2.0

Rapid Deployment Example
for EES

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Preface

You can use the SmartServer 2.0 to rapidly and automatically install networks. You can design a network for one site, create a template of that network design, and quickly deploy the template to multiple networks at the same time with minimal user interaction. Once the SmartServer installs the network, you can use it to manage and conserve your network's energy and reduce its operating costs.

Purpose

This guide describes how to assemble a demonstration network that you can use to test the SmartServer's new rapid deployment feature, and observe how the SmartServer can be used to maximize the energy efficiency of your control networks. It specifies the devices to be used to assemble the demonstration network, includes wiring instructions for the specified devices, describes how to import and deploy the provided *i*.LON template for your demonstration network, and explains how to use the provided custom Web interface to monitor and control the network's energy consumption.

The provided *i*.LON template includes the configuration and custom Web pages for the demonstration network. In this demonstration example, you will use the new *i*.LON AdminServer Web application included with Echelon Enterprise Services 2.0 to copy the *i*.LON template from the *i*.LON SmartServer 2.0 DVD to your computer, and then upload the *i*.LON template to the SmartServer attached to the demonstration network.

Audience

This guide is intended for system designers and integrators with an understanding of control networks.

Hardware Requirements

Requirements for the running the Echelon Enterprise Services 2.0 software are listed below:

- Microsoft® Windows Vista® or Microsoft Windows® XP. Echelon recommends that you install the latest service pack available from Microsoft for your version of Windows.

- Intel® Pentium® III 1.3 GHz processor or faster, and meeting the minimum Windows requirements for the selected version of Windows.

- 1 GB RAM minimum.

  Note: Windows Vista testing for *i*.LON Vision 2.0 has been performed on computers that have a minimum of 2 GB of RAM. For complete Windows Vista requirements, refer to *www.microsoft.com/windows/windows-vista/get/system-requirements.aspx*. You can use Microsoft's Vista Upgrade Advisor to determine upgrade requirements for a particular computer. To download this tool, go to the Microsoft Web site at *www.microsoft.com/windows/windows-vista/get/upgrade-advisor.aspx*.

- 300 megabytes (MB) free hard-disk space, plus the minimum Windows requirements for the selected version of Windows.   Echelon Enterprise Services 2.0 requires 270 MB of free space. EES 2.0 includes the *i*.LON AdminServer, which you use to deploy the provided *i*.LON templates. The included *i*.LON templates require 30 MB of free space.

- DVD-ROM drive.

- 1024x768 or higher-resolution display with at least 256 colors.

- Mouse or compatible pointing device.

- Microsoft Internet Explorer 7 or higher or Mozilla Firefox.

i.LON SmartServer Documentation

The documentation for the SmartServer is provided as Adobe Acrobat PDF files and online help files. The PDF file for this document is installed in the **Echelon i.LON SmartServer 2.0 Enterprise Services** program folder when you install the EES 2.0 software. You can also download the latest SmartServer documentation, including the latest version of this guide, from Echelon's Website at *www.echelon.com/support/documentation/manuals/cis*.

This user's guide, the online help files, and the following documents comprise the SmartServer documentation suite:

- *i.LON SmartServer 2.0 User's Guide*. Describes how to configure the SmartServer and use its applications to manage control networks.

- *Echelon Enterprise Services 2.0 User's Guide*. Describes how to use the *i*.LON AdminServer to rapidly and automatically deploy and install LONWORKS networks and how to use the LNS Proxy Web service to manage LNS networks.

- *i.LON Vision 2.0 User's Guide*. Describes how to create custom Web pages for monitoring and controlling LONWORKS networks and other control networks.

- *i.LON SmartServer 2.0 Power Line Repeating Network Management Guide.* Describes how to install a PL-20 repeating network and how to use the SmartServer to prepare, maintain, monitor and control, and connect the network.

- *i.LON SmartServer 2.0 Programmer's Reference*. Describes how to configure the SmartServer using XML files and SOAP calls. This allows you to create your own applications that you can use to configure the *i*.LON.

- *i.LON SmartServer 2.0 Programming Tools User's Guide.* Describes how to write custom embedded applications called Freely Programmable Modules (FPMs) and deploy them on the SmartServer. FPMs let you implement custom functionality and tailor the SmartServer to meet your needs.

- *i.LON SmartServer 2.0 Hardware Guide*. Describes how to assemble, mount, and wire the SmartServer hardware.

- *i.LON SmartServer 2.0 Quick Start Guide*. Contains all the information you will need to connect the SmartServer hardware, install the i.LON SmartServer software, and configure the SmartServer using the SmartServer configuration Web pages.

- *IP-852 Channel User's Guide*. Describes how to configure an IP-852 channel with the Echelon *LONWORKS®/IP Configuration Server*. You will need this information if you plan to use the *i*.LON as an IP-852 router.

Content

This guide includes the following content:

- *Using the Rapid Deployment Example*. Describes how to assemble and wire the demonstration network, import and deploy the provided *i*.LON template for the network, and use the provided custom Web interface to monitor and control the network.

For More Information and Technical Support

If you need help using the SmartServer or EES 2.0 software, you can use the online help files, view the SmartServer and EES 2.0 ReadMe, or read the SmartServer and EES 2.0 documentation. If none of these sources, answer your questions, you can contact technical support if you have purchased support services from Echelon or an Echelon support partner.

Using the Help Files

If you need more information on how to use a particular Web page in the *i*.LON AdminServer or SmartServer Web interface, you can click **Help** to open a new window with context-sensitive help for that Web page.
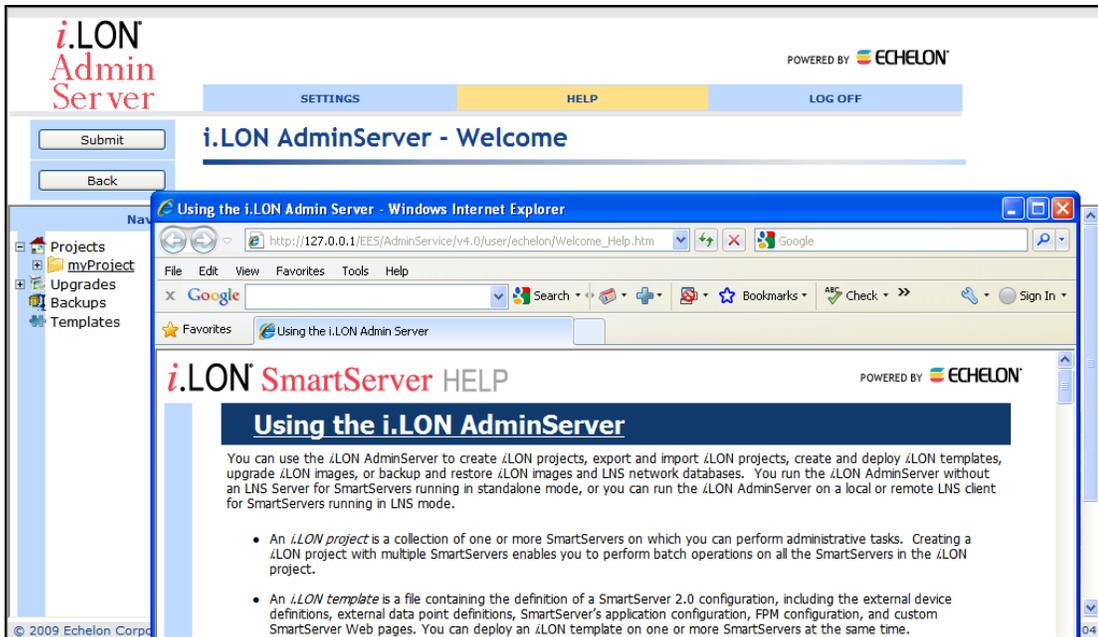
If you need more information on how to use a particular dialog in the *i*.LON AdminServer or SmartServer Web interface, you can click the question mark icon (**?**) in the upper right-hand corner of the dialog to open a new window with context-sensitive help for that dialog.
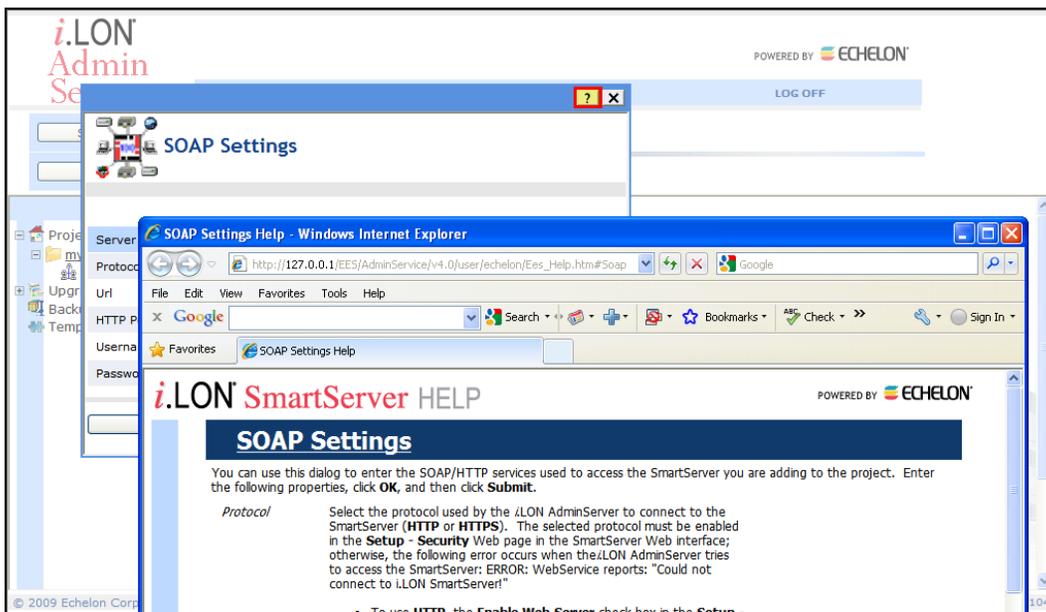
Viewing the ReadMe Documents

The SmartServer 2.0 and EES 2.0 ReadMe documents provide descriptions of known problems, if any, and their workarounds. To view the SmartServer 2.0 ReadMe, click **Start**, point to **Programs**, point to **Echelon i.LON SmartServer 2.0 Software**, and then select **i.LON SmartServer 2.0 Software ReadMe**. To view the EES 2.0 ReadMe, click **Start**, point to **Programs**, point to **Echelon i.LON SmartServer 2.0 Enterprise Services**, and then select **i.LON SmartServer 2.0 Enterprise Services ReadMe**. You can also find additional information about the *i*.LON SmartServer online at *www.echelon.com/ilon*.

Using Technical Support

If you have technical questions that are not answered by this document, the SmartServer and EES 2.0 online help, or the SmartServer and EES 2.0 ReadMe documents, you can contact technical support. Free e-mail support is available or you can purchase phone support from Echelon or an Echelon support partner. See *www.echelon.com/support* for more information on Echelon support and training services.

You can also view free online training or enroll in training classes at Echelon or an Echelon training center to learn more about developing devices. You can find additional information about device development training at *www.echelon.com/training*.

You can obtain technical support via phone, fax, or e-mail from your closest Echelon support center. The contact information is as follows (check *www.echelon.com/support* for updates to this information):

Region	Languages Supported	Contact Information
The Americas	English Japanese	Echelon Corporation Attn. Customer Support 550 Meridian Avenue San Jose, CA 95126 Phone (toll-free): 1.800-258-4LON (258-4566) Phone: +1.408-938-5200 Fax: +1.408-790-3801 *lonsupport@echelon.com*
Europe	English German French Italian	Echelon Europe Ltd. Suite 12 Building 6 Croxley Green Business Park Hatters Lane Watford Hertfordshire WD18 8YH United Kingdom Phone: +44 (0)1923 430200 Fax: +44 (0)1923 430300 *lonsupport@echelon.co.uk*
Japan	Japanese	Echelon Japan Holland Hills Mori Tower, 18F 5-11.2 Toranomon, Minato-ku Tokyo 105-0001 Japan Phone: +81.3-5733-3320 Fax: +81.3-5733-3321 *lonsupport@echelon.co.jp*
China	Chinese English	Echelon Greater China Rm. 1007-1008, IBM Tower Pacific Century Place 2A Gong Ti Bei Lu Chaoyang District Beijing 100027, China Phone: +86-10-6539-3750 Fax: +86-10-6539-3754 *lonsupport@echelon.com.cn*

Region	Languages Supported	Contact Information
Other Regions	English Japanese	Phone: +1.408-938-5200 Fax: +1.408-328-3801 *lonsupport@echelon.com*

Using the Rapid Deployment Example

This chapter describes how to assemble and wire the demonstration network, import and deploy the provided *i*.LON template for the network, and use the provided custom Web interface to monitor and control the network.

Introduction

You can use the SmartServer 2.0 to automatically and rapidly install single-channel LNS managed or standalone networks containing up to approximately 20 devices. Rapid deployment eliminates the cumbersome manual tasks associated with network installation such as matching up device configurations in a network tool with the physical devices on the network, and pressing service pins on the devices to commission them.

To use this rapid deployment feature, you design and configure a network using the SmartServer or an LNS network tool such as the LonMaker tool, make a template of the SmartServer and the LNS network database (in an LNS managed network), and then deploy that template on multiple SmartServers.

To create and deploy the template, you use the new *i*.LON AdminServer included in the Echelon Enterprise Services 2.0 on your *i*.LON SmartServer 2.0 DVD. The *i*.LON AdminServer is a Web application that you can use to manage and deploy SmartServers. You can use the *i*.LON AdminServer to create a "golden image" of one site and then replicate that image multiple times on identical sites. For example, if you have several buildings that have the same network, you can create a template for one building, and then deploy the template to automatically configure and install the other buildings. You can use the *i*.LON AdminServer onsite to deploy a network, or you can access it remotely to deploy the network.

When you deploy the template, the SmartServer searches the physical network for uncommissioned devices, automatically acquires the Neuron IDs of the discovered devices, and then matches the discovered devices based on program ID to the devices logically defined in a SmartServer or LNS network database. The SmartServer then automatically installs the discovered devices.

Using the Demonstration Network

You can assemble a demonstration network over a twister-pair free-topology (TP/FT-10) channel to test the rapid deployment feature. The **RapidDeploymentExample** folder on the root directory of the *i*.LON SmartServer 2.0 DVD contains pre-defined *i*.LON templates that include the configuration and custom Web pages for an LNS managed and standalone demonstration network.

The demonstration network includes a set of common LONWORKS devices that provide a cost-effective, energy-efficient solution for small networks. These LONWORKS devices include two switches, two thermostats, one energy meter, and one FT-10 SmartServer. The *i*.LON templates already include the application image files, external interface files, and resource files for these devices. The network also includes two generic lamp outputs, a power supply, and a transformer.

You can order the devices used in the demonstration network, and then wire them following the diagram in the *Assembling and Wiring the Devices* section later in this document. The following photograph displays the specified devices assembled and wired on a mounting board.

After you assemble and wire the demonstration network, you can install the Echelon Enterprise Services 2.0 from the *i*.LON SmartServer 2.0 DVD, and then import and deploy the provided *i*.LON template for the demonstration network using the *i*.LON AdminServer.

After the *i*.LON template has been deployed, you can open the SmartServer home page and click a link to access the custom Web pages provided for the demonstration network. You can use these Web pages to monitor and control the lighting and HVAC systems in the demonstration network, and monitor the network's energy consumption.

To create and use the demonstration network, you do the following:

1. Order the specified devices included in the *i*.LON template.

2. Assemble and wire the specified devices.

3. Install Echelon Enterprise Services 2.0 software, and install LNS Server Service Pack 5 if you are using LNS management services.

4. Import the included *i*.LON template.

5. Deploy the included *i*.LON template to your SmartServer. Optionally, you can open a LonMaker drawing for the demonstration network if you are using LNS management services.

6. Monitor and control the network using the provided custom Web pages.

The following sections describe how to perform these steps.

Note: If you are using an *i*.LON *e*3 plus Internet Server for the demonstration network, you must install the SmartServer 2.0 software from the *i*.LON SmartServer 2.0 DVD, and manually upgrade your *i*.LON *e*3 plus Internet Server before deploying the included *i*.LON template.   For more information on installing the SmartServer 2.0 software, see Chapter 2 of the *i.LON SmartServer 2.0 User's Guide*. For more information on manually upgrading an *i*.LON 100 *e*3 plus Server to the SmartServer 2.0 firmware, see Chapter 3 of the *i.LON SmartServer 2.0 User's Guide*.
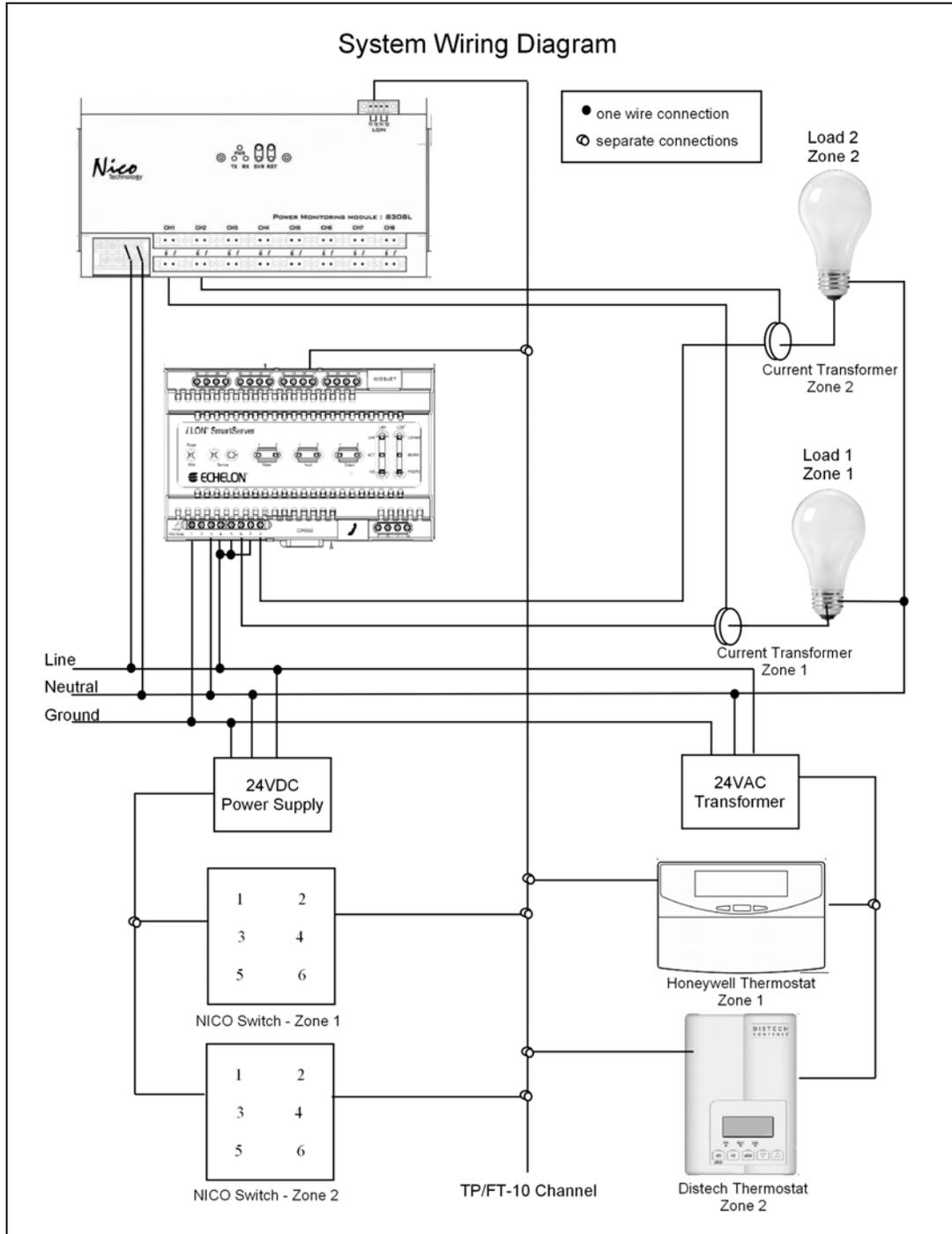
Ordering the Devices

The demonstration network uses one TP/FT-10 SmartServer, five LONWORKS devices (two switches, two thermostats, one energy meter), two generic lamp outputs (>2 amps), one 24VDC power supply, and one 24VAC transformer. The following table lists the required devices, provides links where you can order them, and describes their functionality in the demonstration network:

Item	Qty	Part Number/Source	Description
SmartServer (TP/FT-10)	1	72101R-4xx (FT) *www.echelon.com/ilon*	Interfaces, installs, monitors, and controls network.
Energy Meter	1	Nico 8108L-R1 *www.nico-tech.com*	Measures individual load consumption. Displays power consumption.
Switch	2	Nico 5006L *www.nico-tech.com*	Provides 6-switch input.
Thermostat	1	Honeywell T7350H *www.engenuity.com*	Controls an air conditioning unit and shows space temperature.
Thermostat	1	Distech EC-STAT-RT2E *www.engenuity.com*	Controls an air conditioning unit and shows space temperature.
Load (Lamp)	2	any ≥200 watt lamp	Provides lighting output.
24VDC Power Supply	1	any 24VDC transformer	Supplies power to the LONWORKS devices on the network.
24VAC Transformer	1	any 24VAC transformer	Supplies power to the LONWORKS devices on the network.

Assembling and Wiring the Devices

You can assemble the specified devices on a mounting board, and then wire them. The following wiring diagram illustrates how to wire the devices. Observe that the network is divided into two zones: Zone 1 includes a Nico switch, a lamp, and the Honeywell thermostat; and Zone 2 includes a Nico switch, a lamp, and the Distech thermostat. The power supply and transformer provide power to the LONWORKS devices in both zones, the SmartServer, and the Nico energy meter.

System Wiring Diagram

- one wire connection
- separate connections

Load 2
Zone 2

Current Transformer
Zone 2

Load 1
Zone 1

Current Transformer
Zone 1

Line
Neutral
Ground

24VDC
Power Supply

24VAC
Transformer

NICO Switch - Zone 1

NICO Switch - Zone 2

Honeywell Thermostat
Zone 1

Distech Thermostat
Zone 2

TP/FT-10 Channel

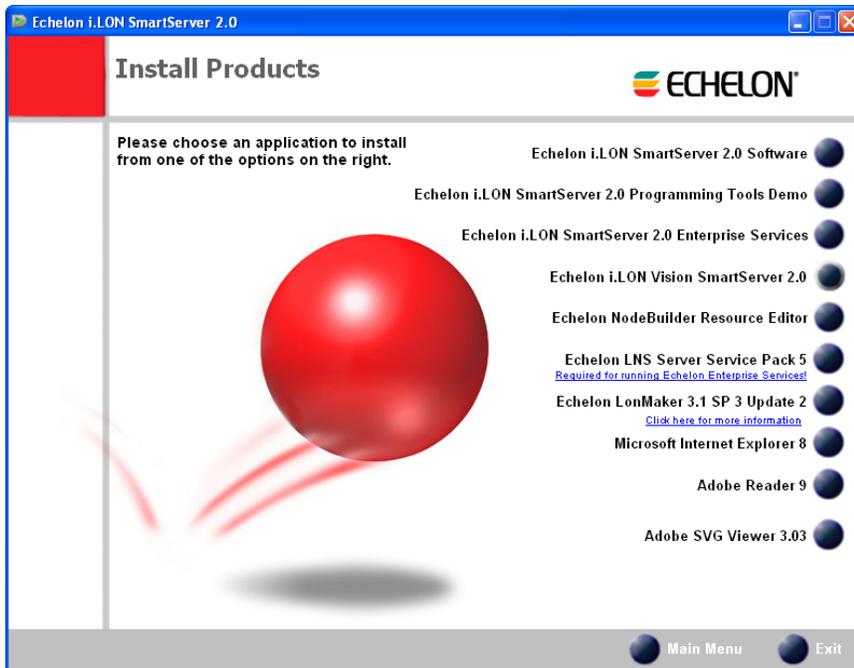## *Installing Echelon Enterprise Services 2.0 Software*

The Echelon Enterprise Services 2.0 software (EES 2.0) includes the *i*.LON Admin Server that you will use to import and deploy the provided *i*.LON template. In addition, it includes the LNS Proxy Web service and Tomcat 6 Server used for communication between the SmartServer and LNS network databases if you are deploying the *i*.LON template in an LNS managed network. If you are deploying the *i*.LON template in an LNS managed network, you must also install LNS Server Service Pack 5.

To install EES 2.0 and LNS Server Service Pack 5 (if required), follow these steps:

1. Insert the *i*.LON SmartServer 2.0 DVD into your DVD-ROM drive. If your computer does not have a DVD-ROM, insert the *i*.LON SmartServer 2.0 DVD on a network-accessible computer that has a DVD-ROM and copy the files on the DVD to a shared network drive. You can then copy the *i*.LON SmartServer files from the shared drive to your computer and install the various *i*.LON SmartServer products.

2. If the *i*.LON SmartServer 2.0 setup application does not launch immediately, click **Start** on the taskbar and then and click **Run**. Browse to the **setup.exe** file in the root directory of the i.LON SmartServer 2.0 DVD and click **Open**. The **Echelon *i*.LON SmartServer 2.0** main menu opens.
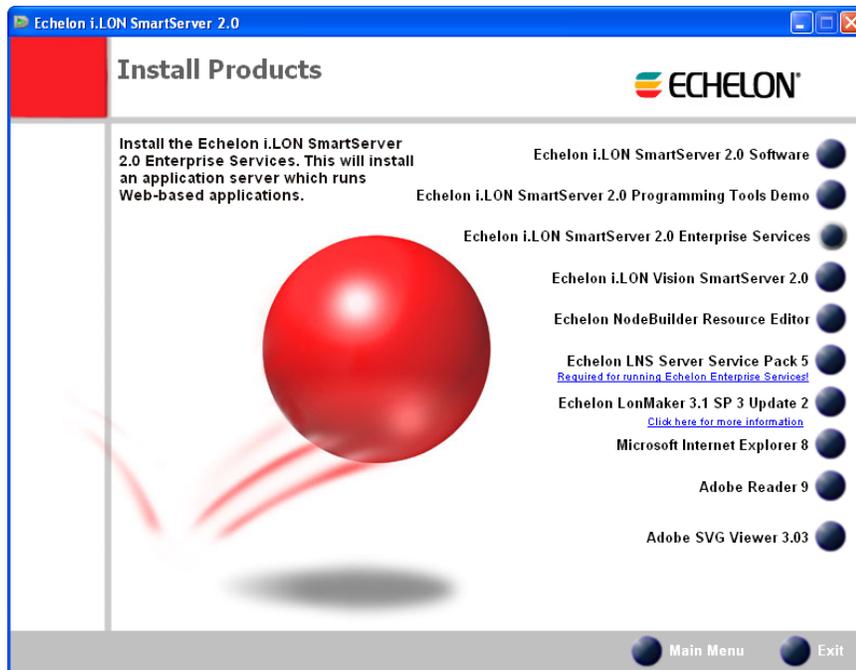
3. Click **Install Products**. The **Install Products** dialog opens.

4. Click **Echelon i.LON SmartServer 2.0 Enterprise Services**, and then follow the on-screen instructions. See Chapter 1 of the *Echelon Enterprise Services 2.0 User's Guide* for more information on installing the EES 2.0 software.

5. After the Echelon Enterprise Services has been installed, the Tomcat 6 Server starts and an EES tray tool ( ) is added to the notification area of your desktop. The LNS Proxy Web service is enabled and ready for setup on your SmartServer if you are deploying the *i*.LON template in an LNS managed network. For instructions on setting up and troubleshooting the LNS Proxy Web service, see Chapter 3 of the *Echelon Enterprise Services 2.0 User's Guide*.

6. If you are deploying the *i*.LON template in an LNS managed network, you must also install LNS Server Service Pack 5; otherwise, the LNS network databases on your computer may become corrupted. To install LNS Server Service Pack 5, follow these steps:

   a. Backup the LNS network databases on your computer.

   b. Click the Echelon *i*.LON SmartServer 2.0 button in the taskbar to return to the *i*.LON SmartServer 2.0 installer, click **Echelon LNS Server Service Pack 5** in the **Install Products** dialog, and then follow the on-screen instructions.

Importing the i.LON Template

You need to import the included *i*.LON template into the *i*.LON AdminServer before you can deploy it. To import the included *i*.LON template

1. Copy either the **QSR-TEMPLATE-LonMaker.zip** or the **QSR-TEMPLATE-Standalone.zip** file from the **RapidDeploymentExample** folder on the root directory of the *i.LON SmartServer 2.0 DVD* to the **LONWORKS\iLON\EnterpriseServices\repository\ees-import\templates** folder on your computer.

   If you plan on deploying the *i*.LON template in an LNS managed network, copy the **QSR-TEMPLATE-LonMaker.zip** file. If you plan on deploying the *i*.LON template in a standalone network managed by the SmartServer, copy the **QSR-TEMPLATE-Standalone.zip** file.

   Note: Only copy one file into the **ees-import\templates** folder or the import will fail.

2. Start the *i*.LON AdminServer. To do this, follow these steps:

a. Open the *i*.LON AdminServer.

- On a local EES 2.0 client, click **Start**, point to **Programs**, point to **Echelon i.LON SmartServer 2.0 Enterprise Services**, and then select **i.LON SmartServer 2.0 Enterprise Administration Service**.

- On a remote EES 2.0 client, open a Web browser and enter the following IPv4 address: **http://<** *LNS Server/EES 2.0 Computer IP Address***>/EES/AdminService/v4.0/index.htm**. See Chapter 2 of the *Echelon Enterprise Services 2.0 User's Guide* for more information on accessing the *i*.LON AdminServer from a remote EES 2.0 client.

b. The *i*.LON AdminServer home page opens.
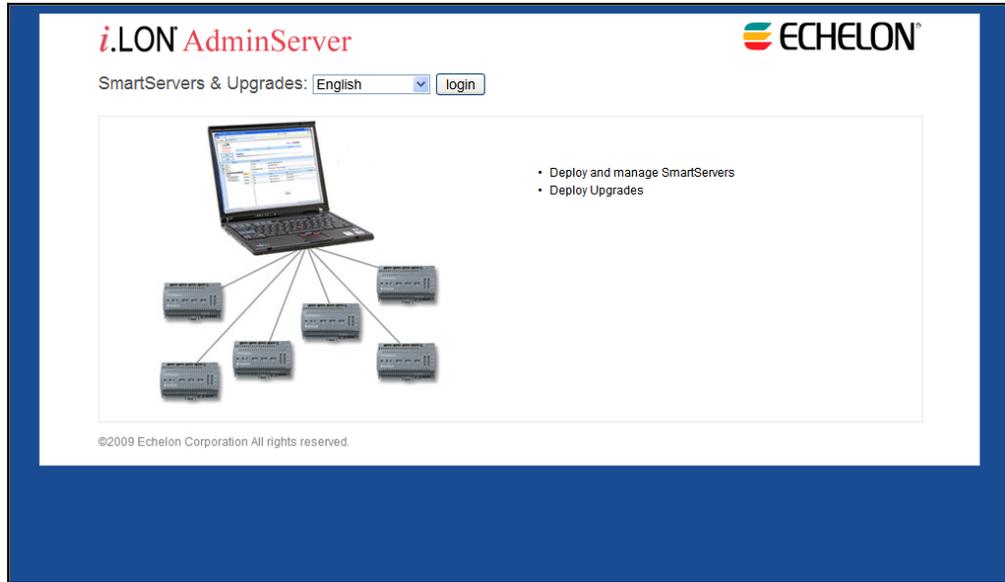
c. Select the language to be used for the *i*.LON AdminServer. The *i*.LON AdminServer includes English (the default), German, and French languages.

d. Click **Login**. A Login dialog opens.

e. Enter the **User name** and **Password** for logging into the LNS Proxy Web service, which are both `ilon` by default, and then click **OK**. You may have initially set the user name and password in the EES 2.0 installer. If you cannot log into the *i*.LON AdminServer, use the EES tray tool icon on your EES 2.0 computer to view the current user name and password used for accessing the LNS Proxy Web service. See Chapter 3 of the *Echelon Enterprise Services 2.0 User's Guide* for more information on how to do this.

f. The **i.LON AdminServer – Welcome** Web page opens. It may take 1–2 minutes for the *i*.LON AdminServer Web page to appear.
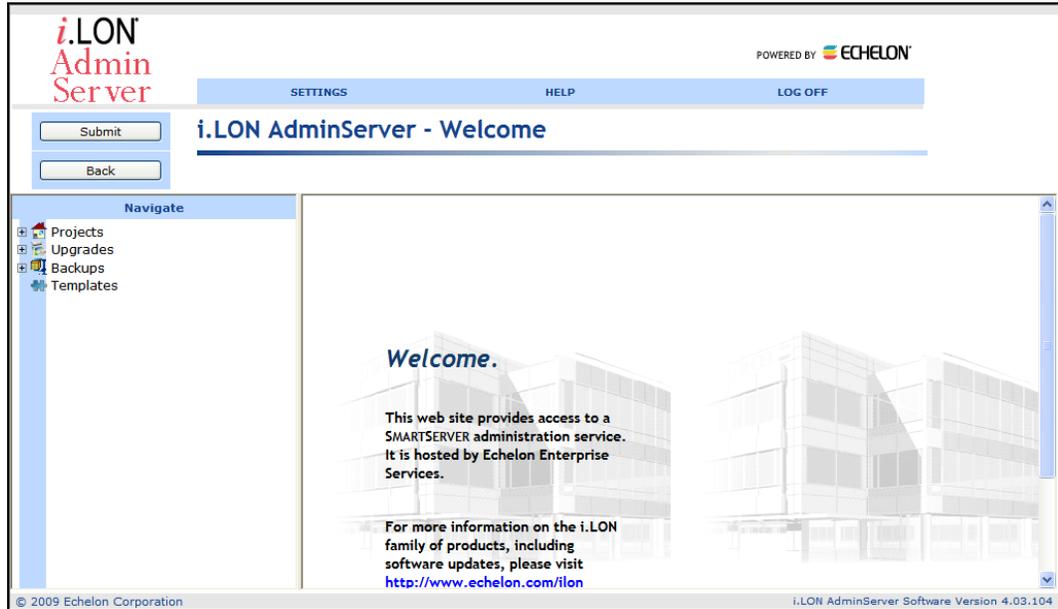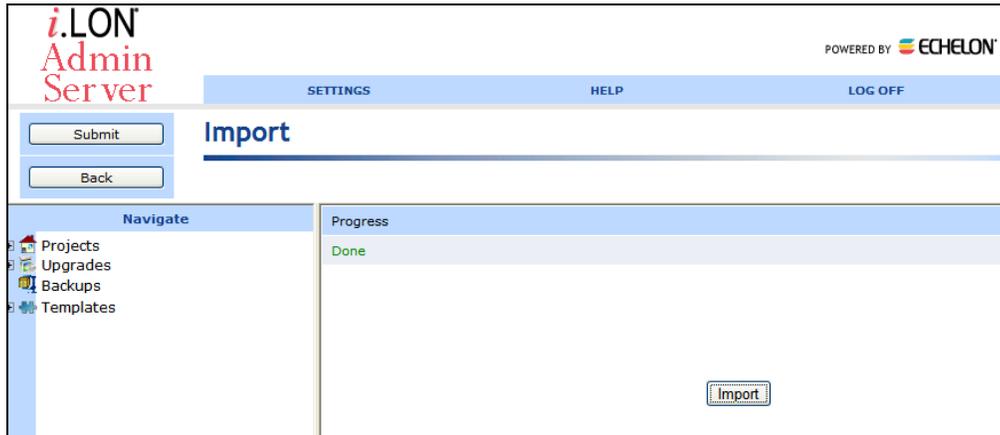

3. Right-click the **Templates** folder and then click **Import** on the shortcut menu.
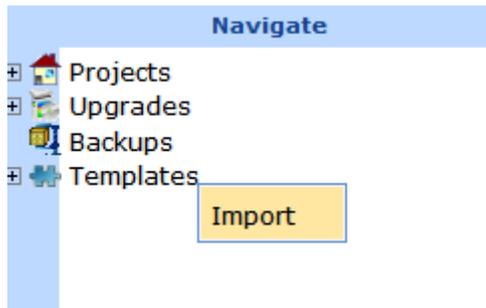

4. The **Import** Web page opens.
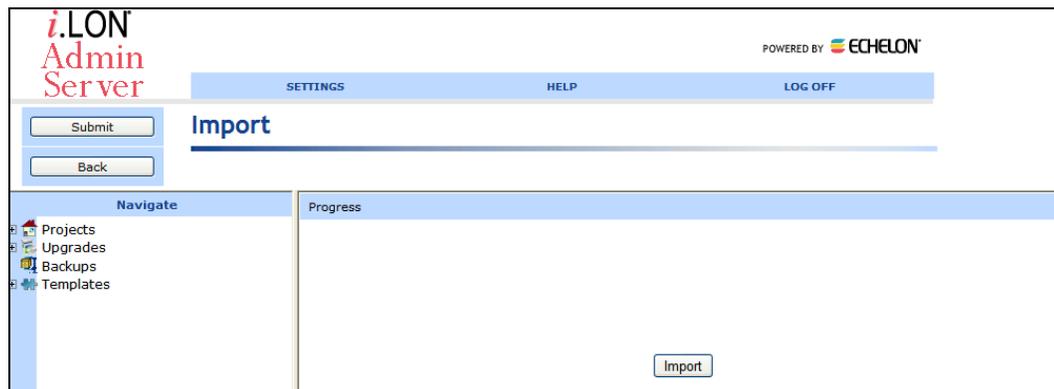
5. Click **Import**. It takes approximately 1-2 minutes to complete the import. When the import is done, **DONE** is displayed under the **Progress** column.

6. You can expand the **Templates** icon to display the imported **QSR-TEMPLATE** folder, and then expand the LAN to display the SmartServer image in the template. If you imported the **QSR-TEMPLATE-LonMaker.zip** file, the **QSR-TEMPLATE** folder also includes an **LNSProxy** icon that you can expand to view the **QSR** LNS network database included in the template.
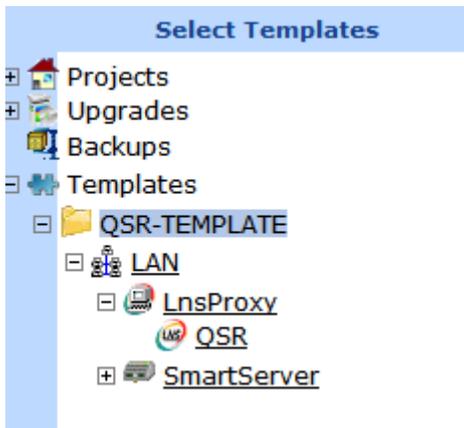

Note: If you imported the wrong QSR-TEMPLATE, delete the template from the i.LON AdminServer (right-click the **QSR-TEMPLATE** and click **Delete** on the shortcut menu), delete the backup file in the **LONWORKS\iLON\EnterpriseServices\repository\ees-import\templates** folder on your computer, and then follow steps 3-5 to import the other QSR-TEMPLATE.

Deploying the i.LON Template

You can deploy the *i*.LON template you imported in the previous section. After the *i*.LON template is deployed and the target SmartServer is rebooted, the target SmartServer will automatically discover the Neuron IDs of the uncommissioned devices on your demonstration network, match the devices with the devices defined in the deployed SmartServer or LNS network database based on program ID, and then automatically commission the devices—all with no further user-interaction required.

To deploy the *i*.LON template, follow these steps:

1. If you want to preserve the current image on your SmartServer for later use, use the *i*.LON AdminServer to create an *i*.LON project and then back up your SmartServer. For more information on how to do this, see Chapter 2 of the *Echelon Enterprise Services 2.0 User's Guide*.

2. Verify that the all LONWORKS devices on the demonstration network are uncommissioned.

3. Right-click the QSR-TEMPLATE folder, and then select **Deploy** on the shortcut menu.
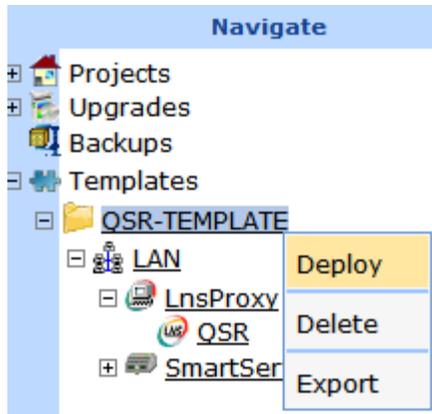
4. The **Deploy** Web page opens.
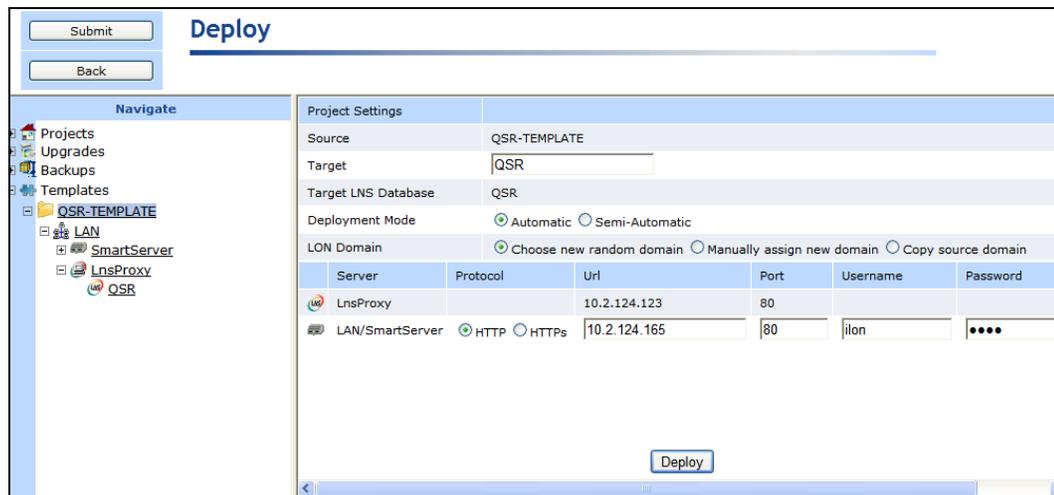
5. Accept all the default setting. Do not modify the default **Target** name, which is **QSR**. If you modify the **Target** name, you will not be able to create a LonMaker drawing for the deployed LNS network database.

6. Enter the following SOAP/HTTP settings for your target SmartServer:

|	
Protocol	Select the protocol used by the *i*.LON AdminServer to connect to the SmartServer (**HTTP** or **HTTPS**). The selected protocol must be enabled in the **Setup - Security** Web page in the SmartServer Web interface; otherwise, the following error occurs when the *i*.LON AdminServer tries to access the SmartServer: ERROR: WebService reports: "Could not connect to i.LON SmartServer!"

- To use **HTTP**, the **Enable Web Server** check box in the **Setup - Security** Web page must be selected.

- To use **HTTPs**, the **Enable SSL Web Server** check box in the **Setup - Security** Web page must be selected.

|	
Url	Enter the IP address or hostname for the SmartServer to be added to the IP channel
Port (Web Server/SOAP)	Enter the port the SmartServer uses to serve HTTP or HTTPs requests (SOAP and WebDAV). If you are using HTTP, the default value is **80**. If you are using HTTPs, the default value is **443**. You may change the port to any valid port number.

|	
Username	Enter the user name for logging in to your SmartServer via HTTP. The default user name is **ilon**.
Password	Enter the password for logging in to your SmartServer via HTTP. The default password is **ilon**.

7. Click **Deploy** to deploy the template. It takes approximately 25 minutes to deploy the template.

    Note: You can view the status of the current deployment by entering the `trace 2` command in the target SmartServer's console application. For more information on the SmartServer console application, see Appendix B of the *i.LON SmartServer 2.0 User's Guide*.

8. If a login dialog for the LNS Proxy Web service opens, enter the **User name** and **Password** for logging into the LNS Proxy Web service on the target LNS Server, which are both `ilon` by default, and then click **OK**. You may have initially set the user name and password in the EES 2.0 installer. If you cannot log into the *i*.LON AdminServer, use the EES tray tool icon on your EES 2.0 computer to view the current user name and password used for accessing the LNS Proxy Web service. See Chapter 3 of the *Echelon Enterprise Services 2.0 User's Guide* for more information on how to do this.

9. After the *i*.LON template has been deployed on your target SmartServer, the target SmartServer is rebooted.

10. A new **QSR** project is added to the navigation pane of the *i*.LON AdminServer. The **QSR** project contains the image of the target SmartServer, and it contains a copy of the deployed **QSR** LNS network database if you imported the **QSR-TEMPLATE-LonMaker.zip** file. The name of the new project and the LNS network database in the project are based on the default **QSR** name in the **Target** property the **Deploy** Web page.
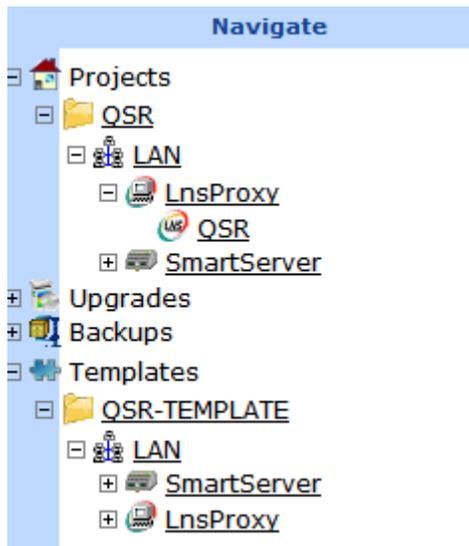

11. If you deployed the **QSR-TEMPLATE-LonMaker.zip** file, the deployment SmartServer is synchronized to the target LNS network database.

    Note: You can view the status of the synchronization by entering the `trace 2` command in the target SmartServer's console application. For more information on the SmartServer console application, see Appendix B of the *i.LON SmartServer 2.0 User's Guide*.

12. You can open the deployment SmartServer's Web pages and observe that the devices in the *i*.LON template have been replicated and installed on the SmartServer, and observe that the network has been synchronized to the target LNS network database (if the *i*.LON template included an LNS network database).
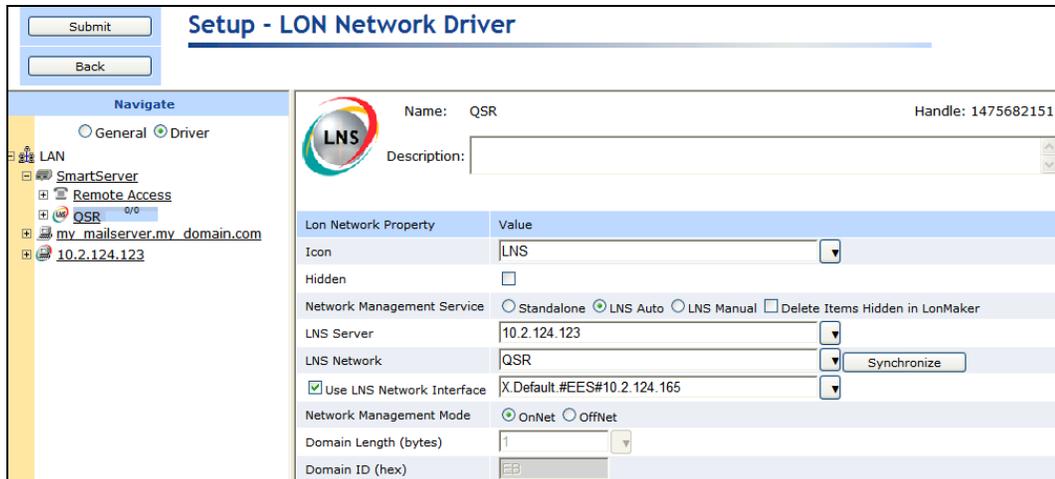
13. If you deployed the **QSR-TEMPLATE-LonMaker.zip** file, a remote network interface (RNI) for each deployment SmartServer is automatically created in the **LonWorks Interfaces** Control Panel application. The name of the RNI created is **#EES#**<*deployment SmartServer IP address*>.
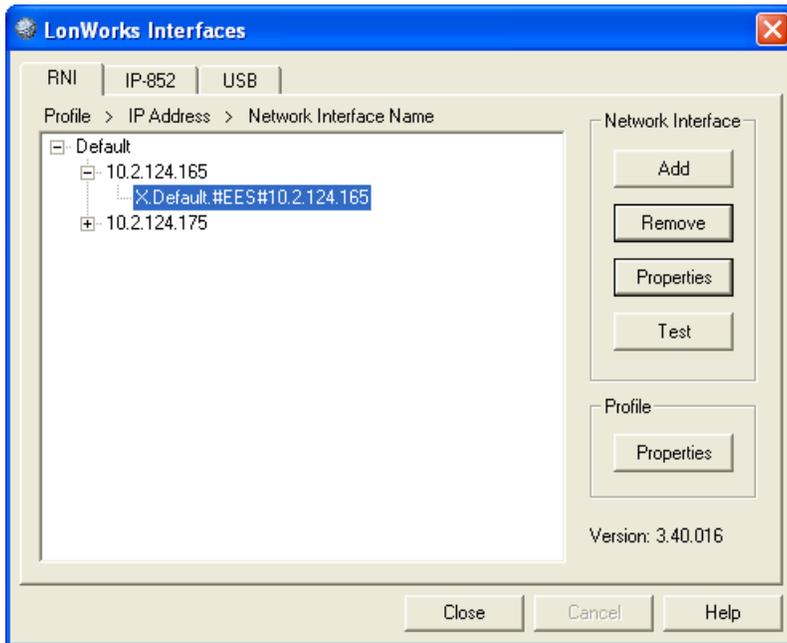
14. If you deployed **QSR-TEMPLATE-LonMaker.zip** file, you can open the **QSR** LonMaker drawing. Observe that the devices are configured, bound, and commissioned.
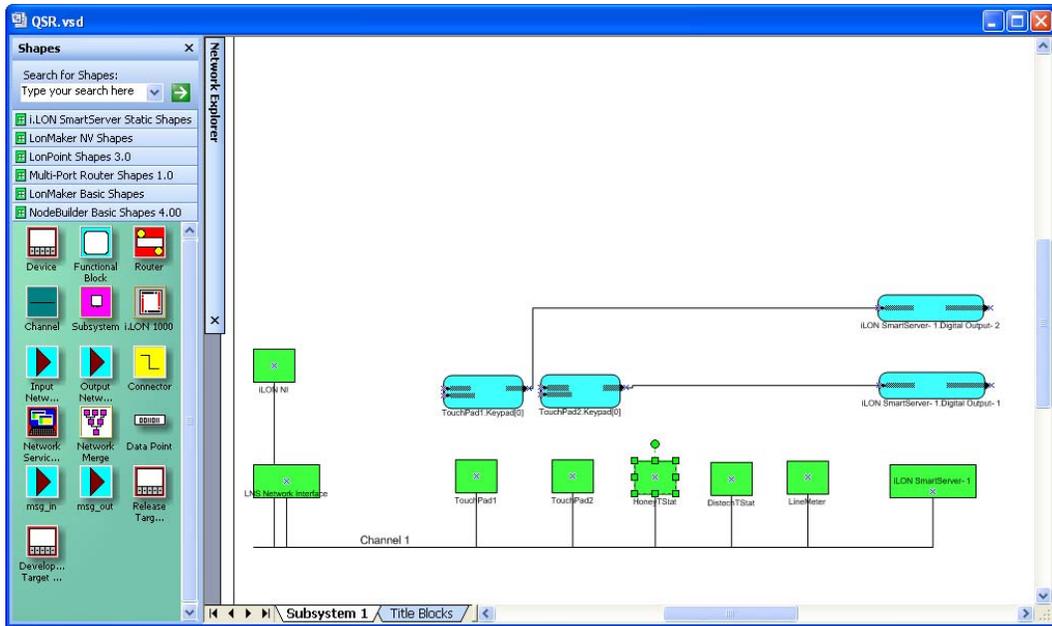
Note: When you open the LonMaker drawing, a prompt may open informing that there is a NSS device (LNS server network service device) conflict. Click **OK**, and then follow the instructions in the Network Wizard to open the drawing. Make sure you select the **#EES#**<*deployment SmartServer IP address*> as the network interface. After the drawing is opened, a prompt opens asking if you want to resynchronize the network. You only need to resynchronize the network if you made changes to the network with the SmartServer before opening the LonMaker drawing.

15. If you re-deploy the **QSR-TEMPLATE-LonMaker.zip** file on the same LNS Server computer and you specify a different target name, a dialog will appear after the target SmartServer is rebooted prompting you to manually create the LonMaker drawing associated with the deployed LNS network database from a copy of the source **QSR** LNS network database. You will need stop running EES, delete the deployed LNS network database, create a copy of the source **QSR** LNS network database, and name it based on the name of the deployed LNS network database. For more information manually creating the LonMaker drawing in this scenario, see Chapter 2 of the *Echelon Enterprise Services 2.0 User's Guide*.

Monitoring and Controlling the Demonstration Network

After you deploy the *i*.LON template, you can open your SmartServer's home page and click a link to access the custom Web pages provided for the demonstration network. You can use these Web pages to verify that the network is meeting corporate standards, monitor the network's energy consumption, control the network's lighting and HVAC systems, and view historical and real-time data.

The Deployment Example Web pages separate energy statistics into two zones: **Zone 1** includes a Nico switch, a lamp, and the Honeywell thermostat. **Zone 2** includes a Nico switch, a lamp, and the Distech thermostat.

The following sections describe how to do the following:

1. Open the Deployment Example Web interface.

2. Use the **Overview** Web pages to verify that the network is meeting corporate standards, and monitor the network's real-time energy consumption.

3. Use the **Zone Lighting** Web pages to monitor and control the lighting systems in each zone on the network.

4. Use the **Zone HVAC** Web pages to monitor and control the HVAC systems in each zone on the network.

5. Use the **Power** Web pages to view summaries of the energy used in each zone.

6. Use the **Logs** Web page to view historical energy consumption, temperature, and lighting data in each zone.

7. You can use the **Graphs** Web pages to view real-time data for the energy consumption (in watts), temperature, and lighting in each zone.

Opening the Deployment Example Web Interface

To open the deployment example Web pages, follow these steps:

1. Open your SmartServer's home page.

2. Click the **Rapid Deployment Example for EES** link under the **Demonstrations** box.

3. The **Performance Indicators** Web page opens. See *Using the Performance Indicators Web Page* for more information on using this Web page.

4. You can expand the entries in the navigation pane on left side of the Web interface and then click a link under an entry to open a Web page. The following sections describe how to open and use the various Deployment Example Web pages.

Using the Overview Web Pages

You can use the Overview Web pages to view the network's performance indicators and monitor the network's real-time energy consumption.

Using the Performance Indicators Web Page

You can use the **Performance Indicators** Web page to view whether the network is meeting corporate standards. To open and use the **Performance Indicators** Web page, follow these steps:

1. Expand the **Overview** entry in the navigation pane on left side of the Web interface, and then click **Performance Indicators**.

2. The **Performance Indicators** Web page opens.

3. The **Corporate Standard** column lists the standards defined for the network to optimize its energy savings. The goals include the lights being off after 9:00 p.m., the HVAC systems operating only between 9:00 a.m. and 5:00 p.m., the temperature staying between 20° to 25°C, and the daily power consumption being below 50 watts at 12:00 p.m.

4. The **Zone 1** and **Zone 2** columns displays real-time data for each zone on the network, indicating whether the zone is meeting the standards listed under the **Corporate Standard** column.

Note: The top of the sidebar frame includes the number and address of a hypothetical store. If you use the provided Web interface as a template for your custom Web pages, you need to edit the store number and address on each deployment SmartServer to match the actual location.

Using the Power Consumption Web Page

You can use the **Power Consumption** Web page to monitor the network's real-time energy consumption. To open and use the **Power** Web page, follow these steps:

1. Expand the **Overview** entry in the navigation pane on left side of the Web interface, and then click **Power**.

2. The **Power Consumption** Web page opens.

3. This Web page displays the expected maximum and current power usage for each zone in the network (in kilowatts).

Using the Zone Lighting Web Pages

You can use the **Zone Lighting** Web pages to monitor and control the lighting in each zone on the network. To open and use the **Zone Lighting** Web pages, follow these steps:

1. Expand the **Lighting** entry in the navigation pane on left side of the Web interface, and then click **Zone 1 Lighting** or **Zone 2 Lighting**.

2. The **Zone Lighting** Web page opens.
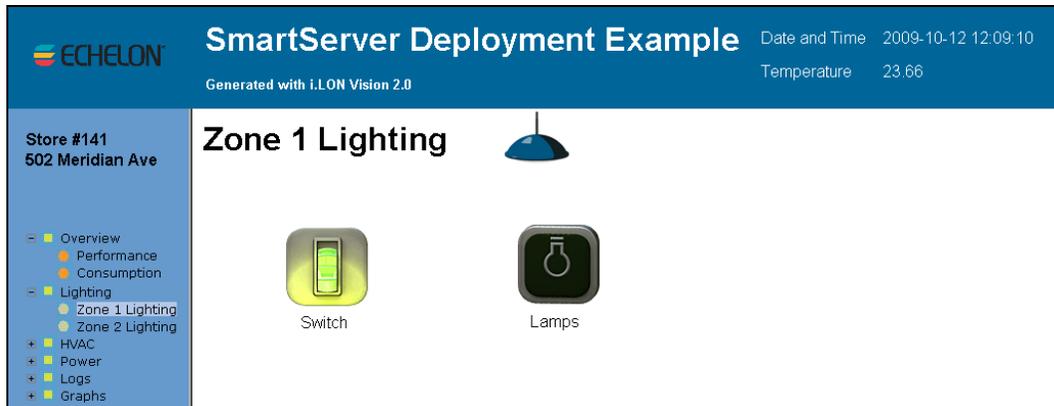
3. The **Switch** and **Lamps** images indicate the current state of the Nico switch and lamp in the respective zone.

4. You can click the **Switch** image to turn the lamp on or off. Each time you click the **Switch** image, the **Lamp** image is updated to show the current state of the lamp.

   Note: When you click the **Switch** image to control the Nico switch, a green hand manual override icon ( ) appears to the left of the Switch image. This indicates that the **Switch** image has the highest priority for writing data point values to the switch device, which means that you cannot use the device hardware to control the switch device. To use the device hardware again to control the switch, click the green hand icon, which temporarily resets the priority of the subject data point on the switch device to 255.

Using the Zone HVAC Web Pages

You can use the **Zone HVAC** Web pages to monitor and control the lighting in each zone on the network. To open and use the **Zone HVAC** Web pages, follow these steps:

1. Expand the **HVAC** entry in the navigation pane on left side of the Web interface, and then click **Zone 1 HVAC** or **Zone 2 HVAC**.

2. The **Zone HVAC** Web page opens.
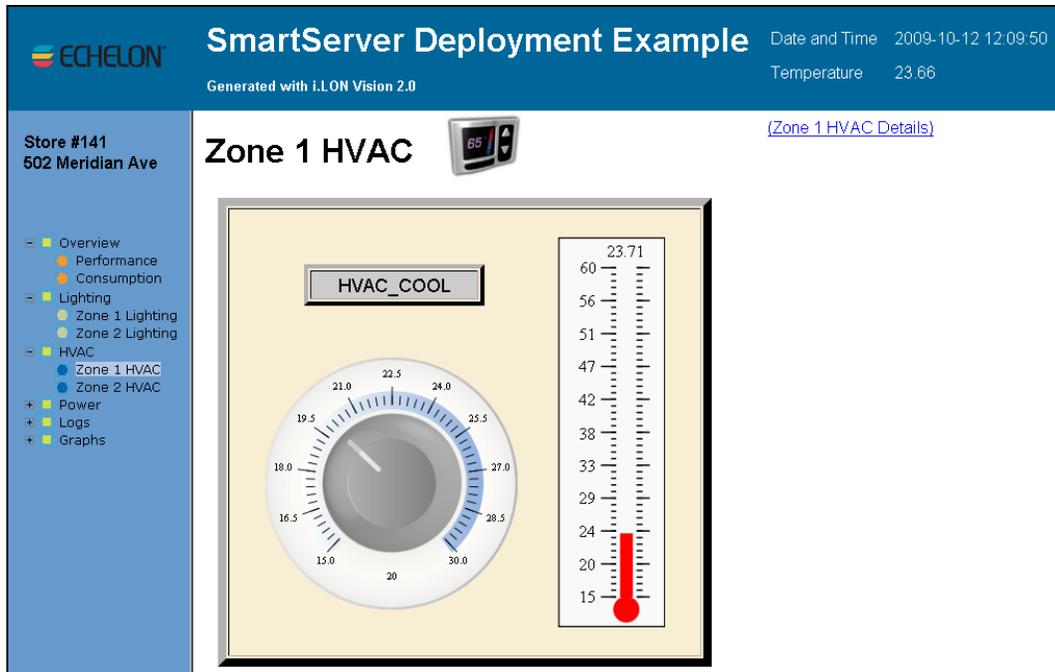
3. This Web page displays the current HVAC mode, setpoint, and temperature (the setpoint and temperature are displayed in degrees Celsius). You can use the Knob object to adjust the setpoint.

4. Optionally, you can view details of the HVAC system by clicking the **Zone HVAC Details** link in the upper right-hand corner of the Web page.

5. A Web page opens displaying the current mode, occupancy state, setpoint, temperature, and status of the HVAC system in the respective zone. The setpoint and temperature are displayed in degrees Celsius.
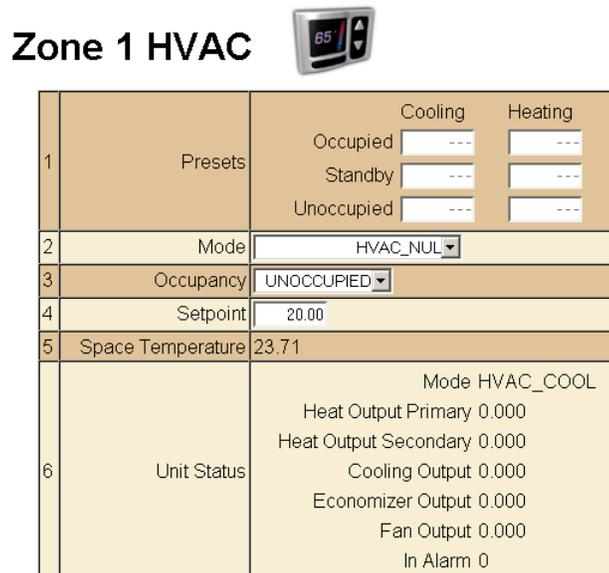
6. You can manually control the HVAC system by adjusting the **Mode**, **Occupancy**, and **Setpoint** properties. For example, you can turn on the hypothetical air conditioning unit for the zone by setting the **Mode** property to HVAC_COOL, or you can adjust when the hypothetical air conditioning and heating units are turned on and off by adjusting the setpoint.
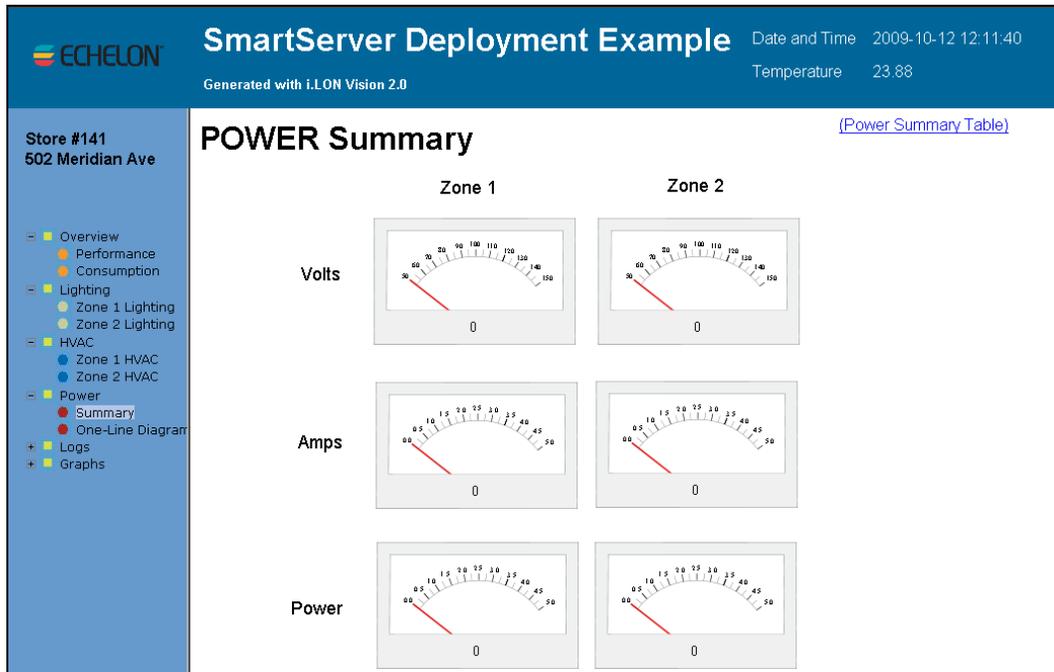
Using the Power Web Pages

You can use the **Power** Web pages to view summaries of the energy used in each zone. The **Power** Web pages include a **Power Summary** Web page and a **One-Line Diagram** Web page. The following sections describe these pages.

Using the Power Summary Web Page

To open and use the **Power Summary** Web page, follow these steps:

1. Expand the **Power** entry in the navigation pane on left side of the Web interface, and then click **Summary**.

2. The **Power Summary** Web page opens.

3. This Web page includes a set of Meter objects that display the volts, amps, and kilowatts consumed by each zone in the network.

4. Optionally, you can view details of each zone's power consumption by clicking the **Power Summary Table** link in the upper right-hand corner of the Web page.

5. A Web page opens displaying a table that lists the volts, amps, and kilowatts consumed by each zone in the network.

Using the One-Line Diagram Web Page

To open and use the **One-Line Diagram** Web page, follow these steps:

1. Expand the **Power** entry in the navigation pane on left side of the Web interface, and then click **One-Line Diagram**.

2. The **Power** Web page opens.
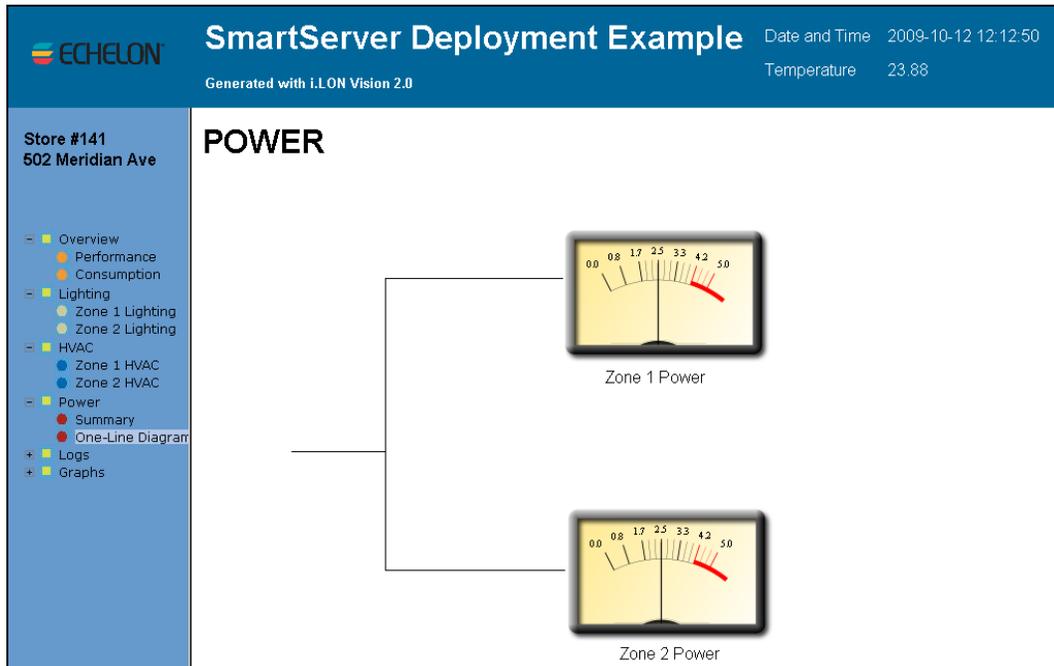
3. This Web page displays a VU Meter image for each zone that indicates the zone's energy consumption in watts.

Using the Logs Web Pages

You can use the **Logs** Web pages to view a graph and a log that provide historical tracking of the energy consumption (in watts), temperature, and lighting data in the selected zone. To open and use the **Logs** Web pages, follow these steps:

1. Expand the **Logs** entry in the navigation pane on left side of the Web interface, and then click **Power**, **HVAC**, or **Lighting**.

2. The **Logs** Web page opens.
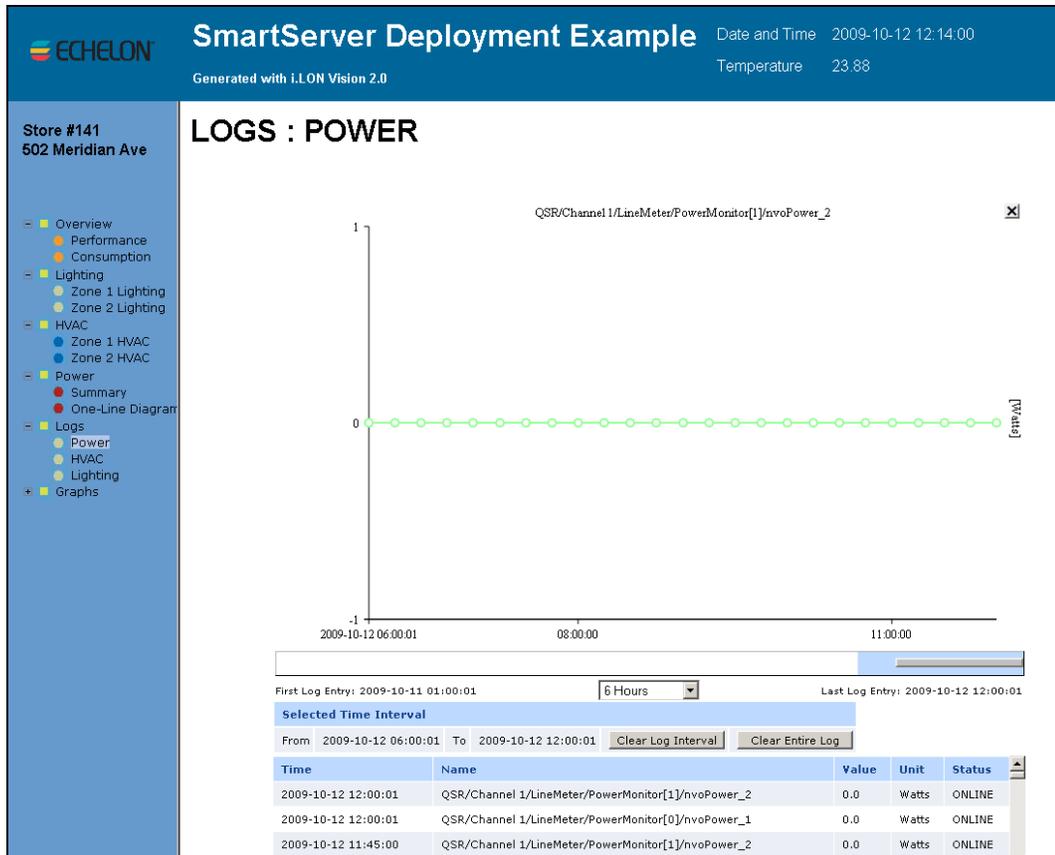
3. This Web page displays a trend graph and a log that chart and list the energy consumption (in watts), temperature, or lighting state for the selected zone over a specific interval. Note that the trend graph only appears if Adobe SVG Viewer 3.03 is installed on your computer. If Adobe SVG Viewer is not installed on your computer, a **Show Graph** link appears where the graph normally would. You can install Adobe SVG Viewer 3.03 from the *i.LON SmartServer 2.0 DVD*.

4. You can move the mouse pointer over one of the plotted data point updates to show a ToolTip. The ToolTip lists the date and time of the update and the value and state of the data point at the time the update was recorded.

5. The table lists the first to last recorded data point updates in descending chronological order. You can sort the data point updates by clicking a property header. This Web page displays the following properties for each recorded data point update:

Selected Time Interval	Displays the user-specified interval, which determines the data points currently shown on the Web page. The default interval is the time from the first to last data point recorded by the data loggers on your SmartServer.
	• Click **Clear Log Interval** to clear the currently selected range of data points from the Web page. Note that the Web page only shows the first 60 entries in the range, but the entire range will be deleted.
	• Click **Clear Entire Log** to clear all the selected data points from the Web page.
Time	Displays the date and time when the data point update occurred.
Name	Displays the name of the data point that was updated using the following format: *<network>/<channel>/<device>/<functional block>/<data point>*.

Value	Displays the value of the data point at the time of the update. If a preset is defined for the data point value, the preset name will be displayed instead of the actual value.
Unit	Displays the unit string of the data point.
Status	Displays the status of the data point at the time of the update.

In some cases, there may be more log entries within the selected range than can be displayed on the screen at once. In this case, a warning message will be displayed, and you can use the slide bar to browse the log entries.

6. You can use the slide bar at the top to browse the first to last updates recorded for the selected data point. Move the slider bar to the left to display older sets of values, or move it to the right to display the more recent values. If there are too many values within the selected range to be displayed, a warning message appears informing you that only a subset of the data points is being displayed.

7. You can specify the time interval for which recorded data point updates are listed in the log and displayed in the trend graph using the drop-down list directly below the slider. The default is **Entire Range**, which means that the log lists the first to last data point updates recorded in the data loggers on the SmartServer and the trend graph plots the first to last updates recorded for a selected data point.

Note: If you use the provided Web interface as a template for your custom Web pages, you need to open the Data Logger Web pages (**logs_HVAC.htm**, **logs_Lighting.htm**, and **logs_Power.htm**) on each deployment SmartServer and update the selected Data Logger in the Data Logger properties dialog. This is because the name of the selected Data Logger on the deployment SmartServer will be different from the one specified in the *i*.LON template.

Using the Graphs Web Pages

You can use the **Graphs** Web pages to view real-time trend graphs for the energy consumption (in watts), temperature, and lighting in the selected zone. To open and use the **Graphs** Web pages, follow these steps:

1. Expand the **Graphs** entry in the navigation pane on left side of the Web interface, and then click **Power**, **HVAC**, or **Lighting**.

2. The **Graphs** Web page opens.
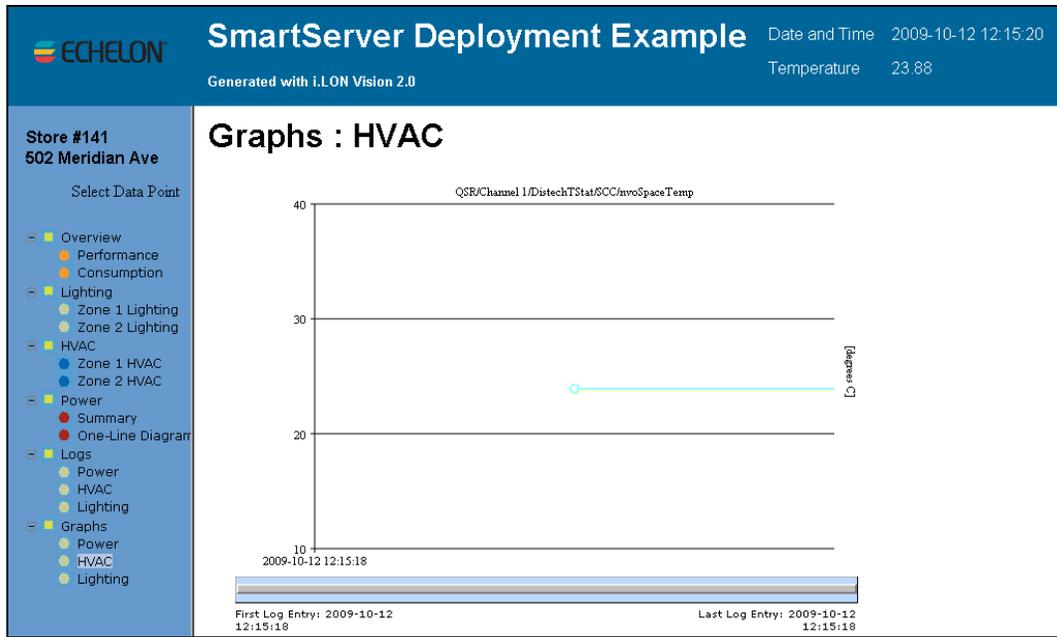
3. This Web page displays a real-time trend graph that charts the energy consumption (in watts), temperature, or lighting state in the selected zone.

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