocol process (rpd) tried to register with the dynamic configuration subsystem and failed.
RPD_DYN_CFG_REQUEST_ACK_FAILED	The routing protocol process (rpd) tried to ACK a dynamic configuration request and failed.
RPD_DYN_CFG_SCHEMA_OPEN_FAILED	The routing protocol process (rpd) tried to open the configuration schema and failed.
RPD_DYN_CFG_SDB_CLOSE_FAILED	The routing protocol process (rpd) tried to close the session database and failed.
RPD_DYN_CFG_SDB_OPEN_FAILED	The routing protocol process (rpd) tried to open the session database and failed.
RPD_DYN_CFG_SES_RECOVERY_FAILED	The routing protocol process (rpd) tried to recover a session and failed.
RPD_ISIS_ADJDOWN	An IS-IS adjacency with the indicated neighboring router was terminated. The local router will no longer exchange routing information with, or direct traffic to, the neighboring router.
RPD_ISIS_LSPCKSUM	The indicated IS-IS informational link-state PDU (LSP) failed an internal checksum validity test, indicating that it was corrupted.

Table 3: Events Detected by AI-Scripts (*continued*)

Event ID	Description
RPD_ISIS_OVERLOAD	The IS-IS link-state database is full and no additional memory can be allocated for it.
RPD_KRT_KERNEL_BAD_ROUTE	As it restarted, the routing protocol process (rpd) could not process a route obtained from the kernel because the route contained references to objects that are no longer valid.
RPD_KRT_Q_RETRIES	The routing protocol process (rpd) attempted to update the kernel for the indicated times and failed. It will continue retrying.
RPD_LMP_UNEXPECTED_OPCODE	The routing protocol process (rpd) received the indicated type of message, which had the indicated invalid operation code.
RPD_OS_MEMHIGH	The routing protocol process (rpd) is using the indicated amount and percentage of Routing Engine memory, which is considered excessive.
RPD_OSPF_NBRDOWN	An OSPF adjacency with the indicated neighboring router was terminated. The local router will no longer exchange routing information with, or direct traffic to, the neighboring router.
RPD_RSVP_NBRDOWN	The RSVP neighbor to the indicated address was terminated.
RPD_RT_ERROR	A route in the routing table was found to be in an unrecoverable error state.
RPD_TASK_FORK	The routing protocol process failed to create the indicated child process.
RT_SCREEN_TCP	A TCP attack category.
RT_SCREEN_UDP	A UDP attack category.
RTLOGD_DAEMONIZE_FAILED	The JSR log daemon could not create a version of itself to run in the background as a daemon.
RTLOGD_EVLIB_FAILURE	The JSR log daemon called the indicated event library function. The function failed with the indicated error.
RTLOGD_GET_TNP_ADDRESS_FAILED	JSR log daemon failed to determine local TNP address used to receive JSR log.
RTLOGD_LOG_BIND_ERROR	The JSR log daemon received the JSR log from a JSR log forwarder. The JSR log daemon failed to connect to the forwarder.
RTLOGD_LOG_READ_ENABLE_ERROR	The JSR log daemon received the JSR log from a JSR log forwarder. The JSR log daemon failed to enable the reading of the JSR log from the forwarder.

Table 3: Events Detected by AI-Scripts (*continued*)

Event ID	Description
RTLOGD_LOG_READ_ERROR	The JSR log daemon relayed the JSR logs from the dataplane to the system event daemon for logging. The JSR log daemon failed to read JSR logs for the indicated reason.
RTPERF_CPU_THRESHOLD_EXCEEDED	The Packet Forwarding Engine CPU threshold has been exceeded.
SAVAL_RTsock_FAILURE	The MAC SA Validate system process (jsavald) experienced the indicated error with a routing socket.
SDXD_DAEMONIZE_FAIL	The Service Deployment System process (sxdx) could not create a version of itself to run in the background as a daemon.
SERVICED_CLIENT_DISCONNECTED	The remote client closed the connection or stopped responding.
SERVICED_CLIENT_ERROR	An I/O error caused the termination of a connection with an interface client.
SERVICED_COMMAND_FAILED	An error caused a command being executed on an interface client to be cancelled.
SERVICED_CONNECTION_ERROR	The remote client closed the connection when data was expected.
SERVICED_EVENT_FAILED	The services PICs process (serviced) could not continue processing a task because a call to a function in the event library failed.
SERVICED_INIT_FAILED	One of the steps in the initialization sequence for the services PICs process (serviced) failed.
SERVICED_INTERNAL_INCONSISTENCY	An internal consistency check failed due to a mismatch between expected and received values for the specified object.
SERVICED_MALLOC_FAILURE	The services PICs process (serviced) could not allocate the number of bytes needed to hold the indicated object.
SERVICED_NETWORK_FAILURE	An attempt to use the indicated network library call failed with an error.
SERVICED_PID_FILE_LOCK	As a part of normal startup, the services PICs process (serviced) locks a file and writes its process ID (PID) into it. It could not lock the file.
SERVICED_PID_FILE_UPDATE	As a part of normal startup, the services PICs process (serviced) locks a file and writes its process ID (PID) into it. It could not write to the file.
SERVICED_RTsock_SEQUENCE	The services PICs process (serviced) encountered a sequence error while receiving messages from the routing socket library.

Table 3: Events Detected by AI-Scripts (*continued*)

Event ID	Description
SERVICED_SIGNAL_HANDLER	As a part of normal functioning, the services PICs process (serviced) attempted to initialize a signal-handling function. Part of the initialization failed with an error.
SERVICED_SOCKET_CREATE	An attempt by the services PICs process (serviced) to create a new socket for communication with an interface client failed with an error.
SERVICED_SOCKET_IO	A call to a socket library function indicated that an error occurred while attempting to perform I/O.
SERVICED_SOCKET_OPTION	An attempt to set an option on a socket failed
SERVICED_STDLIB_FAILURE	The value returned by a call to a library function indicated that an error occurred.
SNMP_PATRICIA_ERROR	A call to a Patricia tree library function returns an error.
SNMP_RTSLIB_FAILURE	A call to the indicated function in the routing socket library failed with the indicated error
SNMPD_FILE_FAILURE	The Simple Network Management Protocol (SNMP) agent process (snmpd) could not access the indicated file.
SNMPD_RMONFILE_FAILURE	The indicated operation failed on the indicated remote monitoring (RMON) data file.
SNMPD_SEND_FAILURE	The Simple Network Management Protocol (SNMP) agent process (snmpd) could not send either a protocol data unit (PDU) to the User Datagram Protocol (UDP) or a message to a subagent.
SNMPD_SOCKET_FATAL_FAILURE	The Simple Network Management Protocol (SNMP) agent process (snmpd) uses sockets for communication with subagents. The process exited after a socket operation, such as creation or removal, failed.
SNMPD_SUBAGENT_NO_RESOURCES	The Simple Network Management Protocol (SNMP) agent process (snmpd) uses certain resources for communication with subagents. However, the resources were not available for communication with the indicated subagent.
SPD_DAEMONIZE_FAILED	The adaptive services process (spd) could not create a version of itself to run in the background as a daemon.
SPD_EVLIB_CREATE_FAILURE	The adaptive services process (spd) could not create a context used for handling all asynchronous events (such as timers and message availability).

Table 3: Events Detected by AI-Scripts (*continued*)

Event ID	Description
SPD_GEN_NUM_FAIL	The adaptive services process (spd) attempted to initialize the generation-number for the service sets. However, the memory allocation failed.
SYSTEM:*SFP receive power low warning.*	SFP receive power low warning.
SYSTEM: Alarm set: Temp Too Warm	The system is indicating that the sensor on an EX FPC is exceeding the temperature threshold.
SYSTEM: Keepalive timeout of *. Assuming RE mastership.	The backup Routing Engine assumed mastership due to an Routing Engine keepalive timeout.
SYSTEM: SCHED: Thread.*ran for.*without yielding	"Scheduler Oinker" messages seen on console at various instances with various mPIM combinations.
SYSTEM: writing kernel	A kernel crash event. A writing kernel message is captured after the router reboots.
SYSTEM:.*cm_read_i2c errno is 5.*	The chassis manager event message results from an error in calculating the DC power budget for POE interfaces.
SYSTEM:.*dcd.* unknown encaps_ohhead; dev vlan, encaps.* flags.*	Informational message generated by dcd daemon in syslog when certain protocols and vlans are configured (e.g., MSTI, VRRP).
SYSTEM:.*snp_igmp_io_flood: relay failed.*	This message indicates that the device is flooding IGMP unknown packet back on the same port that it was received on.
SYSTEM:Adjacency Lost	The message "Action Syslog on.* [adjacency-loss]::Adjacency Lost" is reported into the system message to indicate the occurrence of a link-fault event i.e. Link Adjacency Lost.
SYSTEM:Alarm set Host ECC single bit parity error	The "ECC single bit parity error" message reports that a correctable single bit error was detected once on the designated platform.
SYSTEM:cannot perform nh operation ADDANDGET	When exporting local OSPF P2P LAN prefixes using rib groups, an error message can be logged containing the ADDANDGET keyword.
SYSTEM:cm_ff_ifd_disable: fast failover disabled	The chassism process could not forward traffic as expected.
SYSTEM:Frame Error crossed threshold	The message "Action Syslog on.* [frame-error-event]::Frame Error crossed threshold.*" is reported into the system message to indicate the occurrence of a link-fault event i.e. Errored Frame Event.
SYSTEM:Loss of communication with Backup RE	The Loss of communication with Backup RE message is logged each time the Master Routing Engine detects loss of keepalives being sent from the Backup Routing Engine.

Table 3: Events Detected by AI-Scripts (*continued*)

Event ID	Description
TASK_OS_MEMHIGH	The process is using the indicated amount and percentage of Routing Engine memory, which is considered excessive.
TASK_SYSTEM	A system call made by this process failed.
TFTPD_RECVCOMPLETE_INFO	The TFTP process (tnp.tftpd) received the last portion of a transmitted file. This message records the number of blocks received, the block size used, and the name of the file to which the data was written.
UI_DBASE_REBUILD_FAILED	The management process (mgd) could not rebuild the configuration database file.
UI_DBASE_REBUILD_SCHEMA_FAILED	The management process (mgd) could not rebuild the schema for the configuration database.
UI_DBASE_REOPEN_FAILED	After rebuilding the schema file for the configuration database, the management process (mgd) closes the file and reopens it in read-only mode to prevent corruption. It could not reopen the file.
UI_SCHEMA_SEQUENCE_ERROR	The Junos OS user interface schema file records all CLI commands and configuration statements available in the Junos operating system. The management process (mgd) rebuilds the schema as necessary to be compatible with the Junos OS software installed on the device. A sequence number in the schema acts as a checksum that represents its content and format. A Junos OS process attempted to access the schema but determined that the schema's sequence number means that it is incompatible with the process.
UTMD_MALLOC_FAILURE	The example process (utmd) could not allocate memory for a resource, possibly due to a lack of memory.
UTMD_SSAMLIB_FAILURE	The example process (utmd) encountered an error while calling a function or from a callback of the ssamlib library.
VCCPD_PROTOCOL_LSPCKSUM	The indicated vccpd link-state PDU (LSP) failed an internal checksum validity test, implying that it was corrupted.
VCCPD_PROTOCOL_OVERLOAD	The vccpd link-state database is full and no additional memory can be allocated for it.
VRRPD_MISSING_VIP	The indicated interface received a Virtual Routing Redundancy protocol (VRRP) packet for the indicated VRRP group in which the indicated Virtual IP address was missing.
WEB_ALLOCATE	The Web management process (httpd) could not allocate the indicated amount of memory, for the indicated reason.

Table 3: Events Detected by AI-Scripts (*continued*)

Event ID	Description
WEB_MEMORY_ALLOC	The Web management process (httpd) could not allocate the indicated number of bytes of memory, for the indicated reason.
WEB_MGD_LISTEN_ERROR	The Web management process (httpd) could not open the mgd listening socket.
WEB_SOCKET	The Web management process (httpd) could not create a socket, for the indicated reason.
WEBFILTER_CACHE_NOT_ENABLED	The category cache Web filter failed to enable.
WEBFILTER_REQUEST_NOT_CHECKED	The Web filtering failed to check a Web request.

Issues in Advanced Insight Scripts (AI-Scripts)

- [Current Software Release on page 43](#)
- [Outstanding Issues on page 43](#)
- [Issues Fixed Since Last Release on page 43](#)
- [Junos OS PRs That Affect AI-Scripts on page 43](#)
- [Junos Space Service Now and AI-Scripts Compatibility Matrix on page 44](#)

Current Software Release

The current AI-Scripts release is Release 3.7R2.0.

Outstanding Issues

The following issues exist in the current AI-Scripts release:

- Not applicable

Issues Fixed Since Last Release

The following issues have been fixed in this AI-Scripts release:

- Not applicable

Junos OS PRs That Affect AI-Scripts

The complete list of Junos OS PRs that affect AI-Scripts can be found at <http://kb.juniper.net/KB19155>.

Service Now also provides a proactive warning when an event profile is installed on a device, to notify any known issues.

Junos Space Service Now and AI-Scripts Compatibility Matrix

The 3.7R2.0 release of AI-Scripts Install-Package is compatible with the software release 13.1R1 of Junos Space Service Now; and 10.0R1 and later releases of Junos Software.

Refer to the full compatibility matrix at <https://www.juniper.net/support/products/serviceautomation/>.

Installing AI-Scripts



WARNING: We recommend that you install AI-Scripts during planned or scheduled maintenance time frames. Some devices may experience high CPU utilization during the installation process that can take several minutes.

- [AI-Scripts Install Package Versioning on page 44](#)
- [AI-Scripts Installation Methods on page 45](#)
- [Downloading AI-Scripts Install Packages on page 45](#)
- [AI-Scripts Install Locations on Devices on page 45](#)
- [Automatically Installing AI-Scripts on page 45](#)
- [Manually Configuring and Installing AI-Scripts on Devices on page 46](#)

AI-Scripts Install Package Versioning

The format of AI-Scripts install packages version is:

jais-m.nZx.x--signed.tgz where

- **m** and **n** are two integers that represent the software release number; m denotes the major release number; n denotes the minor release number.
- **Z** in upper case indicates the type of software release. In most of the cases, it is specified as **R** to indicate that it is a released software. If you are involved in testing a pre-released software, this letter will be specified as **B** (for beta-level software).
- **x.x** is the software build number and spin number.

An example of AI-Scripts install packages version: **jais-2.4R1.5-signed.tgz**.

The AI-Scripts files in the install package are compressed into a **tgz** tarball file. Each AI-Scripts install package supports the Junos OS releases of the previous three years.

The **show version** CLI operational command displays the version of the AI-Scripts install package that is installed on a device.

The JMB contains the output of the **show version** CLI command to indicate the version of the AI-Scripts install package installed on a device.

AI-Scripts Installation Methods

There are two ways to install AI-Scripts:

- Automatic installation- The Junos Space Service Now allows to automatically install AI-Scripts in multiple devices simultaneously. For more information about automatically installing AI-Scripts, see section “[Automatically Installing AI-Scripts](#)” on page 45.
- Manual installation- Manually install AI-Scripts on one device at a time. For more information about manually installing AI-Scripts on devices, see section “[Manually Configuring and Installing AI-Scripts on Devices](#)” on page 46.

Downloading AI-Scripts Install Packages

AI-Scripts are released in AI-Scripts install packages. AI-Scripts install packages are available for download in the AIS download site. Also, download the AI-Scripts Release Notes.

The procedure for downloading the AI-Scripts install package is as follows:

1. Using a Web browser, go to <http://www.juniper.net/support/products/serviceautomation/>.
2. Log in to the Juniper Networks authentication system with the username and password provided by Juniper Networks.

To download the software, you need a service contract and an access account. If you do not have an access account, fill up the registration form at <https://www.juniper.net/registration/Register.jsp>.

3. Download the AI-Scripts install package.

AI-Scripts Install Locations on Devices

AI-Scripts are installed in the following locations of a device:

- Hard disk location - `/var/db/scripts/`
- Flash drive location - `/config/scripts`



NOTE: If you configure the `load-scripts-from-flash` option, the system reads AI-Scripts from the `/config/scripts/` directory; otherwise, the system reads AI-Scripts from the `/var/db/scripts/` directory. The `/var/run/scripts` directory always points to the correct scripts directory.

Automatically Installing AI-Scripts

Automatically installing AI-Scripts bundles in one or more devices involve Junos Space Service Now. For information on using Junos Space Service Now to automatically install AI-Scripts on a Junos device, refer to the corresponding release document of Junos Space Service Now at [Service Automation Index Page](#).

Manually Configuring and Installing AI-Scripts on Devices

To manually configure and install AI-Scripts on devices, follow these steps:

1. Download AI-Scripts install packages. See “Downloading AI-Scripts Install Packages” on page 33

2. To configure the device and activate AI-Scripts, do the following:

- Enter the device CLI configuration mode. Type the configure command or the edit command in the CLI operation mode. The CLI prompt changes from user@host> to user@host# and a banner appears to indicate the hierarchy level.

- For non-Junos Space devices only: Configure an AIS destination under group juniper-ais:

```
user@host# set groups juniper-ais event-options destination juniper-aim {...}
```

This sets the AIS archive location where JMBs are deposited for a device. The group name juniper-ais and the group destination name juniper-aim are mandatory.

- For Junos Space devices only: Set the local host address and configure an AIS destination under group juniper-ais:

```
user@host# set groups juniper-ais interfaces lo0 unit 0 family inet address 127.0.0.1/32
```

This sets the local host address 127.0.0.1 to the device loopback address. It is used with the next command to ensure that JMBs can be sent to and retrieved from the local device.

```
user@host# set groups juniper-ais event-options destination juniper-aim archive-sites "scp://<user>@127.0.0.1:/var/tmp" password<password for user>
```

Configure this line exactly as shown, substituting <user> and <password for user> with the Service Now user name and password required for accessing the device. This configuration ensures the JMBs generated by AI-Scripts are sent to and from the /var/tmp directory of the device, using the correct permissions for the device. The group name juniper-ais and the group destination name juniper-aim are mandatory.

- Configure the commit script:

```
user@host# set groups juniper-ais system scripts commit file jais-activate-scripts.slax optional
```

The AI-Scripts installer creates this script to activate AI-Scripts on the device. The optional setting is required to prevent the configuration from committing if the jais-activate-scripts.slax file is not present. That file is not present until the scripts bundle is installed.

- Configure the allow-transients option to allow transient changes:

```
user@host# set groups juniper-ais system scripts commit allow-transients
```

Transient changes are configuration changes made by commit scripts that do not appear in the configuration (except with a special command).

- Apply the juniper-ais group:

```
user@host#set apply-groups juniper-ais
```

- (Optional) Configure the load-scripts-from-flash option:

```
user@host#set groups juniper-ais system scripts load-scripts-from-flash
```



NOTE: If you configure the load-scripts-from-flash option, the system reads AI-Scripts from the /config/scripts/ directory; otherwise, the system reads AI-Scripts from the /var/db/scripts/ directory. The /var/run/scripts directory always points to the right scripts directory.

3. Verify that the syntax of a configuration is correct by using the configuration mode commit check command:

```
[edit]
user@host# commit check
configuration check succeeds
```

4. Commit the configuration. To save software configuration changes to the configuration database and activate the configuration on the router, use the commit configuration mode command. You can issue the commit command from any hierarchy level.

```
[edit]
user@host# commit commit
commit complete
```

5. View the configuration:

Example Configuration for Junos Space/Service Now 2.0 and later:

```
groups {
  juniper-ais {
    system {
      scripts {
        commit {
          allow-transients;
          file jais-activate-scripts.slax {
            optional;
          }
        }
      }
    }
  }
}
event-options {
  destinations {
    juniper-aim {
      archive-sites {
        /var/tmp;
      }
    }
  }
}
}
```

6. If you have not moved AI-Scripts to the device, do so now. See “Downloading AI-Scripts Install Packages” on page 33.
7. Install the AI-Scripts package using the following command (see “AI-Scripts Commands” on page 39):

```
user@host# request system scripts add <package name>
```

8. Verify that AI-Scripts are activated:

```
user@host# show groups juniper-ais | display commit-scripts
```

```
system {
  scripts {
    commit {
      allow-transients;
      file jais-activate-scripts.slax {
        optional;
      }
    }
  }
}
event-options {
  event script {
    file problem-event-pfecrash.slax;
    file problem-event-dcrash.slax;
    file intelligence-event-main.slax;
    file SPD_EVLIB_CREATE_FAILURE.slax;
    file SPD_DAEMONIZE_FAILED.slax;
    file RPD_TASK_FORK.slax;
    ...}
  destinations {
    juniper-aim {
      archive-sites {
        "ftp://anonymous@10.7.0.124/aidemo";
      }
    }
  }
}
```



NOTE: If you are manually installing to a device that communicates with Junos Space or Service Now, your login credentials must allow discovery of devices in Junos Space. This procedure includes the configuration differences required for configuring the location for JMBs on a Junos Space device.

Related Documentation

- [Advanced Insight Solutions \(AIS\)](#)

AI-Scripts Command Operations

- [Deleting an AI-Scripts Package on page 49](#)
- [Rolling Back an AI-Scripts Package on page 49](#)

- [Not Saving Copies of AI-Scripts Package Files During Installation on page 49](#)
- [Removing AI-Scripts Packages After Installation on page 49](#)

Deleting an AI-Scripts Package

To delete AI-Scripts from a router, use the `user@host> request system scripts delete` command.

Rolling Back an AI-Scripts Package

After deleting the AI-Scripts install package, roll back to the last installed package by using the `user@host> request system scripts rollback` command.

Not Saving Copies of AI-Scripts Package Files During Installation

To prevent the installer from saving copies of AI-Scripts package files in the `/var/sw/pkg` directory, use the `user@host> request system scripts add no-copy package-name` command.

Removing AI-Scripts Packages After Installation

To remove the AI-Scripts bundle after successful installation, use the `user@host# request system scripts add unlink package-name` command.

You can specify the unlink option in AIM Device Group settings by selecting the unlink check box.

Junos OS Documentation and Release Notes

For a list of related Junos OS documentation, see <http://www.juniper.net/techpubs/>.

If the information in the latest release notes differs from the information in the documentation, follow the *Junos OS Release Notes*.

To obtain the most current version of all Juniper Networks[®] technical documentation, see the product documentation page on the Juniper Networks website at <http://www.juniper.net/techpubs/>.

Juniper Networks supports a technical book program to publish books by Juniper Networks engineers and subject matter experts with book publishers around the world. These books go beyond the technical documentation to explore the nuances of network architecture, deployment, and administration using the Junos operating system (Junos OS) and Juniper Networks devices. In addition, the Juniper Networks Technical Library, published in conjunction with O'Reilly Media, explores improving network security, reliability, and availability using Junos OS configuration techniques. All the books are for sale at technical bookstores and book outlets around the world. The current list can be viewed at <http://www.juniper.net/books>.

Requesting Technical Support

Technical product support is available through the Juniper Networks Technical Assistance Center (JTAC). If you are a customer with an active J-Care or JNASC support contract,

or are covered under warranty, and need postsales technical support, you can access our tools and resources online or open a case with JTAC.

- JTAC policies—For a complete understanding of our JTAC procedures and policies, review the JTAC User Guide located at <http://www.juniper.net/customers/support/downloads/710059.pdf>
- Product warranties—For product warranty information, visit <http://www.juniper.net/support/warranty/>.
- JTAC Hours of Operation —The JTAC centers have resources available 24 hours a day, 7 days a week, 365 days a year.

Self-Help Online Tools and Resources

For quick and easy problem resolution, Juniper Networks has designed an online self-service portal called the Customer Support Center (CSC) that provides you with the following features:

- Find CSC offerings: <http://www.juniper.net/customers/support/>
- Search for known bugs: <http://www2.juniper.net/kb/>
- Find product documentation: <http://www.juniper.net/techpubs/>
- Find solutions and answer questions using our Knowledge Base: <http://kb.juniper.net/>
- Download the latest versions of software and review release notes: <http://www.juniper.net/customers/csc/software/>
- Search technical bulletins for relevant hardware and software notifications: <https://www.juniper.net/alerts/>
- Join and participate in the Juniper Networks Community Forum: <http://www.juniper.net/company/communities/>
- Open a case online in the CSC Case Management tool: <http://www.juniper.net/cm/>

To verify service entitlement by product serial number, use our Serial Number Entitlement (SNE) Tool located at <https://tools.juniper.net/SerialNumberEntitlementSearch/>.

Opening a Case with JTAC

You can open a case with JTAC on the Web or by telephone.

- Use the Case Management tool in the CSC at <http://www.juniper.net/cm/> .
- Call 1-888-314-JTAC (1-888-314-5822 toll-free in the USA, Canada, and Mexico).

For international or direct-dial options in countries without toll-free numbers, visit us at <http://www.juniper.net/support/requesting-support.html> .

If you are reporting a hardware or software problem, issue the following command from the CLI before contacting support:

```
user@host> request support information | save filename
```

To provide a core file to Juniper Networks for analysis, compress the file with the **gzip** utility, rename the file to include your company name, and copy it to **ftp.juniper.net:pub/incoming**. Then send the filename, along with software version information (the output of the **show version** command) and the configuration, to **support@juniper.net**. For documentation issues, fill out the bug report form located at <https://www.juniper.net/cgi-bin/docbugreport/>.

Revision History

30 August 2013—Advanced Insight Scripts (AI-Scripts) 3.7R2.0

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