



Documentation Bulletin

Severity Level	Minimal	Bulletin Number	E91141
Issue Date	10/18/2017	Expires	N/A
Title	Alarm 72904 Raised During Upgrade		
Product	Policy Management	Release	12.1.x, 12.2.x
Priority	FYI	Related Bugs	3-15005489781
Impacts Compatibility	NO	Impacted Product Line(s):	Policy Management
Markets	ALL	Part No. Affected	E82611-02, E75411-01, E75412-01, E69791-03, E69792-03

Author and Formal Approvers

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Problem Description

Upgrading from 11.5.x to 12.x may result in Alarm 72904, Diameter_Too_Busy, and system memory may reach the 85+% threshold.

Impact

After an upgrade of MPE/MRA blades from 11.5.x to 12.x, the following symptoms are present.

1. System starts reporting alarm 72904, Diameter too busy, and sends a 3004 Diameter Error to the Gateway.
2. An increase in the system memory utilization percentage to above 80% can be seen in the KPI dashboard. G6 blades with 48GB RAM are more likely to exhibit this symptom.

Cause

The root cause of the issue is a bug in the JDK used by the Evaluate as expression function in policies. This causes the GC to pause for a few seconds, which drives the system into a busy state and causes high memory utilization depending on the type of Hardware and RAM.

Needed Actions

Check if the **Evaluate as expression** function is being used in policies. Perform these steps to identify policies that use the **Evaluate as expression** function:

1. Export policies to an XML file using the CMP GUI.
2. Open the XML file in a text editor.
3. Search for ###EVAL###.

If a policy contains###EVAL###, this confirms there are policies using the **Evaluate as expression** function and these policies must be changed.

Example of a policy that uses **Evaluate as expression** function:

```
<Policy>
  <Name>Policy-Evaluate as Expression</Name>
  <Description></Description>
  <Id>281474977512327</Id>
  <Version>3</Version>
  <ActionValues>OACT_6,OACT_YORK_2,MACT_0</ActionValues>
  <ConditionValues>REQ_49,USER_34,REQ_49[1]</ConditionValues>
  <ConditionVariables>REQ_49_0=ENTITLEMENTS=Entitlements|REQ_49_1=ML_FUP_3072|OACT_YORK_2_0=G_Postpaid_Cenam_Services_v2 - LTE|USER_34_0=greater than or equal to=###ge###|USER_34_1=30|USER_34_2=total volume=QUOTATYPE_VOLUME|USER_34_3={User.Custom6}=###EVAL###{User.Custom6}|REQ_49_0[1]=ENTITLEMENTS=Entitlements|REQ_49_1[1]=ML_FUP_Speed_128|OACT_6_0=policyparam.diameter.bearer.MaxRequestedBandwidthDownlink:Diameter Bearer Maximum-Requested-Bandwidth-DL:Flow.MaxRequestedBandwidthDownlink:128000:128000;policyparam.diameter.bearer.MaxRequestedBandwidthUplink:Diameter Bearer Maximum-Requested-Bandwidth-UL:Flow.MaxRequestedBandwidthUplink:128000:128000</ConditionVariables>
  <Analytics>>false</Analytics>
</Policy>
```

Workaround

1. Make a list of all policy names found in the policy export XML file that contain the **###EVAL###** string.
2. From the CMP GUI, locate the policies by selecting **Policy Library** and then selecting **Policy Management**
3. Select a policy that contains the **Evaluate as expression** function.
4. Click **Modify**.
5. Identify the condition or action that uses **Evaluate as expression** in the policy. This can be done by checking the XML and then looking at the corresponding line in the policy on the CMP GUI. After you click on that line you see a pop-up showing **Evaluate as expression** being checked.
6. Evaluate if that condition or action is actually making use of Evaluate as expression to compute some regex or arithmetic expression.
 - If the identified condition and action is NOT doing any computation, then clear the selection of **Evaluate as expression** and click **OK**. Click **Finish** to save the modified policy.
 - If the identified condition and/or action is doing some computation, then that policy/policy logic must be modified without using **Evaluate as expression** to achieve the same results.

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