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# Multi Domain DPM

## Do you need to do anything ?

As from DPM version  $\geq 2$ , the DPM supports disk pools in different domains.

In LCG\_2\_7\_0, even if the DPM server and the pool nodes are in the same domain, **YOU MUST RUN THE MIGRATION SCRIPT !!!!!** ( After the installation of the new version of the software but before configuring it !)

There are several cases :

- **case 1** : you are setting up a DPM from scratch,
- **case 2** : you already have a DPM installed

For **case 1**, the standard installation is enough. See the DPM Administrators' Guide.

For **case 2**, you **must run the `updateDomainName` script**, that comes with the `DPM-name-server` RPM. The arguments are slightly different depending if the DPM database backend is `MySQL` or `Oracle`.

## Requirements

To run the `updateDomainName` script, you need to install :

- `perl-DBD`,
- `perl-DBI`,

corresponding to the DPM database backend (`MySQL` or `Oracle`). (The rpms are: `perl-DBD-mysql` or `perl-DBD-Oracle` )

**Note:** if using `MySQL`  $\geq 4.1$ , `perl-DBD-mysql`  $\geq 2.9003$  should be used.

At CERN, the useful RPMs are located in `/afs/cern.ch/project/linux/cern/slc304/i386/SL/RPMS/ :`

```
perl-Tk-804.027-1.i386.rpm
CERN-dummy-afs-provides-1-1.i386.rpm
perl-DBD-Oracle-1.15-3.cern.i386.rpm
perl-DBI-1.32-9.i386.rpm
perl-DBD-MySQL-2.1021-3.i386.rpm
```

For help about perl, go to <http://www.cpan.org>

Then, run the `updateDomainName` script : it will update the `host` and `sfn` fields in the `Cns_file_replica` table with the fully qualified host names of the disk servers. It will also update the `server` field in the `dpm_fs` table.

## MySQL

You have to specify :

- the domain name, for instance `cern.ch`
- the database vendor, here `MySQL`
- the MySQL server host name, for instance `my_mysql_server`

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- the DPNS and DPM database user, for instance `dpm`
- the file containing the DPM database user's password, for instance `dpm_password_file`
- the Mysql database name, for instance `cns_db`

```
$ cd /opt/lcg/share/DPM/multiple-domains/  
$ ./updateDomainName --domain-name "cern.ch" --db-vendor MySQL --db my_mysql_server --user dpm --
```

The file containing the DPM user password should be readable only by you, and deleted afterwards.

**Note :** make sure the DPM user has access to the `cns_db` and `dpm_db` databases from the host you are running the script.

```
GRANT ALL PRIVILEGES ON cns_db.* TO 'dpm'@my_host IDENTIFIED BY 'dpm_password' WITH GRANT OPTION;  
GRANT ALL PRIVILEGES ON dpm_db.* TO 'dpm'@my_host IDENTIFIED BY 'dpm_password' WITH GRANT OPTION;
```

## Oracle

You have to specify :

- the domain name, for instance `cern.ch`
- the database vendor, here `Oracle`
- the Oracle database SID, for instance `LFC`
- the DPNS database user, for instance `dpm`
- the file containing the DPM database user password, for instance `dpm_password_file`

Make sure that the following environment variables are set :

- `$ORACLE_HOME`
- `$TNS_ADMIN`

```
$ cd /opt/lcg/share/DPM/multiple-domains/  
$ ./updateDomainName --domain-name "cern.ch" --db-vendor Oracle --db LFC --user dpm --pwd-file /p
```

The file containing the DPM user password should be readable only by you, and deleted afterwards.

## Check

To check that the migration run well, execute :

```
$ dpm-qryconf
```

after you finished the configuration (ex. `yaim's configure_node`)

The disk servers should appear with the domain name.

When adding a new disk server, you should now specify the fully qualified hostname :

```
dpm-adddfs --poolname Volatile --server se001.domain.name --fs /data01
```

---

# Database schema upgrade

To add missing indexes in the database schema, you also have to run another script :

## Mysql

```
$ mysql -u dpm_user -pdpm_password --database dpm_db < /opt/lcg/share/DPM/migrate-mysql-schema-to
```

## Oracle

```
$ sqlplus dpm_user/dpm_password@database_sid < /opt/lcg/share/DPM/migrate-oracle-schema-to-2-1-0.
```

---

# Troubleshooting

In case the script complains about `NLS_XXXX` parameters, just unset all the `NLS_XXXX` environment variables before running the script :

```
unset NLS_LANG  
unset ORA_NLS33  
unset NLS_DATE_FORMAT
```

---

# Help !

For help or in case you have any question, please contact [hep-service-dpm@cernNOSPAMPLEASE.ch](mailto:hep-service-dpm@cern.ch)  
(remove the NOSPAM!).

-- SophieLemaitre - 25 Apr 2006

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