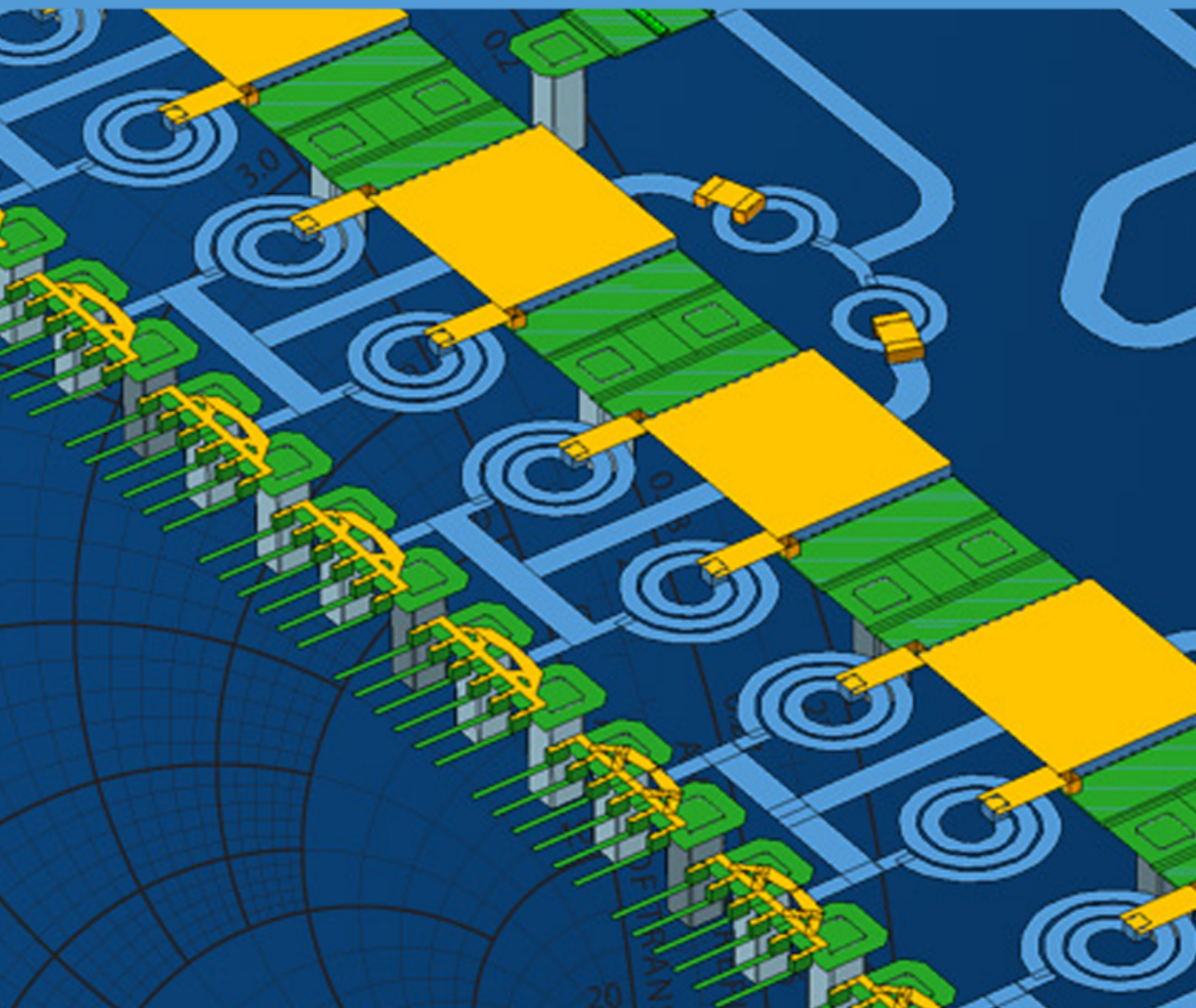


High Frequency Electromagnetic Software

SONNET[®] 16

Suites



Remote *em*
Computing

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REMOTE *EM* COMPUTING

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Chapter 1

Setting Up Remote *em* Computing for Windows

It is possible to edit your circuit on a local computer, then run the *em* analysis on a remote server on your network. A common reason for doing this is that there is a more powerful, faster computer on your network that you want to run your analyses on in order to finish them faster. But the faster machine is in an inconvenient location, so you want to continue editing your circuits on the computer at your desk. Remote processing allows you to do this.

NOTE: Remote *em* computing is only available if all of your Sonnet *em* licenses are floating licenses.

NOTE: If the project you are analyzing uses a Modelithics model component, then both the analysis server and analysis client machine require a Modelithics license.

The more powerful, faster computer is your **analysis server machine**. The computer on your desk is your **analysis client machine**. For the rest of this discussion, we will refer to these as your server machine and your client machine.

In order to use remote processing, you must set up the **server machine** on which you will run the analyses and the **client machine** on which you will edit projects and from which you will submit your analysis jobs. Note that the **license server** is different from the analysis server and may or may not be a different computer.

The program *emserver* needs to run on the analysis server computer. This program accepts analysis jobs from client machines for submission on the analysis server.

To run your analyses on a remote server, you must first install Sonnet software on both the server and client machine, obtain your license from Sonnet and ensure that Sonnet is able to run on both machines. See **Chapter 3, “Installation for Most Users”** in the Windows Installation manual for directions on installing Sonnet.

To run your analyses on a remote server:

- You need to start running *emserver* on the analysis server machine on which you wish to execute the remote analysis. To do this, you use the *emserver* interface which you access by selecting *Admin* \Rightarrow *Remote em computing* \Rightarrow *Server Configuration/Control* from the Sonnet task bar main menu. You may also wish to set your server to automatically start *emserver* at power-up.

NOTE:

If you have a firewall enabled on your analysis server, it must be configured such that the program, “emserver.exe” has permission to run. Please refer to your system administrator for instructions on configuring your firewall.

- Next, you need to set up your client machine by defining *emserver’s* location and configuring the client for remote processing. To do this, you use the Client Configuration interface which you access by selecting *Admin* \Rightarrow *Remote em computing* \Rightarrow *Client Configuration* from the Sonnet task bar main menu. By default, a computer performs only local analyses. When you configure your client, you may select a default server or you can choose to be prompted to select a server from all the available servers defined for this client. You may choose to include your local computer in the list of available analysis servers. You use the Preferences dialog box in the analysis monitor to configure the client system.
- Once the server and client are both configured, you should run an analysis to confirm that everything is operating correctly. When you run an analysis, you are prompted to choose a server for your analysis (if you selected this option when configuring your client). The rest of this chapter contains detailed instructions for accomplishing these tasks.

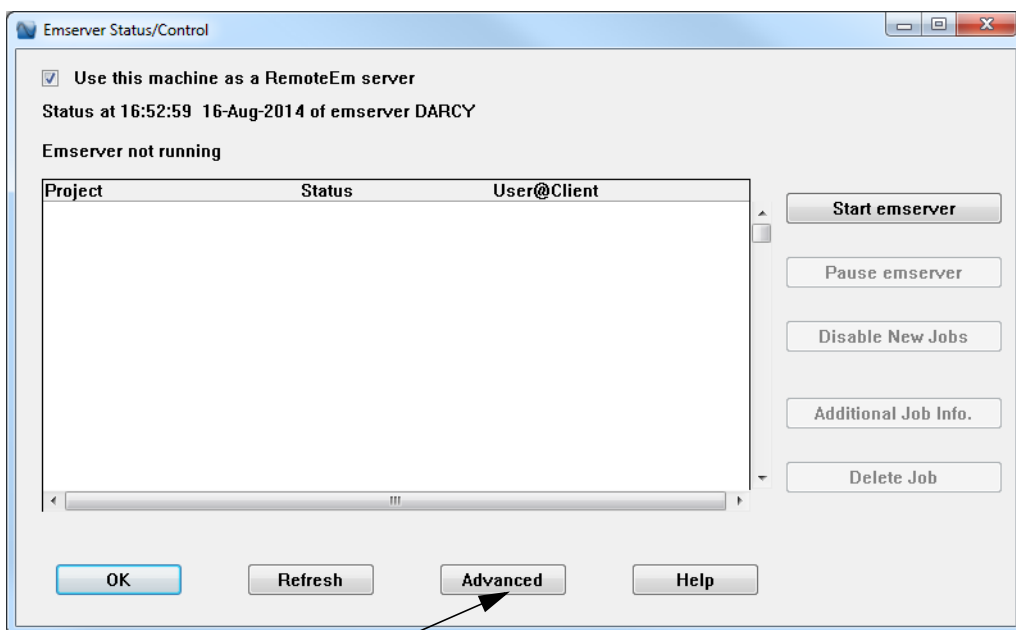
Configuring the Analysis Server

First set up the server on the machine on which you wish to execute the remote analysis. This machine will need to run the program *emserver*, which controls the *em* analysis of remote jobs submitted to this server.

NOTE: If you are managing multiple servers or have a large client base to set up, it may be useful to use the emhosts file to define your analysis servers. Please see [Appendix I, "Emhosts File" on page 41](#) for details.

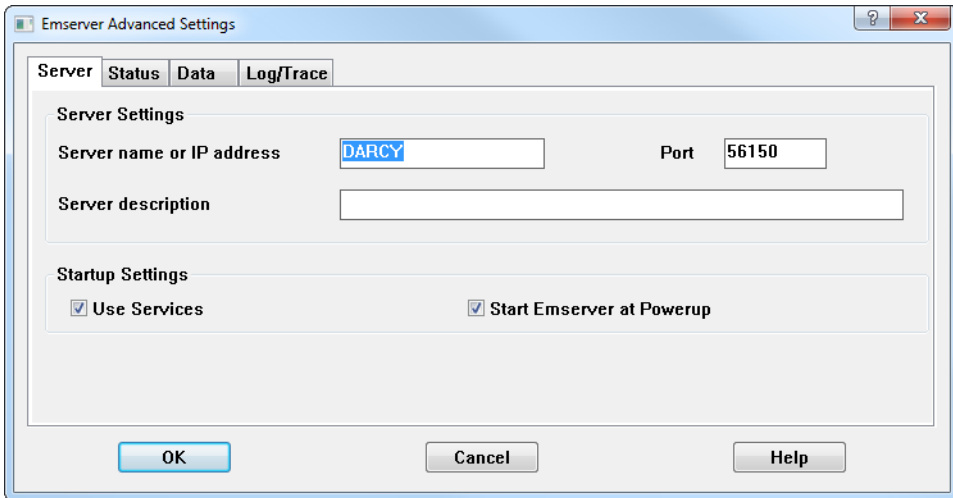
- 1 **Open the Sonnet task bar on the server machine.**
- 2 **Select *Admin* ⇒ *Remote em computing* ⇒ *Server Configuration/Control* from the task bar main menu.**

The Emserver Status/Control window appears on your display. This window allows you to start, stop and control the functions of the program *emserver*.



- 3 Click on the **Advanced** button at the bottom of the Emserver Status/Control window.

This opens the Emserver Advanced Settings dialog box.



If you wish to have *emserver* startup automatically upon reboot, you would click on the Server tab and select the Use Services checkbox. This will enable the Start Emserver at Powerup checkbox, which you should also select.

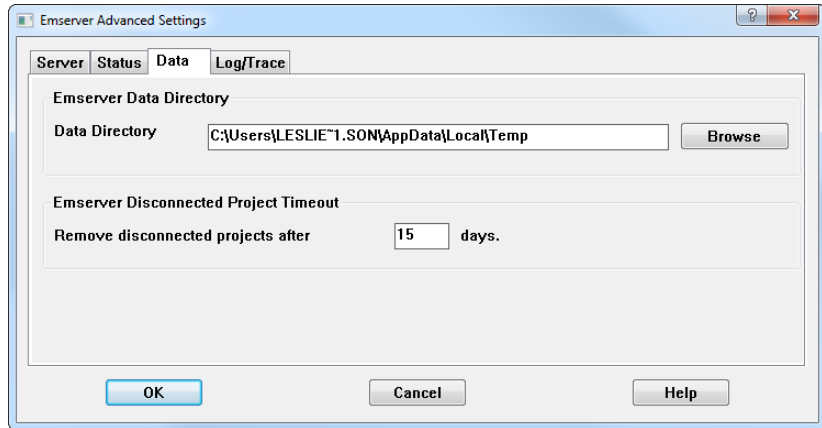
NOTE:

If you assign *emserver* to a service, you should take care not to use mapped network drives for paths specified in the Emserver Status/Control window. Network drives not on the local machine should be specified using the full pathname. For example, if "J" is mapped to "\\galaxy1\tmp" on your network, then the project path should be specified by "\\galaxy1\tmp\sonnnet_remote_em" instead of "J:\sonnnet_remote_em."

- 4 Click on the **Data** tab of the Emserver Advanced Settings dialog box.

When the analysis server is processing a remote *em* job, it copies the submitted project file from the client to a temporary data directory. This data directory does not have to be on the server machine, but it is recommended that you use a local disk whenever possible for efficiency. Analysis data is returned to the client as it is produced, but a copy is maintained on the analysis server in case a disconnect

occurs between the server and client. Once the analysis is complete, the project copy is deleted from the analysis server. This Data tab allows you to specify the location of the temporary data directory on the server machine.

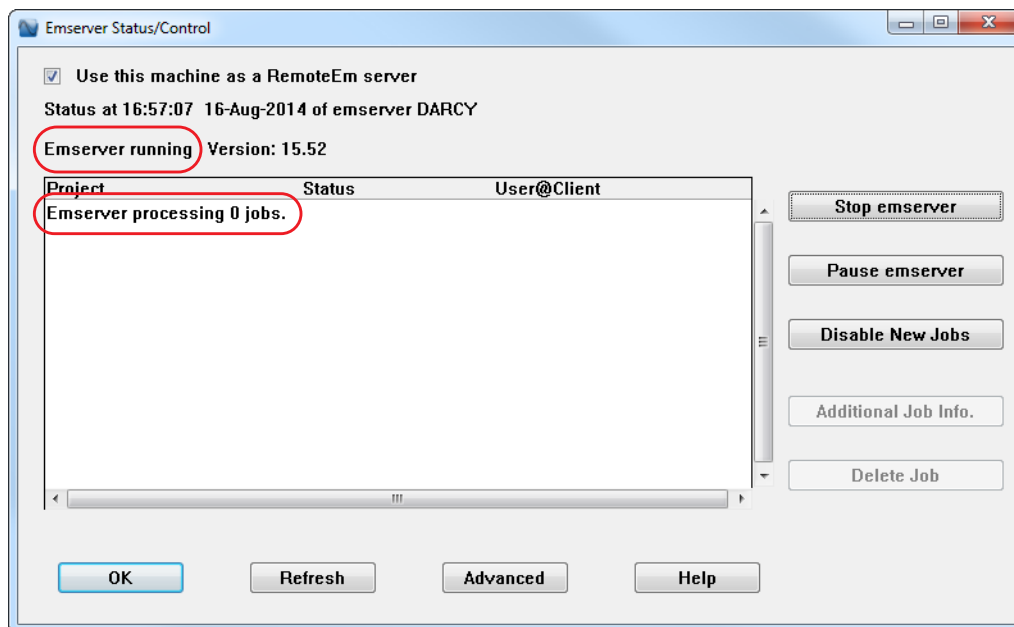


- 5 Enter the desired directory for the temporary data directory in the Data Directory text entry box.**

The default varies depending on the operating system. You may specify any directory on the client machine. If you wish, click on the Browse button to open a browse window which allows you to select a directory.

- 6 Click on the OK button to close the Emserver Advanced Settings dialog box and apply any changes that might have been made.
- 7 Click on the Start Emserver button in the Emserver Status/Control window.

The message “Emserver running” should appear in the window above the job list. The job list should contain the message “Emserver processing 0 jobs.” This indicates that *emserver* is up and running on your server machine.



- 8 Click on the OK button to close the Emserver Status/Control window.

This does not stop *emserver*; the program continues to run. For information about other status and control functions, refer to the Sonnet task bar online help topic *Admin* ⇒ *Emserver Status/Control*. You may access this topic by clicking on the Help button in the Status/Control window.

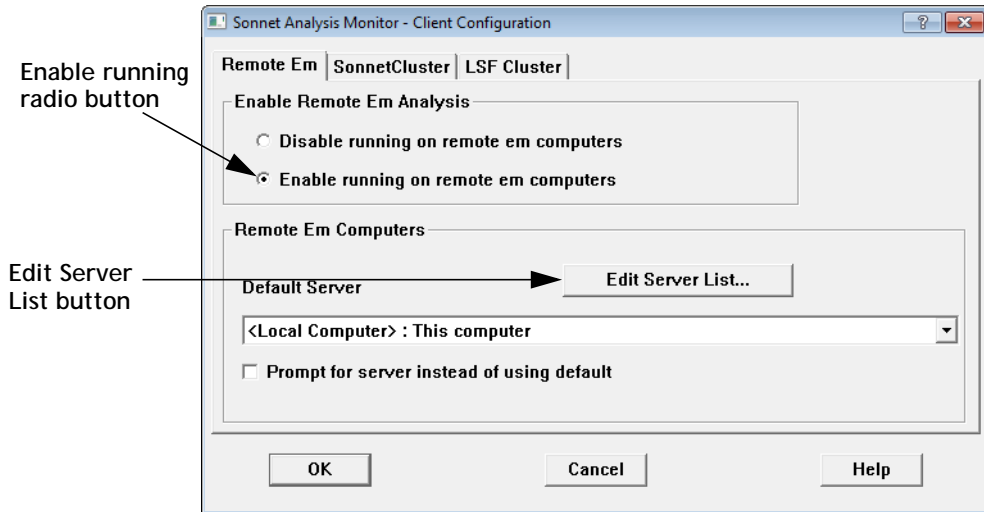
This completes setting up the server machine. The next task is to configure the client machine for remote processing.

Configuring the Analysis Client

Next, you need to set up your client machine, which is the local machine at which you edit your projects and from which you will submit processing jobs.

- 9 Select Admin ⇒ Remote em computing ⇒ Client Configuration from the task bar main menu.**

The Client Configuration dialog box appears on your display.

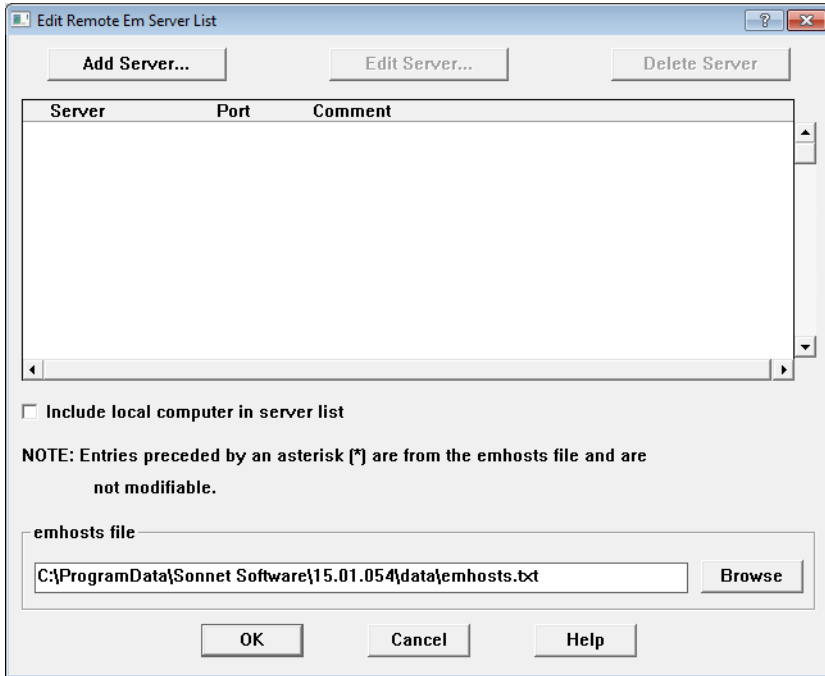


- 10 Click on the Enable running on remote computers radio button to enable remote processing.**

The default setting is Run on local computer which does not allow remote processing. Clicking on this radio button enables the rest of the controls in this dialog box. Notice the Default Server drop list only contains the Local Computer since there have been no remote servers added to the server list yet.

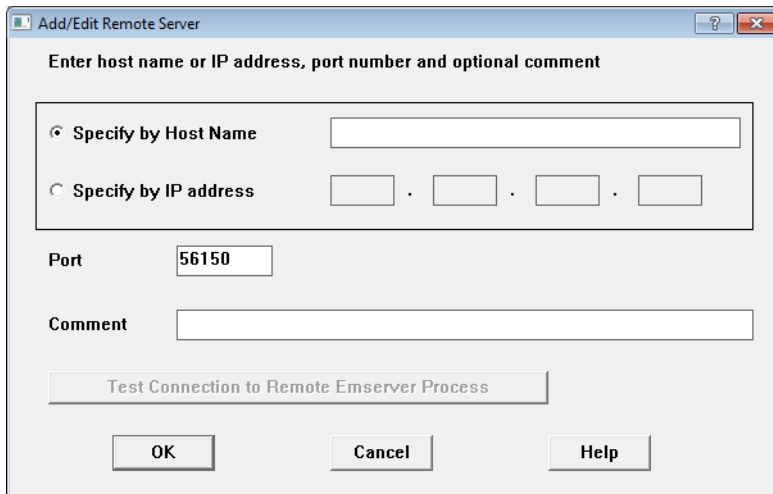
11 Click on the Edit Server List button just above the Default Server drop list.

The Edit Server List dialog box appears on your display. This dialog box allows you to create, delete and edit entries in your server list. You may have multiple remote servers in this list.



12 Click on the Add Server button to open the Add/Edit Remote Server dialog box.

You can specify your remote server by Host Name or IP Address.



13 Select the appropriate radio button and enter the corresponding information in the adjacent text entry box.

This identification should match the identification entered in the Emserver Advanced Settings dialog box when you set up the server machine.

14 Click on the Test Connection to Remote Emserver Process.

The client machine attempts to communicate with the *emserver* program on the server machine. A window appears with a status output. If the connection operates correctly, the message “PASSED” appears. If you receive an error message, the client machine was not able to establish a connection to the server machine. One of the following situations is likely:

- You entered the host name or IP address incorrectly.
- The client machine does not recognize the host name you entered.
- *emserver* is not running on the server machine.
- You do not have a working network connection to the server machine.

15 Click on the Close button in the Testing Server Connection status window to close it.

16 If desired, enter a comment in the Comment text entry line.

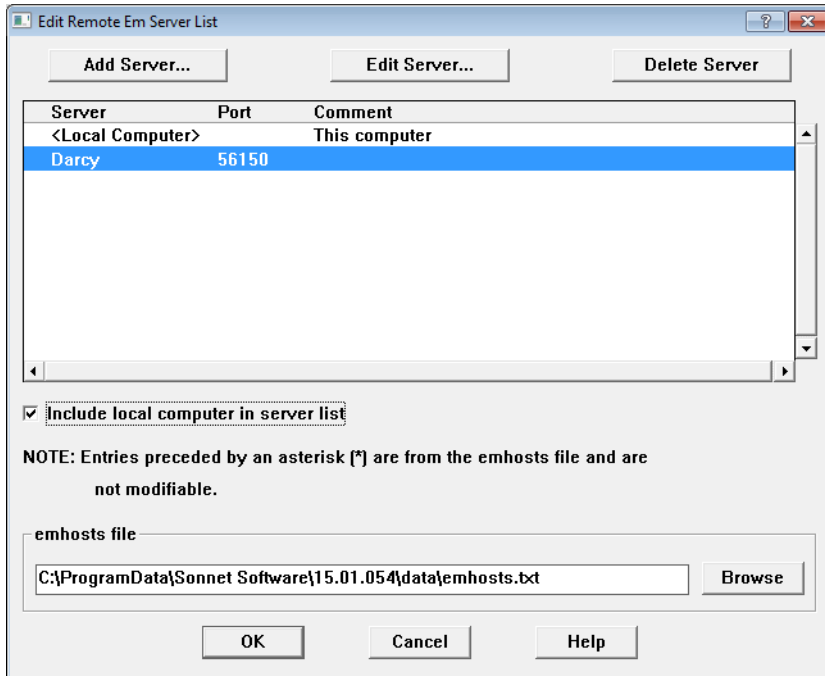
This may be used as a brief description to identify the server machine. This comment is displayed on the server's entry line in the server list.

17 Click on the OK button in the Add/Edit Remote Server dialog box to close it and apply the changes.

The remote server you just specified should now appear in the server list in this dialog box.

- 18 If you wish to have your local computer appear as a choice of server when you submit analysis jobs, select the Include local computer in server list checkbox.**

When a list of servers appears in the New Batch Creation dialog box, your local server appears among them.

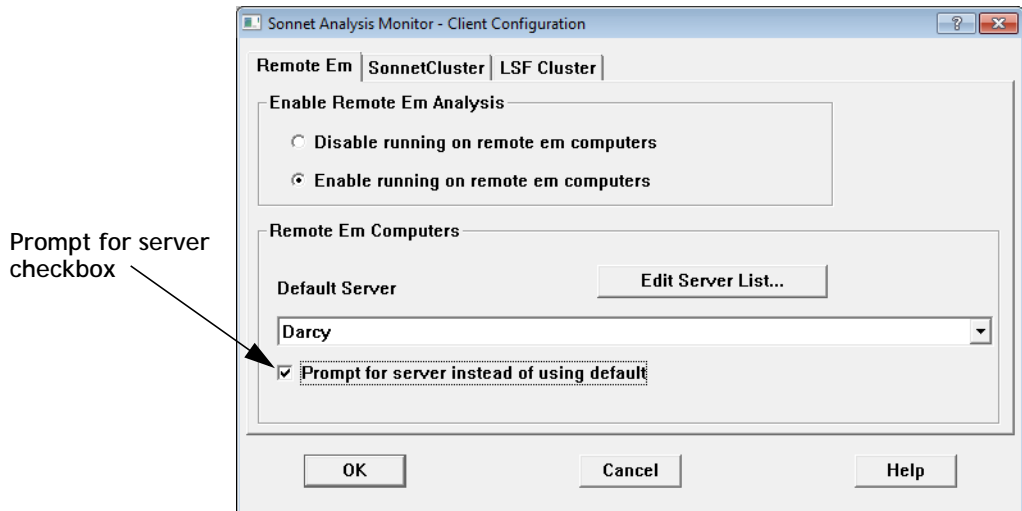


- 19 Click on the OK button to close the Edit Remote Em Server List dialog box and apply the changes.**

The remote server you just specified appears in the Default Server drop list. If there were multiple servers defined you would use this drop list to choose the default server.

- 20 Select the Prompt for server instead of default, if you wish to have a choice of servers when you launch an analysis.**

If this checkbox is selected, the New Batch Creation dialog box appears when you open a new batch in the analysis monitor. This dialog box allows you to select any of the defined servers for the analysis. If this checkbox is cleared, then the default server you selected in the Default Server drop list is used for all analysis jobs.



- 21 Click on the OK button to close the Client Configuration dialog box.**

The changes made in the Client Configuration dialog box will be used the next time the analysis monitor is invoked. Note that if a batch window is open while these changes are made, the batch window is not affected.

This completes setting up the client machine. Once the server and client are both configured, you should run an analysis to confirm that everything is operating correctly.

Configuring Multiple Analysis Servers on a Single Computer

There are circumstances when you might want to run more than one version of *emserver* on the analysis server machine. A good example is when you are transitioning to a new version of Sonnet. To accomplish this, you must configure each version of *emserver* to use a different port from which to communicate to the client machine.

NOTE: If you are managing multiple servers or have a large client base to set up, it may be useful to use the *emhosts* file to define your analysis servers. Please see [Appendix I, "Emhosts File" on page 41](#) for details.

These instructions assume that neither version of *emserver* has been set up. If you have already configured a version of *emserver*, please ensure that it is not running while making these changes. If necessary, you may use the *Admin* \Rightarrow *Remote em computing* \Rightarrow *Server Configuration/Control* command to open the Emserver Status/Control window to stop the program. For the length of this discussion, we will refer to the two versions of the software as version A and version B.

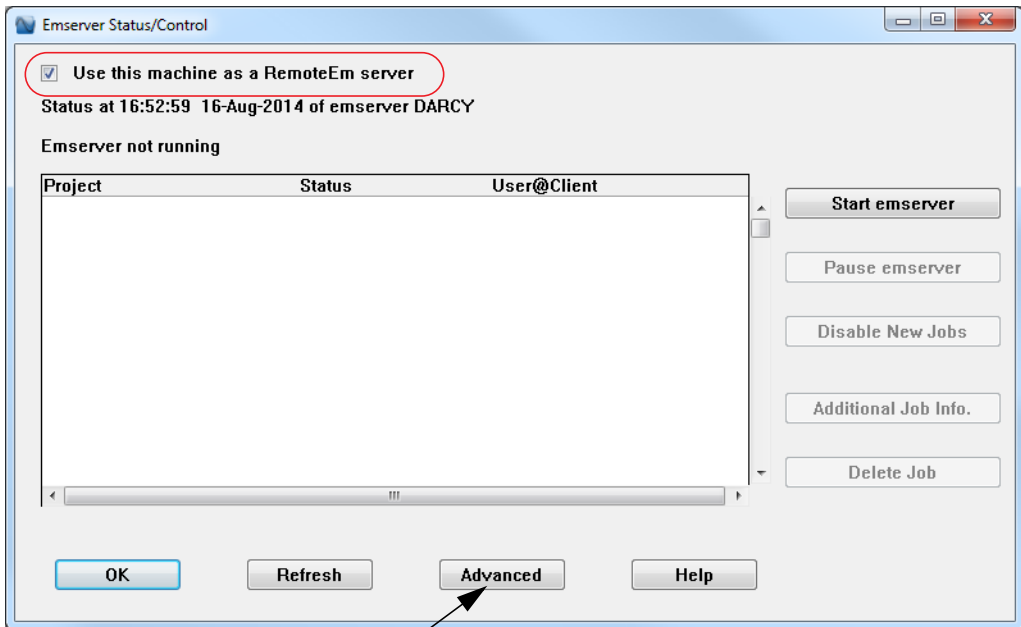
- 1 For version A, follow the instructions in the previous section, “Configuring the Analysis Server” on page 9.**

Do not, however, select the Use Services or Start *emserver* on powerup checkboxes in the Emserver Advanced Settings dialog box. Note that this *emserver* will use the default port 56150. Version A of *emserver* should now be up and running.

NOTE: You cannot use “services” to start the *emservers* when there is more than one *emserver* running on a machine. You must manually start the *emservers*.

- 2 **For version B, open the task bar and select *Admin* ⇒ *Remote em computing* ⇒ *Server Configuration/Control* from the main menu.**

The Emserver Status/Control window appears on your display.

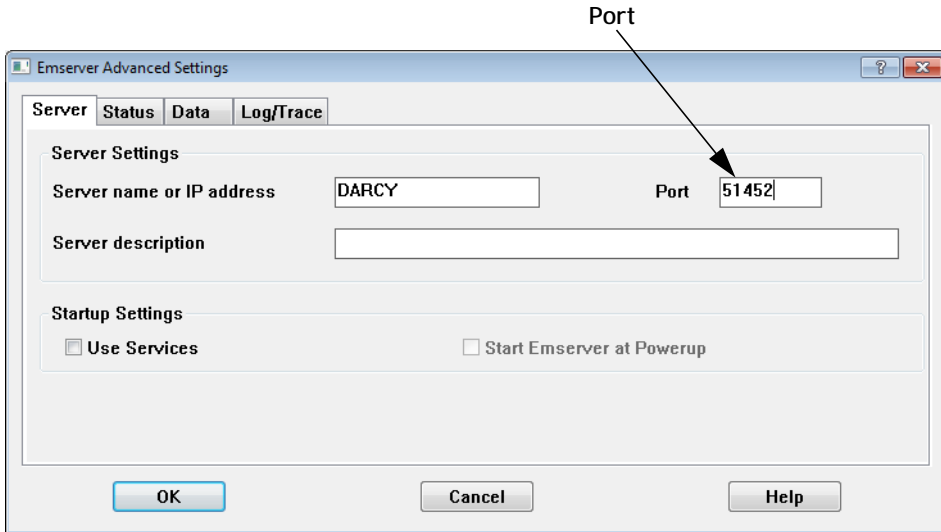


Advanced button

- 3 **Select the Use this machine as a RemoteEm server checkbox.**
This enables this version as a remote *em* analysis server.
- 4 **Click on the Advanced button in the Emserver Status/Control window.**
This opens the Emserver Advanced Settings dialog box.
- 5 **Click on the Server tab if it is not already selected.**
- 6 **If either is selected, clear the “Use Services” and “Start emserver at startup” checkboxes.**
- 7 **Enter a different port number as the default port.**

In order to keep the different versions of remote *em* servers, they need to communicate through different ports. We recommend using a port number which incorporates the version number in order to provide clarity when viewing the

servers; although any valid unused port will work. For example, if your second *emserver* is version 14.52, then use the port number 51452 as the communication port between the server and client.



- 8 Click OK to close the window and apply the changes.
- 9 In the Emserver Status/Control window, click “Start Server”.

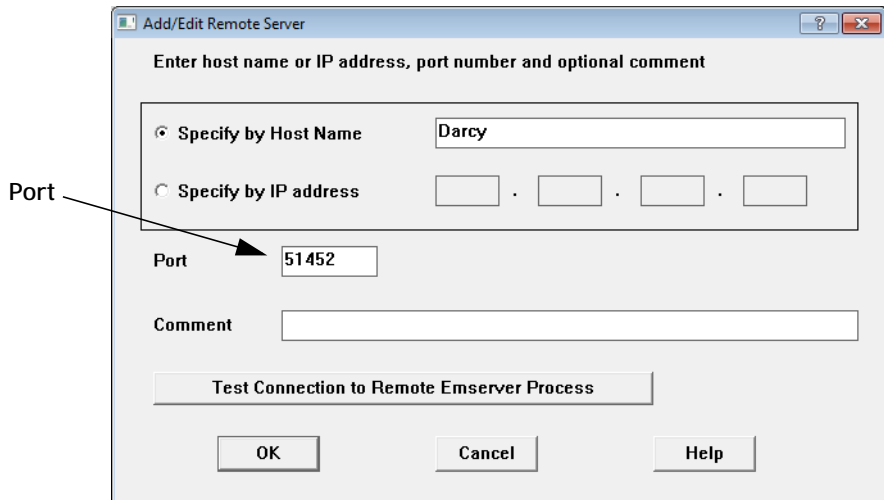
This starts the Version B *emserver*. Be aware that each *emserver*’s status will only be displayed in that version’s Emserver Status/Control window.

- 10 On your client machine, for version A follow the instructions provided in “Configuring the Analysis Client” on page 12.

You should now be able to execute a remote *em* analysis for version A from this client.

- 1 On your client machine, for version B, follow the installation instructions for the client, but in this instance use the port number you entered for the Version B *emserver* when you defined it.

For example, if you used port 51452 for the port number when you set up the version B *emserver*, then when you define the server when setting up the version B client, enter the port number 51452.



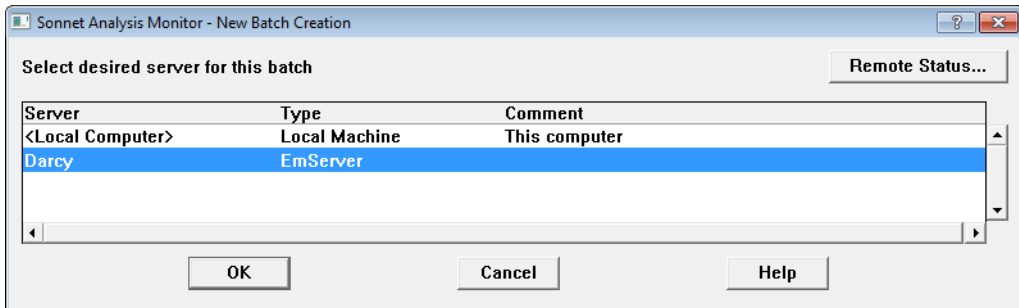
Running an Analysis on a Remote Server.

In order to run an analysis on a remote server, you must first be running *emserver* on the server machine and have configured the client machine to run an analysis remotely.

To run an analysis on a remote server, do the following:

- 1 **Open a Sonnet project that is ready for analysis in the project editor and click on the Analyze button on the project editor's tool bar.**

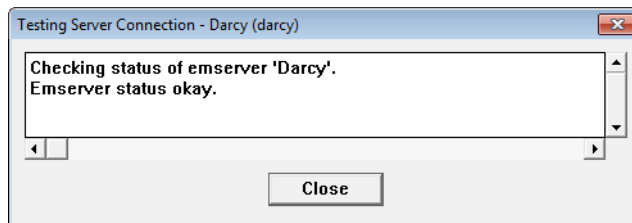
The New Batch Creation dialog box appears on your display. This dialog box contains a list of the remote servers that have been setup for this client system. If you chose to include your local computer in the server list when you configured the client, then your local computer appears in this server list.



Note that the New Batch Creation dialog box only appears if you selected the Prompt for Server option in [Step 20 on page 17](#). If this option was not selected, the analysis monitor appears on your display.

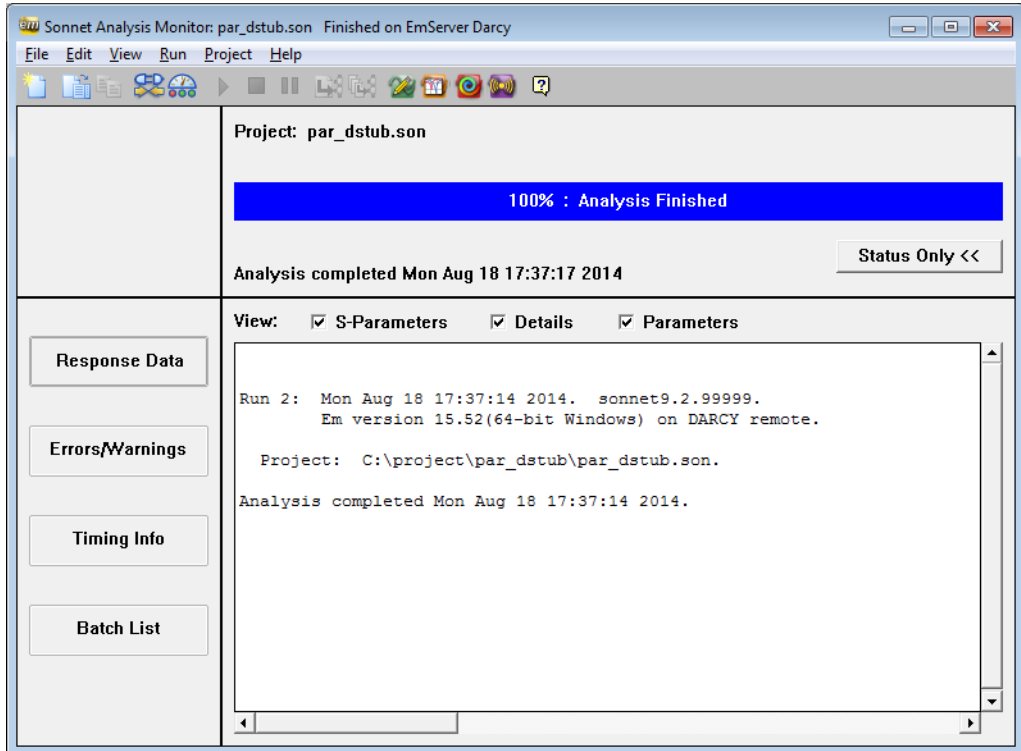
- 2 **Click on the desired server to select it for the analysis, then click on the OK button in the New Batch Creation dialog box.**

This closes the dialog box. The *emserver* connection is checked and a window appears to provide the status. If emserver is running and communications are established the status window is closed and the analysis monitor is opened.



This server is now associated with the analysis monitor window which will subsequently open. All jobs added to the batch list of the analysis monitor will be analyzed on the server chosen here. The analysis monitor appears on your display and your analysis job starts running. The rest of the analysis proceeds in the same

manner as an analysis run on your local computer. If any errors occur with the server, a status message is posted in the status section of the analysis monitor just under the progress bar.



If there is a loss of communication between the analysis server and analysis client while an analysis is running, it is possible to reconnect to an ongoing analysis or recover the results of a completed analysis. It is also possible to submit jobs, then disconnect deliberately and recover the results later. For details on reconnecting or recovering disconnected jobs, please see online Help for the analysis monitor.

Chapter 2

Setting up Remote *em* Computing for Linux

It is possible to edit your circuit on a local computer, then run the *em* analysis on a remote server on your network. A common reason for doing this is that there is a more powerful, faster computer on your network that you want to run your analyses on in order to finish them faster. But the faster machine is in an inconvenient location, so you want to continue editing your circuits on the computer at your desk. Remote processing allows you to do this.

NOTE: Remote *em* computing is only available if all of your Sonnet licenses are floating licenses for *em*.

NOTE: If the project you are analyzing uses a Modelithics model component, then both the analysis server and analysis client machine require a Modelithics license.

The more powerful, faster computer is your **analysis server machine**. The computer on your desk is your **analysis client machine**. For the rest of this discussion, we will refer to these as your server machine and your client machine.

In order to use remote processing, you must set up the **server machine** on which you will run the analyses and the **client machine** on which you will edit projects and from which you will submit your analysis jobs. Note that the **license server** is different from the analysis server and may or may not be a different computer. You may also use different types of platforms; for instance, you could have a Linux analysis server with a PC analysis client.

The program **emserver** needs to run on the analysis server computer. This program accepts analysis jobs from client machines for submission on the analysis server.

To run your analyses on a remote server, you must first install Sonnet Suites software on both the server and client machine, obtain your license from Sonnet and ensure that your software is able to run on both machines. See the **Linux Installation Manual** for directions on installing Sonnet Suites.

To run your analyses on a remote server:

- You need to start running **emserver** on the analysis server machine on which you wish to execute the remote analysis. To do this, you use the **emserver** interface which you access by selecting *Admin* ⇒ *Remote Em Computing* ⇒ *Server Configuration/Control* from the Sonnet task bar main menu. You may also wish to set your server to automatically start **emserver** at power-up.

NOTE:

If you have a firewall enabled on your analysis server or client machine, it must be configured such that the program, "emserver" has permission to run. Please refer to your system administrator for instructions on configuring your firewall.

- Next, you need to set up your client machine by defining **emserver's** location and configuring the client for remote processing. By default, the client performs only local analyses. When you configure your client, you may select a default server or you can choose to be prompted to select a server from all the available servers defined for this client. You may choose to include your local computer in the list of available analysis servers. You use the Client Configuration dialog box in the analysis monitor to configure the client system. This dialog box may be opened from the Sonnet task bar, by selecting the command *Admin* ⇒ *Remote Em Computing* ⇒ *Client Configuration*.
- Once the server and client are both configured, you should run an analysis to confirm that everything is operating correctly. When you run an analysis, you are prompted to choose a server for your analysis (if you selected this option when configuring your client). The rest of this document contains detailed instructions for accomplishing these tasks.

Configuring the Analysis Server

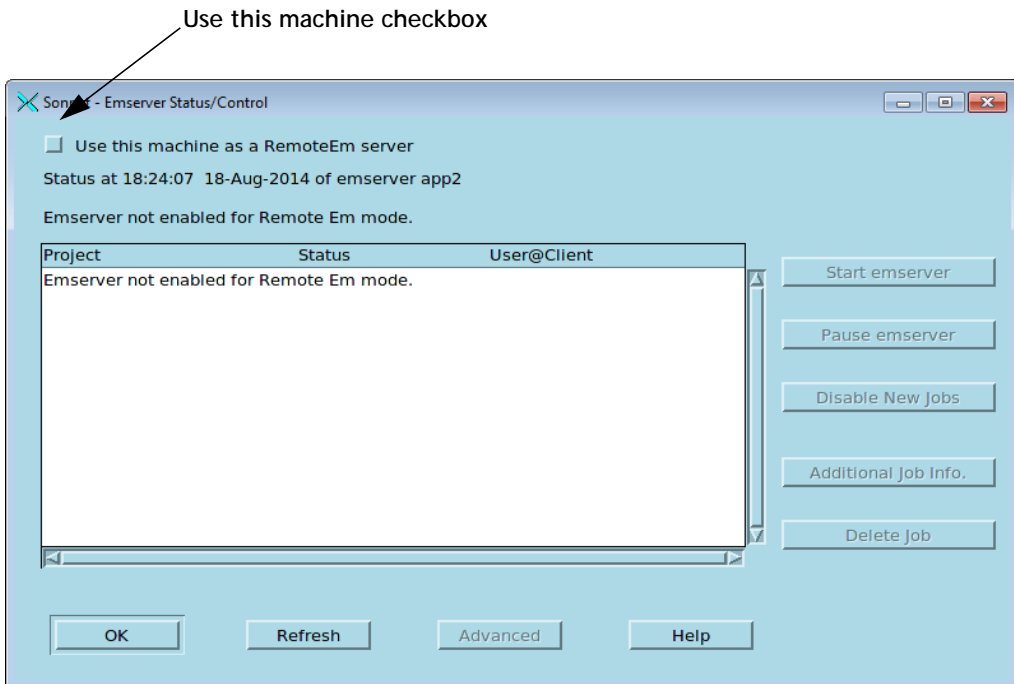
First set up the server on the machine on which you wish to execute the remote analysis. This machine will need to run the program *emserver*, which controls the electromagnetic analysis of remote jobs submitted to this server.

NOTE:

If you are managing multiple servers or have a large client base to set up, it may be useful to use the emhosts file to define your analysis servers. Please see [Appendix I, "Emhosts File" on page 41](#) for details.

- 1 **Open the Sonnet task bar on the server machine.**
- 2 **Select *Admin* ⇒ *Remote Em Computing* ⇒ *Server Configuration/Status* from the task bar main menu.**

The Emserver Status/Control window appears on your display. This window allows you to start, stop and control the functions of the program *emserver*.



If you wish to have *emserver* startup automatically upon reboot, see “Automatic Startup of emserver” on page 38.

3 Click on the Use this Machine as a RemoteEm server checkbox.

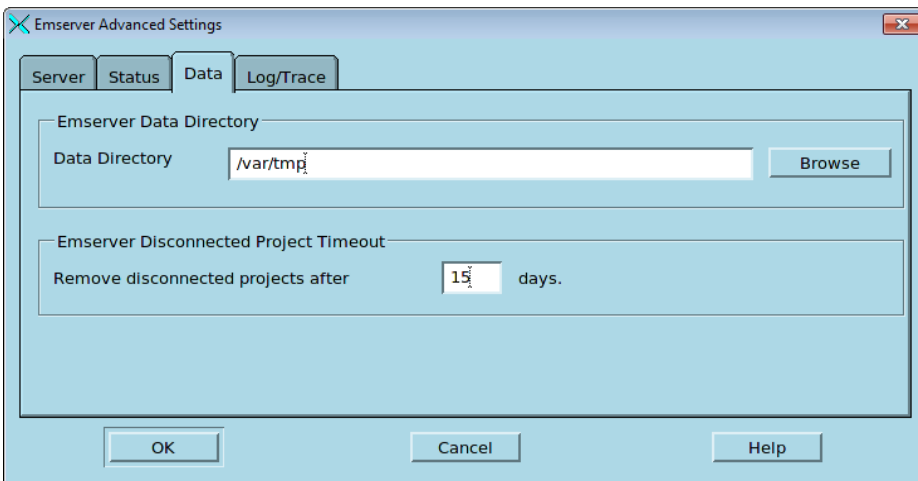
This enables this computer to be an analysis server. Note that the Refresh and Advanced buttons are now enabled.

4 Click on the Advanced button at the bottom of the Emserver Status/Control window.

The Emserver Advanced Settings dialog box appears on your display.

5 Click on the Data tab of the Emserver Advanced Settings dialog box.

When the analysis server is processing a remote *em* job, it copies the submitted project file from the client to a temporary data directory. This data directory does not have to be on the server machine, but it is recommended that you use a local disk whenever possible for efficiency. Analysis data is returned to the client as it is produced, but a copy is maintained on the analysis server in case a disconnect occurs between the server and client. Once the analysis is complete, the project copy is deleted from the analysis server. This Data tab allows you to specify the location of the temporary data directory on the server machine.



6 Enter the desired directory for the temporary data directory in the Data Directory text entry box.

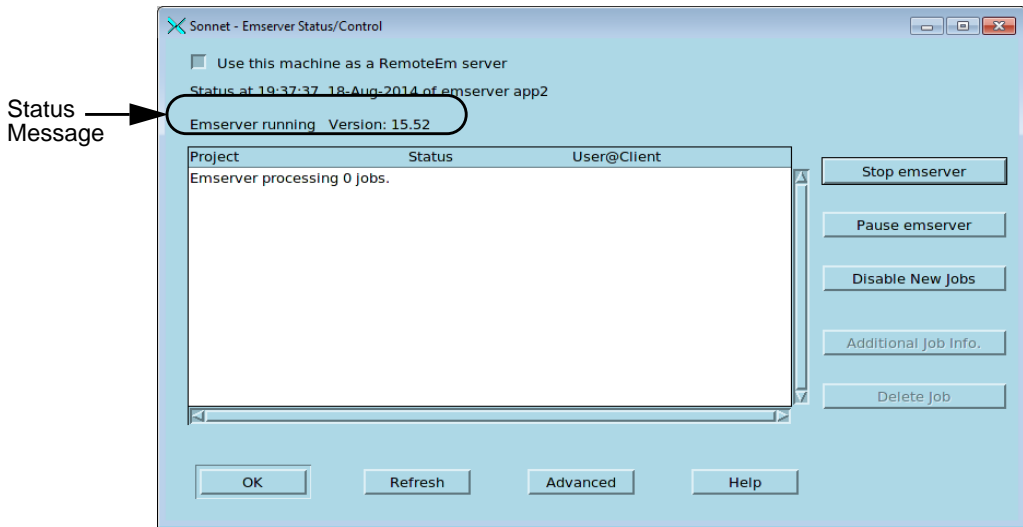
The default for Linux is “/var/tmp”. However, you may specify any directory on the server machine or on the network. If you wish, click on the Browse button to open a browse window which allows you to select a directory.

7 Click on OK to close the dialog box and apply the changes.

The Emserver Advanced Settings dialog box is closed.

8 Click on the Start Emserver button in the Emserver Status/Control window.

The message “Emserver running” should appear in the window above the job list. The job list should contain the message “Emserver processing 0 jobs.” This indicates that *emserver* is up and running on your server machine.



9 Click on the OK button to close the Emserver Status/Control window.

This does not stop *emserver*; the program continues to run. For information about other status and control functions, refer to the Sonnet task bar online help topic *Admin* ⇒ *Emserver Status/Control*. You may also click on the Help button in the Status/Control window to access this help topic.

This completes setting up the server machine. The next task is to configure the client machine for remote processing.

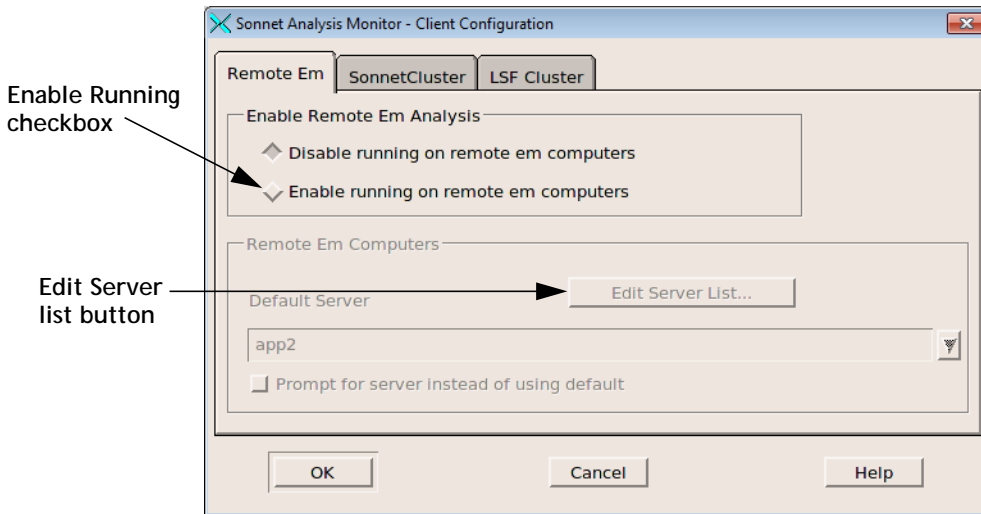
Configuring the Analysis Client

Next, you need to set up your client machine, which is the local machine at which you edit your projects and from which you will submit processing jobs.

1 Open the Sonnet task bar on the client machine.

- 2 Select *Admin* ⇒ *Remote Em Computing* ⇒ *Client Configuration* from the task bar main menu.

The Client Configuration dialog box appears on your display.

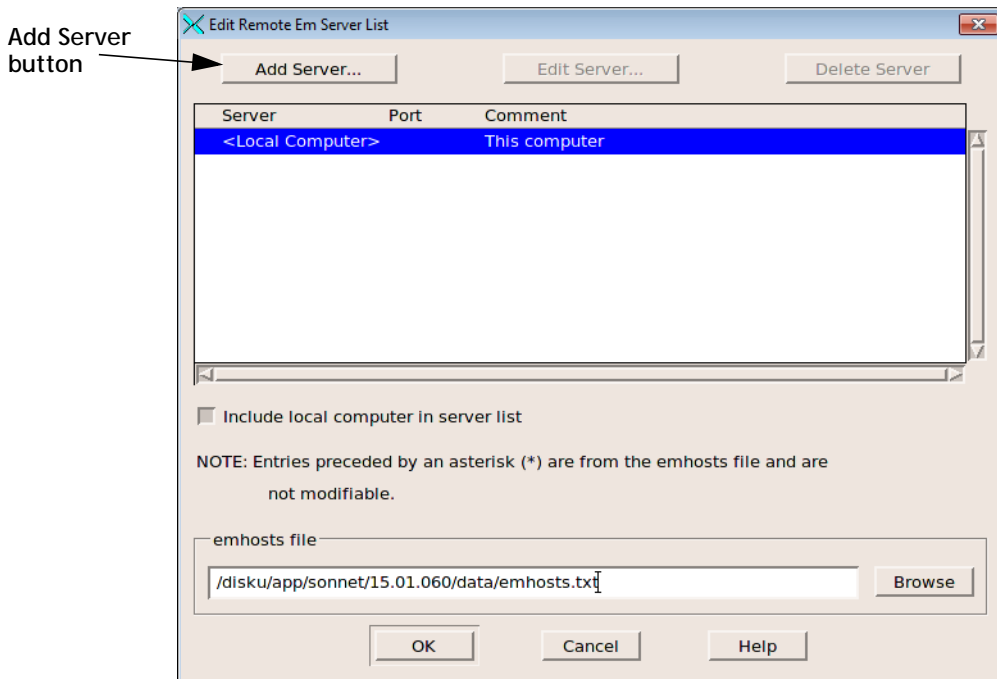


- 3 If it is not already selected, click on the Remote Em tab.
- 4 Click on the Enable running on remote computers radio button to enable remote processing.

The default setting is Run on local computer which does not allow remote processing. Clicking on this radio button enables the rest of the controls in this dialog box. Notice the Default Server drop list. This says Local Computer since there have been no remote servers added to the server list yet.

5 Click on the Edit Server List button just above the Default Server drop list.

The Edit Server List dialog box appears on your display. This dialog box allows you to create, delete and edit entries in your server list. You may have multiple remote servers in this list.

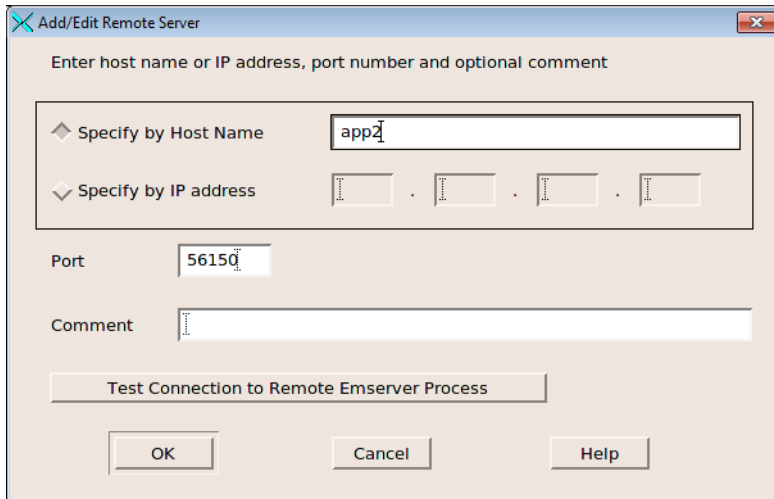


6 Click on the Add Server button to open the Add/Edit Remote Server dialog box.

You can specify your remote server by Host Name or IP Address.

- 7 **Select the appropriate radio button and enter the corresponding information in the adjacent text entry box.**

An example is shown below.



- 8 **Click on the Test Connection to Remote Emserver Process.**

The client machine attempts to communicate with the *emserver* program on the server machine. A window appears with a status output. If the connection operates correctly, the message “PASSED” will appear. If you receive an error message, check the following:

- a. Ensure that *emserver* has been properly started on the server machine.
 - b. Check that you have entered the correct name or IP address for the server in the Add/Edit Remote Server dialog box. Note that if you enter a name for a remote server, that name **MUST** be defined in the hosts file on the client machine. See your system administrator for details on editing the hosts file.
 - c. Check the network connection between the server and client. Make sure that you can ping the server from the client. If you do not know how to ping the server, please see your system administrator for details.
- 9 **Click on the Close button in the Testing Server Connection status window to close it.**
 - 10 **If desired, enter a comment in the Comment text entry line.**

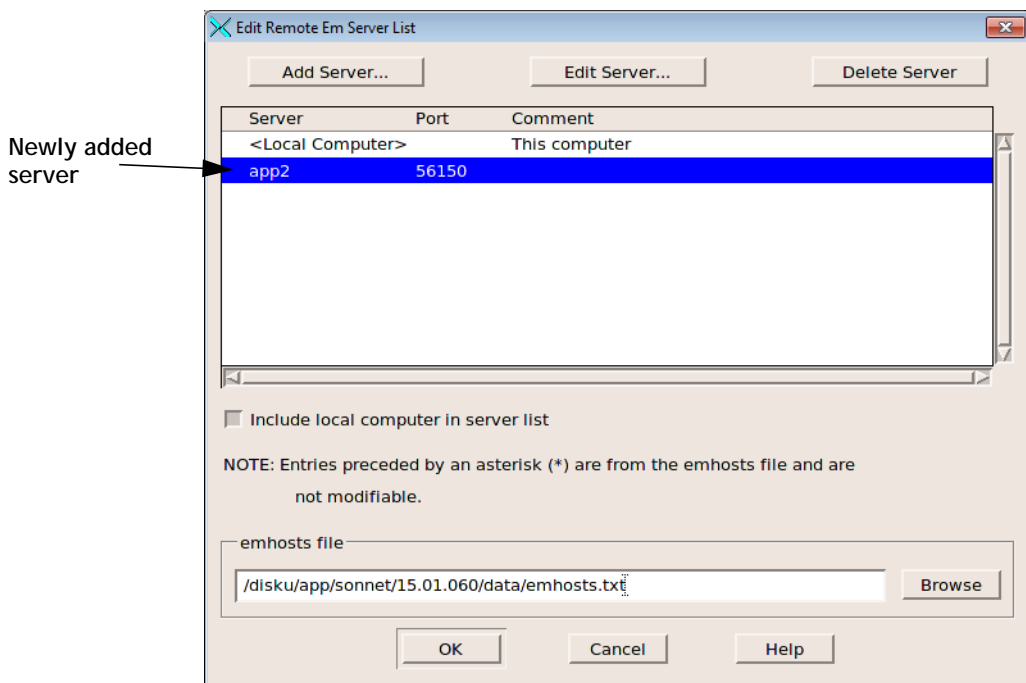
This may be used as a brief description to identify the server machine. This comment is displayed on the server's entry line in the server list.

- 11 Click on the OK button in the Add/Edit Remote Server dialog box to close it and apply the changes.

The remote server you just specified should now appear in the server list in this dialog box.

- 12 If you wish to have your local computer appear as a choice of server when you submit analysis jobs, select the Include local computer in server list checkbox.

When a list of servers appears in the New Batch Creation dialog box, your local server appears among them.

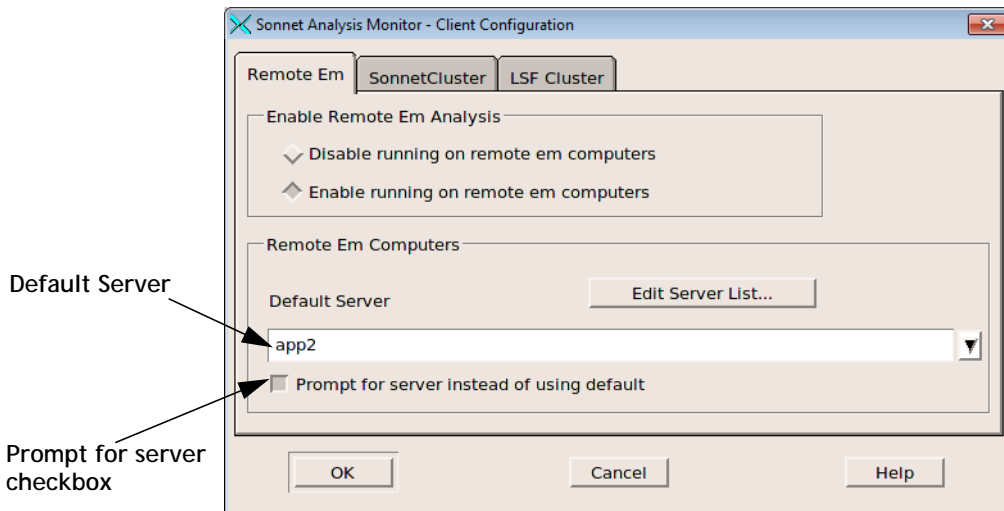


- 13 Click on the OK button to close the Edit Server List dialog box and apply the changes.

The remote server you just specified appears in the Default Server drop list. If there were multiple servers defined you would use this drop list to choose the default server.

14 Select the Prompt for server instead of default, if you wish to have a choice of servers when you launch an analysis.

If this checkbox is selected, the New Batch Creation dialog box appears when you open a new batch in the analysis monitor. This dialog box allows you to select any of the defined servers for the analysis. If this checkbox is disabled, then the default server you selected in the Default Server drop list is used for all analysis jobs.



15 Click on the OK button to close the Client Configuration dialog box.

The changes made in the Client Configuration dialog box will be used the next time the analysis monitor is invoked. Note that if a batch window is open while these changes are made, the batch window is not affected.

This completes setting up the client machine. Once the server and client are both configured, you should run an analysis to confirm that everything is operating correctly.

Configuring Multiple Analysis Servers on a Single Computer

There are circumstances when you might want to run more than one version of *emserver* on the analysis server machine. A good example is when you are transitioning to a new version of Sonnet. To accomplish this, you must configure each version of *emserver* to use a different port from which to communicate to the client machine.

NOTE:

If you are managing multiple servers or have a large client base to set up, it may be useful to use the emhosts file to define your analysis servers. Please see [Appendix I, "Emhosts File" on page 41](#) for details.

These instructions assume that neither version of *emserver* has been set up. If you have already configured a version of *emserver*, please ensure that it is not running while making these changes. If necessary, you may use the *Admin ⇒ Remote Em Computing ⇒ Server Configuration/Control* command to open the Emserver Status/Control window to stop the program. For the length of this discussion, we will refer to the two versions of the software as version A and version B.

- 1 For version A, follow the instructions in the previous section, [“Configuring the Analysis Server” on page 27](#).**

Continue once Version A of *emserver* is up and running.

- 2 For version B, open the task bar and select *Admin ⇒ Remote Em Computing ⇒ Server Configuration/Control* from the main menu.**

The Emserver Status/Control window appears on your display.

- 3 Select the Use this machine as a RemoteEm server **checkbox**.**

This enables this version as a remote *em* analysis server.

- 4 Click on the Advanced button in the Emserver Status/Control window.**

This opens the Emserver Advanced Settings dialog box.

- 5 Enter a different port number as the default port.**

In order to keep the different versions as remote em servers, they need to communicate through different ports. We recommend using a port number which incorporates the version number in order to provide clarity when viewing the servers; although any valid unused port will work. For example, if your second *emserver* is version 14.52, then use the port number 51452 as the communication port between the server and client.

- 6 Click OK to close the window and apply the changes.**

- 7 In the Emserver Status/Control window, click “Start Server”.**

This starts the Version B *emserver*. Be aware that each *emserver*’s status will only be displayed in that version’s Emserver Status/Control window.

- 8 On your client machine, for version A follow the instructions provided in [“Configuring the Analysis Client” on page 29](#).**

You should now be able to execute a remote *em* analysis for version A from this client.

- 9 On your client machine, for version B, follow the installation instructions for the client, but in this instance use the port number you entered for the Version B *emserver* when you defined it.

For example, if you used port 51452 for the port number when you set up the version B *emserver*, then when you define the server when setting up the version B client, enter the port number 51452.

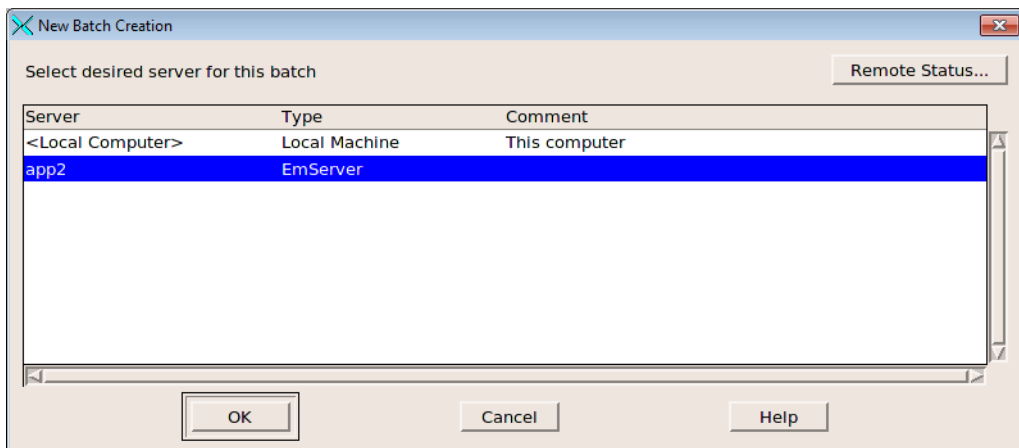
Running an Analysis on a Remote Server.

In order to run an analysis on a remote server, you must first be running *emserver* on the server machine and have configured the client machine to run an analysis remotely.

To run an analysis on a remote server, do the following:

- 1 Open a Sonnet project that is ready for analysis in the project editor and click on the Analyze button on the project editor's tool bar.

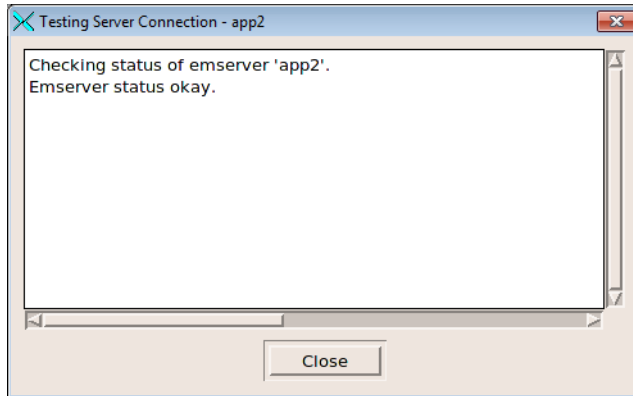
The New Batch Creation dialog box appears on your display. This dialog box contains a list of the remote servers that have been setup for this client system. If you chose to include your local computer in the server list when you configured the client, then your local computer appears in this server list.



Note that the New Batch Creation dialog box only appears if you selected the Prompt for Server option in Step 14 on page 34. If this option was not selected, the analysis monitor appears on your display.

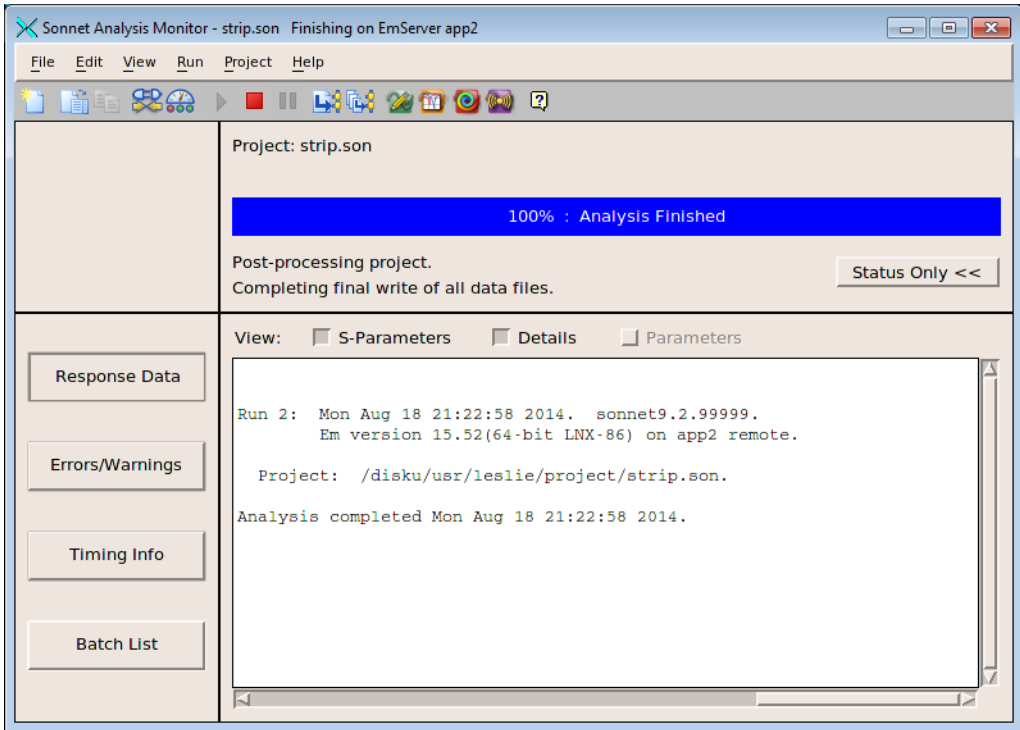
- 2 Click on the desired server to select it for the analysis, then click on the OK button in the New Batch Creation dialog box.

This closes the dialog box. The *emserver* connection is checked and a window appears to provide the status. If emserver is running and communications are established the status window is closed and the analysis monitor is opened.



This server is now associated with the analysis monitor window which will subsequently open. All jobs added to the batch list of the analysis monitor will be analyzed on the server chosen here.

The analysis monitor appears on your display and your analysis job starts running. The rest of the analysis proceeds in the same manner as an analysis run on your local computer. If any errors occur with the server, a status message is posted in the status section of the analysis monitor just under the progress bar.



If there is a loss of communication between the analysis server and analysis client while an analysis is running, it is possible to reconnect to an ongoing analysis or recover the results of a completed analysis. It is also possible to submit jobs, then disconnect deliberately and recover the results later. For details on reconnecting or recovering disconnected jobs, please see online Help for the analysis monitor.

Automatic Startup of *emserver*

Typically, you will want to start up *emserver* each time you reboot the analysis server. To do this you must make a change to your system startup files on the analysis server to start up the *emserver* program automatically upon bootup.

To change your system startup files for a Linux system, you must run the program `soninstallservice`. For instructions on how to use this program, type the following:

```
cd <Sonnet Directory>  
bin/soninstallservice -h
```

where <Sonnet Directory> is the directory in which the Sonnet Software was installed.

Appendix I Emhosts File

If you are operating in a large environment where you have a lot of client machines, multiple analysis server machines or multiple versions of *emserver* on a single machine, you may find it useful to use the emhosts file as it can make managing several *emserver* machines, or multiple versions of *emserver*, easier.

The emhosts file allows you to define a remote server in an external file. This file is provided as part of your software installation. The default filename is <Sonnet Directory>/data/ emhosts.txt. You may edit this file to add more remote servers; instructions on the format are included in this default file.

By default, this file is specified in the Edit Remote Em Server List dialog box. You may use another emhosts file by specifying it in the Edit Remote Em Servers list dialog box. To specify a emhosts file, do the following:

- 1 Click on the Analyze Project button on the Sonnet task bar, then select “New Batch” from the pop-up men.**

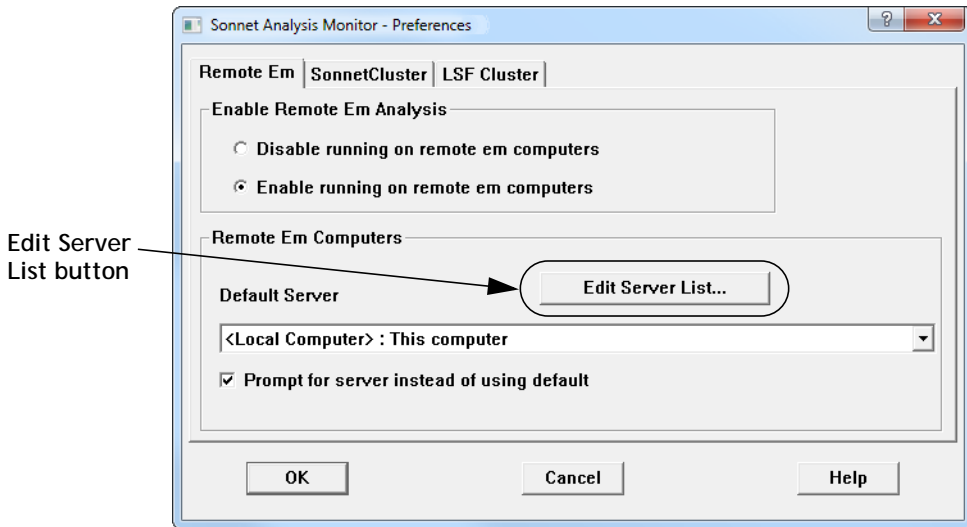
If the New Batch Creation dialog box appears, choose a server. The analysis server window with no jobs in the batch appears on your display.

- 2 Select *File* ⇒ *Preferences* from the analysis monitor main menu.**

The Analysis Monitor Preferences dialog box appears on your display.

- 3 If it is not already selected, click on the Remote Em tab in the Server Preferences dialog box.

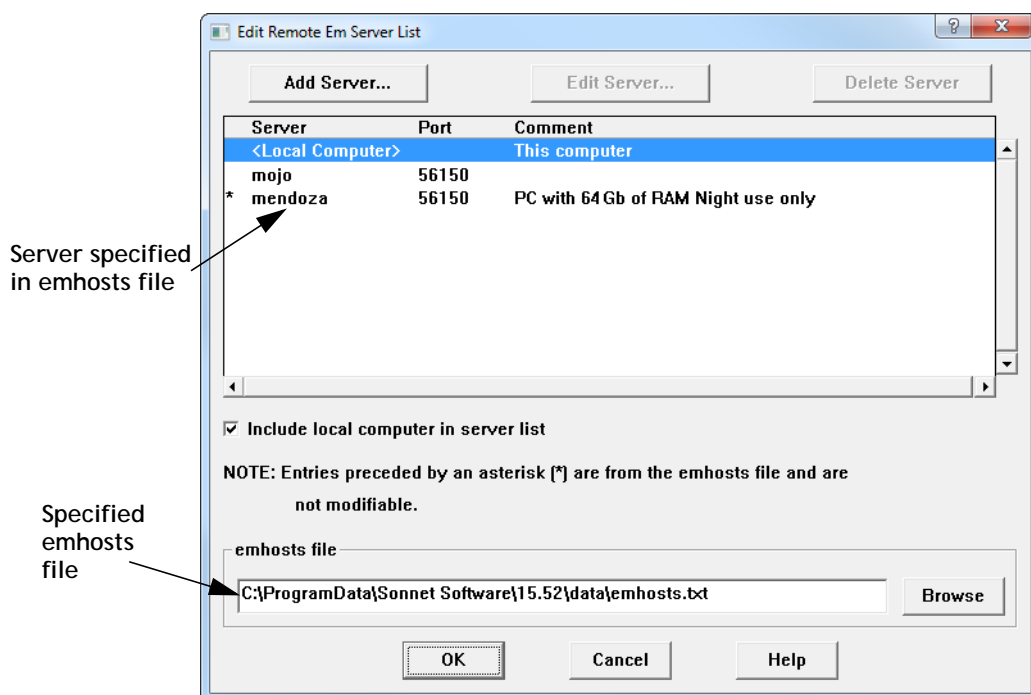
The Preferences dialog box appearance is updated.



- 4 Click on the Edit Server List button in the Preferences dialog box.

The Edit Remote Em Server List dialog box appears on your display. Any remote servers which have been defined appear in this window. If a server has been defined in the emhosts file specified in the dialog box, an asterisk (*) appears next

to it in the list of servers. Note that you may not edit the properties of a server from the emhosts file using the controls in this window; you must directly edit the emhosts file. The default file initially contains no entries.



Each line of the emhosts file lists a machine name, port number, and optionally comments. The comments can be helpful to users as you can include the amount of installed memory and other information about the machine. For example, the server Mendoza in the illustration above has 64 Gbytes of RAM and should only be used at night.

5 If you wish to change the emhosts file, click on the Browse button.

This opens a browse window that allows you to select the desired emhosts file.

Managing several *emserver* machines is easier if the emhost files are kept on a network drive in a central directory to which everyone has access. This way the administrator can generate the file and allow users to access it in order to configure their client machine. A separate emhosts file can be maintained for each version of Sonnet installed on the analysis server. Using a naming convention can help the user easily identify the applicable emhosts file.

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