# KEYSIGHT CLOUDLENS WITH FIREEYE NETWORK SECURITY QUICKSTART GUIDE IN AZURE

## PROBLEM:

Organizations, even those not typically associated with technology, are migrating to the cloud. This trend is growing because the cloud offers increased flexibility and agility. With this mass migration, organizations have more segments to manage and more potential blind spots in their networks. Regardless of where infrastructure and applications reside, security and compliance needs remain the same. Organizations are finding that their traditional network visibility solutions are unable to meet their needs for visibility of cloud-based data.

## SOLUTION:

CloudLens™, Keysight's platform for public, private and hybrid cloud visibility addresses the challenges of granular data access in the cloud. CloudLens is a solution that provides network tap and packet brokering services in the cloud. It is also the industry's first cloud service-provider agnostic visibility platform. This guide describes how to deploy FireEye Network Security together with CloudLens visibility in Azure (but CloudLens is also avaibale in AWS, GCP or other clouds).

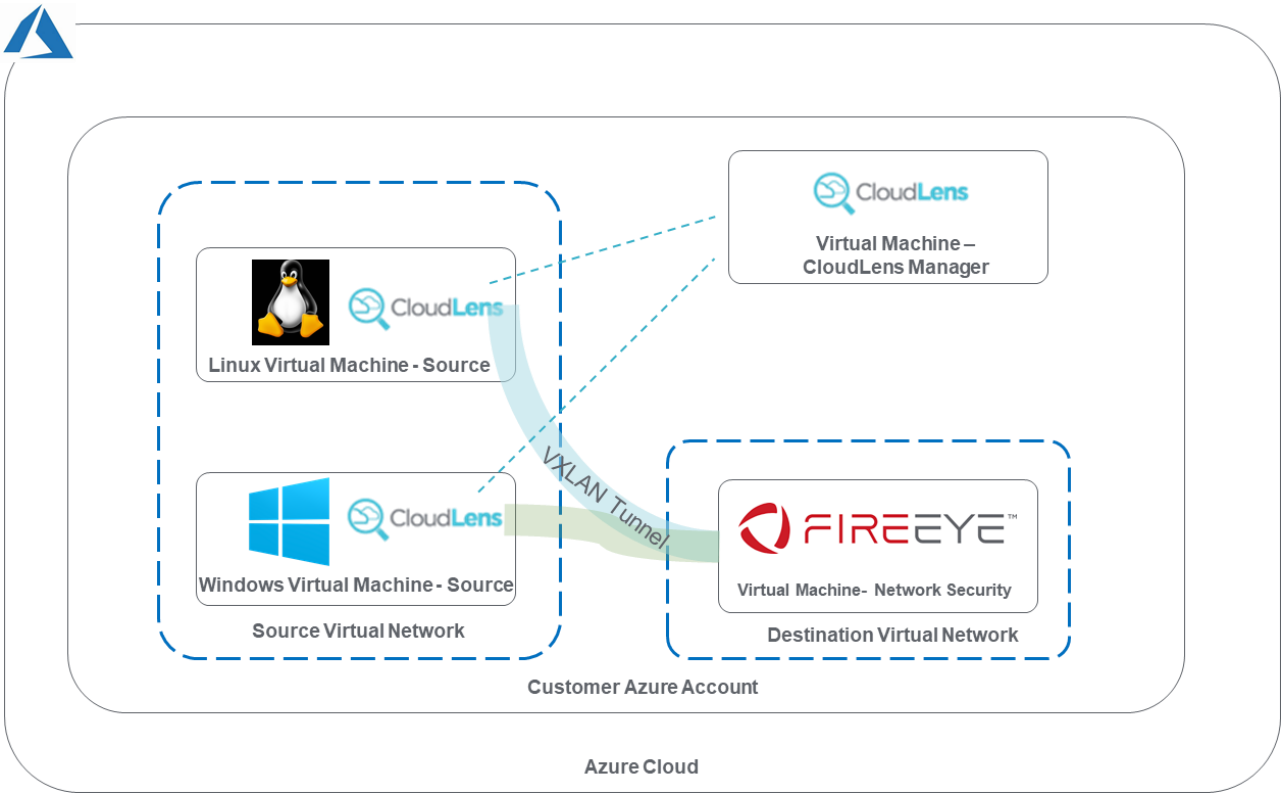
## KEY CLOUDLENS FEATURES:

- Cloud visibility management is controlled by the cloud customer, not reliant on the cloud provider
- Elastically scales on-demand – so visibility auto-scales horizontally along with the Virtual Machines monitored and the Virtual Machines that are needed to do the monitoring
- Reduces errors occurring due to complex and manual cloud configuration
- Easy to use and setup with a drag and drop interface
- Reduces bandwidth to tools by filtering packets at the source Virtual Machines, eliminating unwanted traffic so tools operate optimally
- Supports monitoring of Linux, Windows, and Containers
- Allows sharing of monitor traffic to multiple destinations.
- Supports monitoring of multi-cloud environments

## ABOUT THIS GUIDE:

This guide is meant to summarize steps required for interoperability of Keysight CloudLens and FireEye Network Security. Not all details of every configuration step of each product are detailed here. Full product installation and user guides are available from cloudlens.support@keysight.com , and FireEye support 1-855-434-7339, respectively. This guide also assumes working familiarity with configuration of Azure. Examples shown in this guide were tested with Keysight CloudLens v6.0.2, and FireEye Network Security v9.1.0.950877

## SAMPLE DEPLOYMENT ARCHITECTURE




Shown above is a sample deployment, CloudLens Sensors run on customer Azure instances, register up to the CloudLens Manager (running in Customer's Azure Account) which manages the CloudLens Sensors. The CloudLens Sensors forward desired traffic to FireEye Network Security (also running in customer's Azure Account) via VxLAN.

Only two source instances are shown in this diagram, however many source instances are permitted (your CloudLens license determines now many CloudLens Sensors which the CloudLens manager is allowed to control. **(see CloudLens documentation for instructions on Licensing)**

## MISCILLANEOUS REQUIREMENTS

In this example we are assuming the Source Virtual Machines already exist in the customer's Azure account, you will load CloudLens sensors onto those virtual machiens as described on pages 3-5 of this document.

We are assuming FireEye Network Security has already been deployed into the customer's Azure account, please contact FireEye support for assistance if needed.

Specific Port rules must be configured on Virtual Machines to allow functioning of CloudLens, as well as flow of traffic between CloudLens sensors and FireEye Network Security. Please see Appendix on page 10 of this guide for further details.

# INSTALL CLOUDLENS MANAGER

## Prerequisites

- Obtain the CloudLens-Installer script referenced below from Keysight Support
- In your Azure account, deploy a Linux instance (e.g. Ubuntu) with 4 vCPUs, 16GB RAM, and at least 100GB storage is required.
- Copy the installer script onto the Linux Instance, the run the command as shown below (Note: If you try to install on an instance or VM that does not meet these requirements, the installer will prompt you to confirm installing on an under-spec instance, issues may occur)

Note: IF using CentOS 7 or RedHat 7, you must install SNAP before you install CloudLens Manager. For the procedure to install SNAP, see: https://snapcraft.io/docs/installing-snap-on-centos. After installing SNAP, you must reboot the host.

## Installation

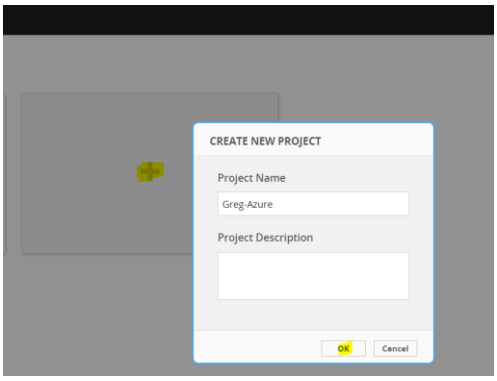
```
# Executed steps on the instance or virtual machine
# Upload the Cloudlens-Installer-<version>.sh from the release download page to the
instance or virtual machine
# Run the installer:
chmod +x CloudLens-Installer-<version>.sh
./CloudLens-Installer-<version>.sh
# Depending on the presence of the user performing the operation in the sudoers list,
a prompt will appear to ask for the user's password.
# After the installation finishes, wait 10-30 minutes for CloudLens Manager to become
available, then use a browser to connect to CloudLens Manager at: https://<cl_
manager_vm_ip>.
# Ensure that HTTPS (TCP port 443) is allowed between the host you are connecting from
and the CloudLens Manager instance.
```

# LOAD CLOUDLENS SENSORS ONTO SOURCE INSTANCES

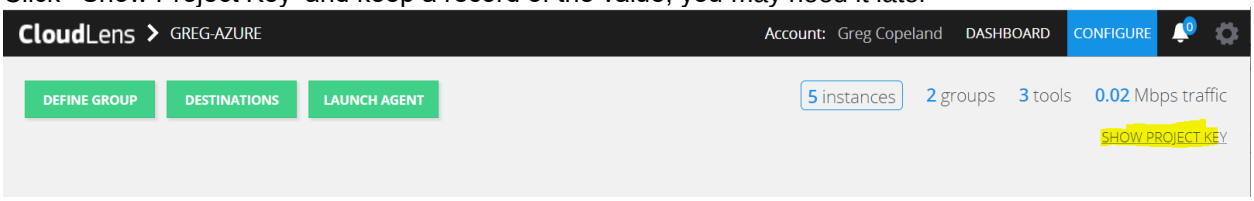
**Step 1** – Log into https://<ipaddress-cloudlens-manager/startup>

Note: default credentials are admin / Cl0udLens@dm!n

**Step 2** – Create a new Project, give it a Name and click OK



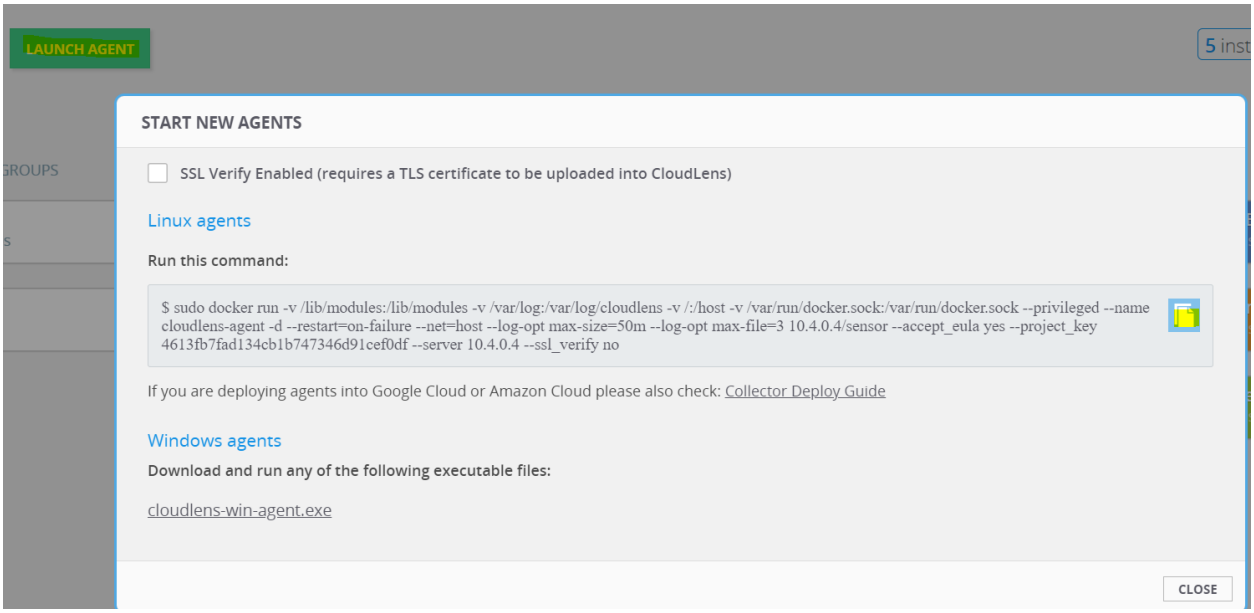
Click ‘ Show Project Key’ and keep a record of the value, you may need it later



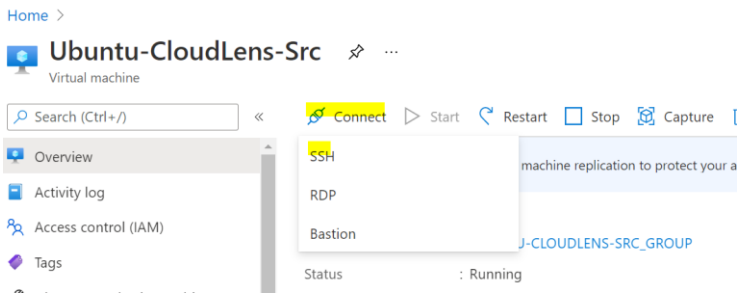

**Step 3** – click ‘Launch Agent’

In this example we see the docker run command required for Linux, it is pre-populated with correct Project Key, and the IP Address of the CloudLens Manager – click the Icon to the right and copy the command to Notepad or similar.

Note: download link is also available for the Windows sensor installer (instructions not shown here, please consult CloudLens documentation for details)




**Step 4** – ‘Connect’ via SSH of Source Virtual Machine from Azure Console (or use RDP for Window), or using your favorite SSH client such as Putty



Then on the Linux Source host(s) install Docker engine (if not already present)

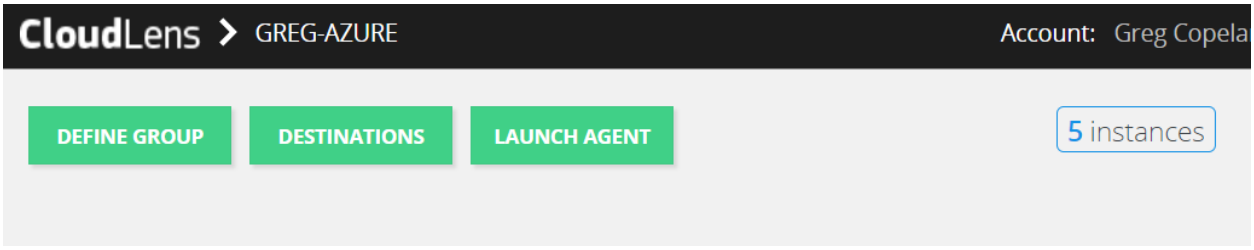
e.g. in case of Ubuntu – commands may differ depending on Linux version

sudo apt update

sudo apt-get install -y docker.io

**Step 5** – From the Linux Source host(s), run the docker commend which you saved in Step 3

Note: In a few minutes you will see the Instance counter in your Project increment, indicating that the Sensor(s) has successfully registered to the CloudLens Manager (in the example shown below 5 Instances were registered, numbers will differ depending on how many hosts you issue the docker run command)




Once your CloudLens Sensors are successfully registered, you can proceed to the next section. If you have trouble registering your sensors, contact cloudlens.support@keysight.com before continuing

# CONFIGURING CLOUDLENS TO SEND TRAFFIC TO FIREEYE NX

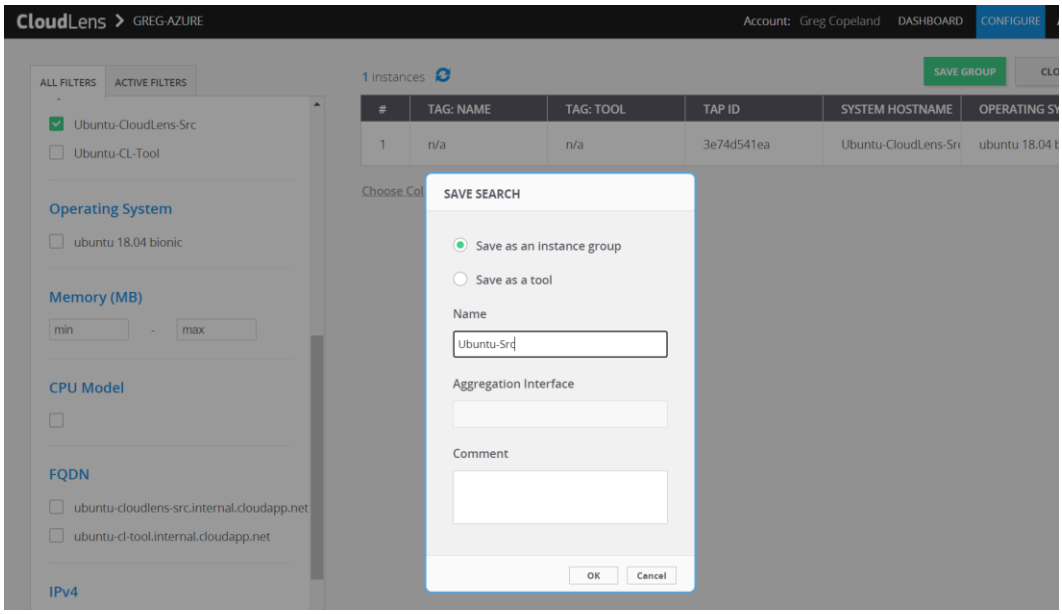
**Step 1** – Log into CloudLens at https://<ipaddress-cloudlens-manager/startup>

Note: default credentials are admin / Cl0udLens@dm!n

- Then open your previously created Project

**Step 2** – Define a Group(s) for your Source Instances

- Click 'Define Group' from the Project Screen
  - Select the Filter criteria that best identifies the Source Instance(s) that you want to monitor. (optionally you may create multiple Tap Groups for different types of Source VMs – if you previously added Tags to your VMs this can help with grouping)
  - Click 'Save Group'
    - Then choose *'Save as an Instance Group'* – give it a 'Name', then click OK



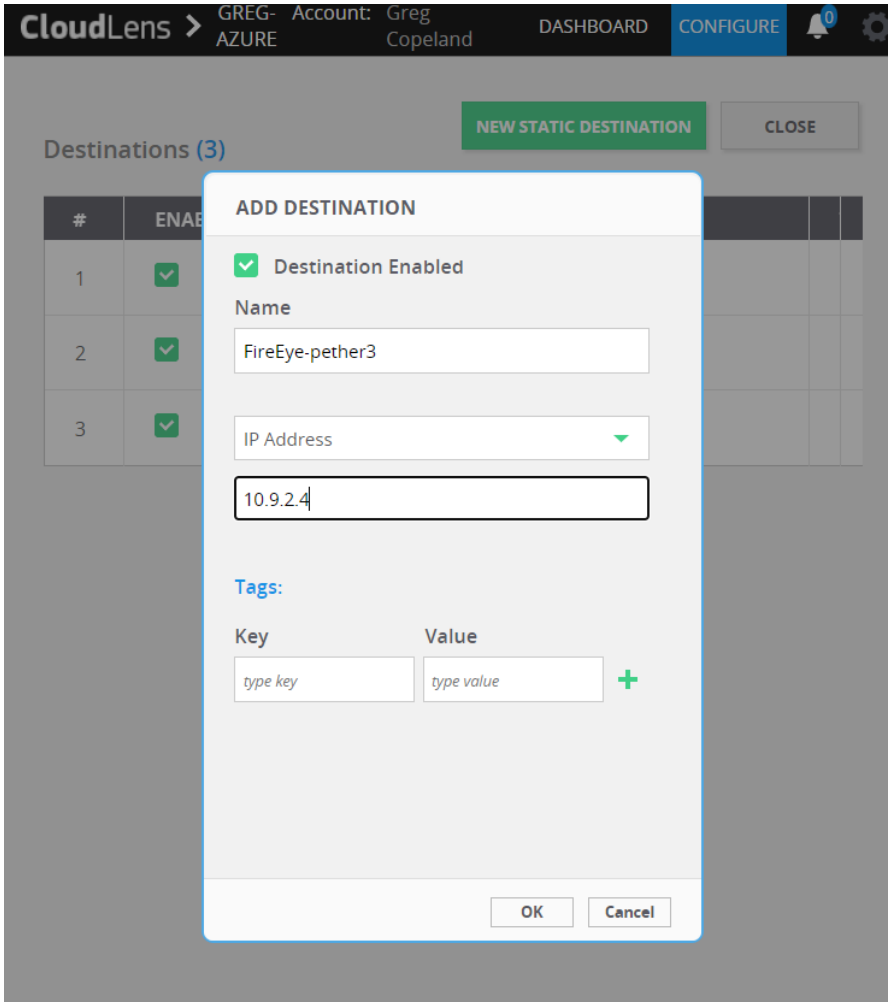

**Step 3 –** Configure a 'Destination' to the IP address of FireEye Network Security

**Important:** FireEye Network Security does not receive monitoring traffic on its primary management interface. During install of FireEye, you would need to have created a Monitor interface in Azure, by default this is 'pether3' (though it may differ in your environment) which must have an IP Address on a different subnet than the Management subnet . You will be configuring a 'Destination' to this FireEye Monitor Interface (NOT the Management interface)

**Important:** the 'Destination' may be a Private or Public IP address for the FireEye Monitor interface, however, is it required that the Source instances have a valid Azure route to reach the chosen IP address.

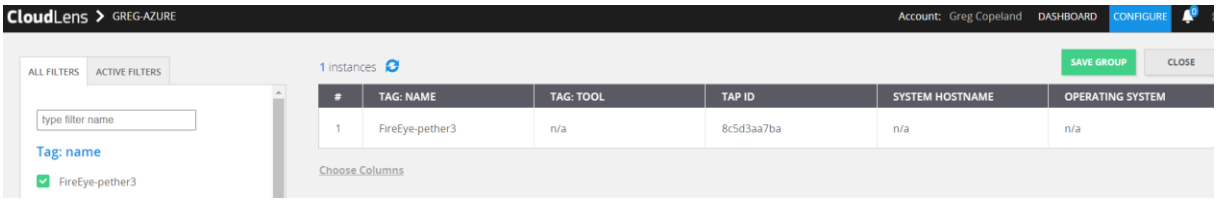
- Click 'Destinations' from the CloudLens Project screen
- Then Click 'New Static Destination'

- Give is a Name
- Specify the IP Address of FireEye Network Security Monitor interface
- Click OK



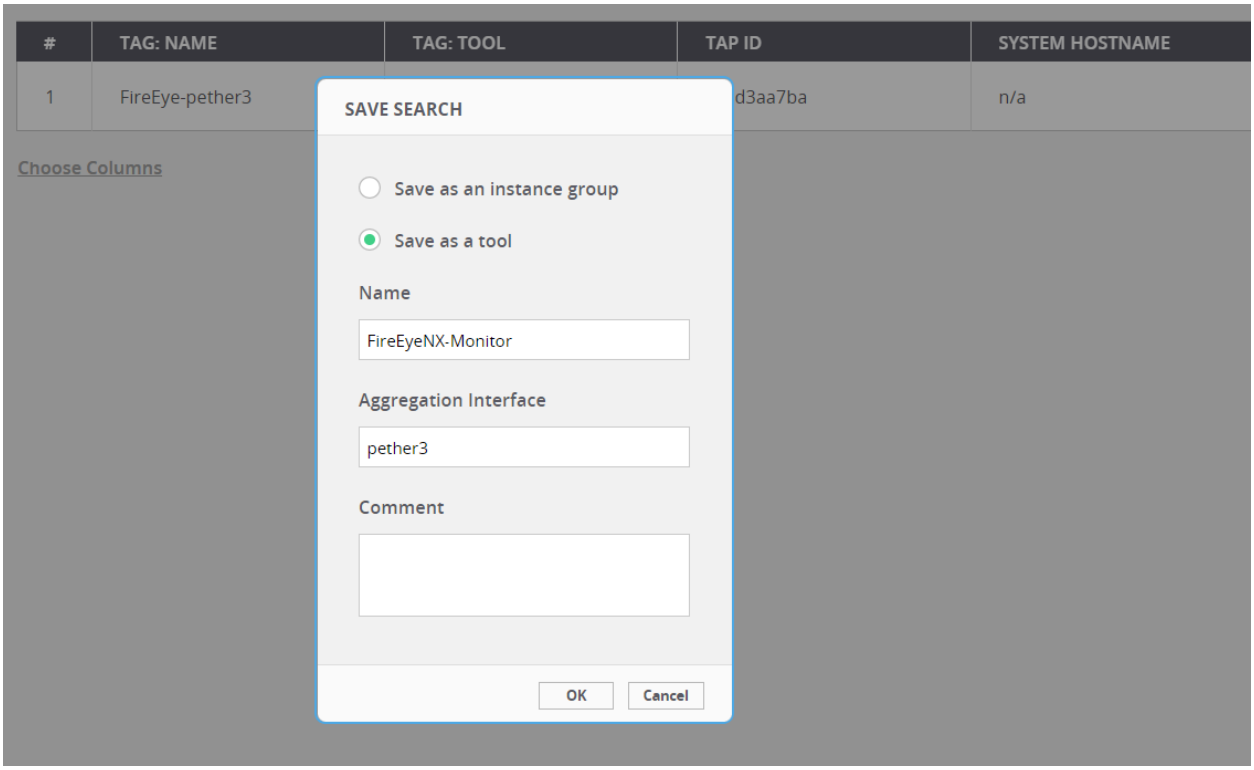

**Step 4** – Configure your CloudLens Tool Group.

- First click the ‘Instances’ counter near the top right of the screen, then Select the CloudLens Destination which you just configured in the last step



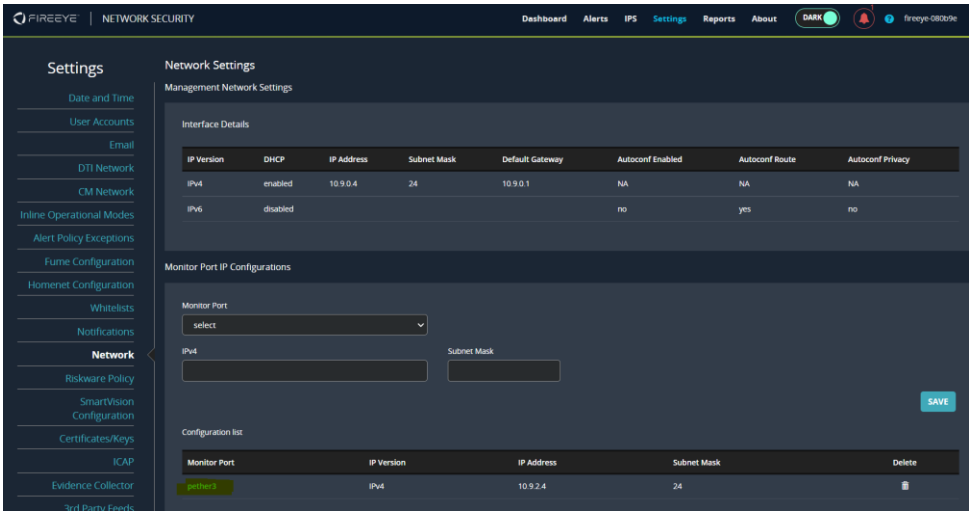

- Click ‘Save Group’

- Choose *'Save as a Tool'*
- Give is a 'Name'
- Specify 'Aggregation Interface' (by default this will be 'pether3')
- Click 'OK'

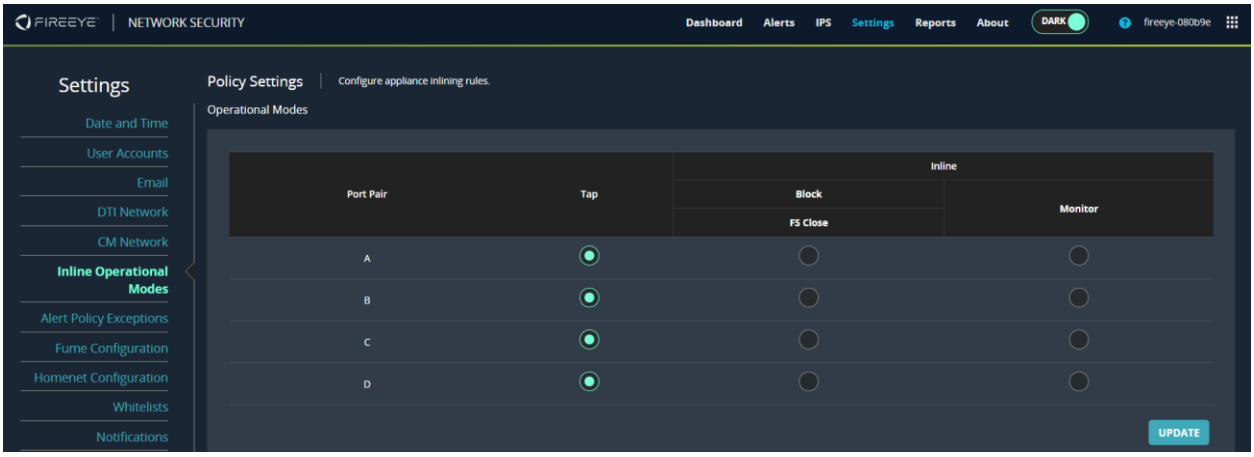



**Important:** You must specify the Aggregation Interface to match the name of the Monitor Interface in FireEye Network Security (by default this name is '**pether3**' – however it may differ in your environment and the value can be checked in the Network Settings of FireEye)

These steps can also be validated on the Fireye sensor using the CLI Commands.

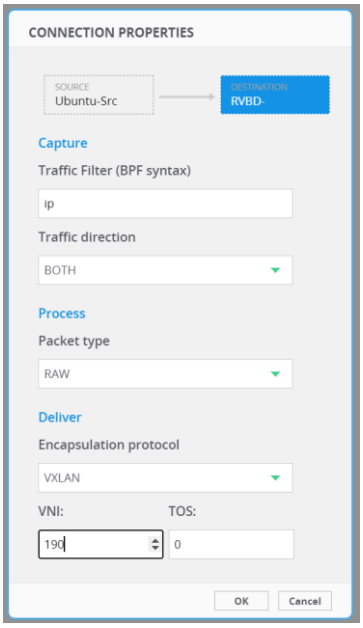


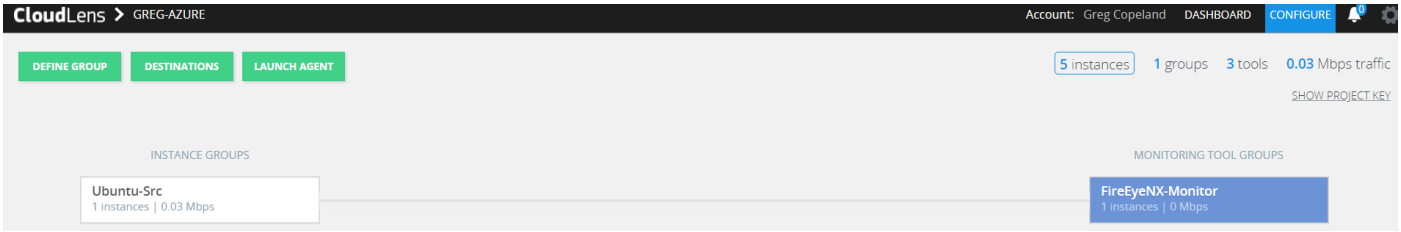

**Note:** FireEye Operational Mode must be set to ‘Tap’




**Step 5** – Drag a Connection path between source and tool groups

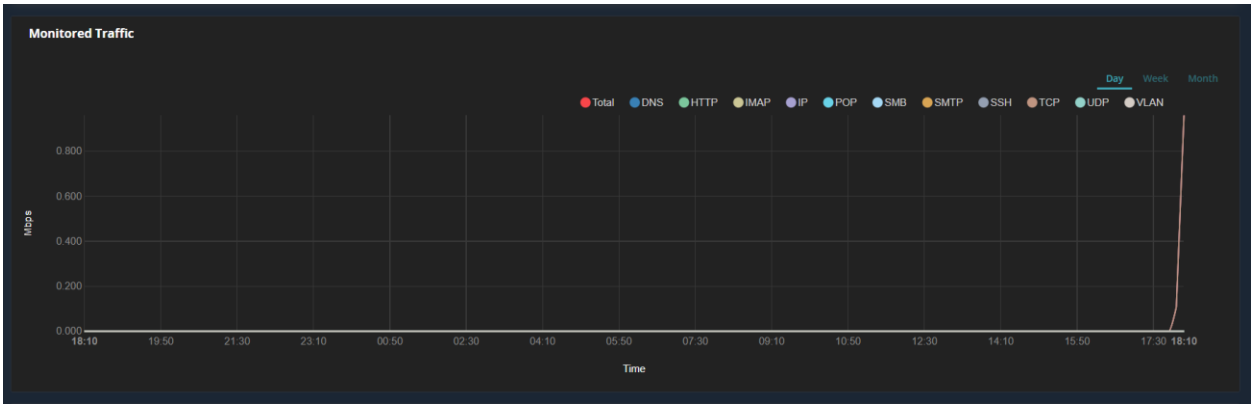
- Change the ‘Encapsulation Protocol’ from the default to ‘VXLAN’
- Specify a VNI (if you create additional Connections later, you will need to specific unique VNIs)




**Step 6** – login to FireEye Network Security hosted in Azure

Verify that network traffic occurring on Source Virtual Machine(s) is visible in FireEye Dashboard – Monitored Traffic view



# APPENDIX: CONFIGURE INBOUND PORT RULES IN NETWORKING

***Note:*** *Azure default for Outbound is open for All Traffic. But for Azure Virtual Machines Inbound Port Rules, a few ports numbers need to be explicitly opened to allow CloudLens and FireEye to work together:*

*Source Virtual Machines:*

- TCP 22 (if Linux) **
- TCP 3389 (if Windows) **
- HTTPS 443 open from IP address of CloudLens Manager

CloudLens Manager

- HTTPS 443 **

FireEye Network Security Virtual Machine:

- UDP 4789 (VxLAN Tunnel) *
- TCP 22 **
- TCP 443 **

* Leave open all IP addresses, however if stricter controls are required contact Keysight support

** Specify IP addresses of customer administrators

# WHERE TO GET HELP

If you experience technical difficulties, please email cloudlens.support@keysight.com for assistance