

i.LON® SmartServer 2.0



Quick Start Guide

Welcome to i.LON SmartServer 2.0. Your SmartServer is a versatile middleware appliance that connects to IP-based applications such as enterprise energy management, demand response programs, and streetlight management systems.

The server not only allows you to access, control, and monitor electronic devices, but also lets you use data intelligently to save energy, improve operations, and lower maintenance costs. Easy to deploy and manage, and capable of both local and remote control, the i.LON SmartServer offers unparalleled flexibility. Use it as a standalone server, or integrate it with the control system of your choice. With built-in drivers for industry-standard protocols like Echelon's LonWorks® technology, SOAP/XML, ModBus, M-Bus, digital I/O, and pulsecount input, and custom driver support for everything else. Options are available for IP-852 routing and custom application support.

078-0427-01A

Step 1: Install the i.LON SmartServer 2.0 Software

1. Before installing, check www.echelon.com/ilon for the latest SmartServer 2.0 service pack and updates. See the installation instructions included with the service pack or update for more information.
2. Insert the i.LON SmartServer 2.0 DVD into your computer. If the installation program fails to start, navigate to your DVD-ROM drive and run **setup.exe**.
3. Click **Install Products**, click **Echelon i.LON SmartServer 2.0 Software**, and then follow the instructions in the Setup Wizard.
4. If you are installing an i.LON LNS Server Edition, insert the i.LON LNS Server CD into your computer. If the installation program fails to start, navigate to your CD-ROM drive and run **iLonLnsServer325.exe**.

Step 2: Connect the SmartServer Hardware

1. Use an Ethernet cable to connect your SmartServer to an IP network that can communicate with your computer.
2. If your computer is not on the 192.168.1 subnet, open a command prompt and type the following command:

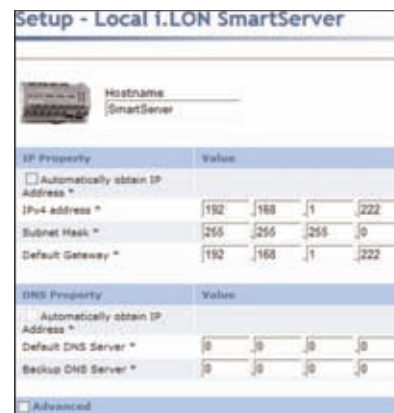
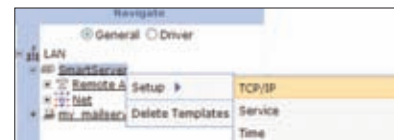
```
route add 192.168.1.0 mask 255.255.255.0 %computername%
```

If you are running Windows Vista™ on your computer, you need to open the command prompt with administrator privileges. To do this, click **Start**, type **cmd** in the search box, right-click **cmd.exe**, and then select **Run as Administrator**. If you receive a "The parameter is incorrect" error after entering the route command, replace **%computername%** with the IP address of your computer.

3. Open Internet Explorer 7 or later, or Mozilla Firefox 3.0 or later, and enter the following URL: **192.168.1.222**. Your SmartServer home page appears.
4. Click the **Login** button.
5. If a login dialog appears, enter **ilon** for both the User Name and the Password and then click **OK**. The **i.LON SmartServer – Welcome** Web page appears.

Step 3: Set the SmartServer IP Address

1. Right-click **SmartServer** near the top of the navigation pane in the left side of the Web page, point to **Setup** on the shortcut menu, and then click **TCP/IP**.
2. The **Setup – Local i.LON SmartServer** Web page appears.
3. Configure the IP and DNS properties for your SmartServer.
4. Optionally, you can configure IPv6 properties for your SmartServer by selecting the **Advanced** check box.
5. Click **Submit**.
6. Reboot the SmartServer. To do this, right-click SmartServer in the navigation pane, point to **Setup**, and then click **Reboot**. In the Setup – Reboot dialog, click **Reboot**. The reboot takes approximately 5 to 10 minutes.



Step 4: Select a Network Management Service

You can manage a LonWorks network using LNS® network management services or using the SmartServer as a standalone network manager. When using LNS network management services, you can configure the SmartServer to automatically synchronize with an LNS Server (the LNS Auto network management service), or to synchronize manually under your control (the LNS Manual network management service).

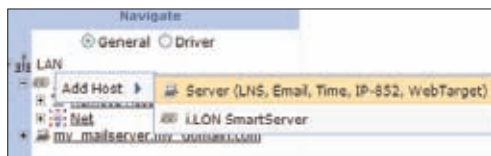
- When using the LNS Auto and LNS Manual network management services, the SmartServer synchronizes with an LNS Server, and uses the LNS Server to perform all network management tasks. In these modes, the SmartServer and the devices on the attached LonWorks network can communicate in a peer-to-peer manner. You must have an LNS Server Turbo Edition (version 3.2 or newer) to use either of the LNS network management services. An LNS Server Turbo Edition is included with the SmartServer 2.0 LNS Server Editions, and is also included with many LNS tools such as the LonMaker® Integration Tool.
- When using the Standalone network management service, the SmartServer is the network manager. The network functions as a master-slave system, where the SmartServer is the master to the slave devices. You can use standalone mode to operate a small, single-channel network that does not require LNS services, LonWorks connections, or synchronization with other network management tools. Networks running in standalone mode are limited to a maximum of 200 devices and no routers (for TP/FT-10 networks, you need to attach a physical layer repeater to the network to exceed the 64 device segment limit).

Using the LNS Auto and LNS Manual Network Management Services

1. Install the Echelon i.LON SmartServer 2.0 Enterprise Services on your LNS Server computer from the i.LON SmartServer 2.0 DVD. To do this, click **Echelon i.LON SmartServer 2.0 Enterprise Services** from the **Install Products** dialog, and then follow the instructions in the Setup Wizard. In the installer, change the default user name and password used to access the LNS Proxy Web service on your LNS Server computer.
2. Activate EES 2.0.
 - a. Right click the Echelon Enterprise Services tray tool icon in the Notification area of your desktop and then select **Activate Enterprise Service**.
 - b. The **EES Activation** dialog opens.
 - c. Copy the PC Key to your clipboard and then click the link in the dialog to request your EES Activation Key.
 - d. Browse to the LonWorks **iLON\EnterpriseServices** folder on your computer and create a new folder named **license**.
 - e. When you receive your EES Activation Key, copy it to the LonWorks **iLON\EnterpriseServices\license** folder on your computer.
 - f. Restart EES 2.0. To do this, right click the Echelon Enterprise Services tray tool icon and then select **Restart Service**. Alternatively, you can reboot your computer. After you restart EES 2.0 or reboot your computer, EES 2.0 is activated on your computer.
3. Install LNS Server Service Pack 5 on your LNS Server computer from the i.LON SmartServer 2.0 DVD. To do this, click **Echelon LNS Server Service Pack 5** from the Install Products dialog, and then follow the instructions in the Setup Wizard.

4. Add an LNS Server to the LAN.

- a. Right-click **LAN** at the top of the navigation pane, point to **Add Host**, and then click **Server (LNS, Email, Time, IP-852, WebTarget)** on the shortcut menu.



- b. The **Setup – Host Web** page appears, and a server entry is added to the bottom of the navigation pane.
- c. Click **LNS Proxy**, enter the IP address or hostname of your LNS Server computer that is running LNS Turbo Server (version 3.2) or newer, and then configure the SOAP/HTTP properties of the LNS Server.

d. Click **Submit**.

5. If you are using Internet Explorer 7, enable your Web browser to access the LNS Proxy Web service on the LNS Server computer. To do this, follow these steps:
- a. Add the locations of your local SmartServer and the LNS Server on which the LNS Proxy Web service is installed as trusted sites. To do this, click **Tools**, click **Internet Options**, click the **Security** tab, click **Trusted Sites**, and then click **Sites**. Clear the **Require Service Verification** check box.
- b. By default, the IP address of your local SmartServer appears in the **Add this Website to the Zone** box. Click **Add** to add the IP address of your local SmartServer. Enter the IP address of the LNS Proxy Web service in the **Add this Website to the Zone** box, click **Add**, click **Close**, and then click **OK**.
- c. Enable your Web browser to access sites over other domains. To do this

9. In the LNS Server property, select the IP address of the LNS server to be used for providing network management services.
10. Enter the User Name and Password for logging into the LNS Server via the LNS Proxy Web service and then click **OK**. The default user name and password is **ilon**, but you should have entered a different user name/password in the Echelon i.LON SmartServer Enterprise Services installer.
11. The box in the LNS Network property is highlighted red and a dialog appears prompting you to confirm the creation of a LNS network database for the default Net network.
- To create a new LNS network database named “Net” in the iLON/db folder on your computer, click **OK**, and then click **Submit**. If you selected **LNS Auto**, the network in the SmartServer tree is automatically synchronized to the new LNS network database. The time required for the synchronization depends on the size and complexity of the network.
 - To select an existing LNS network database, or create a new LNS network database with a different name, click **Cancel**, select an existing LNS network database or enter an LNS network database name that is unique to the selected LNS Server (the box in the LNS Network property will be highlighted red), and then click **Submit**.
12. If your SmartServer is attached to the network, select the **Use LNS Network Interface** check box and then select the network interface to be used for communication between the network and the LNS Server.
13. If you select the **Use LNS Network Interface** check box, the **Network Management Mode** property is set to **OnNet**. This means that network changes are propagated to the network immediately. Click **OffNet** to store network changes in the selected LNS network database and propagate them to the network when you place the SmartServer OnNet.

4. Click **Submit**. A dialog appears informing you that the SmartServer is being switched to standalone mode. It takes approximately 1 minute to switch. When the SmartServer has finished switching to standalone mode, the dialog closes and you can begin using your SmartServer.

Step 5: Get More Information

1. Read the SmartServer documentation, which is installed in the Echelon i.LON program folders.
2. Get information on free online training and live training classes at www.echelon.com/training.
3. Get information on support for your SmartServer at www.echelon.com/support.
4. Get the latest documentation on all Echelon products at www.echelon.com/docs.

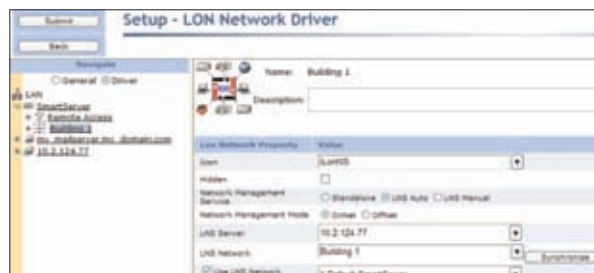
- with Internet Explorer 7, click **Tools**, click **Internet Options**, click the **Security** tab, and then click **Custom**. Under the **Miscellaneous** category, select **Enable or Prompt for the Access data sources across domains** property.
6. Click the **Driver** option at the top of the navigation pane.
7. Click the **Net** network in the navigation pane. The **Setup – LON Network Driver Web** page appears.
8. Under Network Management Service, click **LNS Auto** or **LNS Manual**.

- Select LNS Auto to have the SmartServer automatically synchronize with the selected LNS network database via the LNS Proxy Web service (you can also manually initiate synchronization by pressing the Synchronize button in the LNS Network property). In this mode, the SmartServer independently initiates communication with the LNS Proxy Web service. The LNS Proxy Web service is part of the Echelon Enterprise Services.

If you are using an LNS Server, you should select the LNS Auto mode as long as a firewall is not blocking the SmartServer’s access to the LNS Proxy Web service port on the LNS Server computer (port 80 by default).

- Select LNS Manual to have the SmartServer manually synchronize with the selected LNS network database via the LNS Proxy Web service. In this mode, you can synchronize the SmartServer with the selected LNS network database by pressing the Synchronize button in the LNS Network property. This mode does not require the SmartServer to access the LNS Proxy Web service port on the LNS Server computer. You should only select this mode if a firewall is blocking the SmartServer’s access to the LNS Proxy Web service port on the LNS Server computer (port 80 by default). This is the default.

14. Click **Submit**. The network name is changed to the name of the LNS database you selected in step 11, and you can begin using your SmartServer. If you selected LNS Auto in step 8, the SmartServer automatically begins synchronization with the selected LNS network database. If an item in the SmartServer tree is highlighted yellow, it has not yet been synchronized with the selected LNS network database. An item is clear when it has been synchronized. You can click **Synchronize** in the LNS Network property to manually resynchronize the SmartServer to the LNS network database. See Chapter 5 of the *i.LON SmartServer 2.0 User’s Guide* for more information on manually resynchronizing the SmartServer to an LNS network database.



Using Standalone Network Management Service

1. Click the **Driver** option located directly above the navigation page on the left side of the SmartServer Web interface.
2. Click the **Net** network in the navigation pane. The **Setup – LON Network Driver Web** page appears.
3. In the **Network Management Service** property, select **Standalone**.

You can create custom embedded applications and drivers for your SmartServer with Echelon i.LON SmartServer Programming Tools. A demo version of the Echelon i.LON SmartServer Programming Tools is available on the i.LON SmartServer 2.0 DVD. To build custom embedded SmartServer applications and drivers, order the Echelon i.LON SmartServer 2.0 Programming Tools DVD (Echelon Model 72111-439) from your Echelon sales representative.

To deploy your custom embedded applications and drivers to your SmartServer or any other SmartServer, a SmartServer Programming Activation Key must be installed on it. If a SmartServer Programming Activation Key is not preinstalled on your SmartServer, you can order one (Echelon Model 72161) from www.echelon.com/ilon/activate.

You can create a high-speed IP backbone for large LonWORKS networks with IP-852 routing. To use the IP-852 routing option, an IP-852 Router Activation Key must be installed on your SmartServer. If an IP-852 Router Activation Key is not pre-installed on your SmartServer, you can order one (Echelon Model 72160) from www.echelon.com/ilon/activate.

