Using Multiple DHCP Servers

DHCP can become a single point of failure within a network if there is only one DHCP server. If that server becomes unavailable, clients will not be able to obtain new leases or renew existing leases. For this reason, it is recommended that you have more than one DHCP server in the network. However, more than one DHCP server can create problems if they both are configured to use the same scope or set of addresses. Microsoft recommends the 80/20 rule for redundancy of DHCP services in a network.

Implementing the 80/20 rule calls for one DHCP server to make approximately 80 percent of the addresses for a given subnet available through DHCP while another server makes the remaining 20 percent of the addresses available. For example, with a /24 network of 254 addresses, say 192.168.1.1 to 192.168.1.254, you might have Server 1 offer 192.168.1.10 to 192.168.1.210 while Server 2 offers 192.168.1.211 to 192.168.254.

Working with the DHCP Database Files

DHCP uses a set of database files to maintain its knowledge of scopes, superscopes, and client leases. These files, which live in the *systemroot*\System32\DHCP folder, are always open when the DHCP service is running. DHCP servers use Joint Engine Technology

(JET) databases to maintain their records.

You shouldn't modify or alter the DHCP database files when the service is running.

The primary database file is `dhcp.mdb`—it has all the scope data in it.

The following files are also part of the DHCP database:

Dhcp.tmp This is a backup copy of the database file created during reindexing of the database. You normally won't see this file, but if the service fails during reindexing, it may not remove the file when it should.

J50.log This file (plus a number of files named `J50xxxxx.log`, where *xxxxx* stands for 00001, 00002, 00003, and so on) is a log file that stores changes before they're written to the database. The DHCP database engine

can recover some changes from these files when it restarts.

J50.chk This is a checkpoint file that tells the DHCP engine which log files it still needs to recover.

In the following sections, you will see how to manipulate the DHCP database files.

Removing the Database Files

If you're convinced that your database is corrupt because the lease information that you see doesn't match what's on the network, the easiest repair mechanism is to remove the database files and start over with an empty database.

If you think the database is corrupt because the DHCP service fails at startup, you should check the event log.

To start over, follow these steps:

1. Stop the DHCP service by typing **`netstopdhcpserver`** at the command prompt.
2. Remove all the files from the *`systemroot`*`\system32\DHCP` folder.
3. Restart the service.
4. Reconcile the scope.

Changing the Database Backup Interval

By default, the DHCP service backs up its databases every 60 minutes. You can adjust this setting by editing the Backup Interval value under `HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\DHCPServer\Parameters`. This allows you to make backups either more frequently (if your database changes a lot

or if you seem to have ongoing corruption problems) or less often (if everything seems to be on an even keel).

Moving the DHCP Database Files

You may find that you need to dismantle or change the role of your DHCP server and offload the DHCP functions to another computer. Rather than spend the time re-creating the DHCP database on the new machine by hand, you can copy the database files and use them directly. This is especially helpful if you have a complicated DHCP database with lots of reservations and option assignments.

By copying the files, you also minimize the amount of human error that could be introduced by reentering the information by hand.

Compacting the DHCP Database Files

There may be a time when you need to compact the DHCP database. Microsoft has a utility called `jetpack.exe` that allows you to compact the JET database. Microsoft JET databases are used for WINS and DHCP databases. If you wanted to use the `jetpack` command, the proper syntax is

```
JETPACK.EXE <database name><temp
database name>
```

After you compact the database, you rename the temp database to `dhcp.mdb`.