

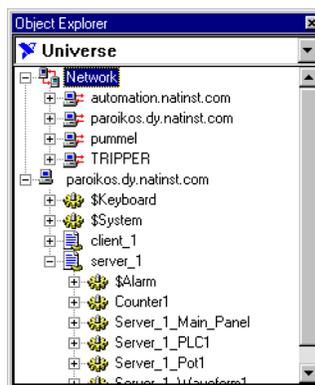
# 4

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## Networking

With *LookoutDirect*, you can monitor and control your process from any workstation (node) on the network.

*LookoutDirect* is designed to make networking easy. When you want to display an expression or make a connection from one process to another, you use the following dialog box, which appears in one form or another in many *LookoutDirect* dialog boxes, as well as in the *LookoutDirect* Object Explorer.



Each computer registered as running *LookoutDirect* appears in this dialog box. Click on the computer to open the full display and reveal the processes currently running on that computer. Click on a particular process to reveal all the objects in that process that you can access.

After you navigate to the computer and process you want to make a connection to, you work as you would with any local *LookoutDirect* object.

## Registering Computers

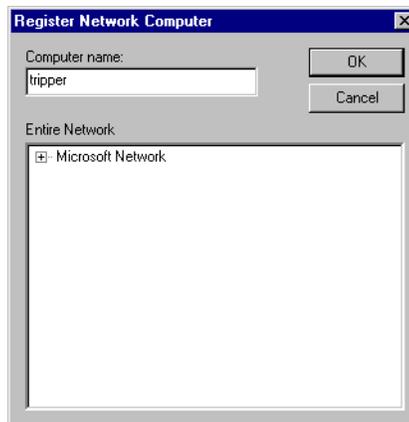
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Use the Lookout*Direct* Connection Browser or Lookout*Direct* Object Explorer to register the computers running Lookout*Direct* processes on your network.

In addition to registering computers, both the Object Explorer and the Connection Browser perform a number of useful functions in Lookout*Direct*. These other functions are detailed in Chapter 3, Lookout*Direct* *Basics: Windows, Tools, and Files*, of the *Getting Started With LookoutDirect* manual.

To register the computers using Lookout*Direct* on your network, open a process. Select **Object»Connection Browser** or **Object»Object Explorer**.

Right-click on *Network*, and select **Register Network Computer**. The following dialog box appears.

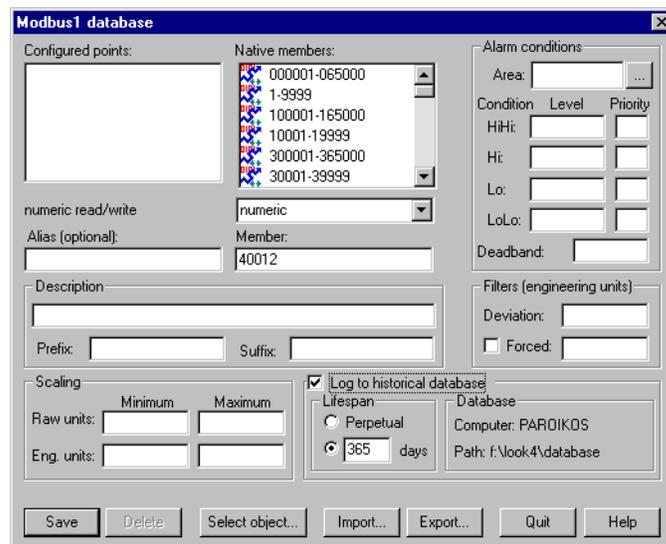


Type the name of the computer in the **Computer name** field. If you are unsure of the spelling, you can browse the network for computers by clicking on the network node in the **Entire Network** field.

To remove a computer from your list of registered computers, select **Object»Connection Browser** or **Object»Object Explorer** and double-click on *Network*. Highlight the name of the computer you want to remove, and select **Unregister Network Computer**.

## Logging Data

Before you can log data across the network, you must select the **Log to historical database** option for the data member you want to log. Choose **Object»Edit Database** to select this option. The dialog box you see might vary from the one shown here, depending on what object you edit the database for. For more information, refer to Chapter 3, *Getting Started with LookoutDirect* in the *LookoutDirect Getting Started Guide*.



## Time Synchronization

To keep your data properly time stamped, you must make sure the times on your computers are properly synchronized. The *LookoutDirect* time synchronization service is installed as a service in Windows NT that runs every time you run your computer. Time synchronization runs as a background process in Windows 98/95.

To configure time synchronization, select **Options»Time Synchronization**. The following dialog box appears.



Any computer that is running the time synchronization service can serve as a time server or a time client. The primary time server is the first computer listed in the **Time Server Search Order** field.



**Note** You must make sure that the order of search for time servers is the same for all the computers running *LookoutDirect* on your network, including the primary time synchronization server.

You do not include a computer running *LookoutDirect* in its own list of time synchronization services.

Suppose you have four computers you need to have synchronized. If one fails, the others look for the next in line to synchronize to as time servers. For computers A, B, C and D, you would use the following time server search order in each computer.

**Table 4-1.** Time Synchronization Order

Computer A	Computer B	Computer C	Computer D
None listed	A	A	A
		B	B
			C

As the primary time server, Computer A would have no other servers listed. As long as Computer A is running, it should synchronize to itself. Computer B should synchronize to Computer A as long as A is running. If A is not running, B should synchronize to itself. Computer C should synchronize to Computer A if it is running, Computer B if A is not running, and to itself if neither A nor B is running. This pattern should be used for all the computers you want in one synchronized set.

To change the order in which your computers search for a time synchronization server, select the computer name and click on the **Up** or **Down** buttons.

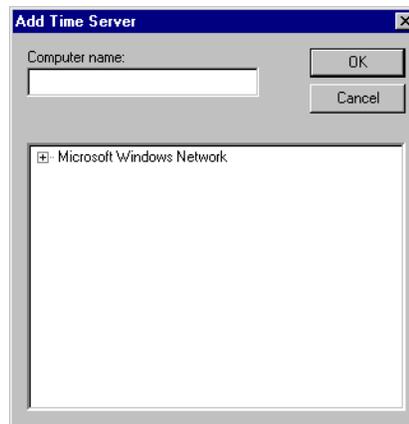
Use **Sleep Time (seconds)** to set how long each computer waits between each synchronization. You should set the primary time synchronization server sleep time to 60 seconds.

If your primary server is off-line for some reason, a computer scheduled to synchronize automatically seeks out the second computer on the synchronization server list. At the time of the next synchronization, the computer first looks for the primary server before seeking a secondary synchronization server.



**Note** If you have some computers running Windows 98/95 and other computers running Windows NT in your network, you should list your Windows NT machines first in the server search list. Time synchronization works better between Windows 98/95 and Windows NT systems when the Windows NT computer is the server.

To add a computer to the **Time Server Search Order** field, click on the **Add** button. The following dialog box appears.



If you know the name of the computer you want to add, you can type it into the **Computer name** field. If you do not know the exact name of the computer, you can browse for it in the network tree contained in the second field.

To remove a computer from the **Time Server Search Order** field, highlight the computer name and click on the **Remove** button.

If no computer is set as a primary time server, your computer synchronizes to itself.

## Checking the Network Connection between Two Computers

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Lookout*Direct* networking, like the `ping` program, is based on TCP/IP and assumes that computer network addresses can be resolved by name. Use the `ping` program to see if two computers are properly networked before trying to run Lookout*Direct*.

Run `ping` by opening a DOS window and entering  
`ping server`  
from the client and  
`ping client`  
from the server.

If you cannot successfully run `ping` from both computers, Lookout*Direct* networking will not work.

When `ping` runs successfully, it produces output similar to the following:

```
>ping plato
Pinging plato.natinst.com [123.45.67.89] with 32 bytes of
data:
Reply from 123.45.67.89: bytes=32 time<10ms TTL=128
```

If `ping` succeeds, but only after a long time, Lookout*Direct* will also take a long time to make connections.

One possible cause of a slow response is an incorrect domain suffix search order. Check this in your **DNS configuration** dialog box, and correct the search order if necessary. To access DNS configuration in Windows NT 4.0, select **Start»Settings»Control Panel»Network»Protocols**. Click on **TCP/IP Protocol** to open the **TCP/IP properties** dialog box. Select the **DNS** tab to check the search order.

To access DNS configuration in Windows 98/95, select **Start»Settings»Control Panel»Network**. Select the **Configuration** tab, and click on **TCP/IP** in the list of installed components. The **TCP/IP properties** box appears. Select the **DNS Configuration** tab to check DNS search order.

Under Windows NT 4.0, open a DOS shell and enter the command  
`nslookup computername`

to see if DNS is working and to find out how long it takes to do the name lookup.

If `ping` does not succeed, try accessing the Network Troubleshooter by selecting **Start»Help»Troubleshooting**. This Windows utility can sometimes diagnose a problem. In some cases, it might be necessary to use the machine's fully qualified name, such as `plato.dy.natinst.com`.

If the Network Troubleshooter does not resolve your problems, you might need to ask for help from a network administrator.

