

# Smart Services StepOne™ and StepOnePlus™ Real-Time PCR System Agent

## Installation Notes

### Release Description

We are pleased to provide the Smart Services StepOne™ and StepOnePlus™ Real-Time PCR System Agent Release 2.0. The Smart Services StepOne™ and StepOnePlus™ Real-Time PCR System Agent consists of 2 parts:

- **Instrument module:** this module monitors instrument state and activities. It posts a set of instrument data items to the Enterprise server. It also reports instrument errors to the Enterprise server as events.
- **Workstation monitor module:** this module monitors workstation parameters such as free disk space, and returns the data to the Enterprise Server as data items.

The Smart Services StepOne™ and StepOnePlus™ Real-Time PCR System Agent works best if installed on a computer running Windows XP, SP2. The host computer must be co-located and connected to the instrument being monitored. It should also be connected to the internet in order for data item values to be reported to the Enterprise Server.

The Smart Services StepOne™ and StepOnePlus™ Real-Time PCR System Agent supports StepOne™ and StepOnePlus™ Real-Time PCR System firmware version 2.0.0.0 only.

The following sections provide additional details about the instrument monitoring.

### Smart Services StepOne™ and StepOnePlus™ Real-Time PCR System Agent Instrument Monitoring

This section describes what is captured by the instrument module of the StepOne™ or StepOnePlus™ Real-Time PCR System instrument. Every few minutes, the Smart Services StepOne™ and StepOnePlus™ Real-Time PCR System Agent queries the instrument for its state and a predefined set of data parameters.

#### Data Items

The following information is captured by the Smart Services StepOne™ and StepOnePlus™ Real-Time PCR System Agent and sent to the Enterprise Server as data items:

Category	Data Items		
General Hardware and Instrumentation	<p>The following information captured by both the StepOne™ and StepOnePlus™ Real-Time PCR System Agent:</p> <ul style="list-style-type: none"> <li>• System Version</li> <li>• System Serial Number</li> <li>• System Framework Version</li> <li>• State of Block (up or down)</li> <li>• State of Drawer (open or closed)</li> <li>• System Fan Current</li> </ul> <p>The following information is captured by the StepOne™ Real-Time PCR System Agent only:</p> <ul style="list-style-type: none"> <li>• TEC Voltage</li> <li>• TEC Current</li> <li>• Block Temp</li> <li>• Sample Temp</li> </ul> <p>The following information is captured by the StepOnePlus™ Real-Time PCR System Agent only:</p> <table border="0" data-bbox="512 1586 1258 1955"> <tr> <td style="vertical-align: top;"> <ul style="list-style-type: none"> <li>• TEC 1 Voltage</li> <li>• TEC 2 Voltage</li> <li>• TEC 3 Voltage</li> <li>• TEC 4 Voltage</li> <li>• TEC 5 Voltage</li> <li>• TEC 6 Voltage</li> <li>• TEC 1 Current</li> <li>• TEC 2 Current</li> <li>• TEC 3 Current</li> <li>• TEC 4 Current</li> <li>• TEC 5 Current</li> <li>• TEC 6 Current</li> </ul> </td> <td style="vertical-align: top;"> <ul style="list-style-type: none"> <li>• Block 1 Temp</li> <li>• Block 2 Temp</li> <li>• Block 3 Temp</li> <li>• Block 4 Temp</li> <li>• Block 5 Temp</li> <li>• Block 6 Temp</li> <li>• Sample 1 Temp</li> <li>• Sample 2 Temp</li> <li>• Sample 3 Temp</li> <li>• Sample 4 Temp</li> <li>• Sample 5 Temp</li> <li>• Sample 6 Temp</li> <li>• Yellow Detector Gain</li> </ul> </td> </tr> </table>	<ul style="list-style-type: none"> <li>• TEC 1 Voltage</li> <li>• TEC 2 Voltage</li> <li>• TEC 3 Voltage</li> <li>• TEC 4 Voltage</li> <li>• TEC 5 Voltage</li> <li>• TEC 6 Voltage</li> <li>• TEC 1 Current</li> <li>• TEC 2 Current</li> <li>• TEC 3 Current</li> <li>• TEC 4 Current</li> <li>• TEC 5 Current</li> <li>• TEC 6 Current</li> </ul>	<ul style="list-style-type: none"> <li>• Block 1 Temp</li> <li>• Block 2 Temp</li> <li>• Block 3 Temp</li> <li>• Block 4 Temp</li> <li>• Block 5 Temp</li> <li>• Block 6 Temp</li> <li>• Sample 1 Temp</li> <li>• Sample 2 Temp</li> <li>• Sample 3 Temp</li> <li>• Sample 4 Temp</li> <li>• Sample 5 Temp</li> <li>• Sample 6 Temp</li> <li>• Yellow Detector Gain</li> </ul>
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Category	Data Items
Thermal Block Control	<ul style="list-style-type: none"> <li>TBC Block Serial Number</li> <li>TBC Firmware Version</li> <li>TBC Boot Version</li> <li>Block ID</li> <li>TBC 5-V Power Supply Voltage</li> <li>TBC 12-V Power Supply Voltage</li> <li>TBC 24-V Power Supply Voltage</li> <li>Thermal Electric Cooler Voltage</li> <li>Thermal Electric Cooler Current</li> <li>Heated Cover Current</li> <li>Cover Temperature</li> <li>Heat Sink Fan Current</li> <li>Heat Sink Fan Voltage</li> <li>Heat Sink Temperature</li> </ul>
Scanner	<ul style="list-style-type: none"> <li>Scanner Serial Number</li> <li>Scanner Firmware Version</li> <li>Scanner Boot Version</li> <li>Scanner Controller Power Supply Voltage</li> <li>Photo Diode Gain (RED)</li> <li>Photo Diode Gain (GREEN)</li> <li>Photo Diode Gain (BLUE)</li> <li>Theta-Axis Home Position Drift</li> <li>X-Axis Home Position Drift</li> <li>Y-Axis Home Position Drift</li> <li>Scanner Motor State</li> <li>Scanner LED Current</li> <li>Life Time of Scanner LED</li> </ul>
Run Information	<ul style="list-style-type: none"> <li>Run State</li> <li>Run Message</li> </ul>
Workstation	<ul style="list-style-type: none"> <li>Disk Percent Free C</li> <li>Disk Percent Free D</li> <li>Disk Percent Free E</li> <li>Disk Percent Free F</li> <li>Disk Space Total C</li> <li>Disk Space Total D</li> <li>Disk Space Total E</li> <li>Disk Space Total F</li> <li>Express Service Code</li> <li>Host Name</li> <li>IP Address</li> <li>LatestEvent</li> <li>MACAddress</li> <li>MACAddress2</li> <li>Memory Percent Used</li> <li>CPU Utilization</li> <li>ReadWriteErrorCounts</li> <li>Service Tag</li> <li>System Date</li> <li>System Time</li> <li>Memory Available</li> <li>Memory Total</li> <li>Windows ID</li> <li>Windows Name</li> <li>Windows Running Time</li> <li>Windows Service Pack</li> <li>Windows Version</li> <li>Workstation Model</li> </ul>

## Events

Instrument errors are posted to the Enterprise Server as events. Each event has the following information:

- Subsystem
- Severity Level
- ID
- Message

## Smart Services StepOne™ and StepOnePlus™ Real-Time PCR System Agent Workstation Monitoring

The Smart Services StepOne™ and StepOnePlus™ Real-Time PCR System Agent includes the Axeda workstation module. This module monitors the health of the workstation attached to the StepOne™ Real-Time PCR System instrument. This includes available and total memory, available and total disk, identifying information about the computer (i.e., Express Service Code), operating system version, and other parameters.

## Smart Services StepOne™ and StepOnePlus™ Real-Time PCR System Agent Software Installation

Installation is done using an InstallShield Installer. The installer runs through each of the steps necessary for installation, and asks you questions when necessary to complete a step. Most questions have a default but some questions require input (e.g., installer e-mail address and phone number).

## Remote Access

Installation of the Remote Access module is optional. InstallShield asks you whether you wish to install this module. If you answer "no," you may install the Remote Access module later. If you answer "yes," InstallShield installs the Remote Access module as a service, but the service is disabled. This gives the users maximum control over when Remote Access may be used.

## Known Issues

There are no known issues with this release.

## Installation Instructions

### Before You Begin

Before you install the Smart Services StepOne™ and StepOnePlus™ Real-Time PCR System Agent, please read this section.

The Smart Services StepOne™ and StepOnePlus™ Real-Time PCR System Agent has been tested and validated for the Windows XP SP2 system.

Also, please note the following:

1. The Smart Services StepOne™ and StepOnePlus™ Real-Time PCR System Agent should be installed on a computer co-located with and connected to a StepOne™ or StepOnePlus™ Real-Time PCR System instrument.
2. The instrument must be turned on when you install the Smart Services StepOne™ and StepOnePlus™ Real-Time PCR System Agent.
3. If the computer is not connected to the internet, the installation will still complete. However, the installed agent will not be able to report data to EnterpriseServer.

### Proxy Server Information

Ask your customer whether internet access from their site requires a proxy server. Your customer may need to contact their IT department to find out. If a proxy server is part of the site configuration, your customer will need to obtain the following information from the site's IT department:

- Host address for the proxy server
- Host port: Your customer should tell the IT department that Smart Services uses https and not http. This probably means using port 443, but your customer should confirm the port number with the IT department.
- User name: Not all proxy servers require a user name and password.
- Password

### Installing the Smart Services StepOne™ and StepOnePlus™ Real-Time PCR System Agent

To install the Smart Services StepOne™ and StepOnePlus™ Real-Time PCR System Agent:

1. Go to the folder that contains the Smart Services installation package and unzip it.
2. Click **setup.exe**, and follow the instructions in the InstallShield Wizard to complete the installation.

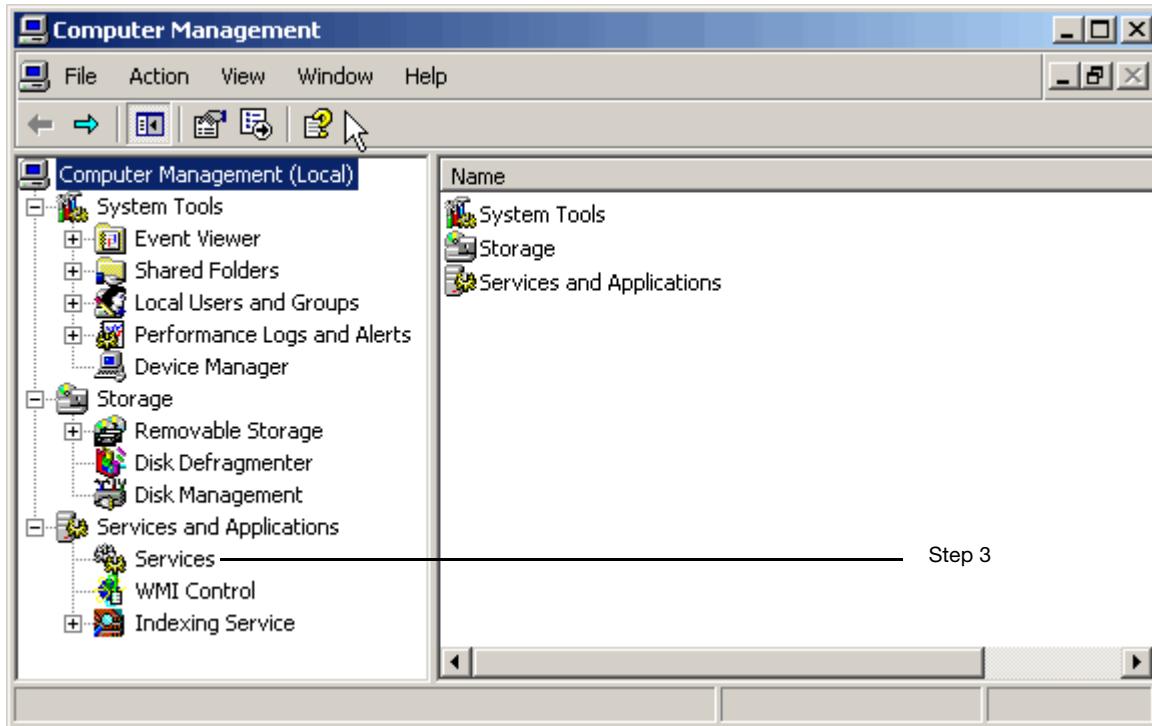
**Note:** If you have a question during the installation, please consult "Installation Notes " on page 6 before calling the TAC lab for telephone support.

## Checking the Installation

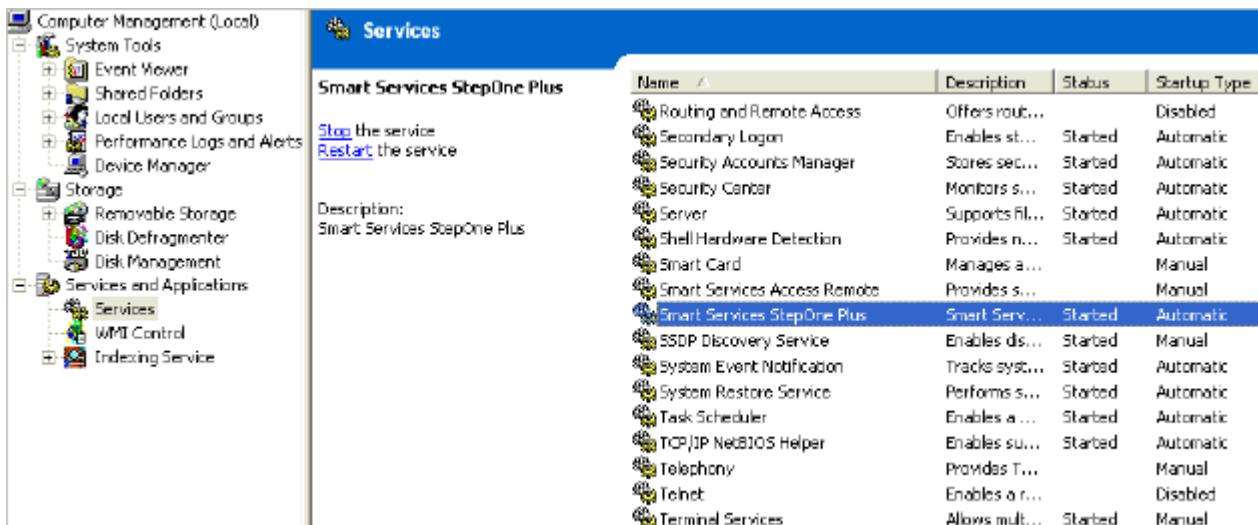
After a successful installation, you can view the Smart Services StepOne™ and StepOnePlus™ Real-Time PCR System Agent as a registered service to the operating system as shown below in the Services listing in the Windows XP Computer Management console.

To access the Services listing:

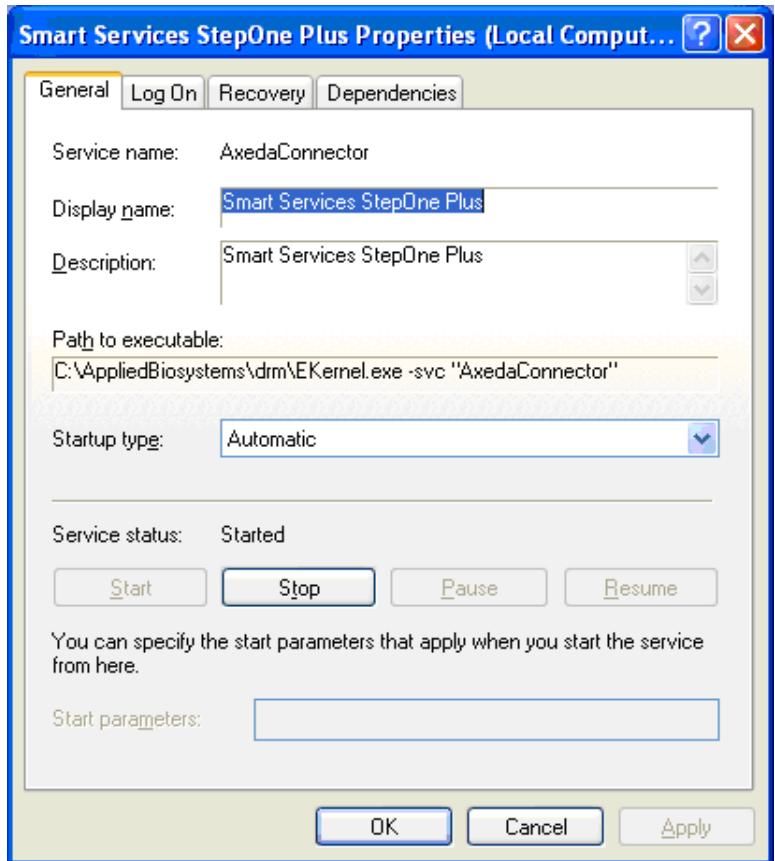
1. On the Windows XP desktop, right-click **My Computer**.
2. Select **Manage** to open the Computer Management window:



3. In the Services and Applications section, select **Services** to open the Services listing.



4. Double-click **Smart Services StepOne Plus** to open the properties dialog box:



The following values indicate a successful installation:

Name	<b>Smart Services StepOnePlus</b>
Status	Started
Startup Type	Automatic

Additionally, the StepOne™ Real-Time PCR System Smart Monitoring Agent log file, EKernel.log, appears in the default installation directory C:\appliedbiosystems\drm.

File and Folder Tasks			
Other Places			
Details			
<b>EKernel.log</b>	Text Document	72 KB	Application Extension
Date Modified: Today, April 12, 2007, 2:20 PM		36 KB	Application Extension
Size: 96.3 KB		80 KB	Application
		97 KB	Text Document
		1 KB	XML Document
		80 KB	Application
		16 KB	Application
		48 KB	Application Extension
		68 KB	Application Extension
		139 KB	XML Document
		40 KB	Application Extension
		20 KB	Application
		24 KB	Application Extension
		44 KB	Application Extension
		24 KB	Application Extension

If this file increases in size, it indicates the agent is running. Please note that there are three files EKernel.log, EKernel.xml, and EKernel.exe. On some computers, the file extension does not appear in the Name column. If the file extension does not appear, then check the EKernel file with **Text Document** Type to ensure the file size is increasing.

## Installation Notes

The following notes explain dialog boxes that may appear during the installation process.

### Warning! Invalid Computer Configuration Found

If you attempt to install the Smart Services StepOne™ and StepOnePlus™ Real-Time PCR System Agent on any operating system other than Windows XP SP2, the InstallShield Wizard will generate a Warning dialog box. While it is likely that the agent will perform correctly, it is not guaranteed, as no testing validation has been performed on operating system versions other than Windows XP SP2.

### Existing Installation

If a previous version of the Smart Monitoring Agent (StepOne™ Real-Time PCR System or another instrument) exists on the machine, you will be prompted to uninstall the existing version.

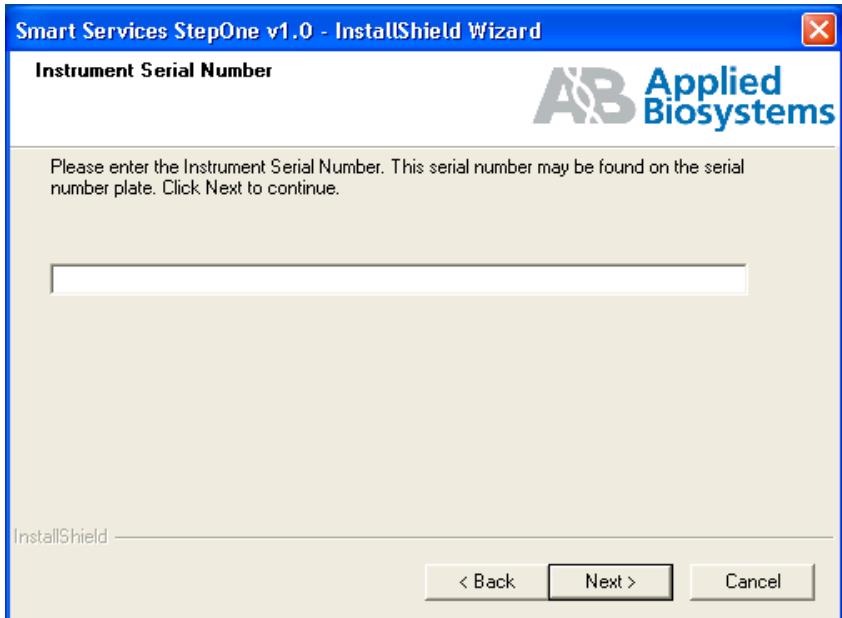
Click **Yes** to complete the uninstall process. When the uninstall process completes, the InstallShield Wizard will continue to install the new agent.

If the existing agent is a previous version of Smart Services StepOne™ and StepOnePlus™ Real-Time PCR System Agent, two files are preserved from the old installation and can be used as a reference:

- \DefaultProject\EnterpriseProxy.xml
- \Access\aremote.xml

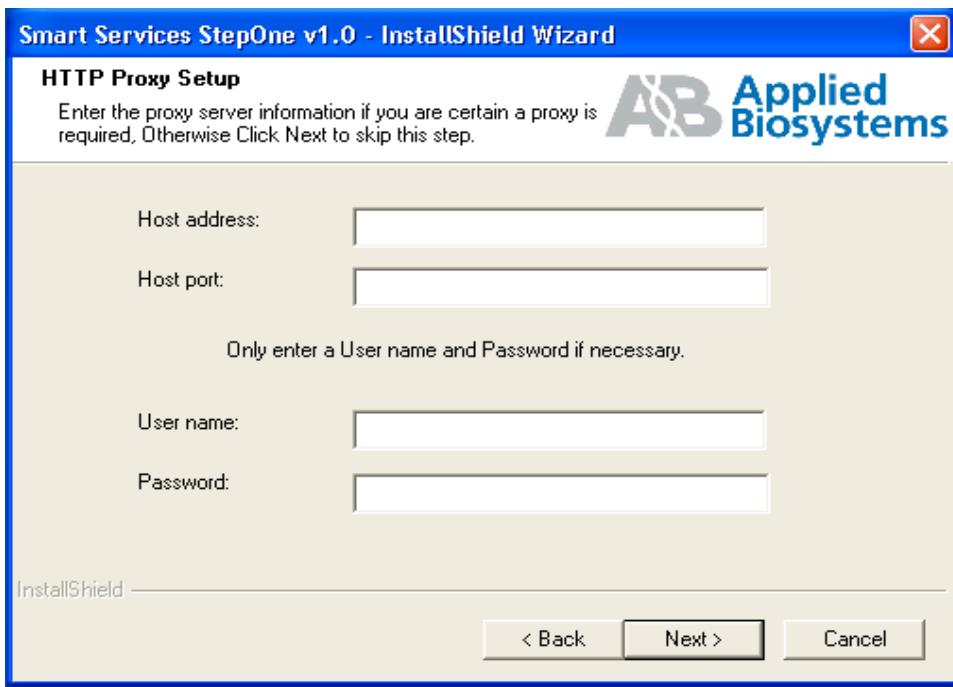
### Instrument Serial Number Dialog Box

The installer queries the instrument for its serial number and shows it in this dialog. You should verify the serial number before moving to next step. The serial number is written on a plate on the back of the instrument.



#### HTTP Proxy Setup Dialog Box

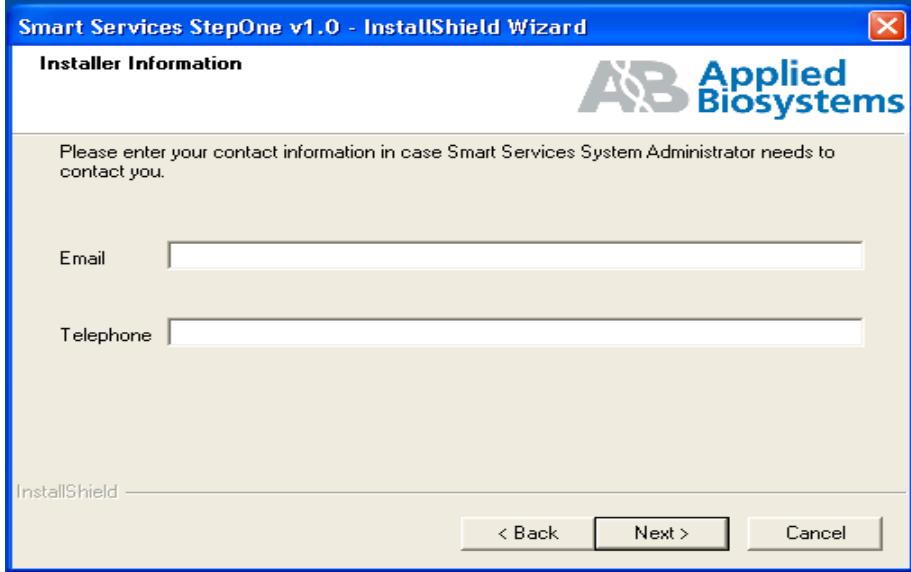
Most customers do not have a proxy server. If there is no proxy server, then leave all fields blank in this dialog box and click **Next >**.



If there is a proxy server, then your customer needs to provide certain information before you start the installation. See "Proxy Server Information" on page 3 for details.

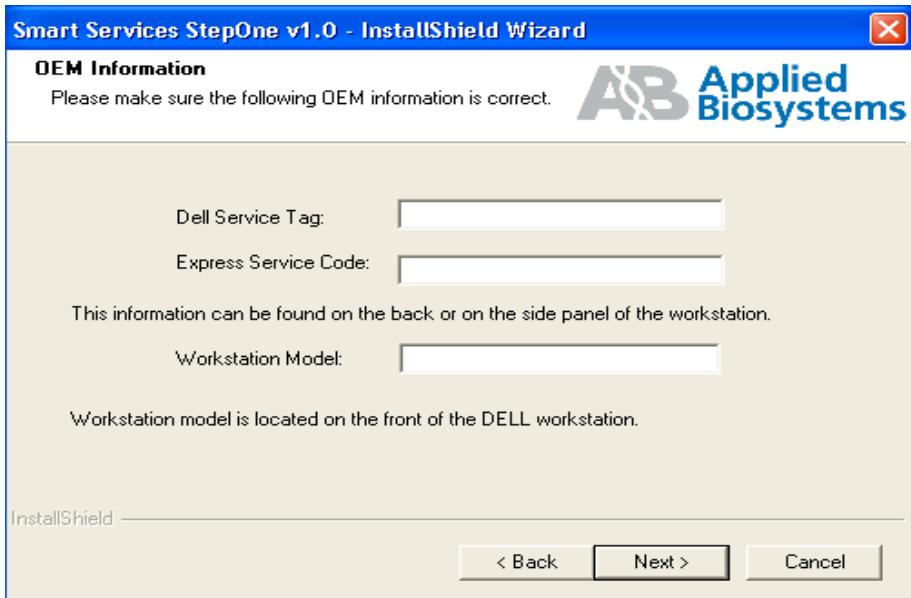
#### Installer Information Dialog Box

Please type in this information carefully. After a successful installation, you will receive an E-mail notification on the status of the installation.



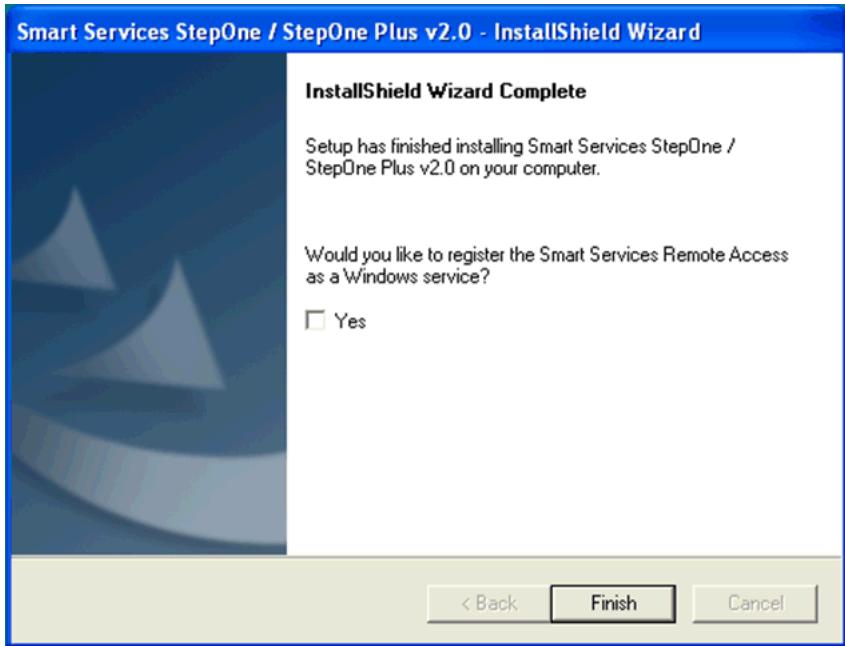
#### OEM Information Dialog Box

The installer will try to pre-populate fields in this dialog box by pulling information from the "oeminfo.ini" file, which resides in your file system. If the fields in this dialog are not pre-populated, it means such a file doesn't exist yet in the file system, and the information you enter here will be used to populate a new oeminfo.ini.



#### InstallShield Wizard Complete Dialog Box

To register the remote service as a windows service, you may check the checkbox. If the checkbox is left unchecked, the remote service will still be installed on the computer, but it will not be registered and started.



### InstallShield Scripting Runtime Error

Occasionally InstallShield will display an error dialog box that reads, "1607: Unable to install InstallShield Scripting Runtime." This may happen for several reasons, primarily:

1. You do not have administrative privileges on the machine. Please check if this is the case, and correct before attempting to install again.
2. Permissions are not set appropriately on the folder in which the Installer is running. Correcting # 1 should fix this issue.
3. Multiple instances of files Msieexec.exe or IDriver.exe may be running in memory. This occurs if you click setup.exe multiple times. Use the Windows Task Manager to identify and terminate these processes before proceeding.
4. The installer is trying to remove a file that is locked on the machine. If a program such as Notepad has opened a file located in C:\appliedbiosystems\drm (or in older installations, C:\appliedbiosystems\BioMonitor), then please close the file. It may also help to close these directories in Windows Explorer during uninstallation of a previous installation.

If none of the above seems to be the issue, and the problem remains, continue to click **OK** in the error dialog box. The problem often will resolve itself.

## Module File Loading Error

Occasionally InstallShield will display the follow error dialog box at the end of the installation:



It may be that the Smart Services StepOne™ and StepOnePlus™ Real-Time PCR System Agent was not able to connect to the instrument. Do the following to confirm the problem before you call support personnel:

1. Select Start > Run.
2. Type "cmd", then click **OK** to open a DOS prompt.
3. Navigate to "C:\AppliedBioSystems\drm\inst-access-components\stepone-sm\bin".
4. At the DOS prompt, type "get\_inst\_type.bat", and you may see error messages as in this screen shot:

```
\Connector\inst-access-components\stepone-sm\bin>get_inst_type.bat
EBUG [main] (?:?): Specified instrument IP to connect to: 192.168.0.1
EBUG [main] (?:?): IP of network interface in list[0]: 172.20.86.102
EBUG [main] (?:?): Skipping IP in list
EBUG [main] (?:?): Could not open socket to instrument.
RROR [main] (?:?): Could not connect to instrument at 192.168.0.1:7000
RROR [main] (?:?): Could not open socket to instrument.

\Connector\inst-access-components\stepone-sm\bin>
```

A screenshot of a Windows Command Prompt window titled "cmd C:\WINDOWS\system32\cmd.exe". The window contains the output of a "get\_inst\_type.bat" script. The text shows several error messages indicating failed attempts to connect to an instrument at IP address 192.168.0.1 via port 7000. The window has standard Windows-style scroll bars on the right side.

5. Please copy the error messages and contact support.