

**ADINA DMP System 8.7**  
**Installation Notes**  
for  
Linux (only)

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# 1 About ADINA DMP System 8.7

The ADINA Distributed Memory Processing (DMP) System 8.7 is available for clusters composed of `x86_64` and Opteron machines running Linux (kernel 2.6 or higher). This particular release is capable of solving ADINA, ADINA-F and ADINA-FSI implicit models only. Explicit problems cannot be solved with this version of the ADINA DMP System.

The components of the ADINA DMP System that are DMP are the sparse solver, the 3-D iterative solver and the subspace eigensolver. In addition, note that a successful implicit solution will create only one set of output files, as it is the case of the standard ADINA System.

In order to use the ADINA DMP System, a special DMP floating license is required. Please see the next section for the complete list of hardware and software prerequisites, including how to obtain a DMP floating license.

## 2 ADINA DMP System 8.7 prerequisites

The following are the hardware and software prerequisites for the ADINA DMP System 8.7:

- a Beowulf cluster composed of `x86_64` and Opteron processors running a Linux operating system with kernel 2.6 or higher,
- the communication protocol (e.g., `rsh` (`rlogin`), `ssh`) on the cluster must work without a password requirement,
- the ADINA DMP System must be installed on a shared partition, that is, on a global filesystem (e.g., a filesystem mounted on all the cluster nodes via NFS), and
- a special DMP floating license must be obtained from ADINA R & D, Inc. (see below).

Note that the ADINA DMP System 8.7 comes together with self-contained Message Passing Interface (MPI) executables. It uses HP MPI 2.01. Consequently, the user does not need to install an MPI package.

## 3 Installing ADINA DMP System 8.7

### 3.1 Mounting the CD-ROM drive

Insert the ADINA DMP System 8.7 CD into the CD-ROM drive and mount the drive if it is not automatically mounted. The typical mount command in Linux follows.

```
mount /mnt/cdrom (or /media/cdrom)
```

Please consult your system administrator if you have a problem mounting the CD-ROM drive.

### 3.2 Selecting the ADINA DMP System installation directory

Select the ADINA DMP System installation directory (<ADINA\_DMP\_HOME>). Note that it must be a global directory on your cluster. If it does not exist, then create the directory. Change the working directory to the ADINA DMP System installation directory. For example, if the ADINA DMP System installation directory is /usr/adina\_dmp87, then execute the following Linux commands.

```
umask 022  
  
mkdir /usr/adina_dmp87  
  
cd /usr/adina_dmp87
```

### 3.3 Starting the ADINA DMP System setup script

Enter the command to start the setup script.

```
/mnt/cdrom/setup_dmp (or /media/cdrom/setup_dmp)
```

During the setup you will be asked for the type of ADINA floating license that you have as well as for the remote execution tool that the ADINA DMP System will use on your cluster (e.g., `rsh`, `ssh`).

### 3.4 Obtaining a DMP floating license

A license server machine must have been set up previously. This is done with the standard (non-DMP) ADINA System installation disk. Note that the license server machine does not necessarily need to be a node of the cluster. It can be any external machine that is accessible to the cluster via a network.

In order to obtain a DMP floating license perform the following steps on the license server machine.

```
cd <ADINAHOME>/slm  
  
./echoid
```

The `echoid` program will report the Lock Code 1. Please provide ADINA R & D, Inc. ([password@adina.com](mailto:password@adina.com)) the following:

1. Lock Code 1,
2. indicate that a DMP floating license is needed, and
3. number of nodes of the cluster where the ADINA DMP System will run.

ADINA R & D, Inc. will issue the floating license file `lservrc` (lowercase and no extension), which must be copied to `<ADINAHOME>/slm` (i.e., on the license server machine). Then run the following command to start the license server program.

```
./lserv
```

If instead of `lservrc` ADINA R & D, Inc. issues an additional license file (e.g., `ls00000a`), then copy it to `<ADINAHOME>/slm` and add the licenses in `ls00000a` to the license server without stopping the license server by running the following command.

```
./lslic -F ls00000a
```

For additional information or help on how to properly set up your license server please see `<ADINAHOME>/slm/README`.

## 4 Additional information

Information regarding how to execute the ADINA DMP programs as well as answers to frequently asked questions about the ADINA DMP System may be found on `<ADINA_DMP_HOME>/README_DMP`.