



# e3ATM\_PlimError EEM Script

Engine 3 ATM LC PLIM ERROR Capture

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## 1 e3ATM\_PlimError Overview

EEM script to help capture various show commands and outputs upon an Engine 3 ATM linecard Plim Error. The script is triggered by the following two syslog message patterns:

```
rx_xbma[77]: %L2-E3INGRESSQ-4-INTERRUPT : PLIM error: reg 0x2000  
-or-  
hfa_main[56]: %L2-PSE-6-INFO_MSG : Info: Invoking Soft Error Recovery
```

The IOS-XR does not support multi-event triggering. The e3ATM\_PlimError eem script consists of two eem scripts (1) and (2). The first one (1) is triggered off the PLIM error message. The second one (2) is triggered off the Invoking Soft Error Recovery.

## 2 e3ATM\_PlimError Execution Steps

1. By default the script will repeat the EEM script generated syslog messages once. An operator can change this by setting the follow EEM environment variable:

```
_e3ATM_PlimError_msg_repeat <x>
```

2. Script captures the current routers date and time.
3. Opens the output log file with the following naming convention:

```
e3ATM_PlimError1.MM-DD-YY_HH.MM.SS  
-or-  
e3ATM_PlimError2.MM-DD-YY_HH.MM.SS
```

4. Places a timestamp in the output log file.
5. The script parses the syslog message and extracts the PLIM Error location. The script updates the show commands with the necessary location. Prints the locations to the output log file.
6. Opens a VTY connection to the router.
7. The script then captures the ATM interfaces associated with the PLIM Error location. Then again updates the show commands with the necessary ATM interfaces.
8. Runs the Exec mode show commands and prints all the output to the output log file.
9. Runs the Admin mode show commands and prints all the output to the output log file.

10. The script attaches to the suspect linecard location, runs commands and prints the received output to the output log file.
11. The script then sleeps for 8 seconds and repeats the Exec and LC attach show commands two more consecutive times with the 8 second sleep interval.
12. Next the script sends the following EEM syslog message:

*EEM script e3ATM\_PlimError (\$node) detected a possible Engine 3 LC Error and captured a number of commands*

13. Finally if the operator configures the email EEM environment variables the script will send an email to the configured `_email_to` recipients.

### 3 e3ATM\_PlimError Required Environment Variables

The `__e3ATM_PlimError_storage_location` EEM environment variable is necessary to configure the routers location to store the output log file.

Example:

```
event manager environment _e3ATM_PlimError_storage_location disk0:/eem
```

### 4 e3ATM\_PlimError Email

The `e3ATM_PlimError` EEM script supports generating an email message. If the following EEM environment variables are configured the EEM script generates an email warning the recipients of the possible Engine 3 LC failure:

```
__email_server  
__email_from  
__email_to  
__domainname
```

Example:

```
event manager environment _email_to user1@att.com user2@att.com  
event manager environment _domainname att.com  
event manager environment _email_from alert@att.com  
event manager environment _email_server 1.2.3.4
```

By default the EEM script will use the following email subject line:

```
**Node $node – EEM e3ATM_PlimError POLICY DETECTED A POSSIBLE ENGINE 3 ATM LC  
ERROR
```

This can be changed by setting the following EEM environment variable:

```
event manager environment _e3ATM_PlimError_email_subject <custom email subject>
```

## 5 Authentication/Authorization EEM User Configurations

Below are the required AAA and configuration lines required for the EEM script to function correctly:

### 5.1 Authentication and Authorization

```
aaa authorization exec eem-user local
aaa authorization commands eem-user none
aaa authorization eventmanager default local
aaa authorization eventmanager eem-user local
aaa authentication login eem-user local
```

### 5.2 EEM-User

```
username eem-user
  group root-system
  group cisco-support
```

### 5.3 Line template and Vty-pool

```
line template eem-user
  authorization exec eem-user
  authorization commands eem-user
!
vty-pool fm 100 110 line-template eem-user
```

## 6 Configure and Register EEM Policy e3ATM\_PlimError

Below are the commands to configure and register the EEM script e3ATM\_PlimError:

```
event manager environment _e3ATM_PlimError_storage_location disk0:/eem
event manager directory user policy disk0:/eem
event manager policy e3ATM_PlimError1.tcl username eem-user type user
```

event manager policy e3ATM\_PlimError2.tcl username eem-user type user

## 7 Optional EEM Environment Variables

Below are the optional EEM environmental variables:

Environment Variable	Description
<code>_e3ATM_PlimError_msg_repeat</code>	Default repeat syslog message once. Override this by setting this variable
<code>_e3ATM_PlimError_email_subject</code>	Override the default email subject with this environment variable subject

## 8 Optional EEM Script Test

The triggering event for this EEM script is difficult to reproduce. One way to reproduce these syslog messages that trigger the EEM script is to echo the syslog messages to the syslog process. Below are the steps to do so:

Trigger the e3ATM\_PlimError1 script by performing the following steps:

1. run attach x/x/cpu0 (Attach to an Engine 3 ATM LC)
2. echo "rx\_xbma[77]: %L2-E3INGRESSQ-4-INTERRUPT : PLIM error: reg 0x2000" > /dev/syslog

Trigger the e3ATM\_PlimError2 script by performing the following steps:

1. run attach x/x/cpu0 (Attach to an Engine 3 ATM LC)
2. echo "hfa\_main[56]: %L2-PSE-6-INFO\_MSG : Info: Invoking Soft Error Recovery" > /dev/syslog