LiveAction

Export Flows from an ASR 9k

Summary

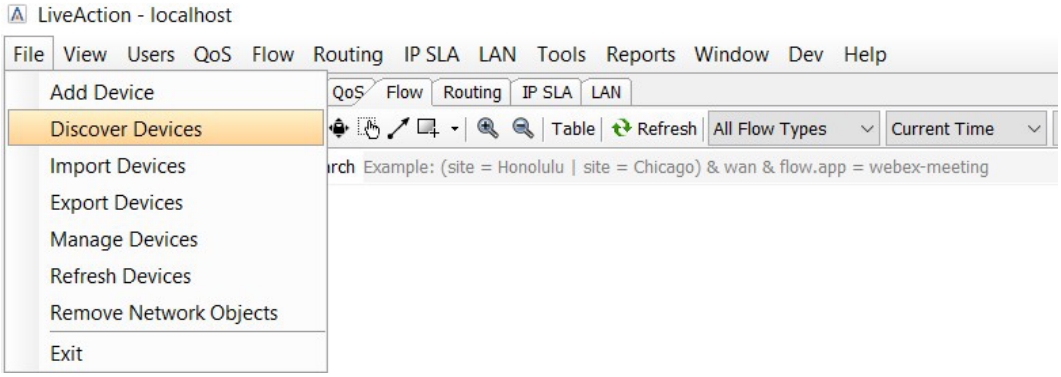
LiveNX is unable to configure sflow export for Cisco's ASR 9k platform. Fortunately, you can follow this guide and manually configure sflow export to LiveNX and still get the rich visibility that you would expect. This guide will explain the steps necessary to bring your ASR 9k into LiveNX and configure sflow export.

If you have any questions about this guide, or need any assistance in general please contact LiveAction support: *support@liveaction.com*.

Bring in your ASR 9k by using Discover Devices

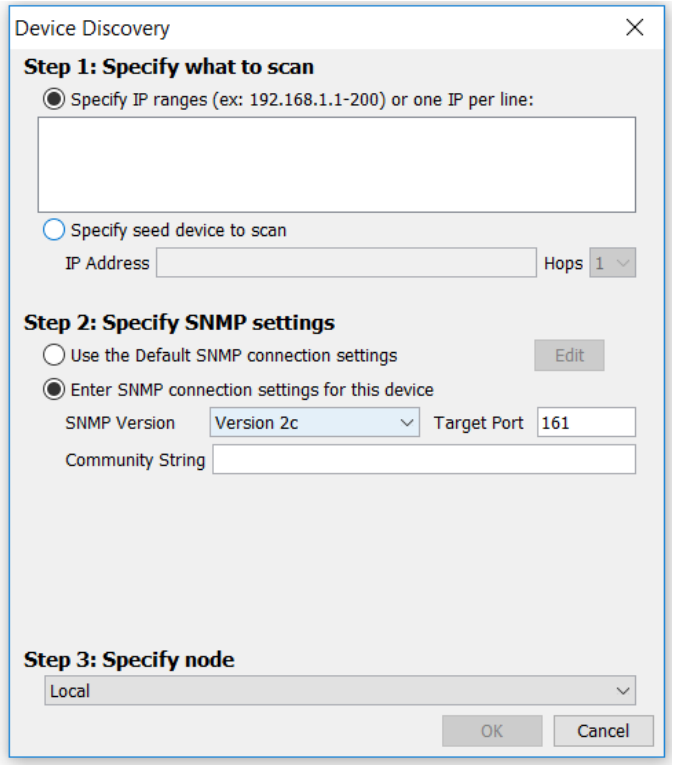
Step 1

With your LiveNX client open, go to **File > Discovery Devices.**



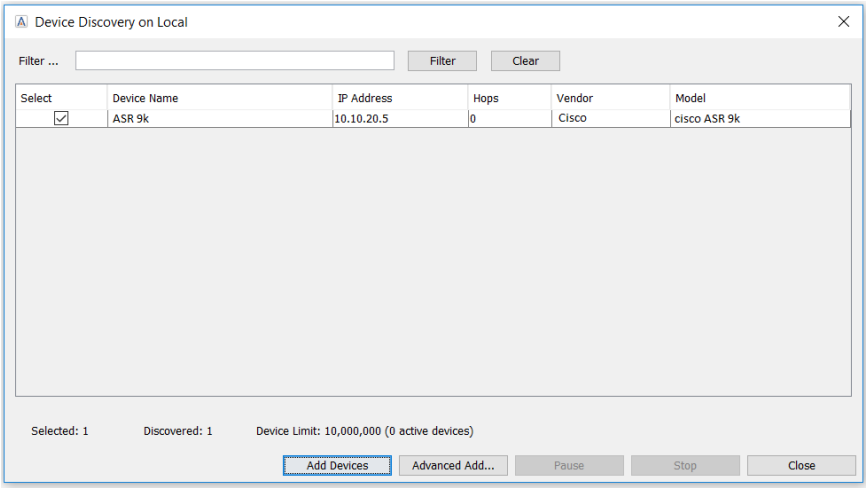
Step 2

Enter your ASR 9k's IP address, enter your SNMP settings, specify the node and click **OK**.



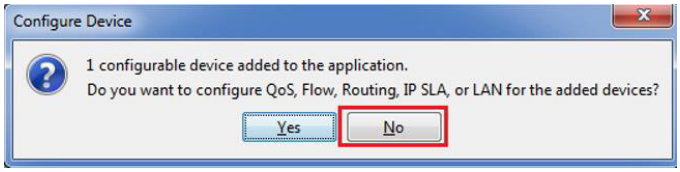
Step 3

Select **Add Devices.**



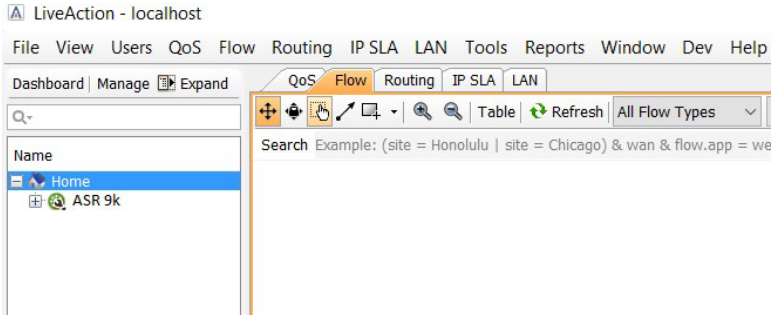
Step 4

On the Configure Device window, please select **No**.



Step 5

Now, you should be able to see you ASR 9k in LiveNX with a wrench across it. This means that LiveNX cannot configure your device, however, we will still poll SNMP and receive flow (when configured).



Configure sFlow to be exported from the Cisco ASR 9k

Create a LiveNX Flow Exporter

```
conf t
flow exporter-map LIVENX-FLOWEXPORTER
version v9
options interface-table
options sampler-table
template data timeout 10
template options timeout 10

transport udp 2055
source MgmtEth0/RSP0/CPU0/0
destination 10.20.1.119
commit
exit
```

Create your LiveNX Flow Monitor

```
flow monitor-map FLOWMONITOR-IPv4
record ipv4
exporter LIVENX-FLOWEXPORTER
commit
exit
```

Create your LiveNX Flow Sampler

```
sampler-map FLOWSAMPLER
random 1 out-of 10 (You can increase this rate to improve performance)
commit exit
```

Apply your LiveNX Monitor and Sampler to an interface of interest

```
conf t
interface gigabitEthernet 0/0/0/0
flow ipv4 monitor FLOWMONITOR-IPv4 sampler FLOWSAMPLER ingress
flow ipv4 monitor FLOWMONITOR-IPv4 sampler FLOWSAMPLER egress
commit
exit
```

What is sFlow

sFlow, short for "sampled flow," is an industry standard for packet export at Layer 2 of the *OSI model*. It provides a means for exporting truncated packets, together with interface counters. Maintenance of the protocol is performed by the sFlow.org

Packet sampling basics

Packet-based sampling schemes are widely used to characterize network traffic. Packet sampling uses randomness in the sampling process to prevents synchronization with any periodic patterns in the traffic. On average, 1 in every N packets is captured and analyzed.

While this type of packet sampling does not provide a 100% accurate result, it does provide a result with quantifiable accuracy.

Benefits of sFlow

- Flow Sampling on a network device is beneficial to save CPU processing due to thehigh volume that the device ishandling.

Limitations of sFlow

- sFlow does not provide the packet level details required for complete analysis of the network as they don't have the access to every packet in the conversation to perform application expert analysis (like application response time analysisetc).
- The accuracy of sFlow analysis depends a lot on the sample rate selected. The higherthe sample rate, more accurate the analysis. The type of sampling (uni-directional or bi-directional sampling) also plays an important factor in the accuracy of sFlow results. The supported sample rates are dependant on (or limited to) the network infrastructure vendors.

References:

http://www.sflow.org

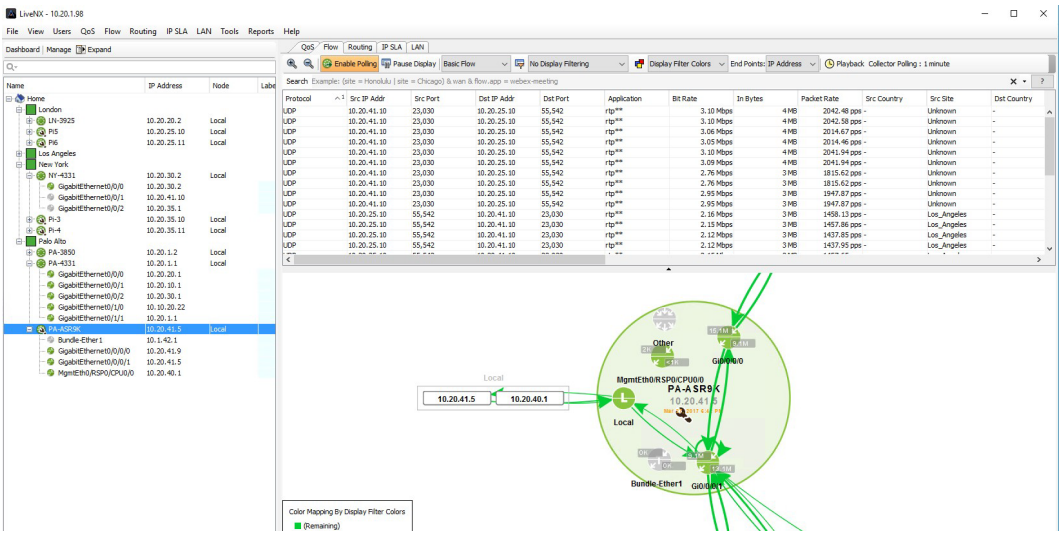
LiveNX Flow Sampling

LiveNX Flow Sampling is an automatic mechanism to apply the sample rate to data that is aggregated in LiveNX to achieve the estimated bandwidth on the device.

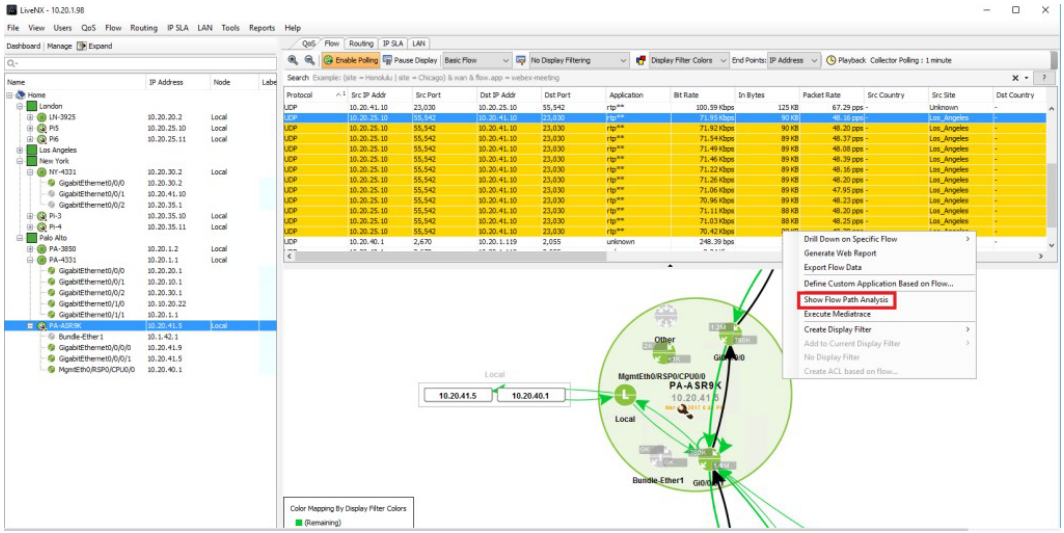
LiveNX Reporting

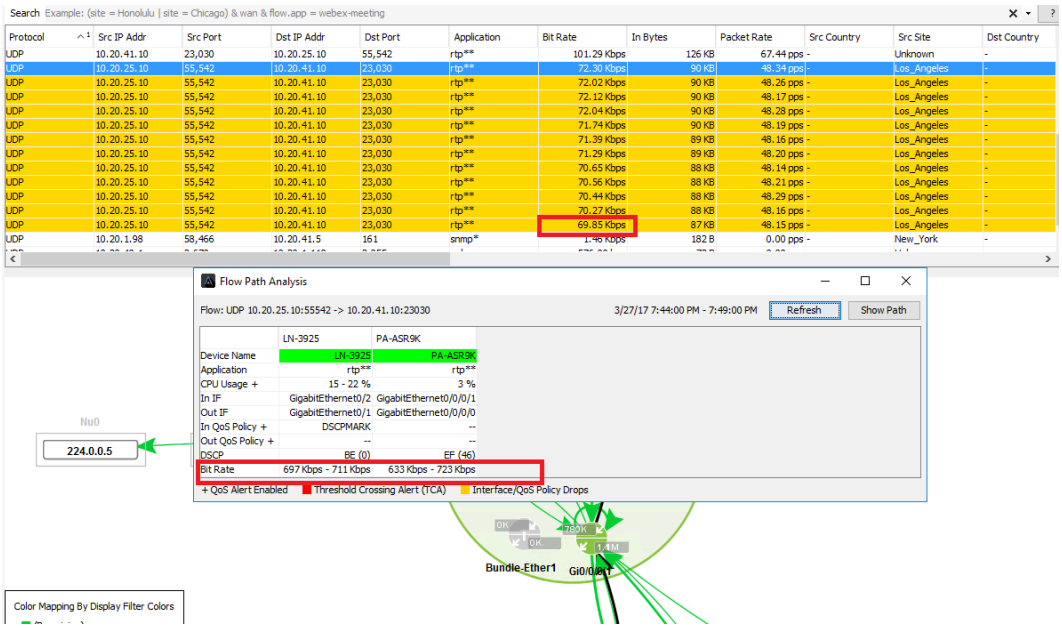
The **Flow Reports**, **Flow Path Analysis, Dashboard,** and **Flow Interface views** will utilize the flow sampler multiplier provided by the sampler-options and the flow records. It multiplies the received flow bytes and packets by the multiplier to give a more accurate bandwidth. This is all done dynamically based on the configuration and flow records and options. Only the **Flow Device view** shows the raw Flow records received by LiveNX. We do not use the sampler multiplier in this view.

Device views

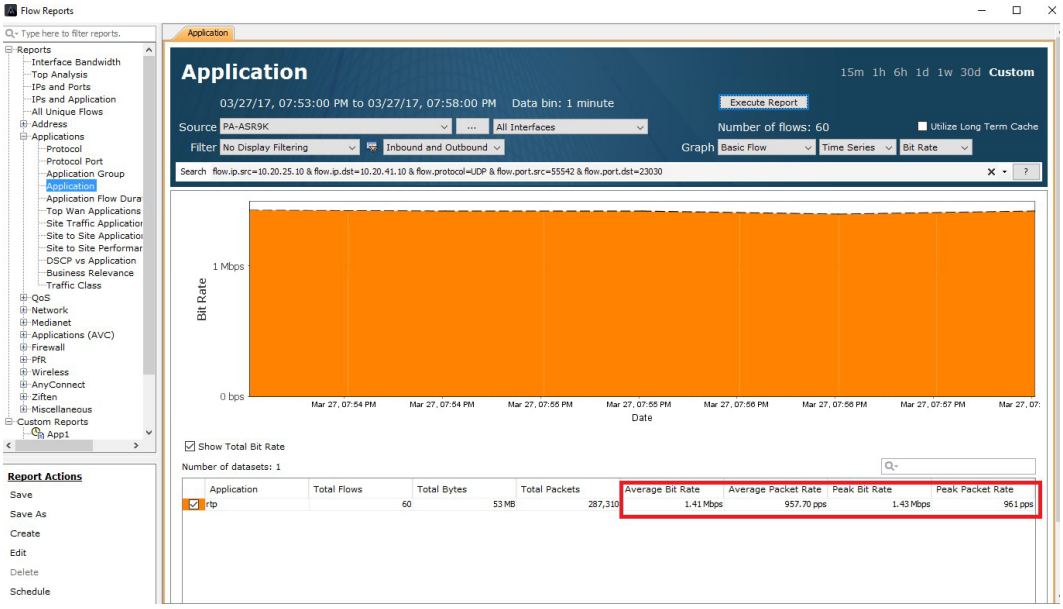


Flow Path Analysis view

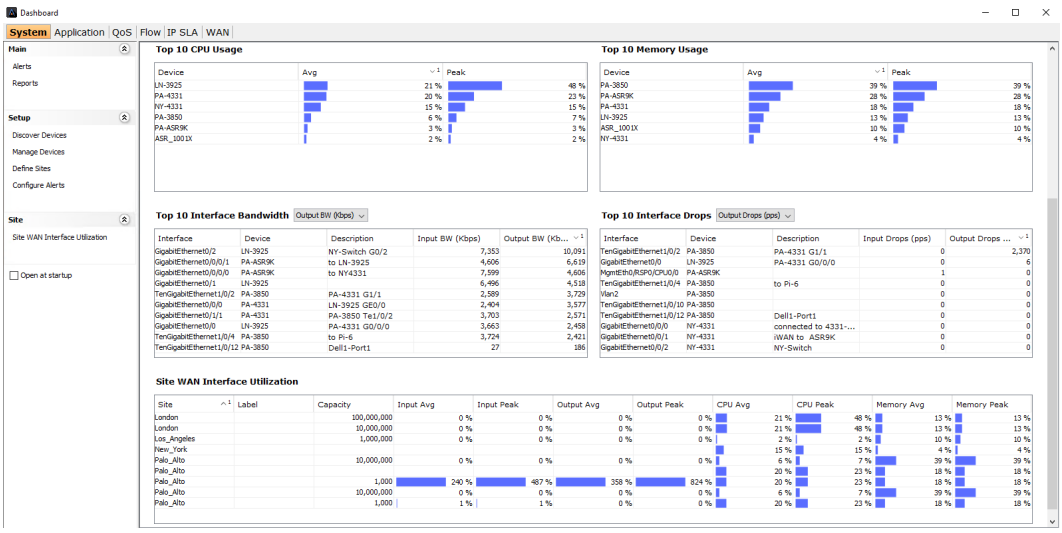




Reports view



Dashboard view



Flow Interface view