CLOUDLENS PUBLIC WITH RIVERBED STEELCENTRAL APPRESPONSE 11 DEPLOYMENT GUIDE IN AWS

ixia
A Keysight Business

DEPLOYMENT GUIDE

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.

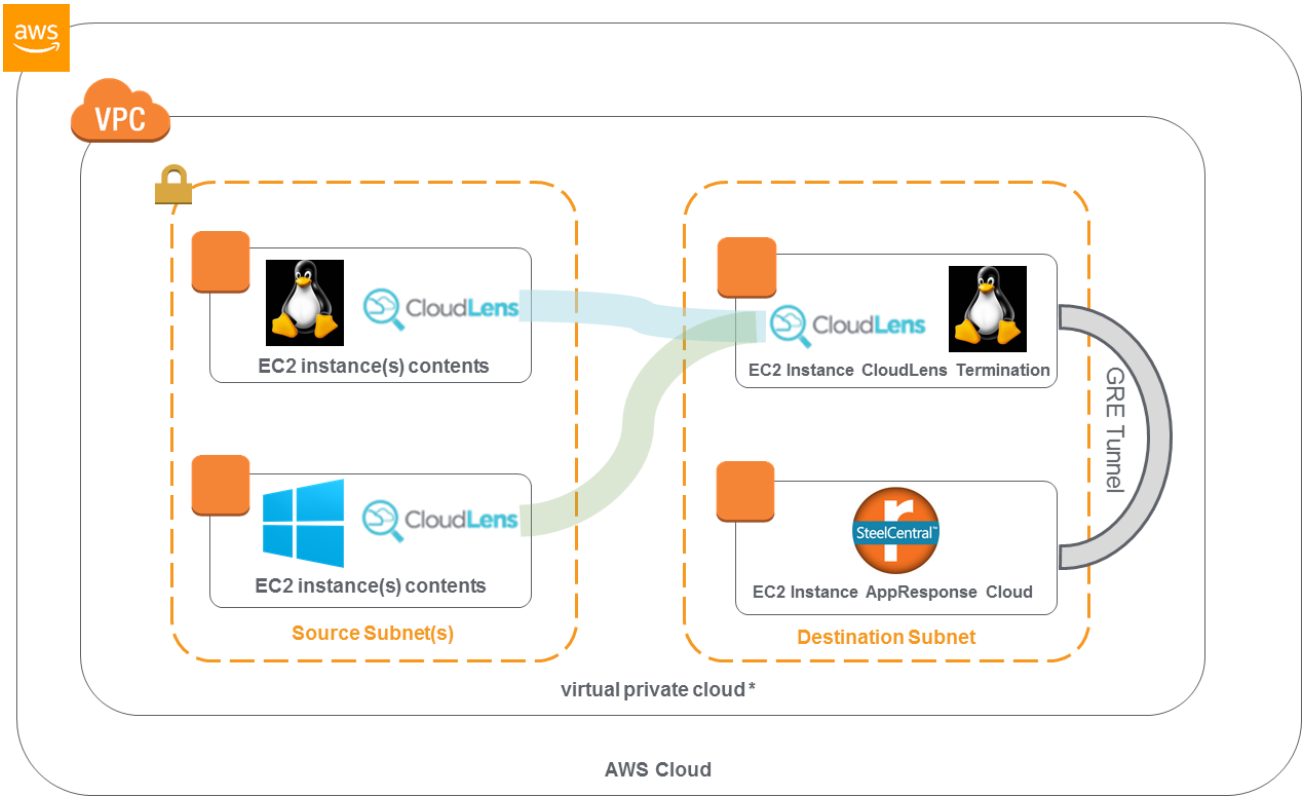
SOLUTION:

CloudLens™, Ixia's platform for public, private and hybrid cloud visibility addresses the challenges of granular data access in the cloud. CloudLens is the first network-level solution that provides Visibility-as-a-Service (VaaS) through a Software-as-a-Service (SaaS). It is also the industry's first cloud service-provider agnostic visibility platform.

KEY FEATURES:

- Elastically scales on-demand – so visibility auto-scales horizontally along with the instances monitored and the cluster of instances that are needed to do the monitoring
- Automates cloud visibility management by providing it as a service – so no architectural changes required
- Reduces errors by eliminating manual configuration
- Easy to use and setup with a drag and drop interface
- Reduces bandwidth to tools by filtering packets at the source instances, eliminating unwanted traffic so tools operate optimally

SAMPLE DEPLOYMENT ARCHITECTURE



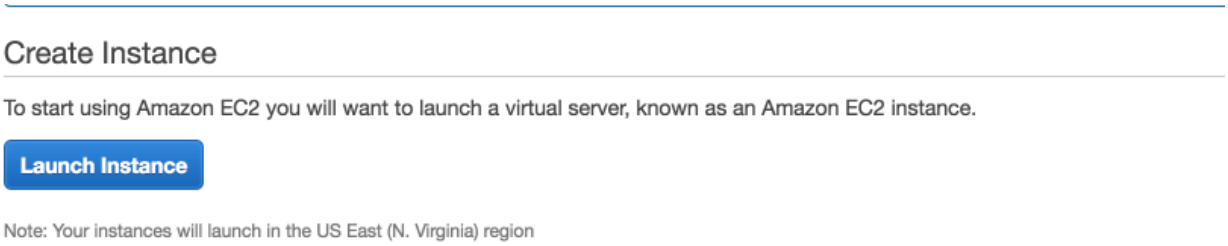
* Shown above is a sample deployment, while destination components need to in the same subnet, monitored sources instances can be located in any subnet, VPC, or AWS Region. CloudLens Sensors run on customer AWS instances, register up to the CloudLens SaaS which manages them and forwards desired traffic to the destination

PREPARE AWS ENVIRONMENT

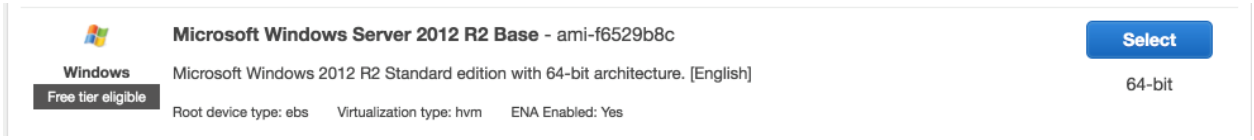
NOTE: IN THIS EXAMPLE WE ARE ASSUMING THE TWO SOURCE INSTANCES DO NOT ALREADY EXIST, IF THEY ALREADY EXIST YOU DO NOT NEED TO CREATE THEM, YOU CAN ATTACH THOSE AND ANY OTHER SOURCE INSTANCES TO CLOUDLENS AS DESCRIBED ON P 6-11 OF THIS DOCUMENT. YOU DO ALWAYS NEED TO CREATE ONE LINUX INSTANCE, THIS ONE WILL BE USED FOR FORWARDING TRAFIC FROM CLOUDLENS TO RIVERBED VIA GRE AS DESCRIBED ON P 12. ALSO, WE ARE ASSUMING IN THIS EXAMPLE THAT AN INSTANCE OF RIVERBED APPRESPONSE IS ALREADY INSTALLED IN AWS, PLEASE CONTACT RIVERBED FOR ASSISTANCE IF NEEDED.

In this sample set up we will be creating one sample Windows 2012 R2 instance and two sample Ubuntu 16.04 Linux instances (other Linux types are also supported). We will use one Ubuntu 16.04 Linux instance as the source instance and one Ubuntu 16.04 Linux instance to forward traffic from CloudLens P2P VPN Tunnels to GRE Tunnel origination point. The GRE Tunnel will terminate on Riverbed Steelcentral Appresponse 11.

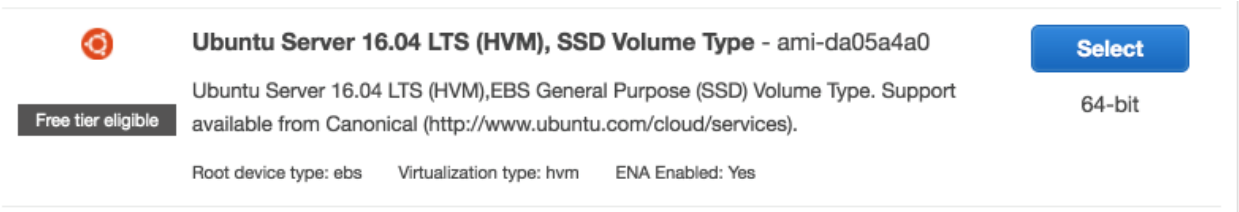
Step 1 – Log into the AWS Portal. Click “Launch Instance” within the EC2 service.



Step 2 – Choose Windows 2012 R2 Server. Click “Select”



and

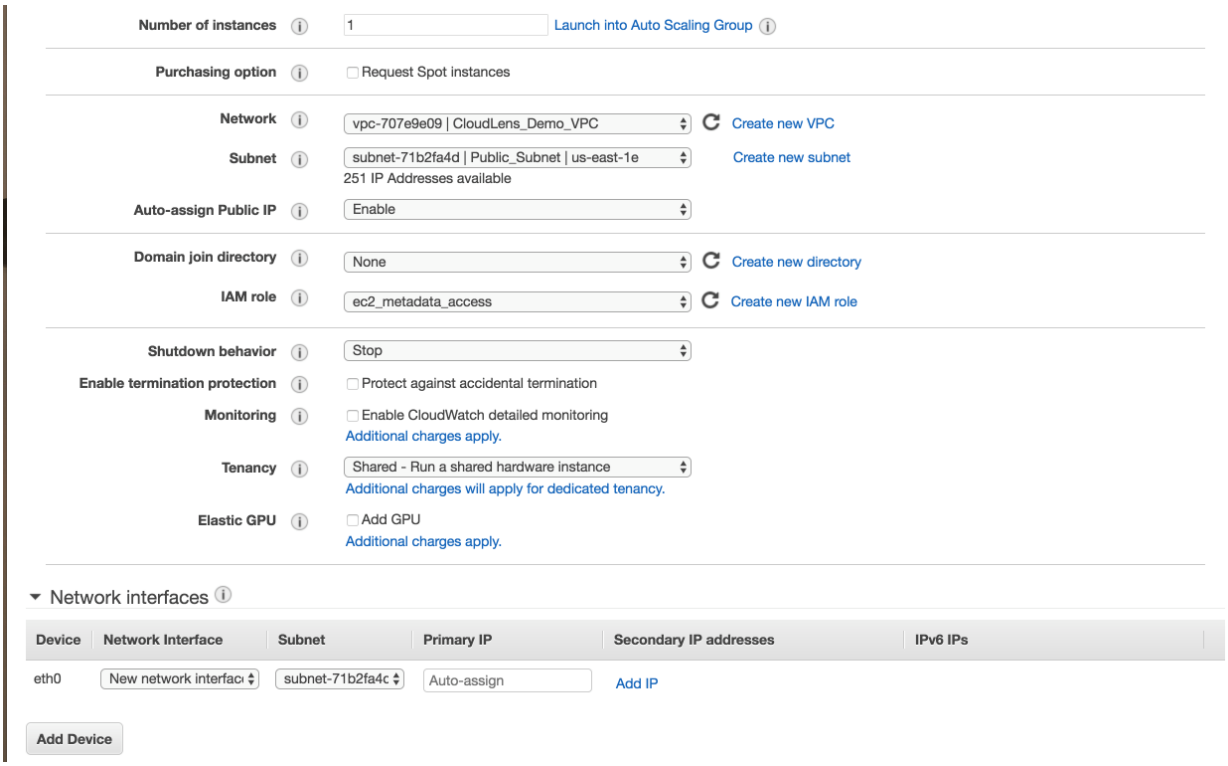


Step 3 – Enter Virtual Machine instance type (e.g. t2.xlarge)

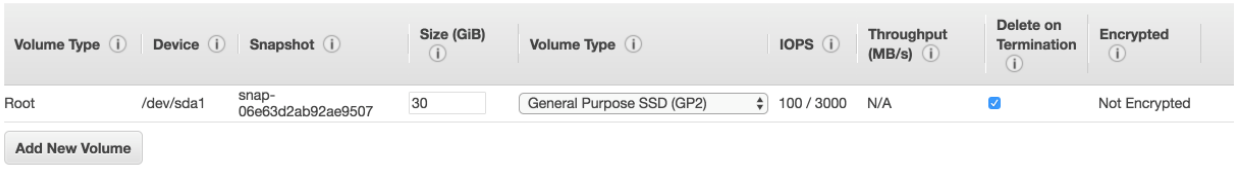
☐	General purpose	t2.xlarge	4	16	EBS only	-	Moderate	Yes

Step 4 – Select configuration details

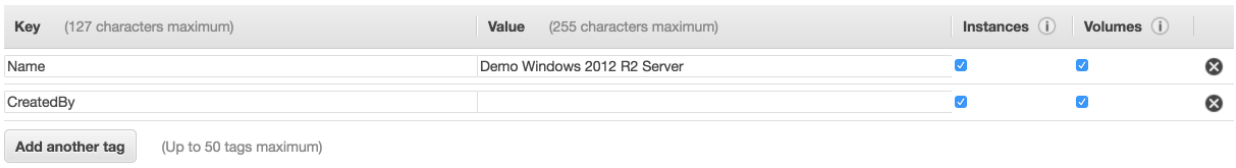
Note: Recommended - choosing an IAM role (e.g. ec2_metadata_access) which allows metadata access will permit AWS Tags to be shared with CloudLens



Step 5 – Add storage

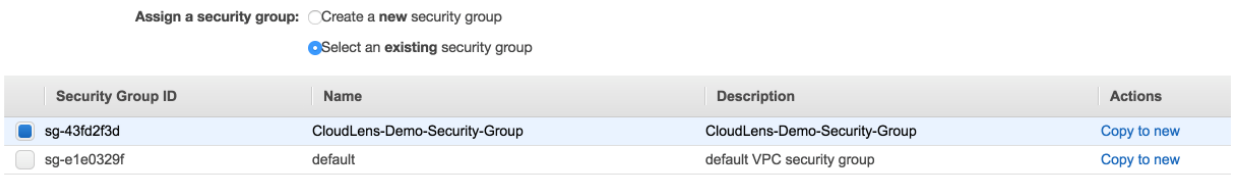


Step 6 – Add Tags as desired, allows for easier identification and grouping of instances in CloudLens

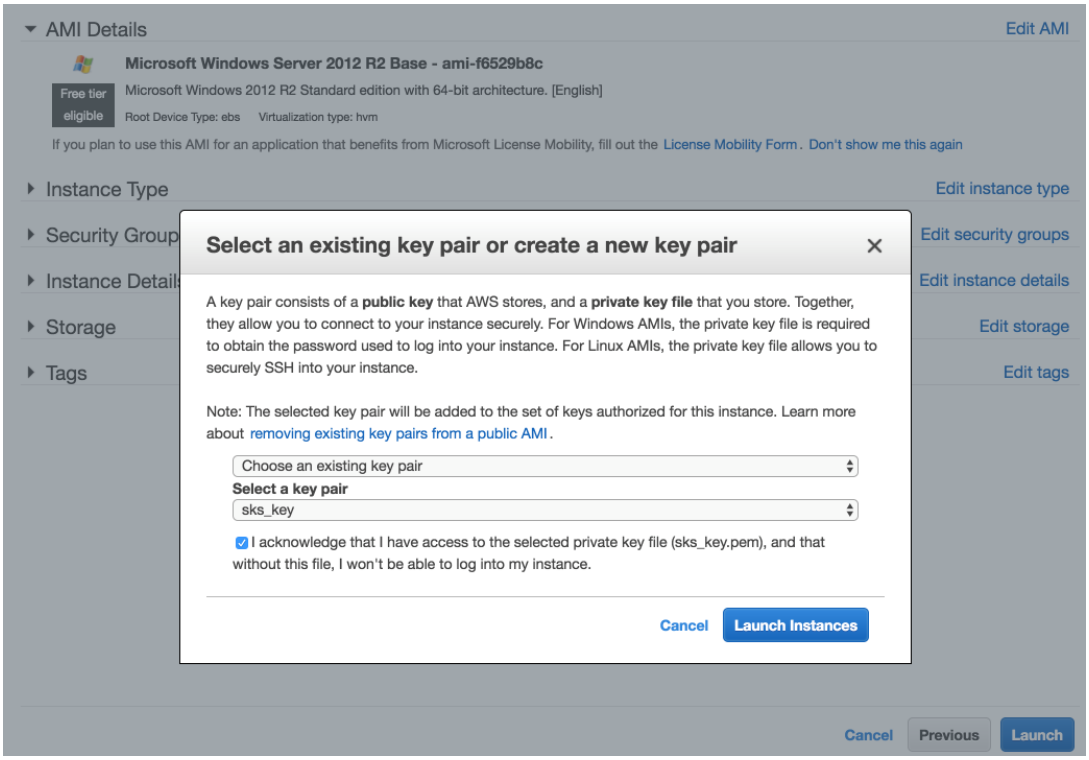


Step 7 – Assign a security group

Please see list of CloudLens required port numbers on P 15-16 of this document for guidance when creating or editing your security group.



Step 8 – Launch the instance with the correct key pair



INSTALL CLOUDLENS CONTAINER IN UBUNTU 16.04 VM

Note: Customers are assumed to have already created and account at http://ixia.cloud before completing the next step. If you don't have an account, you can sign up for a 45-day free trial. After login please create or view your CloudLens Project, and make note of the Project Key (aka API key) which you will need in step on page 7

Step 0 – If Docker Engine is not already present, install Docker from https://docs.docker.com/install/

e.g. (commands will vary by OS type and version, see link above for more details)

sudo apt update

sudo apt-get install -y docker.io

Step 1 – Download CloudLens container from Docker Hub

The following command downloads the latest version of CloudLens Public container; `sudo docker pull ixiacom/cloudlens-agent:latest`

```
ubuntu@ip-10-150-1-88:~$ sudo docker pull ixiacom/cloudlens-agent:latest
latest: Pulling from ixiacom/cloudlens-agent
22ecafbbcc4a: Pull complete
580435e0a086: Pull complete
8321ffd10031: Pull complete
08b8f28a13c2: Pull complete
2b401702069a: Pull complete
a3ed95caeb02: Pull complete
eae027dcdc0e: Pull complete
93bc98227159: Pull complete
43f64d736e1f: Pull complete
18f4140f91f9: Extracting [==================================>            ] 154.9 MB/210.4 MB
695127c83df0: Download complete
cf6796e91e8a: Download complete
ee87eb3bacec: Download complete
cabad2a7cad3: Download complete
267ac30ea81e: Download complete
d7b7f7a88663: Download complete
ba635e456d83: Download complete
1c70211bb7e9: Download complete
73de50ac0bb9: Download complete
c9a62f82ef78: Download complete
439ccc17055d: Download complete
ced32024733c: Download complete
210024445f82: Download complete
105928bb3d84: Download complete
8b05a0d09881: Download complete
616b3c7ae818: Download complete
d341e4a550bc: Download complete
ad4766c02248: Waiting
2e2058f93cef: Waiting
```

LAUNCH CLOUDLENS CONTAINER IN UBUNTU 16.04 VM

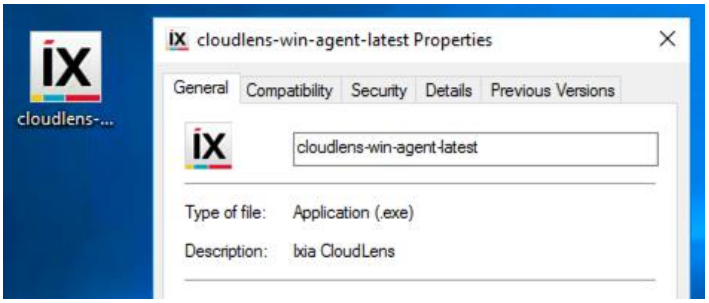
Step 1 – Launch CloudLens container with the following parameters. You will need to substitute your CloudLens Project Key (aka API key) here

```
sudo docker run \
--name CloudLens \
-v /:/host \
-v /var/run/docker.sock:/var/run/docker.sock \
-d --restart=always \
--net=host \
--privileged \
ixiacom/cloudlens-agent:latest \
--server agent.ixia.cloud \
--accept_eula y \
--apikey <Project Key from CloudLens Portal> \
--custom_tags CloudServiceProvider=AWS \
Location=Oregon \
DeviceName=Riverbed-AR11
```

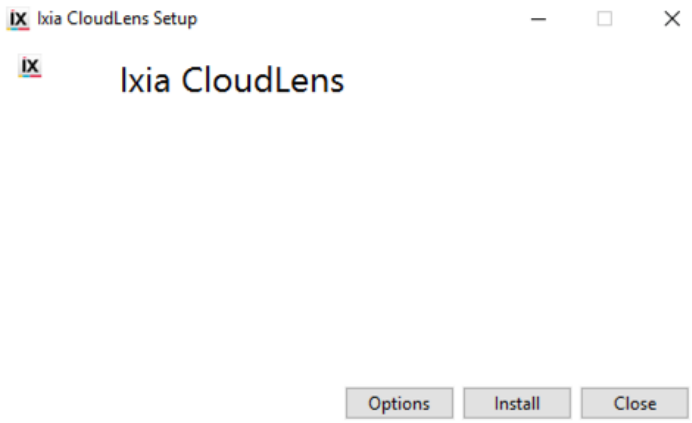
INSTALL CLOUDLENS AGENT IN WINDOWS SERVER VM

Step 1 – Download Ixia's CloudLens agent from the link provided

https://agent.ixia.cloud/updates/windows/latest



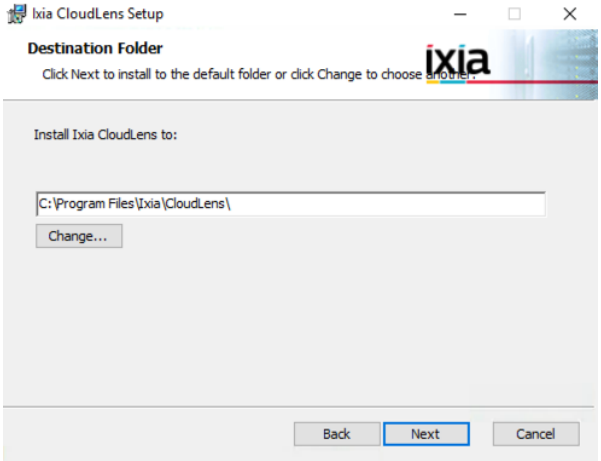
Step 2 – Install CloudLens agent



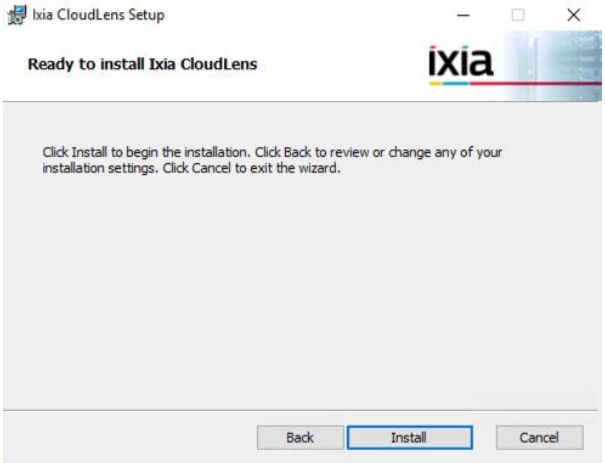
Step 3 – Installation wizard goes through the CloudLens agent installation and all dependent package installations.

Step 4 – Accept End User License Agreement

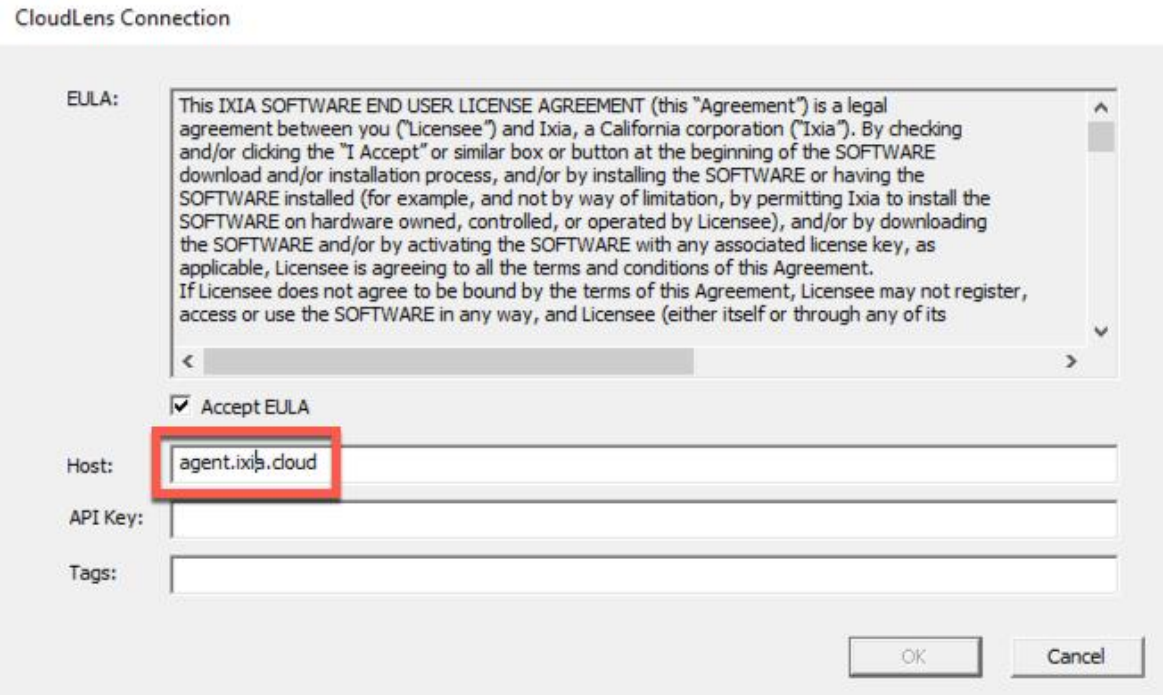
Step 5 – Accept End User License Agreement



Step 6 – Click “Install”

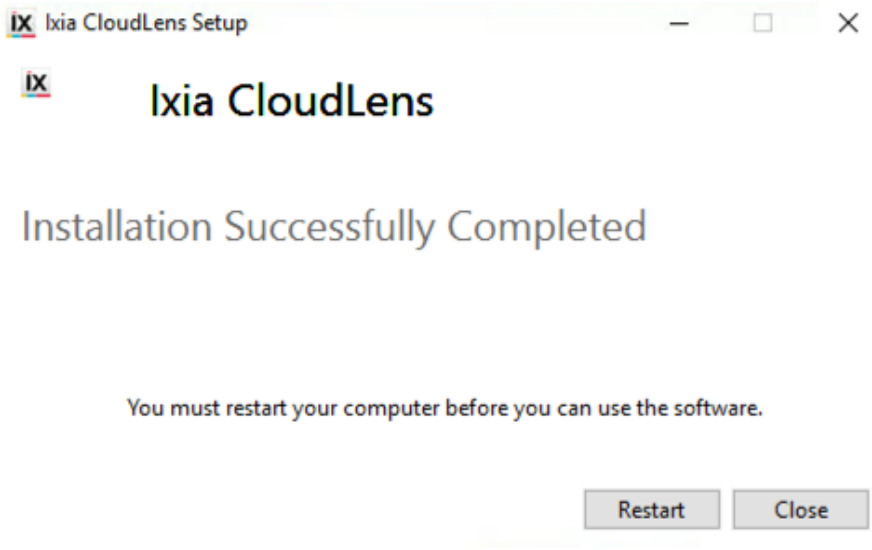


Step 7 – The Windows instance should be associated with a Project created in https://ixia.cloud. The value of Host: agent.ixia.cloud . You must also specify your own Project Key (aka API key)



Step 8 – Finish CloudLens sensor installation

Step 9 – Restart the instance and verify the instance is associated with the CloudLens project created.


Ixia CloudLens Setup
Ixia CloudLens
Installation Successfully Completed
You must restart your computer before you can use the software.
Restart
Close

CREATE GRE INTERFACE ON ONE OF THE UBUNTU 16.04 INSTANCE.

Step 1 – Log into AWS EC2 instance

Step 2 – Switch to super user mode.

Step 3 – ip link provides the ability to display link layer information, activate an interface, deactivate an interface, change link layer state flags, change MTU, the name of the interface etc. Create a GRETAP interface.

```
ip link add gre2 type gretap local <local Private ipv4 address> remote
<Riverbed Steelcentral Private ipv4 address> dev eth0 ttl 255 key 1

ip link set gre2 up
```

Step 4 – Verify "`gre2`" interface is available and operational.

```
gre2      Link encap:Ethernet  HWaddr ee:3e:5d:63:06:10
          inet6 addr: fe80::ec3e:5dff:fe63:610/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:8959  Metric:1
          RX packets:0 errors:0 dropped:0 overruns:0 frame:0
          TX packets:16885852 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:0 (0.0 B)  TX bytes:3864521055 (3.8 GB)


Note: above commands will not persist after reboot. There are several ways to
automate persistence, here is one example (details may vary by OS
type/version, as well as interfaces names)
```

Edit the interface config file e.g.

vi /etc/network/interfaces.d/50-cloud-init.cfg

and add the following lines e.g.

down ip link set gre2 down

down ip link delete gre2

up ip link add gre2 type gretap local <local Private ipv4 address> remote <Riverbed Steelcentral Private ipv4 address> dev eth0 ttl 255 key 1

up ip link set gre2 up

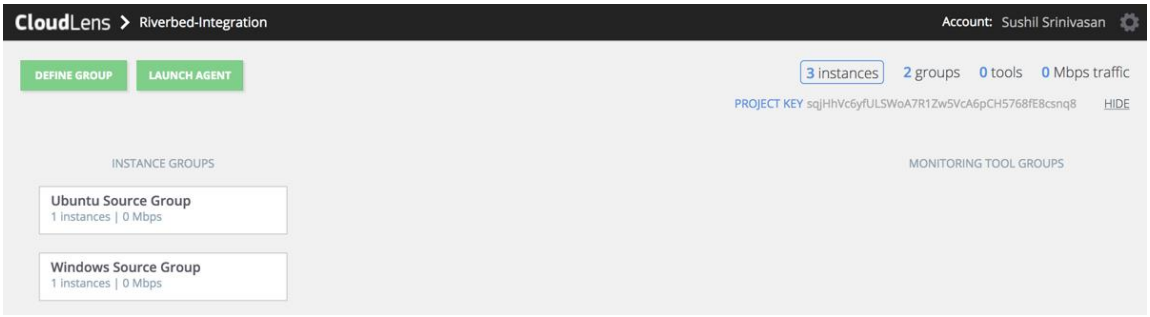
USING CLOUDLENS SAAS PORTAL

Step 1 – Verify the VMs are reflected in the CloudLens SaaS portal once they are launched with the correct project key.

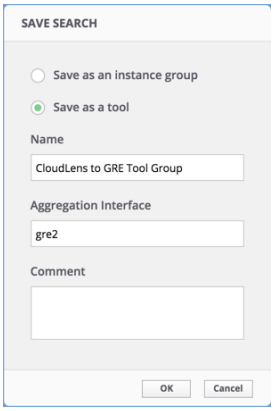
Step 2 - Use CloudLens tags ingested from AWS to create

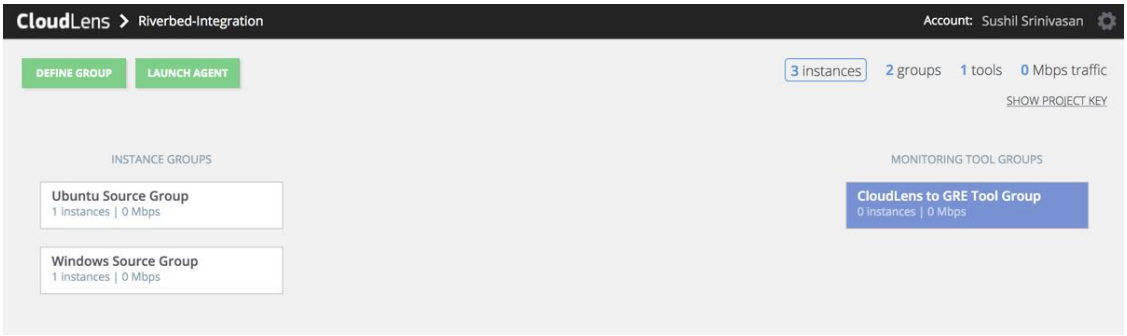
Windows Source Group

Ubuntu Source Group



CloudLens to GRE Tool Group

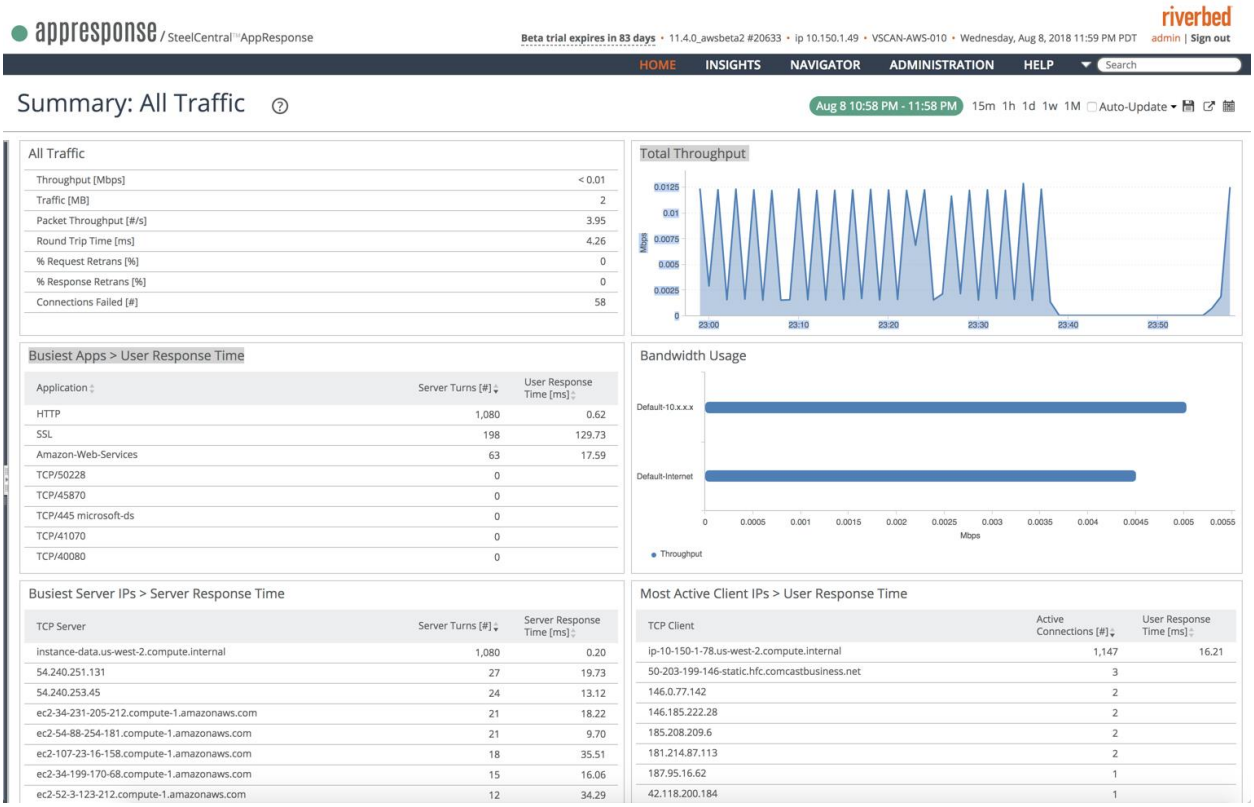




Step 3 – Create secure visibility path between source and tool groups

Step 4 – login to Riverbed AppReponse Cloud hosted in AWS

Verify traffic from windows and ubuntu source instances are available in Riverbed Steelcentral Appresponse Cloud.



FIREWALL PORTS TO OPEN FOR CLOUDLENS

Note: *default Security rule settings for AWS Instances is Outbound is open for All Traffic.*
But for ***Inbound*** *a few ports numbers need to be explicitly opened:*

Source Instances:

- UDP 19993 (CloudLens Tunnel) *
- TCP 22 (if Linux) **
- TCP 3389 (if Windows) **

GRE Intermediary Node:

- UDP 19993 (CloudLens Tunnel) *
- GRE Protocol *
- TCP 22 **

Riverebed SteelCentral Instance:

- GRE Protocol *
- TCP 22 **
- TCP 443 **

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

** Specify IP addresses of customer administrators

WHERE TO GET HELP

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

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