Setting Up Notification of Missing Physical Volumes

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About this Document

This document describes how to set up error notification (by console message and mail to root) of missing physical volumes. This is especially useful if a missing physical volume may not be noticed because it is mirrored. This document applies to AIX 3.2.5 and 4.1.

Overview

When a physical volume is declared missing, AIX logs a "LV_SA_PVMISS" error to the error log. However, unless the system administrator is periodically checking the error log, this error can go for some time without being detected. It is especially likely for the missing physical volume to be undetected if it is part of a mirrored volume group and there is still one good copy available to the system. In this situation, the users will not notice anything wrong because there is still one good copy of the data they are accessing.

Many system administrators would like to automatically be notified of this type of situation. It is possible to set up automatic error notification to be triggered when the LV_SA_PVMISS error is generated. This document describes steps to add error notification to the ODM and to set up a sample script to perform the type of error notification you would like to have on your system. These steps, if implemented as specified below, will send a message to the console and send mail to the root user whenever the LV_SA_PVMISS error is generated.

Steps

Note: You must be logged in as root to perform these steps.

1. Make a backup copy of the errnotify ODM file:

```
cd /etc/objrepos
cp errnotify errnotify.MMDDYY
```

where MMDDYY is the current date.

2. Create a file "/tmp/pvmiss.add" that contains the following stanza:

```
errnotify:
  en_pid = 0
  en_name = "LVM_SA_PVMISS"
  en_persistenceflg = 1
  en_label = "LVM_SA_PVMISS"
  en_crcid = 0
  en_class = "H"
  en_type = "UNKN"
  en_alertflg = ""
  en_resource = "LVDD"
  en_rtype = "NONE"
  en_rclass = "NONE"
  en_method = "/usr/lib/ras/pvmiss.notify $1 $2 $3 $4 $5 $6 $7 $8 $9"
```

Note: The "en_method" line can be entered exactly as it is shown above. "$1" through "$9" will be automatically expanded by the error notification daemon to be the following:

```
$1   The sequence number from the error log entry
$2   The error ID from the error log entry
$3   The error class from the error log entry
$4   The error type from the error log entry
$5   The alert flags value from the error log entry
$6   The resource name from the error log entry
$7   The resource type from the error log entry
$8   The resource class from the error log entry
$9   The error label from the error log entry.
```

3. Create the file "/usr/lib/ras/pvmiss.notify" with the following contents:

Note: Please note that page headers and footers may appear in the following code. They should be removed before the code is used. Also, revision bars (vertical bars in the left margin which mark changes in the document) may appear to the left of the code and should be removed before the code is used.

```
#!/bin/ksh
exec 3>/dev/console
print -u3 "\007"
print -u3 - "------------------------------------------------------------"
print -u3 "WARNING! WARNING! WARNING! WARNING! WARNING! WARNING! WARNING!"
print -u3 ""
print -u3 "Desc: PHYSICAL VOLUME DECLARED MISSING.  PLEASE SEE ERRPT."
print -u3 ""
print -u3 "Error Label: $9"
print -u3 "Sequence number: $1"
print -u3 "Error ID: $2"
print -u3 "Error Class: $3"
print -u3 "Error Type: $4"
print -u3 "Resource Name: $6"
print -u3 "Resource Type: $7"
print -u3 "Resource Class: $8"
print -u3 - "------------------------------------------------------------"
print -u3 "\007"

mail -s "PHYSICAL VOLUME DECLARED MISSING" root <<-EOF
------------------------------------------------------------------------
WARNING! WARNING! WARNING! WARNING! WARNING! WARNING! WARNING! WARNING!

Desc: PHYSICAL VOLUME DECLARED MISSING.  PLEASE SEE ERRPT.

Error Label: $9
Sequence number: $1
Error ID: $2
Error Class: $3
Error Type: $4
Resource Name: $6
Resource Type: $7
Resource Class: $8
------------------------------------------------------------------------
EOF
```

4. Set the appropriate permissions on "/usr/lib/ras/pvmiss.notify":

   ```
   chmod 755 /usr/lib/ras/pvmiss.notify
   ```

5. Add the errnotify stanza for LVM_SA_PVMISS to the ODM:

   ```
   odmadd /tmp/pvmiss.add
   ```

The system should now run the /usr/lib/ras/pvmiss.notify script whenever the LVM_SA_PVMISS error occurs. The pvmiss.notify script will send a message to the console and will also send mail to root. This script can be modified to take the specific actions the system administrator would like to invoke when this error occurs. The errnotify ODM file can also be modified to respond to additional error conditions. These modifications would be up to the system administrator.

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