Simple utilities for FTP transfer

unsupported software prepared by
L.Chiappetti - IFCTR
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The following utilities might be useful to simplify ftp file transfer between the various machines at IFCTR. Given the fact that the number of combinations and file transfer modalities is quite large, no single general purpose utility can be made without a large effort.

> Therefore these utilities are offered "as they are" without any explicit or implied commitment for fitness to a particular purpose and for this reason they have to be considered officially unsupported..

The utilities will be described according to the machine on which the transaction is originated (irrespective whether it is a file transfer to or from such machine), i.e. the one on which ftp is run.

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1 Transfers to and from IBM

The following simple commands can be used to transfer ASCII files to and from the IBM from and to respectively the `IFCTR` Vax, the `helios` Sun and the `poseidon` DECstation. They are available on EXOSAT disk `A4` (the one accessed with `LINKHP`).

1.1 Transfer utilities

```
FROMVAX name type
FROMSUN name type
FROMDEC name type
TOVAX   name type
TOSUN   name type
TODEC   name type
```

They all work in a similar way. They store information about the *username* (and *password*) and the *directory* on the remote machine in global variables in virtual memory. Therefore one is asked to specify such information **only the first time**, then it is remembered.

1.2 Auxiliary utilities

If one wants to change such information (maybe it is different when connecting to another machine) one may use the following commands :

```
FTPCLEAR
```

this will cancel all information, so one will be prompted again by the `FROM` and `TO` commands.

```
FTPUSER [username]
```

this will reset the *username*. If the name is not passed as argument, one will be prompted. For security one is always prompted for the *password*.
For ease of use with Unix, the username argument is converted to lower case. If one wants to preserve the username in mixed case, one shall invoke `FTPUSER` without arguments: prompted input is always preserved as typed.

```
FTPDIR [directory]
FTPDIR DEFAULT
```

this will reset the remote *directory*. This shall be specified in the syntax of the remote system (e.g. `DUA0:[PINCO.BOH]` for VMS, `/home/pinco/boh` for Unix), and as expected by the remote ftp (e.g. in the forms indicated above for an *absolute* path, in forms `[.SUBDIR]` or `subdir` for a *subdirectory* of the user's login directory). For ease of use with Unix, the directory argument is converted to lower case. If one wants to preserve it in mixed case, one shall invoke `FTPDIR` without arguments: prompted input is always preserved as typed.
The above assumes that the `FROM` and `TO` utilities always do a cd to an user specified directory. The second form of `FTPDIR` (or specifying `DEFAULT` when prompted by the

`FROM/TO` utilities) will *prevent* this in case the remote directory is the *login directory*.

1.3 File name handling

It is known that filenames are different on different systems. On IBM one has a *name* and a *type*, blank-separated, maximum 8 characters. On VMS name and type can be longer, and are separated by a single dot, and the name or type (but not the dot) might be missing. On Unix there is no true type, and the name can include as many dots as wished or no dots.

While the utilities make no checking on legal file names, or file existence (any error will be returned straight from ftp), they attempt to resolve some of the simplest inconsistencies, as shown in the table below. Except where indicated, the translation is effective only getting files `FROM` the remote machine. For any case, explicitly or implicitly not handled, use ftp in manual mode.

```
Argument to        remote file       Resulting file    Note
FROM/TO utility    expected          on IBM

name type          name.type         name type         both FROM and TO
name.type          name.type         name type         both FROM and TO
name               name (or name.)   name FILE         Unix (or VMS)
name.              name.             name FILE         typically VMS
.name              .name             FILE name         typically Unix
name.xxx.type      name.xxx.type     NOT HANDLED
name illegal on IBM                  NOT HANDLED
```

1.4 Programmers'note

The main `FROM` and `TO` utilities are all implemented as a wrapper to a single utility `SERVEFTP EXEC`. They just set the remote host name in a global variable and call `SERVEFTP` as :

```
SERVEFTP action filename filetype
```

where `action` is either `GET` or `PUT`. This way it is very easy to add utilities for other machines (just copy one of the existing ones and change the hostname), and also all maintenance is concentrated in a single place.

2 Transfers to and from VAX

The following simple commands can be used to transfer ASCII files to and from the VAX from and to respectively the `IBM`, the `helios` Sun and the `poseidon` DECstation. They are available in `DUA0:[LUCIO.BIN]` as `.COM` files and shall be equated to a symbol in order to be used just by name as indicated below (e.g. `FROMDEC :== @DUA0:[LUCIO.BIN]FROMDEC`)

2.1 Transfer utilities

```
FROMIBM name type
FROMSUN name type
FROMDEC name type
TOIBM   name type
TOSUN   name type
TODEC   name type
```

They all work in a similar way. They store information about the *username* (and *password*) and the *directory* on the remote machine (and the *disk password* for IBM) in global symbols Therefore one is asked to specify such information **only the first time**, then it is remembered.

Note that `TOIBM` works only if the IBM virtual machine is logged off. One can use the READ password to write to the disk, but only if the disk is not CP-linked (normally this just means one has to be logged off).

2.2 Auxiliary utilities

If one wants to change such information (maybe it is different when connecting to another machine) one may use the following commands :

```
FTPCLEAR
```

this will cancel all information, so one will be prompted again by the `FROM` and `TO` commands.

```
FTPUSER [username]
```

this will reset the *username*. If the name is not passed as argument, one will be prompted. For security one is always prompted for the *password*.
For ease of use with Unix, the username argument is converted to lower case if supplied on the run string or if called implicitly by a `FROM/TO` utility. If one wants to preserve the username in mixed case, one shall invoke <u>interactively</u> `FTPUSER` without arguments: and pass the directory name enclosed in double quotes (e.g. `"aMixeDCasEnAme"`). Similarly the password is converted to lower case or shall always be included in double quotes, in the same cases and conditions as the username.

```
FTPDIR [directory]
FTPDIR DEFAULT
```

this will reset the remote *directory*. This shall be specified in the syntax of the remote system (e.g. `EXOSAT.191` for IBM, `/home/pinco/boh` for Unix for an *absolute* path, in form `subdir` for a *subdirectory* of the user's login directory).

For ease of use with Unix, the directory argument is converted to lower case if supplied on the run string or if called implicitly by a `FROM/TO` utility. If one wants to preserve it in mixed case, one shall invoke <u>interactively</u> `FTPDIR` without arguments and pass the directory name enclosed in double quotes (e.g. `"aMixeDCasEnAme"`) otherwise VMS converts it to upper case.

The above assumes that the `FROM` and `TO` utilities always do a cd to an user specified directory. The second form of `FTPDIR` (or specifying `DEFAULT` when prompted by the `FROM/TO` utilities) will *prevent* this in case the remote directory is the *login directory*.

```
FTPDISKPW [password]
```

this will reset the *disk password* needed for <u>remote IBM systems only</u>. It is called automatically by `SERVEFTP` or `FTPDIR` as appropriate.

2.3 File name handling

It is known that filenames are different on different systems. On IBM one has a *name* and a *type*, blank-separated, maximum 8 characters. On VMS name and type can be longer, and are separated by a single dot, and the name or type (but not the dot) might be missing. On Unix there is no true type, and the name can include as many dots as wished or no dots.

While the utilities make no checking on legal file names, or file existence (any error will be returned straight from ftp), they attempt to resolve some of the simplest inconsistencies, as shown in the table below. Except where indicated, the translation is effective only getting files `FROM` the remote machine. For any case, explicitly or implicitly not handled, use ftp in manual mode.

```
Argument to        remote file        Resulting file      Note
FROM/TO utility    expected           on VAX

name type          name.type          name type           both FROM and TO
name.type          name.type          name.type           both FROM and TO
name               name               name.               from/to Unix
name.              name.              name.               rarely used
.name              .name              .name               typically Unix
name.xxx.type      name.xxx.type      NOT HANDLED
name illegal on VAX                   NOT HANDLED
```

2.4 Programmers'note

The main `FROM` and `TO` utilities are all implemented as a wrapper to a single utility `SERVEFTP.COM`. They just set the remote host name in a global variable and call `SERVEFTP` as :

```
SERVEFTP action filename filetype
```

where *action* is either `get` or `put` (in **lowercase** !!!) This way it is very easy to add utilities for other machines (just copy one of the existing ones and change the hostname), and also all maintenance is concentrated in a single place.

3 Transfers to and from Unix

The following simple commands can be used to transfer ASCII files to and from an Unix workstation from and to respectively the `IBM, the IFCTR VAX`, the `helios` Sun and the `poseidon` DECstation. They are available in `/poseidon/lucio/bin` as scripts (they need to be <u>sourced</u>, since they alter environment variables, and they need to be aliased in order to be passed arguments, see 3.4). They are available in principle to any Unix workstation which has `/poseidon` mounted.

3.1 Transfer utilities

```
fromibm name type
fromvax name type
fromsun name type
fromdec name type
toibm   name type
tovax   name type
tosun   name type
todewc   name type
```

They all work in a similar way. They store information about the *username* (and *password*) and the *directory* on the remote machine (and the *disk password* for IBM) in environment variables. Therefore one is asked to specify such information **only the first time**, then it is remembered.

Note that `toibm` works only if the IBM virtual machine is logged off. One can use the READ password to write to the disk, but only if the disk is not CP-linked (normally this just means one has to be logged off).

3.2 Auxiliary utilities

If one wants to change such information (maybe it is different when connecting to another machine) one may use the following commands (they too have to be sourced/aliased):

```
ftpclear
```

this will cancel all information, so one will be prompted again by the `FROM` and `TO` commands.

```
ftpuser [username]
```

this will reset the *username*. If the name is not passed as argument, one will be prompted. For security one is always prompted for the *password*.
Lower, upper or mixed case is preserved as typed.

```
ftpdir [directory]
ftpdir default
```

this will reset the remote *directory*. This shall be specified in the syntax of the remote system (e.g. `EXOSAT.191` for IBM, `DUA0:[LUCIO]` for VAX, `/home/pinco/boh` for Unix for an *absolute* path, in forms `[.SUBDIR]` or `subdir` for a *subdirectory* of the user's login directory).
Lower, upper or mixed case is preserved as typed.
The above assumes that the `FROM` and `TO` utilities always do a cd to an user specified directory. The second form of `FTPDIR` (or specifying `DEFAULT` when prompted by the `FROM/TO` utilities) will *prevent* this in case the remote directory is the *login directory*.

```
ftpdiskpw [password]
```

this will reset the *disk password* needed for <u>remote IBM systems only</u>. It is called automatically by `SERVEFTP` or `FTPDIR` as appropriate.

3.3 File name handling

It is known that filenames are different on different systems. On IBM one has a *name* and a *type*, blank-separated, maximum 8 characters. On VMS name and type can be longer, and are separated by a single dot, and the name or type (but not the dot) might be missing. On Unix there is no true type, and the name can include as many dots as wished or no dots.

While the utilities make no checking on legal file names, or file existence (any error will be returned straight from ftp), they attempt to resolve some of the simplest inconsistencies, as shown in the table below. For any case, explicitly or implicitly not handled, use ftp in manual mode.

```
Argument to        remote file        Resulting file      Note
FROM/TO utility    expected           on Unix

name type          name type          name.type           typically IBM
name.type          name.type          name.type           from/to any
name               name [or name.]    name                Unix [or VMS]
name.              name.              name.               typ. from VMS
.name              .name              .name               typically Unix
name.xxx.type      name.xxx.type      name.xxx.type       from/to Unix
name illegal on Unix                  NOT HANDLED
```

3.4 Programmers'note

The main `FROM` and `TO` utilities are all implemented as a wrapper to a single utility `serveftp`. They just set the remote host name in a global variable and call `serveftp` setting a global variable with the string

```
    action filename filetype
```

where `action` is either `get` or `put` (in **lowercase** !!!) This way it is very easy to add utilities for other machines (just copy one of the existing ones and change the hostname), and also all maintenance is concentrated in a single place.

The customary trick to allows passing arguments to a procedure setting environment variables is to define aliases (this is done in `.mycshrc` for all relevant procedures) like :

```
    alias    procedure    'setenv TEMP "\!*"  ; source
procedure'
```

in *procedure* execute as first statements

```
    set argv = ($TEMP)
    unsetenv TEMP
```

It has to be noted also the usage of `set noglob` and `unset noglob` in `ftpdir` and `serveftp` (necessary to allow use of the special characters [] required by remote VMS.

It has also to be noted that ftp is so far alwais run in `-n` mode to prevent usage of `.netrc`.