Document History:

Version	Author	Date	Change Description
1.0	Brad Chandler	03/18/2013	Initial

Typical Volume of Requests per Week:

- 20-25 Requests per month.

Skills Required to Perform Action:

Acknowledge and Complete RIT

- Access to RequestIT form 12018 and administrative abilities to it (i.e. acknowledge and complete).
- General knowledge of RequestIT

Spectrum User Maintenance Request

- To add devices in Spectrum, the user must be a Spectrum administrator.

NMIS Database

- Network Management Information System (NMIS) feeds are emailed to users and groups for changes.
- Access to database is required.

Access to Spec_Admin mailbox

- Feeds from NMIS go to the spec_admin@libertymutual.com mailbox.

Glossary of Terms:

Term	Definition
RIT	Request Information Technology
Spectrum	CA's Network Management application.
'N' Number	LM User Account
FLM	Front Line Manager
NMIS	Network Management Information System

Summary:

This document is intended to show how a new device that is not a server is added into Spectrum. Specific access is required to be able to create devices as well as see the particular feeds from the network database known as 'NMIS.'

Business stakeholders:

All Users from all SBU's can request access to the Spectrum console to aid in monitoring the network and servers that make up their environment. (PM, CM, AM, Corp and Hosting Services)

Recurrence:

As Needed – Users will submit a Spectrum user RIT (12018) or create a change which will update the NMIS database. When an update goes into NMIS, an automatic email will be generated and sent to the spec_admin mailbox. New offices come online and the subnet used and/or devices added to the offices will need to be monitored.

Required Permissions:

- Users must be an administrator in Spectrum to add devices. See the SOP, "Adding a User to Spectrum," to get administrative access to Spectrum.
- Access to the NMIS database is a requirement. The SME currently for this application is Sandra Kuty (sandra.kuty@libertymutual.com).
- Access to the spec_admin mailbox is also required. Fill out RIT form 2000 (Generic Distribution List Creation and Change Request):

  SSG = <your_group>
  Request = Generic Mailbox

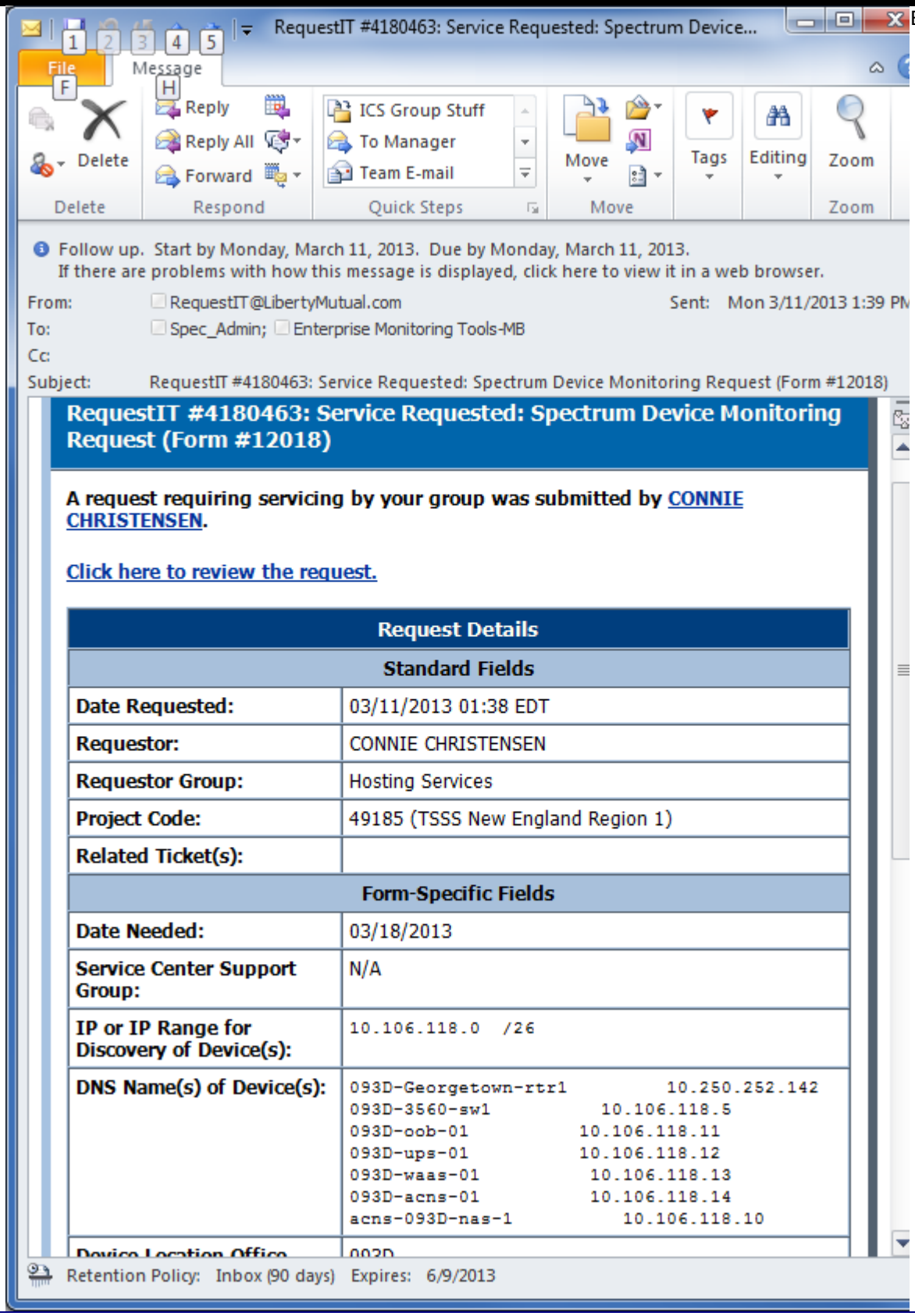
Action = Change
Name (next window) = Spec_Admin
Add PIN <add your 'n' number and click on "Add PIN">
What will the Generic Mailbox be used for? = Support of adding devices to Spectrum.
Submit Change Request

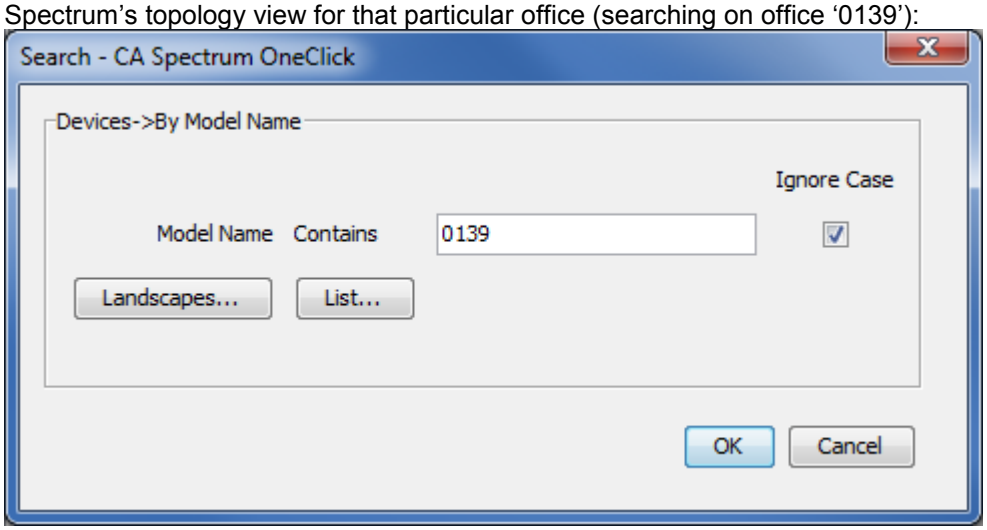
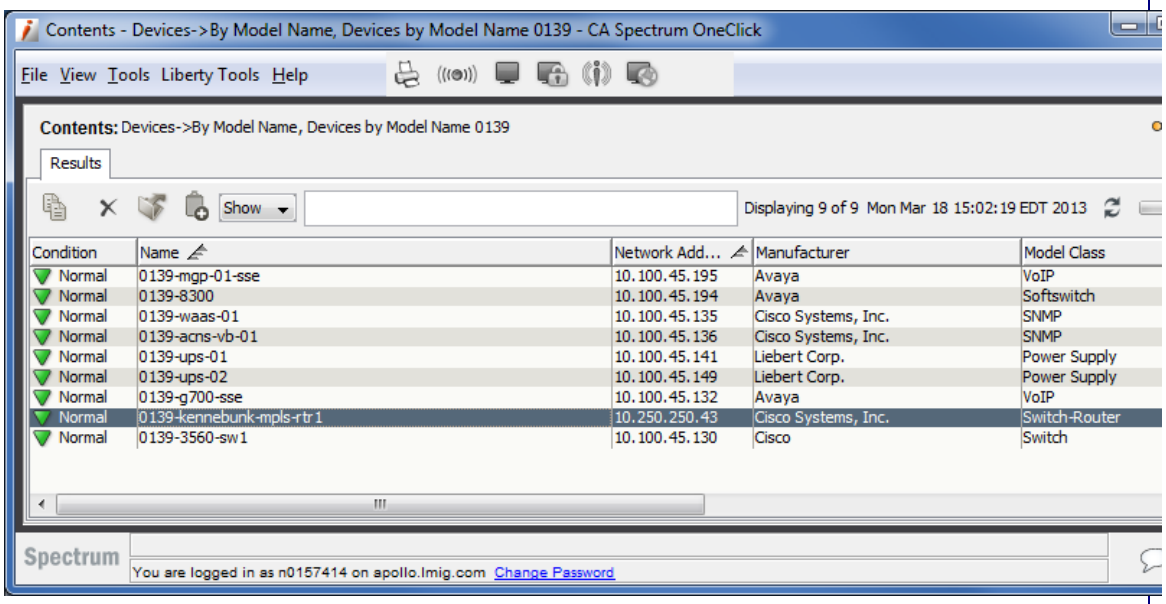
Required Software:

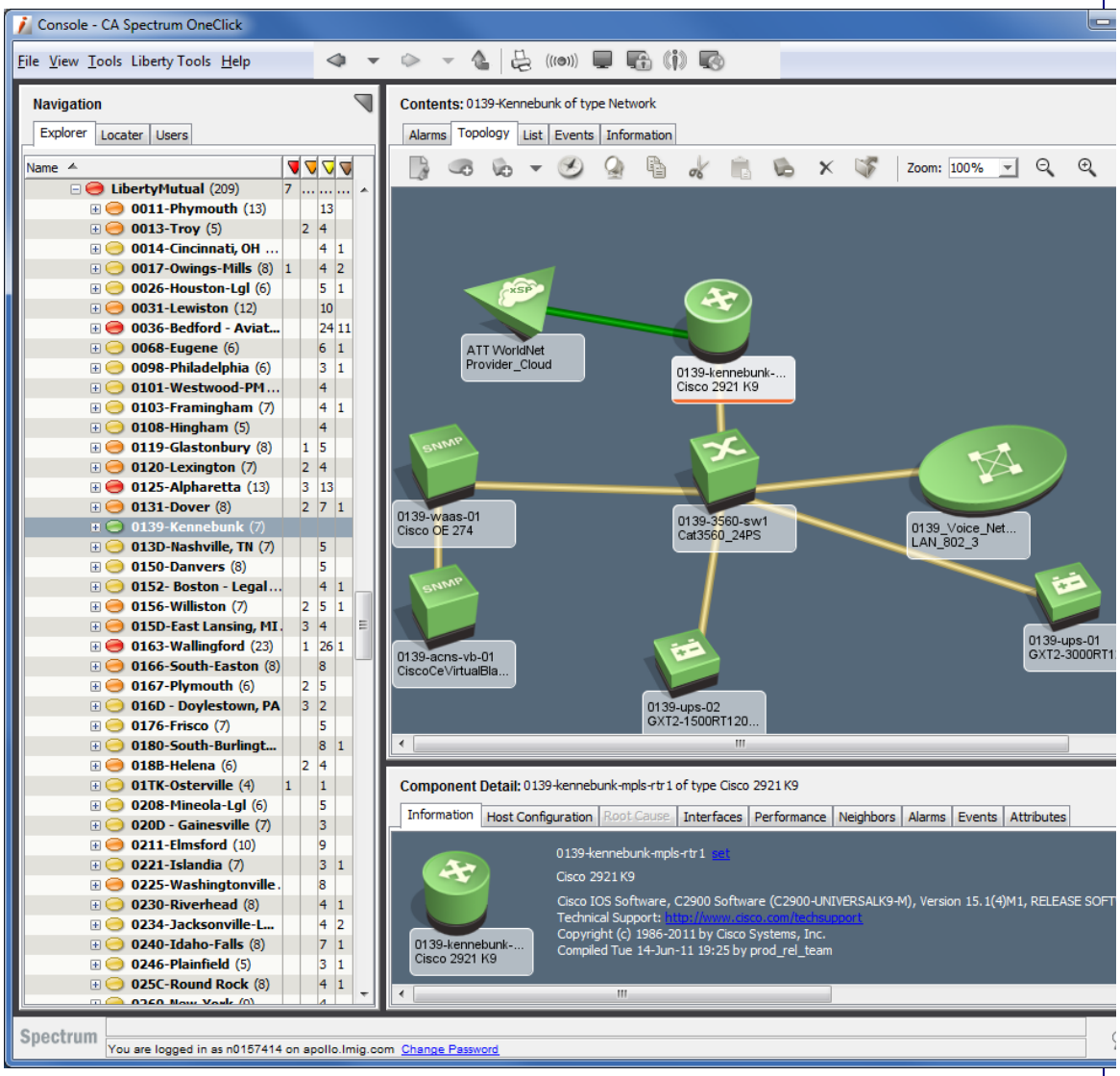
- Access to RIT forms
- Spectrum OneClick will require download of Java Runtime Environment (JRE). For current one supported by CA's Spectrum, you can download from the Spectrum webserver once a user is created in Spectrum (i.e. RIT 12020 is completed) at: https://apollo.lmig.com:8443/spectrum/console/install-java.jsp
- Access to NMIS database.
- Putty or some secure remote login software for the eHealth SNMPv3 modifications on the Linux servers.

Procedure for Adding Device via RIT (12018):

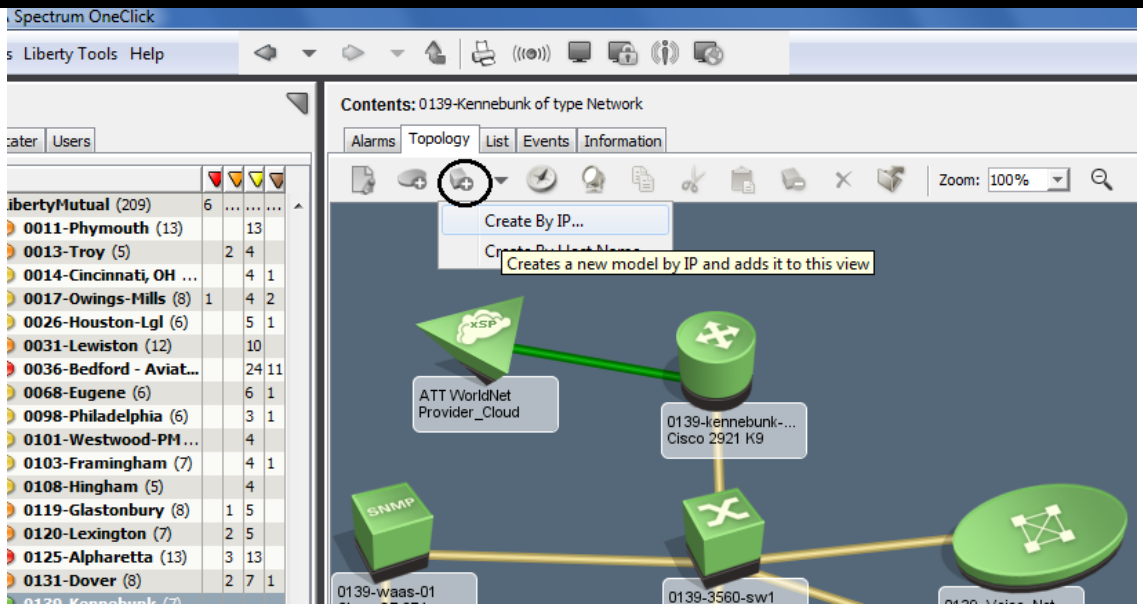
Step	Action	Result
1.	New Spectrum RIT received requesting adding device to Spectrum.	

Step	Action	Result
2.		Example RIT.

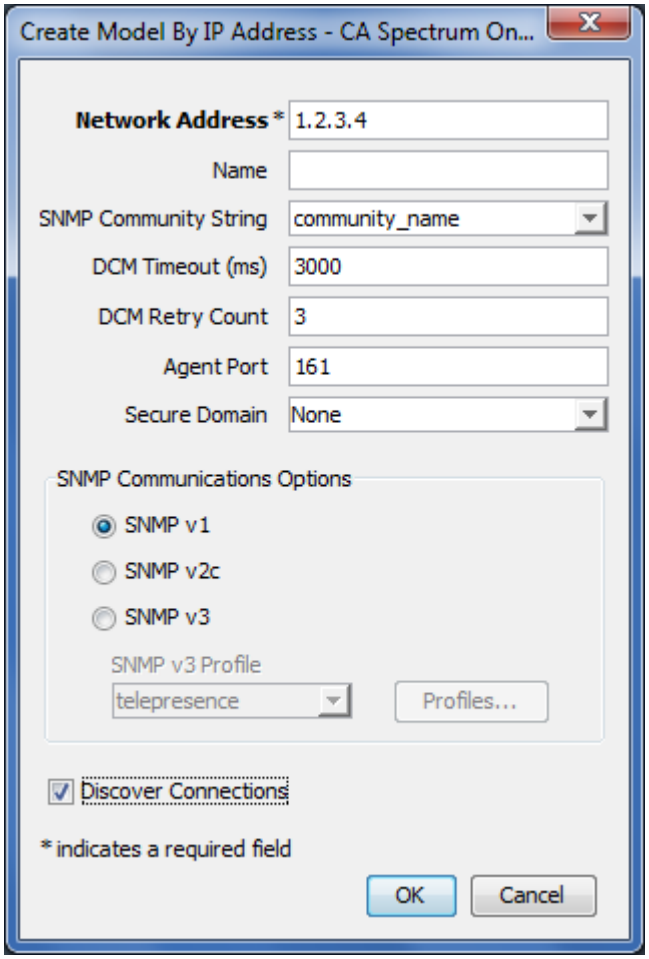
Step	Action	Result
3.	Confirm that the devices do not already exist in Spectrum (if this is a new office, proceed to step 9 below): • Go to the Locater tab in Spectrum; • Go to Devices→By Model Name and type in the office name of the given devices. E.g. in the example above, you would type, "093d." This will bring up all devices that have the characters, "093d," the name. • If the devices are not displayed, go to the search, Devices→By IP Address and search on each IP address individually. • If the devices are found, you can close the RIT indicating this information.	
4.	If the devices being added do not have an office name in the prefix or anywhere in the device name, the RIT should indicate under the "Device Location Office" field which office they reside in. Do a search by this office name as per the last step.	
5.	Double click on a device that is found in the search above. This will take you to the container in Spectrum's topology view for that particular office (searching on office '0139'):  gives us this result:  	

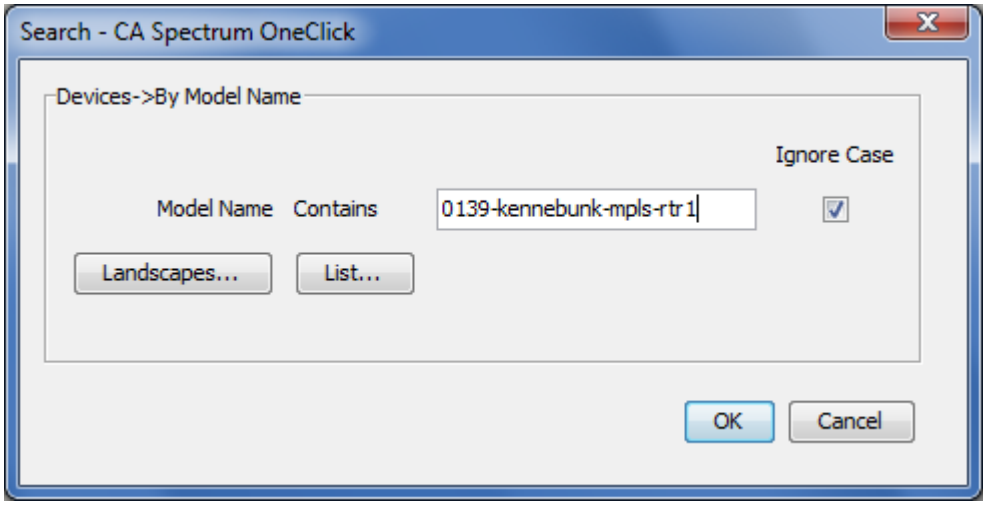
Step	Action	Result
	Double clicking on the “0139-kennebunk-mpls-rtr1” router brings us to this topology view:  Here’s where you would want to place the devices from the RIT.	
6.	Perform a “Create by IP” in order to add the device to Spectrum. Also put a check next to the “Discover Connections” box in order to have a discovery run after creation of the model in order to map the device in the network topology:	

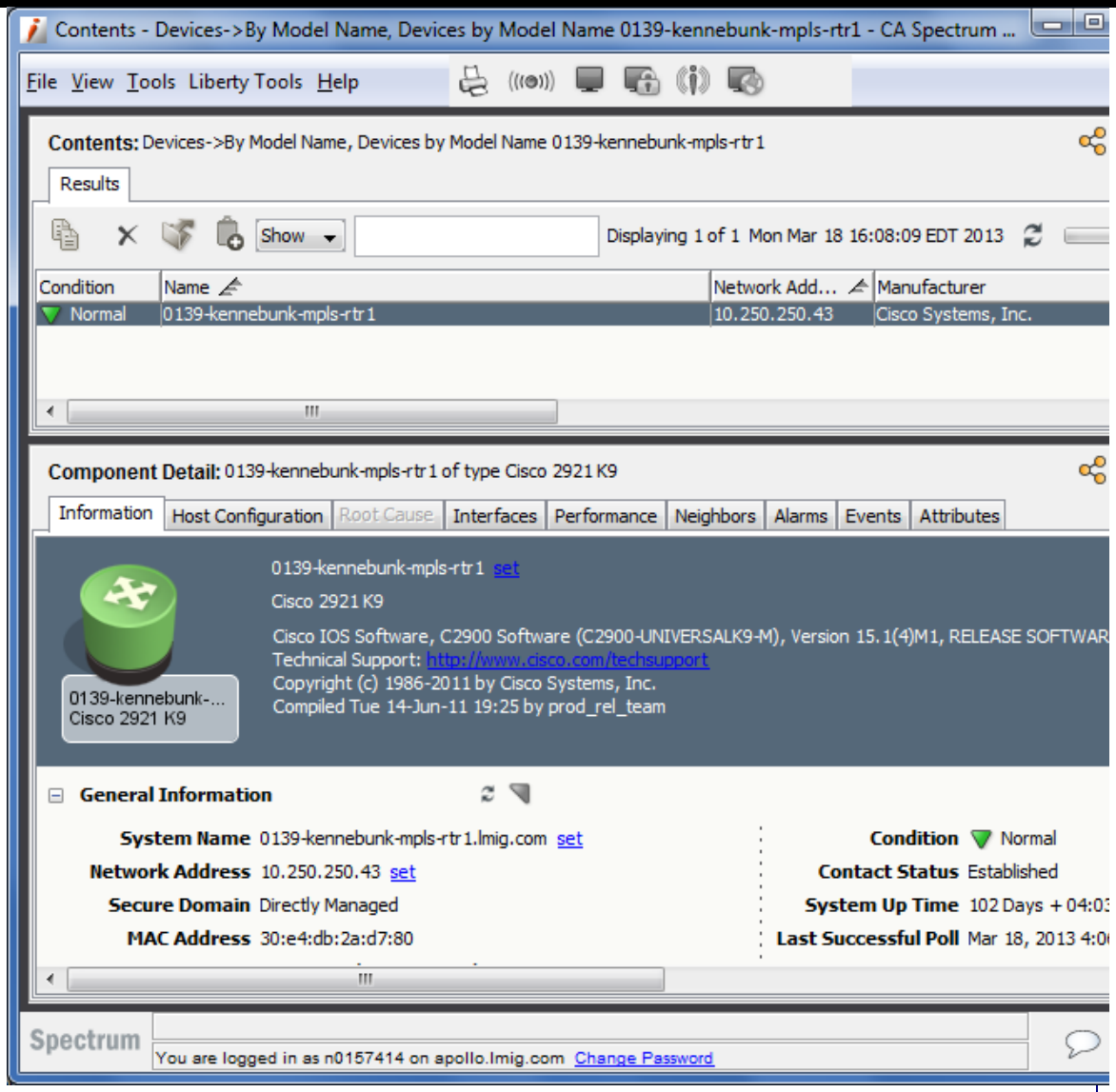
Step	Action	Result



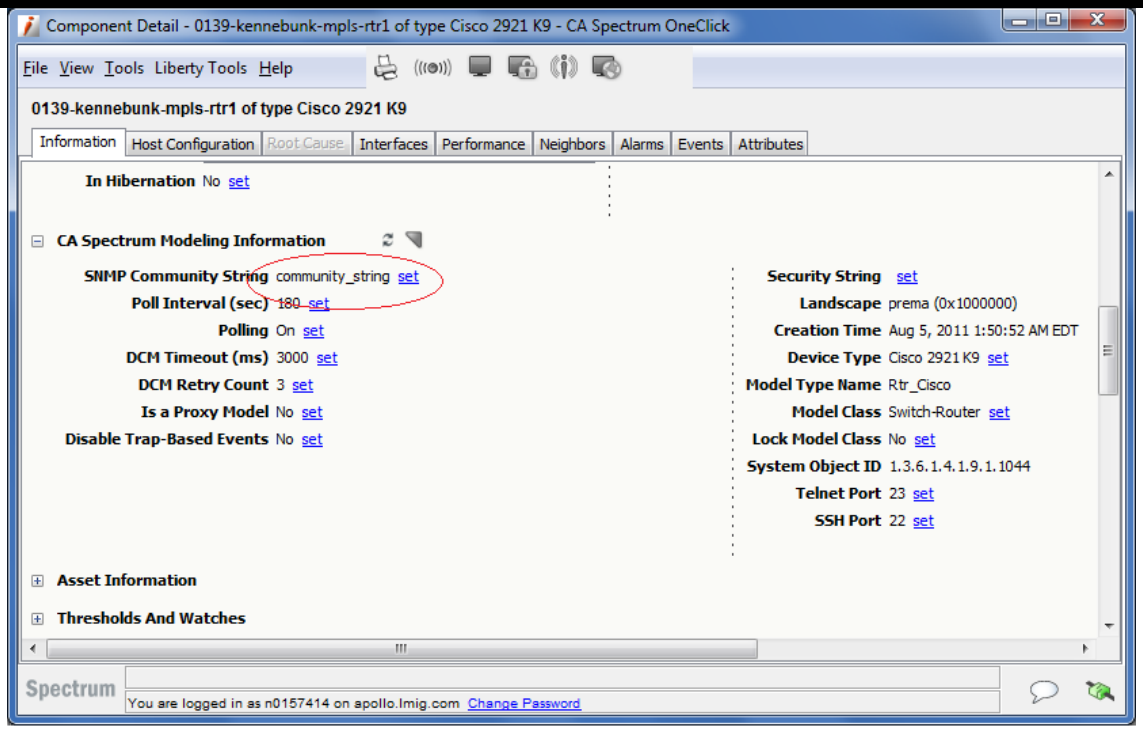
And the subsequent popup:

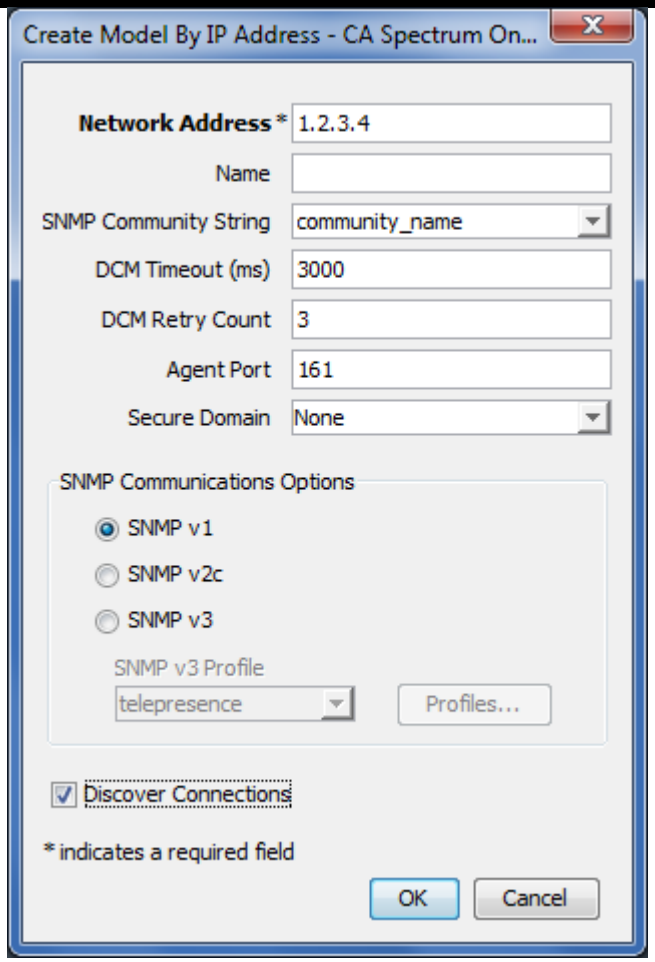


Step	Action	Result
	You will need the correct community name in order to place into the “SNMP Community String” field in the above popup. This should be in the RIT, but, if not, do a comparison to other devices of this type by doing searches on other offices. The SNMP community string is found by doing the following steps for existing devices: • Search on a given office number or a known device of the same type (“By Model Name”):  • Select the found device in the Results’ pane:	

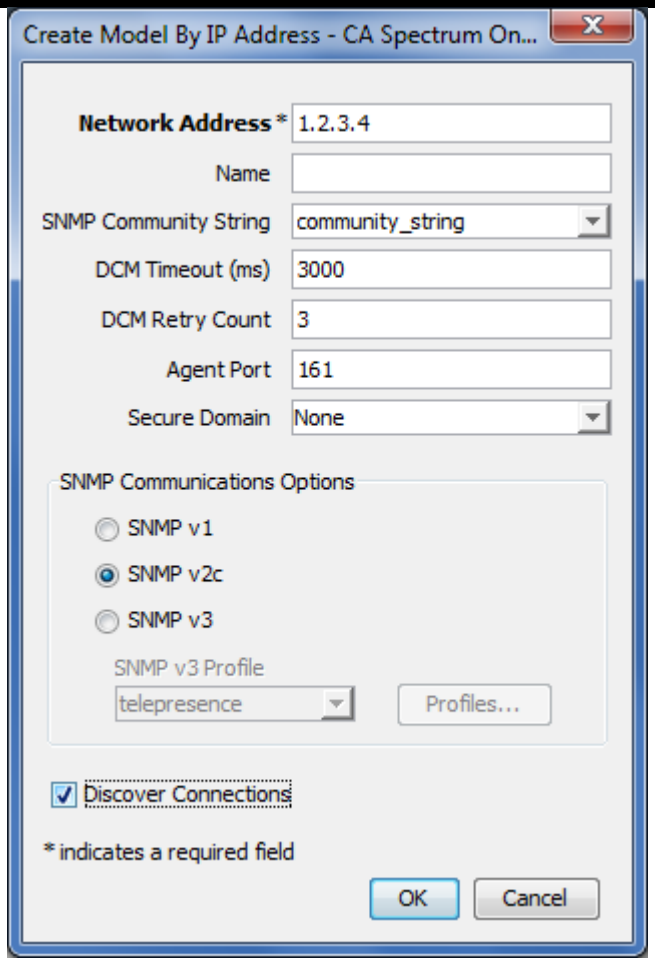
Step	Action	Result
		

- In the Component Detail pane, expand the “CA Spectrum Modeling Information” tree and you will see the “SNMP Community String” listed:

Step	Action	Result
	 This would be the corresponding value that you would add in the box for the community string. • Add this name to the “Create by IP” popup and click “Ok” to attempt to model the device. • For information on troubleshooting if you get an error message at this point, see the “Troubleshooting and Frequently Asked Questions” at the bottom of this page.	
7.	The above steps would model a device and do a discovery on a device that is running SNMPv1. There is a chance that the device you are adding is either running SNMPv2 or SNMPv3. Steps for adding a device running SNMPv2: • Choose “Create by IP” as in the steps above to get the popup:	

Step	Action	Result
	 • Under “SNMP Communications Options,” choose “SNMP v2c.” • Fill in the corresponding SNMPv2 community string in the “SNMP Community String” field; • Select the “Discover Connections” field as shown previously:	

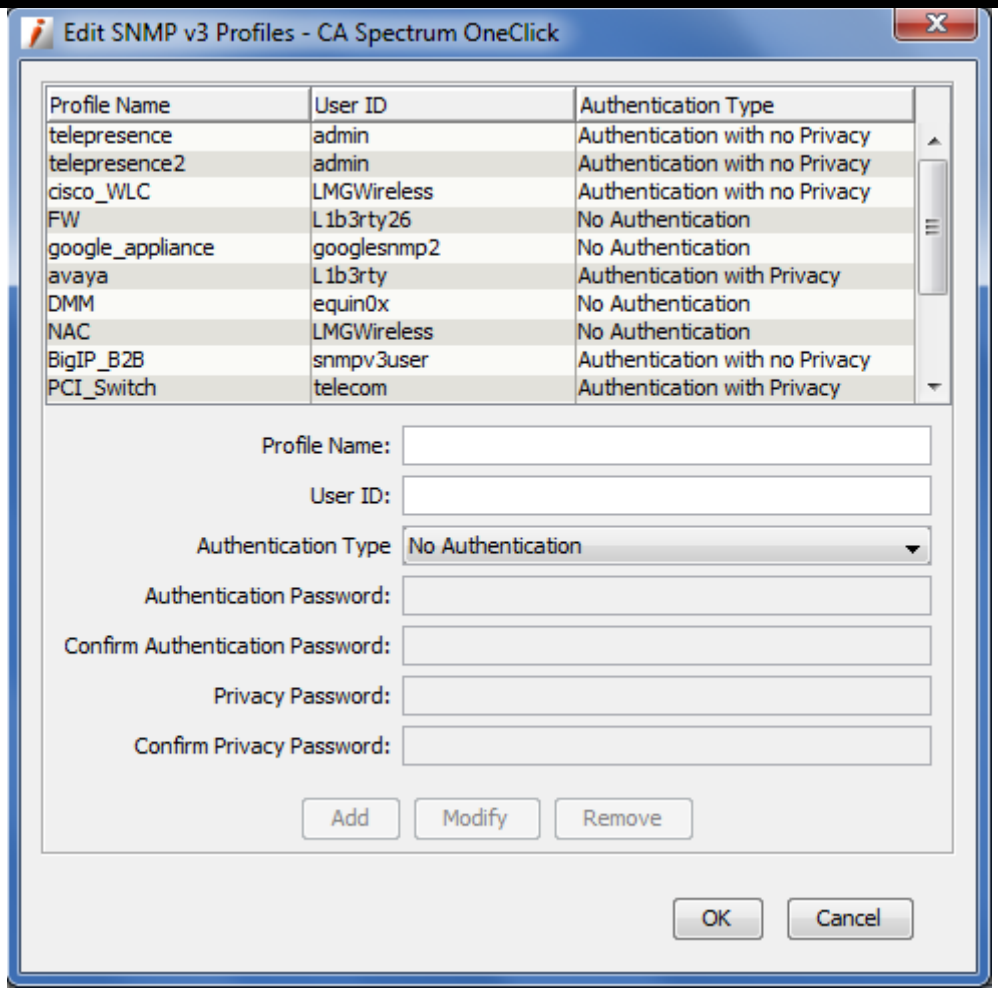
Step	Action	Result



- Click “Ok”
- For information on troubleshooting if you get an error message at this point, see the “Troubleshooting and Frequently Asked Questions” at the bottom of this page.

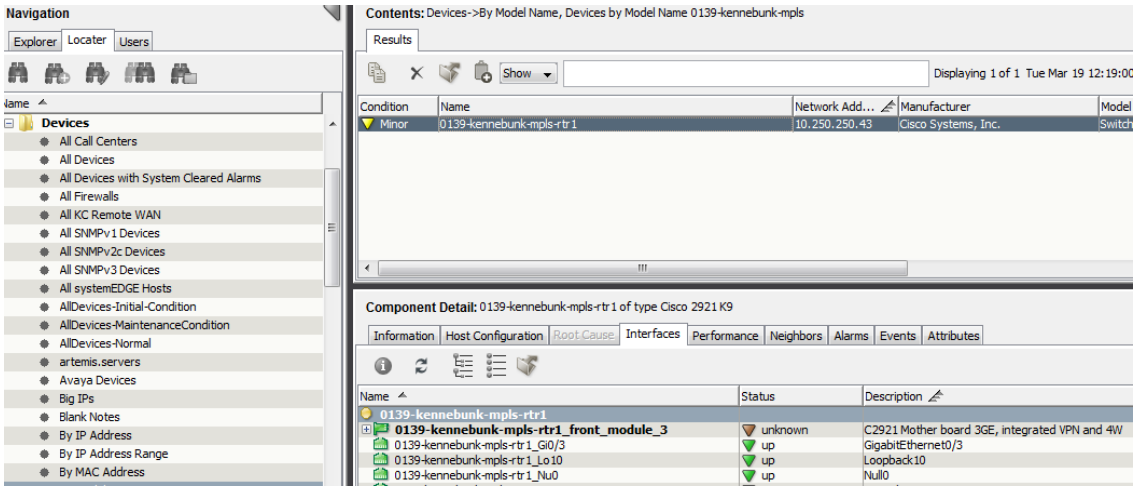
Steps for adding a device running SNMPv3:

- Choose “Create by IP” as in the steps above to get the popup;
- Under “SNMP Communications Options,” choose “SNMP v3”;
- This will enable you to choose a v3 Profile. Most are already set up that you can just pick one depending on the type of device being added to Spectrum (as most v3 devices are now standardized on the same profile in the environment):
  - If it is a switch or router: PCI_Switch
  - If it is a wireless device: PCI_Wireless
  - If it is a firewall: PCI_FW
  - If it is a BigIP: PCI_BigIP
- For other devices or for new v3 devices, you’ll need to create a new Profile by contacting the requestor to get the profile information. Once you have that, in the “Create by IP” window, click on “Profiles…” button to create a new Profile:

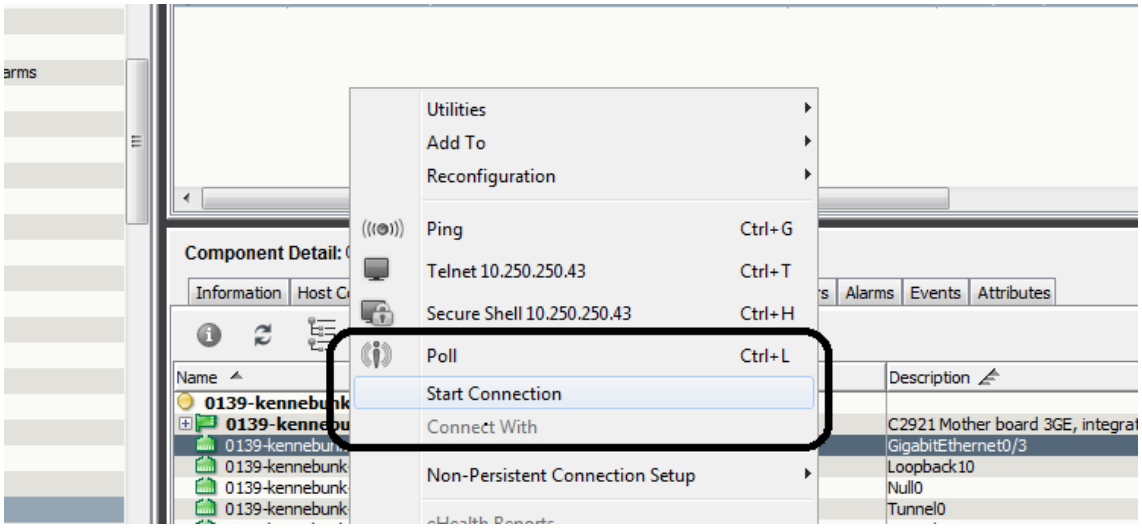
Step	Action	Result
	 • Create a Profile Name using the nomenclature shown in the other naming conventions as much as possible. • Add the User ID. • If it is SNMPv3 with authentication, either select “Authentication with Privacy” or “Authentication with no Privacy,” depending on how the device is setup (confirm with the requestor which option is to be used). • Add the “Authentication Password” if the previous option was anything other than “No Authentication.” • Confirm the Authentication Password. • Add the “Privacy Password” if the first selection was “Authentication with Privacy.” • Confirm the Privacy Password. • Click on “Add” to add the profile to the list to save it for future. • Click “Ok” to add it to your “Create by IP” screen. • Click “Ok” to attempt to add the device to Spectrum. • For information on troubleshooting if you get an error message at this point, see the “Troubleshooting and Frequently Asked Questions” at the bottom of this page.	
8.	In order for Spectrum’s fault isolation to work correctly, the devices added need to be mapped completely in the topology. Sometimes Spectrum’s discovery (“Discover Connections”) does not find all of the connections that it needs to. There are three options in order to connect the devices:	

Step	Action	Result

- In the RIT, there are two fields that are mandatory to fill out for the requestor (if he/she clicks on “Add”): Device Port Connections and Switch/Router Name and Port Connection. Device Port Connections gives the device requested to be added to Spectrum’s port connection information. The Switch/Router Name and Port Connection gives the port information that the requested device connects to on the network. Use this information to make the connection in the following manner:
  - Search via the Locater for both devices (switch and the device to which the RIT was created).
  - Bring up the interface view of the switch by highlighting the switch after locating it, and going into the Component Details pane, and clicking on the Interfaces’ tab:



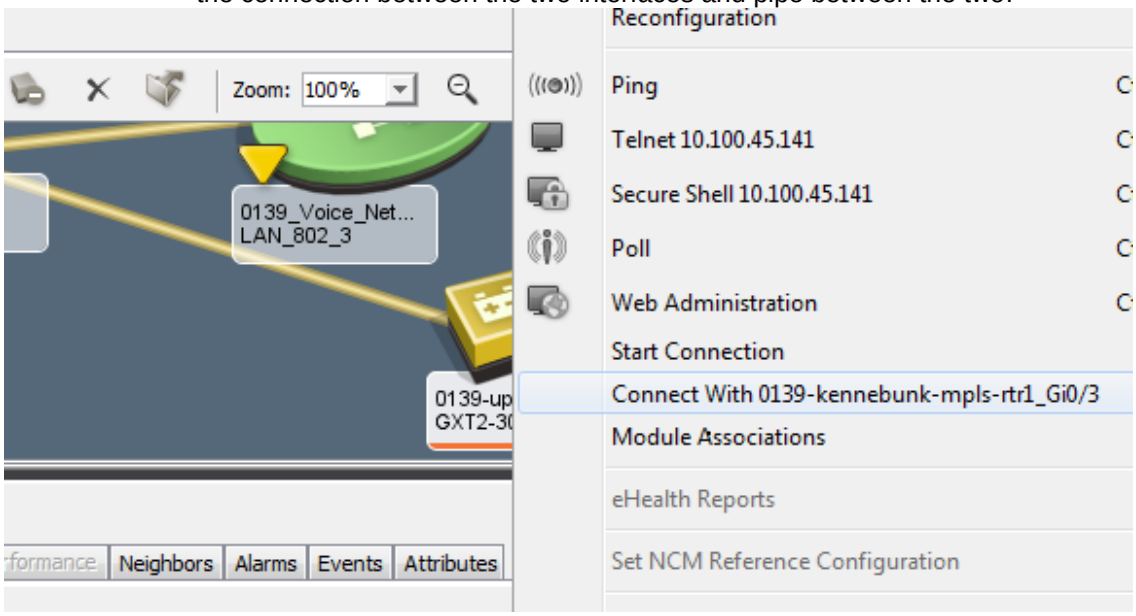
  - Select the respective interface and right mouse button on it. Go to “Start Connection”:



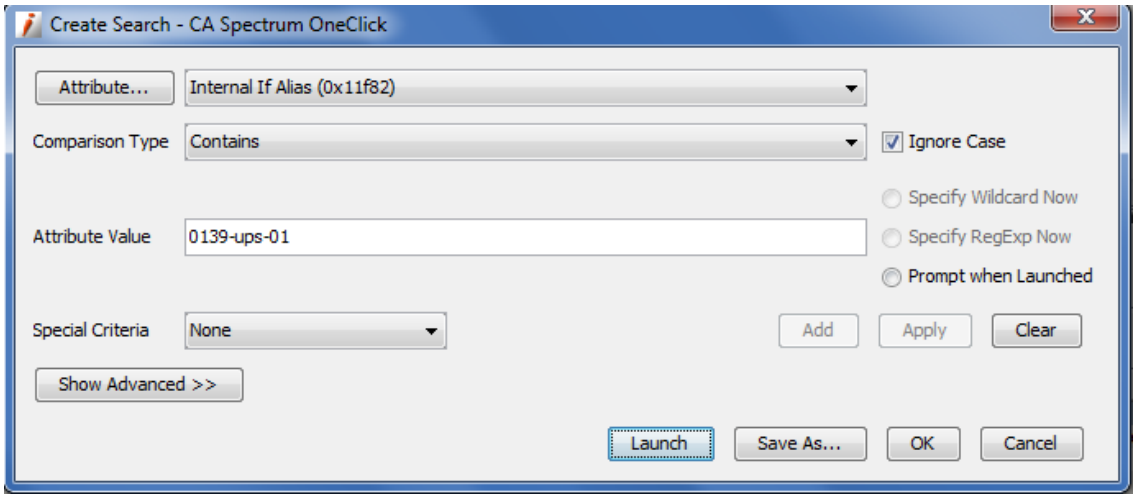
  - Bring up the device that you just modeled and go to the interface view of that device. Select the respective interface and right mouse button on it. Go to the selection, “Connect with <interface_of_switch_device_above>”. This will create

Step	Action	Result

the connection between the two interfaces and pipe between the two:

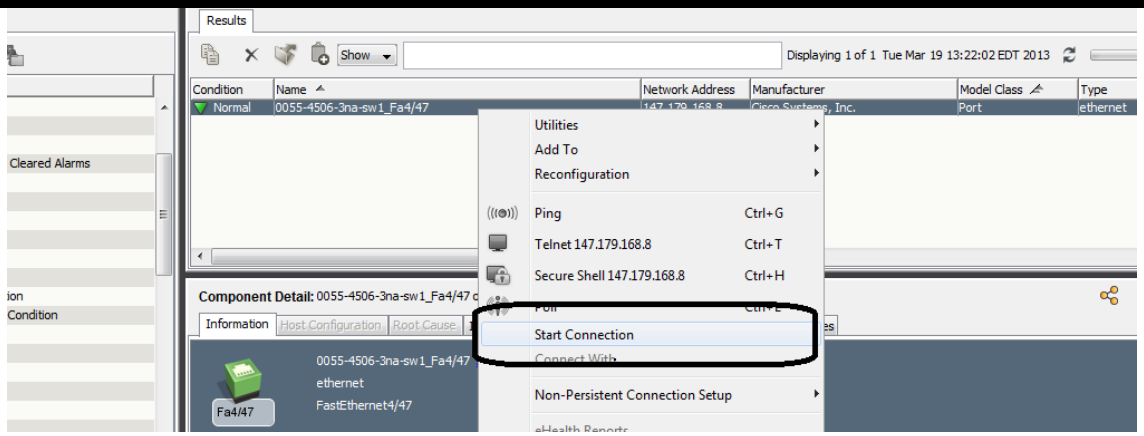


- Another option is to do a search on the ifAlias to see if the device is listed in another interface's ifAlias. Use this information to make the connection in the following manner:
  - Go to the Locater tab, and click on "Create a new Search" in the upper left (binoculars with the "+" on it);
  - In the "Attribute" menu drop down, choose, "Internal If Alias (0x11f82)";
  - Choose a Comparison Type of "Contains";
  - Check "Ignore Case";
  - Keep "Special Criteria" as "None";
  - In the Attribute Value field, put in the device name of the one on the RIT:



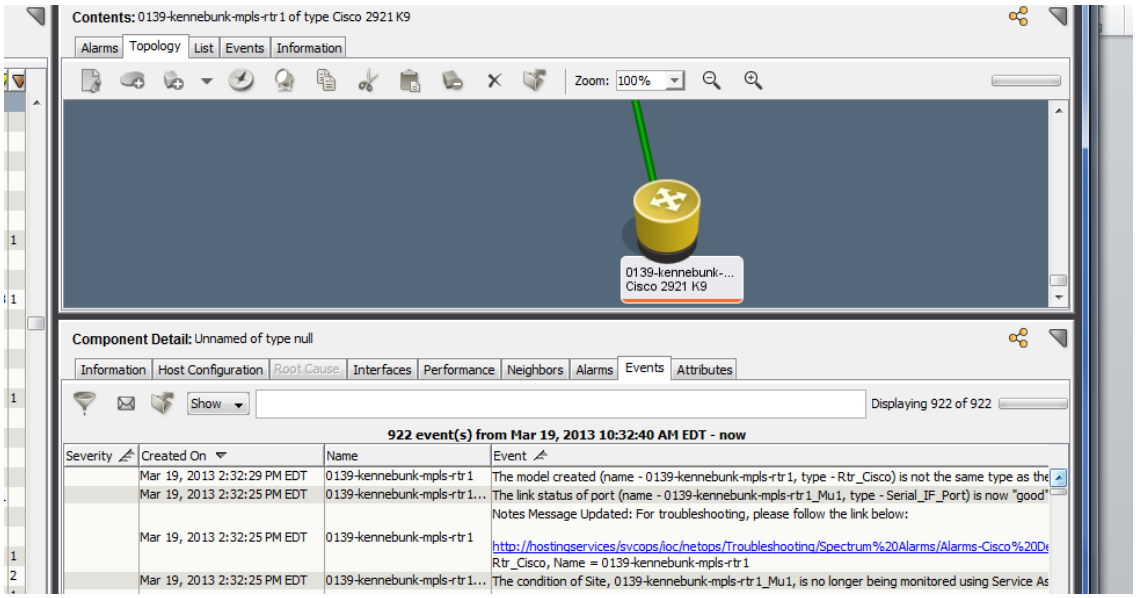
  - Click on "Launch" and make sure all landscapes are listed in the "Search In:" pane, and then click, 'Ok.'
  - Select the respective interface and right mouse button on it. Select "Start Connection" as above:

Step	Action	Result

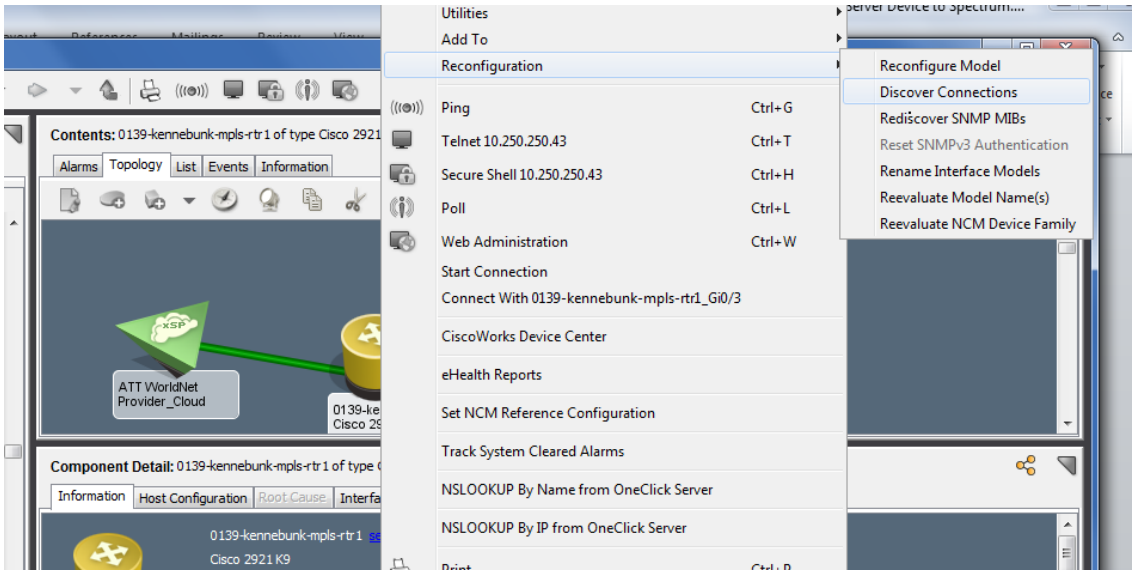


- Bring up the device that you just modeled and go to the interface view of that device. Select the respective interface and right mouse button on it. Go to the selection, “Connect with <interface_of_switch_device_above>”. This will create the connection between the two interfaces and pipe between the two.

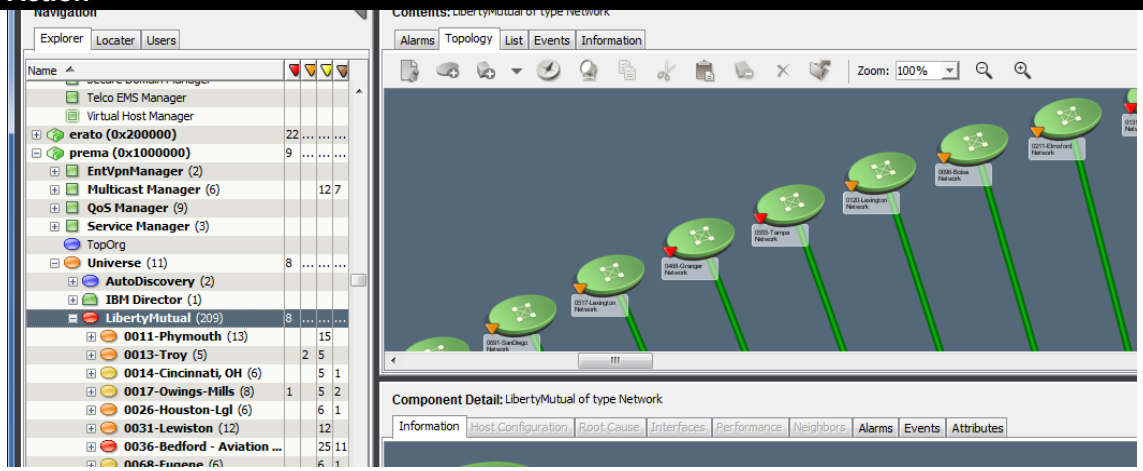
- The third option, which is to do a rediscovery after the creation, may not work if there is an existing discovery already running. Spectrum will lock the discovery if it is occurring already so as to not cause performance issues:
  - After the device is created, bring up the Events’ tab to look at the events that have occurred since creation:



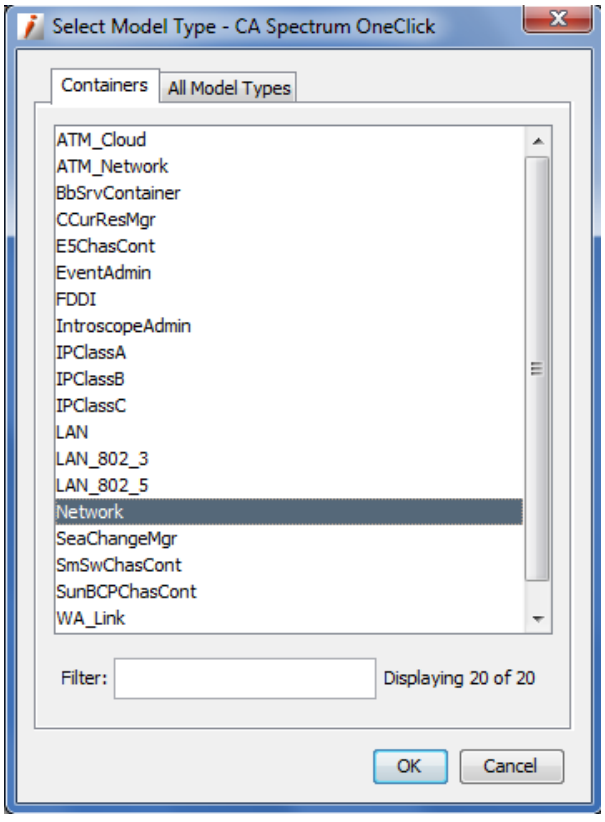
- If the “Discover Connections” flag has worked, you will see an event stating, “Auto-discovery mapping process started on model 0139-kennebunk-mpls-rtr1 of type Rtr_Cisco.” If the discovery is locked and did not run, you’ll see an event similar to, “Auto-discovery mapping process can not run on model 0139-ups-02 of type LiebertGlobal because another mapping process is currently running.”
- You can run a manual discovery after the existing discovery has completed by doing a right mouse button on the device, and then going to

Step	Action	Result
	Reconfiguration→Discover Connections: 	
9.	If this is a new office that has just come online and new devices are to be monitored, you'll need to create a new container to place these into Spectrum. Here is the breakdown of the devices on the Spectrum servers: vanna = Portsmouth Data Center devices artemis = Kansas City Data Center devices xcf09kdc = Redmond Data Center devices prema = Remote office devices erato = Call Center/Premier office devices Most of the new office creations will be remote offices, which will need to be added to the Spectrum server prema. In order to do so, follow these steps: • In the OneClick console, in the Navigation pane, go to prema→Universe→LibertyMutual and select this. Click on the "Topology" tab under the Contents' pane:	

Step	Action	Result

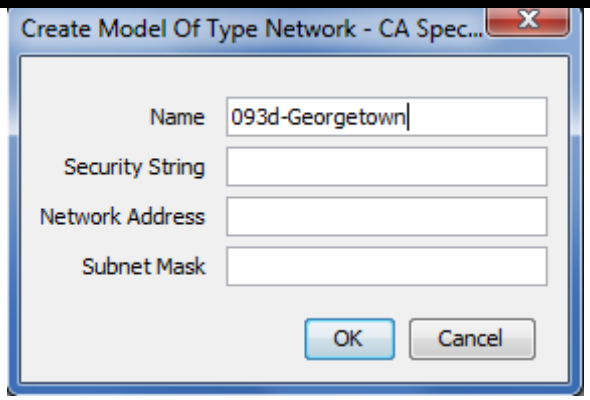


- Click on the “Create by Model Type” icon (Disk shaped icon w/ the “+” on it in the upper left of Contents’ pane) and select “Network” under the Containers’ tab:

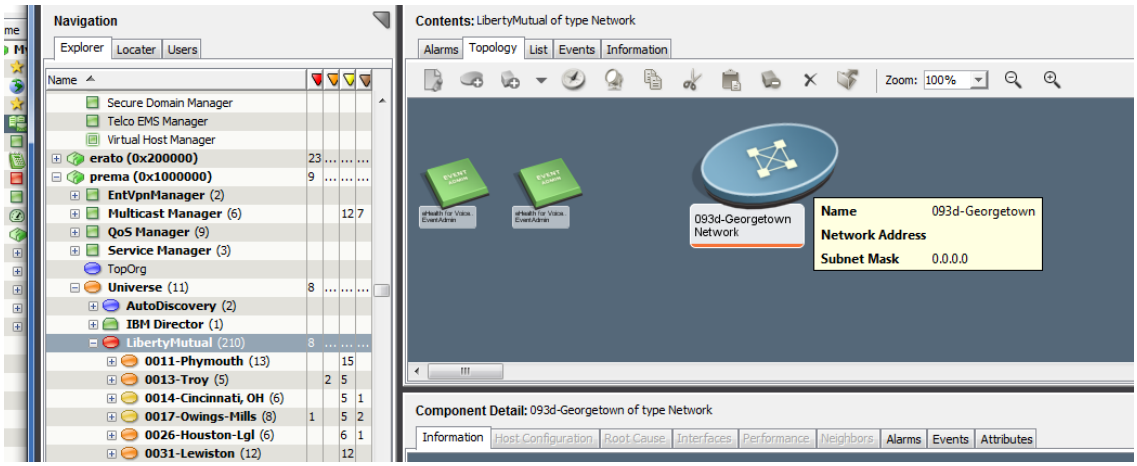


- Under the “Name” field, type in the office number followed by the name of the office in the following format: NNNN-CityName. E.g. 0031-Lewiston. Leave the Security String, Network Address, and Subnet Mask blank:

Step	Action	Result

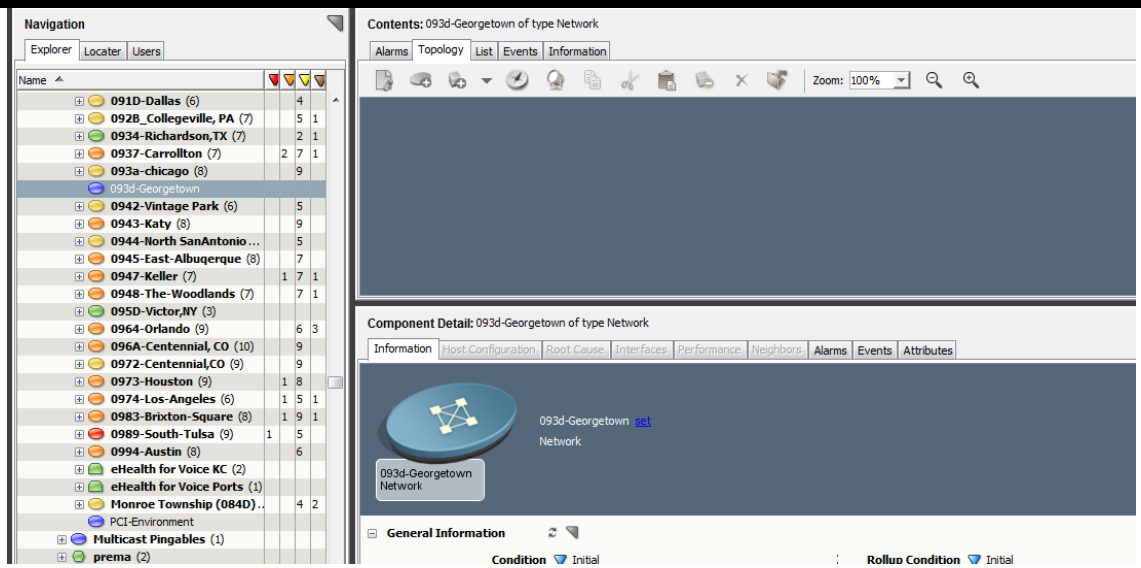


- Click Ok. This will create a new Network container with the name of the office number-CityName that will be blue until devices are added to the container:



- Double-click on the Network icon (that you just created) to drill into it. Or you can select it on the left hand side in the Navigation pane.
- You'll be inside the container which will be blank until you add devices into the container:

Step	Action	Result



- To add devices, go back to step 1 above to proceed with modeling of the devices in this office.

Procedure for Adding Device via NMIS email:

Step	Action	Result

New device request through NMIS email:

From: brian.romer@libertymutual.com [mailto:brian.romer@libertymutual.com]
Sent: Tuesday, March 19, 2013 10:58 AM
To: Postnote_ID
Subject: Postnote 033B MIAMI, FL-LI LATIN AMERICA (033B) n0091844-Adding IP info for UPS and OOB

NMIS PostNote: n0091844

Office:	MIAMI, FL-LI LATIN AMERICA (033B)
Author:	Romer, Brian
Change Management ID:	n0091844
Summary:	Adding IP info for UPS and OOB
Change Description:	Added IPs for 2 UPS units and the Opengear

Systems: 033B-UPS-01

Field	Original Value	New Value
Monitored by LM	null	False
Dedicated Cooling	null	False

Step	Action	Result

Interfaces: ethernet: 033B-UPS-01

Field	Original Value	New Value
Name	New Entry	033B-UPS-01
Trunk Port	New Entry	False
Delete	New Entry	False
Type	New Entry	ethernet

Address/Dlci Info: ip: 10.101.1.21

Field	Original Value	New Value
Address	New Entry	10.101.1.21
Delete	New Entry	False
Type	New Entry	ip

Address/Dlci Info: dlci-vpi:

Field	Original Value	New Value
Delete	New Entry	False
Type	New Entry	dlci-vpi

Systems: 033B-OOB-01

Field	Original Value	New Value
Monitored by LM	null	False
MBL/Phone Number	null	305-670-1446
Dedicated Cooling	null	False

Interfaces: ethernet: 033b-oob-01

Field	Original Value	New Value
Name	New Entry	033b-oob-01
Trunk Port	New Entry	False
Delete	New Entry	False
Type	New Entry	ethernet

Address/Dlci Info: ip: 10.101.1.8

Field	Original Value	New Value
Address	New Entry	10.101.1.8
Delete	New Entry	False
Type	New Entry	ip

Address/Dlci Info: dlci-vpi:

Field	Original Value	New Value

Step	Action	Result

Delete	New Entry	False
Type	New Entry	dlci-vpi

Systems: 033B-UPS-02

Field	Original Value	New Value
Monitored by LM	null	False
Dedicated Cooling	null	False

Interfaces: ethernet: 033B-UPS-02

Field	Original Value	New Value
Name	New Entry	033B-UPS-02
Trunk Port	New Entry	False
Delete	New Entry	False
Type	New Entry	ethernet

Address/Dlci Info: ip: 10.101.1.27

Field	Original Value	New Value
Address	New Entry	10.101.1.27
Delete	New Entry	False
Type	New Entry	ip

Address/Dlci Info: dlci-vpi:

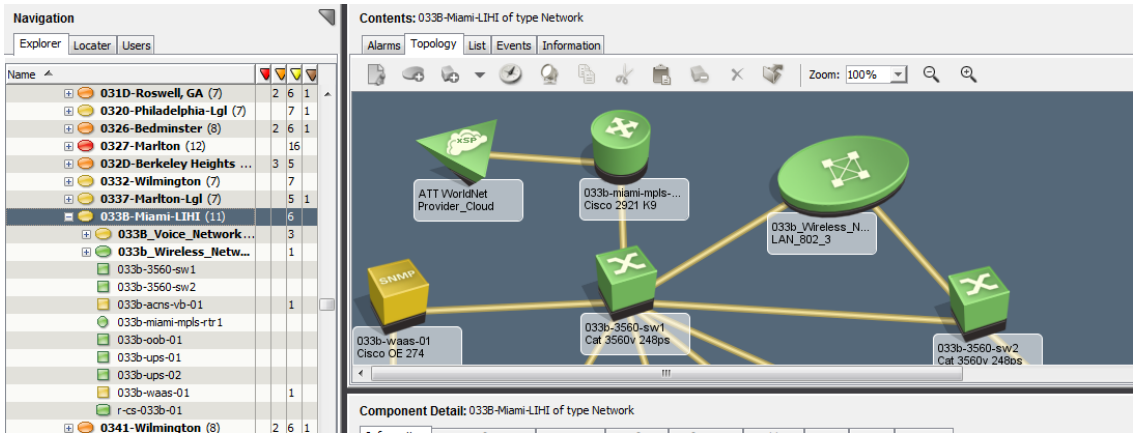
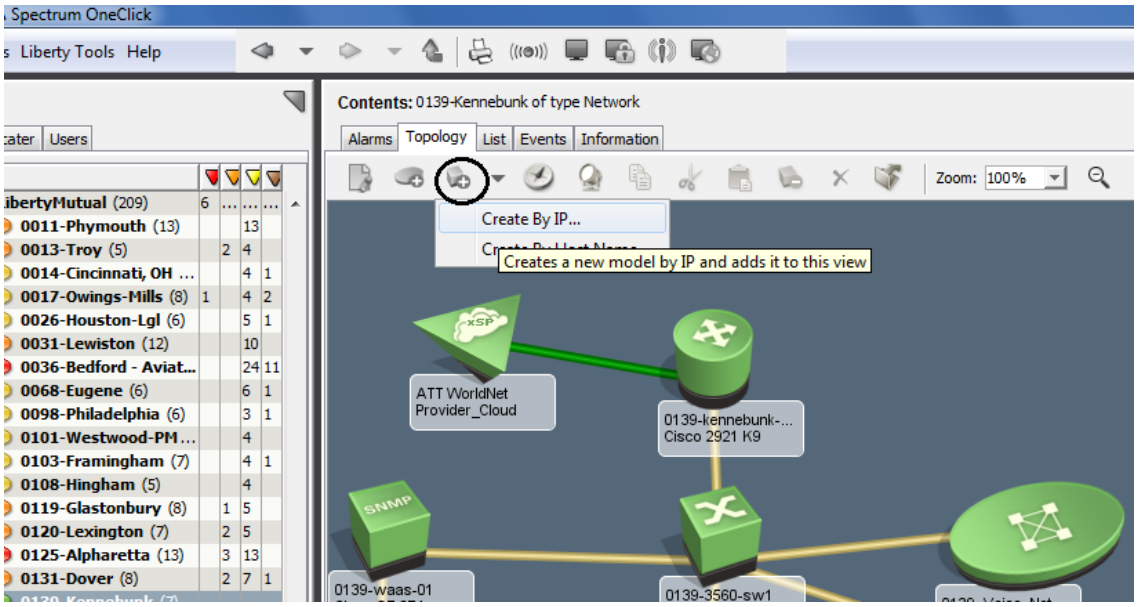
Field	Original Value	New Value
Delete	New Entry	False
Type	New Entry	dlci-vpi

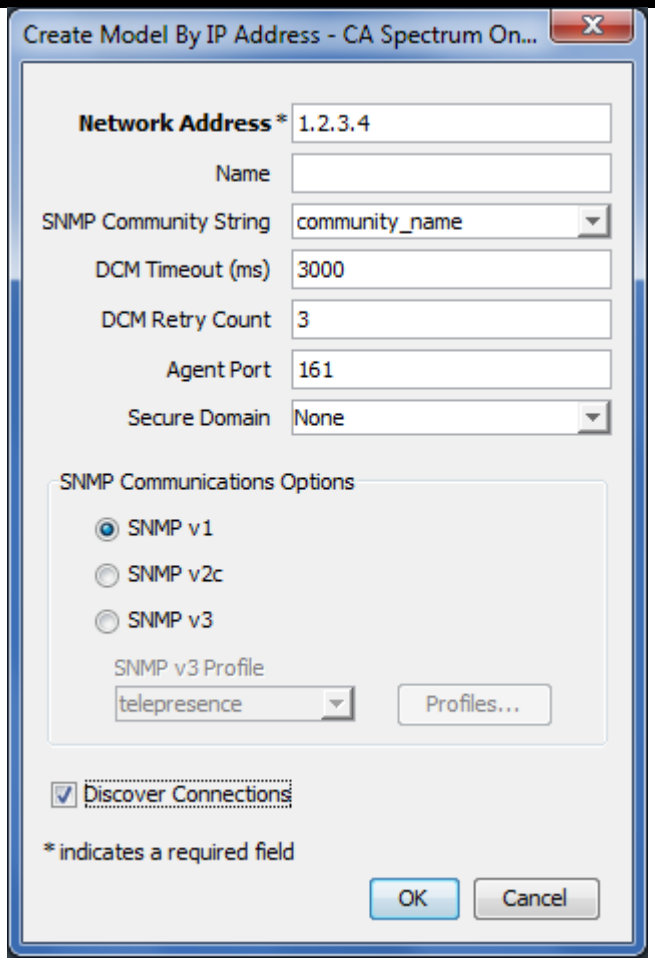
2. Confirm that the devices do not already exist in Spectrum (if this is a new office, proceed to step 9 below):

   - Go to the Locater tab in Spectrum;
   - Go to Devices→By Model Name and type in the office name of the given devices. E.g. in the example above, you would type, “033b.” This will bring up all devices that have the characters, “033b,” the name.
   - If the devices are not displayed, go to the search, Devices→By IP Address and search on each IP address individually.
   - If the devices are found, you can consider the change complete.

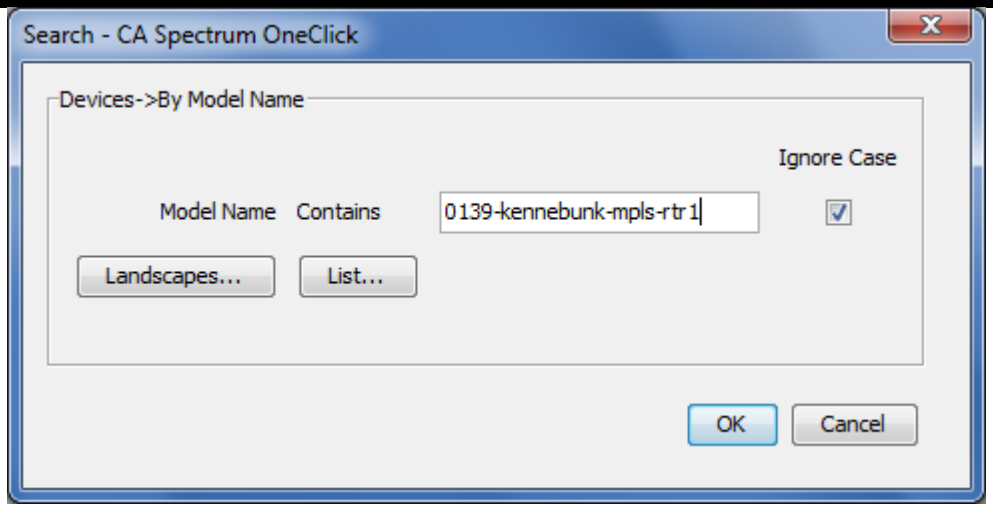
3. If the devices being added do not have an office name in the prefix or anywhere in the device name, the NMIS email should indicate at the top of the email under the “Office” field which office they reside in. Do a search by this office name as per the last step.

4. Double click on a device that is found in the search above. This will take you to the container in Spectrum’s topology view for that particular office (searching on office ‘033b’):

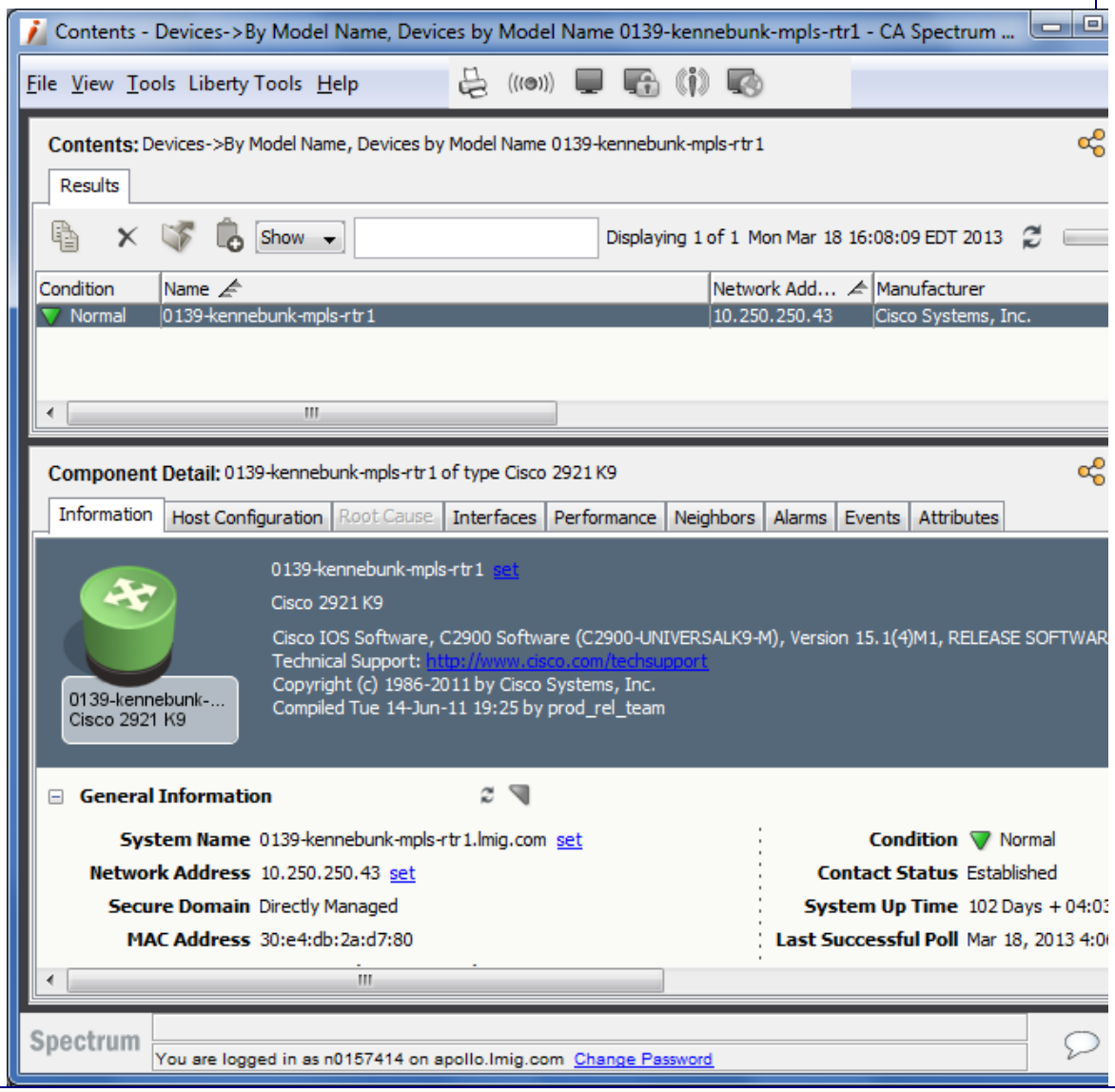
Step	Action	Result
	gives us this result:  Here's where you would want to place the devices from the NMIS email.	
5.	Perform a "Create by IP" in order to add the device to Spectrum. Also put a check next to the "Discover Connections" box in order to have a discovery run after creation of the model in order to map the device in the network topology:  And the subsequent popup:	

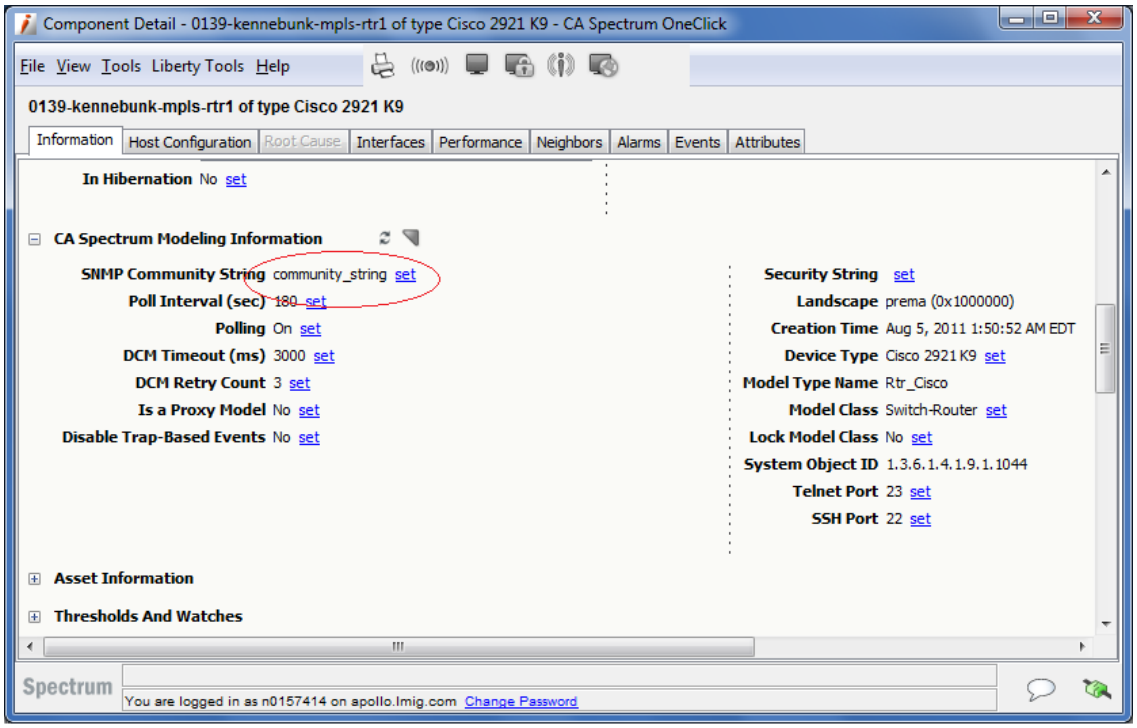
Step	Action	Result
	 You will need the correct community name in order to place into the “SNMP Community String” field in the above popup. Do a comparison to other devices of this type by doing searches on other offices. The SNMP community string is found by doing the following steps for existing devices: • Search on a given office number or a known device of the same type (“By Model Name”):	

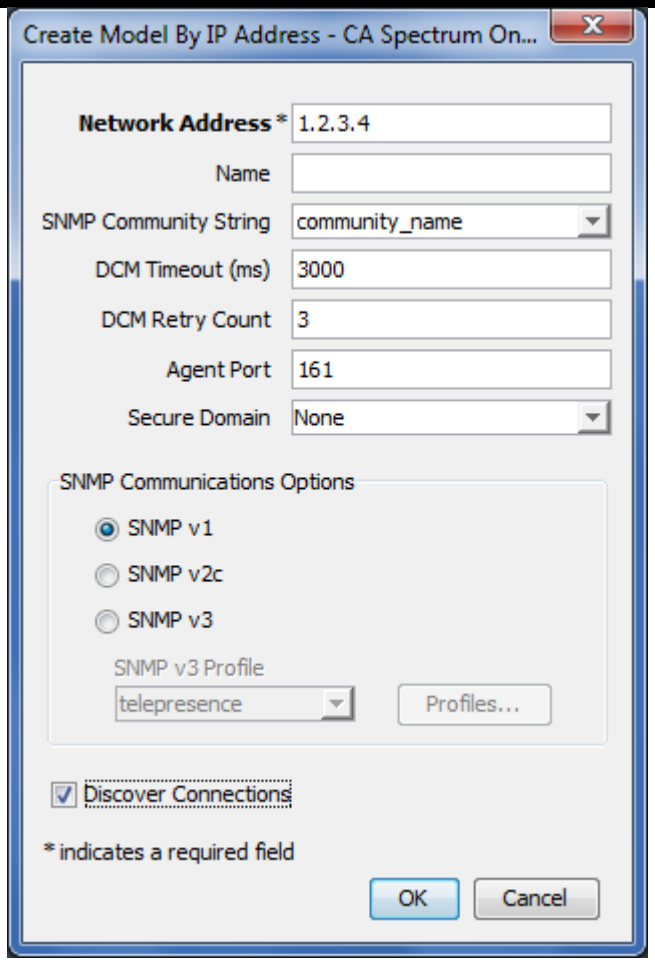
Step	Action	Result



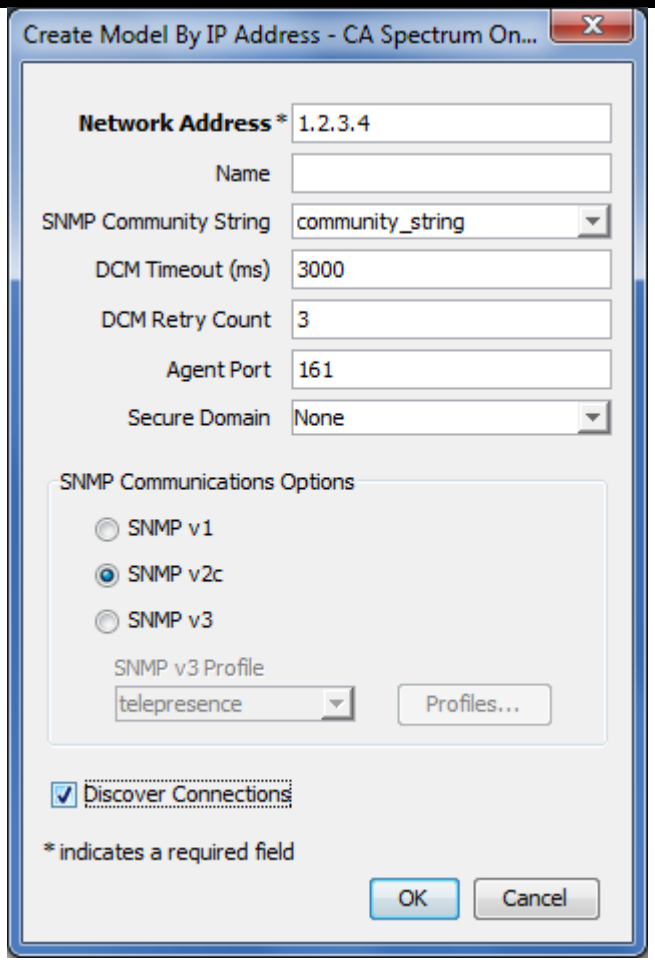
- Select the found device in the Results' pane:



Step	Action	Result
	• In the Component Detail pane, expand the “CA Spectrum Modeling Information” tree and you will see the “SNMP Community String” listed:  This would be the corresponding value that you would add in the box for the community string. • Add this name to the “Create by IP” popup and click “Ok” to attempt to model the device. • For information on troubleshooting if you get an error message at this point, see the “Troubleshooting and Frequently Asked Questions” at the bottom of this page.	
6.	The above steps would model a device and do a discovery on a device that is running SNMPv1. There is a chance that the device you are adding is either running SNMPv2 or SNMPv3. Steps for adding a device running SNMPv2: • Choose “Create by IP” as in the steps above to get the popup:	

Step	Action	Result
	 • Under “SNMP Communications Options,” choose “SNMP v2c.” • Fill in the corresponding SNMPv2 community string in the “SNMP Community String” field; • Select the “Discover Connections” field as shown previously:	

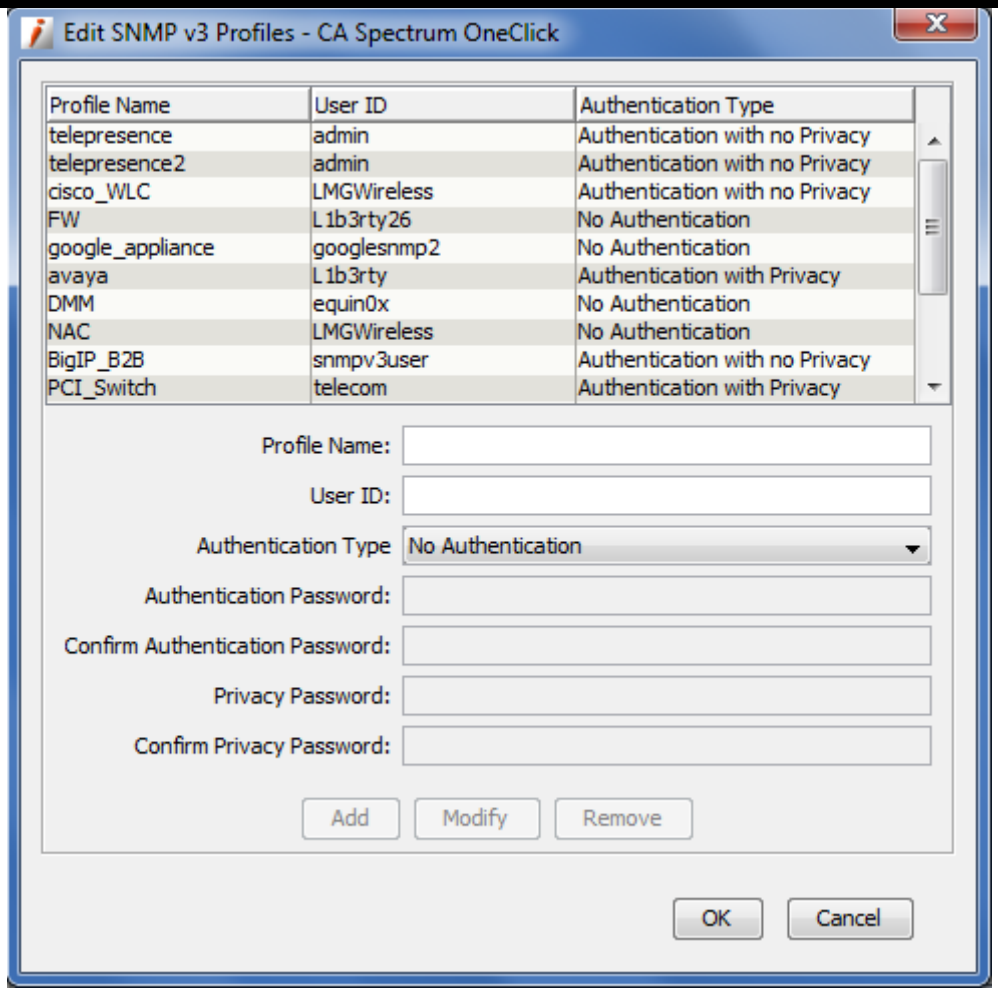
Step	Action	Result



- Click “Ok”
- For information on troubleshooting if you get an error message at this point, see the “Troubleshooting and Frequently Asked Questions” at the bottom of this page.

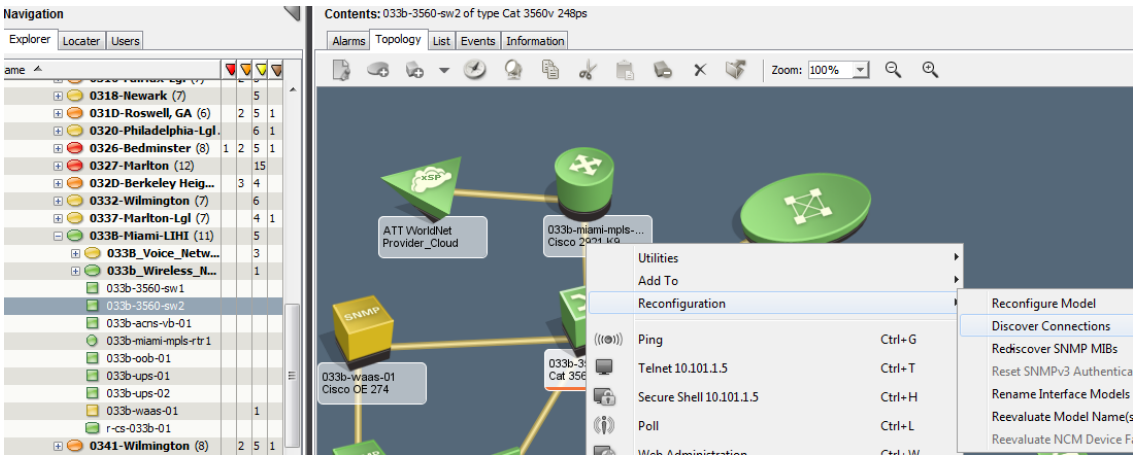
Steps for adding a device running SNMPv3:

- Choose “Create by IP” as in the steps above to get the popup;
- Under “SNMP Communications Options,” choose “SNMP v3”;
- This will enable you to choose a v3 Profile. Most are already set up that you can just pick one depending on the type of device being added to Spectrum (as most v3 devices are now standardized on the same profile in the environment):
  - If it is a switch or router: PCI_Switch
  - If it is a wireless device: PCI_Wireless
  - If it is a firewall: PCI_FW
  - If it is a BigIP: PCI_BigIP
- For other devices or for new v3 devices, you’ll need to create a new Profile by contacting the requestor to get the profile information. Once you have that, in the “Create by IP” window, click on “Profiles…” button to create a new Profile:

Step	Action	Result
	 • Create a Profile Name using the nomenclature shown in the other naming conventions as much as possible. • Add the User ID. • If it is SNMPv3 with authentication, either select “Authentication with Privacy” or “Authentication with no Privacy,” depending on how the device is setup (confirm with the requestor which option is to be used). • Add the “Authentication Password” if the previous option was anything other than “No Authentication.” • Confirm the Authentication Password. • Add the “Privacy Password” if the first selection was “Authentication with Privacy.” • Confirm the Privacy Password. • Click on “Add” to add the profile to the list to save it for future. • Click “Ok” to add it to your “Create by IP” screen. • Click “Ok” to attempt to add the device to Spectrum. • For information on troubleshooting if you get an error message at this point, see the “Troubleshooting and Frequently Asked Questions” at the bottom of this page.	
7.	In order for Spectrum’s fault isolation to work correctly, the devices added need to be mapped completely in the topology. Sometimes Spectrum’s discovery (“Discover Connections”) does not find all of the connections that it needs to. There are three options in order to connect the devices:	

Step	Action	Result

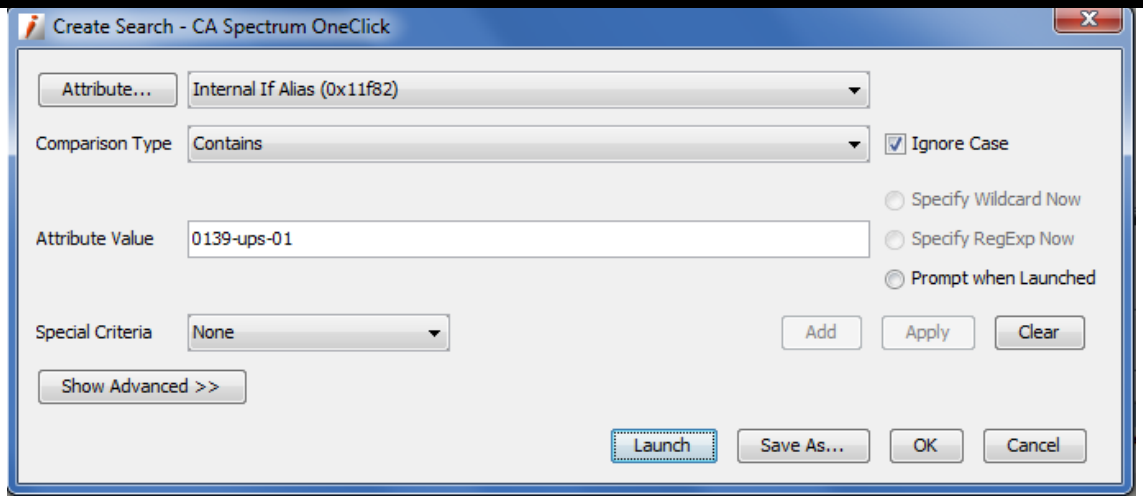
- In the office container, after creation of the given device(s), you can run a discovery on the respective router or switch in that office. In the case above for 033b, there are two switches and one router. More than likely, the device attaches to one or more of these devices. We can do a manual discovery on the routers and switches to see if one or more of these 'hears' the new device in its SNMP router/switch tables. To do so:
  - Go to the office container as above;
  - Select the router or switch and right mouse button on it. Go to Reconfiguration→Discover Connections:



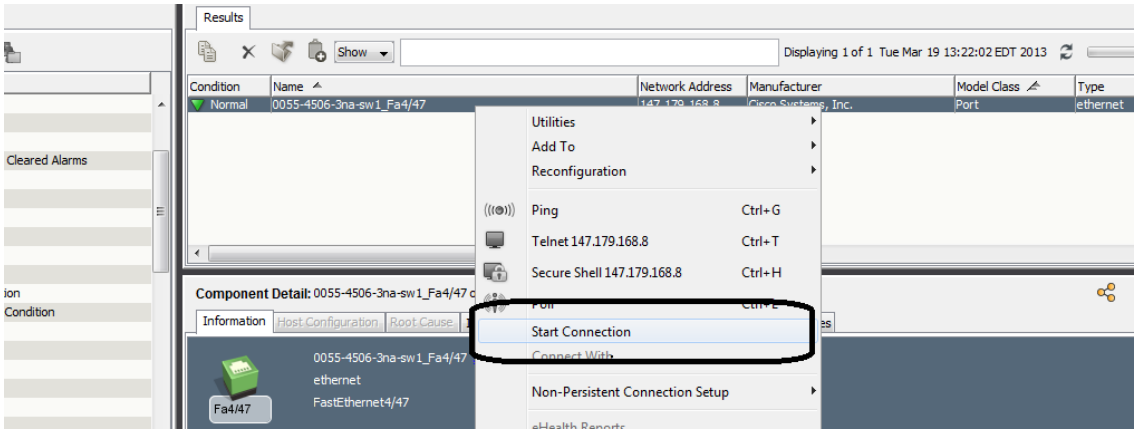
  - This may take some time depending on the size of the switch/router.
  - Do this for each router or switch in the office.

- Another option is to do a search on the ifAlias to see if the device is listed in another interface's ifAlias. Use this information to make the connection in the following manner:
  - Go to the Locater tab, and click on "Create a new Search" in the upper left (binoculars with the "+" on it);
  - In the "Attribute" menu drop down, choose, "Internal If Alias (0x11f82)";
  - Choose a Comparison Type of "Contains";
  - Check "Ignore Case";
  - Keep "Special Criteria" as "None";
  - In the Attribute Value field, put in the device name of the one in the email notification:

Step	Action	Result

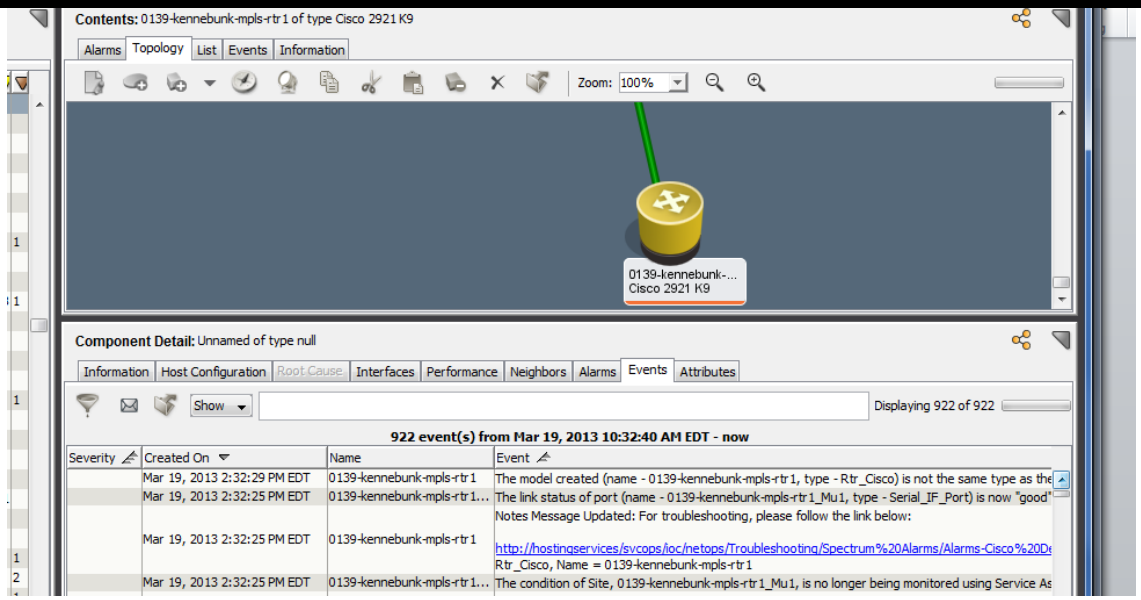
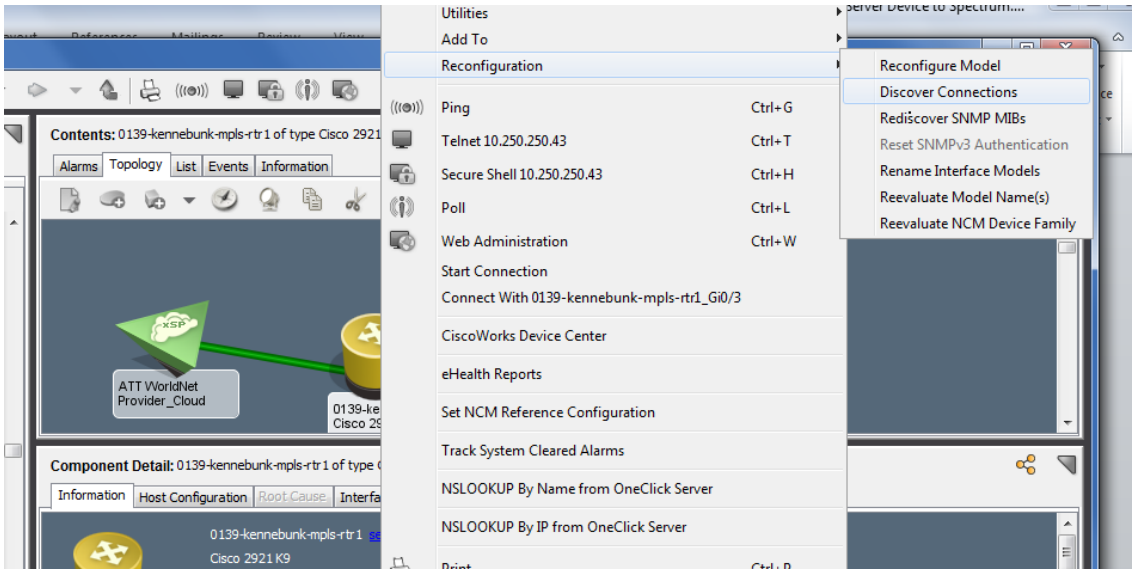


- Click on “Launch” and make sure all landscapes are listed in the “Search In:” pane, and then click, ‘Ok.’
- Select the respective interface and right mouse button on it. Select “Start Connection” as above:



- Bring up the device that you just modeled and go to the interface view of that device. Select the respective interface and right mouse button on it. Go to the selection, “Connect with <interface_of_switch_device_above>”. This will create the connection between the two interfaces and pipe between the two.

- The third option, which is to do a rediscovery after the creation, may not work if there is an existing discovery already running. Spectrum will lock the discovery if it is occurring already so as to not cause performance issues:
  - After the device is created, bring up the Events’ tab to look at the events that have occurred since creation:

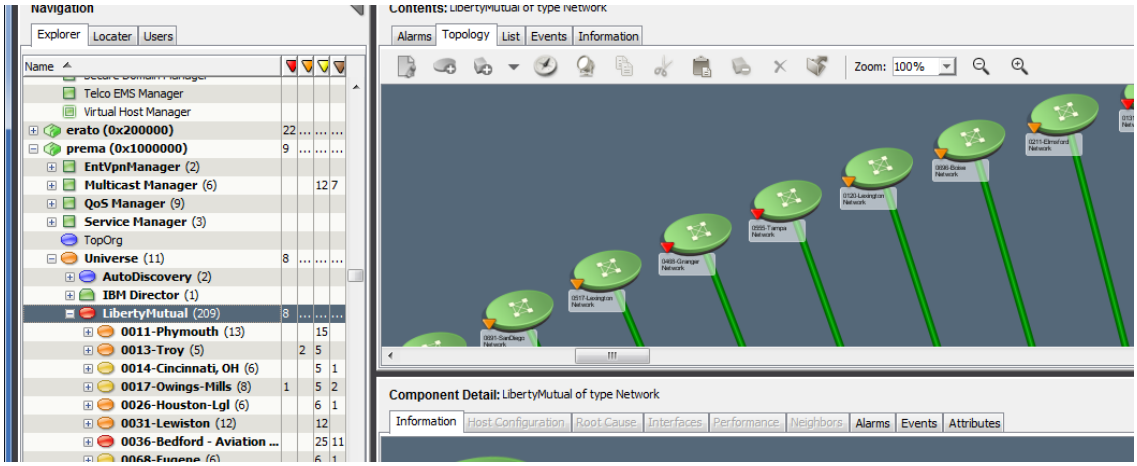
Step	Action	Result
	 ○ If the "Discover Connections" flag has worked, you will see an event stating, "Auto-discovery mapping process started on model 0139-kennebunk-mpls-rtr1 of type Rtr_Cisco." If the discovery is locked and did not run, you'll see an event similar to, "Auto-discovery mapping process can not run on model 0139-ups-02 of type LiebertGlobal because another mapping process is currently running." ○ You can run a manual discovery after the existing discovery has completed by doing a right mouse button on the device, and then going to Reconfiguration→Discover Connections: 	
8.	If this is a new office that has just come online and new devices are to be monitored, you'll need to create a new container to place these into Spectrum. Here is the breakdown of the devices on the Spectrum servers:	

Step	Action	Result

vanna = Portsmouth Data Center devices
artemis = Kansas City Data Center devices
xcf09kdc = Redmond Data Center devices
prema = Remote office devices
erato = Call Center/Premier office devices

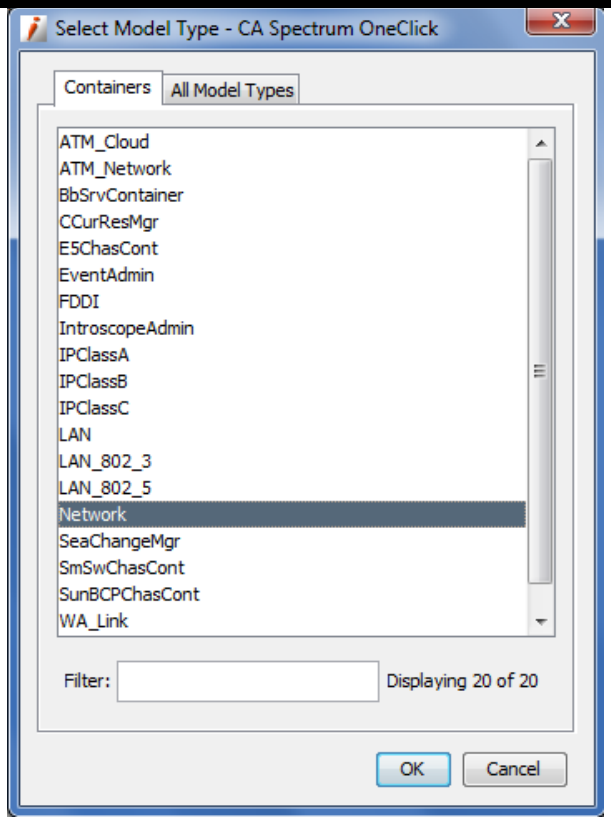
Most of the new office creations will be remote offices, which will need to be added to the Spectrum server prema. In order to do so, follow these steps:

- In the OneClick console, in the Navigation pane, go to prema→Universe→LibertyMutual and select this. Click on the "Topology" tab under the Contents' pane:

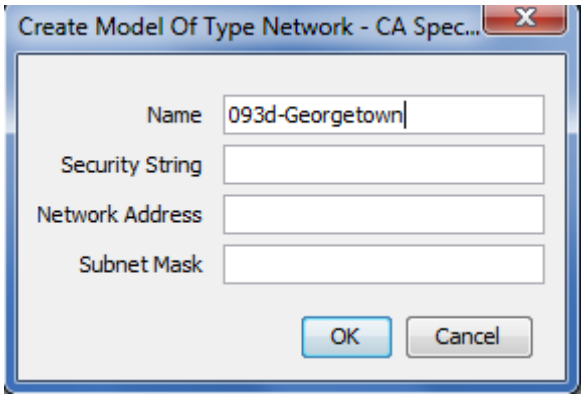


- Click on the "Create by Model Type" icon (Disk shaped icon w/ the "+" on it in the upper left of Contents' pane) and select "Network" under the Containers' tab:

Step	Action	Result

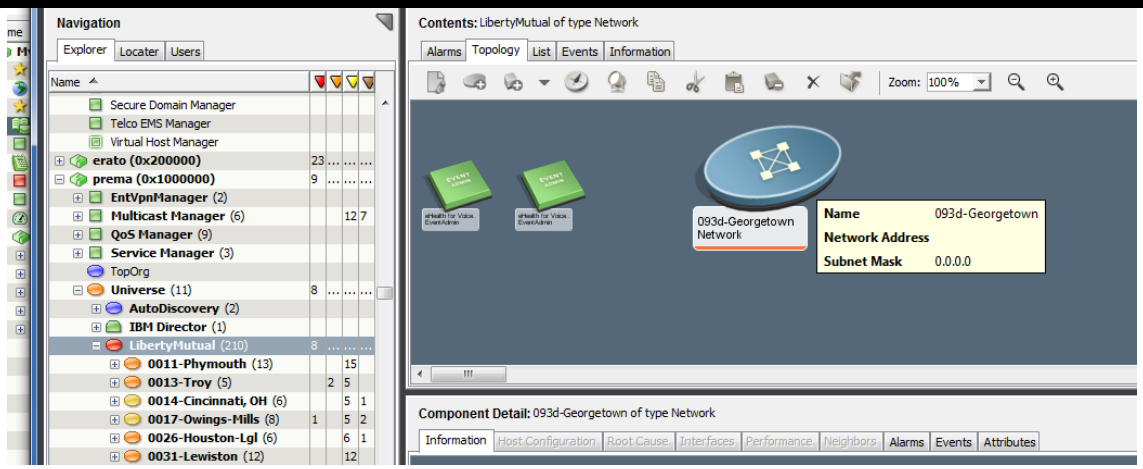


- Under the “Name” field, type in the office number followed by the name of the office in the following format: NNNN-CityName. E.g. 0031-Lewiston. Leave the Security String, Network Address, and Subnet Mask blank:

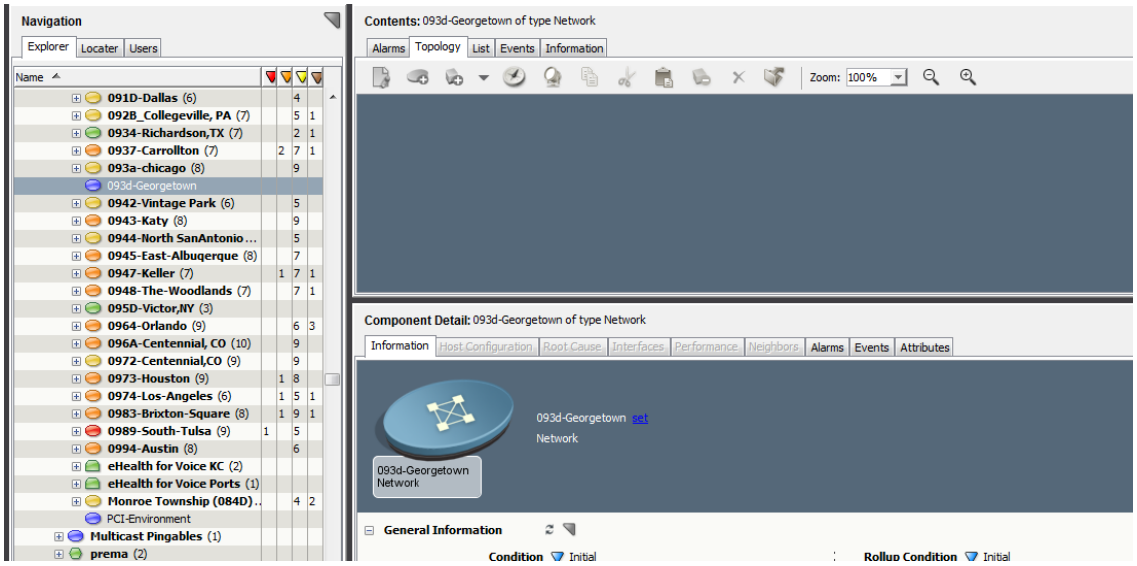


- Click Ok. This will create a new Network container with the name of the office number-CityName that will be blue until devices are added to the container:

Step	Action	Result



- Double-click on the Network icon (that you just created) to drill into it. Or you can select it on the left hand side in the Navigation pane.
- You'll be inside the container which will be blank until you add devices into the container:



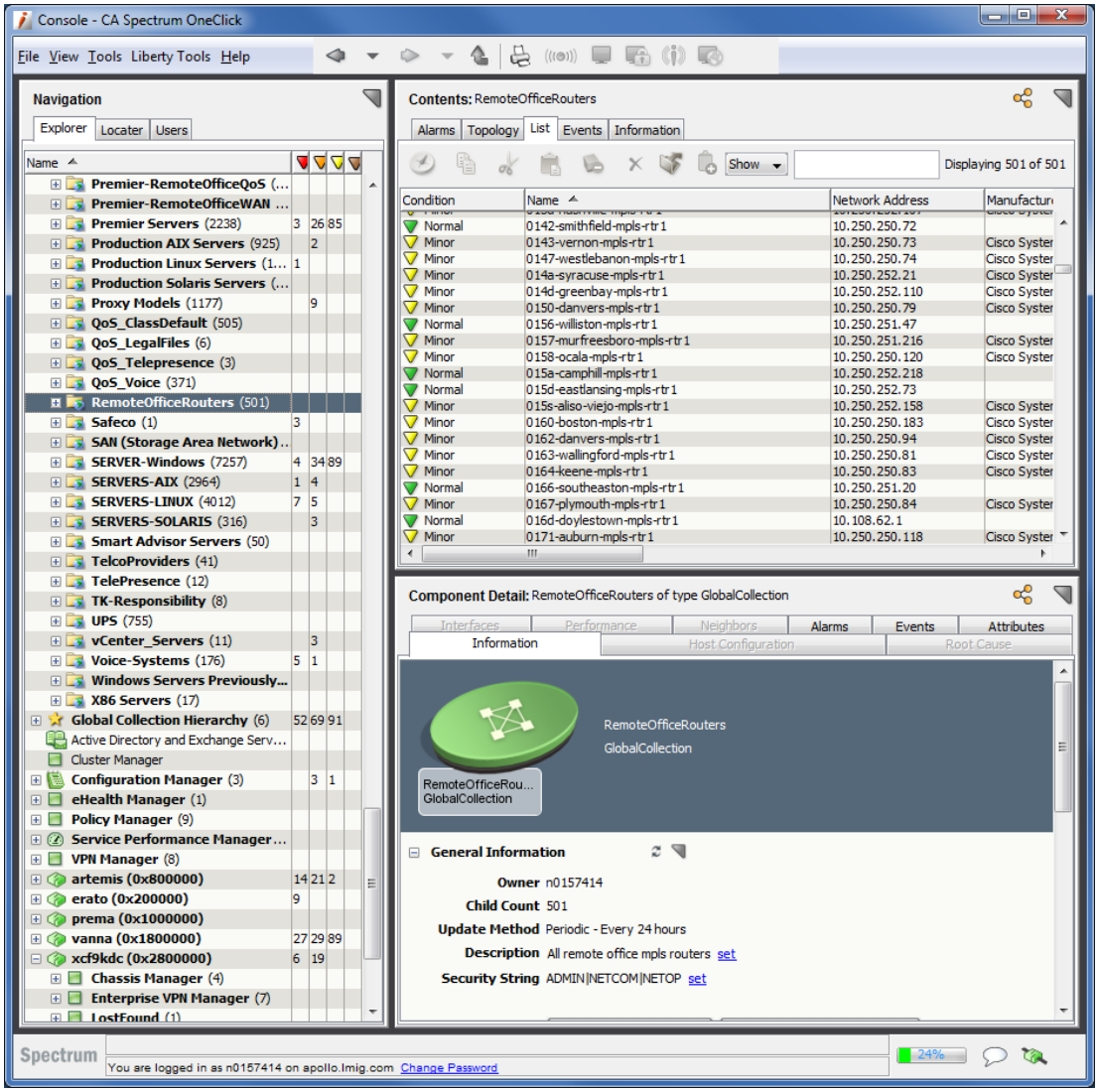
- To add devices, go back to step 1 above to proceed with modeling of the devices in this office.

Procedure for Adding Newly Created Office to eHealth Global Collection:

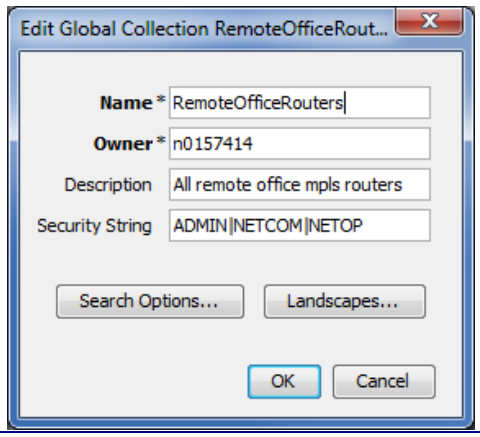
Step	Action	Result
	Now that the new office (and the devices therein) has been created, we need to have Spectrum do a 'push' to eHealth in order for the device to get populated into eHealth. This will not only 'push' the discovery into eHealth, the discovery in eHealth will then populate the eHealth groups dynamically in order to allow for reporting against the given groups. If it is a new remote office, the following steps will add the corresponding MPLS router to eHealth: • Expand the Global Collections in the Navigation pane in Spectrum;	

Step	Action	Result

- Scroll down to the Global Collection called, “RemoteOfficeRouters,” and highlight it:

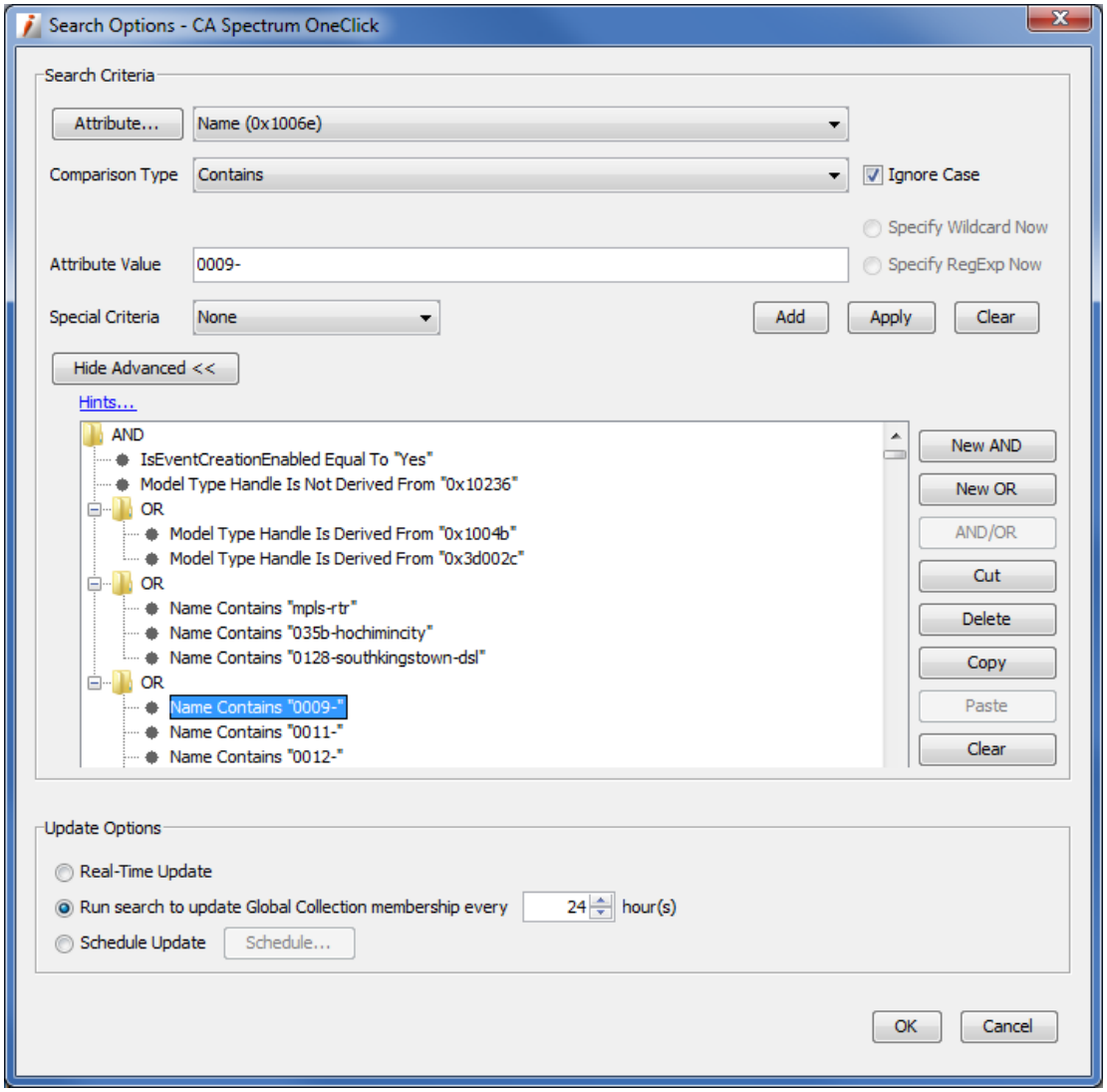


- Right mouse button on it and go to “Edit Global Collection…”:



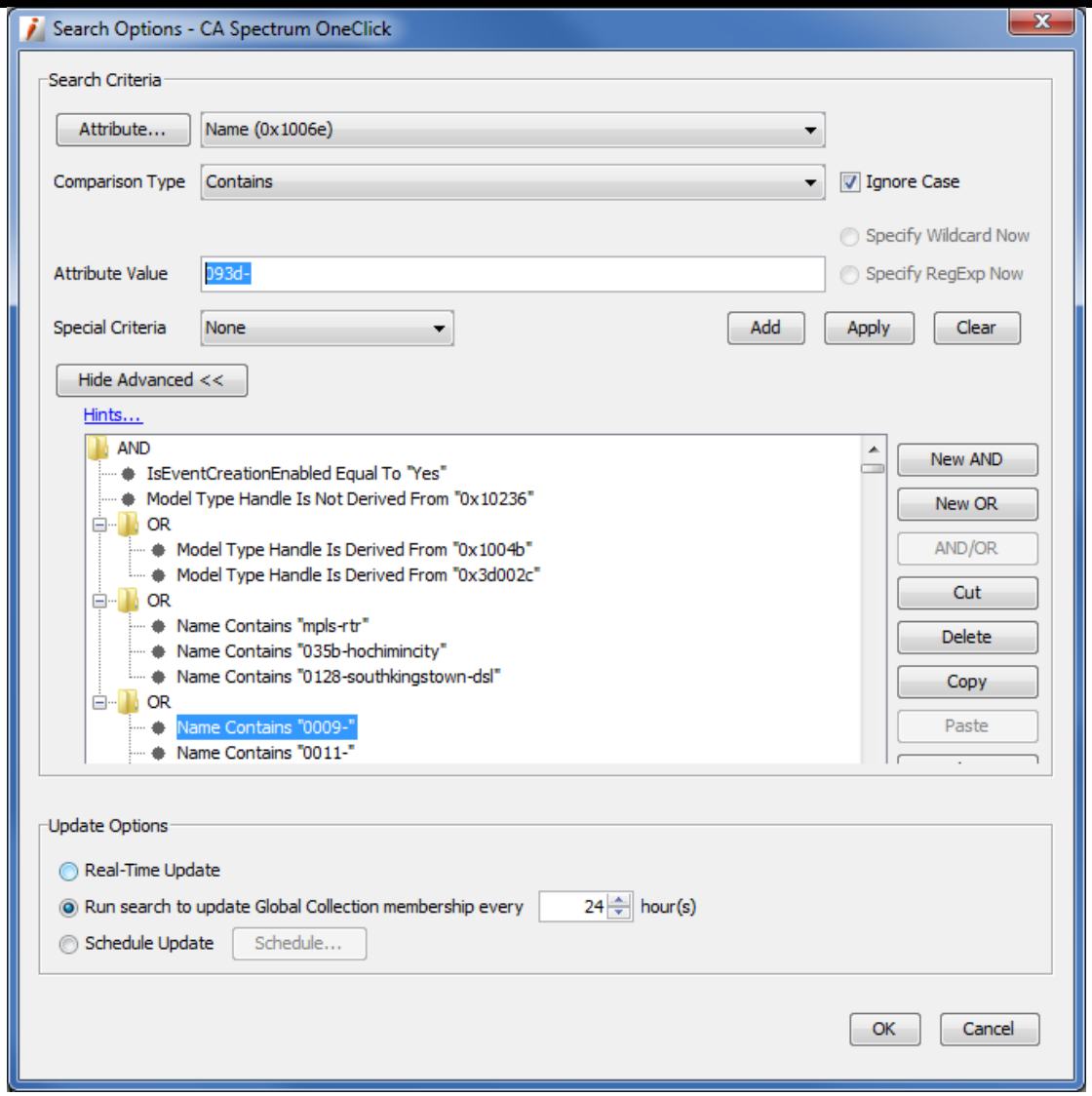
Step	Action	Result

- Click on “Search Options…”
- Scroll to the section of the list that indicates, “Name Contains…” and highlight one that is shown there. This will populate the fields above in the Search Criteria:

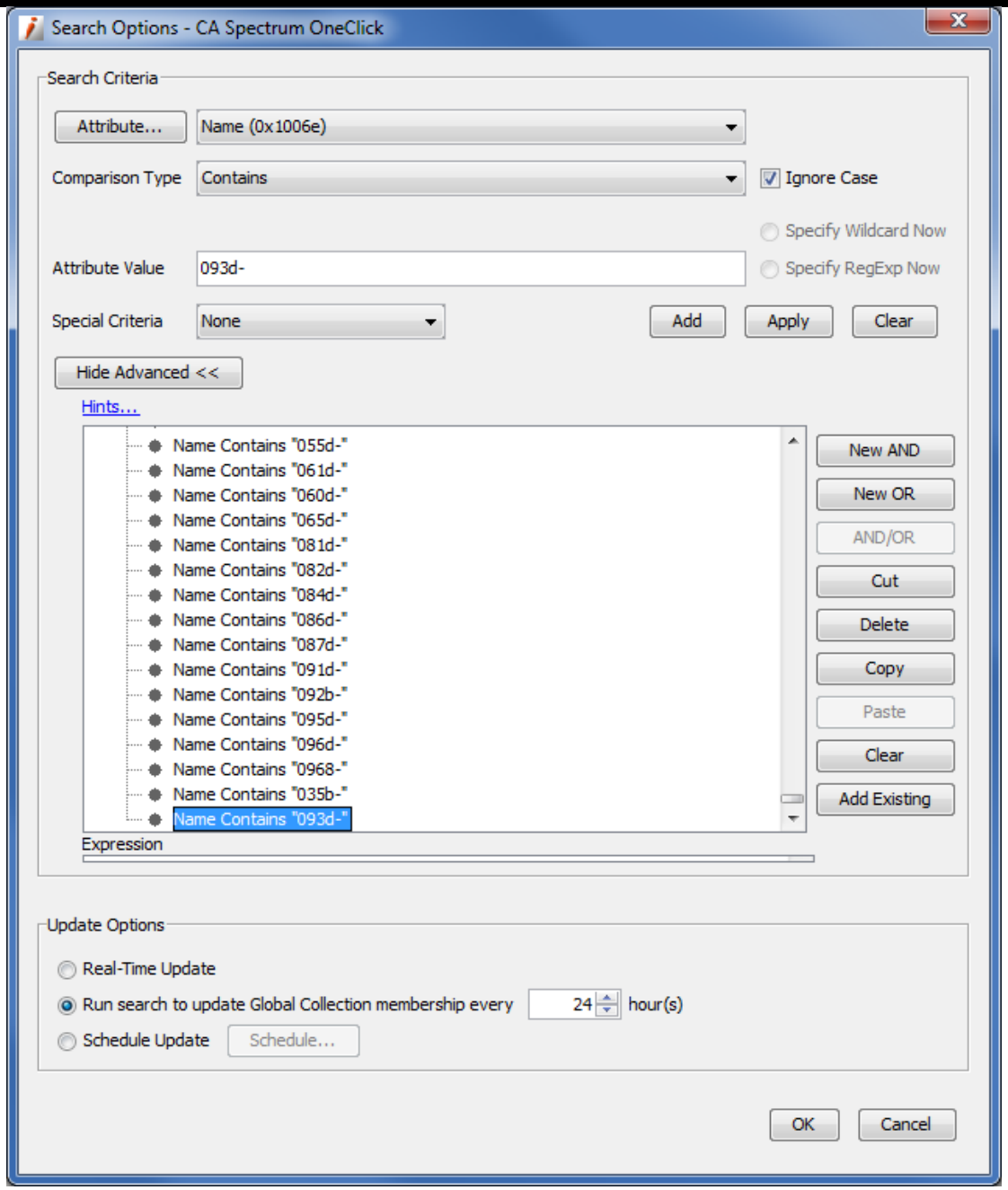


- For the Attribute Value, type in the office number followed by the “-“:

Step	Action	Result

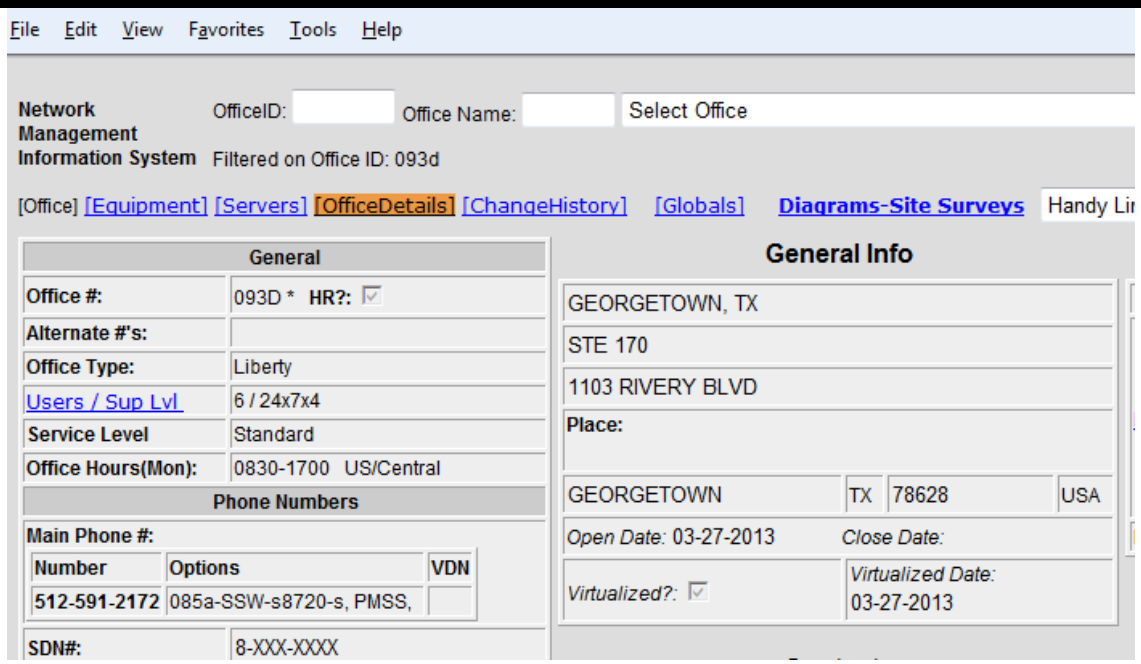


- Click on the “Add” button at the top right. This should append the ‘Name Contains “093d-“’ to the end of the list:

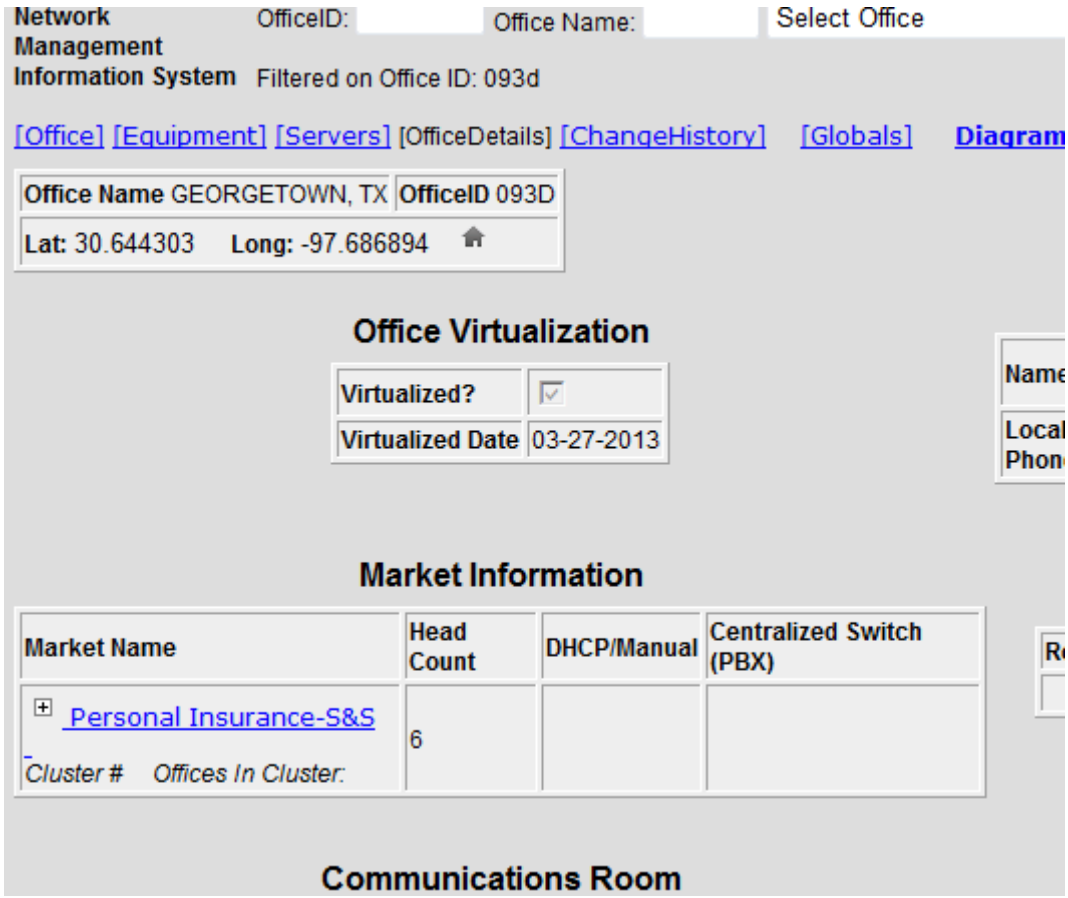
Step	Action	Result
		
	• Click “Ok” at the bottom right to update the search. • Click “Ok” again at the initial screen. The collection will update shortly thereafter.	

2.	In order to add other devices within that office into eHealth, you’ll need to follow these steps (i.e. FWs, BigIPs, voice components, etc., that may or may not have been added to the office):
	
	• Confirm which business unit the office belongs to through the NMIS database (access instructions above):
	  ○ Type in the OfficeID at the top of NMIS to do a search (i.e. “093d”);
	  ○ When NMIS comes back with the found value, click on “OfficeDetails” link:	

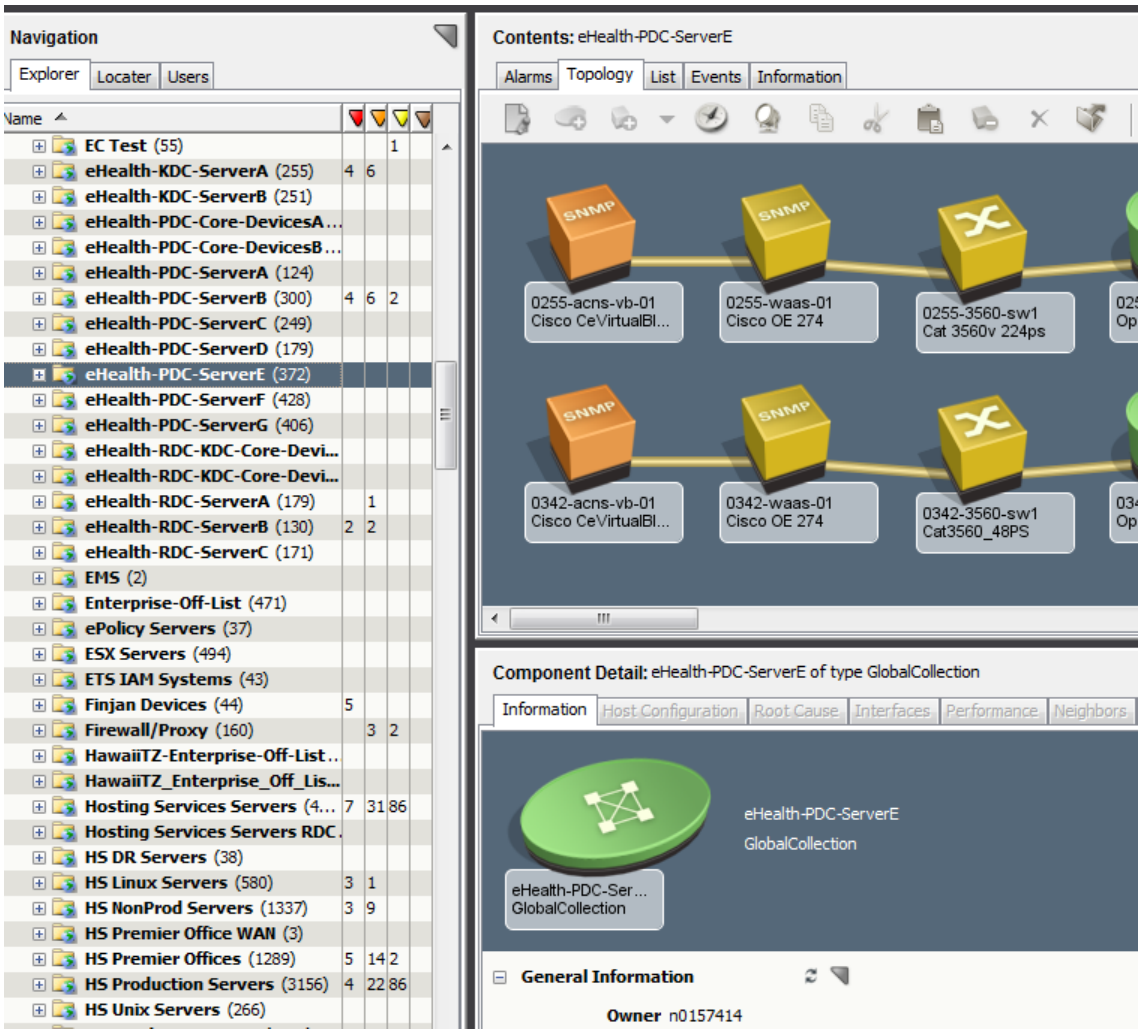
Step	Action	Result



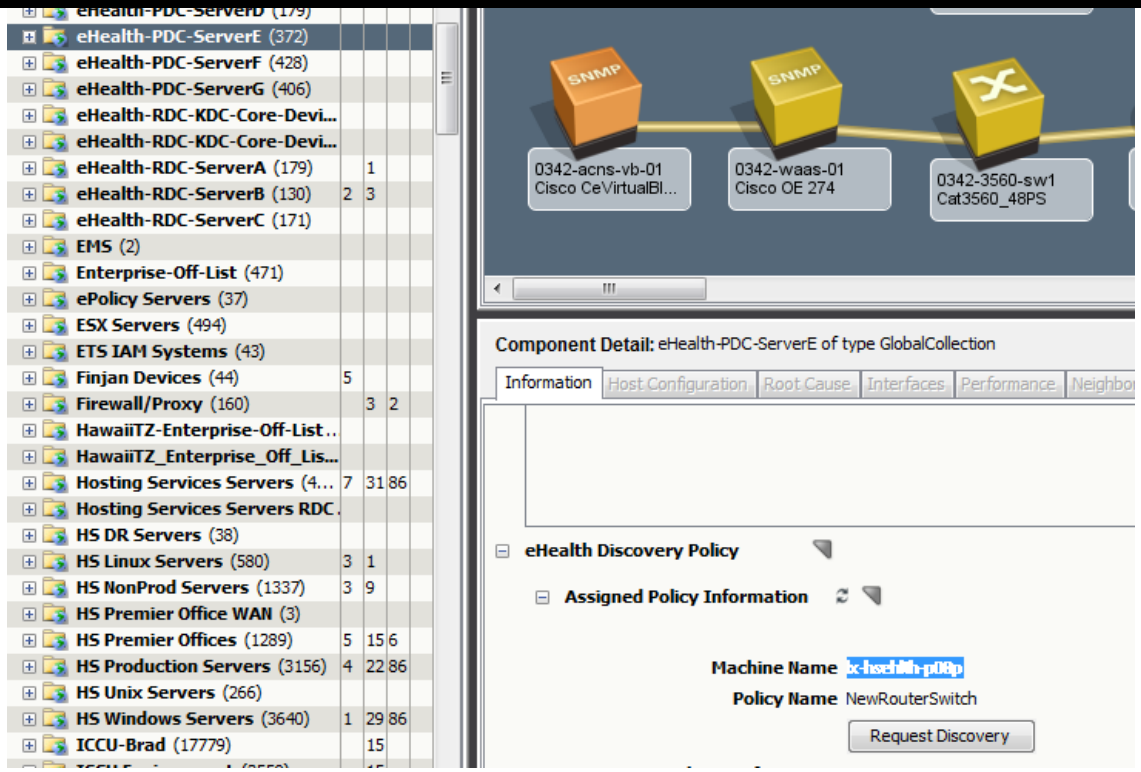
- This will list the number of people from each market that exist in this office under the “Head Count” column:



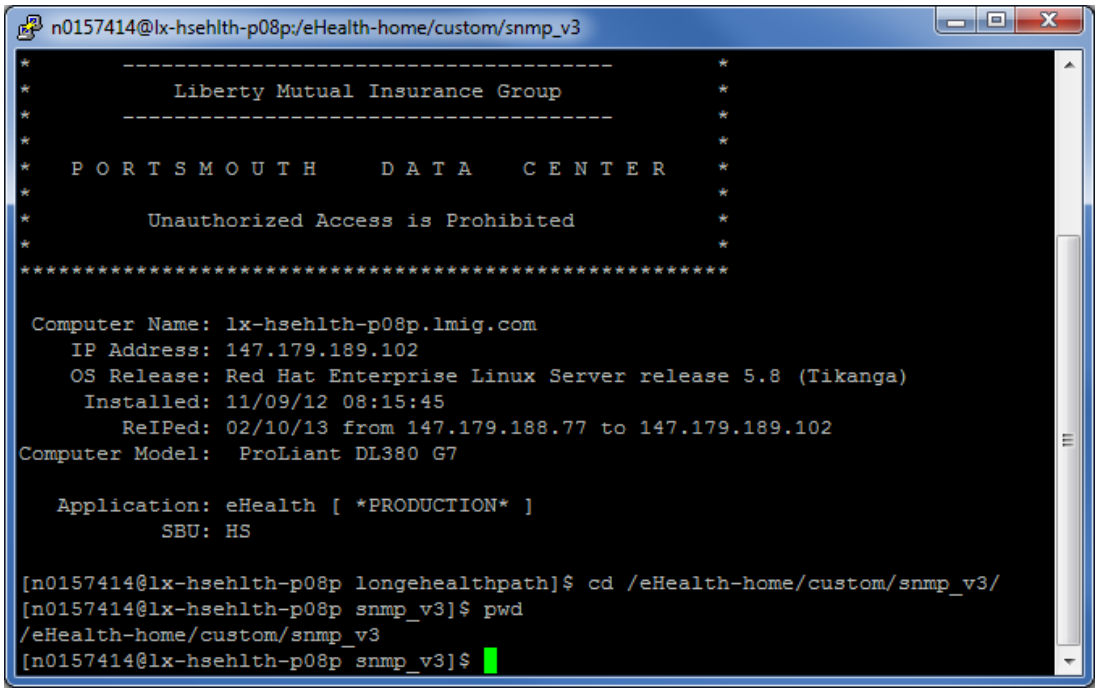
Step	Action	Result
	○ This office is considered “Personal Insurance-S&S.” The acronym is “PM” in Spectrum or eHealth. • Expand the Global Collections in Spectrum as before and go to the “eHealth-“ ones. Here is the breakdown as to which collection will store which devices: ○ eHealth-KDC-ServerA = All KDC devices (085a), but none with a “-mpls-“ in the name. ○ eHealth-KDC-ServerB = Agency (AM) office stuff that is not legacy Safeco (office ending in “s” such as 001s) and not including remote offices (where the MPLS routers would reside) ○ eHealth-PDC-Core-DevicesA = All PDC switches (0055) ○ eHealth-PDC-Core-DevicesB = All PDC routers and Spectrum designated ‘switch-routers’ ○ eHealth-PDC-ServerA = Personal Market (PM), Corporate (Corp), and Commercial Market (CM) stuff not including remote offices. The office numbers are split (to separate out the total number that is in each Global Collection) between A, C, D, E, F, and G collections. You can choose one or another. ○ eHealth-PDC-ServerB = PDC non-routers and network switches. E.g. Finjan, FWs, BigIPs, WAAS, ACNS, Adtrans, etc. ○ eHealth-PDC-ServerC = Personal Market (PM), Corporate (Corp), and Commercial Market (CM) stuff not including remote offices. The office numbers are split (to separate out the total number that is in each Global Collection) between A, C, D, E, F, and G collections. You can choose one or another. ○ eHealth-PDC-ServerD = Personal Market (PM), Corporate (Corp), and Commercial Market (CM) stuff not including remote offices. The office numbers are split (to separate out the total number that is in each Global Collection) between A, C, D, E, F, and G collections. You can choose one or another. ○ eHealth-PDC-ServerE = Personal Market (PM), Corporate (Corp), and Commercial Market (CM) stuff not including remote offices. The office numbers are split (to separate out the total number that is in each Global Collection) between A, C, D, E, F, and G collections. You can choose one or another. ○ eHealth-PDC-ServerF = Personal Market (PM), Corporate (Corp), and Commercial Market (CM) stuff not including remote offices. The office numbers are split (to separate out the total number that is in each Global Collection) between A, C, D, E, F, and G collections. You can choose one or another. ○ eHealth-PDC-ServerG = Personal Market (PM), Corporate (Corp), and Commercial Market (CM) stuff not including remote offices. The office numbers are split (to separate out the total number that is in each Global Collection) between A, C, D, E, F, and G collections. You can choose one or another. ○ eHealth-RDC-KDC-Core-DevicesA = KDC network switches, routers and ‘switch-routers’ ○ eHealth-RDC-KDC-Core-DevicesB = RDC network switches, routers and ‘switch-routers’ ○ eHealth-RDC-ServerA = Safeco offices (Agency) ending in “s” as well as international offices ○ eHealth-RDC-ServerB = All RDC (082s) network devices (routers, switches, switch-routers, FWs, BigIPs, etc.) ○ eHealth-RDC-ServerC = All wireless devices (all offices and all data centers). • Go to procedure outlined in Step 1 in order to add in the office number to the search criteria.	

Step	Action	Result
	• Click “Ok” all the way out. This will update the search with the new devices within those offices.	
3.	If the devices in the offices are managed via SNMPv3, there will be another step to take in order to allow for them to be monitored via eHealth. A configuration file needs to be updated with appropriate profile information. • Navigate to the respective Global Collection that you just updated above with the office number. • Select the Global Collection and make sure that the Contents’ pane is either on Topology tab or List tab. • Go to the Component Detail on the Global Collection (so that the Global Collection is the one in the pane):  • In the Component Detail pane, scroll to the bottom and expand the “eHealth Discovery Policy.” Here you will see the eHealth “Machine Name” to which you will want to add the SNMPv3 profile information:	

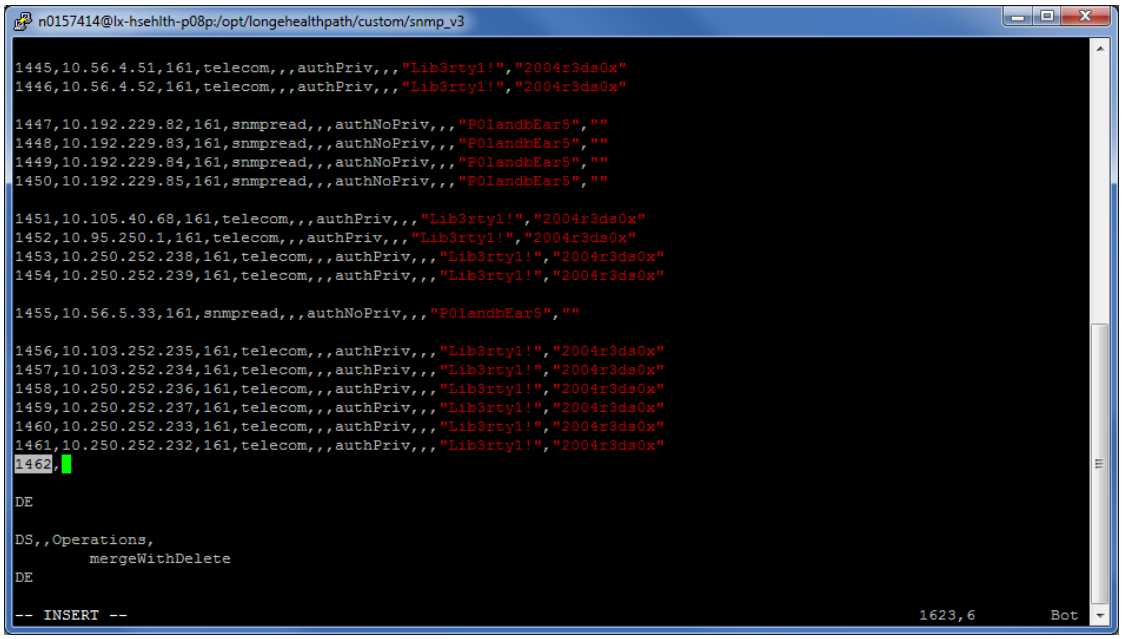
Step	Action	Result



- Putty into this server (lx-hsehlth-p08p in the example above) and cd into the /eHealth-home/custom/snmp_v3/ directory:

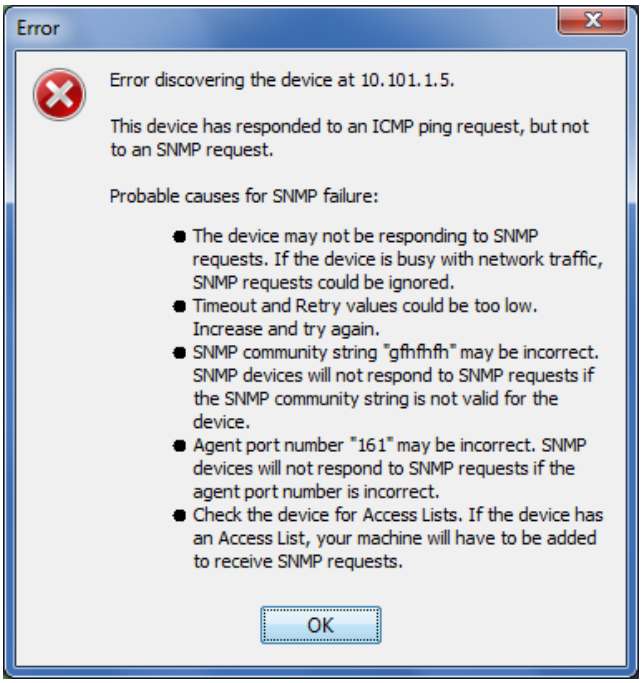


- Open the corresponding .dci file in order to add the profile information ("08_28_2012_LibertyProductionHdrV3SnmpKeyInfo.x1f1pdc.dci" on this box).
- Scroll to the bottom of the file and add in the profile information incrementing the count

Step	Action	Result
	from the first column by 1 (‘1462’ would be my new entry in the case below):  • The format is: id, IP address, port, snmpv3 user, contextEngineID (not needed), contextName (not needed), securityLevel (authPriv, authNoPriv, NoauthNoPriv), authAlgorithm (SHA/MD5—MD5 is default), encryptAlgorithm (not needed), authKey, privKey. Examples exist in the configuration file for different devices. Find a similar device and use the same format. • Save the file and exist. • Run the command, “nhImportSnmpKeyInfo -dciIn ./<file_you_just_edited_above>” So, the example above would look like: “nhImportSnmpKeyInfo -dciIn ./08_28_2012_LibertyProductionHdrV3SnmpKeyInfo.x1f1pdc.dci” This will import the profile information for the device into eHealth. When it gets discovered, it will use this information. • The eHealth discovery can run as necessary now (will take place automatically every 6 hours).	

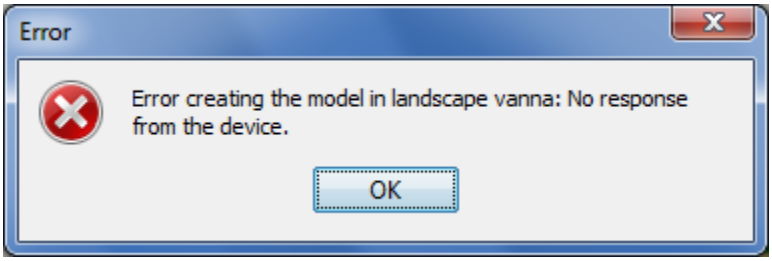
Troubleshooting and Frequently Asked Questions:

- Issues occur with connectivity:
  - Sometimes when modeling a device, you’ll get a popup indicating:



This is usually caused by an incorrect SNMP community name. If you are unsure of the community name and/or have tried all of the given ones, contact the requestor. You may have to open up an incident in Service Center for the particular group requesting the device to be added to Spectrum.

- When trying to model, you may get a popup error message indicating:



This means that the Spectrum server cannot ping the device with the IP address given. You'll need to contact the requestor to confirm the IP address given is correct. Also do a DNS lookup on the IP address to confirm it is what is expected "nslookup <ip_address>" or "nslookup <name_of_device>".

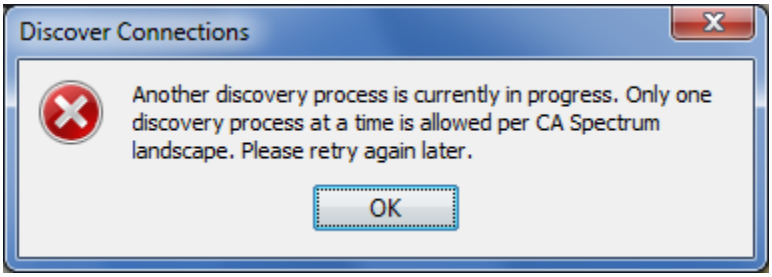
Also, for troubleshooting purposes, if you can get a "traceroute" (Unix) or "tracert" (Windows) of the IP address from the respective Spectrum server, this will help both the network folks and/or the requestor try to troubleshoot where the issue is occurring if it IS the correct IP address. There my be a FW in between that is dropping the ICMP or SNMP or both from getting either to the FW or through the FW. An example from the Spectrum server, vanna (Linux):

```
[n0157414@vanna ~]$ traceroute 10.192.16.45
traceroute to 10.192.16.45 (10.192.16.45), 30 hops max, 40 byte packets
1  136.184.228.1 (136.184.228.1)  0.457 ms  0.488 ms  0.563 ms
2  147.179.113.121 (147.179.113.121)  0.288 ms  0.331 ms  0.318 ms
3  0055-ec-choke-a-vlan668.lmig.com (147.179.127.166)  0.443 ms  0.720 ms  0.849 ms
4  146.150.2.118 (146.150.2.118)  1.103 ms  1.394 ms  1.541 ms
5  10.192.18.4 (10.192.18.4)  0.353 ms  0.349 ms  0.336 ms
6  147.179.113.146 (147.179.113.146)  1.303 ms  1.326 ms  2.387 ms
```

7 * * *

where the “7 ***” indicates that ICMP stopped after it got to the previous IP address (147.179.113.146).

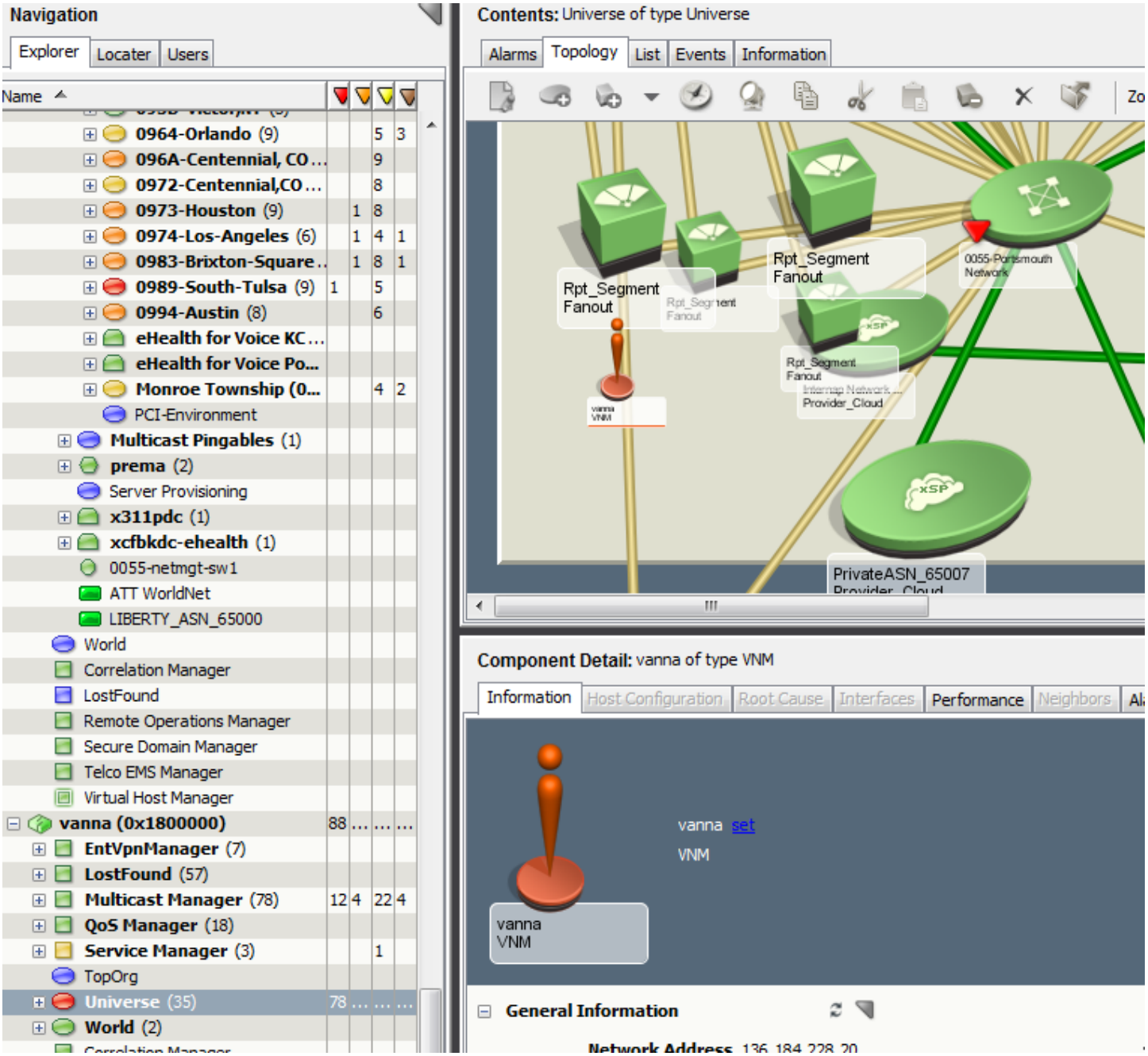
- Discovery Issues:
  - When attempting to run a discovery, you may get a popup indicating:



This occurs when another discovery is running currently on that Spectrum server. It will lock the discovery so as to prevent stepping on other discovery ‘toes’ as well as performance stopgaps.

This could take some time to complete, but it depends on a lot of factors. If it appears that this is a ‘hung’ discovery (takes longer than 15 minutes), there is a way to abort the existing discovery in order to run a new one:

- Go to the server in the Navigation pane, and highlight the Universe;
- Click on the Toplogy tab in order to highlight the VNM icon in the view:



- In the Component Detail pane, expand the “AutoDiscover Control” tree in order to see the “Abort Discovery” button. Click on this to abort the running discovery. This should be run as a last resort.

For other subcontainers similar to the remote offices setups, you can add in the LAN_802_3 containers for “Voice_Network” and “Wireless_Network” for the respective offices.