# RSA® NETWITNESS® Logs Implementation Guide

Raz-Lee iSecurity for IBM-i 11.4

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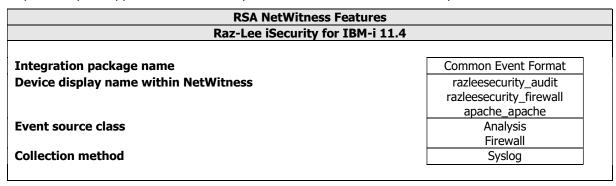
# **Solution Summary**

iSecurity for IBM I, by Raz-Lee, triggers in real-time information. It sends in CEF format:

- Security alerts when a potential security breach has been detected.
- Event messages when a site-defined event has occurred; messages can be of varying severity levels, from Informational through Emergency.
- User created messages
- QAUDJRN, QHST, Message Queues, Apache and other IFS logs, and more

It is all pre-defined but modify-able. All special needs can be easily be added.

Providing real-time alerts and event messages and integrating this information within the larger context of RSA Security Analytics monitoring and reporting, will provide multi-platform customers the ability to add previously unsupported IBM I Security-related events into their overall system.





- for IBM i
- > Network Access
- > QAUDJRN
- > Anti-Virus
- > Special Authority Requests
- > QHST
- > Message Queues
- > Appl. Data Accessess & Changes, including editing





# **RSA NetWitness Community**

The RSA NetWitness Community is an online forum for customers and partners to exchange technical information and best practices with each other. All NetWitness customers and partners are invited to register and participate in the **RSA NetWitness Community**.

### **Release Notes**

Release Date	What's New In This Release
March 1, 2016	Initial support for Raz-Lee custom parser.
January 3, 2019	Initial support for custom Raz-Lee syslog cef parser.

! Important: The RSA NetWitness CEF parser is dependent on the partner adhering to the CEF Rules outlined in the *ArcSight Common Event Format (CEF) Guide*. A copy of the Common Event Format guide can be found on <a href="https://protect724.hp.com/">http://protect724.hp.com/</a>.

Eg. Jan 18 11:07:53 host CEF:Version | Device Vendor | Device Product | Device Version | Signature ID | Name | Severity | [Extension]

Important: The time displayed in the CEF log header is parsed into evt.time.str. No other time formats are parsed by default.





# **Partner Product Configuration**

## Before You Begin

This section provides instructions for configuring the Raz-Lee iSecurity with RSA NetWitness. This document is not intended to suggest optimum installations or configurations.

It is assumed that the reader has both working knowledge of all products involved, and the ability to perform the tasks outlined in this section. Administrators should have access to the product documentation for all products and install the required components.

All Raz-Lee components must be installed and working prior to the integration. Perform the necessary tests to confirm that this is true before proceeding.

Important: The configuration shown in this Implementation Guide is for example and testing purposes only. It is not intended to be the optimal setup for the device. It is recommended that customers make sure Raz-Lee iSecurity is properly configured and secured before deploying to a production environment. For more information, please refer to the Raz-Lee iSecurity documentation or website (www.razlee.com).

## Raz-Lee iSecurity Configuration

## SIEM Syslog Configuration

Numerous iSecurity products integrate with SEM/SIEM systems by sending security alerts instantaneously to these systems. Message alerts contain detailed event information about application data changes, deletes or reads of objects and files, emergency changes in user authorities, IFS viruses detected, Ransomware, Malware and other malicious attacks on the IBM i and more.

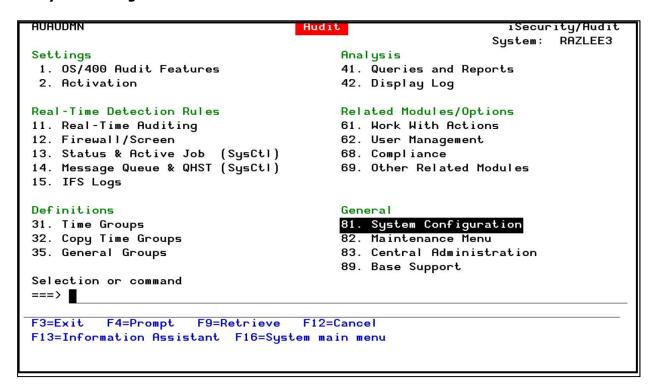
Use iSecurity Audit to set SIEM general alert definitions and use iSecurity Action to determine if SIEM alerts will be generated in individual cases.

The iSecurity SIEM Syslog feature sends event alerts from various IBM i facilities (such as logs and message systems) to a remote RSA Security Analytics server within a range of severities such as Emergency, Alert, Critical, Error, Warning and more.





1. Type **STRAUD** on the IBM i command line; the iSecurity Audit main menu appears. Select option **81**. **System Configuration**.



2. From the iSecurity/Base System Configuration menu, select **One SIEM option, options 31-33**.

iSecurity/Base Sys	tem Configuration 25/12/18 10:57:56
Audit 1. General Definitions 3. Log QSH, PASE activity 5. Auto start activities in ZAUDIT 9. Log & Journal Retention Action 11. General Definitions 12. SMS/Special Definitions	SIEM Support  30. Main Control> Active  31. SIEM 1: S1 Y  32. SIEM 2: N  33. SIEM 3: N  34. JSON Definitions (for DAM)  35. SNMP Definitions  36. Twitter Definitions
13. E-Mail Definitions	39. Syslog test
SIEM Event Clasification 21. QSYSOPR, QHST, MsgQ & User msgs 22. QAUDJRN Type/Sub Severity Setting	General 91. Language Support 99. Copyright Notice
Selection ===>	
Release ID	13.46 18-11-07 657CD9D E4A 5634 8 8 RAZLEE3





 In the SIEM Definitions screen define the syslog transmission type to use, to which IP address, from which facility (list of optional facilities below), in what range of severity (list below) and the format of the message. Preferably use \*CEF.

```
SIEM 1 Definitions
                                                                25/12/18 11:04:42
                                   S1
                                                                     Port:
                                                                              514
                                               1=UDP, 2=TCP, 3=TLS
SYSLOG type . . . . . . . . .
                                   1
Destination address . . . . .
                                  \overline{10.200.1.103}
"Severity" range to auto send .
                                  0 - 7
                                               Emergency - Debug
                                               Local use 6 (Local6)
"Facility" to use . . . . . .
                                  22
Msg structure or *LEEF, *CEF .
                                  *CEF
*LEEF, *CEF, *CEF-SPLUNK, or mix variables and constants (ex & %):
&1=First level msg
                     &3=Msg Id.
                                               &4=System
                                                                      &5=Module
&6=IP
                     &7=Audit type &E=SubType &8=Host name
                                                                      &9=User
&H=Hour
                     &M=Minute
                                               &S=Second
                                                                      &X=Time
                                               &y=Year (yy)
&d=Day in month
                     &m=Month (mm)
                                                                      &x=Date
&a/&A=Weekday (abbr/full)
                                               &b/&B=Month name (abbr/full)
Convert data to CCSID . . . . .
                                               0=Default, 65535=No conversion
Maximum length . . . . . . .
                                               128-9800
Note: Re-activate subsystem after changes.
                                F22=Set SYSLOG handling per audit sub-type
F3=Exit F12=Cancel
Modify data, or press Enter.
```

4. From the previous screen select the appropriate option to define the severities for QAUDJRN, select **22. QAUDJRN Type/Sub Severity Setting** and modify it if needed.

```
QAUDJRN Severity Setting
                                             Subset by type. .
                                                    by entry .
                                                    by text. .
Type options, press Enter.
  blank=Do not send
                     0=Emergency
                                    1=Alert
                                              2=Critical
                                                         3=Error
              5=Notice
                         6=Info
  4=Warning
                                  7=Debug
SIEM
       IBM
           Audit
1 2 3
      STD
           Type Type
                  *AUTFAIL
                             operation to which the user was not authorized.
            AF B
                 *PGMFAIL
                             A program ran a restricted machine interface
                             instruction.
           AF B *AUTFAIL
        4
                             Restricted instruction
7 5 5
           AF C
                             A program which failed the restore-time program
        4
                 *PGMFAIL
                             validation checks was restored. Information about
                             the failure is in the Validation Value Violation
                             Type field of the record.
7 5 5
           AF C *AUTFAIL
        4
                             Validation failure
7 4 4
           AF D *PGMFAIL
                             A program accessed an object through an
                             unsupported interface or callable program not
                             listed as a callable API.
                                                                       More...
F3=Exit F21=Set 1 as IBM F22=Set 2 as IBM F23=Set 3 as IBM
```





- 5. From that same screen select **21. QSYSOPR, QHST, MsgQ & User msgs for instructions**.
- 6. To send Message Queues, QHST to SIEM perform the following steps:
  - From iSecurity Audit main menu Select option 14. Message Queue & QHST (SysCtl).
  - Select 1. Control Message Queues/QHST and F6=Add New.

Hdd	Message Queue			
_	3			
Message queue	QHST QSYS Y 5 300 *STD	Name, QHST Name, *LIBL A=Auto start, N=No, Y=Yes, requires manual activation 1=Periodic, 5=QHST, 9=Immediate  Name, *STD SMZ4/AUSOURCE AUMSGBRK		
Library		Name, *LIBL		
Send to SIEM		Y=Yes, N=No Name, *NONE Name, *LIBL		
Check rules & perform Actions.	Y	Y=Yes, N=No		
For Check rules, Group Id .	<u>@</u> 9	@1, @2,, @9=QHST		
Duplicates may appear if Action sends to SIEM/Data Queue, selected above.				
QHST requires Operation mode 5, Group @9.				
F3=Exit F4=Prompt	F12=Cancel			

7. In the same way Administrators can define Controls for any Message Queue. To specify similar rules for number of message queues, give them the same Group ID. Select 11. Message Queue rules and follow the instructions to specify whether to perform an action that will send all or part of the messages.





8. To send IFS logs (e.g. WebSphere, Apache) to SIEM. From iSecurity Audit main menu select **15. IFS** Logs, **1. Work with Definition**, **F6=Add New**, and specify the log details.

```
Add IFS Log Auditing
                            WEBSPHERE
Subject . . . . . . . . . . . .
Description . . . . . . .
                            WebSphere server
Inform SIEM 1 2 3 . . . . .
                                            Y=Yes
Auto-start . . . . . . .
                                            Y=Yes
Dir . . . . . . . . . /www/webshpere/log
File prefix . . . . . . . . . . . Original input format . . .
                            access
                            *CEF
                                            *CEF, *LEEF, *FREE
Severity . . . . . . . .
                                            0-7
                                            Y=Yes
Add date . . . . . . . .
Y=Yes
                                            Y=Yes
Maximum message length is 5000.
F3=Exit F12=Cancel
```

9. To send Firewall messages to Syslog, in command line type **STRFW** to open iSecurity Firewall, select **81. System Configuration menu**.

```
iSecurity (part I) Global Parameters
                                                        25/12/18 12:17:07
Firewall *FYI*
                                       SIEM Support
1. General Definitions
                                       70. Main Control ----> Active
 2. Additional Settings
                                      71. SIEM 1: SIEM
 3. User Exit Programs
                                      72. SIEM 2:
                                                              Ν
4. Transaction Post Processing 73. SIEM 3: 5. Intrusion Detection System 74. JSON
                                                              N
                                                              N
 6. Password Exit Programs
 7. Enable ACTION (CL Script + more) 79. Setting Severity for Servers
 9. Log Retention
Other Products Definitions Active
                                       General
                          N
11. Command
                                       81. iSecurity/Base Configuration
21. Screen
                          N
                                       91. Language Support
31. Password
                           Υ
                                       99. Copyright Notice
41. 2FA
Selection ===>
657CD9D E4A 5634
                                                              8 RAZLEE3
Authorization code . . . . . . . . . .
F3=Exit F22=Enter authority code
```





10. Select option **71-73**. Syslog Definitions.

```
SYSLOG Definitions
                                                              25/12/18 12:23:46
SIEM 1 name . .
                                 SIEM
                                                                   Port:
                                                                            514
SYSLOG type . . . . . . . . .
                                  1
                                         1=UDP, 2=TCP, 3=TLS
Send if in FYI mode . . . . .
                                  V
                                         Y=Yes, N=No
Destination address . .
                                 10.200.100.3
"Severity" range to auto send .
                                        Emergency - DEBUG
                                        Rejects are considered 1=Alert
"Facility" to use . . . . . .
                                 22
                                 *CEF
Msg structure or *LEEF, *CEF .
*LEEF (IBM QRadar), *CEF (HP ArcSight) or mix variables and constants (ex & %):
&1=First level msg
                    &3=Msq Id.
                                           &4=System
                                                                   &5=Module
&6=IP
                    &7=Service
                                           &8=Host name
                                                                   &9=User
&H=Hour
                    &M=Minute
                                           &S=Second
                                                                   &X=Time
&d=Day in month
                    &m=Month (mm)
                                           &y=Year (yy)
                                                                   &x=Date
&a/&A=Weekday (abbr/full)
                                           &b/&B=Month name (abbr/full)
                                  0 0=Default, 65535=No conversion
Convert data to CCSID . . . . .
                                  1024 128-9800
Maximum length . . . . . . .
Note: Re-activate subsystem after changes.
F3=Exit F12=Cancel
```

- 11. From the previous screen, select **79**. Setting Severity for Servers and modify it if needed.
- 12. You may send SIEM alerts based on **selective situations** in the system.

  Messages and events might be filtered by their field values, directed to **Action**,

**Action** can send alerts with text that contains fields from the events by:

- E-mail
- Local workstation message queue
- Local user message queue
- Remote user on another systems over the network
- SMS to a cellular telephone
- SIEM

Among the subjects that can be handled by Action, are:

Audit log – QAUDJRN, QHST, Message Queues, etc.

Firewall events – ODBC, FTP, Telnet, etc.

Changes of values on data files, including comparison to previous values (AP-Journal) And more.





13. In this scenario, after defining the filter, you will be presented with the following screen. Select **8=SIEM** and specify to which SIEM to direct the alert.

!> Important: More than one SIEM can be specified. Use commas or blanks to separate their numbers.

Modify Alert Message				
Type choices, press Enter.				
Action Name VICT150301 Description Created by Action				
Define alert message recipients				
1=E-mail 2=Message Queue 3=User 4=Remote User 5=LAN user 6=SMS 7=Special 8=SIEM 9=SNMP T=Twitter				
Message ID <u>*AUTO</u> *AUTO, Message ID				
Type Recipient address, *USER, *DEV, *JOB, *SYSTEM; SIE 1 VICTOR@RAZLEE.COM	M 1/2/3			
1 VICTOR@RAZLEE.COM 8 1				
_				
	More			
F3=Exit F4=Prompt F12=Cancel				

14. Anti-Virus, Anti-Ransomware, Screen (adjusted screen time out) allow for simple selection of reporting to 1-3 of the predefined SIEMs.





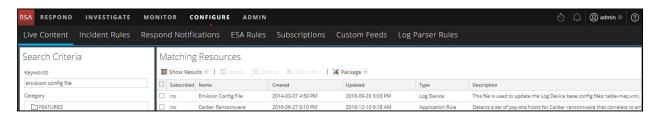
# **RSA NetWitness Configuration**

## Deploy the enVision Config File

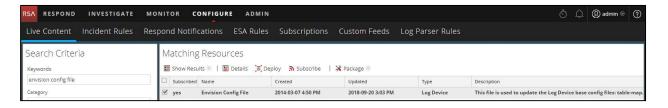
To use the RSA Common Event Format, deploy the *enVision Config File* from the **NetWitness Live** module. Log into NetWitness and perform the following actions:

!> Important: Using this procedure will overwrite the existing table\_map.xml.

- 1. From the NetWitness menu, select **Configure > Live Content**.
- 2. In the keywords field, enter: **enVision**.
- 3. NetWitness will display the **Envision Config File** in Matching Resources.
- 4. Select the checkbox next to **Envision Config File**.



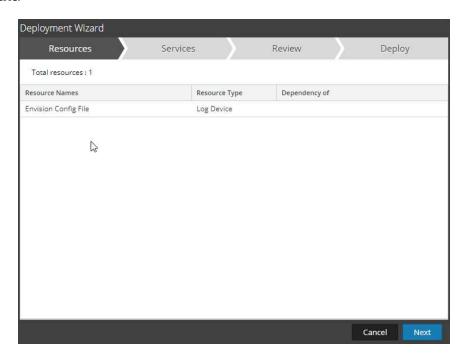
5. Click **Deploy** in the menu bar.



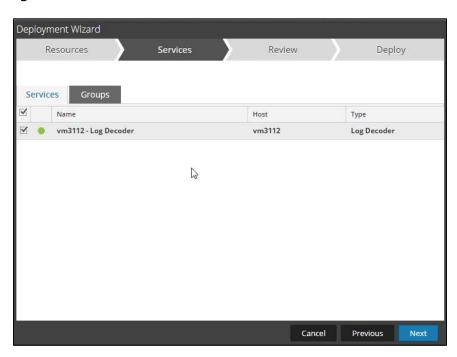




#### 6. Select **Next**.



7. Select the **Log Decoder** and select **Next**.

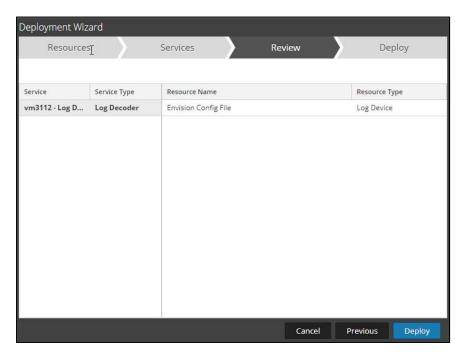


Important: In an environment with multiple Log Decoders, deploy the Envision Config File to each Log Decoder in your network.

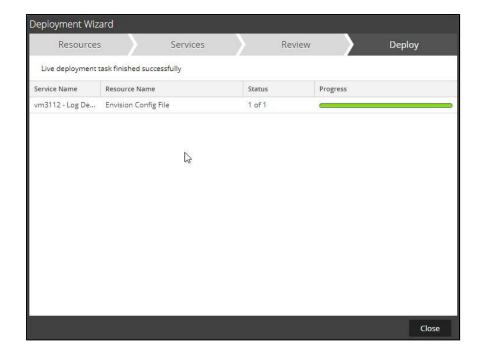




8. Select **Deploy**.



9. Select **Close**, to complete the deployment of the Envision Config file.



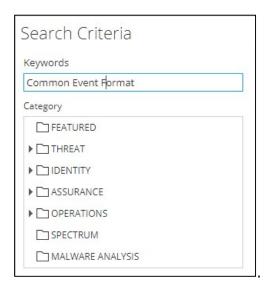




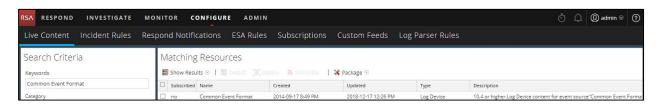
## Deploy the Common Event Format

Next, you will need to deploy the *Common Event Format file* from the **NetWitness Live** module. Log into NetWitness and perform the following actions:

- 1. From the NetWitness menu, select **Live > Search**.
- 2. In the keywords field, enter: Common Event Format



3. RSA NetWitness will display the Common Event Format in Matching Resources.



4. Select the checkbox next to **Common Event Format**.



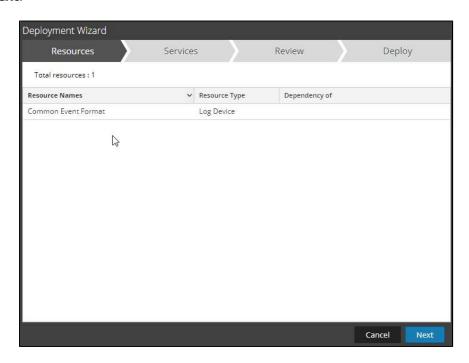
5. Click **Subscribe** and click **Deploy** in the menu bar.



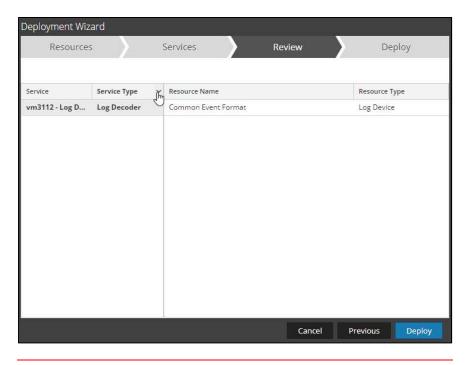




#### 6. Select **Next**.



7. Select the **Log Decoder** and Select **Next**.

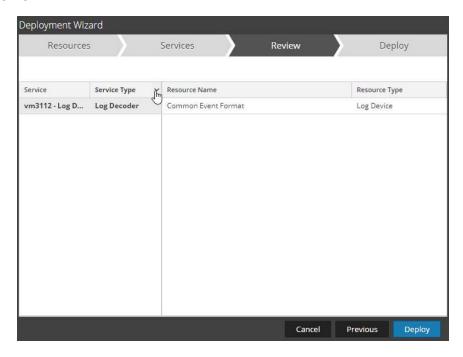


! Important: In an environment with multiple Log Decoders, deploy the Common Event Format to each Log Decoder in your network.

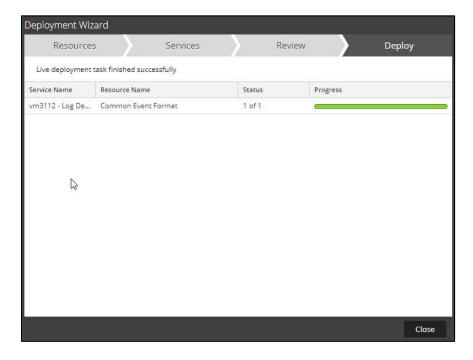




8. Select **Deploy**.



9. Select **Close**, to complete the deployment of the Common Event Format.



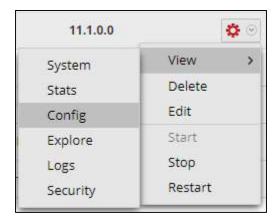




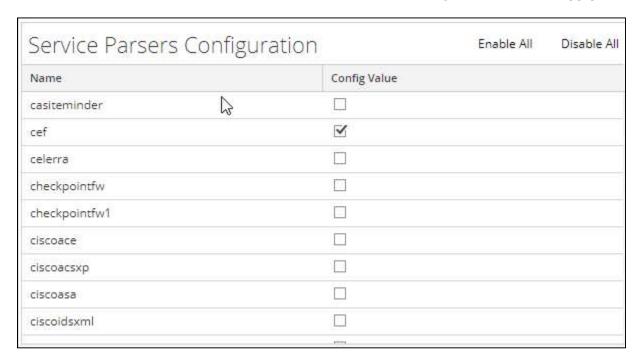
10. Ensure that the CEF Parser is enabled on the Log Decoder(s) by selecting **Admin > Services** from the NetWitness Dashboard.



11. Locate the Log\_Decoder and click the gear to the right and select **View>Config**.



12. **Check** the box next to the cef Parser within the Service Parsers Configuration and select **Apply**.



13. Restart the **Log Decoder services**.





## Edit the Common Event Format to collect Endgame event times

Important: The cef.xml file is overwritten by NetWitness Live during updates, it is important to maintain backups of the file in the event of a typing error or unforeseen event.

- Using WinSCP or other application to access the RSA NetWitness Log Decoder open a connection and locate the /etc/netwitness/ng/envision/etc/devices/cef folder. Backup cef.xml and edit the existing CEF.XML file.
- 2. Locate the end of the <MESSAGE section and copy/paste the following lines below into the file after the /> of the preceding <MESSAGE and contents;

#### **Example**

```
<MESSAGE
    id1="razleesecurity_audit"
    id2="razleesecurity_audit"
    functions="&lt;@msg:*PARMVAL($MSG)&gt;&lt;@event_time:*EVNTTIME($MSG,'%W-%M-%D-%H.%T.%S',param_event_time)&gt;"
    content="&lt;param_event_time&gt;&lt;msghold&gt;" />

<MESSAGE
    id1="razleesecurity_firewall"
    id2="razleesecurity_firewall"
    functions="&lt;@msg:*PARMVAL($MSG)&gt;&lt;@event_time:*EVNTTIME($MSG,'%W-%M-%D-%H.%T.%S',param_event_time)&gt;"
    content="&lt;param_event_time&gt;&lt;msghold&gt;" />

<MESSAGE
    id1="apache_apache"
    id2=" apache_apache"
    id2=" apache_apache"
    functions="&lt;@msg:*PARMVAL($MSG)&gt;&lt;@event_time:*EVNTTIME($MSG,'%W-%M-%D-%H.%T.%S',param_event_time)&gt;"
    content="&lt;param_event_time&gt;&lt;msghold&gt;" />
```





## Edit the Common Event Format Custom to support custom fields

Important: The cef-custom.xml file is not overwritten by NetWitness Live during updates, however it is important to maintain backups of the file in the event of a typing error or unforeseen event.

- 1. Using WinSCP or other application to access the RSA NetWitness Log Decoder open a connection and locate the /etc/netwitness/ng/envision/etc/devices/cef folder.
- 2. If the **cef-custom.xml** file does not exist copy the attached **cef-custom.xml.razlee** file to the folder specified above and rename to **cef-custom.xml**.
- 3. If the file does exist create a backup of cef-custom.xml.
- 4. Edit the **cef-custom.xml** file and the attached **cef-custom.xml.razlee** file. Copy the contents of the **cef-custom.xml.razlee** file from between the **<ExtensionKeys>** and **</ExtensionKeys>**, do not include the **<ExtensionKeys>** tags. Paste the contents copied into the existing cef-custom.xml file between the **<ExtensionKeys>** tags.
- 5. The attached **cef-custom.xml.razlee** file below contains keys used specifically for the integration with Raz-Lee.



## Edit the NetWtness Table-Map-Custom.xml file

Important: The Table-Map-Custom.xml file is not overwritten by NetWitness Live during updates, however it is important to maintain backups of the file in the event of a typing error or unforeseen event.

- 1. Using WinSCP or other application to access the RSA Netwitness Log Decoder open a connection and locate the /etc/netwitness/ng/envision/etc/ folder.
- 2. If the **table-map-custom.xml** file does not exist copy the attached **table-map-custom.xml**. razlee file to the folder specified above and rename to **table-map-custom.xml**.
- 3. If a table-map-custom.xml file exists, backup the table-map-custom.xml file.
- 4. Edit the existing **table-map-custom.xml** and the attached **table-map-custom.xml.razlee** file copy and paste the contents of the **cef-custom.xml.razlee** file from between the **<mappings>...</mappings> >**, do not include the **<mappings>** tags. Paste the contents copied into the existing **table-map-custom.xml** file between the **<mappings>** tags.
- 5. The attached **table-map-custom.xml.razlee** file below contains keys used specifically for the integration with Raz-Lee.

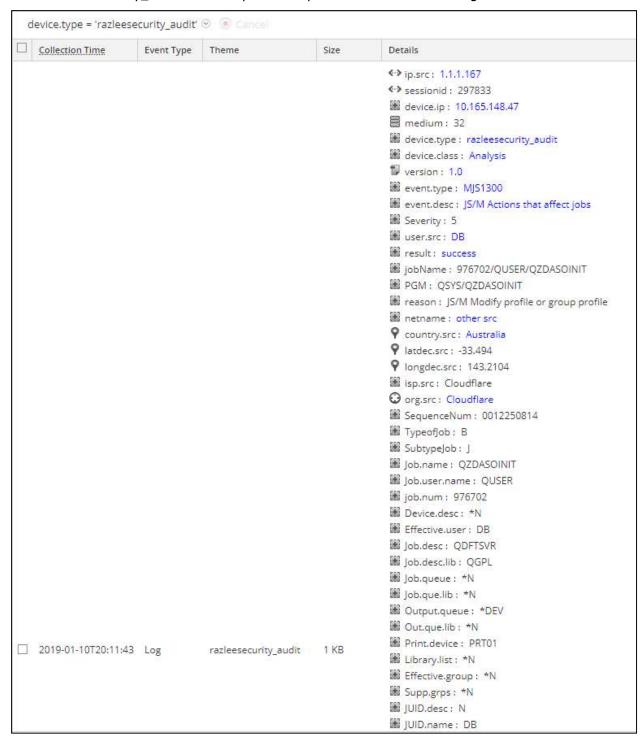


6. Restart the **Log Decoder services** to begin log collection.





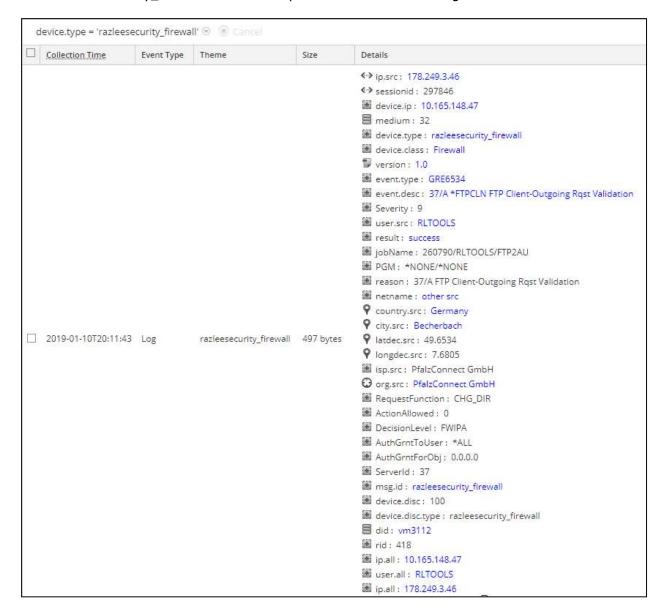
#### Raz-Lee razleesecurity\_audit Collection partial sample from NetWitness Investigator:







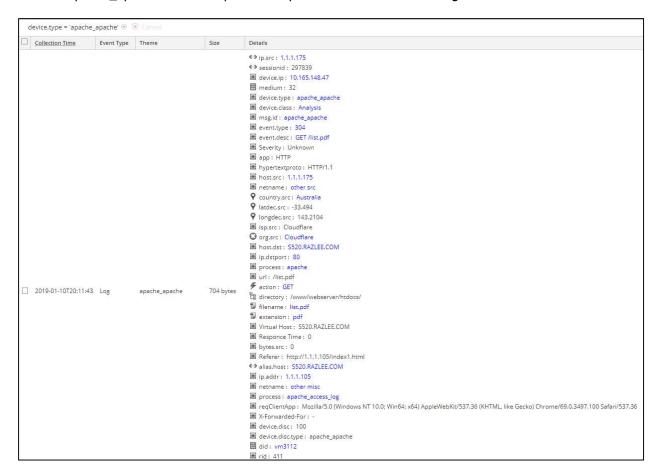
#### Raz-Lee razleesecurity\_firewall Collection sample from NetWitness Investigator:







Raz-Lee apache\_apache Collection partial sample from NetWitness Investigator:







# **Certification Checklist for RSA NetWitness**

Date Tested: January 10, 2019

Certification Environment					
Product Name	Version Information	Operating System			
RSA NetWitness	11.2.1	Virtual Appliance			
Raz-Lee iSecurity for IBMi	11.4	IBMi			
Raz-Lee iSecurity for IBMi	11.4	IBMI			

NetWitness Test Case	Result
Device Administration	
Partner's device name appears in Device Parsers Configuration	<b>✓</b>
Device can be enabled from Device Parsers Configuration	
Device can be disabled from Device Parsers Configuration	<b>V</b>
Device can be removed from Device Parsers Configuration	<b>✓</b>
Investigation	
Device name displays properly from Device Type	<b>✓</b>
Displays Meta Data properly within Investigator	<u></u>

<sup>√ =</sup> Pass X = Fail N/A = Non-Available Function



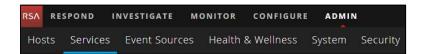


# **Appendix**

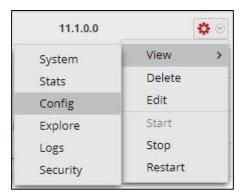
#### **NetWitness Disable the Common Event Format Parser**

To disable the NetWitness Common Event Format Parser and not delete it perform the following:

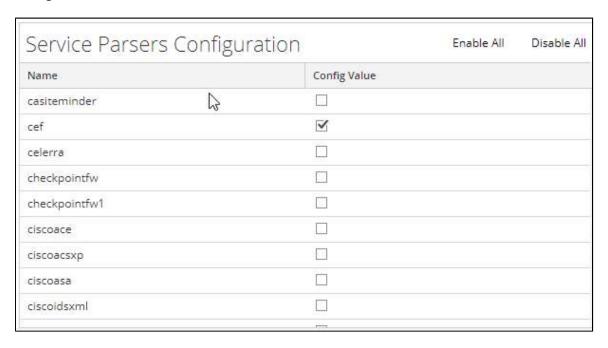
1. Select the NetWitness **Admin > Services**.



2. Select the Log Decoder, then select **View > Config.** 



3. From the **Service Parses Configuration** window, scroll down to the CEF parser and uncheck the Config Value checkbox.



4. Click **Apply** to save settings.

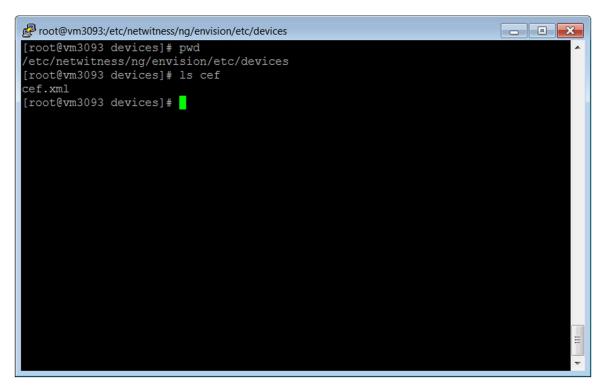




#### **NetWitness Remove Device Parser**

To remove the NetWitness Integration Package files from the environment, perform the following:

1. Connect to the NetWitness Log Decoder/Collector Server using SSH and open the /etc/netwitness/ng/envision/etc/devices folder.



2. Search for and delete the CEF folder and its contents.

