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Suggested Technique for Transferring Pro/ENGINEER Files Between UNIX and Windows NT or Windows 95

In Pro/ENGINEER Release 2000i, a new portable binary format was introduced for Pro/ENGINEER data. This new format is intended to reduce file size and support other development initiatives. On average, the new file format reduces file size by 50%.

To ensure successful retrieval of files with the new binary file format, all data transfer from UNIX to Windows platforms, and from Windows to UNIX platforms, MUST be performed using a **binary** transfer. Data transfer using an **ASCII** format in either direction (UNIX to Windows, or Windows to UNIX) can permanently corrupt Pro/ENGINEER files. For users that are using the "compress_output_files" configuration option, no change in file transfer protocol is required. Binary file transfer has always been required when using this option.

Windows to UNIX:
The transfer of Pro/ENGINEER files from Windows platforms to UNIX platforms MUST be performed using a **binary** transfer. When files are transferred from Windows to UNIX as text, certain byte codes may be stripped from the file, resulting in irretrievable data corruption. (Prior to 2000i this would occur for compressed files, but would be extremely unlikely to have occurred for uncompressed files.) If data has been removed from the file, it will no longer be retrievable into Pro/ENGINEER.

UNIX to Windows:
When files are transferred from UNIX to Windows platforms using an ASCII method they are converted to a platform specific text format that can lead to corruption by insertion of extra characters. When using an ASCII transfer in this direction, however, Pro/ENGINEER may be able to recover the damaged file. With an ASCII transfer method, Pro/ENGINEER will display a warning message during retrieval, allowing the user to continue or cancel the retrieval. Pro/ENGINEER will attempt to convert and retrieve the file if the user chooses to continue. The file conversion will increase retrieval times and may require additional disk space. Once the file is retrieved and saved in Release 2000i, the file will not need to be converted in the future. Alternatively, the files can be converted at the command prompt using the dos_to_binary conversion utility. Executing "dos_to_binary" will display the usage of this utility.

Note: Compressed format files (created by setting config.pro option "compress_output_files" to "yes") must always be transferred between platforms as binary files and cannot be corrected by Pro/ENGINEER if copied using an ASCII method.

This document contains suggestions for:

- **Transferring a File in Binary Mode**
- **Correcting a File Which Has Already Been Transferred in ASCII Mode**

Transferring a File in Binary Mode

Copying a file using "rcp"

When copying a file directly between a UNIX machine and a Windows machine on a network, the "rcp" command must be used in **binary** mode by using the "-b" option as shown in the following examples.

Note: The "rcp" command is available on Windows NT and Windows 95. The command is executed on the Windows machine from within an MS-DOS command prompt window.

- Copying a file from UNIX to Windows:

  ```
  C:\users\default> rcp -b miami.user:/home/user/prt0001.prt.1 .
  ```

- Copying a file from Windows to UNIX:

  ```
  C:\users\default> rcp -b prt0001.prt.1 miami.user:/home/user
  ```

Transferring a file using FTP

When using FTP, the transfer mode must be changed to **binary** before copying a file. This is accomplished by entering the "bin" command at the FTP prompt as shown in the following examples.

- Copying a file **to** the FTP server:

  ```
  ftp> bin

  200 Type set to I.

  ftp> put prt0001.prt.1
  ```

- Copying a file **from** the FTP server:

  ```
  ftp> bin

  200 Type set to I.

  ftp> get prt0001.prt.1
  ```

Transferring a file using electronic mail

Due to the the wide variety of mail servers and mail tools available for each platform and operating system, the result of a file transfer via electronic mail is unpredictable. Therefore this method is not advised for transferring Pro/ENGINEER files.
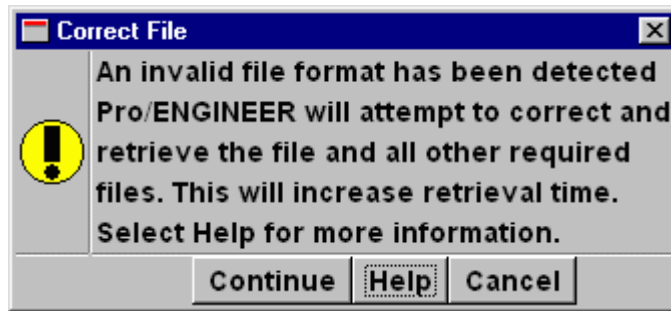

Correcting a File Which Has Already Been Transferred using an ASCII Transfer Method

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A file which has already been transferred to Windows NT or 95 using an ASCII transfer method can be corrected in either of two ways:
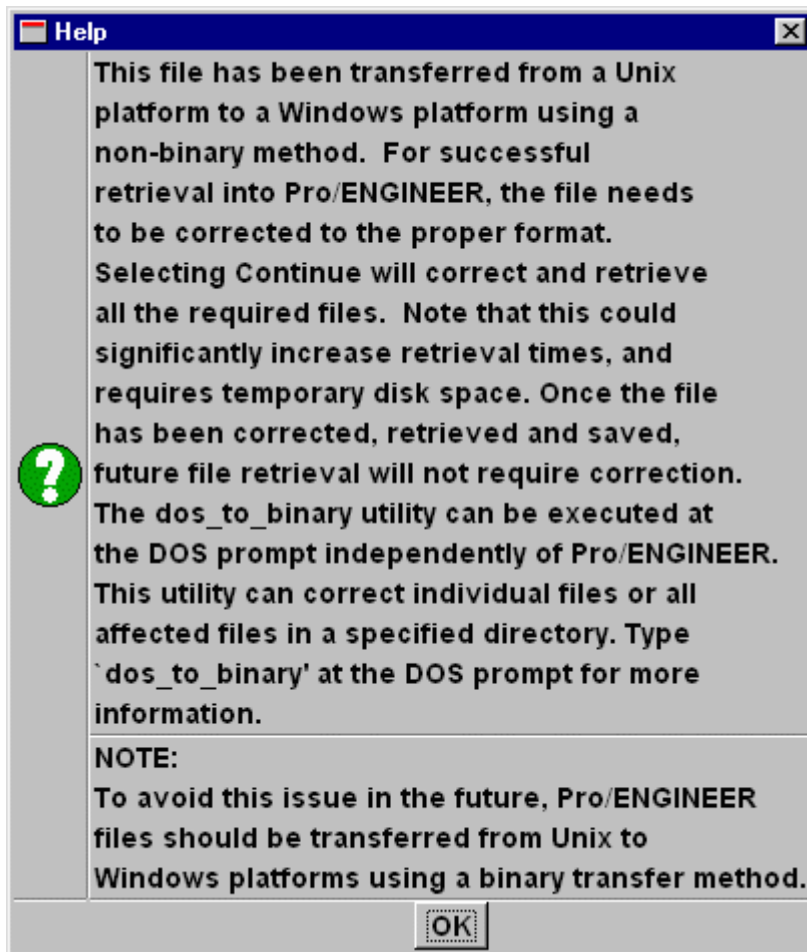
- Correct a file in a Pro/ENGINEER session
- Correct a file using a shell utility

Correct a file in a Pro/ENGINEER session

When Pro/ENGINEER tries to retrieve a file which requires correction, a dialog box appears (shown below), informing the user of the need for correction and providing the option to correct the file during retrieval or to cancel the retrieval operation.

- The **Continue** selection causes Pro/ENGINEER to proceed with the retrieval of the model, which will take longer than normal due to the extra correction step required.
- The **Help** selection produces the message window shown below, which provides information about the need for correction and the methods available for performing this operation.
- The **Cancel** selection cancels retrieval of the file.

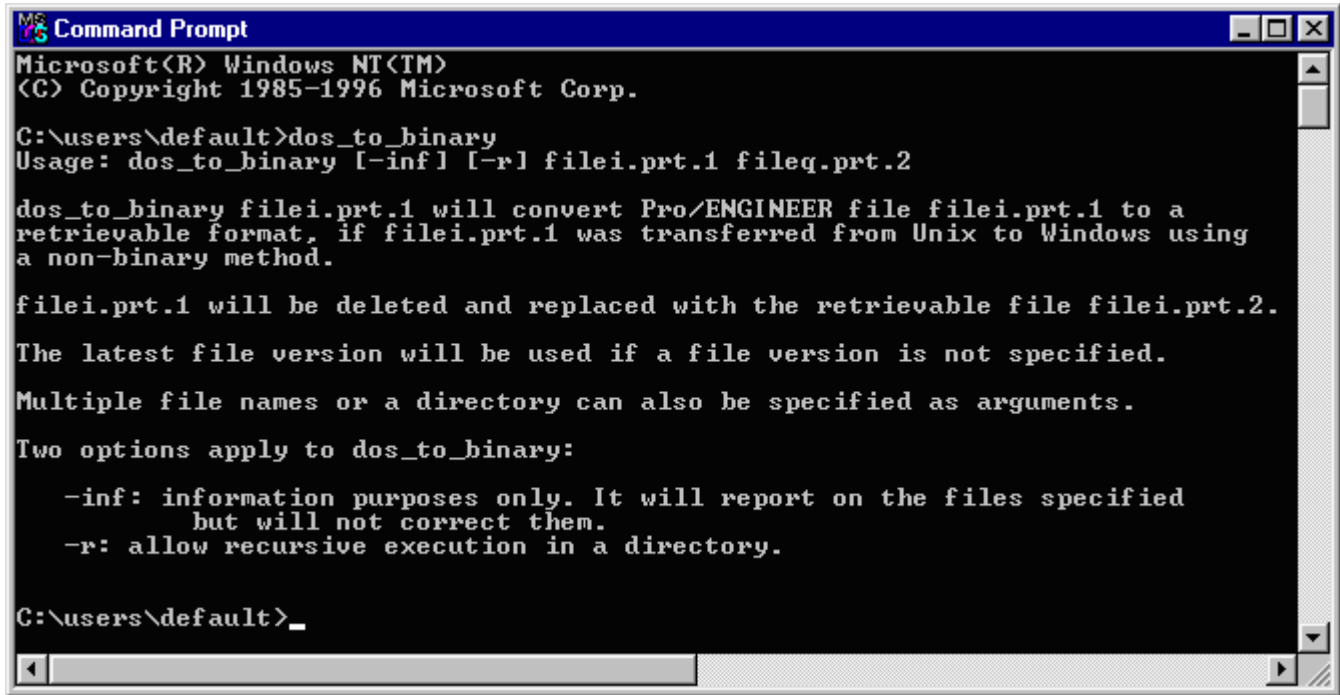
Correct a file using a shell utility

Pro/ENGINEER files which have been transferred incorrectly may also be corrected using the **dos_to_binary** utility. This utility will:

- look for the latest version of a model if the version number is not specified
- determine and report the Pro/ENGINEER Release (19,20, etc.) in which a file was created
- determine and report whether correction is necessary (-inf)

- correct the file if necessary and increment the version number (*.prt.1 will become *.prt.2)
- report the status as a file is being corrected
- report when the correction is complete

Usage

Typing **dos_to_binary** with no arguments causes the usage information to be displayed, as shown below.

```
Microsoft(R) Windows NT(TM)
(C) Copyright 1985-1996 Microsoft Corp.

C:\users\default>dos_to_binary
Usage: dos_to_binary [-inf] [-r] filei.prt.1 fileq.prt.2

dos_to_binary filei.prt.1 will convert Pro/ENGINEER file filei.prt.1 to a
retrievable format, if filei.prt.1 was transferred from Unix to Windows using
a non-binary method.

filei.prt.1 will be deleted and replaced with the retrievable file filei.prt.2.

The latest file version will be used if a file version is not specified.

Multiple file names or a directory can also be specified as arguments.

Two options apply to dos_to_binary:

   -inf: information purposes only. It will report on the files specified
         but will not correct them.
   -r: allow recursive execution in a directory.


C:\users\default>_
```

Examples of messages

The following are examples of messages which are output from **dos_to_binary** depending on the type of file which is specified for correction.

- Pro/ENGINEER files which require correction:

  ```
  C:\users\default> dos_to_binary prt0001.prt.1
  prt0001.prt.1: Pro/ENGINEER Release 1800 file.
  Invalid file format detected. File is being converted....
  ....File has been converted to prt0001.prt.2
  ```

- Pro/ENGINEER files which do not require correction:

  ```
  C:\users\default> dos_to_binary prt0002.prt.1
  prt0002.prt.1: Pro/ENGINEER Release 2100 file.
  File format is correct and does not need to be corrected.
  ```

- Non-Pro/ENGINEER files:

  ```
  C:\users\default> dos_to_binary trail.txt.1
  trail.txt.1: Not a recognized Pro/Engineer file
  ```

Capturing output in a script file

Users may be able to direct the output messages from **dos_to_binary** to a text file rather than to the screen using the standard shell redirect syntax such as "2>" as shown in the following example.

```
C:\users\default> dos_to_binary file.prt.1 2> report.txt
```

Note: The above-mentioned syntax is provided as a suggestion only and may not work on all platforms. The

output from the **dos_to_binary** utility is sent to *standard error,* therefore the "2" is required to redirect the output to a file. Most shells allow standard error to be redirected to a file, but the syntax required may be different from that shown above.

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