Tech Note 135
Setting Up Distributed History in InTouch 7.0 and Higher

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Topic#: 000773
Created: December 23, 1998
Updated: October 18, 2001

In this *Tech Note*, our system consists of four nodes: Node1, Node2, Node3, and Node4. Node1 and Node2 run identical Wonderware® InTouch™ applications distributed through NAD. Node3 runs a different InTouch application. Node4 logs historical data using Wonderware® IndustrialSQL™ Server (note that InTouch is not installed on Node4).

This is how the system is set up:

- Node1 uses the InTouch Historical Engine to log data. It stores the log files locally in the directory **C:\HistLog_1**. Two tags are checked for Log Data: **Node1_tag1** and **Node1_tag2**. The application on Node1 resides in **C:\Myapp_1**. Node1 can retrieve data from its own log files and from Node3 and Node4.

- Node2 does not log data, but can retrieve data from Node1, Node3, and Node4.

- Node3 logs data locally to the directory **C:\HistLog_3**. Two tags are checked for Log Data: **Node3_tag1** and **Node3_tag2**. The application on Node3 resides in **C:\Myapp_3**. Node3 can retrieve data from its own log files and from Node1 and Node4.

- Node4 logs data using IndustrialSQL Server. Two tags are logged: **Node4_tag1** and **Node4_tag2**.
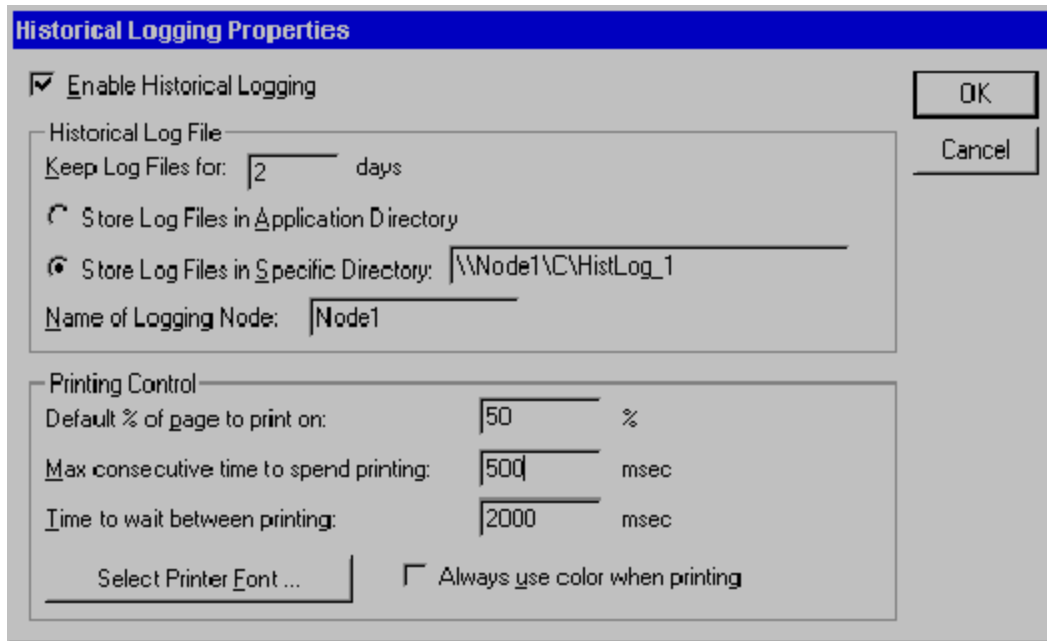
Here is an illustration of this configuration:
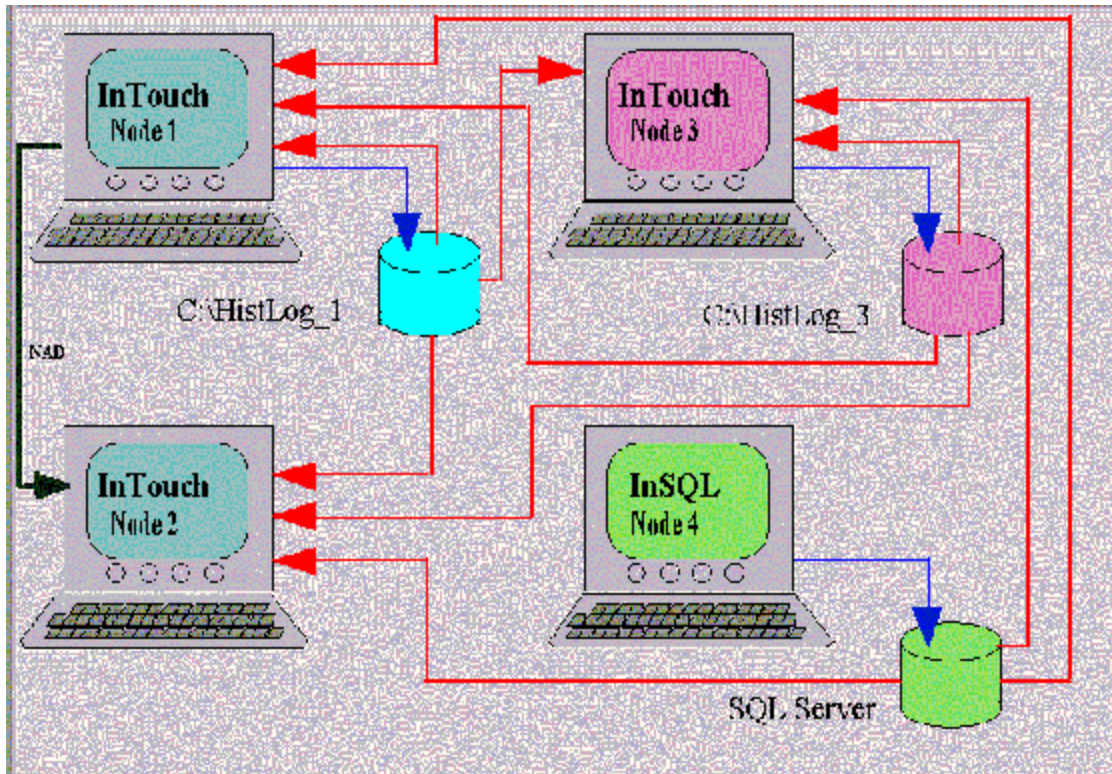
Enabling Historical Logging on Node1 and Node3

To set up distributed history in InTouch 7.0 as shown in this *Tech Note*, you must first enable historical logging on Node1 and Node3.

1. On Node1, open WindowMaker and select Special\Configure\Historical Logging.

2. Select **Enable Historical Logging**.

3. Select **Store Log Files In Specific Directory** and type the directory **\\Node1 \C\HistLog_1** where **C** is the share name for drive C.

   > **Note** You must select **Store Log Files in Specific Directory** if you plan to distribute the log files to other nodes, even if you want to log the data to the Application directory. The path to the log files must be in UNC (that is, "Universal Naming Convention") format.

4. For the Name of Logging Node type **Node1**. (This way, when you copy the application to Node2, Node2 will know not to log the data, even if **Enable Historical Logging** is checked, because the Logging node is Node1.) Next, click **OK**.

Historical Logging Properties

☑ <u>E</u>nable Historical Logging

OK

Cancel

Historical Log File
<u>K</u>eep Log Files for: |2   days

○ Store Log Files in <u>A</u>pplication Directory

● Store Log Files in <u>S</u>pecific Directory: |\\Node1\C\HistLog_1

<u>N</u>ame of Logging Node: |Node1

Printing Control
Default % of <u>p</u>age to print on: |50   %

<u>M</u>ax consecutive time to spend printing: |500| msec

<u>T</u>ime to wait between printing: |2000   msec

Select Printer <u>F</u>ont ...   ☐ Always <u>u</u>se color when printing

5. Repeat these steps on Node3, but type **Node3** instead of Node1 where appropriate and type **HistLog_3** instead of HistLog_1 where appropriate.
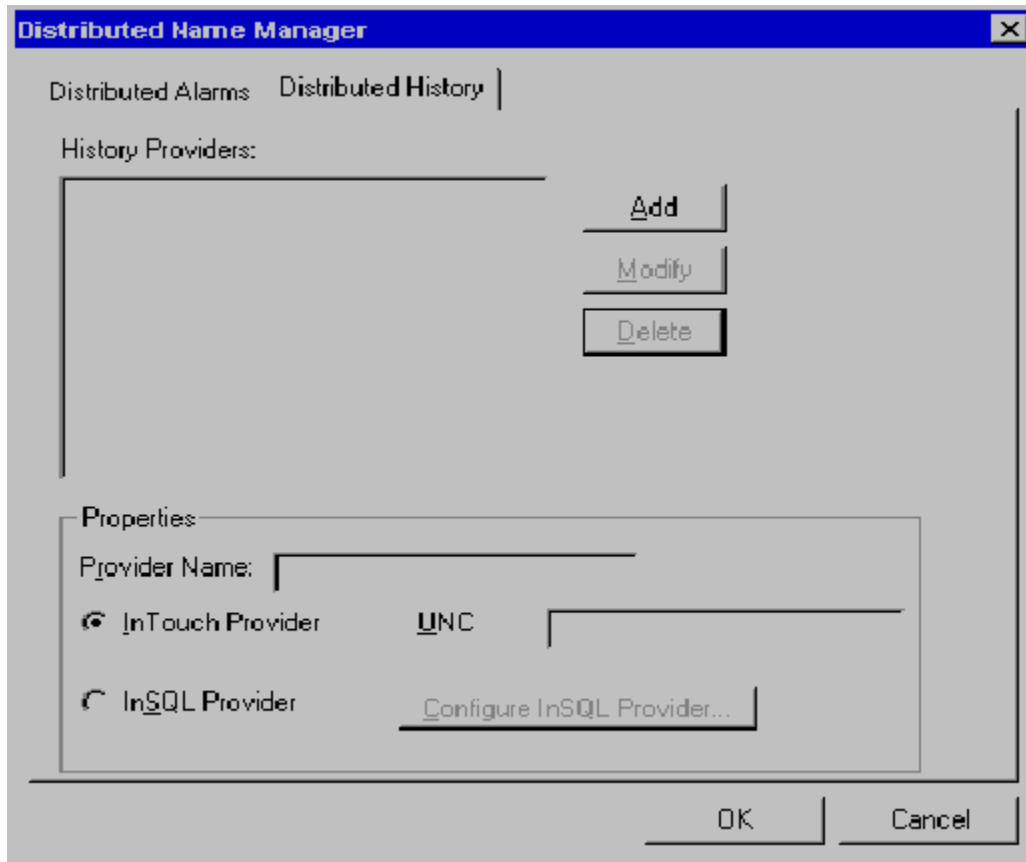
Creating the History Providers

On Node1, we will configure Node1, Node3, and Node4 as history providers. We are configuring Node1 as a history provider on Node1 because the application will be distributed through NAD to Node2, and Node2 needs Node1 as a History provider. (If the application did not have to be distributed from Node1 to Node2 using NAD, we wouldn't have to create a History Provider for Node1 on Node1.) Node4 will provide historical data through an IndustrialSQL Server database.
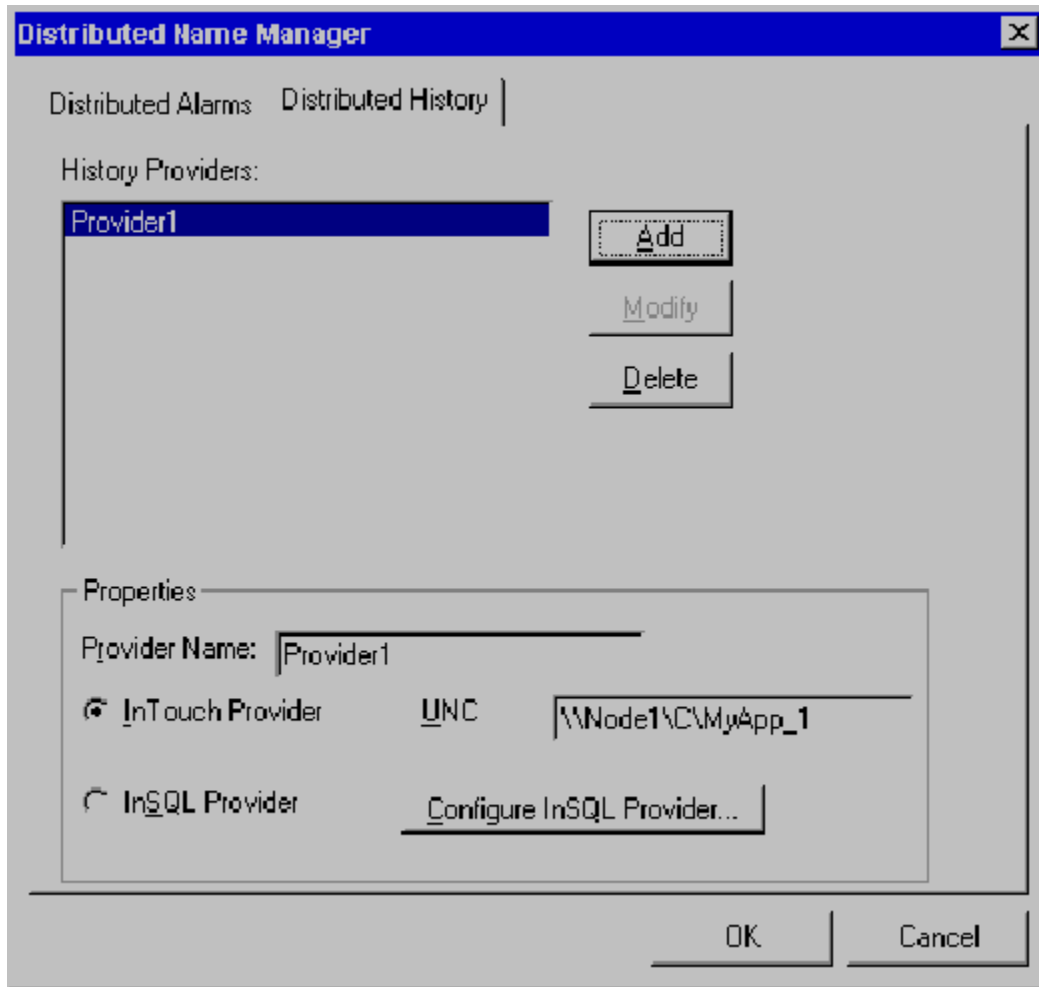
Configuring Node1 as a History Provider on Node1

Follow these steps to configure Node1 as a history provider on Node1:

1. On Node1, in WindowMaker, select Special/Configure/Distributed Name Manager.

2. In the *Distributed Name Manager* dialog box, click the **Distributed History** tab, and select **InTouch Provider** as shown below.

Distributed Name Manager   ✕

Distributed Alarms   Distributed History

History Providers:

Add

Modify

Delete

Properties

Provider Name:

⦿ InTouch Provider   UNC

○ InSQL Provider   Configure InSQL Provider...

OK   Cancel

3. Type **Provider1** for the Provider Name.

4. Enter the path to the application directory that is on Node1 (not the log file directory) in the UNC path, using the UNC format, such as \\Node1\C\MyApp_1, where **C** is the share name for drive C on Node1.

5. Click the **Add** button. The history provider "Provider1" (which is Node1) has been created.

Configuring Node3 as a History Provider on Node1

Next, you want to be able to retrieve information about Node3_tag1 and Node3_tag2 (which are tags historically logged on Node3). Follow these steps to configure Node3 as a history provider on Node1. For this *Tech Note*, the provider will be called Provider3.
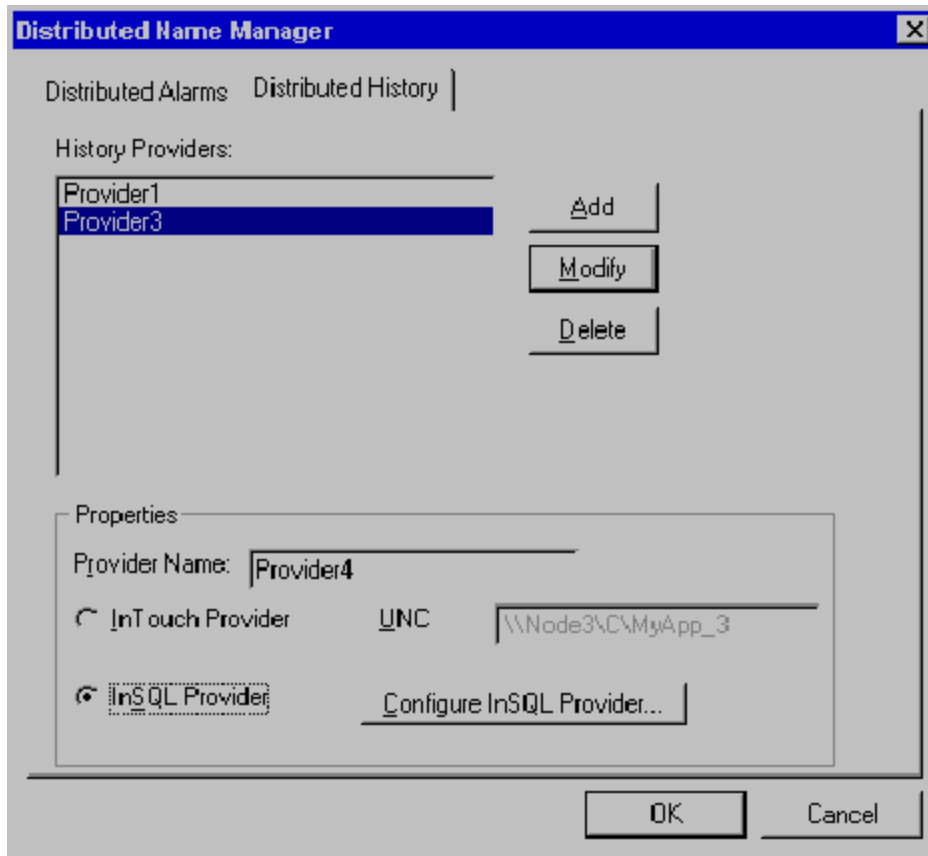
1. Type **Provider3** for the Provider Name.

2. Select **InTouch Provider** and enter the path to the application directory that is on Node3 (not the log file directory) in the UNC path, using the UNC format, such as \\Node3 \C\MyApp_3.

3. Click the **Add** button. The history provider "Provider3" (which is Node3) has been created.
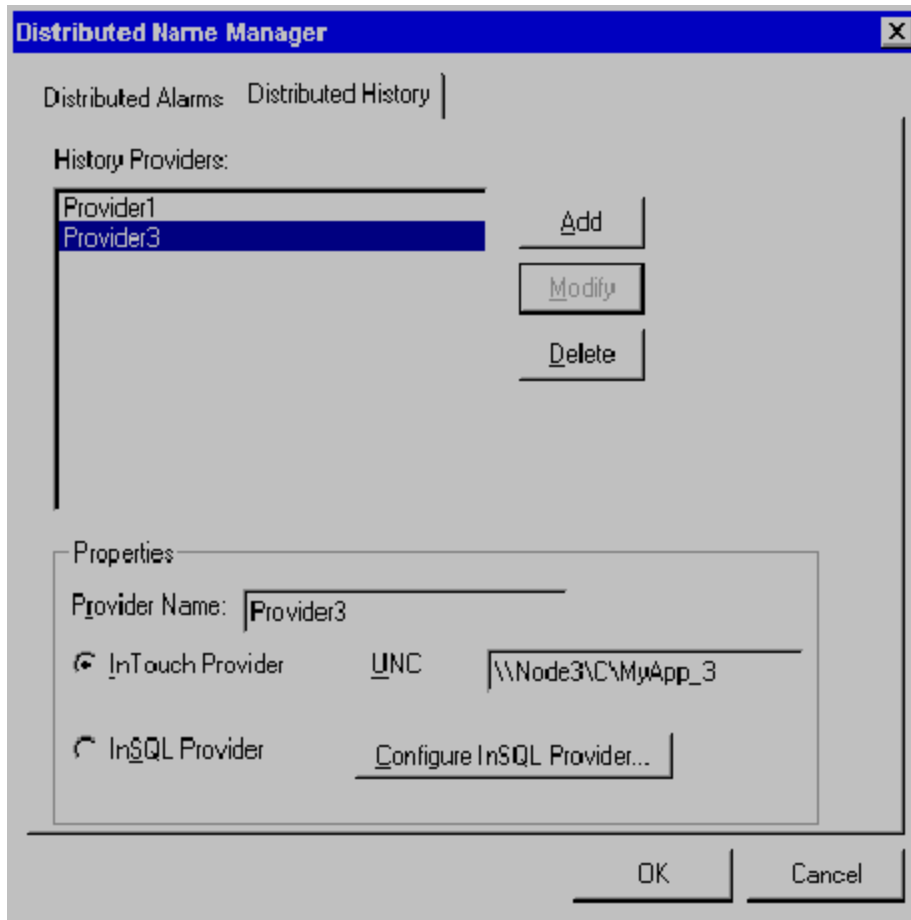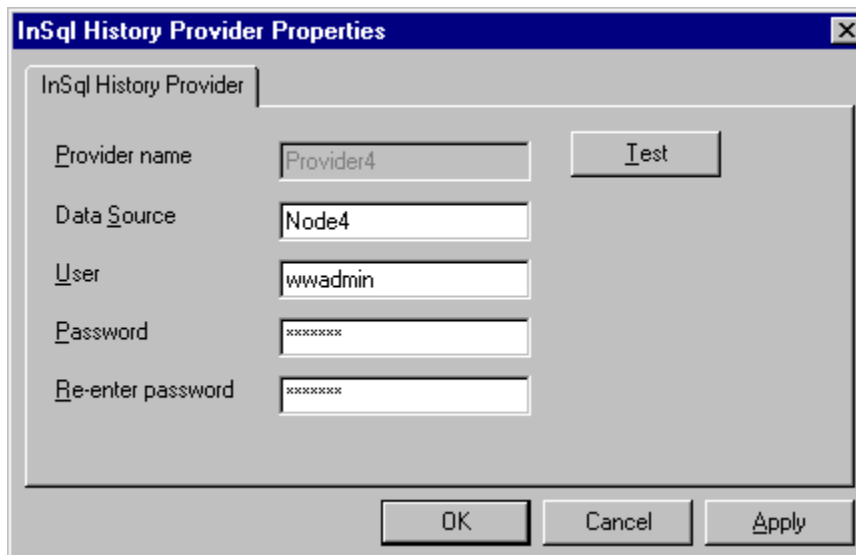
Configuring Node4 as an IndustrialSQL Server History Provider on Node1

Next, you want to be able to trend Node4_tag1 and Node4_tag2, which are logged using the InSQL utility. Follow these steps to configure Node4 as an IndustrialSQL Server history provider on Node1:

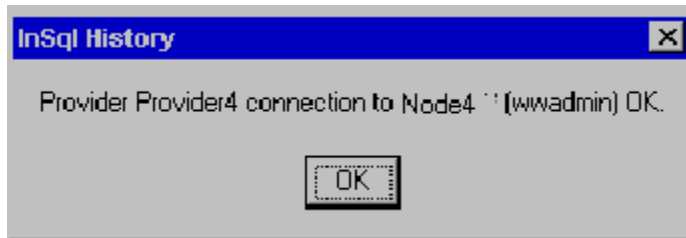1. Type **Provider4** for the Provider Name.

Distributed Name Manager

Distributed Alarms   Distributed History

History Providers:

Provider1
Provider3

Add
Modify
Delete

Properties

Provider Name: Provider4

○ InTouch Provider   UNC   \\Node3\C\MyApp_3

◉ InSQL Provider   Configure InSQL Provider...

OK   Cancel

2. Select InSQL Provider and click the **Configure InSQL Provider** button. The *InSQL History Provider Properties* dialog box will appear.

InSql History Provider Properties

InSql History Provider

Provider name   Provider4   Test
Data Source   Node4
User   wwadmin
Password   ********
Re-enter password   ********

OK   Cancel   Apply

3. For the **Data Source**, enter the name of the node where the IndustrialSQL Server database resides. For the example in this *Tech Note,* enter Node4)

4. For **User**, enter the Microsoft SQL Server logon user name, such as wwuser or wwadmin.

> **Note** The Microsoft SQL Server user account that you enter must have permission to retrieve data or the logon will fail.

5. For **Password** and **Re-enter password**, enter the password for the logon account name, such as wwuser or wwadmin.

6. Click the **Test** button to verify the connection to the IndustrialSQL Server database. A message box will appear informing you if the connection was successful.


```
InSql History                          [×]

Provider Provider4 connection to Node4 ``(wwadmin) OK.

                    [ OK ]
```
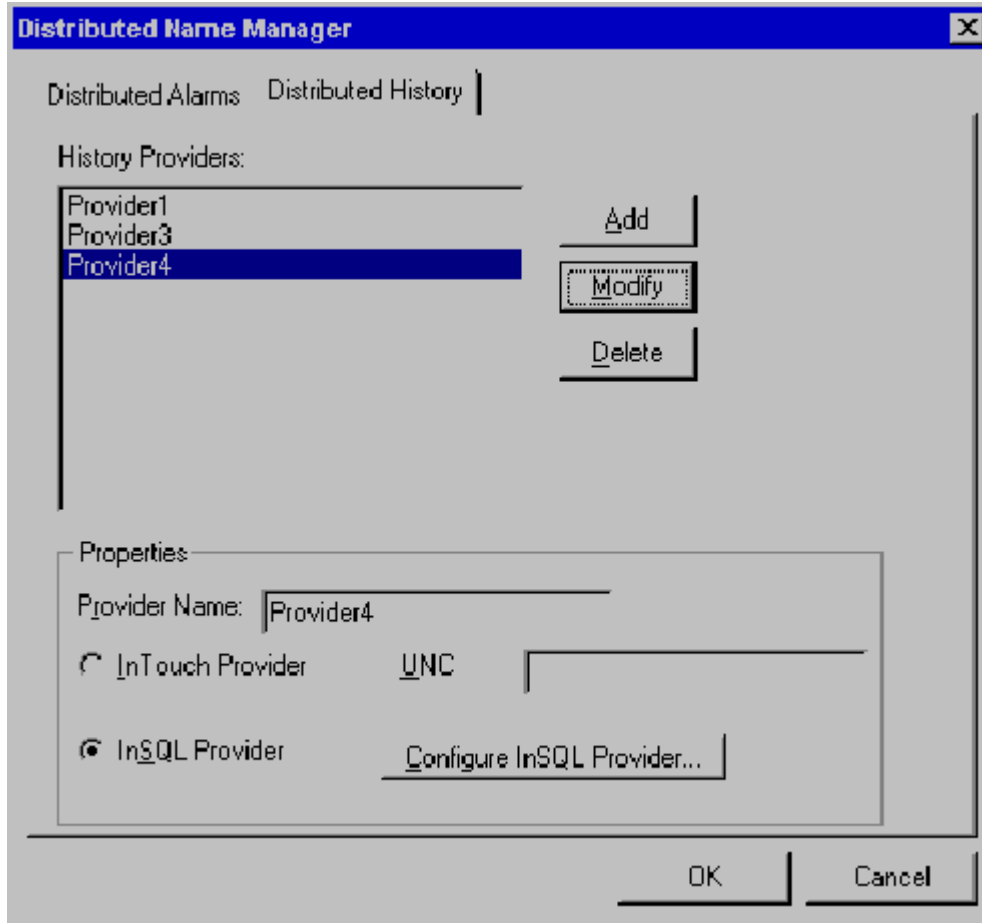
7. Click **OK** to close the message box, and then click **OK** to return to the *Distributed Name Manager* dialog box. Click the **Add** button to enter the new History Provider.

In this section, you configured the three History Providers:

- Provider1 - for Node1

- Provider3 - for Node3

- Provider4 – for Node4

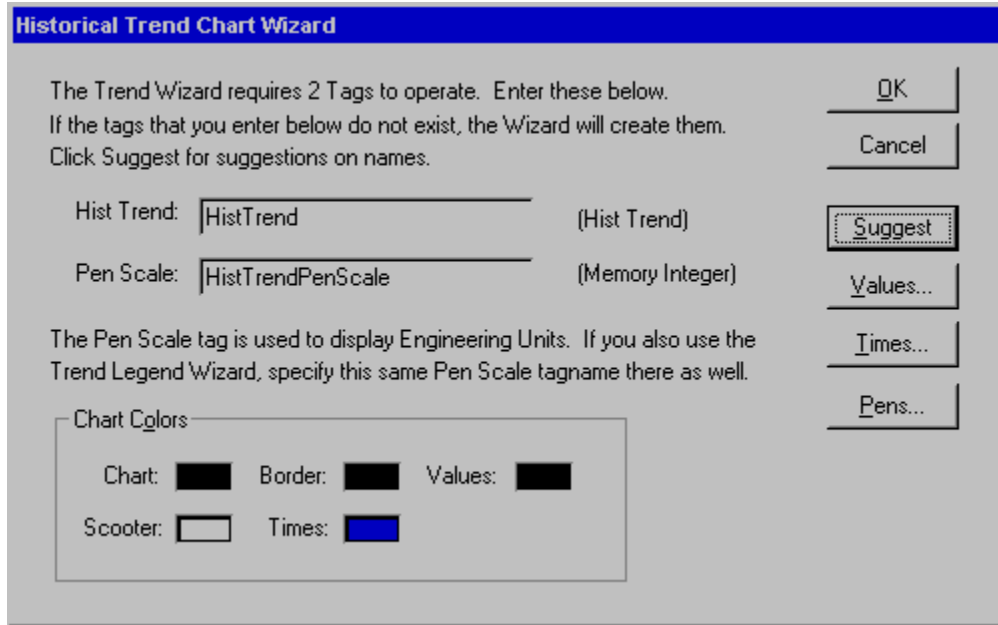When you have finished, the Distributed Name Manager should appear like this:

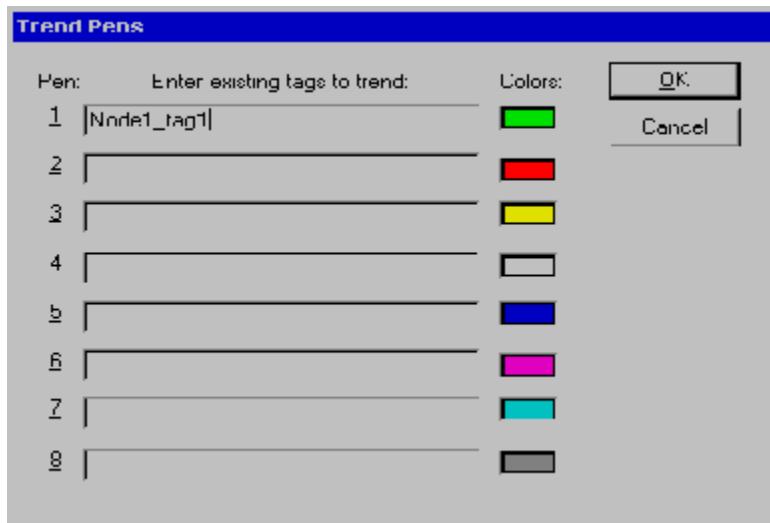Now, on Node3, repeat the appropriate steps above to create History Providers for only Node1 and Node4.

Configuring the Historical Trend to Retrieve Local and Remote Tags

On Node1, follow these steps to configure the historical trend to receive local and remote tags. Then, repeat these steps again on Node3.

1. In WindowMaker, create a new window and use the wizard to place a distributed historical trend. Double-click the Historical Trend object.

2. In the *Historical Trend Chart Wizard* dialog box, click the **Suggest** button. The HistTrend and PenScale fields will be filled in for you and the appropriate tags will be created.
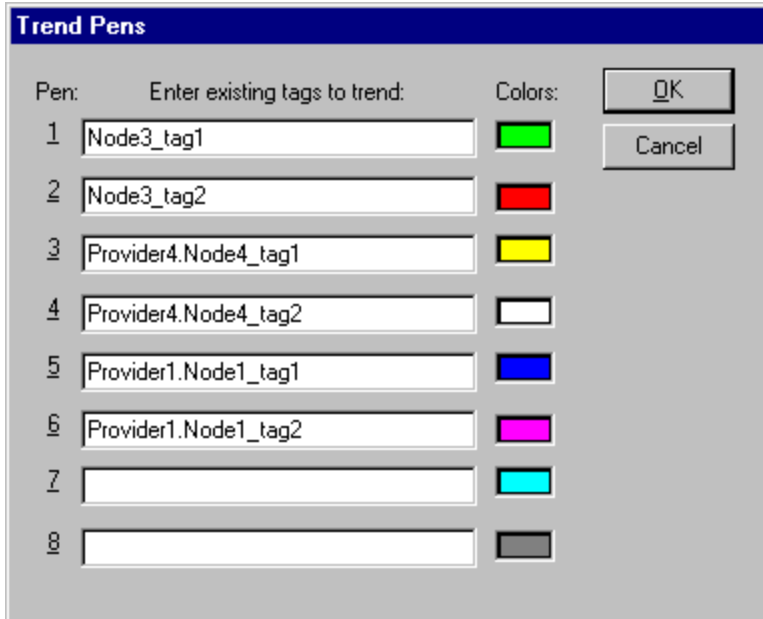
Historical Trend Chart Wizard

The Trend Wizard requires 2 Tags to operate. Enter these below.
If the tags that you enter below do not exist, the Wizard will create them.
Click Suggest for suggestions on names.

Hist Trend: | HistTrend | (Hist Trend)

Pen Scale: | HistTrendPenScale | (Memory Integer)

The Pen Scale tag is used to display Engineering Units. If you also use the
Trend Legend Wizard, specify this same Pen Scale tagname there as well.

Chart Colors

Chart: ▮   Border: ▮   Values: ▮

Scooter: ☐   Times: ▮

OK

Cancel

Suggest

Values...

Times...

Pens...

3. Click the **Pens** button. The *Trend Pens* dialog box will appear. The Historical Trend can display tagnames from both local and remote History Providers. If you want to trend local tags, enter the name of the tag in each pen field.

Trend Pens

Pen:	Enter existing tags to trend:	Colors:
1	Node1_tag1	🟩
2		🟥
3		🟨
4		☐
5		🟦
6		🟪
7		🟦
8		⬛

OK

Cancel

4. Or, if you want to trend remote tags, enter the tag using the format *HistoricalProvider.RemoteTagName* in the Pen field. Here is an example how you would configure the pens on Node3:

Pen	Tag
Pen 1	Node3_tag1
Pen 2	Node3_tag2
Pen 3	Provider4.Node4_tag1
Pen 4	Provider4.Node4_tag2
Pen 5	Provider1.Node1_tag1
Pen 6	Provider1.Node1_tag2

Trend Pens

Pen:	Enter existing tags to trend:	Colors:	
1	Node3_tag1	(green)	OK
2	Node3_tag2	(red)	Cancel
3	Provider4.Node4_tag1	(yellow)	
4	Provider4.Node4_tag2	(white)	
5	Provider1.Node1_tag1	(blue)	
6	Provider1.Node1_tag2	(magenta)	
7		(cyan)	
8		(gray)	

Note that each pen's assignments can be dynamically changed during runtime by using the following function in a script. This function assigns Provider4.Node4_tag1 to Pen 1.

```
HTSetPenName ("HistTrend", 1, "Provider4.Node4_tag1");
```

Running the NAD Applications

Now you are ready to run the applications and watch them trend local and remote tags. The application on Node1 will be distributed through NAD to Node2. According to the configuration in this *Tech Note*, when the application is copied to Node2, Node2 will know that the logging node is on Node1 (because Name of Logging Node was set to **Node1**) and that the log files are kept on Node1 in the HistLog_1 directory (because we selected Store Log Files In Specific Directory and entered the directory \\Node1\C\HistLog_1).

Solving Common Errors

Here are solutions for some of the most common problems that occur with NAD configurations.

Problem: When I try to configure an IndustrialSQL Server History Provider, I receive the following error message:
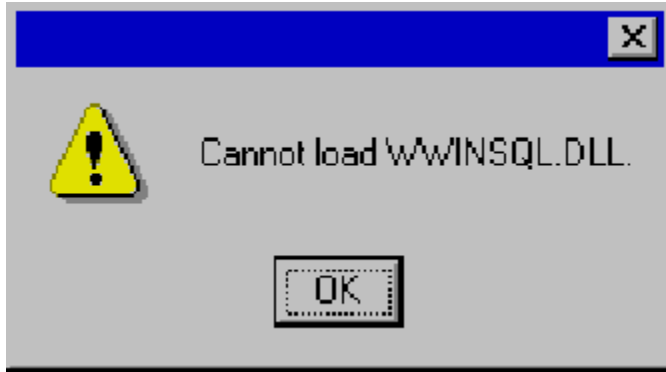
Solution: This error occurs if the Dhistcfg.ini file was not created. In WindowMaker, select Special/Configure/Historical Logging and click **OK** in the Historical Logging Properties dialog box.

Problem: I can't trend my tag and have the following error message in my WWLogger:

`/Could not obtain range info for HistProviderX.tagx`

Solution: This error message is caused by an incorrect Distributed Name Manager UNC path. Verify that the Distributed Name Manager has the correct path in UNC format. The path should be to the remote application directory, not the remote log files.

Problem: I have the following error message in my WWLogger:

`/Primary Retrieval path 'c:\MyLogDir' does not exist`

Solution: This error message occurs when the path to the Historical Logging directory is not in the UNC format. On the provider node where you want to retrieve the data from, open WindowMaker and select Special/Configure/Historical Logging. Verify that you entered the path to the log files in UNC format.

D. Tulbure

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