

GAMS 2.50 Installation and System Notes for UNIX

INSTALLATION

To install a complete system, follow the steps below as closely as possible. We advise you to read this entire document before beginning the installation procedure:

1. Choose a location for the GAMS system directory (the directory where the GAMS system files should reside). We recommend that you choose a name that indicates what distribution of GAMS you are installing, and that anticipates the installation of updated GAMS systems in the future. For example, if you are installing the 22.6 distribution (from the 22.6 DVD, say), a good choice for the GAMS system directory would be `/usr/gams/22.6`. The total GAMS system uses 40-100 MB. The command `df` will tell you how much disk space is available on each file system. If the directory where you want to install GAMS is not below your home directory, you may need to have super user privileges on the machine.
2. Create the GAMS system directory, for instance `/usr/gams/22.6`. Go to this directory. Make sure `pwd` returns the name of this directory correctly.
3. Transfer the distribution file into the GAMS system directory. This file is available from the GAMS DVD or via the web in one large self extracting zip archive with a `.sfx.exe` file extension. You can run the archive (e.g. `linux_x86_32_sfx.exe` on a Linux 32bit system) directly from the DVD while in the GAMS system directory to extract the necessary files to the system directory. For example, you might execute the following commands:

```
mkdir /usr/gams/22.6
cd /usr/gams/22.6
/dev/dvd/linux/linux_x86_32_sfx.exe
```

4. To mount the GAMS DVD, you will usually need to be logged in as root. We assume you want to mount the DVD over the directory `/dvd`. If the directory you want to mount over does not exist, you must create it now. Once this directory is created, mount the DVD, using the appropriate command. The correct arguments for the mount command vary from machine to machine.

After mounting the DVD, view the `README.TXT` file on it to find the subdirectory containing the GAMS system for your machine.

5. If you transferred the distribution file via the web, check that it has the execute permission set. If

you are not sure how to do this, just type in the command, e.g.

```
chmod 755 linux_x86_32_sfx.exe
```

6. Check if the file `gamslice.txt` exists in the GAMS system directory. If you have a licensed (professional or evaluation) version of GAMS, a license file is required to solve large models. Most license files are sent via email. As a last resort, the license may have been sent on paper and must be typed in by hand.

If no license file is present, GAMS will still function in demonstration mode and can only solve small problems. For example, student and demonstration systems are sent without a license file. A license file can easily be added later and `./gamsinst` rerun, so if you cannot find a license file, you can safely proceed without one.

7. Run the program `./gamsinst`. This will unpack files if necessary. It will also prompt you for default solvers to be used for each class of models. If possible, choose solvers you have licensed since unlicensed solvers will only run in demonstration mode. These solver defaults can be changed or overridden by:
 - (a) rerunning `./gamsinst` and resetting the default values
 - (b) setting a command line default, e.g. `gams transport lp=bdmlp`
 - (c) an option statement in the GAMS model, e.g: `option lp=bdmlp`
8. Add the GAMS system directory to your path (see 'ACCESS TO GAMS' below).
9. To test the installation, login as a normal user and run a few models from a scratch directory, *not the GAMS system directory*.

```
LP:    $ gamslib trnsport
        $ gams transport
        $ more trnsport.lst
optimal solution: 153.675
```

```
NLP:   $ gamslib chenery
        $ gams chenery
        $ more chenery.lst
optimal solution: 1058.9
```

```
MIP:   $ gamslib bid
        $ gams bid
        $ more bid.lst
```

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```
optimal solution 15210109.512
```

```
MINLP: $ gamslib procsel
        $ gams procsel
        $ more procsel.lst
optimal solution: 1.9231
```

```
MCP:   $ gamslib scarfmcp
        $ gams scarfmcp
        $ more scarfmcp
This model type has no objective function.
```

```
MPSGE: $ gamslib scarfmge
        $ gams scarfmge
        $ more scarfmge
This model type has no objective function.
```

10. If you move the GAMS system to another directory, remember to rerun `./gamsinst`. It is also good practice to rerun `./gamsinst` when you add or change your license file if this has changed the set of solvers you are licensed to run.

ACCESS TO GAMS

To run GAMS you must be able to execute the GAMS programs located in the GAMS system directory. There are several ways to do this. Remember that the GAMS system directory in the examples below may not correspond to the directory where you have installed your GAMS system.

1. Those using the C shell (`cs`) and its variants can modify their `.cshrc` file by adding the second of the two lines given below:

```
set path = (/your/previous/path/setting )
set path = ( $path /usr/gams/22.6 ) # new
```

Those using the Bourne (`sh`) or Korn (`ksh`) shells and their variants can modify their `.profile` file by adding the second of the three lines below:

```
PATH=/your/previous/path/setting
PATH=$PATH:/usr/gams/22.6 # new
export PATH
```

You should logout and login again after you make any changes to your path, unless you make the same changes locally in a shell.

2. You may prefer to alias the names of the programs instead of adding to the path as described above. C shell users can use the following commands on the command line or in their `.cshrc` file:

```
alias gams /usr/gams/22.6/gams
alias gamslib /usr/gams/22.6/gamslib
alias gamsbatch /usr/gams/22.6/gamsbatch
```

The correct Bourne or Korn shell syntax (either command line or `.profile`) is:

```
alias gams=/usr/gams/22.6/gams
alias gamslib=/usr/gams/22.6/gamslib
alias gamsbatch=/usr/gams/22.6/gamsbatch
```

Again, you should logout and login again in order for the alias settings in `.cshrc` or `.profile` to take effect.

3. Casual users can always type the absolute path names of the GAMS programs. For example, `/usr/gams/22.6/gams transport`

Technical problems: For any technical questions like insufficient disk space, licensing problems or solver failures please check the GAMS web sites or contact our support staff directly.