

# Training Exercise 2

## Implement Integrated NT Security for Uniformance

### Objective

Given a properly configured system, perform the steps to implement integrated NT security (INTS).

### Prerequisites

- PC loaded with Uniformance TPI and TPI Admin Client, properly configured to access a PHD System.

### Introduction

INTS allows you to log on to the Oracle database without specifying a username and password. This Oracle logon feature is called an 'O/S Authentication'.

The username that was used to log on to NT is passed to Oracle. Oracle checks to see if the NT username exists as a valid user in the Oracle database; if it does, the connection to the Oracle database is allowed.

Oracle will prefix the NT username with the value of the Oracle parameter 'OS\_AUTHENT\_PREFIX', then the connection to the Oracle database will be attempted. The default prefix is OPS\$.

To login to Oracle as username OPS\$JSMITH, the user must be logged into NT as JSMITH.

When INTS is enabled, no password is assigned to the Oracle username; rather, the password is 'defined externally' (by NT).

With INTS enabled, you can log on to Oracle using a slash (/), as shown in the following examples:

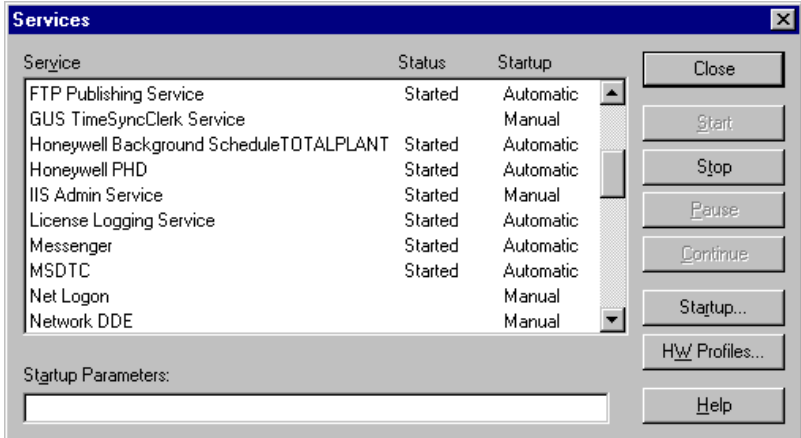
- non-INTS method: `plus33 jsmith/password@totalplant`
- INTS method: `plus33 /@totalplant`

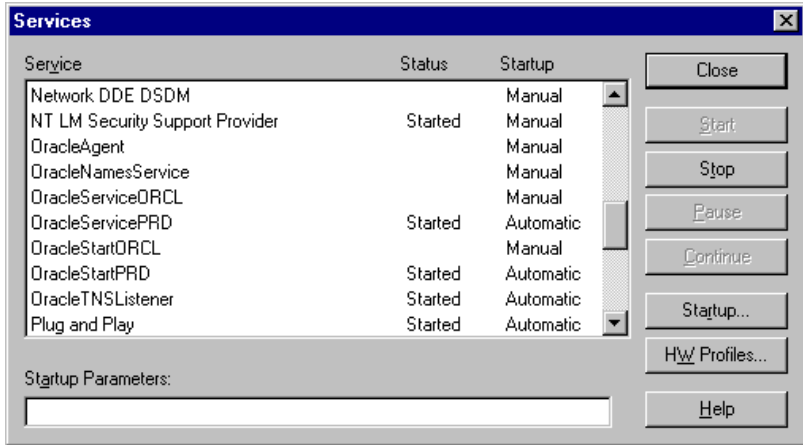
The Oracle user TOTALPLANT is unaffected by INTS enabling/disabling.

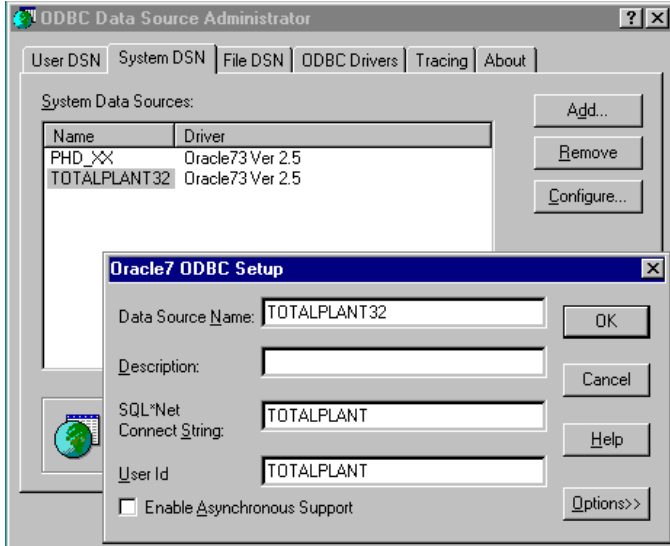
### Implementing INTS for Uniformance

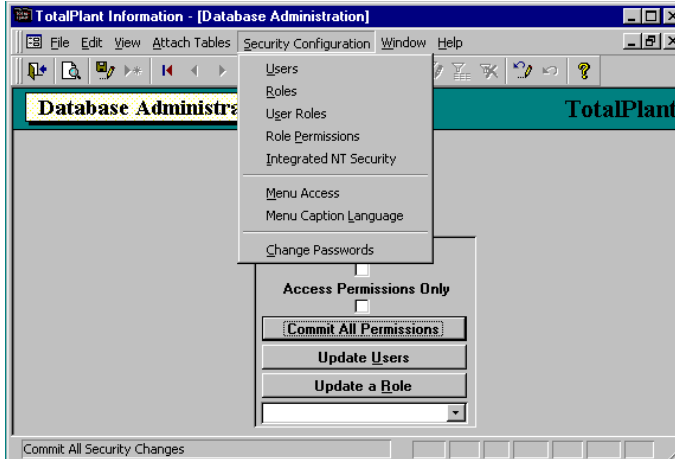
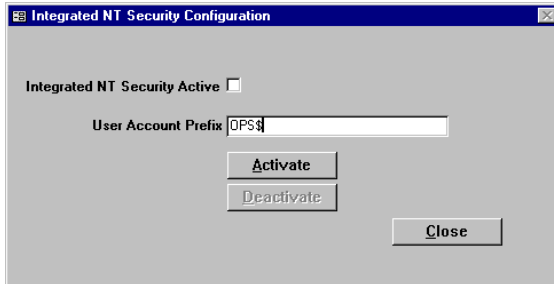
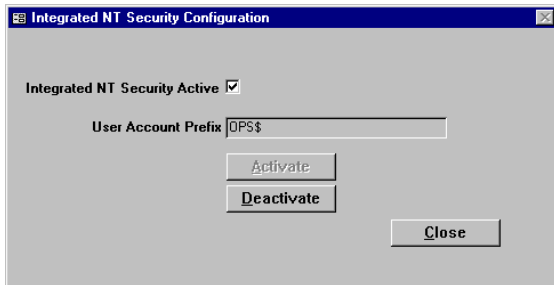
In the following procedure, you will implement Integrated NT Security, then verify that it works for the NT user 'administrator'.

### Procedure

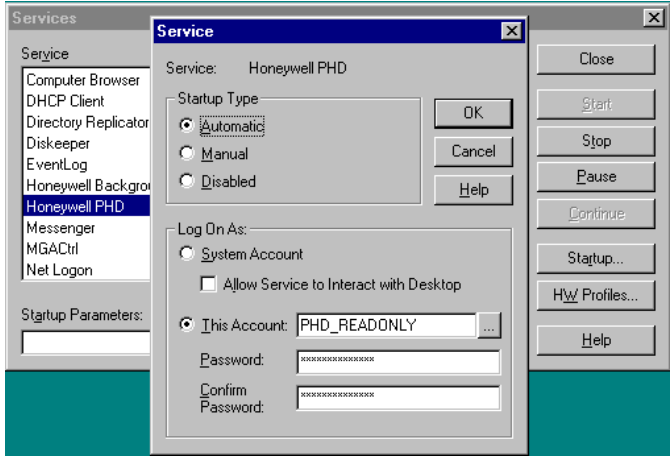
✓	Step	Action												
Prepare System														
1	<p>Ensure there is no activity in the Oracle database and that no Oracle connections exist; that is, make sure everyone is logged off from Oracle (such as TPI sessions).</p> <p>To check the activity in the Oracle database, you may use Start\Programs\Oracle Enterprise Manager\Instance Manager.</p> <table><tr><td>Logon Information:</td><td>Username</td><td>TOTALPLANT</td></tr><tr><td></td><td>Password</td><td>TOTALPLANT</td></tr><tr><td></td><td>Service</td><td>TOTALPLANT</td></tr><tr><td></td><td>Connect As</td><td>Normal</td></tr></table> <p>Double-click on the Sessions folder.</p> <p>From here you can verify that noone is logged on to Oracle.</p>		Logon Information:	Username	TOTALPLANT		Password	TOTALPLANT		Service	TOTALPLANT		Connect As	Normal
Logon Information:	Username	TOTALPLANT												
	Password	TOTALPLANT												
	Service	TOTALPLANT												
	Connect As	Normal												
2	<p>Stop all Honeywell Services (Background Scheduler and PHD Server):</p> <ol style="list-style-type: none"><li>1. Stop the "Honeywell Background ScheduleTOTALPLANT" service.</li><li>2. PAUSE the "Honeywell PHD" service (to terminate all current connections to PHD), then STOP the "Honeywell PHD" service.</li></ol> 													

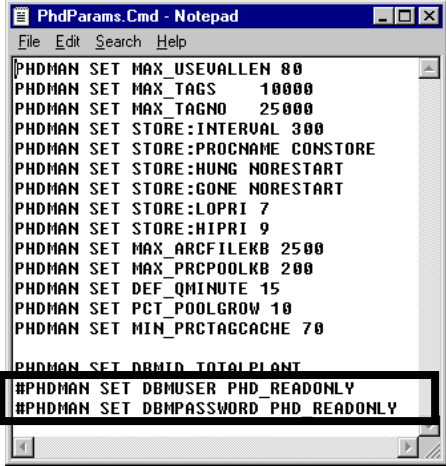
✓	Step	Action
Configure Oracle Parameters		
	3	<p>Oracle uses the parameters REMOTE_OS_AUTHENT and OS_AUTHENT_PREFIX to implement INTS.</p> <p>Add the following line to the Oracle file <b>INITPRD.ORA</b>:</p> <pre>REMOTE_OS_AUTHENT = TRUE</pre> <p>(The default location of the file is D:\ORANT\DATABASE.)</p> <p>NOTES:</p> <ol style="list-style-type: none"> <li>1. The parameter OS_AUTHENT_PREFIX = OPS\$ does not have to be in the INITPRD.ORA file, because its value defaults to OPS\$.</li> <li>2. The Uniformance documentation refers to OPS\$ when referring to INTS-enabled Oracle usernames, but be aware that the administrator of an Oracle system can set the prefix to any value.</li> </ol>
	4	<p>Stop, then restart the Oracle database:</p> <ol style="list-style-type: none"> <li>1. Stop the "OracleServicePRD" service.</li> <li>2. Start the OracleStartPRD service.</li> </ol> 

✓	Step	Action
Configure ODBC		
	5	<p>Configure the User Id field as TOTALPLANT in the ODBC DSN for TOTALPLANT32.</p> <p>Start\Programs\Oracle for Windows NT\32-bit Administrator</p>  <p>The screenshot shows two overlapping windows. The background window is the 'ODBC Data Source Administrator' with the 'System DSN' tab selected. It lists two system data sources: 'PHD_XX' and 'TOTALPLANT32', both using the 'Oracle73 Ver 2.5' driver. The 'TOTALPLANT32' entry is selected. The foreground window is the 'Oracle7 ODBC Setup' dialog box. It has fields for 'Data Source Name' (set to 'TOTALPLANT32'), 'Description' (empty), 'SQL*Net Connect String' (set to 'TOTALPLANT'), and 'User Id' (set to 'TOTALPLANT'). There is an unchecked checkbox for 'Enable Asynchronous Support' and buttons for 'OK', 'Cancel', 'Help', and 'Options&gt;&gt;'.</p> <p><b>NOTE:</b></p> <p>The above configuration forces the Oracle logon prompt, allowing you to log on to Oracle as TOTALPLANT.</p> <p>If this configuration is not done before you open the TotalPlant InformationADMIN application with INTS active, then when you launch TotalPlant InformationADMIN, you will not be prompted for the TOTALPLANT ID Oracle Password. The INTS logon username and password will be used and you will not be able to log on to Oracle as TOTALPLANT.</p>

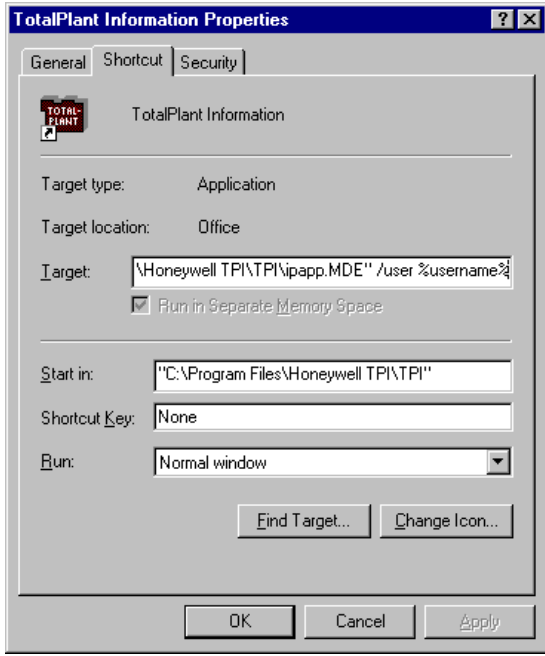
✓	Step	Action
Activate INTS		
	6	Start TPI Admin and logon to Oracle as TOTALPLANT/TOTALPLANT.
	7	<p>Select <b>Integrated NT Security</b> from the Security Configuration Menu.</p> 
	8	<p>Type-in the User Account Prefix OPS\$, then select the <b>Activate</b> button.</p>  <p>Result:</p> 
	9	Close the INTS Configuration window.

✓	Step	Action
	<b>10</b>	<p>To cause the change to take effect, select <b>Update Users</b> or <b>Commit All Permissions</b>.</p> <p>RESULT: The system performs the following actions:</p> <ul style="list-style-type: none"> <li>- Removes the passwords from usernames in MS Access (allowing direct login to TPI).</li> <li>- Revokes CONNECT privilege from the non-OPS\$ Oracle usernames.</li> <li>- Creates new Oracle "OPS\$" usernames.</li> <li>- Grants roles to the new OPS\$ usernames. The roles are the same as the corresponding non-OPS\$ usernames that existed previously.</li> </ul>
Create NT Account PHD_READONLY		
	<b>11</b>	<p>On the NT system running PHD, create an NT user account of <b>PHD_READONLY</b> with the password <b>PHD_READONLY</b>. Configure <b>User cannot change password</b> and <b>password never expires</b>.</p> <p>Start\Programs\Administrative Tools (Common)\User Manager</p> <p>From the User menu, select New User.</p> <p>Configure as described above.</p>
	<b>12</b>	<p>Select the Groups button.</p> <p>Ensure the NT user PHD_READONLY belongs to the Administrator group and to the following PHD groups:</p> <p>PHD_EDITDATA PHD_MANAGER PHD_PUTDATA PHD_SECURITY</p>

✓	Step	Action
Configure Logon Username/Password for Honeywell PHD Service		
	13	<p>Change the Honeywell PHD Service to log on as account PHD_READONLY with the password PHD_READONLY.</p> <p>Select Honeywell PHD, then select Startup.</p> 

✓	Step	Action
Configure PHD Parameters		
	14	<p>Remove the Oracle username and password references from the PHDPARAMS.CMD file (in NTSITE directory).</p> <p><b>CAUTION: DO NOT OPEN this file.</b> Right Click on the filename, then select Edit.</p> <p>In the following example, the username and password references were commented out.</p>  <p>NOTES:</p> <ol style="list-style-type: none"> <li>1. When PHD starts, because there is no username or password specified, it logs on to the Oracle database using the NT username specified in the previous step. This results in PHD logging on to Oracle as OPS\$PHD_READONLY.</li> <li>2. If INTS is not enabled, the PHDPARAMS.CMD contains the username and password used to log on to the Oracle database. By default, the Oracle username is PHD_READONLY.</li> </ol> <p>With INTS enabled, the default Oracle logon username/password will fail until additional configuration is performed. The Oracle username PHD_READONLY has been disabled and the new account OPS\$PHD_READONLY has been enabled in its place. Since there is no way to log on to Oracle directly as user OPS\$PHD_READONLY, substituting PHD_READONLY with OPS\$PHD_READONLY in the PHDPARAMS.CMD file will not successfully log on to Oracle. Creating an NT account of PHD_READONLY resolves this problem.</p>



✓	Step	Action
Modify TPI Shortcut		
	15	<p>Add <code>/user %username%</code> to the TPI shortcut. This passes the NT username to TPI.</p> <p>Right-click Start\Open All Users\Programs\TotalPlant Information.</p> <p>Right-click the TotalPlant Information shortcut, select Properties.</p> <p>Select the Shortcut tab.</p>  <p>NOTES:</p> <ol style="list-style-type: none"> <li>1. Alternately, if you do not add <code>/user</code> to the shortcut, TPI will display the logon dialog as if INTS was not enabled.</li> <li>2. For systems running Win95 or Win98, replace the <code>%username%</code> with the actual username.</li> </ol>
Start Honeywell Services		
	16	<p>Start the services Honeywell PHD and Honeywell Background ScheduleTOTALPLANT.</p>

### Check operation of INTS

✓	Step	Action
	<b>1</b>	<p>Start TPI (end user).</p> <p>Notice that your NT username/password is passed to TPI.</p> <p>Click OK.</p> <p>For this training exercise, administrator was not accepted, because you have not yet configured it as an Oracle user through TPI.</p>
Configure a New User in TPI		
	<b>2</b>	<p>Start TPI Admin.</p> <p>Log on to TPI Admin as TOTALPLANT/TOTALPLANT.</p>
	<b>3</b>	<p>Go to the Security Configuration for Users and add a user.</p> <p>For this training exercise, add the user "administrator".</p> <p>NOTE: The TPI username must match the NT username.</p>
	<b>4</b>	<p>Assign the new user to a role.</p> <p>For this training exercise, assign the new user to the FULL PERMISSION role.</p>
	<b>5</b>	Select Commit All Permissions to cause the changes to take effect.

✓	Step	Action
Check TPI Login		
	6	<p>While logged on to the workstation as the new user (administrator), start TPI.</p> <p>Verify that TPI starts without requiring an Oracle username/password. (If the OS Authentication prefix + username was not a valid user, the Oracle logon dialog window will be displayed.)</p> <p>NOTE:</p> <p>Described below are the actions the system performs to accomplish the INTS connection to the Oracle database:</p> <ul style="list-style-type: none"> <li>- The NT username is passed to TPI through the application's shortcut.</li> <li>- The NT Username is verified by the <code>system.mdw</code>.</li> <li>- TPI checks to see if INTS is active.</li> <li>- If INTS is active, TPI attempts to connect to the database by sending a connect request containing a modified connect string. This modified string forces the username and password to null. ODBC recognizes this as an OS Authentication logon request.</li> <li>- Oracle adds the OS_AUTHENT_PREFIX (defaults to OPS\$) to the beginning of the username and attempts to log on to the database.</li> </ul>
Oracle		
	7	<p>From a Command Prompt, log on to the Oracle database without specifying a username and password:</p> <pre>plus33 /@totalplant</pre> <p>RESULT: SQL*Plus starts without requiring an Oracle username and password.</p>

**End of Procedure**

## **References**

*Uniformance R150 Software Change Notice*, Appendix - Integrated NT Security

*Application Management Users Guide*, Configuring Integrated NT Security

*Uniformance Client Installation Guide*, Setting Up Integrated NT Security for TPI

## **Notes**