

Install and Configure a TPS PDC

Objective

Given an NT Server node, configure it to be the primary domain controller (PDC) for a TPS domain.

Prerequisites

- From your partition sheet, enter the following data:

TPS Node TCP/IP Address:

Default gateway TCP/IP Address:

Subnet mask:

Computer Name:

NT Domain Name:

Introduction

During this lab exercise, you will configure several settings required for NT Primary Domain Controller

- Configure TCP/IP settings
- Add to NT Domain
- Install TPS Groups and Security using the TPS Setup Utility
- Configure TPS Users
- Configure Users Rights
- Configure HOSTS and LMHOSTS File
- Create and Modify the PDC_COPY.BAT File

Estimated Time to Complete: 1 hour

Procedures

Perform the following procedures on the PDC node.

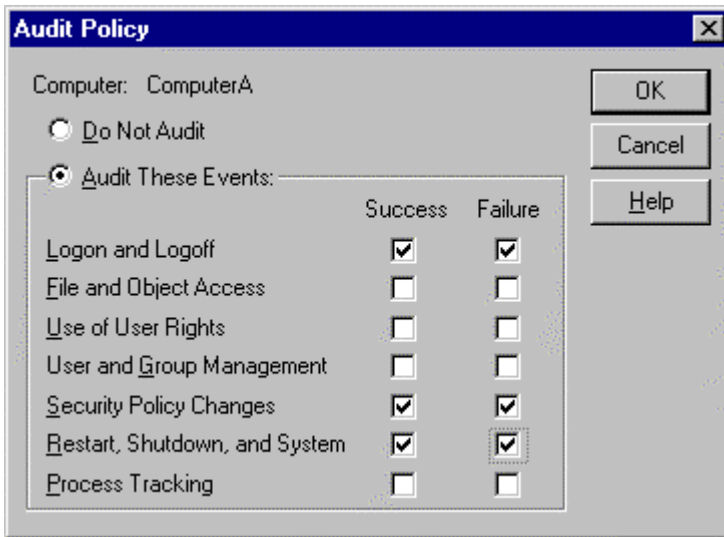
Change the Domain Administrator Password

✓	Step	Action
	1	At the PDC, logon as Administrator .
	2	Press the following key combination: <Ctrl> <Alt> <Delete>
	3	Click the Change Password button.
	4	Do not enter anything in the Old Password field.
	5	Enter the new password Studentxx (where xx is your student number). DO NOT ENTER ANY OTHER PASSWORD! USE THIS FORMAT E'XACTLY! CAUTION: Record and store the domain Administrator password in a secure place. If you forget the password, you will have to reinstall Windows NT Server to recover.
	6	Confirm the new password in the Confirm New Password field.
	7	Click the OK button.
	8	The following message will be displayed: Your password has been changed.
	9	Click the OK button.
	10	Click the Cancel button.

Set the Date and Time

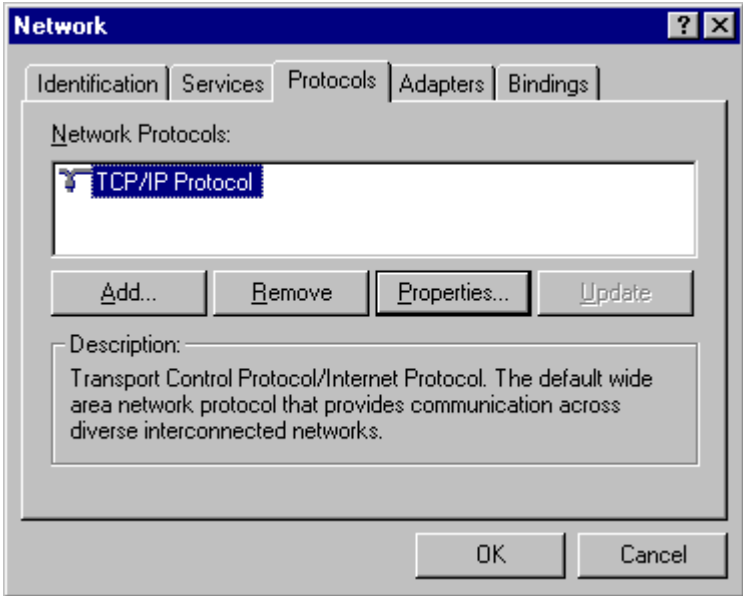
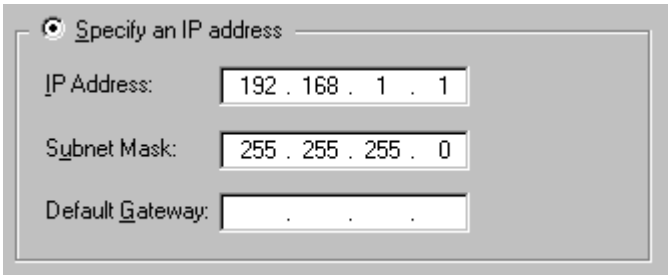
✓	Step	Action
	11	Select Start→Settings→Control Panel .
	12	Double-click the Date/Time icon.
	13	Select the Time Zone tab.
	14	Use the drop down menu to select the local time zone .
	15	Click the Apply button.
	16	Select the Date & Time tab.
	17	Enter the correct date and time , then Click the OK button.
	18	Close the Control Panel window.

Configure Auditing for the PDC

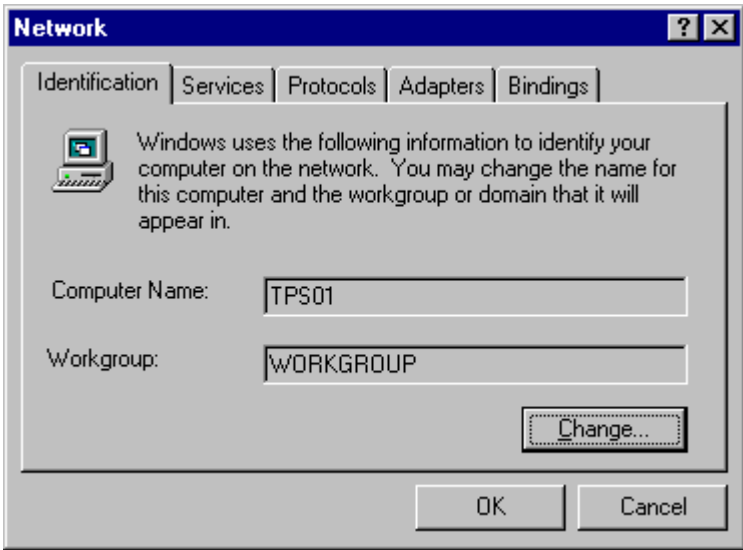
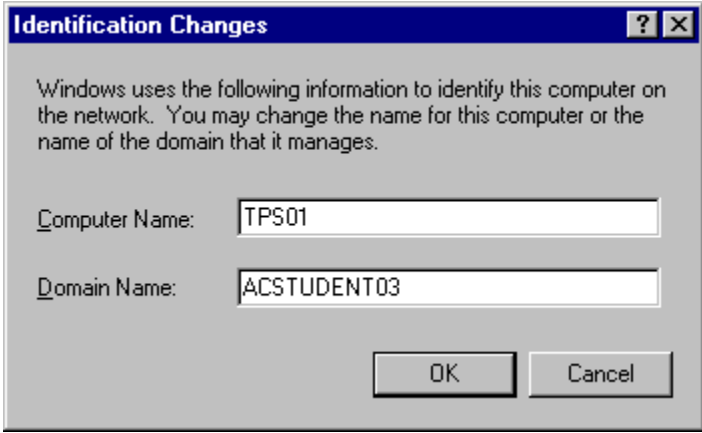
✓	Step	Action
	19	Open the User Manager for Domains utility by selecting: Start→Programs→Administrative Tools (common)→User Manager for Domains
	20	Select Policies→Audit .
	21	Set the Audit Policy as listed below: 
	22	Select the OK button to save your changes and close the <i>Audit Policy</i> dialog.
	23	Close the User Manager for Domains utility.

Configure TCP/IP Settings

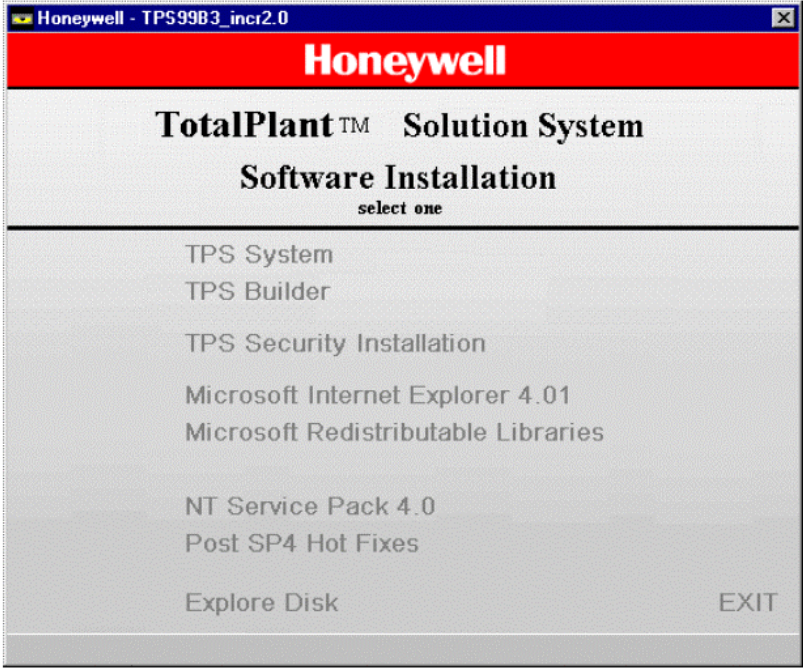
✓	Step	Action
	24	Open the Control Panel program as follows: Start > Settings > Control Panel
	25	Double-click the Network program icon.

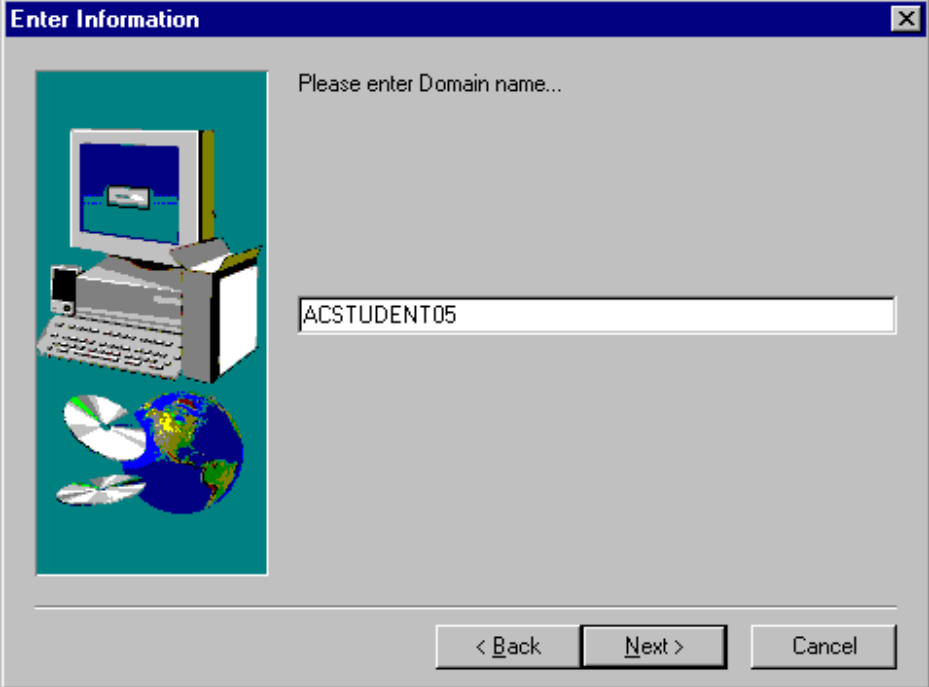
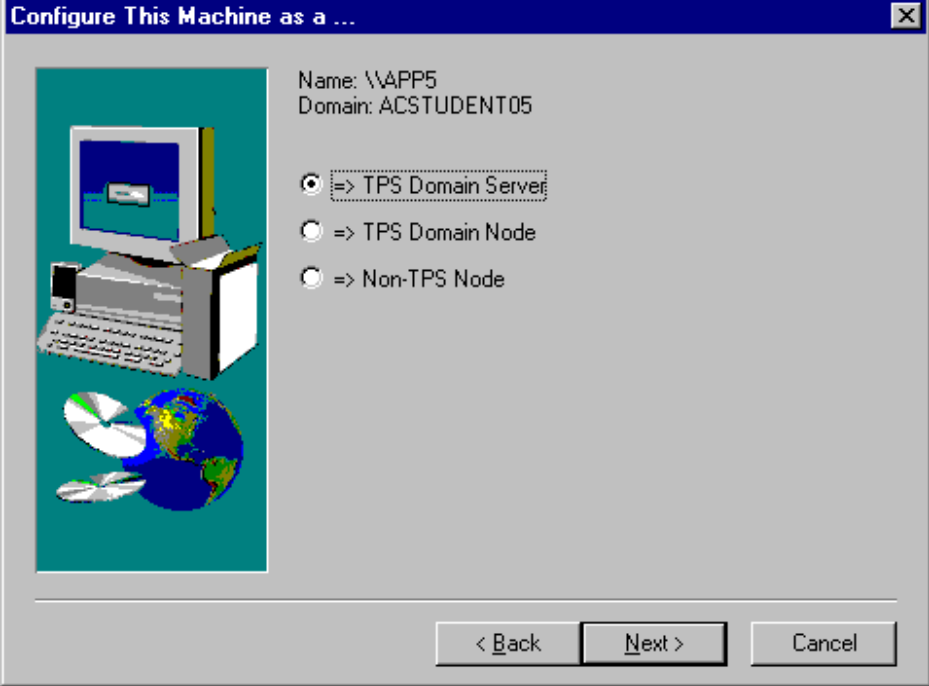
✓	Step	Action
	26	<p>Select the Protocols tab.</p> 
	27	<p>Select/highlight TCP/IP Protocol and then select the Properties... button.</p>
	28	 <p>Enter the following data from your partition sheet:</p> <ul style="list-style-type: none"> • IP Address • Subnet Mask • Default Gateway (leave blank for this class)
	29	<p>Select the OK button on the TCP/IP Properties window.</p>
	30	<p>Connect the network (Ethernet) cable.</p>

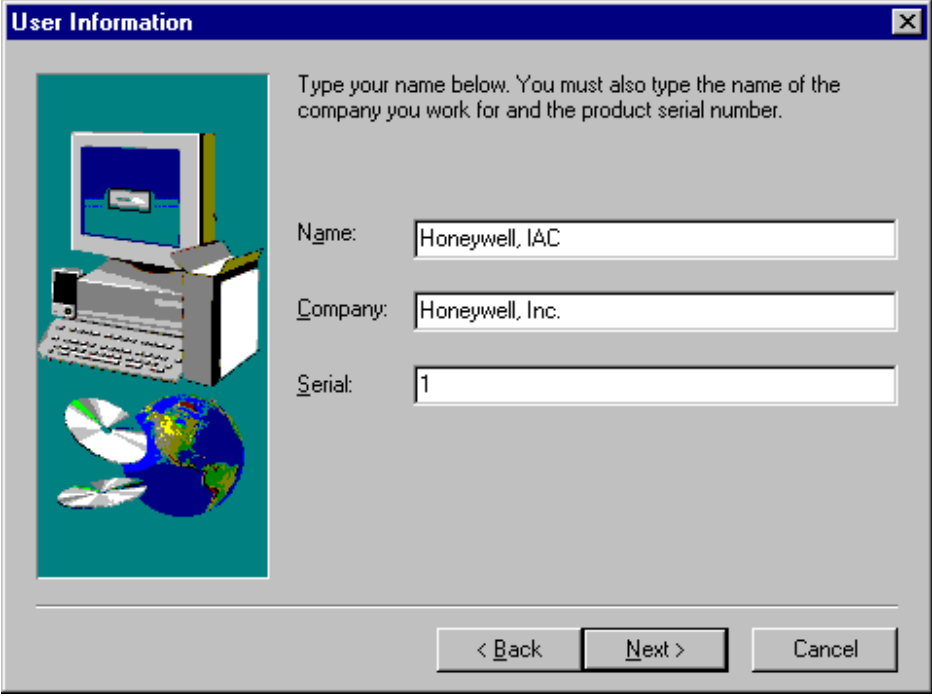
Create the NT Domain

✓	Step	Action
	31	<p>Select the Identification tab.</p> 
	32	Select the Change... button.
	33	<p>Enter the Computer Name and the NT Domain Name listed on your partition sheet.</p> 
	34	Select the OK button.
	35	Select the OK button on the Network Configuration dialog box to confirm the computer name change.
	36	Select the YES button in response to "Are you sure you want to do this?".
	37	Select the OK button on the <i>Welcome to the Domain</i> dialog.
	38	Select Close on the Network box.
	39	Select the Yes button to reboot your PDC.

Install TPS Groups and Security

✓	Step	Action
	40	Log on to the PDC as Administrator.
	41	<p>Insert the TPS System Software CD-ROM. The following will appear:</p> 
	42	Click TPS Security Installation .

✓	Step	Action
	43	<p>If the domain name is not correct, enter the NT Domain name listed on your partition sheet and then select the Next button.</p> 
	44	<p>In the <i>Configure This Machine as a ...</i> window, select the TPS Domain Server radio button option and then select the Next button.</p> 
	45	<p>In the <i>Welcome</i> window, select the Next button.</p>

✓	Step	Action
	46	Read the Software License Agreement and accept the software license agreement terms by selecting the Yes button.
	47	If not already correct, enter a Name and Company from your partition sheet.
	48	Enter 1 (one) in the Serial (serial number) text field and then select the Next button. 
	49	Enter C: as the drive letter where the TPS software will be installed and select the Next button.
	50	Select the Typical installation option and select the Next button.
	51	Verify the current settings and select the Next button to begin the security configuration.
	52	Wait for configuration to complete (about 2 minutes). You should not get errors. If you do, investigate them. Select the I prefer to view the configuration log at another time radio button and then select the Next button.
	53	Select the Finish button.
	54	Select EXIT on the Software Installation window, then select Yes to confirm.
	55	Remove the CD from the drive.

Configure TPS Users

In the previous procedure, the TPS Setup Utility created several users and groups.

✓	Step	Action
	56	Use the User Manager for Domains utility and the table below to create the recommended domain accounts as follows:

✓	Domain User Name	Assigned Group Name
	Operator	Operators ^{1, 2, 3, 4}
	Supervisor	Supervisors ^{3, 4}
	Engineer	Engineers ⁴
	Other individually-named engineers	Engineers ⁴
	TPSAdministrator	TPSAdministrators ⁴
	Other individually-named TPSAdministrators	TPSAdministrators ⁴
	View Only	View Only Users ^{1, 2, 3, 4}

¹ Deselect (uncheck) the **User Must Change Password at Next Logon** option and select the **User Cannot Change Password** and the **Password Never Expires** options.

² There should not be a password set on the **Operator** or **View Only** accounts.

³ Set the logon script name to the **operator.bat** batch file.

⁴ Make the Assigned Group the Primary Group, then remove the user from the Domain Users group.

Configure HOSTS and LMHOSTS Files

Copy and Modify HOSTS File

✓	Step	Action
	57	Open Windows NT Explorer.
	58	Copy the HOSTS file (no file extension) from the: C:\Winnt\System32\Drivers\Etc directory to C:\Winnt\System32\Repl\Export\Scripts directory
	59	Using Notepad, open the HOSTS file by navigating to the directory C:\Winnt\System32\Repl\Export\Scripts
	60	Using your partition sheet, modify the HOSTS file to include your GUS and APP nodes. Example: To add an APP node named APP1 with an IP address of 160.221.103.22 and a GUS node named GUS1 with an IP address of 160.221.102.67, respectively the entry would look like this: <pre> 160.221.103.22 app1 # APP1 160.221.102.67 gus1 # GUS1 127.0.0.1 localhost </pre>
	61	Save the HOSTS file.

Copy and Modify LMHOSTS File


✓	Step	Action
	62	Using Windows NT Explorer, copy the LMHOSTS.sam file from the: C:\Winnt\System32\Drivers\Etc directory to C:\Winnt\System32\Rep\Export\Scripts directory
	63	In the C:\winnt\system32\Rep\scripts directory, right-click on the just-copied version of the LMHOSTS.sam file and select the Rename menu option.
	64	Remove the .sam file extension from the just-copied LMHOSTS.sam file name so the new name is just LMHOSTS .
	65	Using Notepad, open the LMHOSTS file by navigating to the directory C:\Winnt\System32\Rep\Export\Scripts
	66	<p>Using your partition sheet, modify the LMHOSTS file to include your GUS and APP nodes.</p> <p>Example: To add an APP node named APP1 with an IP address of 160.221.103.22 and a GUS node named GUS1 with an IP address of 160.221.102.67, respectively the entry would look like this:</p> <pre>160.221.103.22 app1 # APP1 160.221.102.67 gus1 # GUS1 127.0.0.1 localhost</pre> <p>Note: Read the last paragraph of the comments (lines that start with #) and remove all comments and other non-essential host names.</p>
	67	Save the LMHOSTS file.

Create and Modify the PDC_COPY.BAT File

✓	Step	Action
	68	Using Notepad, open the PDC_COPY.SAM file found in the C:\Winnt\System32\Repl\Export\Scripts directory. NOTE: This file contains the instructions to copy the operator.bat and ntconfig.pol files from the PDC to all of the TPS nodes in the domain.
	69	Find the lines: set gusnames and set appnames .
	70	Edit these lines to contain only the names of your GUS and APP nodes. Example: Using the APP and GUS names of APP1 and GUS1, the edited lines would be: set gusnames=GUS1 set appnames=APP1 Note: These names must EXACTLY match the computer names listed on your partition sheet. (GUS01 ≠ GUS1)
	71	Save the modified file with a .bat file extension: PDC_COPY.BAT
	72	Close Notepad.
	73	Close Windows NT Explorer

Create an Emergency Repair Disk (ERD)

✓	Step	Action
	74	Select Start → Run .
	75	Enter rdisk /s and press Enter . A Saving Configuration progress bar will appear, then a creation verification message will appear.
	76	Click the Yes button to verify. A floppy insertion message will appear.
	77	To create a new ERD, insert a new floppy that can be reformatted into the A drive. To update a ERD, insert the existing ERD into the A drive.

✓	Step	Action
	78	<p>Click the OK button.</p> <p>A Formatting Disk progress bar will appear as the ERD format is taking place.</p> <p>A Copying Configuration Files progress bar will appear as the configuration files are being copied to the ERD.</p> <p>A security precaution message will appear.</p>
	79	Click the OK button.
	80	<p>Remove the diskette from the drive and label it follows: NT ERD – XXXXX</p> <p>Where XXXXX is the name of your computer.</p> <p> ATTENTION: The diskette may only be used to recover NT on the node which was used to create the ERD diskette.</p>
	81	Store the NT ERD in a secure location where it can be retrieved if necessary.

References

TPS System Implementation Guide

Notes

Sample File Listings

HOSTS File

```
# Copyright (c) 1993-1995 Microsoft Corp.
#
# This is a sample HOSTS file used by Microsoft TCP/IP for Windows NT.
#
# This file contains the mappings of IP addresses to host names. Each
# entry should be kept on an individual line. The IP address should
# be placed in the first column followed by the corresponding host name.
# The IP address and the host name should be separated by at least one
# space.
#
# Additionally, comments (such as these) may be inserted on individual
# lines or following the machine name denoted by a '#' symbol.
#
# For example:
#
# 102.54.94.97 rhino.acme.com      # source server
# 38.25.63.10  x.acme.com         # x client host


127.0.0.1    localhost
192.168.1.1  TPS01
```

PDC_COPY.SAM File

```
@echo off
rem =====PDC_COPY.BAT=====
rem --
rem --This batch file is used to distribute files resident on the
rem --Primary Domain Controller (PDC) to GUS stations connected to
rem --the Process Control Network (PCN).
rem --
rem --REVISION HISTORY
rem --
rem --Rev 0.00 - 23/07/1997 - Phil Males UK72 - Original
rem --Rev 0.01 - 28/10/1997 - Added copy of HOSTS and LMHOSTS files
rem --Rev 0.02 - 24/03/1998 - JBNye - copy all for *.BAT, *.CMD, *.POL *.HOSTS
rem --                added CMD parameter and procedure
rem --                copy HOSTS and LMHOSTS to local machine
rem --Rev 0.03 - 15/04/1998 - KStaggs - added echo on/off to improve error
rem --                diagnosis. Made %1 parameter case
rem --                insensitive.
rem --
rem --ASSUMPTIONS
rem --
rem --1.The user has 10 connected GUS stations named gus01 to gus10 and
rem -- 10 connected APP Nodes named app01 to app10. Users with other
rem -- numbers of GUS stations and APP Nodes on the PCN should edit this
rem -- file accordingly. This involves editing the lists of GUS names
```

```

rem -- and APP Names equated by the SET command to the environment
rem -- variables "gusnames" and "appnames".
rem --
rem -- PLEASE NOTE:-If adding GUS stations, NT4 has a maximum
rem -- command line length of 256 characters.
rem --
rem --2.The PDC name is not specified. It is assumed the batch file
rem -- is run only from the PDC itself.
rem --
rem --3.The directory structures referenced on the PDC and the shares on
rem -- GUS stations must exist and have the appropriate permissions
rem -- set. The following shares names have been used in this batch
rem -- file:-
rem -- ADMIN$ for copying all files.
rem --
rem --4.The GUS stations and APP Nodes listed in the SET command are powered
rem -- up and available to the NT domain. In this version, no error checking
rem -- for an unavailable GUS or APP Node is carried out.
rem --
rem --
rem --SYNTAX
rem --
rem --The calling syntax for PDC_COPY is :-
rem --
rem --          PDC_COPY %1
rem --
rem --PDC_COPY only accepts a single calling parameter %1 which is a
rem --string variable. This defines the file types to copy. Valid
rem --call settings for %1 are :-
rem --
rem --          NET
rem --          POL
rem --          CMD
rem --
rem --All other values of %1 are ignored.
rem --
rem --Use the PDC_COPY NET to distribute the HOSTS and LMHOSTS
rem --files.
rem --
rem --Use the PDC_COPY POL to distribute the *.POL files
rem --
rem --Use the PDC_COPY CMD to distribute the *.CMD files
rem --
rem =====
:begin
rem -----
rem --Set up environment variables
rem -----
set gusnames=GUS01 GUS02 GUS03 GUS04 GUS05 GUS06 GUS07 GUS08 GUS09 GUS10
set appnames=APP01 APP02 APP03 APP04 APP05 APP06 APP07 APP08 APP09 APP10
rem -----
rem --Trap calling errors
rem -----
if "%1"==" " goto syntax1
rem -----
rem --Check calling syntax and unrecognised parameters

```

```

rem -----
if "%1"=="pol" goto copypol
if "%1"=="POL" goto copypol
if "%1"=="bat" goto copybat
if "%1"=="BAT" goto copybat
if "%1"=="cmd" goto copycmd
if "%1"=="CMD" goto copycmd
if "%1"=="net" goto copynet
if "%1"=="NET" goto copynet
goto syntax2
rem -----
rem --Copy the *.POL files to each TPS Node
rem -----
:copypol
echo -----
echo Are you sure you want to copy all POL files to each TPS Node ?
echo -----
pause
echo on
for %%a in (%gusnames%) do copy %windir%\system32\repl\export\scripts\*.pol
\\%%a\ADMIN$\system32\repl\import\scripts
for %%a in (%appnames%) do copy %windir%\system32\repl\export\scripts\*.pol
\\%%a\ADMIN$\system32\repl\import\scripts
echo off
goto end
rem -----
rem --Copy the *.BAT files to each TPS Node
rem -----
:copybat
echo -----
echo Are you sure you want to copy all BAT files to each TPS Node ?
echo -----
pause
echo on
for %%a in (%gusnames%) do copy %windir%\system32\repl\export\scripts\*.bat
\\%%a\ADMIN$\system32\repl\import\scripts
for %%a in (%appnames%) do copy %windir%\system32\repl\export\scripts\*.bat
\\%%a\ADMIN$\system32\repl\import\scripts
echo off
goto end
rem -----
rem --Copy the *.CMD files to each TPS Node
rem -----
:copycmd
echo -----
echo Are you sure you want to copy all CMD files to each TPS Node ?
echo -----
pause
echo on
for %%a in (%gusnames%) do copy %windir%\system32\repl\export\scripts\*.cmd
\\%%a\ADMIN$\system32\repl\import\scripts
for %%a in (%appnames%) do copy %windir%\system32\repl\export\scripts\*.cmd
\\%%a\ADMIN$\system32\repl\import\scripts
echo off
goto end
rem -----

```



```

rem --Copy the HOSTS and LMHOSTS files to each TPS Node
rem -----
:copynet
echo -----
echo Are you sure you want to copy the HOSTS and LMHOSTS file to each TPS Node ?
echo -----
pause
echo on
copy %windir%\system32\repl\export\scripts\*HOSTS %windir%\system32\drivers\etc
for %%a in (%gusnames%) do copy %windir%\system32\repl\export\scripts\*HOSTS
\\%%a\ADMIN$\system32\drivers\etc
for %%a in (%appnames%) do copy %windir%\system32\repl\export\scripts\*HOSTS
\\%%a\ADMIN$\system32\drivers\etc
echo off
goto end
rem -----
rem --Traps incorrect syntax calls
rem -----
:syntax1
echo -----
echo *** PDC_COPY *** Syntax Error 1 *** No user option parameter present
echo -----
goto msg1
:syntax2
echo -----
echo *** PDC_COPY *** Syntax Error 2 *** Unrecognised user option parameter present
echo -----
:msg1
echo - Use syntax PDC_COPY NET to distribute HOSTS and LMHOSTS file
echo - Use syntax PDC_COPY POL to distribute all POL files
echo - Use syntax PDC_COPY BAT to distribute all BAT files
echo - Use syntax PDC_COPY CMD to distribute all CMD files
echo -----
goto end
rem -----
rem --Common exit
rem -----
:end

```