

Configuring for Interoperability on an Infoprint AIX Server

Back to Administrator Procedures

By performing the following set of procedures on both an Infoprint AIX server and an Infoprint Windows NT or Windows 2000 workstation, you can configure Infoprint Manager to support Interoperability between Infoprint AIX servers and Infoprint Windows NT or Windows 2000 servers.

When configuring Infoprint Manager servers to support interoperability, ensure that the following two rules are followed:

1. Each Infoprint Manager server must be accessible by all other Infoprint Manager servers using the same IP address.

For example, if **Server1** is an Infoprint Manager AIX server with an IP address of 9.99.155.122, then all other Infoprint Manager servers (whether Windows NT, Windows 2000, or AIX servers) must use 9.99.155.122 to access **Server1**.

2. The IP address for each Infoprint Manager server must be the address that is identified for the first (or primary) network card that is defined to that server.
3. All printer objects (whether logical destination, actual destination, or queue) must have unique names if they are used by interoperating Infoprint servers.

If the printer objects do not possess unique names, you may have trouble viewing them through the **Infoprint Manager GUI** from a non-namespace server.

Please note that the Infoprint Manager LPD service for Windows NT and the multiserver setup cannot be run together, because the multiserver setup requires that Windows NT Services for UNIX be installed on your server. Windows NT Services for UNIX uses Microsoft Window's TCP/IP printing service, which is an LPD service. Because the Windows LPD and Infoprint LPD services both use the same port, only one LPD service can be run at a time. LPD service for AIX can still be used however, by submitting jobs with the **lpr** command to actual destinations on the AIX server. The **lpr** command can also still be used as before with Windows printer destinations (just not Infoprint Manager printers).

Setting Up the Infoprint AIX Server for Interoperability

Perform the following procedures on your Infoprint AIX server to prepare for interoperability with an Infoprint Windows NT or Windows 2000 server. The following presumes that you have installed Infoprint Manager for AIX Version 3 Release 2 on your AIX server and have logged onto the server as **root**.

Starting NFS and Connecting the AIX Secondary Server

1. Open a dterm window and type: `/etc/rc.nfs` to either start the NFS daemon or ensure that it has been started.
2. Open a dterm window, type `smit`. The following screen displays.

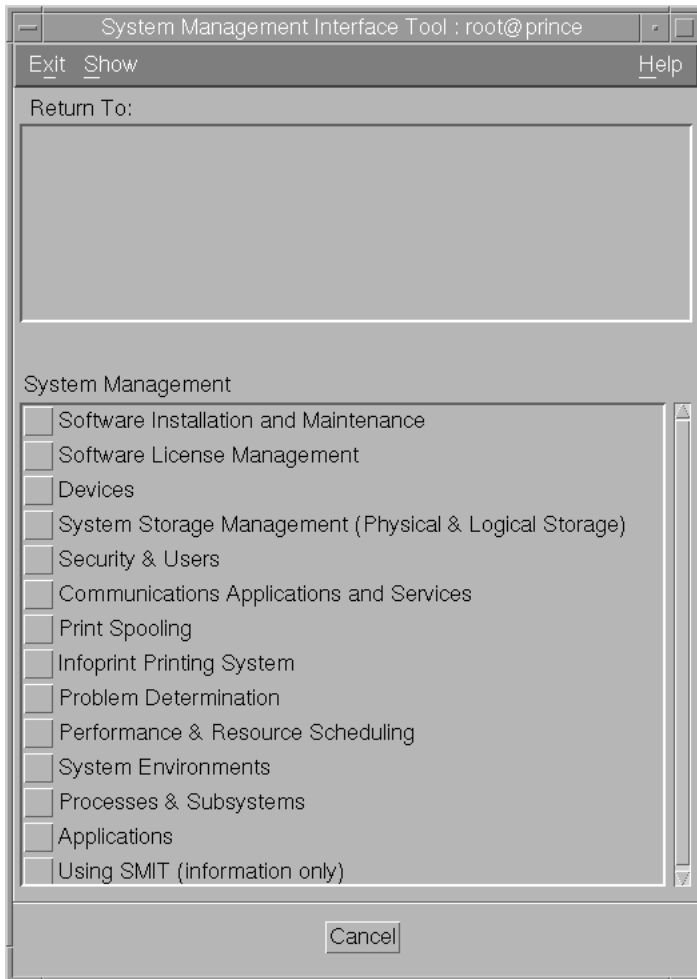


Figure 1. Main SMIT Panel

3. From this panel, specify the **Infoprint Printing System-->Infoprint Utilities-->Configure Secondary Servers (NFS)-->Link from Primary Server to Secondary Server** path.
4. Specify both the host name and the IP address of the Infoprint Windows server with which you intend to interoperate for the **Secondary Server Host Name** and the **Secondary Server IP Address** fields respectively. For example, wserv1 and 9.99.193.120 represent the Infoprint Windows server in the pop-up panel displayed below:

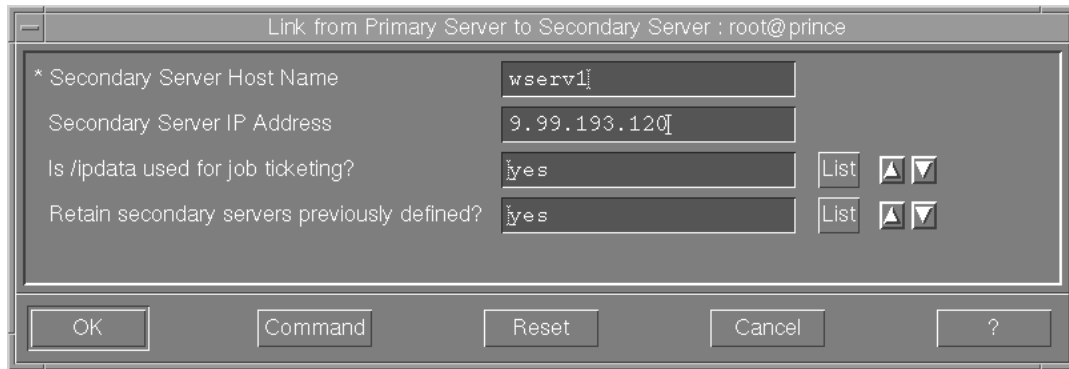


Figure 2. Link from Primary to Secondary Server Panel

You should specify no for the **Is /ipdata used for job ticketing?** field, unless you are using this AIX Infoprint Manager server with AIX Fast Connect to allow for file sharing with an Infoprint Submit Windows client for preflighting jobs and saving RIPPed files.

You should also allow the **Retain secondary server previously defined?** field to default to yes if you have more than one Infoprint server functioning as a secondary server.

5. Once verified, click **OK**, and then click **Done**.
6. Return to the first SMIT panel displayed in step 2.

Adding Users to and Modifying Permissions for FST Security Groups

1. Set up the FST Security groups on your AIX server by taking the **Infoprint Printing System-->Security-->Groups-->Show Group** path. From the **Single Select List** pop-up dialog, you should see the following three groups: **acl_admin**, **admin**, and **oper**.
2. Once you have verified the existence of these two groups, you should ensure that users in the **admin** group can issue all the Infoprint **pd*** commands. From SMIT, take the **Infoprint Printing System-->Security-->Access Control-->Access Control for Operations-->Show Access Control List** path.
3. From the **Single Select List** pop-up dialog, highlight each command and ensure that **GROUP:admin: r--** displays for each command.

If a particular **pd** command does not show **admin** group read authority, use the SMIT **Infoprint Printing System-->Security-->Access Control-->Access Control for Operations-->Change Access Control List** path to specify **GROUP:admin** in the **Users or Groups** field of the **Change Access Control List** panel for that **pd** command. Note that the **admin** group requires only read authority for each **pd** command.

Note that you may have to perform the above task only if migrating from an Infoprint Manager 3.1 system or earlier. If you have installed Infoprint Manager 3.2 on a "clean" machine, the **admin** group will have read authority for all **pd** commands by default.

4. Once complete, return to the first SMIT panel displayed in step 2.
5. Take the **Infoprint Printing System-->Security-->Groups-->Add Users to a Group** path. Then specify **acl_admin** for the **Group Name** field. Enter the name of the Windows Infoprint Manager administrative user you normally log in to the Infoprint Manager for Windows NT or Windows 2000 server machine as for

the **User or Users to Add** field. For the remainder of this procedure we will refer to this Windows Infoprint Manager administrative user as `ipmwinadmin*`. Note that `ipmwinadmin` must be followed by an asterisk (*) to account for the fully-qualified host name. (For example, `ipmwinadmin@ipmwinservermachine.boulder.ibm.com`.)

From the **Add Users to a Group** panel, specify `admin` for the **Group Name** field. Enter the name of the Windows Infoprint Manager administrative user you normally log in to the Infoprint Manager for Windows NT or Windows 2000 server machine as for the **User or Users to Add** field. Note that you do not have to perform this step for the oper group.

6. Once complete, click **Ok** to ensure the changes take effect and return to the first SMIT panel displayed in step 2.

Now you can proceed to either “Setting up the `idwinadmin` id on an NT Domain Controller” or “Setting up the `idwinadmin` id on a Windows 2000 Domain Controller”, depending upon the base operating system of your Windows server.

Setting up the `idwinadmin` id on an NT Domain Controller

On the Windows NT Domain Controller server for the domain where your Windows Infoprint Manager servers reside, you must create Perform this task to ensure that the Windows Infoprint Manager servers can access the namespace.

1. Log on to the Primary Domain Controller for the domain that your Infoprint Manager servers operate in as a domain administrator.
2. From the **Start** menu, access the **Programs-->Administrative Tools-->User Manager for Domains** path.
3. From the **User Manager for Domains** window, access the **User** menu and choose **New User**.
4. In the **user name** field enter `ipwinadmin` and in the **password** field type a password value.

IBM recommends that you select **Password never expires** so you don't have to change the password and update all of your servers on a regular basis.

5. Click on the **Groups** button and make sure that `ipwinadmin` is a member of the Domain Admin group and that its primary group is set to Domain Admin.
6. Click **OK**.
7. Click **Add**.

Setting up the `idwinadmin` id on a Windows 2000 Domain Controller

On the Windows 2000 Domain Controller server for the domain where your Windows Infoprint Manager servers reside, you must create Perform this task to ensure that the Windows Infoprint Manager servers can access the namespace.

1. Log on to the Primary Domain Controller for the domain that your Infoprint Manager servers operate in as a domain administrator.
2. From the **Start** menu, access the **Programs-->Administrative Tools-->Computer Management** path.
3. From the **Computer Management** window, click the plus (+) sign next to the **Local Users and Groups** list.
4. Click the **Users** folder and choose **New User** from the **Action** pull down menu at the top.

5. In the **User name** field type `ipwinadmin`. In the **Password** and **Confirm Password** fields type a password value.
IBM recommends that you select **Password never expires** so you don't have to change the password and update all of your servers on a regular basis.
6. Click the **Create** button and close the dialog (it will be prompting you to add another user's information).
7. From the **User** window, open the `ipwinadmin` that you just finished creating by double-clicking on the list item.
8. Click on the **Member Of** tab, click **Add**, then double-click **Administrators**.
9. Click **OK**.
10. Click **OK** a second time to finish.

Creating the ntuser ID on the Infoprint AIX Server

The following procedure creates the ntuser ID that the Infoprint Windows NT or Windows 2000 server will use to share and manage namespace directories and files that reside on the Infoprint AIX server.

1. Specify SMIT and take the **Security & Users-->Users-->Add a User** path.
2. On the Add a User panel, specify `ntuser` as the **User NAME** field value, specify `printq` for the **Primary GROUP** field, `printq,system` as the **Group SET** field, and `/home/ntuser` for the **HOME directory** field.
Change the **File Creation UMASK** field value to `003`
Ensure the **Login AUTHENTICATING Grammar** field is either blank or specifies `compat` (if SMIT will not process the command without an entry in this field).
Ensure the **Password REGISTRY** field value specifies to `files` and take the default for all other fields.
3. Click **OK** to save the changes and exit the SMIT interface.
4. Login to the server as **root** and set the initial password.
5. Login as `ntuser` with the initial password, then change the password to `tntuser`.

Ensuring Correct AIX File Permissions for Interoperability

1. From a `dtterm` window, type `cd /var/pddir/default_cell`.
2. Ensure that all the files residing in this directory have the correct permissions to be read by the Infoprint Windows server by typing `chmod -R 774 * .`
3. Ensure that all the files residing in this directory belong to the correct group by typing `chgrp -R printq * .`

If these last two steps have been performed correctly, entering an `ls -l` at the command line should display the following permissions and group values:

```
drwxrwxr-- 3 root      printq      512      ....      acl
drwxrwxr-- 3 root      printq      512      ....      printers
drwxrwxr-- 2 root      printq      512      ....      queues
drwxrwxr-- 2 root      printq      512      ....      servers
-rwxrwxr-- 1 root      printq      4        ....      version
```

4. Complete your preparations on the Infoprint AIX server by logging in as `ntuser` and specifying a password of `ntuser`. Remember this password, as you will need it later in this procedure.

Once you have completed these steps, the Infoprint AIX server is ready for interoperability.

Configure Windows NT servers for Interoperability

Some print environments require more than one Infoprint Manager server to handle their print management. If you are adding one or more Infoprint Manager for Windows NT and Windows 2000 servers to your print environment, this topic will tell you what you need to do to make those servers work with the Infoprint Manager AIX Version 3.2 server.

Notes:

1. In an interoperating environment that includes an AIX server and NT servers, the namespace will reside on the AIX server.
2. You can only install one Infoprint Manager server on a given Windows NT or Windows 2000 workstation or server.
3. If your users will be submitting jobs directly to actual destinations, the actual destination and the associated queue and logical destination must be on the same server.
4. Once you have your multi-server system running, if one of your NT servers shuts down or is restarted, that Infoprint Manager server will not restart automatically when the system restarts. You must open the Management Console for that server and start it manually.
5. The following instructions refer specifically to Windows NT systems.

Setting up Interoperating Windows NT servers

The Windows administrator should use the following procedure on the Infoprint Windows NT or Windows 2000 server to configure for communication with the Infoprint AIX server. For a detailed description of the Windows NT Domain configuration process, refer to "Setting up a print environment with multiple Windows NT/2000 servers" on the web at

<ftp://ftp.software.ibm.com/printers/specs/multint.pdf>.

1. Install all of the Infoprint Manager for NT servers as described in *Getting Started*. When you are finished, your servers will all be operating independently.
2. On each system that an Infoprint Manager server runs on, open the Infoprint Manager Management Console and click **File --> Stop Server**.

Installing MS Services for UNIX on the Infoprint Windows Servers

You must perform the following task on each Windows NT or Windows 2000 server:

1. Using the CD-ROM, install Microsoft Windows NT Services for UNIX from the "Add-on Pack for MicroSoft Windows NT Workstation and Server 4.0" at Version 1.0 or higher.
2. Reboot each Infoprint Windows NT or Windows 2000 server.

Setting Up the Common Account for Infoprint Windows Servers on an NT Domain Controller

On the Windows NT Domain Controller server for the domain where your Windows Infoprint Manager servers reside, you must create the domain account that all the Infoprint Windows NT or Windows 2000 servers will run under. Perform this task to ensure that the Windows Infoprint Manager servers can access the namespace.

1. Log on to the Primary Domain Controller for the domain that your Infoprint Manager servers operate in as a domain administrator.
2. From the **Start** menu, access the **Programs-->Administrative Tools-->User Manager for Domains** path.
3. From the **User Manager for Domains** window, access the **User** menu and choose **New User**.
4. In the **user name** field enter **ntuser** and in the **password** field type the **ntuser** password from step 4 of the Ensuring Correct AIX File Permissions for Interoperability procedure.
IBM recommends that you select **Password never expires** so you don't have to change the password and update all of your servers on a regular basis.
5. Click on the **Groups** button and make sure that **ntuser** is a member of the **Domain Admin** group and that its primary group is set to **Domain Admin**.
6. Click **OK**.
7. Click **Add**.

Setting Up the Common Account for Infoprint Windows Servers on a 2000 Domain Controller

On the Windows 2000 Domain Controller server for the domain where your Windows Infoprint Manager servers reside, you must create the domain account that all the Infoprint Windows NT or Windows 2000 servers will run under. Perform this task to ensure that the Windows Infoprint Manager servers can access the namespace.

1. Log on to the Primary Domain Controller for the domain that your Infoprint Manager servers operate in as a domain administrator.
2. From the **Start** menu, access the **Programs-->Administrative Tools-->Computer Management** path.
3. From the **Computer Management** window, click the plus (+) sign next to the **Local Users and Groups** list.
4. Click the **Users** folder and choose **New User** from the **Action** pull down menu at the top.
5. In the **User name** field type **ntuser**. In the **Password** and **Confirm Password** fields type the **ntuser** password from step 4 of the Ensuring Correct AIX File Permissions for Interoperability procedure.
IBM recommends that you select **Password never expires** so you don't have to change the password and update all of your servers on a regular basis.
6. Click the **Create** button and close the dialog (it will be prompting you to add another user's information).
7. From the **User** window, open the **ntuser** that you just finished creating by double-clicking on the list item.
8. Click on the **Member Of** tab, click **Add**, then double-click **Administrators**.
9. Click **OK**.
10. Click **OK** a second time to finish.

Grant Appropriate User Rights to the domain user on all Infoprint Manager Windows NT Servers

To ensure that the Windows NT Infoprint Manager servers can run as a Windows service using the domain userid **ntuser**, you must ensure that this userid has the proper level of authority on each Windows NT Infoprint Manager server system.

1. Log on to the Infoprint Windows NT or Windows 2000 servers as ipmwinadmin .
2. Use the local User Manager to give the domain user (ntuser) that you created in step 4 the following user rights on that system:
 - a. **Act as part of the operating system**
 - b. **Create permanent shared objects**
 - c. **Log on as a service**

Note:

Click the **Advanced User Rights** check box to see these rights.

- d. Repeat this process on all of the Infoprint Manager Windows NT or Windows 2000 servers.

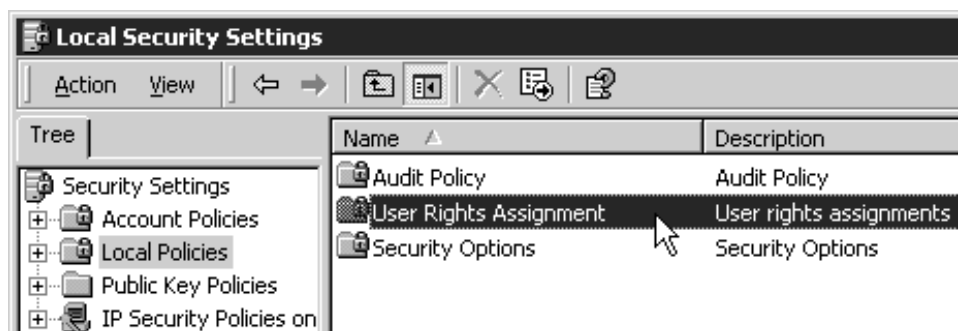
Grant Appropriate User Rights to the domain user on all Infoprint Manager Windows 2000 Servers

To ensure that the Windows 2000 Infoprint Manager servers can run as a Windows service using the domain userid ntuser, you must ensure that this userid has the proper level of authority on each Windows 2000 Infoprint Manager server system.

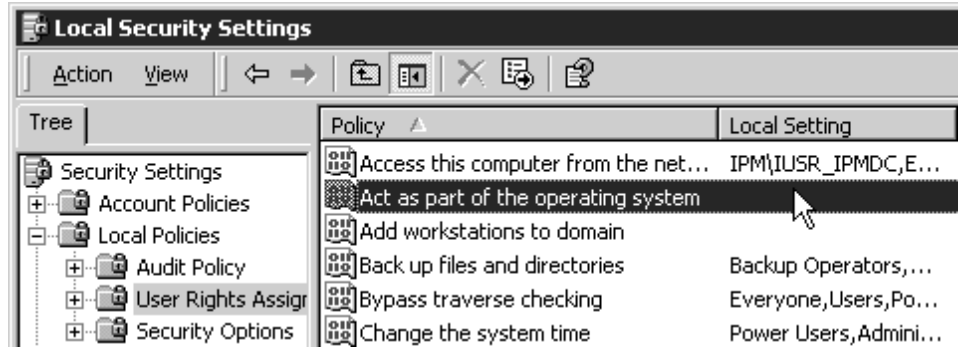
1. Log on to one of the systems as a user who is a member of the Domain Administrators group.
2. Click the Windows **Start** button and select **Settings --> Control Panel**.
3. In the **Control Panel** window, double-click the **Administrative Tools** icon.
4. In the **Administrative Tools** window, double-click the **Local Security Policy** icon.
5. In the right pane of the **Local Security Settings** Window, double-click **Local policies**.



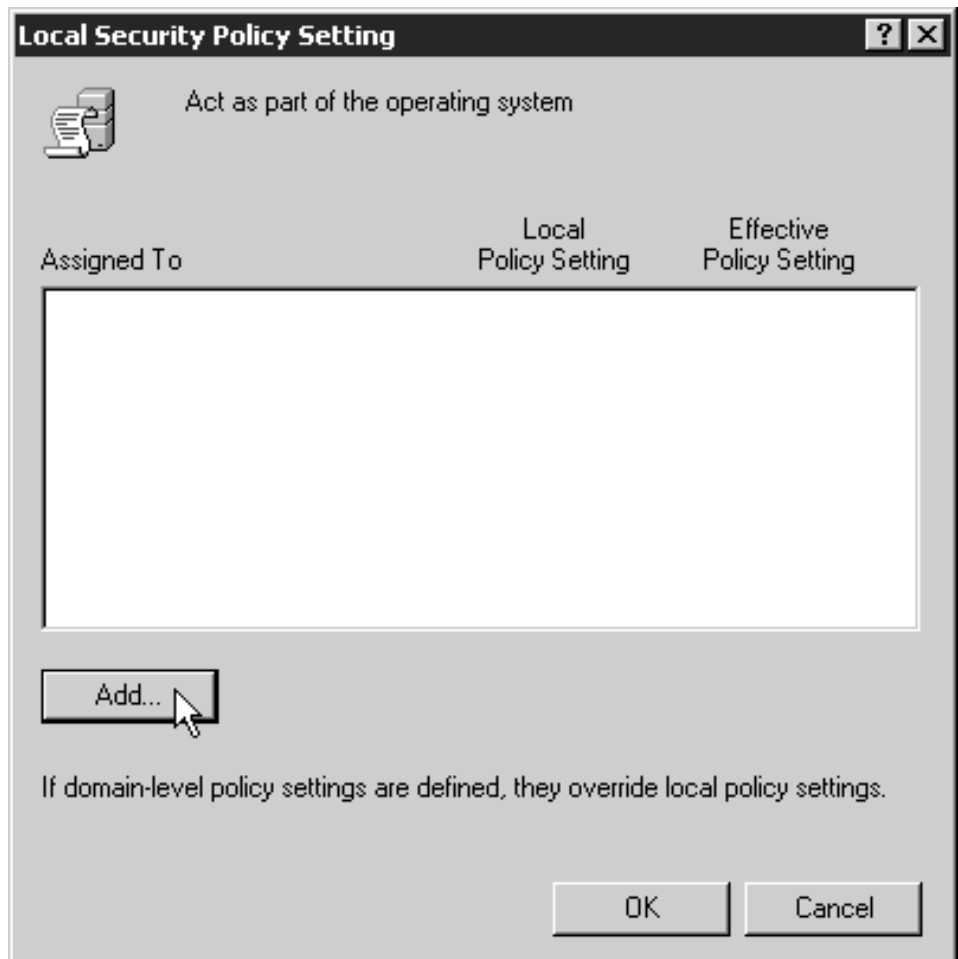
6. Double-click **User Rights Assignment** in the right pane.



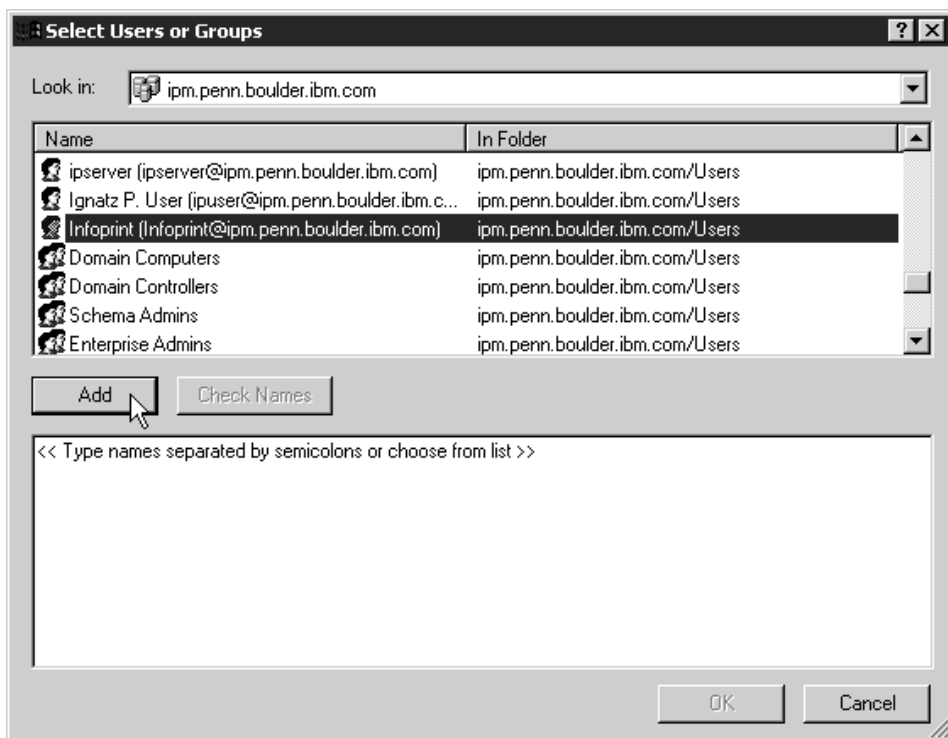
7. In the list of user rights, select **Act as part of the operating system** and double click it.



8. In the **Local Security Policy Setting** dialog, click **Add**.



9. In the **Select Users or Groups** dialog, click the arrow on the drop-down list box and select the domain that your Infoprint Manager servers exist in.



Find and select the domain user you created, and click **Add**.

10. Click **OK** in the **Select Users or Groups** dialog.
11. Click **OK** in the **Local Security Policy Setting** dialog.
12. Repeat from step 7 on page 9 for two other user rights: **Create permanent shared objects** and **Log on as a service**.

Configuring the NFS Client to Access the Namespace

The following NFS Client configuration will need to be performed on each Infoprint Manager for Windows NT or Windows 2000 server that will access the namespace on the AIX Infoprint Manager server machine.

1. Log on to the Windows Infoprint Manager server as the domain user `ntuser` who was created in the Setting Up the Common Account for Infoprint Windows Servers on the Domain Controller procedure above.
2. From the **Start** menu, access the **Settings-->Control Panel** path, and double-click **Client for NFS** to configure the NFS client to access the namespace.
3. Click the **Authentication** tab:
 - a. Enter `ntuser` in the **User Name** field.
 - b. Enter the Infoprint AIX password for `ntuser` (the one you set up in step 4 the Ensuring Correct AIX File Permissions for Interoperability procedure) in the **Password** field.
 - c. Click the **PCNFSD Server** radio button and type in the name of an Infoprint Manager AIX server.
4. Click the **Filenames** tab and set values as follows:

Preserve Case (no conversion)

check

| | |
|---|-----------|
| Generate Unique Names for Existing Files with Mixed Case Filenames | unchecked |
| Match Filenames Exactly | checked |
| Match Filenames Ignoring Case | unchecked |

5. Click **OK**.
6. When you receive the pop-up dialog box that says NFS Login Successful , click **YES**.
If you do not receive this message, go back to the **Authentication** tab and ensure that the ID and password match those set up in the final step of the Ensuring Correct AIX File Permissions for Interoperability procedure.
7. Log off the Windows Infoprint Manger server as the domain user ntuser and log on to the Windows Infoprint Manger server as the ipmwinadmin user.
8. Repeat steps 2 through 6 from above.

Verifying Access to the AIX Namespace that Allows Interoperability on Windows NT

From each Infoprint Windows NT, you must verify that you have access to the namespace on the Infoprint AIX server. You can do this by mapping a network drive (as ntuser with the ntuser password from step 4 of the Ensuring Correct AIX File Permissions for Interoperability procedure) from the Windows NT server to the shared namespace on the Infoprint AIX server.

1. From the Map Network Drive window, use the **Path** field to specify:

```
\\aix_servername\var\pddir\default_cell
```

where *aix_servername* is the name of the Infoprint AIX server.

2. Next, specify ntuser in the **Connect as** field. A dialog box will open asking for a password associated with ntuser. Specify the ntuser password from step 4 of the Ensuring Correct AIX File Permissions for Interoperability procedure in the **Password** field.
3. Click **OK** and the **NFS Client** window opens.
4. Click **OK** again. A small notification window should appear that says NFS Login Successful.
Since the NFS Client was set up in the section Configuring the NFS Client to Access the Namespace, click **OK**.
5. Click **Yes** to accept the current login and **OK** to map the drive.
If the drive mapped correctly, a new window should open to the mapped drive's contents, and the **NFS client** and **Map Network Drive** windows should be gone.

Verifying Access to the AIX Namespace that Allows Interoperability on Windows 2000

From each Infoprint Windows 2000 server, you must verify that you have access to the namespace on the Infoprint AIX server. You can do this by mapping a network drive (as ntuser with the ntuser password from step 4 of the Ensuring Correct AIX File Permissions for Interoperability procedure) from the Windows 2000 server to the shared namespace on the Infoprint AIX server.

1. From the main Windows view, right click the **My Network Places** icon, choose **Map Network Drive**. In the dialog, use the **Folder** field to specify:

```
\\aix_servername\var\pddir\default_cell
```

where *aix_servername* is the name of the Infoprint AIX server.

2. Check the **Reconnect at Login** check box.
3. Click on the **Connect Using Different User Name** link.
4. A dialog box will open asking for a username and password associated with *ntuser*. Specify the *ntuser* password from step 4 of the Ensuring Correct AIX File Permissions for Interoperability procedure in the **Password** field.
5. Click **OK** and the **NFS Client** window opens.
6. Click **OK** again. A small notification window should appear that says NFS Login Successful.
Since the NFS Client was set up in the section Configuring the NFS Client to Access the Namespace, click **OK**.
7. Click **Yes** to accept the current login and **Finish** to map the drive.
If the drive mapped correctly, a new window should open to the mapped drive's contents, and the **NFS Client** and **Map Network Drive** windows should be gone.

Configuring the 'ntuser' ID for Interoperability on the Infoprint Windows Servers

Ensure that you complete the following procedure on all Infoprint NT servers.

Note: Once this procedure is completed, ensure that you perform all namespace administration from the Management Console on the Infoprint Windows server, not the Infoprint AIX server.

On all Windows NT or Windows 2000 servers, do the following:

1. Log on as user *ipmwinadmin*.
2. From the **Start** menu, click on the **Programs-->Infoprint Manager-->Management Console** path.
3. Stop the server by either clicking the **Stop** toolbar button or clicking **File-->Stop Server**.
4. Access the **Edit-->Service Account/Domain** path.
5. Specify the NT domain name in the **Domain** field, the account you created during step 4 of Setting up Interoperating Windows NT servers in the **User account** field, and the password in the **Password** field.
6. Click **OK**.
Note: A notification server was installed with each of your Infoprint Manager servers. However, now that the namespace is shared, you only need to run one of them. The notification server must be run on the namespace server. Disable all but one of the Infoprint Manager Notification servers.
7. Click on the **Edit-->Service Configuration** path.
8. In the **Settings** group box, clear both the **Run notification server on this system** and **Run Infoprint Manager LPD service** check boxes.
Please note that if you have not applied service program temporary fix (PTF) U472668, you will not see the **Run Infoprint Manager LPD service** check box.
9. Clear the **Base namespace path** field and type the drive letter that you want to use to link to the namespace followed by a colon (for example, type *x:*). Use the same drive letter that you used when mapping the network drive in step 4 of the Setting up Interoperating Windows NT servers procedure.
10. In the **Remote namespace folder** field, enter the Universal Naming Convention (UNC) name of the shared directory on the namespace server in

this format: `\\namespaceserver\sharename`. The sharename of the namespace on an AIX server is `default_cell`. For this example, `\\prince\var\pddir\default_cell`.

11. Click **OK**.
12. Restart all of the Infoprint Manager NT servers by selecting **File --> Start Server** on each Management Console.
13. Verify that all of the servers are now sharing the namespace.
 - Log on to any one of the machines that holds an Infoprint Manager server, open a command prompt.
 - Start the Infoprint Manager Administration GUI.
 - Click on **Server—>Show All Servers**.

You should see a list of all of the servers that are using the namespace. If any of them do not appear, stop the servers and check the settings that you changed in step 7 for that server.

Verifying the Authority of the ipwinadmin ID

Use the following procedure to verify that the ipwinadmin id has permission to both modify security groups and issue all the Infoprint **pd*** commands.

1. Verify that the Infoprint servers are interoperating by performing step 13 of Configuring the 'ntuser' ID for Interoperability on the Infoprint Windows Servers.
2. Ensure that you created a user named ipwinadmin in the domain in either the "Setting up the idwinadmin id on an NT Domain Controller" on page 4 or the "Setting up the idwinadmin id on a Windows 2000 Domain Controller" on page 4 procedure.
3. Log on to the Infoprint Windows server as user ipwinadmin.
4. From the **Start** menu, click on the **Programs-->Infoprint Manager-->Management Console** path.
5. From the left pane, click on the **Security** item.
6. Double-click on **Groups** item.
7. From the Groups view in the right pane, highlight the **acl_admin** item and choose **open** from the drop-down menu.
8. Click on the **Add...** button.
9. In the **Add Member to Group** dialog, type ipwinadmin* in the field provided. In the **Groups** view, you should be able to see ipwinadmin listed in the **Members** column for the **admin** group.
10. From the Groups view in the right pane, highlight the **admin** item and choose **open** from the drop-down menu.
11. Click on the **Add...** button.
12. In the **Add Member to Group** dialog, type ipwinadmin* in the field provided. In the **Groups** view, you should be able to see ipwinadmin listed in the **Members** column for the **admin** group.
13. Log on to the Infoprint Windows server as ipwinadmin.
You should be able to create and modify security groups and issue all the Infoprint **pd*** commands.