GAMS/AMPL

Contents

1   Introduction

GAMS/AMPL allows users to solve GAMS models using solvers within the AMPL modeling system. The GAMS/AMPL link comes free with any GAMS system. Users must have a licensed AMPL system installed and have the AMPL executable in their path.

To run GAMS/AMPL, just specify the solver as ampl. For example, if we wish to solve the *trnsport.gms* model, we would run

```
>> gams trnsport.gms lp=ampl
```

As for other GAMS solvers, options can be passed on via solver option files. GAMS/AMPL specific options are described in the section "GAMS/AMPL Options".

By default, GAMS/AMPL returns a model status of 14 (no solution) and a solver return status of 1 (normal completion), provided the link is executed normally. This includes the case where the AMPL executable is not found.

2   AMPL Path

GAMS searches for an AMPL executable using the following hierarchy:

- Via the options AmplPath and RunAmpl within a GAMS/AMPL solver option file.

- An amplpath.txt file located in the GAMS system directory specifying the path of the AMPL executable.

- The system path.

For example, GAMS will first search for the AMPL executable within the ampl.opt file, if specified. If not found, it will search within the GAMS system directory for a file called amplpath.txt specifying the AMPL directory. Finally if amplpath.txt is not found, the GAMS will try the system path.

If no AMPL exectuable is found, the user will see a message similar to

```
AMPL Link 0. Jan 26, 2005 LNX.00.NA 21.6 002.000.000.LXI P3PC

--- No AmplPath option or "amplpath.txt" file found
--- System PATH will be used
```

There may also be an output indicating that AMPL was not found, either because it is not installed or because it is not found in the system path.

3   GAMS/AMPL Options

GAMS/AMPL solver options are passed on through solver option files. If you specify "<modelname>.optfile = 1;" before the SOLVE statement in your GAMS model, GAMS/AMPL will then look for and read an option file with the name *ampl.opt* (see "Using Solver Specific Options" for general use of solver option files).

Option	Description	Default
AmplPath	Path to AMPL system files	
DotMod	Ampl input file name	ampl.mod
Help	Display GAMS/AMPL options	
Option	Verbation AMPL options	
RunAmpl	Name of AMPL executable	
TolNone	Tolerance to interpret status none	1e-12

The Option specifier is used to specify AMPL options as within the AMPL modeling system. For example, if a user wishes to run AMPL/MINOS with the options "timing=3 outlev=2" then the user creates a file called ampl.opt with the entry

```
option minos_options "timing=3 outlev=2";
```