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# Advanced Installation Topics

B.A.S.I.S. ET692™

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## Chapter 1: Introduction

The Advanced Installation Topics Guide focuses on those aspects of the B.A.S.I.S. installation that don't fit into normal procedures. Some information you will find info on includes:

- Installing SQL Server databases
- How to perform a remote installation
- How to use SNMP with B.A.S.I.S.
- Ports used by B.A.S.I.S.
- B.A.S.I.S. Services

### *The Installation Guides*

Document Name	Item Number	Document Description
Advanced Topic Installation User Guide	E860	A guide that encompasses a variety of advanced topics.
Installation Guide	E810	A comprehensive guide that includes instructions for installing the B.A.S.I.S. software. This guide also includes information on the current SQL Server version and the browser-based client applications
Upgrade Guide	E860	A short and sequential guide on upgrading and configuring an access control system that utilizes SQL or SQL Server Express system.



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# **Advanced Installation Topics**

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## Chapter 2: Remote Installation of B.A.S.I.S.



### Warning

Computers that will use the custom .MSI to install B.A.S.I.S. must have all B.A.S.I.S. prerequisites items installed manually. The normal check that the B.A.S.I.S. installation performs to make sure your system has these prerequisites does not occur when installing with the .MSI. For information on the prerequisites needed see the Installation User Guide.



### Warning

The centralized installation feature should only be used for client installations. Stanley does not recommend or support centralized installation or upgrading of servers because servers require additional care and attention.

The general steps for performing a remote installation of B.A.S.I.S. include:

1. Run the Administration Installation Wizard to create a setup image tailored for the client installation. For more information, refer to [Create a Setup Image for the Client](#) on page 11.
2. Verify the Administration Installation Wizard was successful. For more information, refer to [Verify the Administration Installation Wizard was Successful](#) on page 13.
3. Perform a pilot rollout of the software with a group of users.
4. Mass deploy the B.A.S.I.S. package on client machines. For more information, refer to [Deploy the Centralized B.A.S.I.S. Installation](#) on page 13.

### Create a Setup Image for the Client

The Administration Installation Wizard is used to create a setup image for the client. The setup image will be a file with a .MSI extension. The Administration Installation Wizard can be run multiple times to create multiple configurations (customized \*.MSI files). To use the .msi file, copy the file along with the full B.A.S.I.S. disk image to the target machine.

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**Note:** You will need to know the type and location of the database, the location of the License Server, and which B.A.S.I.S. components you wish to install to complete this wizard.

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To create a setup image for the client:

1. Insert the B.A.S.I.S. ET692 disc. Depending on whether autorun is enabled a splashscreen may appear. If a splashscreen appears, exit out of it.
2. Click the Start button, then select Run.
3. In the **Open** field, type:  
D: /setup.exe /a  
Substitute your CD/DVD-ROM drive letter for D:.
4. The Administration Wizard starts. Click [Next].
5. The Client Information window is displayed.
  - a. Select the system database.
  - b. Specify the workstation name where the system database that clients will use resides.
  - c. Specify the workstation name that hosts the system's License Server.
  - d. Click [Next].
6. The Client Application Selection window is displayed.
  - a. Select or deselect the check boxes to select which client applications will be included in the custom package.
  - b. Click [Next].
7. The Network Information window is displayed.
  - a. Select the Network location for this image by clicking [Change].
  - b. The Change Current Destination Folder window is displayed. Specify the location where you would like to save the package, then click [OK].
  - c. Click [Create].
8. The Installation Wizard Progress window is displayed. A window is displayed that indicates that the installation was successful. Click [Finish].
9. You can repeat steps 1-8 for each additional configuration you wish to create. Each time the Administration Installation Wizard is run, a configuration (customized \*.MSI file) will be created. Be sure to use a unique, descriptive name for each configuration so that you can easily distinguish one from another.

## Manual Integration of Third Party Dependencies

Because of limitations with the centralized client package you must manually integrate several third party dependencies. These include:

- .NET 3.5 SP1 (located on the Supplemental Materials disc at: \Prerequisite Software\Microsoft .NET Framework 3.5 SP1).
- INTEL (located on the B.A.S.I.S. Installation disc at: \Temp\INTEL).
- VCPP8 Runtime (located on the B.A.S.I.S. Installation disc at: \Temp\VCPP8Runtime).
- VCPP9 Runtime (located on the B.A.S.I.S. Installation disc at: \Temp\VCPP9Runtime).
- XML 6.0 (located on the B.A.S.I.S. Installation disc at: ISSetupPrerequisites\{726F97A8-63B9-4A58-ACFB-B8A56B383740}).

- Crystal .NET Framework (located on the Supplemental Materials disc at: \Prerequisite Software\Microsoft .NET Framework 3.5 SP1).

## Verify the Administration Installation Wizard was Successful

1. Navigate to the installation package, which is saved in the location that you specified in step 7 on page 12.
2. Verify that the .MSI file(s) that you created (with the name that you specified in step 7 on page 12) are listed. There will be other folders as well. These contain the B.A.S.I.S. files that will be installed.

## Deploy the Centralized B.A.S.I.S. Installation

There are two types of installations that can be done: advertised and forced. Both of these installations require a transform to be applied to the Windows Installer package created for the B.A.S.I.S. software.

- In an advertised installation (also referred to as “install on demand”), the person doing the installation advertises out what program features can be installed on a machine. Shortcuts for those features (i.e., Alarm Monitoring, FormsDesigner, MapDesigner, etc.) appear in the B.A.S.I.S. start menu. Once a shortcut is clicked on, the application will then install.
- In a forced installation (also referred to as “assign and publish”), the person administering the installation can choose what applications are going to be installed on the machines on the network and send this information along with other required system information in the transform. The setup can then get assigned out to the computers and when they boot up, B.A.S.I.S. will get installed.

An advertised installation is limited by the fact that the contents of the source installation disc need to be available over the network at any time where someone tries to use a new advertised feature (because you won't know when someone will click on the application, triggering it to install). In a forced installation the image only needs to be available at the time of installation.

You should do a pilot deployment with a small group of clients to determine and address any problems prior to mass deployment.



## Chapter 3: VMware

VMware provides a way to create a virtual machine. B.A.S.I.S. server software and the Communication Server are certified to run on VMware ESXi.

### *VMware Installation*

Installation of VMware ESXi should be performed according to the manufacturer documentation. Be sure the physical server (host) and storage array are listed on the hardware compatibility list for ESXi to meet the minimum requirements.

Also, take into consideration the minimum requirements of the applications that will be installed on the virtual machine (guest).

### *Virtual Machine Setup*

Once installation of ESXi is complete, start the vSphere Client. Using the vSphere Client, connect to the ESXi server and create a new virtual machine.

#### **Creating a New Virtual Machine**

1. From the vSphere Client, click **File > New > New Virtual Machine**. Doing so launches the Create New Virtual Machine wizard.
2. Select the configuration for the virtual machine by defining the operating system, machine name, disk capacity, etc. If needed, some of these settings (for example, memory) may be modified after the virtual machine has been created.
3. Install the operating system.
4. Install VMware Tools.

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**Note:** For more detailed information, refer to the VMware documentation.

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5. Once the virtual machine has been created, install B.A.S.I.S. according to the instructions in the Installation Guide.

## Recommended Hardware Configurations

The following are general recommendations and may change depending on the size and scope of the system.

### B.A.S.I.S. VMware configurations

System Type	Operating systems with versions	32-bit	64-bit
ADV and ENTREGLT Servers with database on same computer	Windows Server 2008 SP2/ SQL 2008 SP1 Std.	3 GB RAM 40 GB drive space	4 GB RAM 40 GB drive space
	Windows 7/SQL 2008 SP1 Std.	2 GB RAM 36 GB drive space	3 GB RAM 36 GB drive space
ADV and ENTREGLT Servers with database on separate computer	Windows 2008 Server SP2	3 GB RAM 40 GB drive space	4 GB RAM 40 GB drive space
	Windows 7	2 GB RAM 36 GB drive space	3 GB RAM 36 GB drive space
PRO and ENTREG Servers with database on same computer	Windows Server 2008 SP2/ SQL 2008 SP1 Std.	3 GB RAM 40 GB drive space	4 GB RAM 40 GB drive space
PRO and ENTREG Servers with database on separate computer	Windows Server 2008 SP2	3 GB RAM 40 GB drive space	4 GB RAM 40 GB drive space

## Chapter 4: Installing and Configuring WirelessOffice Messaging Software Version 7.0

### *WirelessOffice Messaging Software Overview*

WirelessOffice Messaging Software was formerly named Motorola Air Apparent. Using WirelessOffice, an e-mail and/or page can be sent for an alarm from the B.A.S.I.S. software. Manual or automatic e-mail/paging can be used.

#### Manual E-mail/Paging

Manual e-mail/paging consists of right-clicking on an alarm in Alarm Monitoring and sending a message via the “Send E-Mail” or “Send Page” menu option. The process that occurs for the message to be sent is as follows:

1. An alarm is displayed on the Alarm Monitoring screen.
2. The alarm is right-clicked on, and the “Send E-Mail” or “Send Page” menu option is selected.
3. One or more recipients must be selected.
4. That message is sent to the LS Global Output Server service, which then sends it to a temporary directory.  
The temporary directory is specified in the following places:
  - For WirelessOffice, in **File Messenger** on the Directories tab. For more information, refer to [Configure File Messenger](#) on page 22.
  - For B.A.S.I.S., in the **Spooler Directory** field on the Paging Devices form. For more information please refer to “Add a Paging Device” in the Global Output Devices Folder chapter in the System Administration User Guide.
5. The Emergin Integrated Service checks the temporary directory and retrieves the message.
6. The Emergin Integrated Service sends the message to the WirelessOffice Server service.
7. The WirelessOffice Server service uses the modem to send the message to the e-mail/paging service specified.

#### Automatic E-mail/Paging

In automatic e-mail/paging, an alarm definition is associated with a specified e-mail/page address, and a message is sent automatically sent to that address when the alarm type specified in the alarm definition is

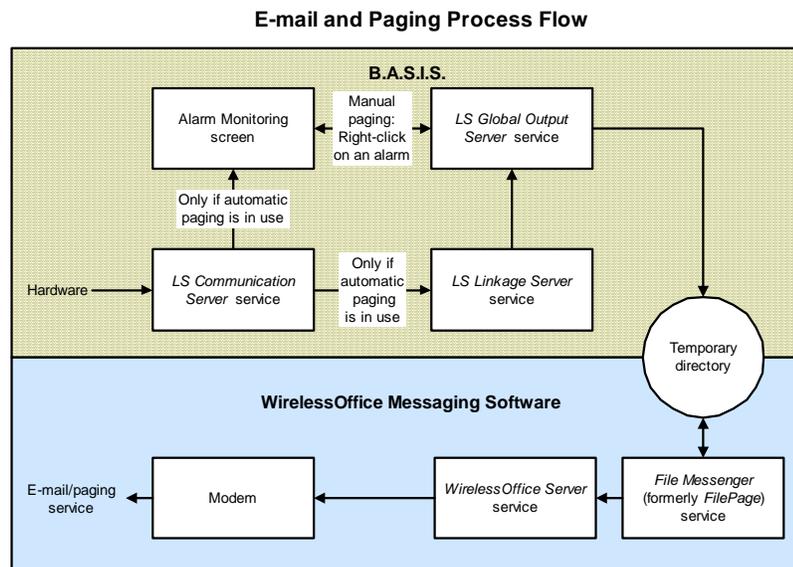
generated. The process that occurs for the message to be sent is as follows:

1. The LS Communication Server service monitors for alarms. When an alarm is received, it sends the alarm to the Alarm Monitoring screen and to the Linkage Server.
2. The LS Linkage Server service sends the message to the LS Global Output Server service.
3. The LS Global Output Server service sends the message to the temporary directory.

The temporary directory is specified in the following places:

- For WirelessOffice, in File Messenger on the Directories tab. For more information, refer to [Configure File Messenger](#) on page 22.
  - For B.A.S.I.S., in the **Spooler Directory** field on the Paging Devices form. For more information please refer to “Add a Paging Device” in the Global Output Devices Folder chapter in the System Administration User Guide.
4. The Emergin Integrated Service checks the temporary directory and retrieves the message.
  5. The Emergin Integrated Service sends the message to the WirelessOffice Server service.
  6. The WirelessOffice Server service uses the modem to send the message to the e-mail/paging service specified.

The following illustration shows the manual and automatic e-mail and paging processes.



## *E-mail/Paging Setup Checklist*

The following steps are necessary to install and configure WirelessOffice Messaging Software for use with B.A.S.I.S.:

1. Install B.A.S.I.S. ET692. For more information, refer to the Installation Guide.
2. Run Database Setup.
3. Install WirelessOffice. For more information, refer to [Install WirelessOffice Messaging Software](#) on page 20.
4. Configure WirelessOffice for use with the B.A.S.I.S. software.
  - Configure the modem. For more information, refer to [Configure the Modem](#) on page 21.
  - Configure the carrier that will be used. For more information, refer to [Configure the Carrier](#) on page 21.
  - Test connectivity. For more information, refer to step 8 on page 23.
  - Verify that the “File Messenger” and “WirelessOffice Server” services are started and automatic. For more information, refer to step 7 on page 23.
5. In System Administration, configure B.A.S.I.S. for use with WirelessOffice.
  - Set up a paging device or devices. For more information please refer to “Add a Paging Device” in the Global Output Devices Folder chapter in the System Administration User Guide.
  - Create a recipient. For more information please refer to “Add a Recipient” in the Global Output Devices Folder chapter in the System Administration User Guide.
6. Set up manual paging, and then verify that the “LS Global Output Server” service is started and automatic. For more information, refer to [Set Up Manual Paging](#) on page 25.
7. (Optional) Set up automatic paging. For more information, refer to [Set Up Automatic Paging](#) on page 25. If automatic paging is not set up, manual paging can still be done.
8. Verify that the “LS Linkage Server” service is started and automatic. For more information, refer to [Set Up Automatic Paging](#) on page 25.

## *E-Mail/Paging Setup Procedures*

### **Prerequisites**

#### **Install B.A.S.I.S. ET692**

To Install B.A.S.I.S. ET692 refer to the Installation Guide.

## Run Database Setup

To run Database Setup refer to the Installation Guide.

## WirelessOffice Procedures

### Install WirelessOffice Messaging Software

1. Insert the WirelessOffice Messaging Software Version 7.0 disc.
  - If AutoPlay is enabled, this will launch the Autorun program.
  - If AutoPlay is not enabled, click the Windows Start, then select **Run...** In the **Open** field of the Run window, type `D:\Setup.exe`, where D:\ is the letter of your CD-ROM drive. Click [OK].
2. The Welcome window will be displayed. Click [Next >].
3. The Software License Agreement window will be displayed. Select the appropriate radio button if you accept the terms of the license.
4. The Pre-Installation Notes window is displayed. Click [Next].
5. The software will now try and remove earlier versions of WirelessOffice. Click [Remove]. Be sure to read each screen before you proceed.

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**Note:** A reboot of your system may be necessary after this step.

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6. The Customer Information window will be displayed.
  - a. In the **Name** field, type your name.
  - b. In the **Company** field, type the name of your company.
  - c. Click [Next >].
7. The Destination Folder window will be displayed.
  - By default, WirelessOffice is installed to `C:\Program Files\Emergin Integration Suite` or something similar.
  - Click [Next >].
8. The Setup Type window is displayed. Choose the type of setup that's appropriate for you and click [Next].
9. The Requirement Check window is displayed. Click [Next] to continue with the installation.
10. The Enter Authorization Code window will be displayed.
  - a. In the **Authorization Code** field, enter your authorization code, which is found inside the CD jewel case.
  - b. Click [Next >].
11. Wireless Office now installs.

*If you click [Back], be aware that the default settings for that window will be selected and you will have to choose the settings you wish to use again.*

## Configure the Modem

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**Important:** The modem must already be added to your computer via the Windows Control Panel before it can be used by WirelessOffice.

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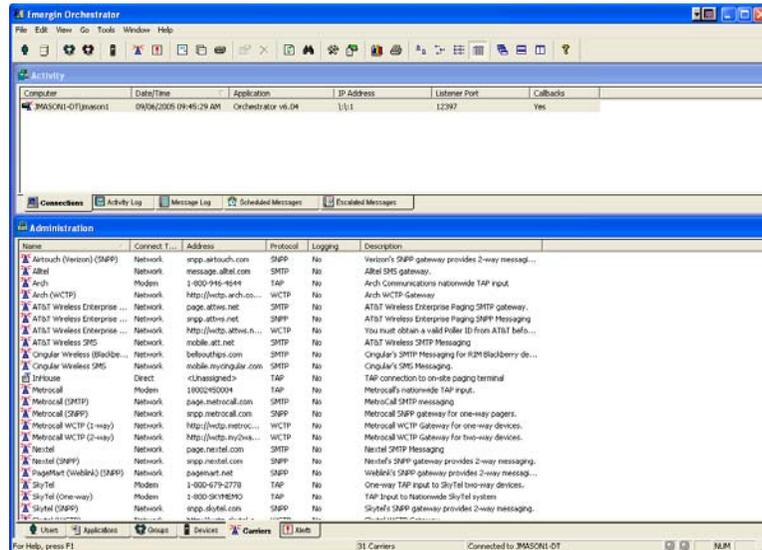
1. In the program folder, double-click on **Emergin Orchestrator**.
2. From the **Tools** menu, select **Server Configuration**.
3. The **Server Configuration Wizard** window will open. Click the Ports/Modems tab.
4. Make sure that the modem is available, and then click [Add].
5. The Modem Wizard - Step One window opens. Select the modem, and then click [Finish].
6. The modem will now be listed on the Modems tab. Click [OK] to close the Server Configuration window.

## Configure the Carrier

The carrier is the paging service that transmits messages to subscribers. To configure the carrier:

1. In the main application window of Emergin Orchestrator, click the **Carriers** tab.
2. WirelessOffice lists a number of carriers (paging services) that it supports in the **Carriers** pane.
  - If the carrier you wish to use is in that list, you do not need to do anything more on the **Carriers** tab.
  - If the carrier you wish to use is not listed, you must add it. To do this, right-click in the open area of the **Carriers** tab and select “New Carrier...”. (Please refer to “Defining a New Carrier” on page 32 in the WirelessOffice Messaging Software System Administrator’s manual for complete instructions.)
3. Make note of the exact name of the carrier, which is listed in the **Name** column of the **Carriers** pane. You will need this later to add a recipient in the B.A.S.I.S. software. For more information please refer to “Add a

Recipient” in the Global Output Devices Folder chapter in the System Administration User Guide.



## Configure File Messenger

File Messenger, formerly named FilePage, is a WirelessOffice client that provides a simple interface to the WirelessOffice server. Using the Emergin Integrated Service, B.A.S.I.S. can send pages through the WirelessOffice server by writing message files to a shared temporary directory that File Messenger can access. File Messenger checks the temporary directory that B.A.S.I.S. puts messages in. If a message is in the directory, it sends it to WirelessOffice server and then deletes it from the shared temporary directory. To configure File Messenger:

1. Close the WirelessOffice Emergin Orchestrator window.
2. In the Emergin program folder located in the Start menu, double-click on **File Messenger**. The File Messenger window will open, and the Directories tab will be displayed.
3. The **Directory** is the location of the temporary directory that File Messenger will check for message files. This is the same directory that B.A.S.I.S. will send messages to. The default **Directory** entry that is listed specifies an **Extension** of TXT. This entry must be removed. To do this:
  - a. Click on the default **Directory** entry to highlight it.
  - b. Click [Remove].
  - c. Click [Yes] to confirm the removal.
4. Add a new directory with an extension of REQ. To do this:
  - a. Click [Add]. The Directory Properties window is displayed:
  - b. Select the directory that File Messenger will check for files. The **Extension** specified must be **REQ**.

**Note:** If you configure automatic e-mail/paging, this same directory must be specified in the **Spooler Directory** field on the Paging Devices form in System Administration. For more information please refer to “Add a Paging Device” in the Global Output Devices Folder chapter in the System Administration User Guide.

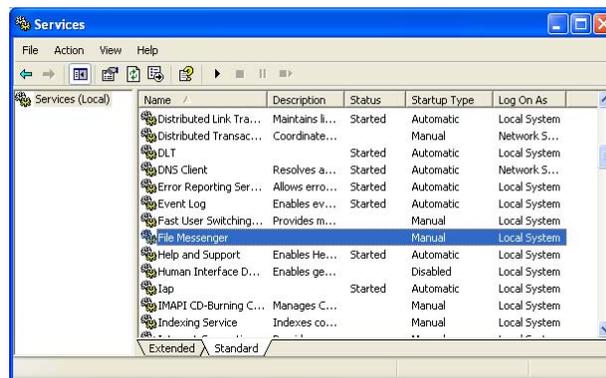
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- c. Click [OK].
5. The **Directory** listed should now have an extension of REQ.
6. Click the **Service** tab.
7. Stop the service by clicking the  button, if it isn't already stopped.
8. Click on the EIS Server tab.
  - a. In the **User Name** field enter a valid user name for WirelessOffice. The first time you login, use Administrator.
  - b. In the **Password** field, enter a valid password for WirelessOffice. In the **Primary Server** field, enter the name or IP address of the server. The **Primary Server** specified here must also be specified later in the Linkage Server Host section on the System Options form in System Administration. For more information, refer to step 7 on page 26.
9. Click [Test Connectivity]. If all goes well, the **Last Connect Attempt** and **Last Login Attempt** will be updated to 'OK'.

**Note:** If the test for connectivity fails, it is possible that name resolution is not setup on your network. Try specifying the IP Address of the server instead of the name in the **Server** field on the **EIS Server** tab.

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10. Click [Apply].
11. On the Service tab, set the service to be automatic in the Startup Type section of the window.
12. Restart the service by clicking the  button.
13. Verify that the “File Messenger” and “WirelessOffice Server” services have a **Status** of “Started” and a **Startup** value of “Automatic”. To do this:
  - a. Click the Windows Start button, then select **Settings > Control Panel**.
  - b. Open the **Administrative Tools** folder and double-click on the **Services** icon, and the Services window (shown) will be displayed.



- c. Scroll through the **Name** column. The “File Messenger” and “WirelessOffice Server” services should have a **Status** of “Started” and a **Startup Type** value of “Automatic”. If they do not:
    - To change the **Startup** value to “Automatic”, select the service that needs to be changed, right-click on the service and select **Properties** from the pop-up menu. Under the General tab, select **Automatic** from the **Startup Type** drop-down list, and click [OK].
    - To change the **Status** to “Started”, select the service that needs to be changed, then click the [Start Service] button in the Services window.
14. Open the Emergen Configuration Tool. On the SMTP sub-tab enter the server name and email address along with any other information that is needed.

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## B.A.S.I.S. Procedures

### Set Up Manual Paging

1. Open System Administration. To do this, click the Windows Start button, then select **Programs > B.A.S.I.S. ET692 > System Administration**.
2. In System Administration, set up a paging device. (To display the Paging Devices form, select **Global Output Devices...** from the **Administration** menu, then click on the Paging Devices tab. For more information please refer to “Add a Paging Device” in the Global Output Devices Folder chapter in the System Administration User Guide.)
3. In System Administration, create a recipient. (To display the Recipients form, select **Global Output Devices...** from the **Administration** menu, then click on the Recipients tab. For more information please refer to “Add a Recipient” in the Global Output Devices Folder chapter in the System Administration User Guide.)
4. Confirm that the “LS Global Output Server” service has a **Status** of “Started” and a **Startup Type** value of “Automatic.” To do this:
  - a. Click the Windows Start button, then select **Settings > Control Panel**.
  - b. Double-click the **Administrative Tools** icon.
  - c. Double-click the **Services** icon.
  - d. Scroll through the **Name** column. The “LS Global Output Server” service should have a **Status** of “Started” and a **Startup** value of “Automatic”. If it does not:
    - To change the **Startup** value to “Automatic” select the “LS Global Output Server” service, right-click on the service and select **Properties** from the pop-up menu. Under the General tab, select “Automatic” from the **Startup Type** drop-down list, and click [OK].
    - To change the **Status** to “Started” select the “LS Global Output Server” service, then click the [Start Service] button in the Services window.

### Set Up Automatic Paging

1. Before setting up automatic paging, set up manual paging. (For more information, refer to [Set Up Manual Paging](#) on page 25.) This will insure that the paging devices and recipients that are needed for automatic paging get set up.
2. In System Administration, create a custom alarm definition. (To display the Alarm Definitions form, select **Alarms...** from the **Monitoring** menu, then click on the Alarm Definitions tab. For more information please refer to

“Add a Custom Alarm” in the Alarm Configuration Folder chapter in the System Administration User Guide.)

3. Click the **Messages** tab.
4. Add an automatic page message. For more information, refer to “Add an Automatic Page Message” in the System Administration User Guide.
5. Select **System Options** from the **Administration** menu.
6. Click [Modify].
7. In the **Workstation** field in the Linkage Server Host section, specify the name of the computer that the “LS Linkage Server” service will run on.
  - If the wrong server is selected in the **Workstation** field, the “LS Linkage Server” service will not be able to be started.
  - The **Workstation** must be the same computer that was specified in File Messenger in the **Primary Server** field on the **EIS Server** tab.
8. Click [OK].
9. Confirm that the “LS Linkage Server” service has a **Status** of “Started” and a **Startup** value of “Automatic”. To do this:
  - a. Click the Windows Start button, then select **Settings > Control Panel > Administrative Tools**.
  - b. Double-click on the **Services** icon.
  - c. Scroll through the Service column. The “LS Linkage Server” service should have a **Status** of “Started” and a **Startup** value of “Automatic”. If it does not:
    - To change the **Startup** value to “Automatic”, select the “LS Linkage Server” service, right-click on the service and select **Properties** from the pop-up menu. Under the General tab, select “Automatic” from the **Startup Type** drop-down list, and click [OK].
    - To change the **Status** to “Started”, click the [Start Service] button in the Services window.

---

**Note:** If the “LS Linkage Server” service fails to start, the wrong server was selected as the Linkage Server Host. To fix this, repeat steps 4-7, selecting the **Workstation** that the “LS Linkage Server” service will run on in step 7.

---

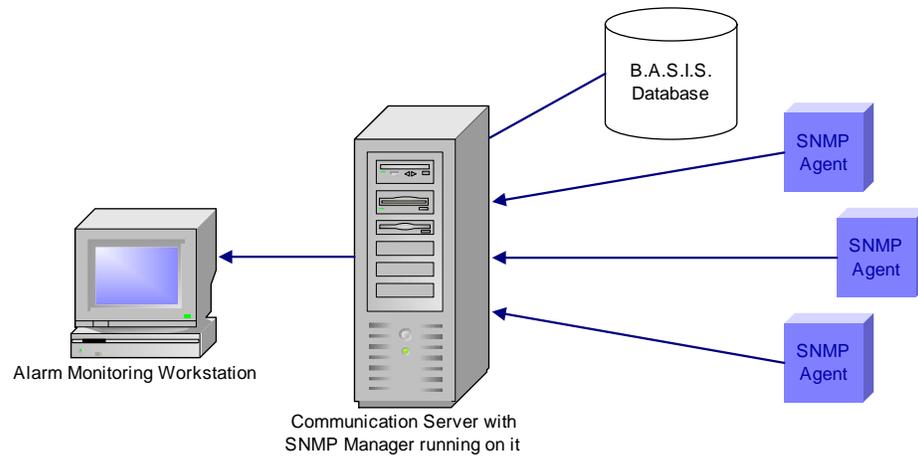
### Testing Your Setup

1. Start the Global Output Server located in the B.A.S.I.S. directory.
2. Launch Alarm Monitoring.
3. Right click an alarm and select “Send Page.”
4. Click “To” and put a check next to the recipient.
5. Click “OK” twice.
6. In Emergin Orchestrator the message log will display the activity.

## Chapter 5: Using SNMP with B.A.S.I.S.

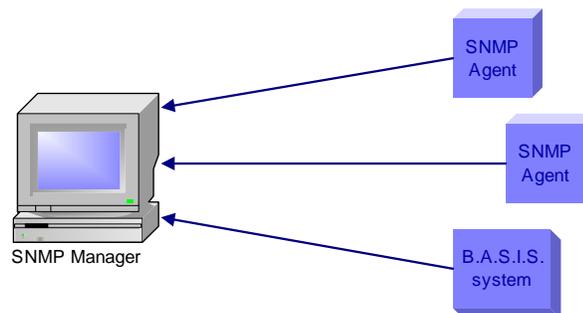
SNMP (Simple Network Management Protocol) is used primarily for managing and monitoring devices on a network. This is achieved through the use of get and set requests which access and modify variables on a given device, as well as SNMP traps which are used to notify Managers of changes as they occur. The device which is being managed or monitored is called the *Agent*. The application that is doing the managing or monitoring is called the *Manager*. You can think of a Manager as the coach of a team, and Agents as all the players on the team. The following diagram illustrates how B.A.S.I.S. can be used as an SNMP Manager:

### B.A.S.I.S. as an SNMP Manager



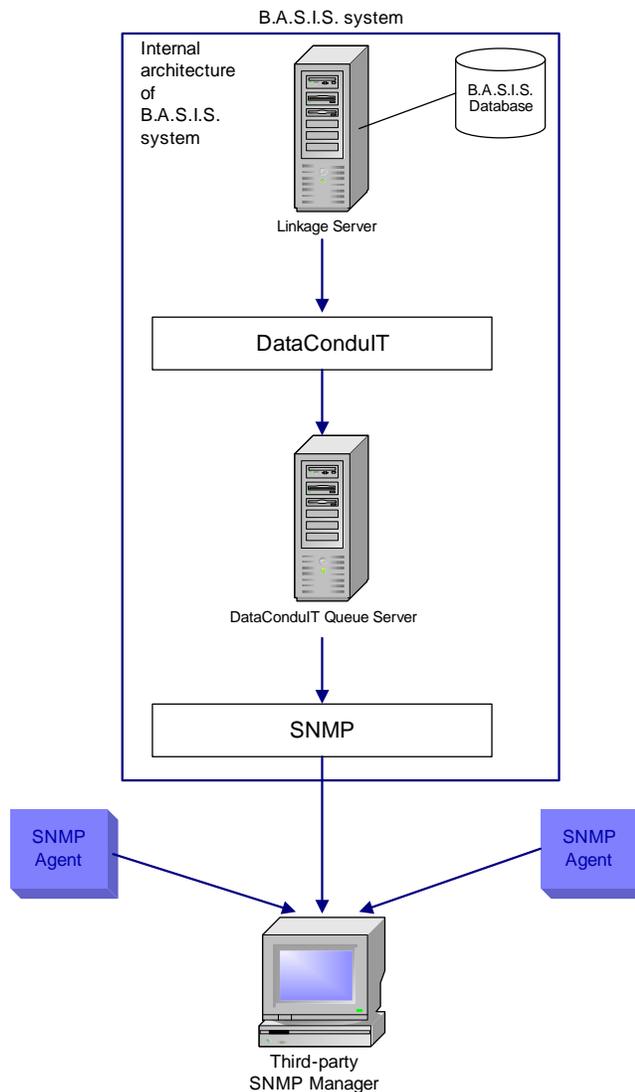
Agents generate *trap messages*, which are sent to a Manager to indicate that something has changed. Trap messages generally contain the system uptime, the trap type, and the enterprise number. B.A.S.I.S. uses Enterprise specific trap messages to send alarms to SNMP Managers. B.A.S.I.S. generates trap messages, but does not listen for messages from SNMP Managers. The following diagram illustrates how B.A.S.I.S. can be used as an SNMP Agent:

### B.A.S.I.S. as an SNMP Agent



Configuring B.A.S.I.S. as an SNMP Agent requires the use of DataConduIT and the DataConduIT Queue Server, as shown in the diagram that follows.

### B.A.S.I.S. as an SNMP Agent (Internal Architecture)



Why use SNMP with B.A.S.I.S.? This depends on whether you are using B.A.S.I.S. as an SNMP Manager or as an SNMP Agent.

## ***B.A.S.I.S. as an SNMP Manager***

When B.A.S.I.S. is used as an SNMP Manager:

- You can monitor hardware or software applications in B.A.S.I.S. that you couldn't monitor before without a specific integration.

- If you already have B.A.S.I.S. installed and are using a third-party application to monitor SNMP traps, you can now move that functionality over to B.A.S.I.S. and monitor everything in a central location.
  - By loading into B.A.S.I.S. the MIB file for the SNMP Agents you are monitoring, you can customize how the information from the SNMP Agent is displayed in Alarm Monitoring
  - Based on the information received and displayed in B.A.S.I.S., you can create custom alarm and Global I/O linkages for the trap, as well as take advantage of other existing B.A.S.I.S. functionality.
- To set up B.A.S.I.S. to function as an SNMP Manager, you must configure an SNMP Manager on a workstation. This is done through System Administration. In addition to configuring the SNMP Manager, you can also load up third party MIB files into B.A.S.I.S., which will allow you to customize how SNMP Traps are handled and displayed in B.A.S.I.S.. For more information, refer to the SNMP Managers Folder chapter in the System Administration User Guide.

## ***B.A.S.I.S. as an SNMP Agent***

B.A.S.I.S. hardware and software events can be reported as SNMP traps to third-party applications with SNMP trap support.

To configure B.A.S.I.S. as an SNMP Agent, you must configure an SNMP Trap Message queue within the DataConduIT Message Queue configuration in System Administration. You can specify what events you want sent out through this queue (as SNMP Traps) and where you want them sent. For more information, refer to the DataConduIT Message Queues Folder chapter in the System Administration User Guide.

After setting this up, you must load the Lenel MIB file (located in the **SNMP** folder on the B.A.S.I.S. Supplemental Materials disc) into your SNMP Manager application. For more information, refer to the SNMP Managers Folder chapter in the System Administration User Guide.

## ***Configuring SNMP***

The following steps must be completed before you configure B.A.S.I.S. as either an SNMP Manager or an SNMP Agent:

1. Install the Windows SNMP components. You will need your Windows CD to complete this procedure. For more information, refer to [Install the Windows SNMP Components](#) on page 31.
2. Install a license with SNMP support.  
To configure B.A.S.I.S. as an SNMP Manager, please refer to [Configuring B.A.S.I.S. as an SNMP Manager](#) on page 33.

To configure B.A.S.I.S. as an SNMP Agent, please refer to [Configuring B.A.S.I.S. as an SNMP Agent](#) on page 39.

## Install the Windows SNMP Components

Before configuring an SNMP Manager to run on a Communication Server, the Windows SNMP components must be installed on the Communication Server machine.

---

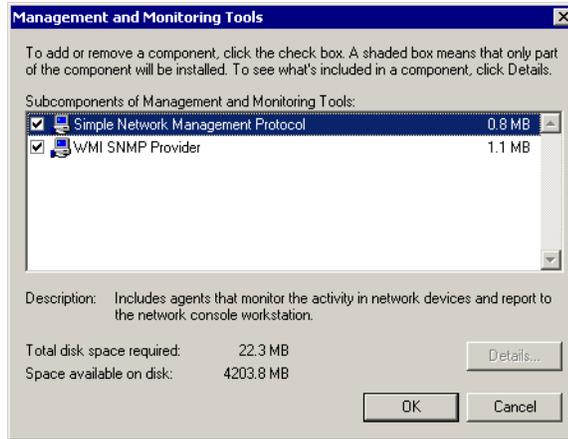
**Important:** You will need your Windows CD to complete this procedure.

---

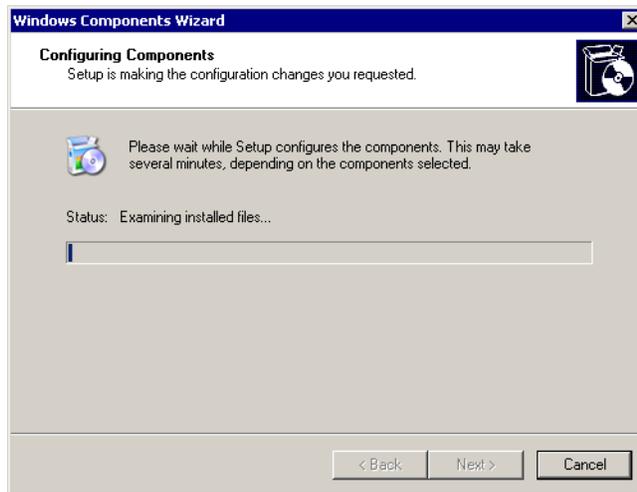
1. Click the Windows Start button and navigate to the Control Panel.
2. Double-click “Add or Remove Programs”.
3. The Add or Remove Programs window opens. Click “Add/Remove Windows Components”.
4. The Windows Components Wizard window opens. Select the **Management and Monitoring Tools** check box.



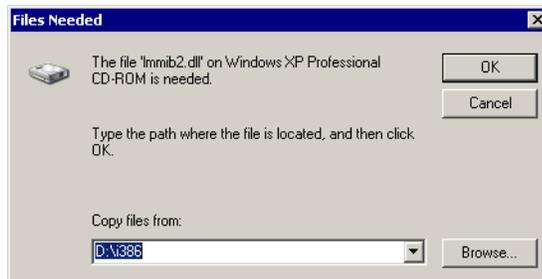
5. Click [Details].
6. The Management and Monitoring Tools window opens. Verify that the Simple Network Management Protocol check box is selected, and then click [OK].



7. Click [Next].
8. The Configuring Components window opens. The status bar is updated as the installation proceeds.



9. When prompted, insert the Windows CD-ROM.
  - a. If the Windows autorun screen opens, close it.
  - b. If your CD-ROM is the D drive, click [OK].
  - c. If your CD-ROM is not the D drive by default, navigate to the correct drive letter of your CD-ROM. Select the **I386** folder, and then click [OK].



10. A message indicating that you have successfully completed the Windows Components Wizard is displayed. Click [Finish].



## Install a License with SNMP Support

The following SNMP features in B.A.S.I.S. are licensed:

- **Support for SNMP Managers.** If you are licensed to use this feature, “SNMP Managers Support” in the Access Control Options section is set to “true”.
- **Number of SNMP trap message queues.** The number of queues you are licensed to use is displayed in the “Maximum Number of SNMP Trap Message Queues” setting in the General section of the license.

## *Configuring B.A.S.I.S. as an SNMP Manager*

Prerequisites:

1. Install the Windows SNMP components. You will need your Windows CD to complete this procedure. For more information, refer to [Install the Windows SNMP Components](#) on page 31.
2. Install a license with SNMP support.  
To configure B.A.S.I.S. as an SNMP Manager:
  1. Add an SNMP Manager using System Administration. For more information, refer to [Add an SNMP Manager](#) on page 34.
  2. Add Agents using System Administration. For more information, refer to [Add Agents](#) on page 34.
  3. Load the MIB file(s). For more information, refer to [Load the MIB File\(s\)](#) on page 36.

## Add an SNMP Manager

1. In System Administration, select **SNMP Managers** from the **Additional Hardware** menu. The SNMP Managers folder opens.
2. On the SNMP Managers tab, click [Add].
3. If segmentation is not enabled, skip this step. If segmentation is enabled:
  - a. The Segment Membership window opens. Select the segment that this SNMP Manager will be assigned to.
  - b. Click [OK].
4. In the **Name** field, type a name for the SNMP Manager.
5. Select whether the SNMP Manager will be online.
  - a. Allow the **Online** check box to remain selected if you want the SNMP Manager to be ready for use. When an SNMP Manager is online, the Communication Server listens for trap messages from SNMP Agents.
  - b. Deselect the **Online** check box if the SNMP Manager is not ready for use. When an SNMP Manager is not online, the Communication Server does not listen for trap messages from SNMP Agents.
6. On the Location sub-tab, select the **Workstation** (or server) that the SNMP Manager is or will be running on in order to receive events. The Communication Server must be present on the specified workstation. You can either type the name in the field, or use the [Browse] button to view a list of available workstations.

---

**Notes:** You are required to enter the workstation's NetBIOS name. (The NetBIOS name is specified when Windows networking is installed/configured.)

Only one SNMP Manager is allowed to run on each Communication Server. You can have several Communication Servers running with an SNMP Manager on each one and have all Agents in that part of the network configured to report to the local Manager. This would help localize network traffic.

---

7. Click [OK].

## Add Agents

If B.A.S.I.S. receives an event from an Agent that has not been defined, it will automatically add an Agent for it and have the default name set to the IP address of the Agent. You can then go in and modify the **Name** to whatever you want. On a segmented system, Agents are added to the Manager's segment by default, but they can also be assigned to different segments as well.

To add an Agent manually:

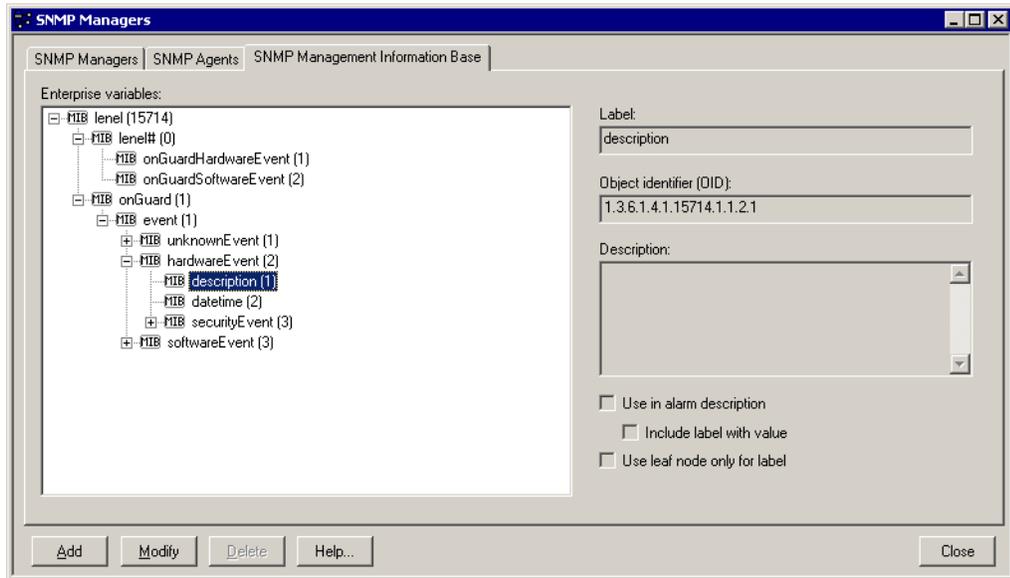
1. In System Administration, select **SNMP Managers** from the **Additional Hardware** menu. The SNMP Managers folder opens.
2. Click the SNMP Agents tab.
3. Click [Add].
4. In the **Name** field, type a name for the SNMP Agent.
5. In the **IP address** field, enter the IP address of the SNMP Agent.
6. (Optional) In the **Location** field, enter the location of the SNMP Agent.
7. (Optional) In the **Description** field, enter a description of the SNMP Agent.
8. Click [OK].
9. Repeat steps 1-8 for all Agents you wish to add.

## MIB File Overview

SNMP reports its information through the use of variables with name/value combinations. Many of the SNMP variables are designed for network applications or hardware. MIB (Management Information Base) files describe an enterprise's variable structure and allow a user to report hardware-specific information. Inside a MIB file, an enterprise number is specified. Nearly every company that has an application (hardware or software) that reports events has an enterprise number. (Stanley's is 15714). This allows them to control and define all variables under this number.

The enterprise number is used as part of the Object Identifier (OID). A company's enterprise OID is 1.3.6.1.4.1 followed by their enterprise number (1.3.6.1.4.1.15714 for Stanley). MIB files allow labels to be applied to the numbers in an OID. Using the standard MIB files for SNMP, the enterprise OID would be iso.org.dod.internet.private.enterprises followed by the label for the company's enterprise number provided by their MIB file. In this MIB file, you define all other variables that you will be using. These variables are identified by OIDs. The SNMP Trap Messages DataConduIT Message Queue type allows B.A.S.I.S. to report events through SNMP trap messages. B.A.S.I.S. uses the **lenel.mib** file to specify the variables to use. For example, one variable in the **lenel.mib** file is 1.3.6.1.4.1.15714.1.1.2.1, which translates to:  
iso(1).org(3).dod(6).internet(1).private(4).enterprises(1).lenel(15714).onGuard  
(1).event(1).hardwareEvent(2).description(1)

If the **lenel.mib** file is loaded, the variable in the previous example is shown on the SNMP Management Information Base form.



### Load the MIB File(s)

The Management Information Base (MIB) file is used to describe an enterprise's variable structure. The Lenel MIB file is located in the **SNMP** folder on the B.A.S.I.S. Supplemental Materials disc. To load a MIB file into B.A.S.I.S.:

1. Save the MIB file you wish to load to the computer. Remember the location where you save it.
2. If necessary, save any files that contain modules required by the MIB files in the **SNMP-IMPORT-MIBS** folder in the B.A.S.I.S. installation directory. By default, this is **C:\Program Files\B.A.S.I.S.\SNMP-IMPORT-MIBS**. The following eight (8) files are installed to that location by default:
  - RFC1155-SMI.txt
  - RFC1213-MIB.txt
  - RFC-1215.txt
  - SNMPv2-CONF.txt
  - SNMPv2-MIB.txt
  - SNMPv2-SMI.txt
  - SNMPv2-TC.txt
  - SNMPv2-TM.txt

**Notes:** This location can be changed in the **ACS.INI** file by adding the following setting:

```
[SNMPManager]
```

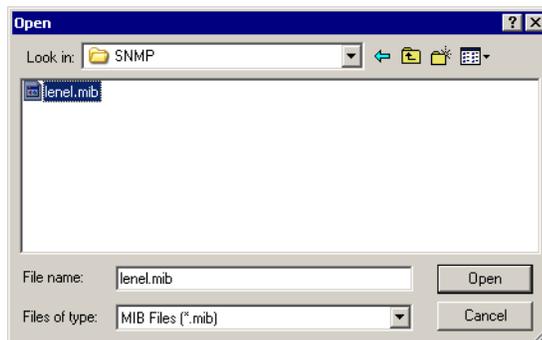
```
MIBDir="drive:\absolute\path\to\MIB\directory"
```

To make changes in the **ACS.INI** file on a Windows Vista or Windows 7 computer you must right-click on the **ACS.INI** file and run it as The Administrator.

This directory is processed when a MIB file is loaded in order to load modules that may be imported into the MIB file being loaded. Only files containing imported modules should be saved in this directory. In most cases, the default files in this directory are sufficient. If additional files are required, determine which additional files define the modules imported by the MIB file and place them in this directory.

If a MIB file for an imported module is not present in this directory and the processor encounters an undefined identifier in the MIB file it's parsing, it will log an error to **MIBProcessor.log** in the B.A.S.I.S. logs directory.

3. In System Administration, select **SNMP Managers** from the **Additional Hardware** menu. The SNMP Managers folder opens.
4. Click the SNMP Management Information Base tab.
5. Click [Add].
6. The Open window is displayed. Navigate to the MIB file you wish to load, and then click [Open]. In this example, the **lenel.mib** file is being loaded.



7. The MIB file will be processed.
  - If the MIB file is successfully parsed, the results will be displayed in the Enterprise variables listing window. You can expand the items in the tree and look at the defined variables.
  - If the MIB file cannot be parsed, an error will be generated, which is written to the **MIBProcessor.log** file. An error is most likely due to a malformed MIB file or a lack of certain MIB files that are imported by the MIB file you are trying to parse.

---

**Note:** After a MIB file has been loaded into B.A.S.I.S., the actual file is no longer needed.

---

## Modify an SNMP Management Information Base Variable

1. In System Administration, select **SNMP Managers** from the **Additional Hardware** menu. The SNMP Managers folder opens.
2. Click the SNMP Management Information Base tab.
3. Expand the items in the Enterprise variables listing window.
4. Click on the variable you wish to modify, then click [Modify].
5. Change the **Label** if you wish.
6. Enter a **Description** for the variable if you wish.
7. Select the **Use in alarm description** check box if the node's information will be used in the alarm description column of Alarm Monitoring. You can have this option set on multiple nodes and for each one that appears in the trap message as a variable, it will be included in the alarm description. The variable name will be discarded.
8. Select the **Include label with value** check box if you selected the **Use in alarm description** check box and if you want to see the variable name with the value.
9. Select the **Use leaf node only** check box if you want the SNMP Manager to ignore anything "higher" than this node in the OID.
10. Click [OK].

## SNMP Reports

Reports are run from System Administration or ID CredentialCenter. For more information, please refer to the Reports Folder chapter in the System Administration or ID CredentialCenter User Guide. There are two SNMP-related reports that can be run:

- SNMP Agents - lists all SNMP Agents sorted by segment and name
  - SNMP Management Information Base Configuration - lists all MIB data grouped by enterprise
- The SNMP Management Information Base Configuration report lists each node's label and OID (Object ID) description. If configured, the following additional options will also be listed:
- Use in alarm description
  - Include label with value
  - Use leaf node only for label

## *Configuring B.A.S.I.S. as an SNMP Agent*

Prerequisites:

1. Install the Windows SNMP components. You will need your Windows CD to complete this procedure. For more information, refer to [Install the Windows SNMP Components](#) on page 31.

2. Install a license with SNMP support.

To configure B.A.S.I.S. as an SNMP Agent:

1. Add a new DataConduIT Message Queue of the type “SNMP Trap Messages” in System Administration. For more information, refer to [Add a DataConduIT Message Queue of Type “SNMP Trap Messages”](#) on page 40.
2. Load the Lenel.MIB file. For more information, refer to [Load the Lenel.MIB File](#) on page 41.

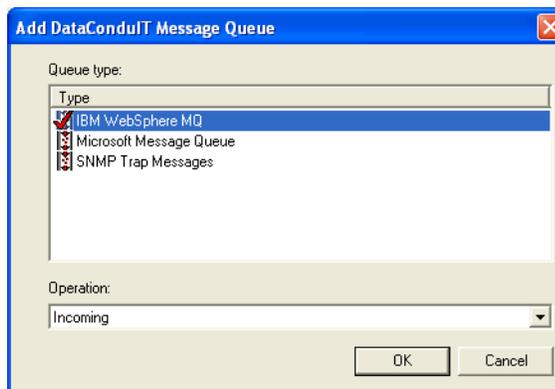
---

**Note:** For more information, please refer to the DataConduIT Message Queues Folder in the System Administration User Guide.

---

## Add a DataConduIT Message Queue of Type “SNMP Trap Messages”

1. From the **Administration** menu, select **DataConduIT Message Queues**.
2. On the DataConduIT Message Queues form, click [Add].
3. The Add DataConduIT Message Queue window opens.
  - a. Select the “SNMP Trap Messages” **Queue type**.



- b. Click [OK].
4. On the General sub-tab:
    - a. In the **Queue name** field, type the name of the queue. The name is case-sensitive.
    - b. In the **SNMP manager** field, type the name of the queue manager.
    - c. Note that the Queue type and Operation that you selected are displayed, but cannot be modified.
  5. On the Settings sub-tab:
    - a. If you wish to have photo, signature, and fingerprint information sent in messages, select the **Include photos and signature in messages** check box.

---

**Note:** Including photo information in the messages makes the size of the message sent much larger.

---

- b. Select whether a message will be sent when cardholder, badge, visitor, and linked accounts are added, modified, or deleted.
  - c. If you wish to have a message sent when an access event occurs, select the **Send a message when access events occur** check box.
  - d. If you wish to have a message sent when a security event occurs, select the **Send a message when security events occur** check box.
6. Using the Advanced sub-tab is optional and for advanced users. On the Advanced sub-tab you may:
    - a. Type an object event WMI query directly into the **Object event WMI query** textbox.
    - b. Type an access and security event WMI query directly into the **Access and security event WMI query** textbox.
  7. Click [OK].

## Load the Lenel.MIB File

After configuring the SNMP Trap Messages queue, load the **lenel.mib** file into the SNMP Manager so that it knows how to handle and display the variables it receives. The Lenel MIB file is located in the **Support Center\SNMP** folder on the B.A.S.I.S. Supplemental Materials disc.

If you are using B.A.S.I.S. as an SNMP agent please refer to the documentation for the third-party SNMP Manager you are using to monitor B.A.S.I.S..

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## Chapter 6: Windows Terminal Services/Citrix Presentation Server

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**Important:** To use B.A.S.I.S. over the Internet, you must have purchased the optional Citrix® Presentation Server application.

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### *Windows Terminal Services/Citrix Overview*

Citrix Presentation Server provides support in conjunction with Windows Terminal Server for complete access to configure and operate your B.A.S.I.S. system through a simple web browser interface.

B.A.S.I.S. allows for the installation of web server software and, once the server is configured, unlimited clients (based on licensing connections) can attach to the server and run any of the B.A.S.I.S. applications over the Internet. Virtually any desktop operating system that supports a web browser can run B.A.S.I.S. over the Internet. This includes Windows, Macintosh, Unix, Solaris and Linux. B.A.S.I.S. also supports mobile computing environments such as Windows CE over the Internet. For more information, refer to [Citrix Overview](#) on page 48.

The basic procedure to set up the server that is used in the B.A.S.I.S. thin client architecture is:

1. Install and configure Windows on the server, along with Windows Terminal Services and Microsoft Internet Information Services (IIS). For more information, refer to [Step 1: Install Required Applications](#) on page 47.
2. Create a database for the Citrix server farm. For more information, refer to [Step 2: Create the Citrix Database](#) on page 47.
3. Install Citrix Presentation Server on the server. For more information, refer to [Step 3: Install Citrix on the Server](#) on page 47.
4. Install B.A.S.I.S. on the server. For more information, refer to the Installation Guide.
5. Publish B.A.S.I.S. as a web application. For more information, refer to [Step 5: Publish B.A.S.I.S. as a Web Application](#) on page 48.
6. Create the web site. For more information, refer to [Step 6: Create the Web Site](#) on page 48.

## *General Issues*

- **Color Depth.** The color depth that Terminal Server and Citrix Presentation Server client machines use can be configured. A setting **greater than 256 colors** should be used so that the B.A.S.I.S. applications and online help will be displayed correctly.

Note that Terminal Server can be run without Citrix. Terminal Server alone cannot display more than 256 colors. When Terminal Server is run in combination with Citrix Presentation Server, color depth greater than 256 colors can be displayed.

- **Install B.A.S.I.S. on Terminal Services machine via Add/Remove Programs.** Installation programs cannot be run directly on a Terminal Services machine. Instead, they must be run via Add/Remove Programs in the Windows operating system. When the B.A.S.I.S. installation application is run from Add/Remove Programs, there may be a delay before the installation begins. The Add/Remove Programs wizard will display a message that says, “Click Next after installation”. **Wait for the B.A.S.I.S. installation window to open - do not click the [Next] button in the Add/Remove Programs wizard until the B.A.S.I.S. installation has finished.**

## *Implications*

- **User preferences saved to LOCAL\_USER in the Windows registry separate for each user.** In a normal Windows environment, all Windows users share the same registry setting. This differs from a Terminal Server Windows environment, where settings in the LOCAL\_USER registry entry are stored separately for every Windows user.

B.A.S.I.S. saves user preferences to LOCAL\_USER in the Windows registry. In a Terminal Server Windows environment, there are separate sections in LOCAL\_USER for each B.A.S.I.S. user id. For example:

- In a normal Windows environment when SA logs on from two different Windows accounts, the saved preferences will be common/shared.
- In a Terminal Server environment when SA logs on from two different Windows accounts, two sets of preferences for SA would be stored because the registry settings are separate for every Windows user.

- **ACS.INI is copied to the user’s home directory when using Terminal Server.** Whenever an .INI file is opened by an application, if a copy of it does not already exist in the Windows subdirectory of the user’s home directory, one gets copied from the Windows directory (C:\Windows in Windows XP) and placed there. From that point on, the .INI file from the Windows directory is no longer used. Instead, the copy from the user’s home

directory is used. This means that you could end up with multiple copies of the **ACS.INI** file.

Note that all copies might not exist on the Server. If a user's home directory is mounted from a public server, the **ACS.INI** file will exist there. This is true even when you log directly into the Server.

- **Multiple monitoring instances will attempt to write to the activity printer and CCTV in Windows Terminal Server environment.** If multiple instances of Alarm Monitoring are started on the same Windows Server 2003 machine and Monitoring on that Server machine is configured to have an activity printer and/or CCTV device, then all instances of Alarm Monitoring will attempt to write to that activity printer and CCTV device. The first Alarm Monitoring instance will get access to the needed ports, and subsequent instances that startup will get errors trying to open the ports.

## *Procedures*

### **Step 1: Install Required Applications**

1. Make sure you have a Microsoft Windows Server 2003 machine with the latest approved service pack.
2. Use Add/Remove Windows Components to install and configure Windows Terminal Services and IIS. The Windows disc may be needed to do this.
3. Configure all network protocols (TCP/IP, IPX, SPX, or NetBIOS) that will be used for ICA/ALE connections in Windows.

### **Step 2: Create the Citrix Database**

The instructions in this chapter are for using SQL Server 2005 Standard edition for the Citrix database. Aside from the SQL Server 2005 Standard edition, Citrix also supports Access and SQL Express databases. If you choose to use another database (including SQL Express) your installation steps may differ.

Create a new database for the Citrix server farm. This database is independent from the B.A.S.I.S. database.

The ODBC data source for the Citrix database will be created during the Citrix Presentation Server installation.

### **Step 3: Install Citrix on the Server**

Install Citrix Presentation Server on the server. For more information, refer to [Citrix Installation](#) on page 48.

## Step 4: Install B.A.S.I.S. on the Server

Windows Terminal Services requires applications to be installed via Add/Remove Programs. For B.A.S.I.S. installation instructions, refer to the Installing B.A.S.I.S. on a Server chapter in the Installation Guide. After the B.A.S.I.S. installation is complete, click [Next >] in the Add/Remove Programs dialog.

## Step 5: Publish B.A.S.I.S. as a Web Application

The Management Console is used to publish each B.A.S.I.S. application for access from the Web. For more information, refer to [Publish B.A.S.I.S. as a Web Application](#) on page 52.

## Step 6: Create the Web Site

After applications have been published, the Web Site must be created to provide an access point. For more information, refer to [Create the Web Site](#) on page 54.

# *Citrix Installation*

## Citrix Overview

Citrix provides functionality that allows access to B.A.S.I.S. applications on client machines via an Internet Browser.

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## Installing Citrix Presentation Server

1. Insert the Citrix Presentation Server CD-ROM into the disc drive on the server you wish to install it on.
2. The Citrix Presentation Server 4.5 splashscreen is displayed. Click **Product installations and updates**.
3. Click **Install Citrix Presentation Server 4.5 and its components**.
4. The License Agreement window is displayed.
  - a. Select **I accept the license agreement** if you agree to the terms of the license.
  - b. Click [Next >].
5. The Prerequisites Installation window is displayed.
  - a. Check your Windows components in Add/Remove Programs to be sure that ASP.NET is installed.
  - b. Click [Next >].
6. The Component Selection window is displayed.
  - a. Select **Citrix Licensing, Access Management Console, Web Interface, and Citrix Presentation Server** for installation on the local hard drive.
  - b. Click [Next >].
7. A Welcome window is displayed for the Citrix Access Management Console component installation. Click [Next >].
8. The Component Selection window is displayed. Click [Next >].
9. Click [Next >] to begin the Citrix Access Management Console component installation.
10. Once the installation is complete, a success message is displayed. Click [Finish] to continue to the next component installation.
11. A Welcome window is displayed for the Citrix Web Interface installation component installation. Click [Next >].
12. The Common Components window is displayed. Click [Next >] to accept the default or [Browse] to select a different installation directory.
13. The Clients window is displayed.
  - a. Select **Install the Clients from the Components CD-ROM**.
  - b. Insert the Citrix Components CD-ROM.
  - c. Click [Browse] and navigate to the ICAWEB directory on the CD-ROM drive.
  - d. Click [Next >].

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**Note:** This step configures the deployment of the client application directly from the Citrix server. If **Don't install the Clients from the Components CD-**

**ROM** is selected, the client application can be downloaded from the Citrix web site.

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14. Click [Next >] to begin the Citrix Web Interface installation.
15. Once the installation is complete, a success message is displayed. Click [Finish] to continue to the next component installation.
16. A Welcome window is displayed for the Citrix Licensing component installation. Click [Next >].
17. The Destination Folder window is displayed. Click [Next >] to accept the default or [Browse] to select a different installation directory.
18. On the Select Features window click [Next >] to accept the default selections.
19. The License Files Location window is displayed. Click [Next >] to accept the default or [Browse] to select a different installation directory.
20. The Web Server Selection window is displayed.
  - a. Select **Microsoft Internet Information Services (IIS)**.
  - b. Click [Next >].
21. The Restart Microsoft IIS Server window is displayed.
  - a. Select **OK to restart Microsoft IIS Server**.
  - b. Click [Next >].
22. Click [Next >] to begin the installation.
23. After the Citrix Licensing installation is complete, a success message will be displayed. Click [Finish] to continue to the next component installation.
24. A Welcome window is displayed for the Citrix Presentation Server installation. Click [Next >].
25. The Product Edition Selection window is displayed.
  - a. Select **Standard Edition**.
  - b. Click [Next >].
26. The Component Selection window is displayed.
  - a. Select Management Console and Program Neighborhood for installation on the local hard drive.
  - b. Click [Next >].
27. Click [Next >] to enable Pass-Through Authentication.
28. The Create or Join a Server Farm window is displayed.
  - a. Select the **Create a new farm** radio button.
  - b. Click [Next >].
29. The Create a Server Farm window is displayed.
  - a. In the **Farm name** field, enter a name for your server farm.
  - b. In the Data Store section, select **Use the following database on a separate database server**.
  - c. Click [Next >].

30. You will be prompted to create a new ODBC data source to connect to the Citrix database that you created in SQL Server prior to installing the Citrix software.
31. The Assign Farm Administrator Credentials window is displayed.
  - a. Specify a Windows domain user to administer the server farm.
  - b. Specify the domain name for this user.
  - c. Click [Next >].
32. The Enable IMA Encryption window is displayed. Click [Next >].
33. The Citrix Licensing Settings window is displayed.
  - a. Select **Enter the host name later**.
  - b. Click [Next >].

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**Note:** For license installation instructions, refer to your Citrix manual.

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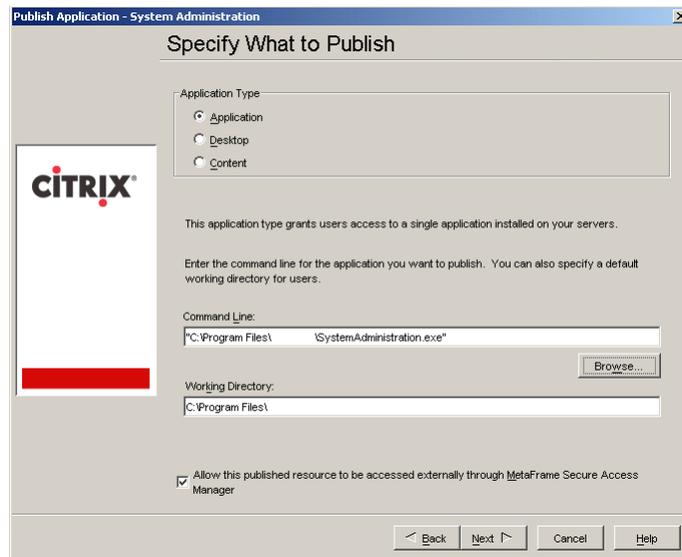
34. The Configure Shadowing window is displayed.
  - a. Select **Allow shadowing of user sessions on this server**.
  - b. Click [Next >].
35. The Configure Citrix XML Service Port window is displayed.
  - a. Select **Share default TCP/IP port with Internet Information Server**.
  - b. Click [Next >].
36. The Add users to Remote Desktop Users group window is displayed.
  - a. Select **Add the list of users from the Users group now**.
  - b. Click [Next >].
37. In the Review your selections window click [Finish].
38. A security settings window is displayed. Click [Yes] to change the security setting to allow access to the Virtual Scripts directory.
39. After the Citrix Presentation Server installation is complete, a success message will be displayed. Click [Close].
40. In the Installation Summary window click [Finish].
41. After the installation is complete you will be prompted to restart the computer. Click [Yes].
42. You are now ready to install B.A.S.I.S.. Refer to the Installation Guide for instructions.

## *Configure Citrix with B.A.S.I.S.*

### **Publish B.A.S.I.S. as a Web Application**

1. Click the Windows Start button, then select **Programs > Citrix > Management Consoles > Access Management Console**.
2. The Discovery Wizard is launched and the Welcome window is displayed. Click [Next >].
3. The Select Products or Components window is displayed.
  - a. Select **Configuration Tools, Web Interface, and Presentation Server** for discovery.
  - b. Click [Next >].
4. The Configuration Servers window is displayed.
  - a. Click [Add...].
  - b. In the Add Server dialog, enter the name of your server and click [OK].
  - c. Click [Next >].
5. The Select Servers window is displayed.
  - a. Click [Add Local Computer].
  - b. Click [Next >].
6. The Preview Discovery window is displayed. Click [Next >].
7. The Discovery Progress window is displayed. When the discovery is complete, click [Finish].
8. In the tree in the left pane, select your Citrix farm from **Citrix Access Management Console > Citrix Resources > Presentation Server**.
9. From the **Action** menu, click **New**, then click **Publish Application**.
10. The Publish Application wizard is displayed. Click [Next >].
11. The Name window is displayed.
  - a. In the **Display Name** field, type the name of the B.A.S.I.S. application you are publishing.
  - b. In the **Application Description** field, type a description for the B.A.S.I.S. application you are publishing.
  - c. Click [Next >].
12. The Type window is displayed.
  - a. Select **Installed application**.
  - b. Click [Next >].
13. The Location window is displayed.
  - a. For the **Command line** field, click [Browse].
  - b. Navigate to the B.A.S.I.S. installation directory
  - c. Double-click or click [Open] to select the file.
  - d. Click [Next >].
14. The Servers window is displayed.

- a. Click [Add].
  - b. Select the Citrix server the published application will run on from the Select Servers listing window and click [Add].
  - c. Click [OK].
  - d. Click [Next >].
15. The Users window is displayed.
- a. Select **Allow only configured users** and click [Add].
  - b. From the **Look in** drop-down list, select the server that contains the users/groups you want to be able to run the application you are publishing.
  - c. Click [Add] for each user or group.
  - d. Repeat steps **a** through **c** for each desired user/group.
  - e. Click [OK].
  - f. Click [Next >].



16. On the Shortcut Presentation window, configure your desired settings or accept the default settings and click [Next >].
17. The Publish Immediately window is displayed. Select Configure advanced application settings now and click [Next >].
18. The Client Options window is displayed.
  - a. Deselect **Enable legacy audio**.
  - b. Click [Next >].
19. On the Appearance window:
  - a. In the **Session Window Size** drop-down list, select **1024x768**.
  - b. In the **Colors** drop-down list, select **High Color (16 bit)**.
  - c. Click [Finish].
20. Repeat steps **9** through **19** for each desired application.

## Create the Web Site

1. In the tree under **Citrix Access Management Console > Citrix Resources > Configuration Tools**, right-click **Web Interface** and select **Create Site**.
2. The Create Site wizard is launched. On the Select Site Type page, select **Access Platform site** and click [Next >].
3. The Specify IIS Location window is displayed. Click [Next >].
4. The Specify Configuration Source window is displayed.
  - a. Select **Server(s) running the configuration service**.
  - b. Click [Next >].
5. The Specify Server Details window is displayed.
  - a. Click [Add...].
  - b. In the Add Server dialog, enter the name of your server and click [OK].
  - c. Click [Next >].
6. The Specify Authentication Settings window is displayed. Click [Next >].
7. The Confirm Settings for New Site window is displayed. Click [Next >].
8. The New Site window is displayed. When the progress is complete, click [Finish].
9. A welcome window is displayed for the configuration wizard. Click [Next >].
10. The Specify Server Farm window is displayed.
  - a. Specify a **Farm name**.
  - b. Click [Add...].
  - c. In the Add Server dialog, enter the name of your server and click [OK].
  - d. Click [Next >].
11. The Select Application Type window is displayed. Select **Remote** and click [Next >].
12. The Specify Access Method window is displayed. Select **Direct** and click [Next >].
13. The Confirm Settings window is displayed. Click [Finish].

## *Access B.A.S.I.S. using Citrix Presentation Server*

Once B.A.S.I.S. has been published as a web application and the web site has been created, it can be accessed from a client machine via an Internet browser. The web server virtual directory can be accessed through the local area intranet by typing “*http://server-name/Citrix/AccessPlatform/*” (without quotes and where *server-name* is the name or IP address of your Citrix server) in your web browser address bar. To access the web published applications it is necessary to install the Citrix Web Client on each machine that will access B.A.S.I.S. remotely.

## Install the ICA Web Client

When you connect to the Citrix server with an Internet browser for the first time, the Message Center will prompt you to install the Citrix Web Client. If you chose to install the clients from the components CD-ROM during the Citrix installation, a link will be provided to download and install the client from the server. Otherwise, follow the link to **the Citrix client download site** to download and install the Citrix Presentation Server client appropriate to your system configuration. The following instructions are for the Citrix Presentation Server Web Client available on the Citrix web site for download. Instructions may vary for web clients distributed from the server.

1. Follow the link in the Message Center to **the Citrix client download site** to download and install the Citrix Presentation Server client appropriate to your system configuration.
2. The installer begins. Select a language for the installation and click [OK].
3. The Welcome window is displayed. Click [Next >].
4. The License Agreement window is displayed.
  - a. Select **I accept the license agreement** if you agree to the terms of the license.
  - b. Click [Next >].
5. The Select Client window is displayed. Click [Next >] to accept the default client selection.
6. The Server Address window is displayed. Enter the server name or IP address and click [Next >].
7. The Select Program Folder window is displayed. Click [Next >] to accept the default folder.
8. The Client Name window is displayed. Click [Next >] to use the machine name as the name of the client.
9. The Use Local Name and Password window is displayed. Click [Next >].
10. The Program Neighborhood Options window is displayed. Click [Next >].
11. The Ready to Install window is displayed. Click [Next >] to begin the installation.
12. Once the installation of the Citrix client is complete, click [Finish] and restart your Internet browser.

## Login to Citrix Presentation Server

1. Access Citrix through your browser by typing the web server virtual directory into your web browser address bar.
  - a. Enter the login username, password and domain that you specified during the Citrix installation.
  - b. Click [Log In].
2. The Web Interface screen is displayed. Select the application you wish to run from the **Applications** list. For more information, refer to [Step 5: Publish B.A.S.I.S. as a Web Application](#) on page 48.

## Installing B.A.S.I.S. Via a Terminal Services Client Window

B.A.S.I.S. can be installed via a Terminal Services client window. To do this:

1. Share the disc drive.
2. Map the local disc drive on the server.
3. From inside Add/Remove Programs, select the B.A.S.I.S. installation program, which is **setup.exe** on the root of the B.A.S.I.S. disc.
4. There may be a delay before the B.A.S.I.S. installation begins. The Add/Remove Programs wizard will display a message that says, “Click Next after installation”. **Wait for the B.A.S.I.S. installation window to open - do not click the [Next] button in the Add/Remove Programs wizard until the B.A.S.I.S. installation has finished.**

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# Reference

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## Chapter 7: Ports Used by B.A.S.I.S.

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**Important:** To make changes in the **ACS.INI** file on a Windows Vista or Windows 7 computer you must right-click on the **ACS.INI** file and run it as The Administrator.

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**Note:** Most of the following ports use the TCP protocol. Ports 45303, 45307, and 46308 use the UDP protocol. Ports 9111 uses the HTTP protocol.

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Port	Function	B.A.S.I.S. version	Notes/Where port can be changed
80	Web Server (IIS)	Only used with B.A.S.I.S. 5.12 and newer	Used for Web Applications to communicate with the Web Service. Check IIS configuration for the correct port configuration.
135	DCOM Initial Connections	All B.A.S.I.S. Versions	Cannot be changed.
443	Web Server (IIS) SSL	Only used with B.A.S.I.S. 5.12 and newer	Used when SSL is utilized for the Web Applications. Port 443 is used for secure web browser communication.
1433	Default port for SQL Server		Check SQL Server configuration/ documentation; this can be changed in SQL configuration
2000	Digital Video - live video streams	B.A.S.I.S. 5.7 and newer	To change, update Registry Setting on Video Recorder <b>HKEY_CLASSES_ROOT\Spider\Resources\Spider\TCP SHAREPARAM</b>
3001	Lantronix connected controllers	B.A.S.I.S. 5.0 and newer	Used to communicate with all controllers with Lantronix network connections.
4001	Communication Server RPC	All B.A.S.I.S. versions	Can be changed in <b>ACS.INI</b> [Service] section DriverRpcPort *
4002	Global Output Server RPC	B.A.S.I.S. 5.0 and newer	Can be changed in <b>ACS.INI</b> [Service] section GosRpcPort *
4003	Login Driver RPC	B.A.S.I.S. 5.0 and newer	Can be changed in <b>ACS.INI</b> [Service] section LoginRpcPort *
4004	Communication Server Socket (event reporting)	All B.A.S.I.S. versions	Can be changed in <b>ACS.INI</b> [Service] section DriverSocketPort *
4005	Linkage Server RPC	B.A.S.I.S. 5.7 and newer	Can be changed in <b>ACS.INI</b> [Service] section LinkageServerRpcPort *
4006	Video Server RPC	B.A.S.I.S. 5.7 and newer	Can be changed in <b>ACS.INI</b> [Service] section VideoServerRpcPort *

## 7: Ports Used by B.A.S.I.S.

Port	Function	B.A.S.I.S. version	Notes/Where port can be changed
4009-4057	Alarm Monitoring RPC	B.A.S.I.S. 5.9 and newer	Used for the Guard Tour, Grant-Deny Popup and Failure to Acknowledge/Forward Alarm features only. One port used per Monitoring instance on a given machine (typically 4009). Can be changed in <b>ACS.INI</b> [Service] section AcsmntrRpcMinPort, AcsmntrRpcMaxPort **
4058	Client Server Communication	B.A.S.I.S. 5.12 and newer	Can be changed in <b>ACS.INI</b> [Service] section ClientServerCommRpcPort *
4059	Replicator	B.A.S.I.S. 5.9 and newer	Can be changed in <b>ACS.INI</b> [Service] section ReplicatorSocketPort *
4060	Replicator	B.A.S.I.S. 5.9 and newer	Can be changed in <b>ACS.INI</b> [Service] section ReplicatorRpcPort *
4061	DataExchange	B.A.S.I.S. 5.9 and newer	Can be changed in <b>ACS.INI</b> [Service] section DESocketPort *
4062	DataExchange	B.A.S.I.S. 5.9 and newer	Can be changed in <b>ACS.INI</b> [Service] section DERpcPort *
4065	Replicator	B.A.S.I.S. 6.3 and newer	Port used by Replicator and/or Replication Administration to communicate with the ID Allocation Service to allocate additional IDs for pre-allocated objects.
4070	Security Utility Exceptions	B.A.S.I.S. 6.1 and newer	Used for Security Utility Exceptions in connection with HID Edge TCP/IP. Can be changed in the ACS.INI file under the [Service] section.
8189	License Server	B.A.S.I.S. 5.7 and newer	To change the License Server port: <ol style="list-style-type: none"> <li>1. The value for the Port key in the [License Server] section of the <b>ACS.INI</b> file must be changed on every B.A.S.I.S. machine. The default is: [License Server] Port=8189</li> <li>2. The following must be added to the <b>LicenseServerConfig\Server.properties</b> file (file content is case-sensitive!): Port=8189 where '8189' is replaced by the desired port number. (This line is not present by default. The whole file is not present by default; it is created when the admin username or password is changed.)</li> </ol>
8888	Software License	B.A.S.I.S. 6.1 and newer	Port used for online activation and deactivation of software based licensing.
9111	Application Server (as a Windows Service)	B.A.S.I.S. 5.12 and newer	Used for communication with the Application Server service. LnI.OG.ApplicationServer.Service.exe.config contains the Application Server port configuration. The Web Service web.config file indicates to the Web Service how to connect to the Application Server (including which port). Uses the HTTP protocol.

Port	Function	B.A.S.I.S. version	Notes/Where port can be changed
9999	License Administration	B.A.S.I.S. 5.7 and newer	<p>To change the License Administration port, the following must be added to the <b>LicenseServerConfig\Server.properties</b> file (file content is case sensitive!):</p> <p>AdminPort=9999 where '9999' is replaced by the desired port number.</p> <p>(This line is not present by default. The whole file is not present by default; it is created when the admin username or password is changed.)</p> <p><b>Note:</b> The License Administration shortcut installed by B.A.S.I.S. can't be used if the License Administration port has been changed. To access the License Administration after the port has been changed, simply point the browser to http://licenseserver:9999 (where 'licenseserver' is the name of the machine running Licenser Server and '9999' is the port number for License Administration).</p>
10001	Galaxy Ethernet Module	B.A.S.I.S. 5.11 and newer	Can't be changed.
45303	Elevator Terminal Online Status Port	B.A.S.I.S. 5.12 and newer	Acs.ini [Otis] section SSOnlineStatusPort. If changed, must be done on workstation running Communication Server. Uses UDP protocol.
45307	Elevator Dispatching Heartbeat Port	B.A.S.I.S. 5.12 and newer	Acs.ini [Otis] section SSHeartbeatPort. If changed, must be done on workstation running Communication Server. Uses UDP protocol.
46308	Elevator Terminal Command Port	B.A.S.I.S. 5.12 and newer	Acs.ini [Otis] section SSDECCCommandPort. If changed, must be done on workstation running Communication Server. Uses UDP protocol.

\* To change these ports, the **ACS.INI** settings must be changed on all machines (server and clients).

\*\* To change these ports for a given monitoring station, the **ACS.INI** settings only need to be changed on that machine.

## Digital Video Ports

Access to live and recorded digital video is done through a combination of DCOM and network socket connections.

Abbreviations:

- LNVR - Lenel Network Video Recorder
- LDVR - Lenel Digital Video Recorder

## 7: Ports Used by B.A.S.I.S.

- IVS - IntelligentVideo Server
- IVAS - IntelligentVideo Application Server
- LSVS - Lenel Streaming Video Server
- RM - Remote Monitor
- VV(web) - VideoViewer browser-based client

From (Client)	To (Server)	Port	Protocol	Function
B.A.S.I.S., IVS, VV(web), RM	LDVR	2000 <sup>a</sup>	TCP/IP	Live video
B.A.S.I.S., IVS, VV(web), RM	LDVR	DCOM	DCOM	Setting configuration, querying status, playback control, and recorded video
LNVR, RM	B.A.S.I.S., IVS, VV(web)	<User> <sup>b</sup>	UDP/IP or multicast <sup>c</sup>	Live video
B.A.S.I.S., IVS, VV(web), RM	LNVR	<User> <sup>d</sup>	TCP/IP	Live video
B.A.S.I.S., IVS, VV(web), RM	LNVR	DCOM	DCOM	Setting configuration, querying status, playback control, and recorded video
B.A.S.I.S.	IVS, IVAS	DCOM	DCOM	Setting configuration, querying status
B.A.S.I.S., IVAS	IVS	<User> <sup>e</sup>	TCP/IP	Video processing metadata stream
IVAS	IVS	DCOM	DCOM	Video processing event subscription
LSVS	Any RTP client	<User> <sup>f</sup>	UDP/IP or multicast	Streamed RTP live video
LSVS config tool	LSVS	DCOM	DCOM	LSVS configuration <sup>g</sup>
B.A.S.I.S.	RM	6000 <sup>h</sup>	UDP/IP	Control commands
RM	B.A.S.I.S.	6001-7000 <sup>i</sup>	UDP/IP	Control command response notifications
LNVR	IP Cameras	80 <sup>j</sup>	TCP/IP	Live video retrieval and camera control
LNVR	IP Cameras	21 and #### <sup>k</sup>	TCP/IP	In-Camera Storage retrieval
LNVR	Bosch video servers	1754	TCP/IP	Control connection
Bosch video servers	LNVR	#### <sup>l</sup>	UDP/IP	Video retrieval

a. This port can be changed through LDVR configuration tools.

- b.If live video is transmitted in UDP/IP mode, the B.A.S.I.S. client determines which port should be used. The range of ports can be limited by launching LnrNI utility on the B.A.S.I.S. client machine and specifying the port range to use under the **Use UDP/IP** check box. If live video is transmitted in multicast mode, the LNVR will choose which port should be used by each channel. The range of ports can be specified by launching the LnrNI utility on the LNVR machine, selecting the “Recorder Network Settings” tab and entering the first multicast port. The actual port number for each channel is defined by adding the first multicast port and the channel number. For example, if the first multicast port is 2000, then channel 1 will use port 2001, channel 2 will be 2002, etc.
- c.When LNVR starts for the first time, it will randomly choose a multicast address for use with live video and stores this address in the **LNR.XML** file. If a different address is desired, this value can be changed by editing the LNR/Recorder/Settings/MulticastIP element in the **LNR.XML** file. This multicast address becomes the base number and similarly to the multicast port actual address for a channel is determined by adding the channel number to this base value. It is important to remember that if multicast video is used in the system, all channels on all LNVRs should be assigned unique multicast port and address values.
- d.This port number can be specified by launching the LnrNI utility on the LNVR machine, selecting the “Recorder Network Settings” tab and entering a value for **Recorder TCP/IP Port**.
- e.This port number can be specified by launching the LnrNI utility on the LNVR machine, selecting the “IVS Network Settings page and entering a value for **IntelligentVideo Server TCP/IP Port**.
- f.The port and multicast address for each channel is chosen by the user through the configuration utility when channels are added to the LSVS.
- g.This setting is only required if the user wishes to configure the LSVS from a remote machine. This step is not necessary if the configuration application is launched from the host where the streaming server is installed.
- h.This port number must be the same on all remote monitoring and B.A.S.I.S. client machines in the system. If the user wishes to use a different value, all machines must be updated at the same time. On the B.A.S.I.S. client, this can be changed by editing the “MonitorUDPPort” registry value under HKEY\_LOCAL\_MACHINE\Software\Lenel\OnGuard. On RM machines, the same value must be updated in the registry under HKEY\_LOCAL\_MACHINE\Software\Lenel\RemoteMonitor.
- i.This port range can be changed by launching the LnrNI utility on the B.A.S.I.S. client machine, selecting the “Remote Monitor Network Settings” tab and entering a different port range.
- j.Cameras have built-in web servers. Typically they use HTTP port 80, but the user can configure it to use any arbitrary port number. The camera tab in the digital video folder in System Administration allows you to specify which port LNVR will connect to. For more information, refer to the Digital Video Folder chapter in the System Administration User Guide for more information.
- k.Currently this is only supported for Sony cameras. FTP protocol is used to retrieve video from In-Camera Storage. By default this protocol uses TCP port 21 to establish the connection. This port can be changed in the camera configuration. FTP protocol also uses a separate TCP/IP connection for actual data transfer and this connection can be established on just about any port. Therefore, using In-Camera Storage through firewalls might cause problems.
- l.The port number is chosen arbitrarily by Bosch client components used by LNVR.

DCOM uses TCP port 135 to establish new connections. TCP port 135 must be open on the server. Once a client connects to that port, the Windows DCOM/RPC subsystem determines the type of the actual

communications. This type can be either TCP/IP or UDP/IP based on the machine settings. These settings can be changed with the following steps:

1. Run “dcomcnfg” from the command line.
2. Expand to **Console Root > Component Services > Computers > My Computer**.
3. Right-click on My Computer and select Properties.
4. Select the Default Protocols tab.
5. Select UDP/IP or TCP/IP or both. For each option, the port range can also be limited. If the port range is not limited, DCOM will use any random port between 1024 and 65000. It is recommended to limit the port range for systems using firewalls.

The following Microsoft Knowledge Base article provides background information for configuring DCOM: <http://msdn2.microsoft.com/en-us/library/ms809327.aspx>

For additional information about DCOM, refer to the Microsoft Windows documentation.

The LnrNI utility is used to configure the ports that should be used for each type of communication. When launched on a client, the LnrNI utility defines the mode that will be used to receive live video from the LNVR. It attempts each type of connection in the order they are listed on the Client Network Settings tab. If the connection is unsuccessful after 3 seconds it will move to the next connection type until all three have been tried: multicast, UDP/IP, and TCP/IP. TCP/IP is the fallback mechanism and cannot be disabled.

The LnrNI utility also determines which network card should be used by the video software if the machine is multihomed, meaning it has different IP addresses due to multiple active network adapters.

## Chapter 8: B.A.S.I.S. Services

The following is a table of B.A.S.I.S. services and those services that run on B.A.S.I.S. installations.

**B.A.S.I.S. Services Table**

Name	Definition	Number per B.A.S.I.S. system	Startup Type	Notes
Application Server	Used to provide the application server for the web based applications	One per region.	Automatic	Only installed when a custom installation is performed and the Application Server component is selected.
Communication Server	The B.A.S.I.S. Communication Server acts as the communication “gateway” for information flow between the B.A.S.I.S. software and hardware.	You can have multiple communication servers.	Automatic	Many communication services may be running throughout a region. One communication server can communicate to many field hardware devices, but a hardware device can only communicate to one communication server. It is typically configured to run automatically on the regional server though any regional client can run the communication server.
Config Download Service	The Config Download service is used to propagate configuration changes down to the hardware from the web based applications.	One per region. Must be run on the same machine as the Application Server.	Automatic	Needed only for the Area Access Manager (Browser-based Client) application.
DataConduIT Message Queue Server	The DataConduIT Message Queue Server is an adapter that works with the DataConduIT Service. It provides an easy way to use/ delegate DataConduIT notifications using queues.	One	Manual - Run if the service is being used	Only one instance of the DataConduIT Message Queue Server may be running on each regional and/or master database; typically on the database server.

## B.A.S.I.S. Services Table

Name	Definition	Number per B.A.S.I.S. system	Startup Type	Notes
DataConduIT Service	The DataConduIT Service is a platform for integrating with IT systems, providing access to ID management data, access control events, and real-time notification when changes are made to cardholders and their credentials.	One	Automatic - Run if the DataConduIT service is being used	DataConduIT must be installed on the same machine as the Linkage Server if you want to receive events through DataConduIT. DataConduIT may be run on additional server machines as well, but you will not be able to register to receive events from DataConduIT on those machines.
DataExchange Server	The DataExchange Server is used to exchange database information with third party applications.	One	Automatic	Only one DataExchange server may be running on each regional database and/or master database. It only needs to be running when scheduling to run a DataExchange script.
Device Discovery Service	The Device Discovery Service is used as a proxy service for running remotely (systems in other subnets) all services that the Device Discovery Console cannot otherwise access.	One	Automatic if installed	You must perform a custom installation and select "Device Discovery Service" in the Standard Applications section.
Global Output Server	The B.A.S.I.S. Global Output Server (GOS) is used to send output to any supported output system (including electronic mail and paging) connected to the computer on which the GOS is installed.  For e-mail, the GOS communicates to the SMTP Server and for paging it outputs the file to a specified location.	As many as needed.	Automatic - Run if paging or e-mail is being used	As many instance of Global Output Server (GOS) can be running on each regional and/or master database; typically it is run on the database server.
ID Allocation	Used to manage pre-allocated IDs across an enterprise installation.	One	Automatic	

**B.A.S.I.S. Services Table**

<b>Name</b>	<b>Definition</b>	<b>Number per B.A.S.I.S. system</b>	<b>Startup Type</b>	<b>Notes</b>
License Server	The License server controls which features the computer is licensed to use.	One	Automatic	The B.A.S.I.S. License Server is typically run on B.A.S.I.S. servers but can be configured on a separate machine.
Linkage Server	The Linkage Server is responsible for directing automatic email/paging messages in response to specific alarms, as well as linking "marked" video segments on a video recorder with the associated alarm/event logged in the Database.	One	Automatic	Only one instance of Linkage Server may be running on each regional and/or master database; typically on the database server.
Login Driver	The login driver allows B.A.S.I.S. to log in and access the database.	One - The service is run on the computer on which the database resides.	Automatic	The Lenel Login Driver is a service that is used to change the B.A.S.I.S. database password (NOT the user passwords). The service is run on the computer on which the database resides.
LnrCapSvc	Records video from CCTV devices.	One per LNVR.	Automatic	Must be running in order for the LNVR to connect to video sources and to store information to the disk. It also services live video retrieval requests.
LnrRetrSvc	Retrieves recorded video requested by client.	One per LNVR.	Automatic	Manages stored video and stored video retrieval requests. If your storage fills up this service finds which files should be deleted so the capture service has space for new video.
LnrRTPServer	Streams video to RTP clients.	One per LNVR.	Automatic	This services is a translation layer between the proprietary LNVR video retrieval interfaces and the standard way of transmitting streaming media data.

## B.A.S.I.S. Services Table

Name	Definition	Number per B.A.S.I.S. system	Startup Type	Notes
LpsIVAppServer	Performs processing for IntelligentVideo Applications.	One per IVAS	Automatic	This is a host service for all IntelligentVideo applications where each application is implemented as a dynamically linked library module. Currently the only application supported is Facility Utilization.
LpsIVSAdminSvc	Manages configuration of video analytics events.	One per IVAS	Automatic	Must be running in order for the IntelligentVideo Server to work. Runs on the IVS.
LpsRetrSvc	Retrieves metadata associated with video analytics events.	One per IVS	Automatic	Services stored processed video metadata retrieval requests. This is used by clients when they are viewing recorded video and want to see overlay images generated by video processing algorithms.
LpsSearchSvc	Performs video analytics processing.	One per IVS + one per B.A.S.I.S. client + one per LNVR.	Automatic	Must be installed in order to perform any video searches. Should be run on all machines, servers and clients, that will need to perform video searches.
PTZ Tour Server	PTZ Tour Server.	One per B.A.S.I.S. client + one on the B.A.S.I.S. server.	Automatic	
Replicator	Used to replicate information between the regional server/ mobile ID back to the master server.	One per Enterprise Region or Mobile Station	Manual as a program or Automatic as a service.	Replicator is installed and run on either an Enterprise Regional Server or a Distributed ID Mobile Station.  If using as an automatic startup type, you will use B.A.S.I.S. scheduler when replicating. If manual, you will replicate whenever convenient (This is typical for those using Mobile ID.)

**B.A.S.I.S. Services Table**

<b>Name</b>	<b>Definition</b>	<b>Number per B.A.S.I.S. system</b>	<b>Startup Type</b>	<b>Notes</b>
Video Archive Server	The Video Archive Server is a system service that is responsible for purging or archiving video data from multiple video servers onto one or more designated storage devices.	Depending on the number of recorders and physical archive servers you have.	Automatic - Run if Digital Video Archiving is being used	A digital video recorder device can only communicate to one Video Archive Server.



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# Appendices

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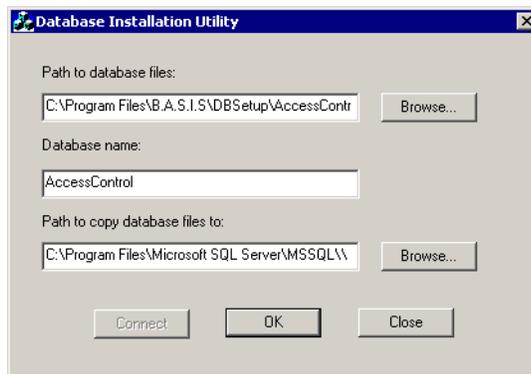
## Appendix A: Database Installation Utility

### *Database Installation Utility Overview*

The Database Installation Utility is used to attach an SQL Server Desktop Engine/SQL Server database for use with the B.A.S.I.S. software. The Database Installation Utility copies the existing database data files (MDF and LDF), attaches the database, and updates the Lenel Data Source Name (DSN) to point to the correct database. It does not create the tables in a new database - Database Setup must be run.

The Database Installation Utility is run automatically at the end of the B.A.S.I.S. installation when either a new SQL Server Desktop Engine database or a demo database has been selected. It is also installed on the local machine in the B.A.S.I.S. installation directory so that it can be run manually after the installation has completed.

### *Database Installation Utility Window*



## Database Installation Utility Window Field Table

Form Element	Type	Comment
Path to database files	Text	<p>The source data file (MDF) name. When the Database Installation Utility is run automatically during the B.A.S.I.S. installation, the <b>Path to database files</b> and the <b>Database name</b> are determined based on the choice of the SQL Server Desktop Engine or Demo database.</p> <ul style="list-style-type: none"> <li>The default empty SQL Server Desktop Engine database is <b>AccessControl_Data.mdf</b>.</li> <li>The B.A.S.I.S. demo database is <b>AccessControlDemo_Data.mdf</b>.</li> </ul>
Browse	Push button	Click to select the <b>Path to database files</b> .
Database name	Text	<p>The name of the database that will be used with the B.A.S.I.S. software. When the Database Installation Utility is run automatically during the B.A.S.I.S. installation, the <b>Database name</b> and the <b>Path to database files</b> are determined based on the choice of the SQL Server Desktop Engine or Demo database.</p>
Path to copy database files to	Text	<p>The destination directory. The destination directory will always default to the SQL Server Desktop Engine/SQL Server default data directory, as configured in SQL Server Desktop Engine/SQL Server and stored in the registry.</p>
Browse	Push button	Click to select the <b>Path to copy database files to</b> .
Connect	Push button	<p>When the Database Installation Utility opens, it attempts to connect to the database for the DSN that is currently specified in the [Database] section in the <b>ACS.INI</b> file. For example, if the following is specified in the [Database] section:</p> <pre>Connect="ODBC;DSN=Lene1"</pre> <p>then the Database Installation Utility will attempt to connect to the database associated with the Lene1 DSN.</p> <ul style="list-style-type: none"> <li>If the database connection succeeds, the [Connect] button is grayed out.</li> <li>If the database connection fails, an error message that says, "The DSN selected in your ACS.INI is invalid. Please check your ODBC configuration." is displayed and the [Connect] button is enabled. If this message is displayed, open the <b>ACS.INI</b> file and specify the correct DSN, save and close the <b>ACS.INI</b> file, and click the [Connect] button. If the connection is successful, the [Connect] button will become grayed out.</li> </ul>
OK	Push button	Created or attaches the specified database.
Close	Push button	Closes the Database Installation Utility without performing any function.

## *Database Installation Utility Procedures*

### **Attach an SQL Server Desktop Engine Database**

Run the Database Installation Utility by doing the following:

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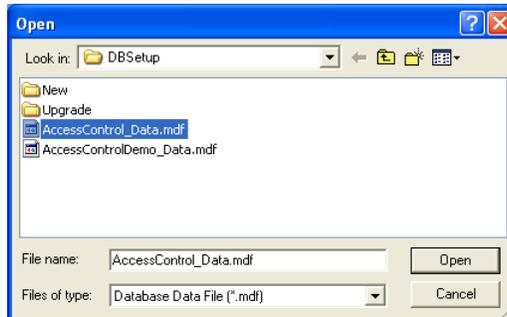
**Important:** To make changes in the **ACS.INI** file on a Windows Vista or Windows 7 computer you must right-click on the **ACS.INI** file and run it as The Administrator.

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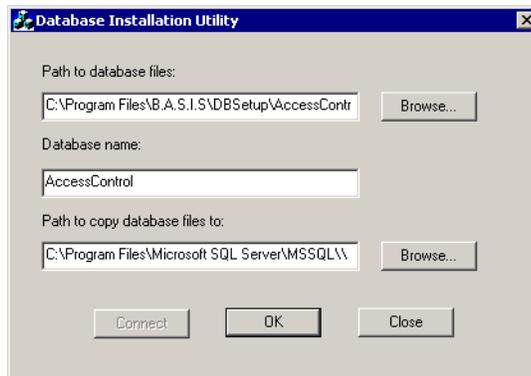
1. In Windows Explorer, navigate to the B.A.S.I.S. installation directory (**C:\Program Files\B.A.S.I.S.** by default), and then double-click on the **DatabaseInstallationUtility.exe** file to run it.
2. The Database Installation Utility window is displayed. When the Database Installation Utility opens, it attempts to connect to the database for the DSN that is currently specified in the [Database] section in the **ACS.INI** file. For example, if the following is specified in the [Database] section:  
Connect="ODBC;DSN=Lene1"  
then the Database Installation Utility will attempt to connect to the database associated with the Lene1 DSN.
  - If the database connection succeeds, the [Connect] button is grayed out. Proceed to step 3.
  - If the database connection fails, an error message that says, "The DSN selected in your ACS.INI is invalid. Please check your ODBC configuration." is displayed and the [Connect] button is enabled. If this message is displayed, open the **ACS.INI** file and specify the correct DSN, save and close the **ACS.INI** file, and click the [Connect] button.

If the connection is successful, the [Connect] button will become grayed out. Proceed to step 3.

- Click [Browse...] to choose the path to the database files.
- The Open window is displayed. Navigate to the **DBSetup** folder in the B.A.S.I.S. installation directory, select the MDF file that you wish to attach, and then click [Open]. MDF files you may wish to attach include:
  - The default empty SQL Server Desktop Engine database **AccessControl\_Data.mdf**.
  - The B.A.S.I.S. demo database **AccessControlDemo\_Data.mdf**.



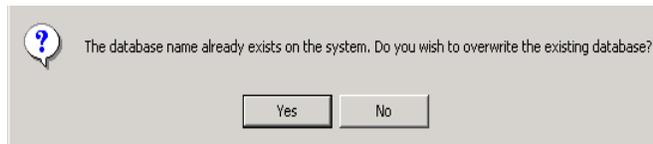
- In the **Database name** field, type `AccessControl` or any other name you wish to use, as shown.



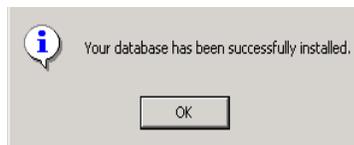
- The recommended path is the default path specified in the **Path to copy database files to** field. This default path is where the files would be stored if

you were using the SQL Server user interface (which does not come with SQL Server Desktop Engine) to create a database.

- If you do not change the default setting in the **Path to copy database files to** field and a database with the name you specified already exists, the database will be overwritten.
  - If you do change the default setting, a new database will be created in that location.
7. Click [OK].
  8. If you did not change the default setting, the following message is displayed. Click [Yes].



9. The DSN is updated to point to the database, and a message is displayed that indicates that the database was successfully installed. Click [OK].



10. On the Database Installation Utility window, click [Close].

---

**Important:** After attaching a database, you must run Database Setup to create the tables in the database.

---



## Appendix B: Change the Database Owner in SQL Server Desktop Engine

Since SQL Server Desktop Engine doesn't provide an interface for accessing the database engine, use the following procedure to log into the database directly using the ODBC connection created for B.A.S.I.S.:

1. From the Start menu, select **Run**. Click [Browse...]. Browse to the B.A.S.I.S. folder and select the 'ACCESSDB.exe' application. Click [Open] and then [OK] to run this application.
2. From the **Management** menu, select **Datasource > Connect**.
  - a. On the Machine DataSource tab, select "Lene1". Click [OK].
  - b. You will be prompted for the database "sa" login ID and password. Enter the credentials and click [OK].
  - c. The screen will return to the main window.
  - d. From the **SQL** menu, select **Statement**. Enter the following statement in the text box:  
`sp_changedbowner lene1`  
Click [OK] when you are ready to execute the statement.
  - e. If the command returns highlighted, then it completed without error.
3. Log into a B.A.S.I.S. application and verify that the change was successful.



## Appendix C: Manually Creating an ODBC Connection for SQL

The following appendix will detail the manual creation of an ODBC connection for SQL. These instructions are primarily for reference purposes because the B.A.S.I.S. installation automatically creates the necessary ODBC connection to the database.

If using Windows Vista with UAC turned on, you may receive an error when creating an ODBC with B.A.S.I.S. applications. This error occurs when you are not running the application as an administrator. To work around this issue, run the application as Administrator or create the ODBC manually as described in this appendix.

---

**Important:** When manually creating an ODBC connection you must use the SQL Native Client driver.

---

### *Creating an ODBC Connection for SQL*

1. Open the ODBC Data Source Administrator window. To do this:
  - a. For 32-bit operating systems: From Administrative Tools in Windows, open Data Sources (ODBC).
  - b. For 64-bit operating systems: Navigate to **C:\windows\SysWOW64** and run the **odbcad32.exe** file.
2. The ODBC Data Source Administrator window is displayed. Select the System DSN tab.
3. Click [Add].
4. The Create New Data Source dialog is displayed.
  - a. Select **SQL Native Client** from the list view.
  - b. Click [Finish].
5. The Create a New Data Source to SQL Server dialog is displayed.
  - a. Enter a descriptive Name for the data source.
  - b. Enter the name of the machine or virtual machine hosting the database in the **Server** field.
  - c. Click [Next].
6. Select SQL Server authentication and enter the **Login ID** and **Password**.

---

**Note:** If you select Windows NT authentication it may impact your ability to store credentials in a file as a means of authentication. Selecting SQL Server authentication does not impact your ability to use Windows authentication

with the Web applications. Refer to the Installation Guide for more information about database authentication with the Web applications.

---

7. Click [Next].
8. Select the **Change the default database to** check box and choose the B.A.S.I.S. database from the drop-down list.
9. Click [Next].
10. Click [Finish].
11. The ODBC Microsoft SQL Server Setup dialog is displayed.
  - a. Click [Test Data Source]. A success message should be displayed.
  - b. Click [OK] to exit each of the dialogs.

## *Updating the DSN in the B.A.S.I.S. Configuration Files*

The name of the ODBC connection that B.A.S.I.S. uses to connect to the database is stored in two configuration files. If you have manually created your ODBC connection you may need to update these files with the new DSN.

---

**Note:** File locations may vary depending on your operating system and configuration.

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**Important:** To make changes in the **ACS.INI** file on a Windows Vista or Windows 7 computer you must right-click on the **ACS.INI** file and run it as The Administrator.

---

1. Edit the **ACS.INI** file. The **ACS.INI** file is located at **C:\WINDOWS\ACS.INI**.
2. Update the following line in the [DataBase] section:  
Connect="ODBC ; DSN=<DSNName>"  
Change <DSNName> to the name of the new DSN for the ODBC connection to the B.A.S.I.S. database.
3. Save and close the **ACS.INI** file.

---

**Note:** Steps 4 and 5 are necessary only for systems using the web applications.

---

4. Edit the `C:\inetpub\wwwroot\lnl.org.webservice\web.config` file.
5. Find and update the following line:  
`<add key="reportDSN" value="<DSNName">`  
Change `<DSNName>` to the name of the new DSN for the ODBC connection to the B.A.S.I.S. database.

## *Troubleshooting*

If you experience problems connecting to the B.A.S.I.S. database, check the ODBC connection to be sure that it is configured correctly.

1. From Administrative Tools in Windows, open Data Sources (ODBC).
2. The ODBC Data Source Administrator window is displayed. Select the System DSN tab.
3. Select the DSN used to connect to the B.A.S.I.S. database from the list view.
4. Verify in the System Data Sources listing window that the DSN driver is SQL Native Client.

---

**Note:** If the DSN driver is not SQL Native Client, delete the System DSN and create a new ODBC connection using the SQL Native Client driver. For more information, refer to [Creating an ODBC Connection for SQL](#) on page 81.

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5. Click [Configure].
  6. Verify that the name of the **Server** is correct in the drop-down.
  7. Click [Next].
  8. Check that the correct method of authentication is selected and verify the credentials if using SQL Server authentication.
- 

**Note:** If you select Windows NT authentication it may impact your ability to store credentials in a file as a means of authentication. Selecting SQL Server authentication does not impact your ability to use Windows authentication

with the Web applications. Refer to the Installation Guide for more information about database authentication with the Web applications.

---

9. Click [Next].
10. Verify that **Change the default database to** check box is selected and that the B.A.S.I.S. database is selected in the drop-down.
11. Click [Next].
12. Click [Finish].
13. The ODBC Microsoft SQL Server Setup dialog is displayed.
  - a. Click [Test Data Source]. A success message should be displayed.
  - b. Click [OK] to exit each of the dialogs.

## Appendix D: Setting Up & Configuring a Capture Station

The following appendix will show you how to set up and configure a capture station.

### *Environmental Considerations Affecting Flash & Camera Capture Quality*

There are several factors to consider when selecting your capture station environment. Lighting is the most important factor and the most difficult to provide setup instructions for, because every site's capture environment is unique. B.A.S.I.S. ships with the optimal hardware setting defaults already set. The important items to consider when setting up the capture environment are the flash and camera settings based on environmental considerations.

### *Setting Up the B.A.S.I.S. Capture Dialog*

You will initially need to set up the B.A.S.I.S. capture dialog with factory default settings that are appropriate for your capture hardware. Once that is done, you can make minor adjustments to accommodate your specific capture devices and capture environments.

1. Launch the application you'll be using to capture photos/signatures/badge layout graphics.
2. Launch the capture dialog from within that application by selecting the [Capture] button on a form that accesses the Multimedia Capture module.
3. Repeat the following procedure for each outer capture form:
  - a. If configuring cardholder photo capture, select the Photo tab. If configuring cardholder signature capture, select the Signature tab. If you are using the BadgeDesigner application, you only have the Graphic tab.
  - b. Configuring the capture dialog with settings that are appropriate for your capture hardware is easily done via the factory defaults profile procedure. Use the following procedure to configure capture from sources other than the File Import capture source:
    - 1) Click [Load Factory Defaults]. The "Load Factory Defaults" dialog will open.
    - 2) Select the factory defaults profile that most closely matched your capture device. The default capture source (configured on the General Settings form) will be automatically set to the capture source associated with that device. The crop window (configured on the General Settings form) will be automatically set to a size appropriate for the profile you select.

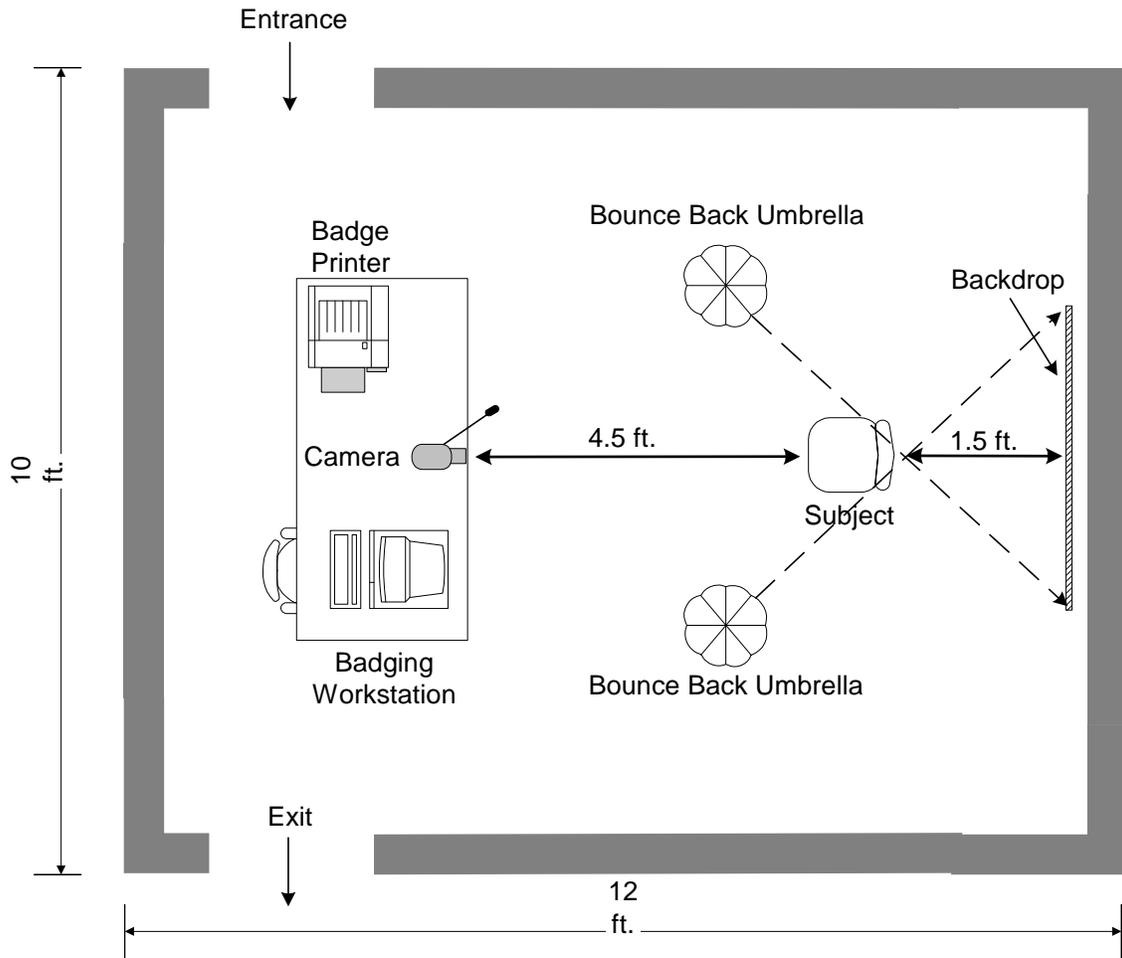
- 3) Click [OK].
- c. If you want to capture images with the “File Import” capture source:
  - 1) From the capture source drop-down list, select **File Import**.
  - 2) Click on the File I/O Settings tab.
  - 3) Set the file import directory to the directory where you store all of your photo files.
  - 4) Click [Save User Defaults].
- d. If you want to capture images with a USB camera or any WDM or TWAIN compliant camera, configure the multimedia capture module for the following settings instead of loading the default settings. If you are using the CAM-24Z704-USB/CAM-20Z704-USB USB camera skip these steps and refer to [Basic Camera Setup \(CAM-24Z704-USB/CAM-20Z704-USB\)](#) on page 91.
  - 1) From the capture source drop-down list, select **WDM Video**.
  - 2) Click the WDM Video Settings Device tab.
  - 3) Select **USB Video Bus II, Video** from the Device drop-down box.
  - 4) Click [Video Input].
  - 5) The Video Input Properties window displays.
  - 6) Select **1:VideoSVideo In** from the Input drop-down menu.

## *Capture Station Setup Specifications*

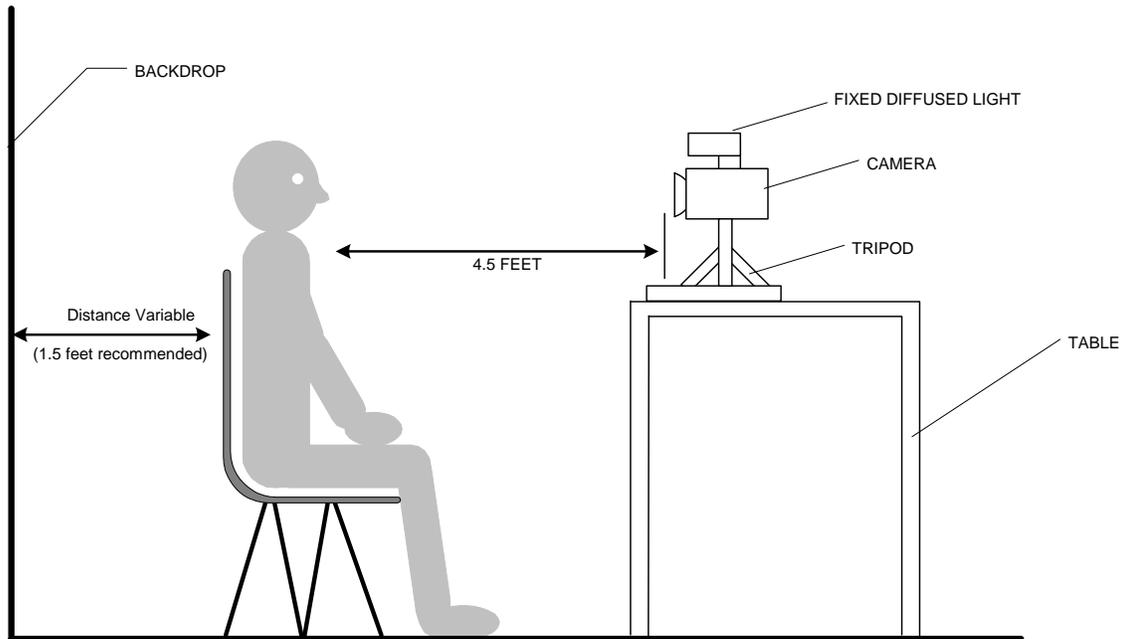
For every capture station the equipment should be setup as close as possible to the following specifications:

The backdrop should be approximately 1.5 feet behind the subject. The camera and flash apparatus should be at least 4.5 feet in front of the subject at an average height (the height should be adjustable for obvious reasons). The capture area requires approximately 10 to 12 feet of floor space with appropriate width.

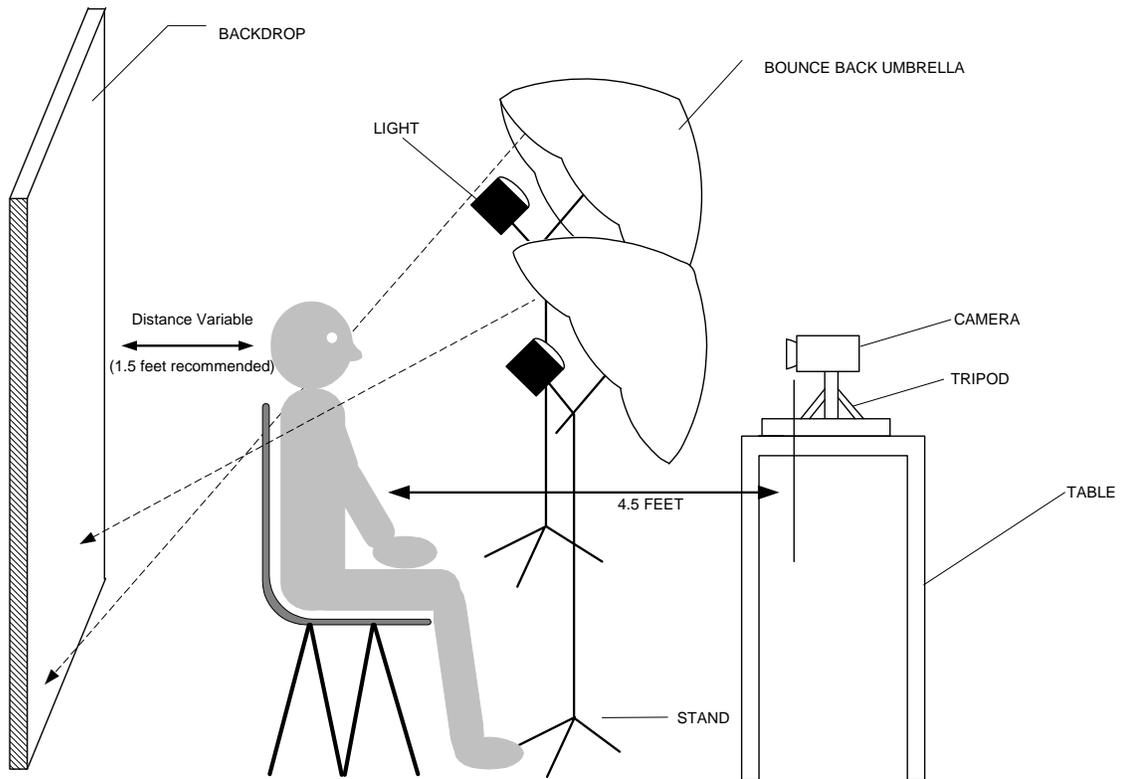
## Recommended Badging Room Layout



## *Final Adjustments for Fixed Diffused Lighting*



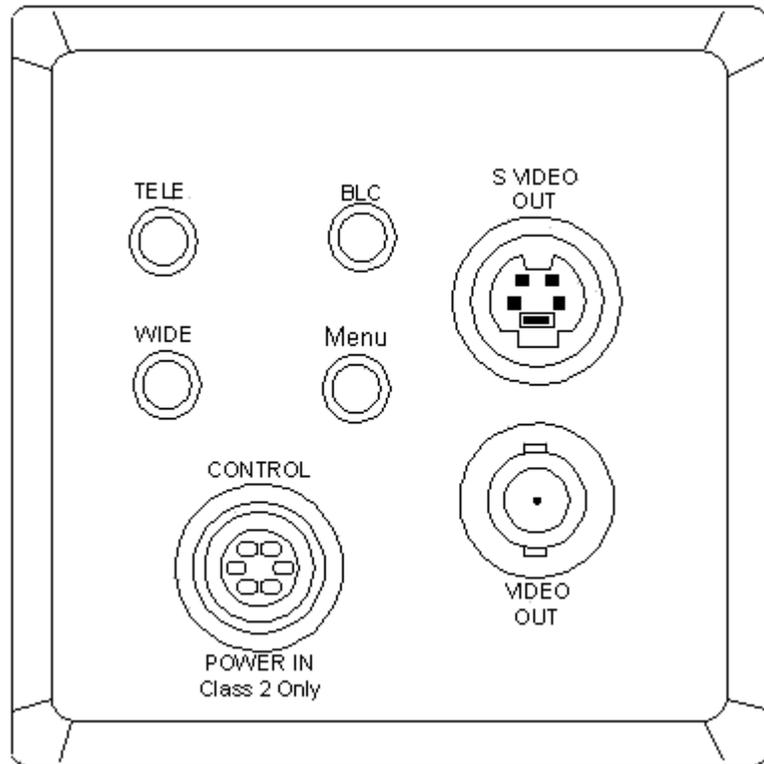
## *Final Adjustments for Continuous Lighting*



## *Basic Camera Setup (CAM-CCP-500K)*

For complete installation setup, see the instruction manual that came with the CAM-CCP-500K.

## CCP-500 (Back View)



1. **Tele Button** – (Telephoto) Press this button to zoom in.
2. **Wide Button** – (Wide Angle) Press this button to zoom out.
3. **BLC** – (Back Light Compensation) If you press this button while viewing a backlight subject, the camera will adjust itself to the high contrast lighting.
  - BLC mode is switched between ON and OFF by pressing this button.
  - If you hold the button down for more than 2 seconds and then release, the BLC will change to AUTO BLC mode.
4. **Menu** – Press to display OSD
  - If you hold the button for more than 2 seconds and then release, OSD will shut off.
5. **Power In** and **Control** – Insert the DC power cable here to connect the camera to the DC power source (DC 12V). You can control the Zoom and Focus Lens to use Controller.
6. **Video Out terminal** - Connect this terminal to the video input terminal or an external input, such as a monitor, TV or VCR.
7. **S-Video Out terminal** – This is an output terminal for separate Y/C video signals.

The CAM-CCP-500K camera zooms to X32, but the recommended zoom area should be less than X16. This is because the zoom past X16 is digital and the picture captured becomes rough (pixilated). The subject should be within X1 to X12 zoom for optimal results. The subject should nominally

fill the pre-sized crop window if adjusted properly. Always leave on “Maintain Aspect Ratio”

To adjust the zoom, set the selector switch to zoom (all the way to the right). Adjust the camera apparatus for the center of the subject. With the arrows located to the bottom left of the rear of the camera, zoom in all the way and then zoom back to determine the approximate center point of the zoom (remember: you do not want to zoom past X12, the halfway point). Then, zoom into the subject until the desired capture frame is attained. The arrows located at the bottom of the camera can be use in one of two manors. If you push and hold the arrow, it will zoom all the way in or out. If you push the arrow button momentarily, it will move in and out incrementally.

---

**Note:** Optimally the subject should fill the pre-sized crop window, so no additional cropping adjustments need be made.

---

Why manual white balance? With light or gray colors the Auto White Balance adjusts incorrectly. That is why the CAM-CCP-500K should be setup for Manual White Balance. It is necessary to White balance the camera to obtain a default white balance setting and is maintained for consistent picture quality.

## ***Basic Camera Setup (CAM-24Z704-USB/CAM-20Z704-USB)***

---

**Important:** The following cameras are meant for client machines and not servers. Windows Server 2008 and Windows Server 2003 are not supported.

---

### **Installation of CAM-24Z704-USB/CAM-20Z704-USB**

To install the USB camera simply plug it in, connect the USB cord to the workstation, and install the drivers that come with the camera. For more information refer to the Badging Image Capture Camera User Guide that came with the camera.

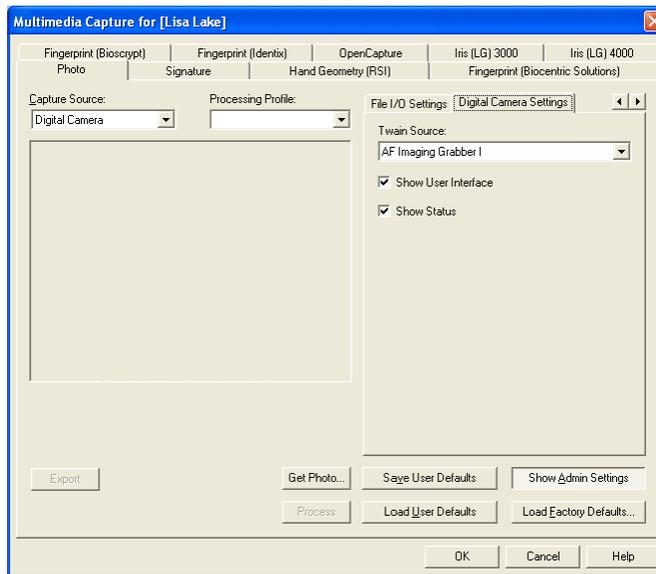
---

**Note:** Though there is a connection for S-video Out it is strongly recommended that you use the USB connection.

---

## Configuration of CAM-24Z704-USB/CAM-20Z704-USB

1. Start the application you will be using to capture photos/signatures/badge layout graphics.
2. Launch the capture dialog from within that application by selecting the [Capture] button on a form that accesses the Multimedia Capture module.
3. On the Photo sub-tab of the Multimedia Capture module, select **Digital Camera** from the **Capture Source** dropdown box.
4. On the **Digital Camera Settings** sub-tab, select **AF Imaging Grabber 1** from the **Twain Source** dropdown box.



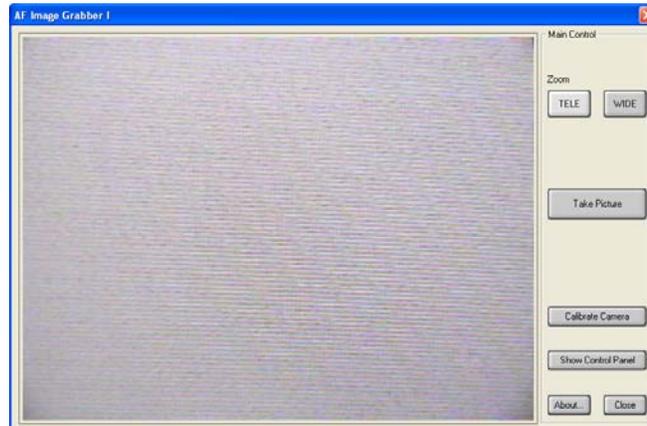
---

**Important:** Make sure that the **Show User Interface** check box IS selected.

---

## Using CAM-24Z704-USB/CAM-20Z704-USB

1. To use, click **Get Photo** on the Multimedia Capture module. The AF Image Grabber 1 control box opens.
2. Click **Take Picture** to take the picture. The AF Image Grabber 1 control box closes and you see the picture on the Multimedia Capture Module screen.
3. Click [OK] and the picture is added to the Cardholder screen.



### AF Image Grabber 1

Form Element	Comment
TELE	Zooms in. The camera has a 16:1 optical zoom range along with an 8x digital zoom.
WIDE	Zooms out.
Take Picture	Takes a picture for use in the Multimedia Capture module. When selected the camera image freezes, the LED illuminator turns on, and the image is captured.
Calibrate Camera	Automatically adjusts the camera settings to provide the best quality image under certain lighting conditions. For more information refer to the Badging Image Capture Camera User Guide that came with the camera.
Show Control Panel	Activates the on screen control panel for making adjustments to the captured video image.

## Lighting Setup

### Professional Continuous Lighting Setup (EHK-K42U-A)

The EHK-K42U-A kit is designed to help eliminate shadows that may appear behind the subject that you are capturing, or under the subject's chin (known as bearding). Most capture environments have adequate light to capture a subject with the CAM-CCP-500K capture kit, but to enhance

the colors (more real life), and to eliminate shadows, the capture kit is necessary.

### Advanced Setup

After the capture station has been setup, some testing must be performed to determine the optimal illumination settings for image capture. You may have to adjust the lights, drapes, or other elements in the capture environment.

With a test subject, view the live image on the screen with all the room lights on. Set the selector switch on the back of the camera to iris (all the way to the left). With the arrows on back of the camera adjust the iris all the way down, the live image on the screen should become dark if not black. The arrows located at the bottom of the camera can be use in one of two manners. If you push and hold the arrow, it will zoom all the way in or out. If you push the arrow button momentarily, it will move in and out incrementally. While viewing the screen, increase the iris until the subject is visible. Increase the iris a little more, until the screen image is about the same brightness as the real view of the subject. Take a test picture. Label this “test 1, all lights”. From here we will adjust the room environments lighting and make minor adjustments to the iris if needed while continuing to save the sample captures at (test 2, test 3 etc.).

Steps to improving capture quality:

1. Turn on all the lights in the room.
2. Open the Capture dialog and center on a test subject with the camera.
3. Adjust the iris all the way down, and then adjust it until the screen image is about the same brightness as the real viewable image.
4. Set the White Balance. (Set the selector switch on the back of the camera to WB. Hold a white piece of paper in front of the camera so there is only white showing on the screen. Using the arrows on the back of the camera adjust the white balance until the image in the capture window is white.)
5. Take a test picture. Save this as a cardholder labeled “Test1: all lights”.
6. Turn off all the lights.
7. Take another picture. Save this as a cardholder labeled “Test2: no lights”.
8. Continue testing until a desired lighting quality is captured on the screen. Be sure to label each test with a number and a description of what you did. Adjust your environments based on the environmental considerations below. Continue to take pictures, save them, and use them as references until the best conditions are determined.

### Environmental Considerations and Factors Leading to Poor Lighting

Environmental factors to consider when setting up a capture station include:

- Is there a different amount of sunlight entering the area through out the day?
- Is the station next to a window or under a skylight?

- Are the wall colors dark or light or bright colors? If they are light they will reflect more light or change your white balance setup.
  - Is the ceiling low or cathedral like? The lower the ceiling the more light will reflect.
  - What types of lights are used in the room? Incandescent or florescent (cool white or colored) or direct spots?
  - Is there any direct lighting of the subject? Is the room evenly illuminated? Direct lighting will over expose the subject.
  - What is the color of reflective shields around the lights? For example, gold reflective surface shields illuminate the subject in yellow highlights.
- This is just a partial list of possible factors leading to poor image lighting quality. There may be other features of your site that will affect the image capture that may need to be considered.



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