

Install, Configure, and Operate a TPN Server

Objective

Given a properly configured TPS node, install and configure a TPN Server.

Given an installed HCI component on a TPS node, start and stop the HCI component on the domain's PDC.

Prerequisites

- Your partition sheet
- A TPS APP node configured as part of a TPS domain
- Base HCI components are installed on the local node
- The PDC for the TPS Domain has been configured

Introduction

Part I: The purpose of this lab is to install and configure a TPN Server component on a TPS APP node.

Part II: The purpose of this lab is to start and stop an HCI component that is installed on a TPS node.

Configuring the TPN Server

The TPN Server is an HCI component with the following COM object identifiers: Its ProgID is Hci.TPNServer, and its CLSID is {ADF6AE8B-B0F1-11d0-8A01-00C04FC97D9D}. After installing the TPN Server software, the TPN Server must be configured before starting it up. Unconfigured, the TPN Server will never start up. The HCI Component configurator page should be used to configure the TPN Server. Please refer to the procedure outlined earlier in this section for configuration of an HCI component.

There are three TPN Server configuration pages or tabs that the user can select to configure the TPN Server. They are:

- Channel configuration page for configuring the number of TPN channels to be allocated by the TPN Server and the number of allocated channels reserved for HIGH priority requests.
- Default access level and priority level configuration page for changing the setting of the TPN System access level and TPN Server priority level that will be used by an HCI client which does not explicitly set these levels.
- Security configuration page for adding TPN security name and changing the TPN Server proxy files or capability names.

Estimated Time to Complete: 1.5 hours

Procedures

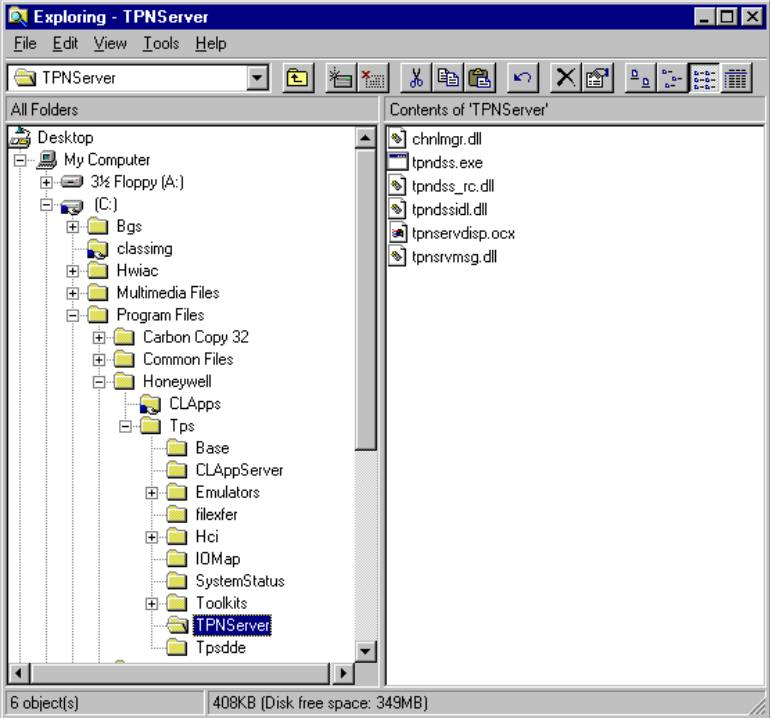
⇒ *Note: The procedures in this section assumes the node has the APP Base Software loaded, configured and fully implemented.*

Part I:

Install the TPN Server Software on the APP node

| ✓ | Step | Action |
|---------------------------------|------|--|
| Deactivate all TPS Applications | | |
| | 1 | Log on to the APP node as TPSAdministrator. |
| | 2 | Open the Configuration Utility as follows: Start > Programs > Honeywell TPS > Configuration Utility |
| | 3 | Select the Configure menu. |
| | 4 | Select the Devices/Services menu option. |
| | 5 | Note all boxes that are checked so you can select them later. <div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> TPSadmin <input type="checkbox"/> Device Driver <input type="checkbox"/> Enable <input type="checkbox"/> LCN File Service <input type="checkbox"/> BGS_SDService <input type="checkbox"/> GUS Remote LXS <input type="checkbox"/> Enable Touch Screen Driver </div> <div> <input type="checkbox"/> TPS Console Operator <input type="checkbox"/> Services <input type="checkbox"/> File Transfer <input type="checkbox"/> CarbonCopy32 <input type="checkbox"/> Enable Integrated Keyboard Driver </div> </div> |
| | 6 | Uncheck all boxes and then select the OK button. |
| | 7 | Close the Configuration Utility. |
| | 8 | Shutdown and restart the APP node. |
| | 9 | Log on as TPSAdministrator WHILE HOLDING THE SHIFT KEY DOWN. Note: the SHIFT key is held down at the time the ENTER key is pressed. You ensure that no applications are active by holding the SHIFT key while you log on. You must hold the key down until the log in is complete (the cursor is the normal cursor). |
| Install Software Components | | |
| | 10 | Insert the TPS Sys Software CD-ROM. |
| | 11 | Select TPS System. |
| | 12 | When the <i>Welcome</i> dialog displays, read the details and if you agree select the Next button. |

| ✓ | Step | Action |
|---|-----------|--|
| | 13 | Accept the software license agreement terms by selecting the Next button. The <i>User Information</i> dialog is displayed. |
| | 14 | Read the Third-Party Software Compatibility Policy and select the Next button. |
| | 15 | If this dialog has been used before, the information will be filled in. If not, enter the Name, Company, License No., and Authorization No. information from your partition sheet and then select the Next button. |
| | 16 | When the License No. and Authorization No. have been validated, the <i>Package Selection</i> dialog displays with a list of the available licensed packages. Select the following package: TPN Server |
| | 17 | Select the Install Package button. |
| | 18 | Select the Default radio button option for Installation Type and then select the OK button. If you encounter read-only files, select the checkbox and the Yes button to overwrite them. |
| | 19 | When all selected packages are installed, select the Exit button to exit the install program. |
| | 20 | Select the Yes button to answer the <i>Are you sure...</i> dialog. |
| | 21 | Click EXIT on the Software Installation window, then select Yes to confirm. |
| | 22 | Remove the TPS Sys Software CD-ROM from the APP node's CD drive. |
| Verify the TPN Server Software Installation on the APP node | | |
| | 23 | Invoke Windows NT Explorer from the Task Bar: Start > Programs > Windows NT Explorer |
| | 24 | Navigate to the following path: C:\Program Files\Honeywell\TPS\TPNServer |

| ✓ | Step | Action |
|--------------------------|------|---|
| | 25 | <p>Verify the TPNServer folder contains program files indicating a successful installation.</p>  <p>The screenshot shows a Windows Explorer window titled 'Exploring - TPNServer'. The left pane shows the 'All Folders' tree with 'TPNServer' selected under 'Program Files' > 'Honeywell' > 'CLApps' > 'Tps'. The right pane shows the 'Contents of TPNServer' folder, which contains the following files: chnlmgr.dll, tpdss.exe, tpdss_rc.dll, tpdssidl.dll, tpnservdisp.ocx, and tpnsrvmsg.dll. The status bar at the bottom indicates '6 object(s)' and '408KB (Disk free space: 349MB)'.</p> |
| Restart TPS Applications | | |
| | 26 | <p>Open the Configuration Utility as follows: Start > Programs > Honeywell TPS > Configuration Utility</p> |
| | 27 | <p>Select the Configure→ Devices/Services.</p> |
| | 28 | <p>Refer to step 5 and check the boxes for the desired services and then select the OK button.</p> |
| | 29 | <p>Close the Configuration Utility.</p> |
| | 30 | <p>Shutdown and restart the node.</p> |

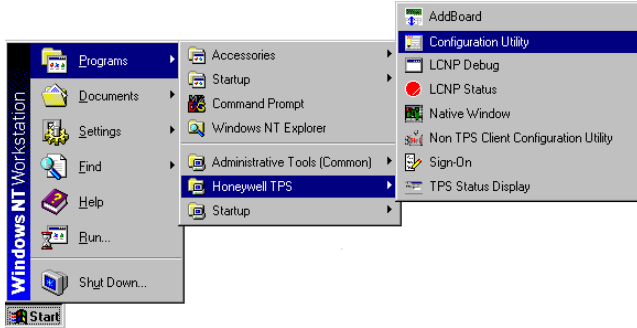
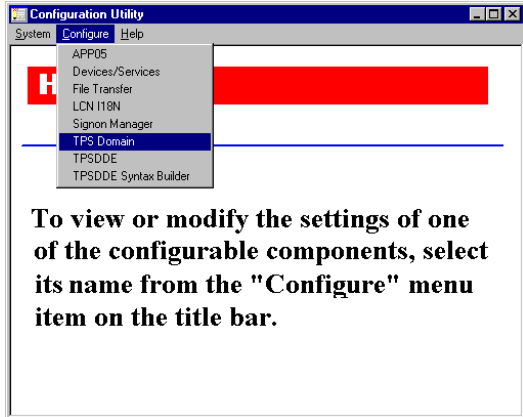
Install TPS Security

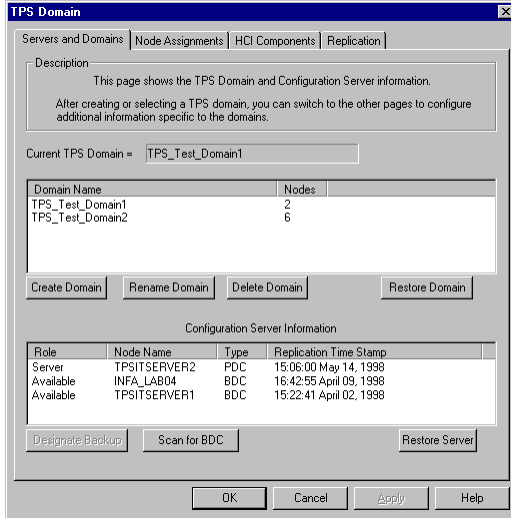
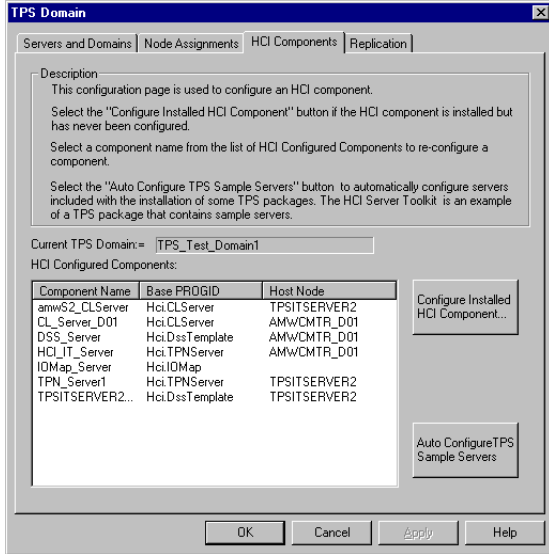
This procedure will set permissions on any registry entries, and any files/directories that were added during the installation of the software.

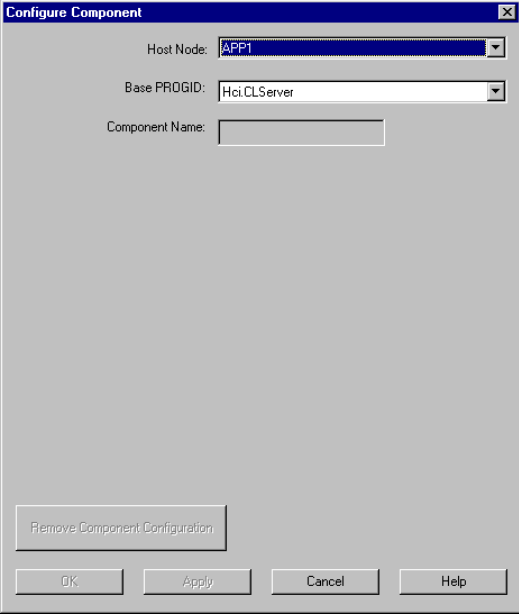
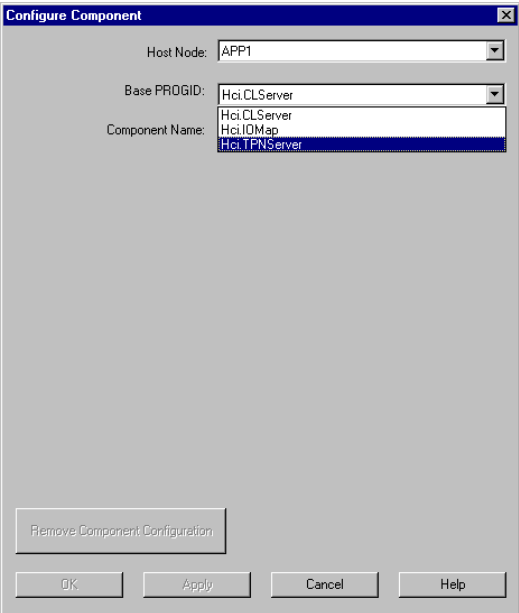
| ✓ | Step | Action |
|---|------|--|
| | 31 | Log on to the APP node as TPSAdministrator. |
| | 32 | Insert the TPS System Software CD-ROM. |
| | 33 | Select TPS Security Installation . |
| | 34 | If the domain name is not correct, enter the NT Domain name listed on your partition sheet and then select the Next button. |
| | 35 | In the <i>Configure This Machine as a...</i> window, select the TPS Domain Node radio button option and then select the Next button. |
| | 36 | In the <i>Welcome</i> window, select the Next button. |
| | 37 | Read the Software License Agreement and accept the software license agreement terms by selecting the Yes button. |
| | 38 | If not already correct, enter a Name and Company from your partition sheet. |
| | 39 | Enter 1 in the Serial text field and then select the Next button. |
| | 40 | Enter C: as the drive letter where the TPS software will be installed and select the Next button. |
| | 41 | Select the Typical installation option and select the Next button. |
| | 42 | Verify the current settings and select the Next button to begin the security configuration. |
| | 43 | Wait for configuration to complete (about 2 minutes). If you get errors, select the radio button to view them and then select the Next button. If you do not get errors, select the I prefer to view the configuration log at another time radio button and then select the Next button. |
| | 44 | Select the Finish button. |
| | 45 | Select EXIT on the Software Installation window, then select Yes to confirm. |
| | 46 | Remove the CD from the drive. |

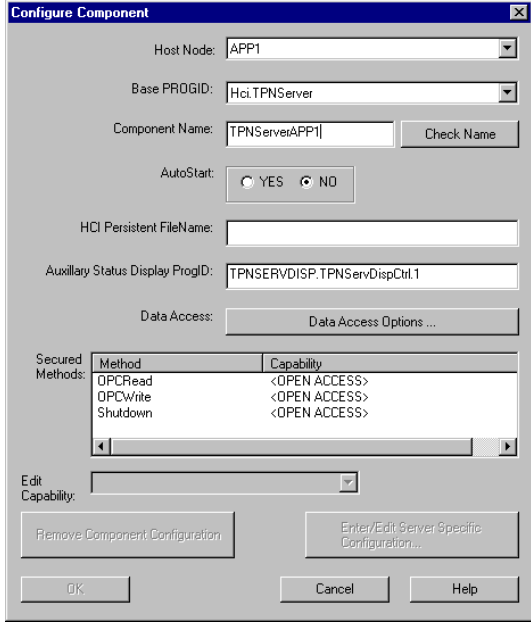
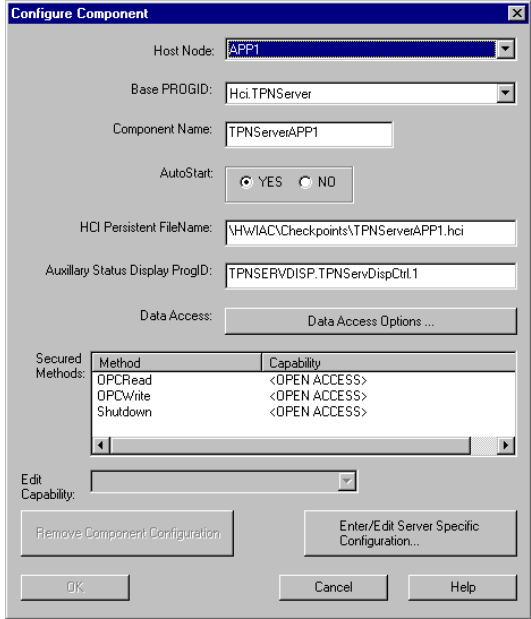
Configure the TPN Server

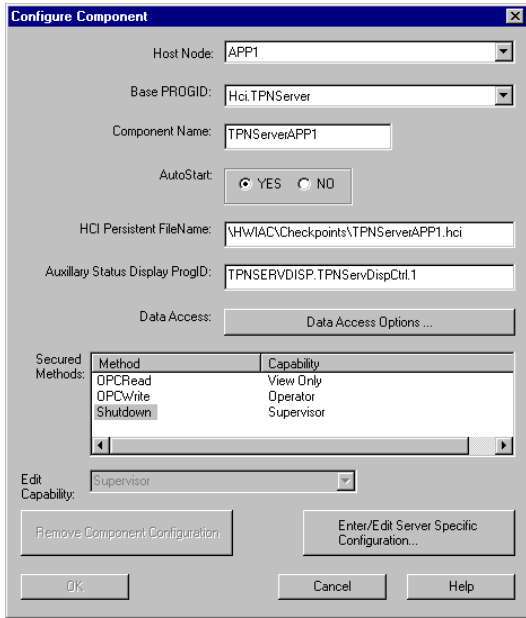
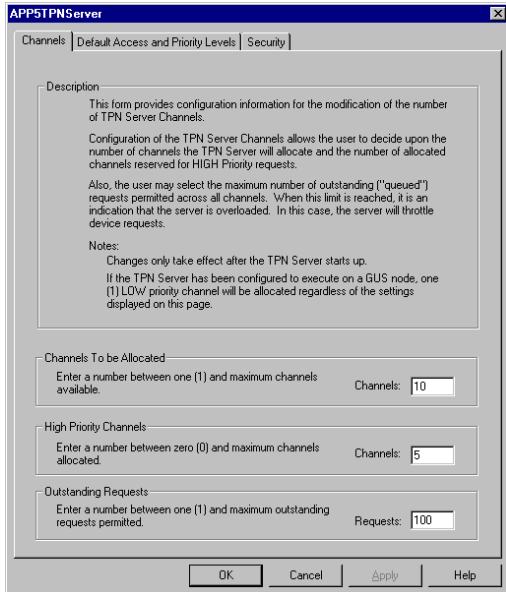
⇒ *You must be logged on as the TPS Administrator to perform the actions in the following steps. These steps may be performed at any node in the TPS Domain.*

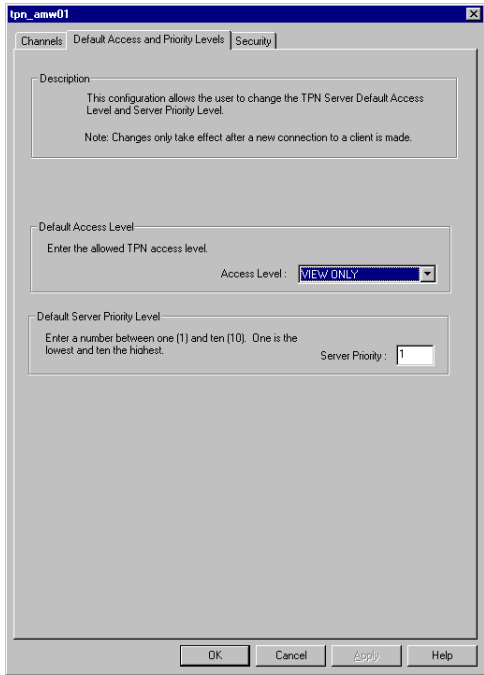
| ✓ | Step | Action |
|---|------|--|
| | 47 | <p>Invoke the Configuration Utility from the Task Bar: Start > Programs > Honeywell TPS > Configuration Utility</p>  |
| | 48 | <p>The <i>Configuration Utility</i> dialog box appears. Select the Configure menu and then select the TPS Domain menu option.</p>  <p>To view or modify the settings of one of the configurable components, select its name from the "Configure" menu item on the title bar.</p> |

| ✓ | Step | Action |
|---|------|--|
| | 49 | <p>The <i>TPS Domain</i> dialog box appears. Select the Servers and Domains tab.</p>  <p>The screenshot shows the 'TPS Domain' dialog box with the 'Servers and Domains' tab selected. It includes a description, a 'Current TPS Domain' field set to 'TPS_Test_Domain1', a table listing domains (TPS_Test_Domain1 with 2 nodes, TPS_Test_Domain2 with 6 nodes), and a 'Configuration Server Information' table with columns for Role, Node Name, Type, and Replication Time Stamp. Buttons for 'Create Domain', 'Rename Domain', 'Delete Domain', 'Restore Domain', 'Designate Backup', 'Scan for BDC', and 'Restore Server' are present.</p> |
| | 50 | <p>Select the TPS domain from the Domain Name column where the TPN Server is to be configured and verify the domain name appears in the Current TPS Domain = box (this example uses TPS_Test_Domain1).</p> |
| | 51 | <p>Select the HCI Components tab. The HCI Components property page appears.</p>  <p>The screenshot shows the 'TPS Domain' dialog box with the 'HCI Components' tab selected. It includes instructions for configuring HCI components, a 'Current TPS Domain' field set to 'TPS_Test_Domain1', and a table of 'HCI Configured Components' with columns for Component Name, Base PROGID, and Host Node. Buttons for 'Configure Installed HCI Component...' and 'Auto Configure TPS Sample Servers' are visible.</p> |
| | 52 | <p>Verify the selected domain appears in the Current TPS Domain = box. Select the Configure Installed Component button.</p> |

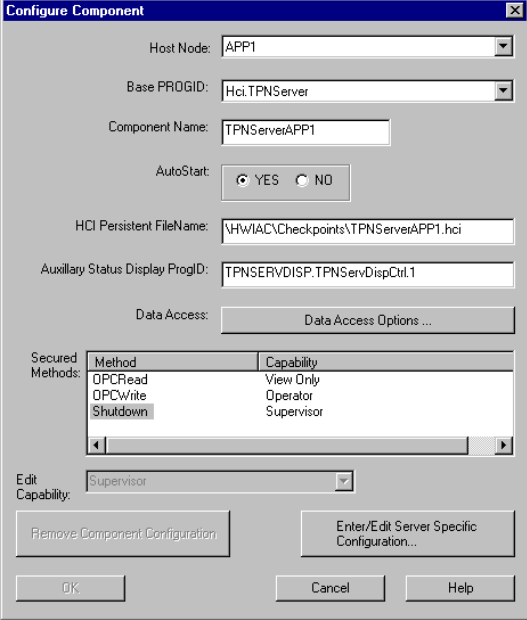
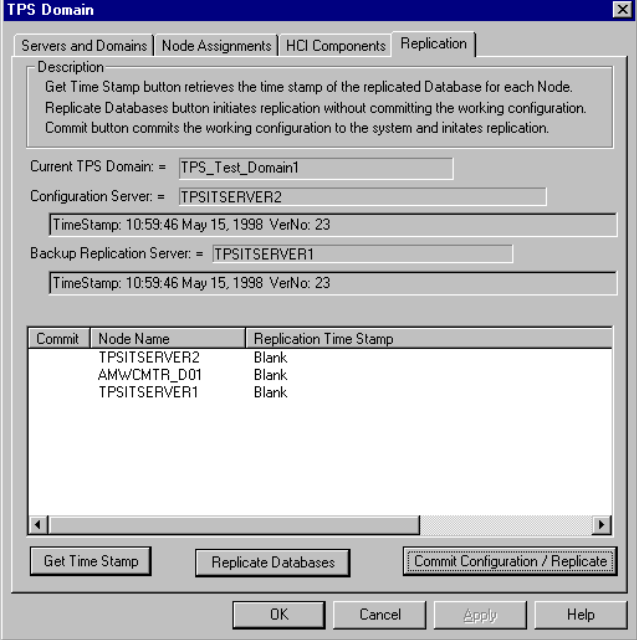
| ✓ | Step | Action |
|---|------|--|
| | 53 | <p>The Configure Component dialog box appears. Select the Host Node drop down list button to view all host names and select your APP node.</p>  |
| | 54 | <p>Select Hci.TPNServer from the Base ProgID: drop-down list.</p>  |

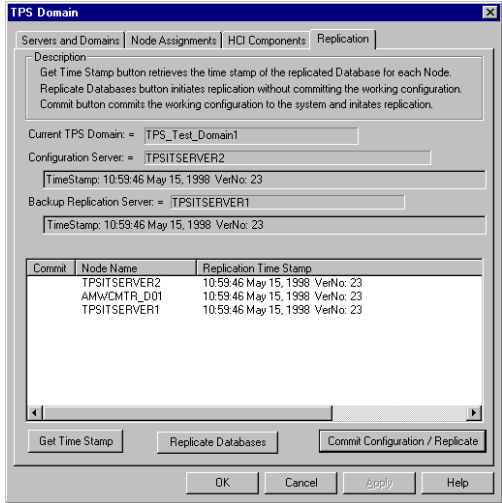
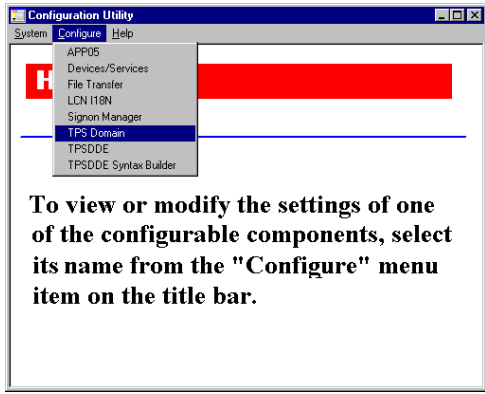
| ✓ | Step | Action |
|---|------|---|
| | 55 | <p>In the Component Name box, enter the desired <i>component name</i> (for example:TPNServer_App1). Select the Check Name button for validation of the component name just entered.</p>  |
| | 56 | <p>Select YES for AutoStart.</p> <p>TPN Server starts up automatically by TPSAdmin upon system restart.</p> |
| | 57 | <p>Verify the HCI Persistent FileName appears in the box and contains a path using the format:</p> <p style="text-align: center;">\\HWIAC\Checkpoints\component_name.hci</p>  |
| | 58 | <p>Verify the Auxiliary Status Display ProgID box contains a program ID name.</p> |

| ✓ | Step | Action |
|---|------|---|
| | 59 | Select the OPCRead method from the Secured Methods box. |
| | 60 | Select View Only from the Edit Capability drop-down list. |
| | 61 | Select the Operator proxy file for the OPCWrite method. |
| | 62 | Select the Supervisor proxy file for the Shutdown method. |
| | 63 | <p>Select the Enter/Edit Server Specific Configuration ... button, then select the Yes button.</p>  |
| | 64 | <p>The TPN Server configuration page appears.</p>  |

| ✓ | Step | Action |
|---|-----------|--|
| | 65 | <p>Do not change the entries on this page.</p> <p>Channels:</p> <p>If this TPN Server is being configured on a TPS APP node, the TPN Server will default to 10 channels on Channels To be Allocated, and default to 5 on High Priority Channels.</p> <p>Outstanding requests:</p> <p>Valid entries are 1-500. The defaults to 100. It is the total number of requests that will be queued in the high and low priority queues. If the entry on this page is 100, and 100 requests are queued, when clients make requests, the TPN Server will return EFAIL to the clients.</p> |
| | 66 | Select the Default Access and Priority Levels tab. |
| | 67 | <p>Select the Access Level drop-down arrow to view all levels. Select the desired Access Level from the list (default to VIEW ONLY if desired level is unknown). Leave the Default Access Level as View Only.</p>  |
| | 68 | On the Default Server Priority Level, accept the Server Priority default. A table listing the TPN Server Priority is located earlier in this module. |

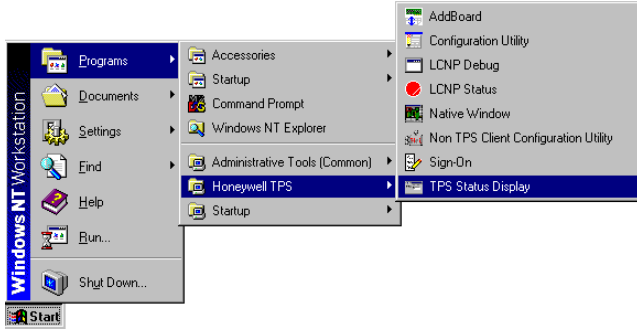
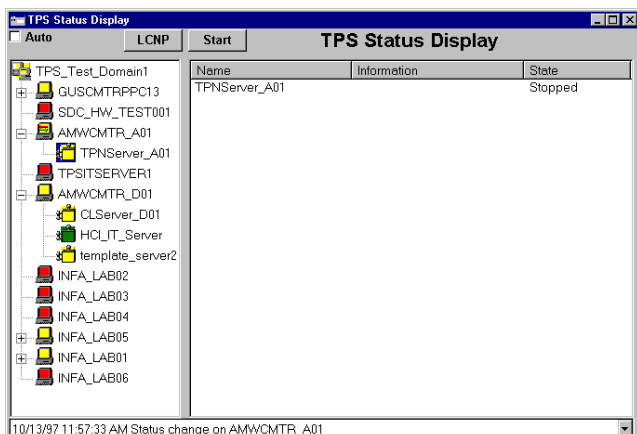
| ✓ | Step | Action |
|---|------------------|---|
| | <p>69</p> | <p>Select the Security tab.</p> <p>The purpose of the security page is to map the capability names to the proxy files located at: C:\HWIAC\Security</p> |
| | <p>70</p> | <p>On the TPN Security Names, select the TPN Default if not already selected. Verify Capability Name columns in the TPN Access Levels and TPN Server Priority Levels boxes become populated with default values. Accept defaults, select the OK button.</p> |
| | <p>71</p> | <p>Warning: Verify the ACLs are set.</p> <p>A pop-up warning message appears. Select the OK button.</p> <p>Note: If deviating from the defaults of the TPS Security Policy, the Access Control List (ACL) of the capability files must be set. Please consult the <i>TPS System Administration Guide</i> for further information to set capability files.</p> |

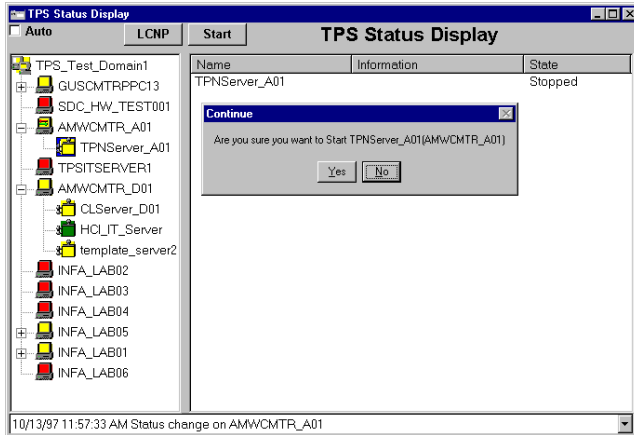
| ✓ | Step | Action |
|---|------|---|
| | 72 | <p>The Configure Component dialog page appears.</p>  <p>Select the OK button.</p> |
| | 73 | <p>The <i>TPS Domain</i> dialog page appears. Select the Replication tab.</p>  <p>Note: Determine if other HCI components require configuration in this node and configure them before replication. For class, do not configure any other HCI component.</p> <p>Before replicating, verify the Current TPS Domain = box shows the correct TPS domain.</p> |

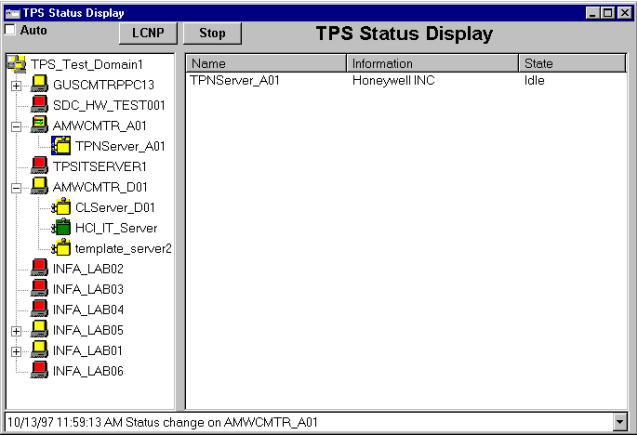
| ✓ | Step | Action |
|---|-----------|--|
| | 74 | <p>Select the Commit Configuration/Replicate button.</p> <p>Note: A period of time is required for replication to affect <u>all</u> TPS nodes in the domain especially if a TPS node is not functional.</p> |
| | 75 | <p>Upon completion, verify the Replication Time Stamp column changed from Blank to showing a time stamp entry for each node.</p> <p>Select the OK button.</p>  |
| | 76 | <p>The Configuration Utility window re-appears.</p>  <p>To view or modify the settings of one of the configurable components, select its name from the "Configure" menu item on the title bar.</p> <p>Close the Configuration Utility.</p> <p>Note: The TPN Server must be started from the TPS Status display. Alternately, if the TPN Server is configured to AutoStart then it starts automatically after a node restart.</p> |

Part II:

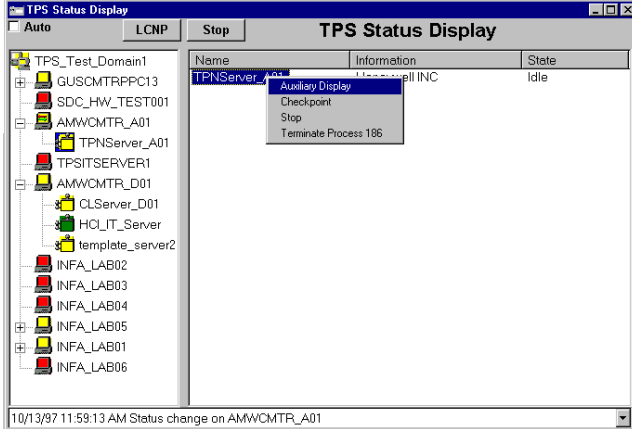
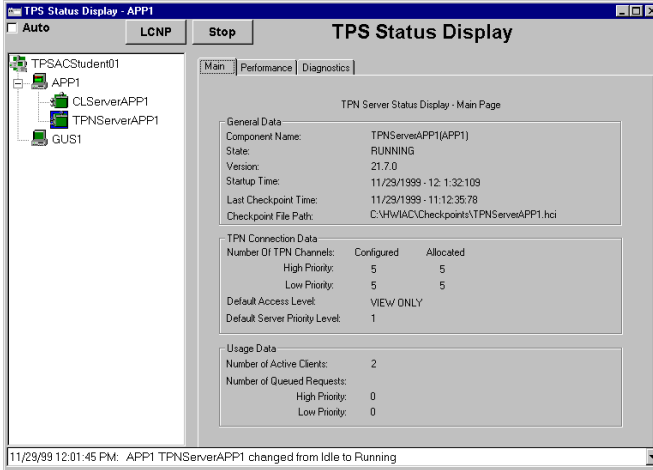
Start the TPN Server using the TPS Status Display

| ✓ | Step | Action |
|---|------|--|
| | 1 | Verify the APP personality is loaded and running on the APP node LCNP board. If it is not, load it. |
| | 2 | At the APP node, log on as TPSAdministrator. |
| | 3 | <p>Invoke the TPS Status display from the Task Bar: Start > Programs > Honeywell TPS > TPS Status Display</p>  |
| | 4 | <p>The <i>TPS Status Display</i> dialog window appears showing icons (in tree form) in the scope frame (left side) and HCI component information in the status frame (right side).</p> <p>Note: Each icon from left to right in the scope frame represents the domain, node, and component, respectively. Double-click each icon from left to right to expand to the component level in the TPS domain.</p>  |

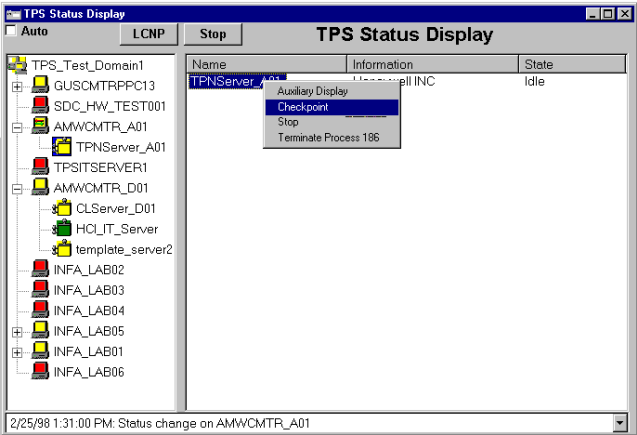
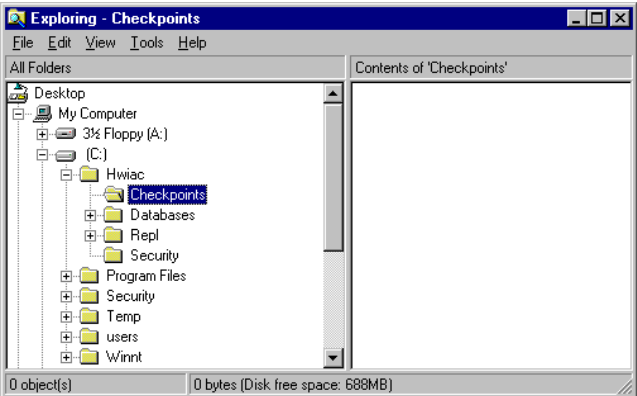
| ✓ | Step | Action |
|---|------|--|
| | 5 | <p>Select your APP node (the node icon on which the TPN Server is configured in the TPS domain).</p> <p>Visual State of Component (icon color) Green: Running or Idle state Yellow: Warning state <ul style="list-style-type: none"> • Waiting for TPS Node Personality to load • Lost connection to TPS Node Personality Red: Not in Running or Warning state</p> <p>State Column Description (Status Frame) Idle: Server is operational, no clients are connected Running: Server is operational, clients are connected. Stopped: Server is configured but not running. Warning: TPS Node personality is not loaded in LCNP or connection to TPN has been lost.</p> |
| | 6 | <p>If the TPN Server is in the Stopped state, start it.</p> <p>METHOD 1 STARTUP:</p> <p>Select the TPN Server component, then select the Start button. A pop-up message appears requesting a confirmation to continue.</p> <p>Select the Yes button to startup or the No button to abort.</p> <p>METHOD 2 STARTUP:</p> <p>Right-click on the TPN Server and select Start from the pop-up menu. A message appears requesting a confirmation to continue.</p> <p>Select the Yes button to startup or the No button to abort.</p>  <p>The screenshot shows the 'TPS Status Display' window. On the left is a tree view with components like 'TPS_Test_Domain1', 'GUSCMTRPPC13', 'SDC_HW_TEST001', 'AMWCMTR_A01', 'TPNServer_A01', 'TPSITSERVER1', 'AMWCMTR_D01', 'CLServer_D01', 'HCLIT_Server', 'template_server2', and several 'INFA_LAB' nodes. On the right, a table shows 'TPNServer_A01' with state 'Stopped'. A 'Continue' dialog box is open in the center, asking 'Are you sure you want to Start TPNServer_A01(AMWCMTR_A01)' with 'Yes' and 'No' buttons. The status bar at the bottom shows '10/13/97 11:57:33 AM Status change on AMWCMTR_A01'.</p> |
| | 7 | <p>Observe the State column in the status frame for the TPN Server changed from Stopped to Idle and the TPS Status Display Start button changed to Stop.</p> |

| ✓ | Step | Action | | | | | | |
|---------------|---------------|---|------|-------------|-------|---------------|---------------|------|
| | |  <p>The screenshot shows the 'TPS Status Display' window. It has a tree view on the left and a table on the right. The tree view shows a hierarchy starting with 'TPS_Test_Domain1', which includes 'GUSCMTRPPC13', 'SDC_HW_TEST001', 'AMWCMTR_A01', 'TPNServer_A01', 'TPSITSERVER1', 'AMWCMTR_D01', 'CLServer_D01', 'HCLT_Server', and 'template_server2'. Below these are 'INFA_LAB02', 'INFA_LAB03', 'INFA_LAB04', 'INFA_LAB05', 'INFA_LAB01', and 'INFA_LAB06'. The table on the right has columns 'Name', 'Information', and 'State'. It contains one row: 'TPNServer_A01', 'Honeywell INC', and 'Idle'. At the bottom, a status bar shows '10/13/97 11:59:13 AM Status change on AMWCMTR_A01'.</p> <table border="1"><thead><tr><th>Name</th><th>Information</th><th>State</th></tr></thead><tbody><tr><td>TPNServer_A01</td><td>Honeywell INC</td><td>Idle</td></tr></tbody></table> | Name | Information | State | TPNServer_A01 | Honeywell INC | Idle |
| Name | Information | State | | | | | | |
| TPNServer_A01 | Honeywell INC | Idle | | | | | | |

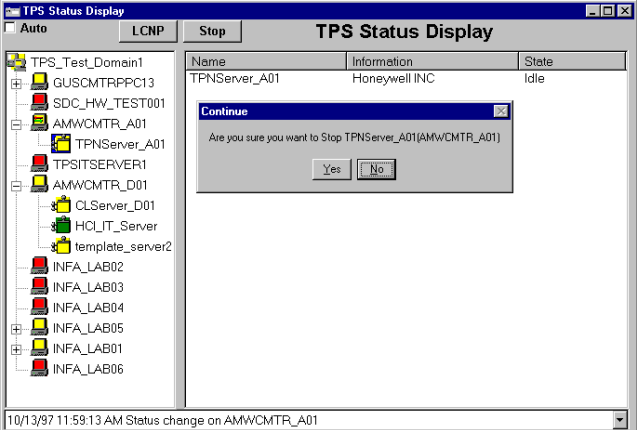
Invoke the TPN Server Auxiliary Status Display

| ✓ | Step | Action |
|---|------|--|
| | 8 | In the scope frame, select the TPN Server. |
| | 9 | In the status frame, right-click on the TPN Server. |
| | 10 | <p>A pop-up menu appears with several entries.</p>  <p>Select the Auxiliary Display entry.</p> <p>Note: The Auxiliary Display <u>cannot</u> be invoked in the Stopped or Fail states.</p> |
| | 11 | <p>The TPN Server Status Display appears. This is also referred to as the Auxiliary Display.</p>  <p>Note: A description of the three Data sections of the TPN Server Status Display in the status frame is located in the reference section earlier in this module.</p> |

Performing a Checkpoint of the TPN Server

| ✓ | Step | Action |
|---|------|---|
| | 12 | On the scope frame, select the TPN Server. This will cause the auxiliary status display to disappear. |
| | 13 | The TPN Server can be checkpointed when it is in the Running, Idle, or Warning state. Right-click on the TPN Server. |
| | 14 | A pop-up menu appears with several entries.  Select the Checkpoint entry. |
| | 15 | Performing a checkpoint saves the TPN cache and updates the timestamps into the Checkpoints folder under the HWIAC directory. Use Windows NT Explorer to verify the persistent cache file was stored into the Checkpoints folder by checking the timestamp of the file.  |

Shutdown the TPN Server using the TPS Status Display

| ✓ | Step | Action |
|---|------|---|
| | 16 | <p>If the TPN Server is in the Running, Idle or Warning state, shut it down.</p> <p>Note: You will get a Permission Denied error. See if you can figure out why.</p> <p>Hint: Who are you logged in as? What are the permissions on the proxy file?</p> <p>Make the necessary adjustments, then stop the TPN Server.</p>  <p>METHOD 1 SHUTDOWN:</p> <p>Select the TPN Server component, then select the Stop button. A pop-up message appears requesting a confirmation to continue.</p> <p>Select the Yes button to shutdown or the No button to abort.</p> <p>METHOD 2 SHUTDOWN:</p> <p>Right-click on the TPN Server and select Stop from the pop-up menu. A message appears requesting a confirmation to continue.</p> <p>Select the Yes button to shutdown or the No button to abort.</p> |
| | 17 | <p>Observe the State column in the status frame for the HCI component changed from Running or Idle to Stopped and the TPS Status Display Stop button changed to Start.</p> <p>The TPN Server shutdown is complete.</p> |


Verify proper operation of the TPN server

| ✓ | Step | Action |
|---|------|-------------------------------------|
| | 18 | Log on to the GUS node as engineer. |

| ✓ | Step | Action |
|---|-----------|--|
| | 19 | Open the GUS Display Builder. |
| | 20 | Add a text item to the display. |
| | 21 | Add the following script to the DISPLAY: <pre>Sub OnDisplayStartup() HCl.server1.BIND "your_tpn_server_name" ' with quotes End Sub</pre> |
| | 22 | Add the following script to the TEXT OBJECT: <pre>Sub OnDataChange() ME.TEXT=HCl.server1.FIC4241.PV End Sub</pre> |
| | 23 | Close all script windows. |
| | 24 | Validate and save the display as: C:\users\tpnservertest.pct |
| | 25 | Close the display builder. |
| | 26 | Look at the TPS Status Display and notice that the TPN Server is stopped. Leave it that way. |
| | 27 | Select START → RUN. |
| | 28 | Enter RUNPIC C:\users\tpnservertest.pct. Notice that you got a Communication Error. You got the error because the user Engineer is 'denied launch' for the TPN Server in dcomcnfg on the APP node. |
| | 29 | Select Yes to close the Gus Display. |
| | 30 | From the TPS Status Display, start the TPN Server. |
| | 31 | Run your Gus Display again. |
| | 32 | Verify that data is being read through the TPN server. Note: If you get errors, verify that you are logged in as engineer. Remember that the TPS Administrator does NOT have X permissions on the proxy file specified for the OPC Read method. |
| | 33 | Look at the auxiliary status display for the TPN Server and notice that it has one active client (the GUS display). |

Update the Emergency Repair Disk (ERD) for the App

| ✓ | Step | Action |
|---|-----------|---|
| | 34 | At the App node, logon as the domain Administrator. |

| ✓ | Step | Action |
|---|-----------|---|
| | 35 | Select Start → Run. |
| | 36 | Enter rdisk /s and press Enter. A Saving Configuration progress bar will appear, then a creation verification message will appear. |
| | 37 | Click the Yes button to verify. A floppy insertion message will appear. |
| | 38 | Insert the existing ERD into the A drive. |
| | 39 | Click the OK button. A Formatting Disk progress bar will appear as the ERD format is taking place. A Copying Configuration Files progress bar will appear as the configuration files are being copied to the ERD. A security precaution message will appear. |
| | 40 | Click the OK button. |
| | 41 | Remove the diskette from the drive and label it follows: NT ERD – XXXXX Where XXXXX is the name of your computer.  ATTENTION: The diskette may only be used to recover NT on the node which was used to create the ERD diskette. |
| | 42 | Store the NT ERD in a secure location where it can be retrieved if necessary. |

References

TPN Server User's Guide

TPS System Administration Guide

Notes