

Troubleshooting Group Policies

Windows Server 2012 R2 has a handy feature called *Resultant Set of Policy (RSoP)* that displays the exact settings that actually apply to individual users, computers, OUs, domains, and sites after inheritance and filtering have taken effect. In the example just described, you could run RSoP on the wpanek account and view a single set of Group Policy settings that represent the settings that apply to the wpanek account. In addition, each setting's Properties dialog box displays the GPO from which the setting is derived as well as the order of priority, the filter status, and other useful information, as you will see a bit later.

RSoP actually runs in two modes:

Logging Mode *Logging mode* displays the actual settings that apply to users and computers, as shown in the example in the preceding paragraph.

Planning Mode *Planning mode* can be applied to users, computers, OUs, domains, and sites, and you use it before you apply any settings. As its name implies, planning mode is used to plan GPOs.

Additionally, you can run the command-line utility `gpresult.exe` to get a quick snapshot of the Group Policy settings that apply to a user and/or computer. Let's take a closer look at the two modes and the `gpresult.exe` command.

RSoP in Logging Mode

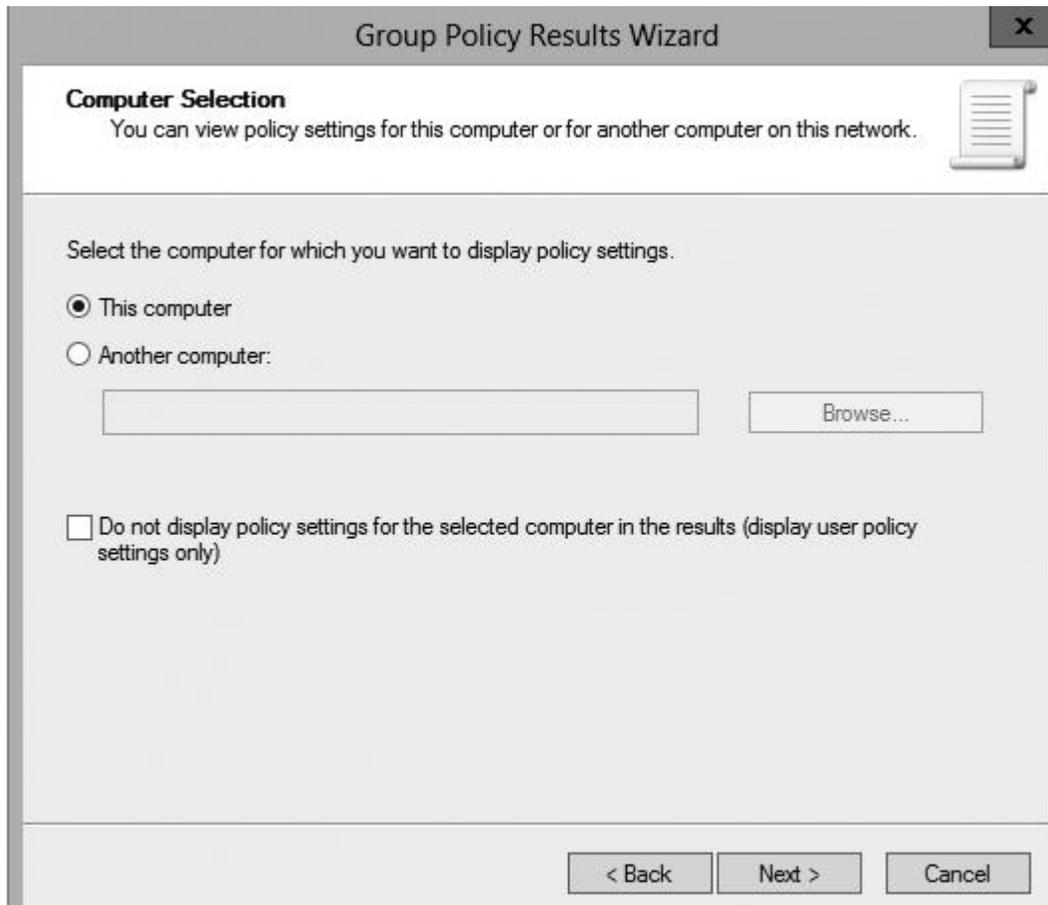
RSoP in logging mode can query policy settings only for users and computers. The easiest way to access RSoP in logging mode is through the Active Directory Users and Computers tool, although you can run it as a stand-alone MMC snap-in if you want.

To analyze the policy settings for wpanek from the earlier example, you would rightclick the user icon in Active Directory Users and Computers and select All Tasks ➤

Resultant Set of Policy (Logging). The Group Policy Results Wizard appears. The wizard walks you through the steps necessary to view the RSoP for wpanek.

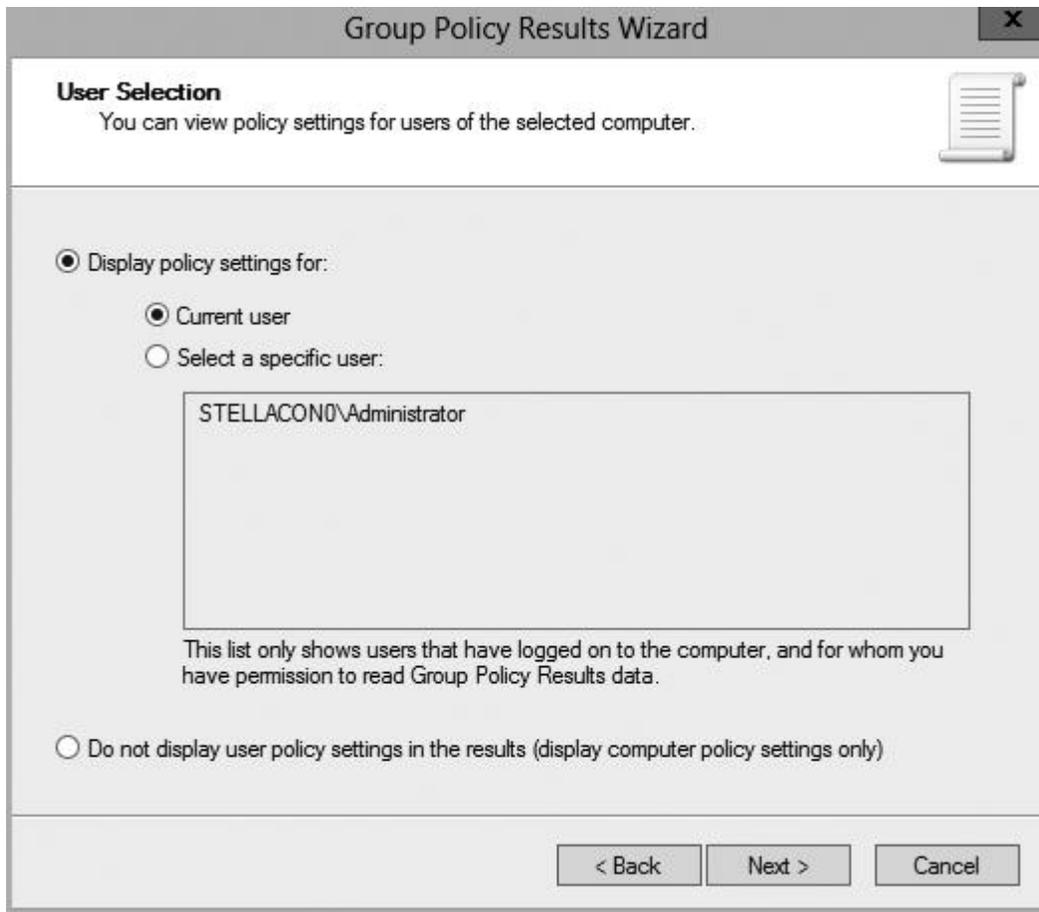
The Computer Selection page, shown in Figure 7.16, requires you to select a computer for which to display settings. Remember that a GPO contains both user and computer settings, so you must choose a computer to which the user is logged on in order to continue with the wizard. If the user has never logged on to a computer, then you must run RSoP in

planning mode because there is no logged policy information yet for that user.
Figure 7.16 The Computer Selection page of the Group Policy Results Wizard



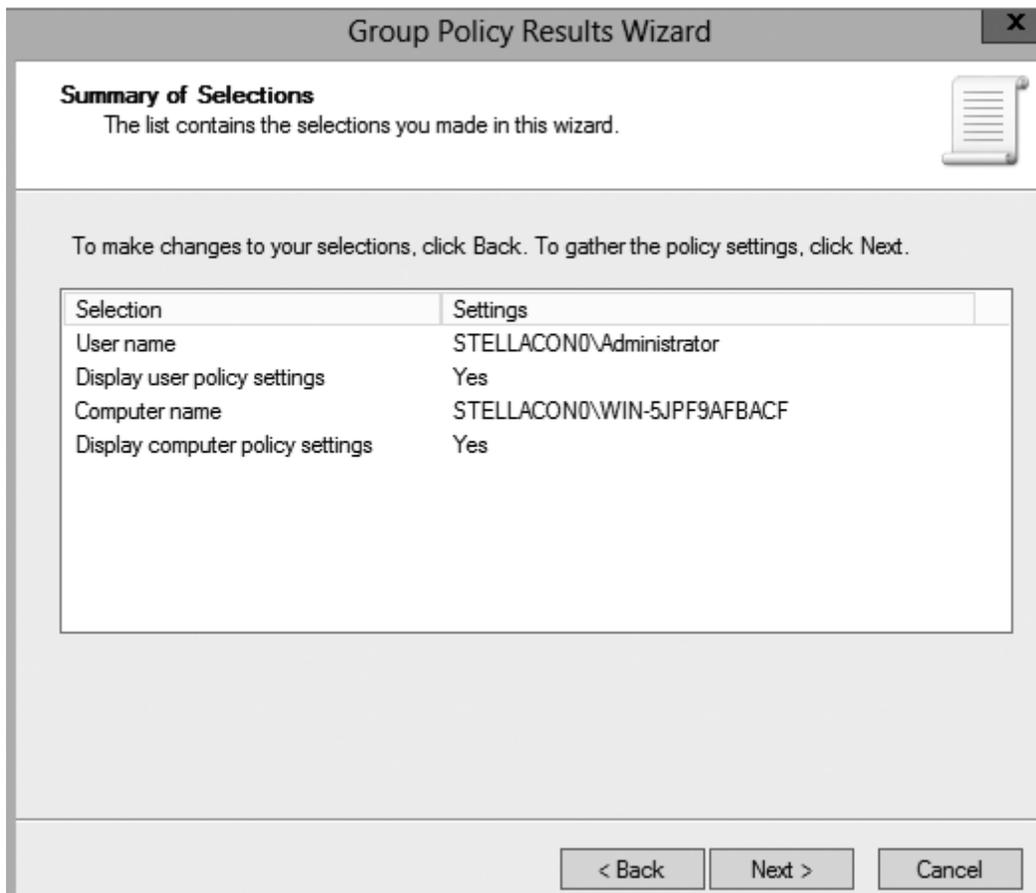
The User Selection page, shown in Figure 7.17, requires you to select a user account to analyze. Because I selected a user from the Active Directory Users and Computers tool, the username is filled in automatically. This page is most useful if you are running RSoP in MMC mode and don't have the luxury of selecting a user contextually.

Figure 7.17 The User Selection page of the Group Policy Results Wizard



The Summary Of Selections page, shown in Figure 7.18, displays a summary of your choices and provides an option for gathering extended error information. If you need to make any changes before you begin to analyze the policy settings, you should click the Back button on the Summary screen. Otherwise, click Next.

Figure 7.18 The Summary Of Selections page of the Group Policy Results Wizard

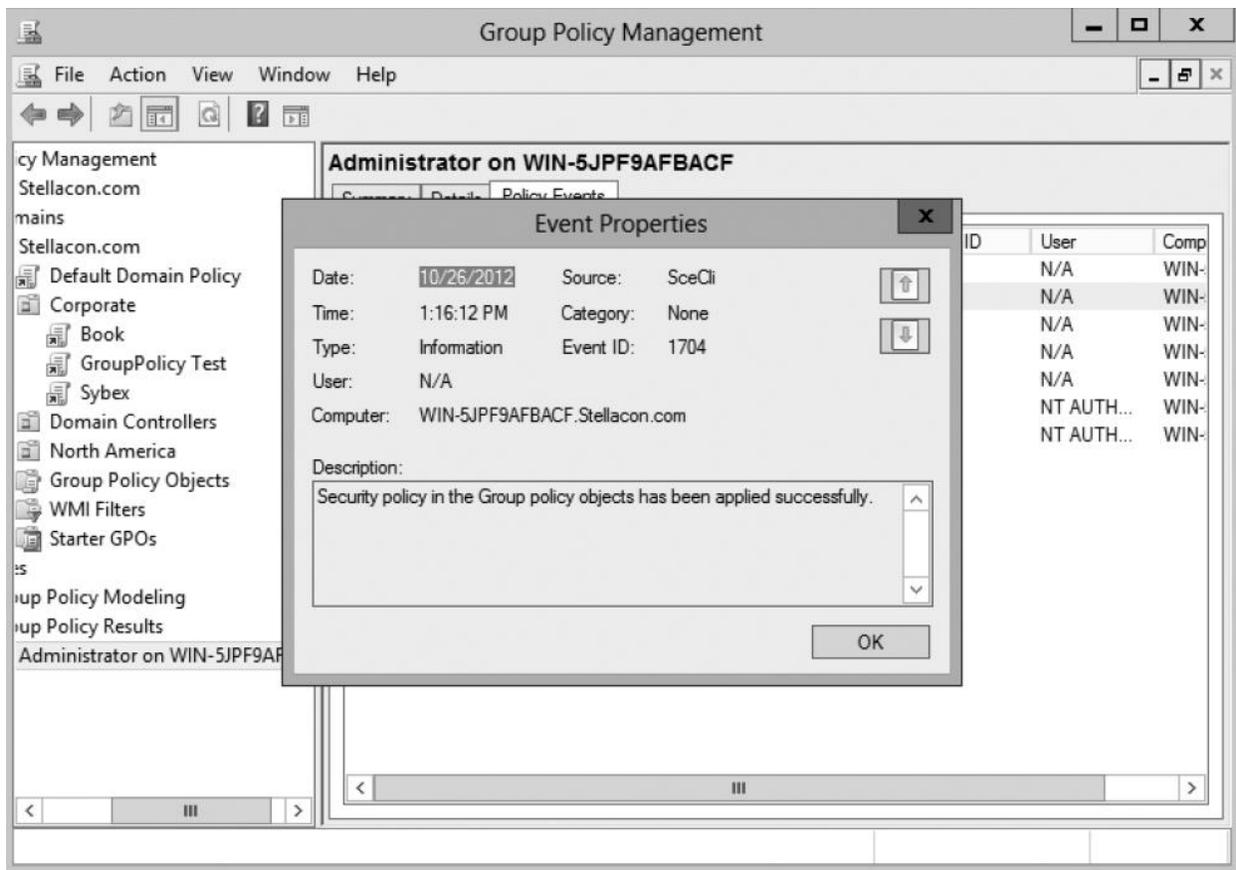


After the wizard is complete, you will see the window shown in Figure 7.19. This window displays only the policy settings that apply to the user and computer that you selected in the wizard. You can see these users and computers at the topmost level of the tree

Figure 7.19 The User Selection page for the administrator on computer SERVER1

Any warnings or errors appear as a yellow triangle or red X over the applicable icon at the level where the warning or error occurred. To view more information about the warning or error, right-click the icon, select Properties, and select the Error Information tab. Figure 7.20 shows an error message

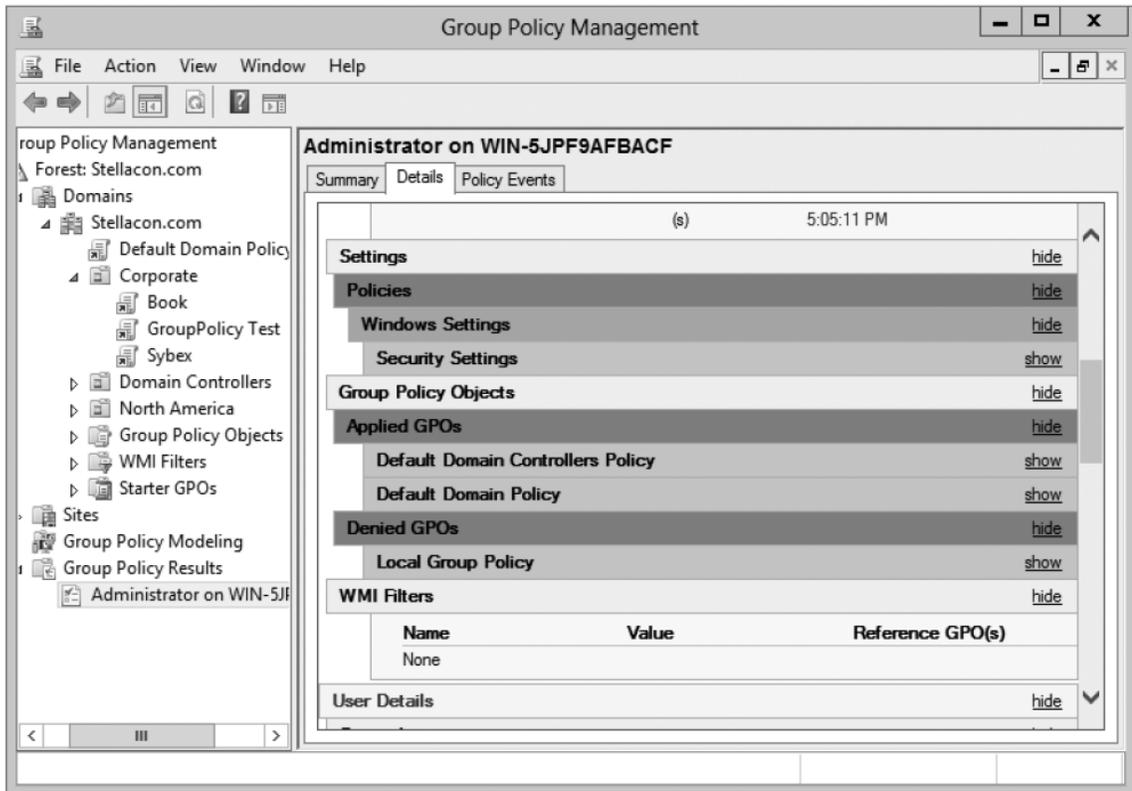
Figure 7.20 Details of event pertaining to the administrator account on computer SERVER1



You cannot make changes to any of the individual settings because RSoP is a diagnostic tool and not an editor, but you can get more information about settings by clicking a setting and selecting Properties from the context menu.

The Details tab of the user's Properties window, shown in Figure 7.21, displays the actual setting that applies to the user in question based on GPO inheritance

FIGURE 7.21 The Details tab of the object's Properties window



RSoP in Planning Mode

Running RSoP in planning mode isn't much different from running RSoP in logging mode, but the RSoP Wizard asks for a bit more information than you saw earlier.

In the former example, wpanek couldn't see the Run option in the Start menu because the New Hampshire GPO in the San Jose OU affects his user account. As an administrator, you could plan to move his user account to the North America OU. Before doing so, you could verify his new policy settings by running RSoP in planning mode. Run the RSoP on the user wpanek under the scenario that you've already moved him from the San Jose OU to the North America OU. At this point, you haven't actually moved the user, but you can see what his settings would be if you did.

Using the *gpresult.exe* Command

The command-line utility *gpresult.exe* is included as part of the RSoP tool. Running the command by itself without any switches returns the following Group Policy information about the local user and computer:

- The name of the domain controller from which the local machine retrieved the policy Information

The date and time in which the policies were applied

- Which policies were applied
- Which policies were filtered out
- Group membership

You can use the switches shown in Table 7.3 to get information for remote users and computers and to enable other options.

Table 7.3 is not a complete list. To see a complete list of the `gpresult.exe` switches, visit Microsoft at www.microsoft.com.

TABLE 7.3 gpresult switches

Switch	Description
<code>/S systemname</code>	Generates RSoP information for a remote computer name.
<code>/USER username</code>	Generates RSoP information for a remote username.
<code>/x /h filename</code>	Generates a report in either XML (<code>/x</code>) or HTML (<code>/h</code>) format. The filename and location is specified by the <code>filename</code> parameter.
<code>/V</code>	Specifies verbose mode, which displays more verbose information such as user rights information.
<code>/Z</code>	Specifies an even greater level of verbose information.
<code>/SCOPE MACHINE</code>	Displays maximum information about the computer policies applied to this system.
<code>/SCOPE USER</code>	Displays maximum information about the user policies applied to this system.
<code>>textfile.txt</code>	Writes the output to a text file.

For example, to obtain information about user `wpanek` in a system called `STELLACON`, you would use the command `gpresult/S STELLACON/USERwpanek`.

Through the use of these techniques, you should be able to track down even the most elusive Group Policy problems. Remember, however, that good troubleshooting skills do not replace planning adequately and maintaining GPO settings!