Sierra Wireless Airlink Raven XE H2225E Router
Setup using Inductive Automation Template

Description

This document covers the setup of the Raven XE using the template provided by Inductive Automation. It will setup your Raven XE to act simply as an SMS gateway device on your network. The following changes were made:

- To be able to send and receive SMS.
- DHCP Server disabled.
- OTA ACEManager disabled.
- Primary Gateway disabled.
- LAN/Ethernet Changes made.
- Port 80/443 Blocked
- Airlink Management Services Disabled
- SSH enabled over Telnet

There is a companion document which details the manual setup of the Raven XE. That document can be used in conjunction with this. It is called *SierraWirelessRavenXESetup.doc*.

Raven XE and Network Security

The security settings provided by the Inductive Automation template are basic steps to secure the Raven XE. This in no way covers all security aspects that the Raven XE is capable of and your own policies in securing your network. You need to take the time to configure and test the current settings and other security measures of the Raven XE and as appropriate to your network. Inductive Automation is not responsible for the security of your Raven XE or your network.

SIM Card

Inductive Automation tested the Raven XE using a T-Mobile SIM card that had Pre-Paid Text and Minutes. SMS was able to be sent and received by the Raven XE. It was tested to see if ACEManager could be accessed over the air; it was not allowed. Additionally, it was tested to see if HTTP traffic to the internet could be made; it was not. This is because 1) a data plan is always required for this 2) I was told by T-Mobile support you need data and a hotspot plan. I have also confirmed by Sierra Wireless support that a data plan is required for any type of data traffic, excluding SMS. In terms of security, this is a good thing if you are only going to be using the Raven XE as an SMS gateway.

Inductive Automation also tested an AT&T SIM card, specifically a GoPhone Account with 250 minutes and unlimited text Messaging. No data was purchased with the plan. You can pick one of these SIM Cards up for $25 per month at any AT&T Store. We were able to send and receive messages with no problems.

If you need remote access through the Raven XE, contact Sierra Wireless on the type of SIM you will need to purchase.

Setup Steps

The sections below should be followed in the order given to setup the Raven XE H2225E. This setup assumes you have already installed your SIM Card.

The browsers you should use when logging into the ACEManager is either *Internet Explorer* or *Firefox*. The ACEManager Interface behaves poorly when using *Google Chrome* or *Safari*.

Default Ethernet Connection
First connect the Raven XE directly to your computer.

Default Ethernet settings for access:
Device IP Address: 192.168.13.31
Port: 9191
Username: user
Password: 12345

It should be as simple as changing your computer's LAN settings to DHCP. Then connect to the Raven XE via a browser with ***http://192.168.13.31:9191/index.htm***.

Password
The first thing you need to do is change the password. From the Admin Tab of ACEManager, change it.

Firmware
The first thing to check is if the router's firmware is up-to-date. Go to the Status Tab. If the router's ALEOS Software Version is H2225E_4.0.10.001 Jul 21 2011 or earlier, it should be updated. As of this writing, the latest firmware version is H2225E_4.0.11. This can be found on the Sierra Wireless website at http://www.sierrawireless.com/en/Support/Downloads/AirLink/Configurable_Intelligent_Gateways/AirLink_Raven_XE_HSPA_for_ATT_H2225E-C.aspx. The executable file is RvnXE_90_H2225E_4.0.11.003.exe.

With the firmware downloaded, follow these instructions to install it:
1) Simply connect the Ethernet cable from your laptop to the router;
2) Set your computer to DHCP;
3) Double-click on the file to execute the firmware upgrade program.

4) You will be entering the IP address of 192.168.13.31 with the default username and the appropriate password.
5) Follow the instructions given by the upgrade program.

The Raven XE's manual also covers how to upgrade the firmware easily.

Upload Inductive Automation Template

You will now upload the Raven XE to use Inductive Automation's Template:

1) From the ACEManager, press the Upload link.
2) Select the file on your computer called *IA_SWTemplate_02252013.xml*.
3) Press the Load & Apply button.
4) You will then be asked to reboot the Raven; do so. The entire procedure takes about 3-4 minutes. You will then be able to re-access the ACEManager at ***http://192.168.13.31:9191/index.htm***.

Finalizing the Raven XE for your Network

At this point you should change the Raven XE IP configuration to be appropriate to your network. Additionally, you should now review the security settings of the Raven XE to see if there are additional settings you need to account for. See the Security tab under the ACEManager. Again, it is not Inductive Automation's responsibility to secure the Raven XE from unwanted inbound and outbound traffic.

Remember, any change you make on the Raven XE will require a reboot. You should now be ready to plug it into your network.

Testing SMS

Now that your Raven XE is on the network, let us see if you can send and receive SMS messages. If you haven't already, install you SIM card into the Raven XE.

If you have loaded the Inductive Automation template you will connect via an SSH client such as **Putty**. The user name and password will be the same that is used to connect to the ACEManager.

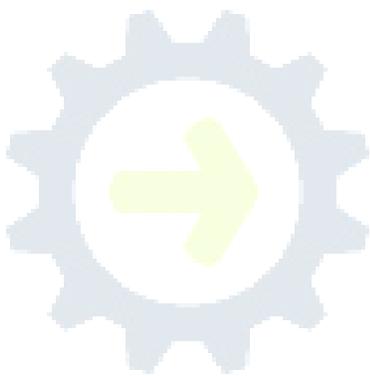The following are basic commands to send an SMS message:

at*smsm2m="1XXXXXXXXX This is SMS test message."

To send a test message to itself:
at*phonehome=1XXXXXXXXX

1XXXXXXXXX is the number for the Raven XE.

To see if the Raven XE is receiving text messages, send one to it. Then from the ACEManager, go to Services – SMS – SMS Security. There are 2 fields called Last Incoming Phone Number and Last Incoming Message you can see if it came in. Press *Refresh* if you do not see it immediately.