

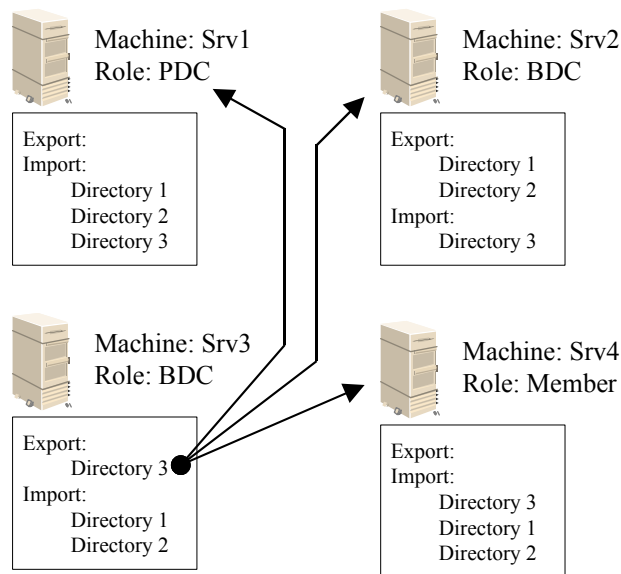
Transitioning from LMRepl (Windows NT 4.0) to File Replication Service (Windows 2000)

Microsoft® Windows NT® version 4.0 used a single-master file replication service known as LMRepl. For Microsoft® Windows® 2000, this service has been replaced by the File Replication Service (FRS). Customers who are transitioning from Windows NT 4.0 to Windows 2000 and have previously used LMRepl need to include as part of their migration plan a strategy for moving over the value add they received from LMRepl to FRS.

In general, customers used LMRepl to replicate logon scripts to all domain controllers (Backup and Primary) in the Windows NT 4.0 domain. Those customers should transition to using the System Volume (Sysvol) in Windows 2000. Customers who leveraged LMRepl for other purposes should investigate the use of Distributed File System (Dfs) version 5 to meet their replication needs in Windows 2000.

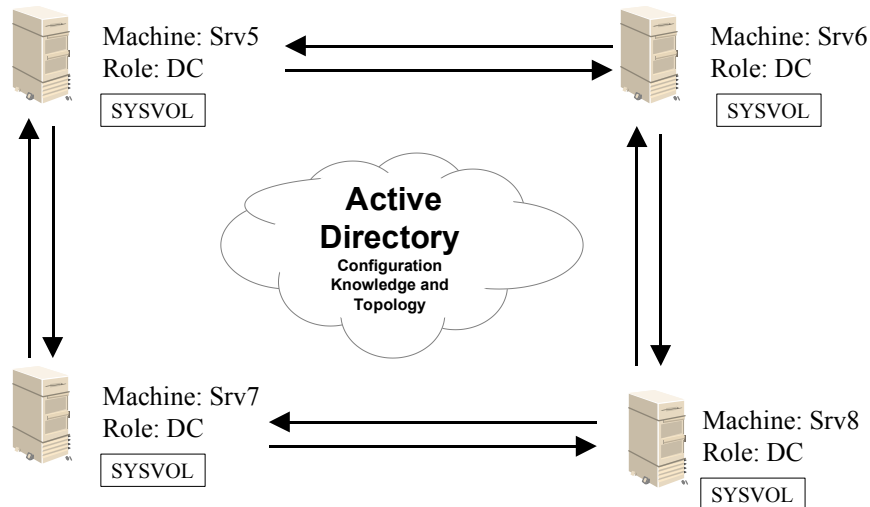
LMRepl in Windows NT 4.0 was configured via Server Manager (Srvmgr.exe). Administrators selected a Server to host an “Export” directory, and multiple servers to host “Import” directories. This entailed running Server Manager on multiple computers. There was no requirement on either the Export or Import side for the server to be a primary domain controller (PDC), backup domain controller (BDC), or Memberserver. The following diagram illustrates LMRepl:

LMRepl as seen in NT 4 --- Domain: YourCo



In the above figure, Directory3 is Exported (master) from Srv3, and changes made from Directory3 are pulled by the other servers to their Import areas. Similarly, Directory2 and Directory1 are exported from Srv2 and pulled by the other servers. In order for LMRepl to work, the service must be started, a logon account with membership to the replication group must be assigned, rights to the REPL share must be assigned, and it is suggested that SP3 or greater to have been installed.

FRS as seen in Windows 2000 --- Domain: YourCo



FRS in Windows 2000 is auto configured such that every domain controller has a replicated System Volume. Any change made to a logon script from any domain controller is replicated in multimaster fashion to other domain controllers. Non-domain controller's can not host the System Volume. The above diagram illustrates FRS:

In this figure, changes made anywhere to the Sysvol are ultimately reflected on all other copies of the Sysvol.

The upgrade path from Windows NT 4.0 to Windows 2000 allows for a mixed environment of WINDOWS 2000 domain controllers colluding with Windows 2000 domain controllers to provide basic services for all downlevel clients as well as advanced Active Directory functionality for Windows 2000 clients. This raises the question of how to transition script replication between the SysVol and the Export directory such that all Windows 2000 and Windows NT 4.0 domain controllers converge.

Batch-based Bridge

The LMRepl service is not supported on Windows 2000 servers. In a mixed server environment (Windows 2000 domain controllers colluding with Windows 2000 domain controllers) it is necessary the two file replication architectures be somehow bridged. Before proceeding, it is necessary to determine the Windows NT 4.0 Export server for the directory (for example: scripts directory) in question, and to select a Windows 2000 computer that will push files to that directory.

As reconfiguring the old LMRepl service can be tricky, it is strongly suggested that you plan on migrating the server hosting the Export directory to Windows 2000 last. All servers hosting the Import directories are migrated first:

- Before each domain controller (or member server) upgrade (Winnt32.exe) you should manually disable the "Directory Replicator" service from Services in Control Panel. This can also be done after the upgrade from the Computer Management snap-in. In Windows 2000, this is done automatically.

- A batch file provides the link between the Windows NT 4.0 scripts directory and the Windows 2000 System Volume. The benefit of this approach is the two replication mechanisms are physically separated from one another, thus no legacy services are being introduced on the Windows 2000 domain controller.
 1. If the export server (ex: Srv3 in diagram 1) happens to be the PDC, you will need **to either promote an alternate BDC to become PDC** (for the purpose of upgrading PDC first to Windows 2000)(going this route ensures legacy LMRepl functions as before) or nominate a new export server. If you select a new export server, you should select the server that you believe will be the last server upgraded to Windows 2000 (otherwise you would need to nominate yet another export server as servers are subsequently upgraded). To change the export server, prior to upgrading to Windows 2000, invoke SrvMgr on the current export server and remove the Export directory. From the new Export server, add the directory to the Export list via SrvMgr.
 - NOTE: You will need to call up EVERY server which had been configured as an Import directory, and re-point them to the newly selected Export directory. A possible work-around is that LMRepl does support a multicast mode where the Export directory "To" list is pointed to a Domain name, but that will not work across a routed environment.
 2. Select a Windows 2000 domain controller, and create a batch file that copies the logon scripts over to the Windows NT 4.0 export server.
 - Example: Xcopy \\YourCo.com\Sysvol\YourCo.com\scripts \scripts /s /D \\Srv3\Export
 Note: the /D option tells xcopy to only copies newer files.
 Note: Using a batch file will not handle DELETES. You may wish to use a more sophisticated method of file copying such as robocopy.
 - Note: A Sample batch file (named **Lbridge.cmd**) is available on the *Microsoft® Windows® 2000 Server Resource Kit*.
 - Note: This sample batch file can also be modified to bridge the Sysvol's between multiple domains, in essence creating an Enterprise wide Sysvol. That functionality may be important to your environment if you had used LMRepl in a domain agnostic manner to push scripts to multiple domains.

- Using the Windows 2000 scheduler, set up a reasonable interval for the batch file to be run. Probably an interval of every two hours is more than sufficient, especially as using the /D option will not cause unnecessary file copies.

Scenario #1 -- Batch-based Bridge

