

Putting Operations Manager Configuration Files and Automation EXECs in Shared File System



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IBM z Systems Software

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Introduction

This white paper will document the steps necessary to put the Operations Manager for z/VM configuration files and automation EXECs in the z/VM Shared File System (SFS). The location of these files affects:

- Whether they can be shared across multiple z/VM systems (LPARs)
- How many people can obtain write access to the files at the same time
- The steps required to have Operations Manager service machines pick up changes to the files

Note: Placing the configuration files and automation EXECs in SFS does not mean you must install Operations Manager in SFS. You can still follow the steps in the Program Directory to install the product on minidisk, then use this white paper to move just the configuration disk (OPMGRM1 198) to SFS.

Customers may want or need to manage the Operations Manager for z/VM configuration files and automation EXECs in SFS (instead of on minidisk) for one or more of the following reasons:

- **To share the files across multiple z/VM LPARs in a non-Single System Image (SSI) environment or across multiple SSI clusters.** Customers using SSI and managing one set of Operations Manager configuration files per cluster can more readily share files across the members of the cluster by placing them on a minidisk owned by a single configuration user ID. For more information on the SSI configuration, refer to the technote here:
<http://www.ibm.com/support/docview.wss?uid=swg21615678&context=SSMR76>

However, customers wanting to share Operations Manager configuration files across LPARs or across multiple SSI clusters must use another approach. Placing the configuration files in SFS is one method.

- **To allow multiple administrators write access to the files at the same time.** This applies in both SSI and non-SSI environments. Operations Manager service machines only require read access to these files. If you have multiple z/VM administrators or system programmers who will be updating the files, it may be easier if multiple administrators can obtain read/write access to the files at the same time. With minidisks, if one user has the minidisk linked R/W, no other users can link it R/W until the first user detaches it. With SFS, multiple users can obtain R/W access to the directory containing the files at the same time. Of course only one user at a time can update any one file, and SFS will enforce this by locking the file while a user is editing it.
- **To more easily ensure that the Operations Manager service machines are using the most recent copy of each file.** Since the Operations Manager service machines access the files R/O, placing them on minidisk means that whenever a new file is created or an existing configuration file or EXEC is changed, you must issue commands to the Operations Manager service machines to re-access the minidisk so they will use the new or changed files. By placing the configuration files in SFS instead of on

minidisk, all users accessing the SFS directory R/O or R/W will always see the most current files.

If none of these benefits apply to you, IBM recommends you follow the procedures in the Operation Manager Program Directory to install the product and the configuration files on minidisk.

For those that want to put the configuration files and automation EXECs in SFS, these procedures provide the steps necessary to accomplish this task. Once complete, the configuration information and automation EXECs for Operations Manager for z/VM will be in SFS, rather than on the OPMGRM1 198 minidisk.

Remember, you can still follow the steps in the Program Directory to install Operations Manager on minidisk. With the steps below, only the configuration disk (by default, OPMGRM1 198) will be put in SFS.

Creating a New SFS Server and File Pool

First, create a new SFS server and associated file pool. In this document, we will assume the server name is MYSFSSRV and the file pool name is MYSFS.

It is also possible to use one of the SFS servers and file pools shipped with z/VM (such as VMSEVRU's VMSYSU file pool.) However, we recommend creating a new server and file pool so that when upgrading to new releases of z/VM, it isn't necessary to remember to migrate the new Operations Manager directories created in the VMSYSU file pool to the new default VMSYSU file pool on the new z/VM system.

To create a new SFS server named MYSFSSRV and associated file pool named MYSFS:

1. From MAINT or MAINT6n0, use a directory management product to create and add a directory entry for MYSFSSRV, using the sample values shown below:

```
USER MYSFSSRV password 64M 64M BG
OPTION MAXCONN 2000 NOMDCFS APPLMON QUICKDSP SVMSTAT
SHARE REL 1500
MACHINE XC
IUCV ALLOW
IUCV *IDENT RESANY GLOBAL
IPL CMS
CONSOLE 009 3215 T OPMGRM1
SPOOL 00C 2540 READER *
SPOOL 00D 2540 PUNCH A
SPOOL 00E 1403
LINK MAINT 190 190 RR
LINK MAINT 193 193 RR
LINK MAINT 19D 19D RR
LINK MAINT 19E 19E RR
```

2. Add the following minidisks to user ID MYSFSSRV. **Do not format them.**
 - a) 191 (5 cylinders) – this is a work disk
 - b) 250 (5 cylinders) – this is the control disk
 - c) 260 (5 cylinders) – this is the catalog disk
 - d) 405 (5 cylinders, specify NOMDC for this disk) – this is a repository log disk
 - e) 406 (5 cylinders, specify NOMDC for this disk) – this is a repository log disk
 - f) 310 (20 cylinders) – this is the data disk
3. Logon to MYSFSSRV and format its 191 disk:

```
FORMAT 191 A
```

4. Create a PROFILE EXEC on the A disk:

```
/* */
'ACCESS 193 C'
'CP SET EMSG ON'
'CP SET PF11 RETRIEVE FORWARD'
'CP SET PF12 RETRIEVE'
Exit 0
```

5. Run the PROFILE EXEC.
6. Create a file called MYFSSRV DMSPARMS on the A-disk, containing the following statements. Add any other user IDs requiring SFS ADMIN authority.

```
ADMIN MAINT6n0
ADMIN MAINT
ADMIN <userid>
NOBACKUP
FILEPOOLID MYSFS
NOCRR
NOLUNAME
<SSI | REMOTE >
SAVESEGID CMSFILES
USERS 10
```

Note: If the SFS file pool's use is limited to an SSI cluster, specify `SSI`. If the SFS file pool's use will span multiple z/VM systems that are not in an SSI cluster or that span multiple SSI clusters, specify `REMOTE`. If neither of these are true, remove this line.

7. After saving and closing the file, issue the following command on MYFSSRV:


```
FILESERV GENERATE
```
8. When prompted in `$$TEMP $POOLDEF`, remove the lines provided and enter the following:

```
MAXUSERS=40
MAXDISKS=50
DDNAME=CONTROL VDEV=250
DDNAME=LOG1 VDEV=405
DDNAME=LOG2 VDEV=406
DDNAME=MDK00001 VDEV=260 GROUP=1 BLOCKS=0
DDNAME=MDK00002 VDEV=310 GROUP=2 BLOCKS=0
```

9. File the changes to `$$TEMP $POOLDEF`.
10. Update the PROFILE EXEC for MYFSSRV to add the following line before the Exit statement:


```
`EXEC FILESERV START`
```
11. Run the PROFILE EXEC. At this point, an SFS message indicating the server is ready for work should appear.

12. Leave the server running disconnected:

```
#CP DISC
```

13. From MAINT or MAINT6n0, enroll OPMGRM1 in the file pool and give it some disk space:


```
ENROLL USER OPMGRM1 MYSFS (BLOCKS 5000 STORGROUP 2
```

14. Set up the directory.

```
CREATE DIRECTORY MYSFS:OPMGRM1.CONFIGURATION (FILECONTROL
```

15. From MAINT or MAINT6n0, copy any existing configuration data from OPMGRM1 198 minidisk to the new SFS directory:

```
VMLINK OPMGRM1 198  
ACCESS MYSFS:OPMGRM1.CONFIGURATION <fm2> (FORCERW  
COPYFILE * * <fm1> = = <fm2>
```

where <fm1> is the filemode of the 198 minidisk above and <fm2> is any available filemode.

Authorize Users to the File Pool

1. Authorize the Operations Manager action processing servers to read any new files added to this directory (such as EXECs called by action routines.) Repeat the command for each action processing server (OPMGRS1 through OPMGRS4, by default).

```
GRANT AUTH MYSFS:OPMGRM1.CONFIGURATION TO OPMGRS1 (READ NEWREAD  
GRANT AUTH * * MYSFS:OPMGRM1.CONFIGURATION TO OPMGRS1 (READ
```

2. Authorize additional users to this directory. These users include any Operations Manager administrators who will be creating or updating Operations Manager configuration files, and/or creating EXECs called by Operations Manager action processing routines.

- a. To give a user read and write access to all files in the directory and authorization to create new files, issue the following commands:

```
GRANT AUTH MYSFS:OPMGRM1.CONFIGURATION TO <userid> (WRITE NEWWRITE  
GRANT AUTH * * MYSFS:OPMGRM1.CONFIGURATION TO <userid> (WRITE
```

- b. To give partial access, do the following:

- i. To give a user read access to all files (and their contents) in the directory and authorization to create new files, issue the following commands:

```
GRANT AUTH MYSFS:OPMGRM1.CONFIGURATION TO <userid> (WRITE NEWREAD  
GRANT AUTH * * MYSFS:OPMGRM1.CONFIGURATION TO <userid> (READ
```

- ii. To give a user write access to specific files created by other users, issue the following command:

```
GRANT AUTH <fn> <ft> MYSFS:OPMGRM1.CONFIGURATION TO <userid> (WRITE
```


Configure Operations Manager and Users to Use the File Pool

1. Update the PROFILE EXEC for OPMGRM1 to access the new SFS directory instead of the OPMGRM1 198 minidisk for configuration data.

In OPMGRM1's PROFILE EXEC, change

```
'ACCESS 198 E'
```

to

```
'ACCESS MYSFS:OPMGRM1.CONFIGURATION E'
```

2. Repeat step 1 for the Operations Manager action processing servers (OPMGRS1, OPMGRS2, OPMGRS3, OPMGRS4, by default).
3. Update the PROFILE EXEC for any other user IDs that have been given access to the directory. Note that users that want to update the files will need to access the directory in "write" mode using the following command:

```
'ACCESS MYSFS:OPMGRM1.CONFIGURATION E (FORCERW'
```
4. Stop and restart the main Operations Manager server (OPMGRM1). Any action processing servers should automatically be restarted by OPMGRM1. From MAINT, MAINT6n0 or other authorized user id:

```
GOMCMD OPMGRM1 STOP  
XAUTOLOG OPMGRM1
```
5. Change the OMRELOAD EXEC shipped by Operations Manager to remove these statements since the service machines no longer need to reaccess the 198 minidisk:

```
'CP SMSG OPMGRM1 AT <member1> RUN ACTION ACC198'  
'CP SMSG OPMGRM1 AT <member2> RUN ACTION ACC198'  
'CP SMSG OPMGRM1 AT <member3> RUN ACTION ACC198'  
'CP SMSG OPMGRM1 AT <member4> RUN ACTION ACC198'
```

Note: Even if the user accesses the OPMGRM1.CONFIGURATION directory as another filemode, the CONFIG command in OMRELOAD EXEC must specify filemode E. This is because OPMGRM1 accesses the OPMGRM1.CONFIGURATION directory as E.

Summary

The Operations Manager configuration files are now in SFS and Operations Manager has been updated to access these files in SFS rather than on the OPMGRM1 198 minidisk.

When users want to create new or update existing configuration files, they will make the changes from their user ID, and then tell Operations Manager to reload the master configuration file to activate their changes:

`OMRELOAD`

References

For more information on SFS, and the ENROLL command, refer to “CMS File Pool Planning, Administration, and Operation” (SC24-6074).

Additionally, the SFS command GRANT AUTHORITY is documented in “CMS Commands and Utilities Reference” (SC24-6073).

For more information on Operations Manager for z/VM, refer to “Operations Manager for z/VM Administration Guide” (SC18-9347) or the web site:
<http://www.ibm.com/software/products/en/operations-manager-for-zvm>