

# MAM

## What is the best way to monitor GPU usage in Mam?

**Issue:** What is the best way to monitor GPU usage in Mam?

### **Solution:**

What you do is add a usage record to MAM of type Gpus. Moab passes this to MAM in a xml tag <Gpus>1</Gpus>.

Example xml and docs.

```
2016-03-10 15:31:57.727 3283 INFO MAM::Message::receiveChunk 0 Read message
payload (798, <Envelope component="ClusterScheduler" count="1" name="moab"
version="9.0.1"><Signature><DigestValue>0GmtUgpxfHAZOzgiKXaKxXNkqfU=</
DigestValue><SignatureValue>UoUyyGmVQsN1Gg6OhxkdvWoWy3s=</SignatureV
alue></Signature><Body timestamp="1457641917"><Request action="Reserve"
actor="root"><Object>UsageRecord</Object><Option
name="Replace">True</Option><Option name="AccountingMode">strict-
allocation</Option><Option name="Duration">30</Option><Data><UsageRecor
d><Stage>Start</Stage><Type>Job</Type><Instance>Moab.4</Instance><User
>jbooth</User><Group>jbooth</Group><Class>batch</Class><Machine>pbs</
Machine><Nodes>1</Nodes><NodeType>DEFAULT</NodeType><Processors con
sumptionRate="1.000000">1</Processors><Gpus>1</Gpus><SubmitTime>1457
641917</SubmitTime></UsageRecord></Data></Request></Body></Envelope>
).
```

<http://docs.adaptivecomputing.com/9-0-1/MAM/help.htm#topics/moabAccountingManager/14-managingUsageRecords/usageRecordPropertyAutoGeneration.htm>

<http://docs.adaptivecomputing.com/9-0-1/MWM/help.htm#topics/moabWorkloadManager/topics/fairness/allocationmanagement.html#accountingPropertiesReportedToMam>

[http://docs.adaptivecomputing.com/9-0-1/MAM/help.htm#topics/moabAccountingManager/14-managingUsageRecords/customizingTheUsageRecordObject.htm%3FTocPath%3D14%2520Managing%2520Usage%2520Records%7C\\_\\_\\_\\_9](http://docs.adaptivecomputing.com/9-0-1/MAM/help.htm#topics/moabAccountingManager/14-managingUsageRecords/customizingTheUsageRecordObject.htm%3FTocPath%3D14%2520Managing%2520Usage%2520Records%7C____9)

First Create the usage record for Gpus.

```
bash-4.2$ mam-shell Attribute Create Object=UsageRecord Name=Gpus
DataType=Integer
Successfully created 1 attribute
bash-4.2$
```

MAM will begin tracking jobs that use GPUs after the usage record is added.

```
bash-4.2$ mam-list-usagerecords --show=Type,Instance,Charge,User,Gpus
Type Instance Charge User Gpus
```

-----  
Job Moab.1 0 jbooth  
Job Moab.2 0 jbooth  
Job Moab.3 0 jbooth  
Job Moab.4 0 jbooth  
Job Moab.5 0 jbooth 1  
Job Moab.6 0 jbooth 1  
Unique solution ID: #1103  
Author: Jason Booth  
Last update: 2016-05-16 18:02