

z/OS Network File System (NFS) test in zPET

This topic describes z/OS NFS server and client deployment.

We are running the NFS server on one of the LPARs in Plex2. All the LPARs in Plex1 become z/OS NFS clients accessing the NFS server. In addition to z/OS, we expanded the NFS clients on different platforms, including Linux and AIX.

Against NFS setup, we run a workload named Multi-Media File ACcess Test System(MMFACTS). This NFS workload simulates the delivery of multimedia data streams, such as video, across the network and exercises various NFS functions.

We referenced the following book when performing our NFS tests:

[z/OS Network File System Guide and Reference, SC26-7417-13](#)

You can also access this book through z/OS V1R13 [info center](#).

We discuss the following topics below:

- NFS server
- NFS client
- NFS workload MMFACTS introduction

NFS server

We followed the steps in the [z/OS Network File System Guide and Reference, SC26-7417-13](#),

"Chapter 9 Initialization attributes for the z/OS NFS server" to deploy our NFS Server. We don't repeat all of the steps in this write-up but mention the server attributes and export lists.

NFS server attributes

The NFS server uses configuration files, including NFS.ATTRIB which indicates its attributes. We chose the attributes following the z/OS [z/OS Network File System Guide and Reference, SC26-7417-13](#). . If the user does not specify these attributes, the NFS server will use the default attributes. To show all the attributes that the server is using, we used the **showattr** command.

For the detailed meaning of every attribute, see the [z/OS Network File System Guide and Reference](#), "Chapter 9. Initialization attributes for the z/OS NFS server."

NFS Server Export List

If the EXP or SAFEXP attribute is set, the system uses the NFS export list file. The NFS server can list some MVS data sets or z/OS UNIX files in this export list to be shared with NFS client users. For the detailed meaning of every attribute, see [z/OS Network File System Guide and Reference](#), "Chapter 9. Initialization attributes for the z/OS NFS server."

NFS client

The NFS client can be deployed on different platforms, including z/OS, Linux, AIX and windows. Before the NFS clients gain access to the NFS server, they are required to perform **mvslogin** activity when the server attribute *security* is set to be "saf" or "safexp". So, our first step of the NFS client deployment was installing the client enabling commands – **mvslogin**, **mvslogout**, and **showattr**. See the [z/OS Network File System Guide and Reference](#) , "Chapter 10. Customization" for details.

NFS workload – MMFACTS

Workload overview

Multi-Media File ACcess Test System(MMFACTS) for NFS:

We use the MMFACTS application/workload for exercising various NFS functions. This client/server workload is designed to simulate the delivery of multimedia data streams, such as video, across the network. It moves large volumes of randomly generated data in a continuous, real-time stream from the server (in our case, z/OS) to the client. Data files can range in size from 4 MB to 2 GBs.

We run this workload from the NFS client. The sending and receiving data actions simulate the data flow across the network, generating multiple NFS operations, such as WRITE, LOOKUP and READ.

Reference

[IBM zEnterprise EC12 Technical Guide, SG24 8049](#)