ETHERBOOT

By: Christopher Lane (Lane@Sumex-Aim.Stanford.Edu)

Uses: Various microcode, germ and boot files.

ETHERBOOT is a Envos Lisp background network server process which allows Dandelions and/or Doves (other than the one the server is running on) to boot utility programs from the Ethernet (as an alternative to floppies). On a Dandelion, a 3, 4 or 6 boot from the maintenance panel initiates an Etherboot; on a Dove the boot icons are used (sometimes in combination with a number key):

Dandelion	Dove	Boot Type
0003	F3	Ethernet non-diagnostic boot of the Installer
0004	F7	Ethernet diagnostic boot of the Installer
0006	F3-1	Ethernet boot of experimental software

(ETHERBOOT *[LOGFILE]*) [Function]

To start the server, `(ADD.PROCESS '(ETHERBOOT))`. *LOGFILE* is an optional argument which should be an open stream to log transactions in.

BOOTFILEDIRECTORIES [Variable]

The boot files are searched for on the directories in this list which should point to the (possibly remote) directory where the boot files are kept, initially `'({CORE} {DSK})`. The server will not respond to requests for boot files that are not available.

(CACHE.BOOT.FILES *[TYPES]*) [Function]

Since Lisp can take longer to open a remote file than the timeout on some (simple) requests, this function can be used to copy some of the boot files listed in ETHERBOOTFILES to the BOOTFILECACHEDIRECTORY. *TYPES* defaults to those listed in BOOTFILECACHETYPES.

BOOTFILECACHEDIRECTORY [Variable]

The directory into which CACHE.BOOT.FILES copies boot files, initially `{CORE}`.

BOOTFILECACHTYPES [Variable]

The default types of files that CACHE.BOOT.FILES copies to the BOOTFILECACHEDIRECTORY, initialy `'(DB GERM)`.

BOOTFILEREQUESTTYPES [Variable]

An association list which contains the type numbers of the requests that the boot server handles along with a description of the request type and the function which handles it. Currently, the request types are *Simple* and *SPP*.

ETHERBOOTFILES [Variable]

The table of boot file numbers and names. Each entry consists of a description of the boot file, the name of the file and the file number (48 bit) by which the file is requested. Since the boot server is table driven, different boot files can be substituted. Initially, ETHERBOOTFILES contains:

```
(("Standard DLion Ethernet Initial Microcode"          EtherInitial.db              2852126720)
("Standard DLion Diagnostic Microcode"                 MoonBoot.db                  2852126728)
("Standard DLion Mesa Microcode"                       Mesa.db                      2852126736)
("Standard DLion Germ"                                 DLion.germ                   2852126744)
("Standard DLion Boot File"                            SimpleNetExecDLion.boot      2852126752)
("Standard DLion Diagnostics Boot File"          EIDiskDLion.boot             2852127232)
("Standard DLion Installer Boot File"                  InstallerNSDLion.boot        2852127234)

("Alternate DLion Ethernet Initial Microcode"          EtherInitialAlt.db           2852126721)
("Alternate DLion Mesa Microcode"                      Mesa.db                      2852126738)
("Alternate DLion Germ"                                DLion.germ                   2852126746)
("Alternate DLion Boot File"                           InstallerNSDLion.boot        2852126754)

("Standard TriDLion Diagnostic Microcode"              Moonboot.db                  2852126729)
("Standard TriDLion Mesa Microcode"                    TridentRavenMesa.db          2852126737)
("Standard TriDLion Germ"                              TriDlion.germ                2852126745)
("Standard TriDLion Boot File"                         SimpleNetExecTriDlion.boot   2852126753)

("Alternate TriDLion Mesa Microcode"                   TridentRavenMesa.db          2852126739)
("Alternate TriDLion Germ"                             TriDlion.germ                2852126747)
("Alternate TriDLion Boot File"                        InstallerNSTriDlion.boot     2852126753)

("Standard Dove Ethernet Initial Microcode"            EtherInitialDove.db          2852128768)
("Standard Dove Diagnostic Microcode"                  MoonRise.db                  2852128776)
("Standard Dove Mesa Microcode"                        MesaDove.db                  2852128784)
("Standard Dove Germ"                                  Dove.germ                    2852128792)
("Standard Dove Boot File"                             SimpleNetExecDove.boot       2852128800)

("Alternate Dove Ethernet Initial Microcode"           EtherInitialDove.db          2852128769)
("Alternate Dove Diagnostic Microcode"                 MoonRise.db                  2852128777)
("Alternate Dove Mesa Microcode"                       MesaDove.db                  2852128785)
("Alternate Dove Germ"                                 Dove.germ                    2852128793)
("Alternate Dove Boot File"                            InstallerNSDove.boot         2852128801)

("Dove Simple Net Exec"                                SimpleNetExecDove.boot       2852128824)
("Dove Configuration Utility"                    SysConfigOfflineDove.boot    2852128825)
("Dove Installer"                                      InstallerNSDove.boot         2852128826)
("Dove Diagnostics Utility"                            DiagDiskUtilDove.boot        2852128828)
("Dove Rigid Disk Diagnostics Utility"                 DiagRDDove.boot              2852128829)
("Dove Ethernet Diagnostics Utility"                   DiagEtherDove.boot           2852128830)
("Dove Keyboard & Display Diagnostics Utility"         KDMDove.boot                 2852128831))
```

The boot file numbers overlay the host number space so Dandelion/Dove boot file numbers begin at 25200000000 octal.

KNOWN PROBLEMS

- The server can only handle one connection at a time.
- Due to as yet unknown reasons, a Dandelion running the server is not able to service simple Dove requests; all other combinations should work.