NetWitness® Platform XDR

Version 12.3.0.0

AWS Installation Guide

NETWITNESS

Platform XDR

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September, 2023

Contents

AWS Installation Overview

Before you can deploy NetWitness in the Amazon Web Services (AWS) you need to:

- Review the recommended compute and memory specifications needed for each NetWitness instance.
- Get familiar with the NetWitness Storage Guide to understand the types of drives and volumes needed to support NetWitness instances. For more information, see the Storage Guide for NetWitness® Platform XDR 12.3.
- Make sure that you have a NetWitness Throughput license.

When you are ready to begin deployment, you can purchase any of the following Third-Party solutions for packet capture in AWS. If you engage one of these third-parties, they will assign an account representative and a professional services engineer to you who will work closely with NetWitness Support.

- Gigamon® GigaVUE
- Ixia CloudLens™
- f5® BIG-IP

AWS Environment Recommendations

AWS instances have the same functionality as the NetWitness Azure, virtual, and hardware hosts. NetWitness recommends that you perform the following tasks when you set up your AWS environment.

- Based on the resource requirements of the different components, follow the best practices to use the system and the dedicated storage Elastic Block Store (EBS) Volumes appropriately.
- Make sure that the compute capacity provides a write speed of 10% greater than the required sustained capture and ingest rate for the deployment.
- Build a Concentrator directory for the index database on the Provisioned IOPS SSD.

AWS Deployment Scenarios

Before you can deploy NetWitness you need to:

- Consider the requirements of your enterprise and understand the deployment process.
- Have a high-level picture of the complexity and scope of a NetWitness deployment.

Process

The components and topology of a NetWitness network can vary greatly between installations, and should be carefully planned before the process begins. Initial planning includes:

- Consideration of site requirements and safety requirements.
- Review of the network architecture and port usage.
- Support of group aggregation on Archivers and Concentrators, and virtual hosts.

When updating hosts and services, follow recommended guidelines under the "Running in Mixed Mode" topic in the *NetWitness Host and Services Getting Started Guide*.

You should also become familiar with Hosts, Host Types, and Services as they are used in the context of NetWitness also described in the *NetWitness Host and Services Getting Started Guide*.

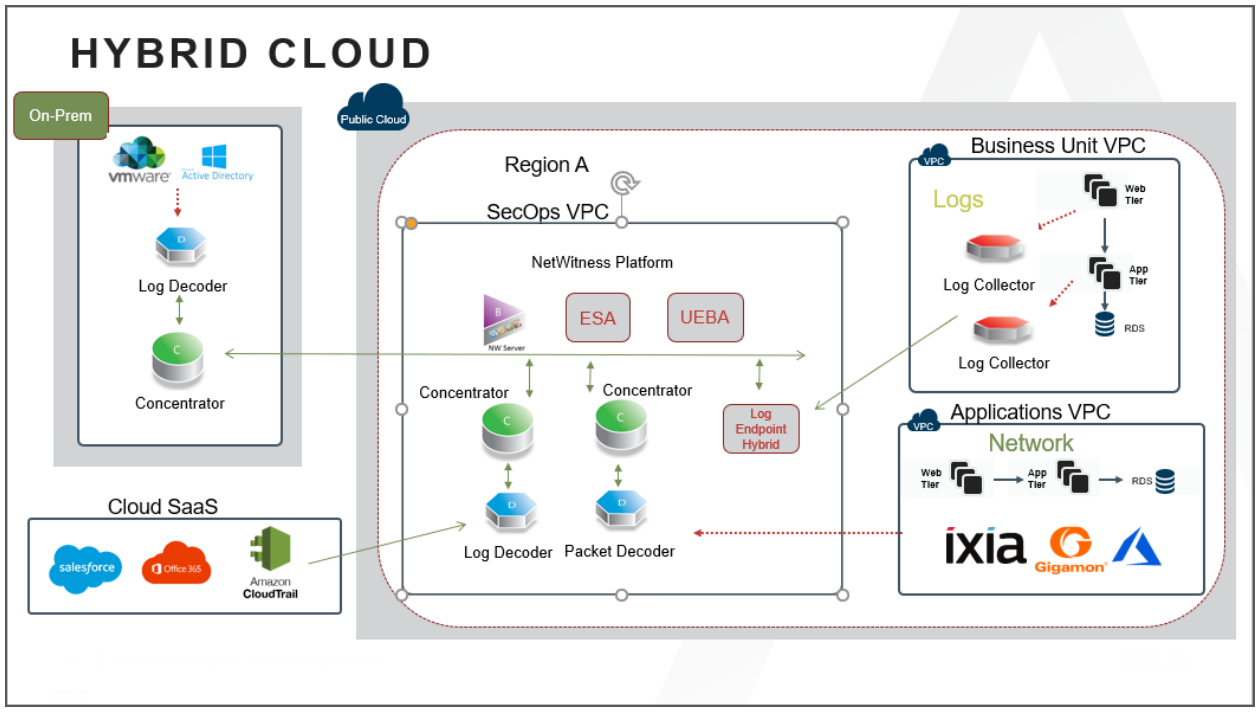
NetWitness High-Level Deployment Diagram

NetWitness is inherently modular. Whether organizations are looking to deploy on-premise or in the cloud, the NetWitness components are decoupled in a way which allows flexible deployment architectures to satisfy a variety of use cases.

The following figure is an example of a hybrid cloud deployment, where the base of the components are residing within the SecOps VPC. Centralizing these components make management easier while keeping network latency to a minimum.

Network, log and endpoint traffic could then be aggregated up to the SecOps VPC. The on-premise location would function just like a normal physical deployment and would be accessible for investigations and analytics.

Cloud SaaS visibility could be captured from a Log Decoder residing in either the cloud or on-premise locations.



Prerequisites

You need the following items before you begin the installation process:

- Ixia account (https://login.ixiacom.com/)
- Access to AWS console
- Network rout-able (and proper AWS Security Groups) for the containers to transfer data to the NetWitness Decoder.

AWS Deployment

This topic contains the rules and high-level tasks that you must follow to deploy NetWitness components in the AWS.

Rules

You must adhere to the following rules when deploying NetWitness in AWS.

- If you reboot the Network Decoder instance, the tunnel is not retained. Create the tunnel on Network Decoder again and restart the Decoder service.
- It is recommended to use private IP addresses when you provision AWS NetWitness instances.

Note: If you assign a public IP to the NW Server Host, update the /etc/nginx/conf.d/nginx.conf configuration file as follows:

```
location /nwrpmrepo
{
alias /var/lib/netwitness/common/repo;
index index.html index.htm;
allow <Subnet-Gateway>/Subnet mask ;
#example
# allow 10.0.0.1/25;
deny all;
autoindex on;
}
```

Checklist

Step	Description	√
1	Establish AWS Environment	
2	Find NetWitness Platform XDR AMIs	
3	Launch an Instance and Configure a Host	
4	Configure Hosts (Instances) in NetWitness Platform XDR	
5	Configure Packet Capture	

Establish AWS Environment

1. Make sure that you have an AWS environment with the capacity to meet or exceed the NetWitness performance guidelines described in AWS Instance Configuration Recommendations.
2. Go to Find NetWitness Platform XDR AMIs.

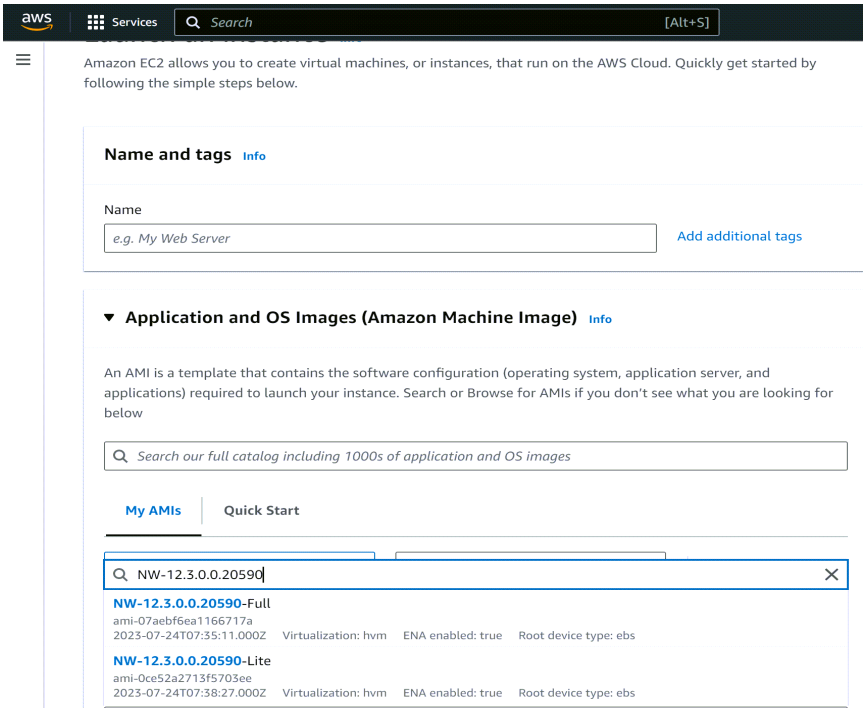
Find NetWitness Platform XDR AMIs

You can search for NW- AMI files within the Public/Shared/Community repository, using the keyword "NW".

Note: NetWitness AMIs are available by default in the US East (N. Virginia) region (us-east-1). If you need AMIs for other regions, contact NetWitness Customer Support.

Note: For more information, see AWS **Finding Shared AMIs** documentation (http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/usingsharedamis-finding.html).

1. Open the new Amazon EC2 console (New Subscriber Account) at https://console.aws.amazon.com/ec2/.
2. Go to **EC2 Dashboard** and click **Launch Instance**.
   Launch an Instance page is displayed.
3. Under **Application and OS Images (Amazon Machine Image)**, click **My AMIs** and select either **Owned by me** or **Shared with me** option.
4. Search for **NW-12.3** from the **Amazon Machine Image (AMI)** drop-down menu to find the NetWitness AMIs.



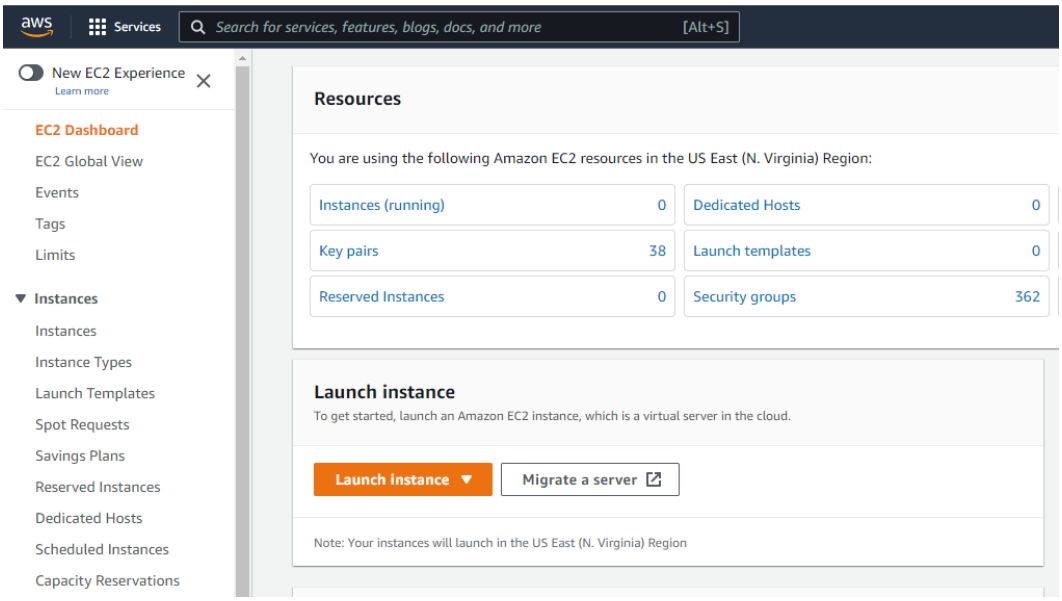
Note: Contact NetWitness Customer Support (https://community.netwitness.com/t5/support-information/how-to-contact-netwitness-support/ta-p/563897) to obtain access to the **NW-12.3.0.0.20590-Full**.

5. Go to Launch an Instance and Configure a Host.

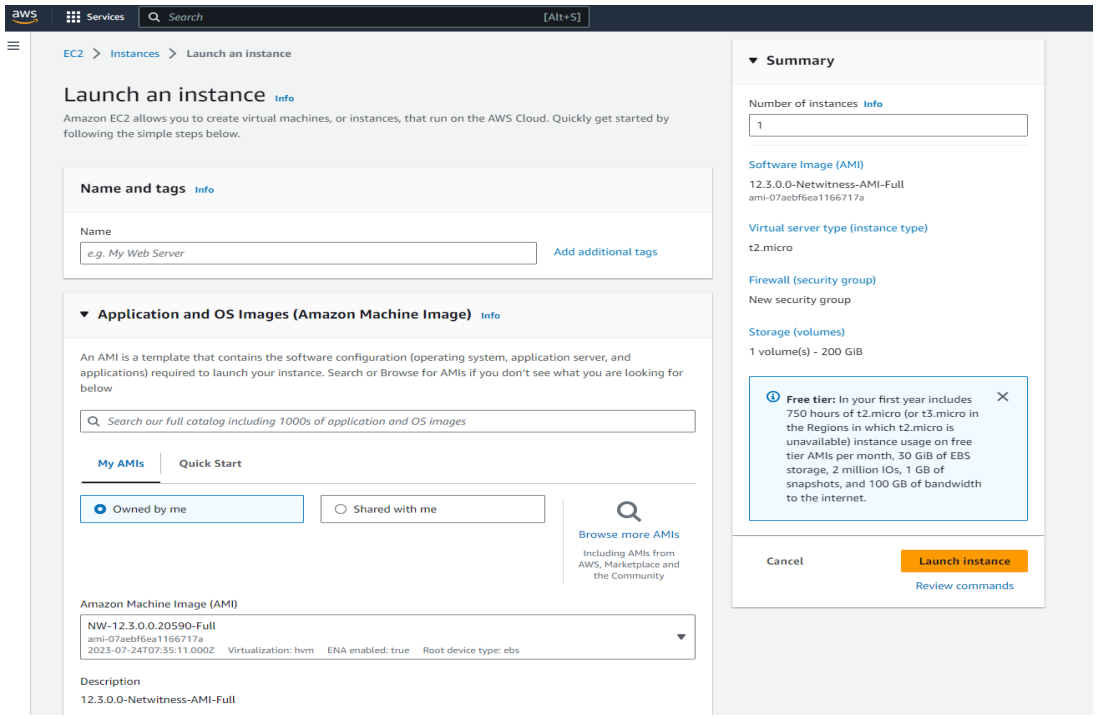
Launch an Instance and Configure a Host

Note: Fore more information, see AWS "Launch an instance using the new launch instance wizard" documentation (https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ec2-launch-instance-wizard.html).

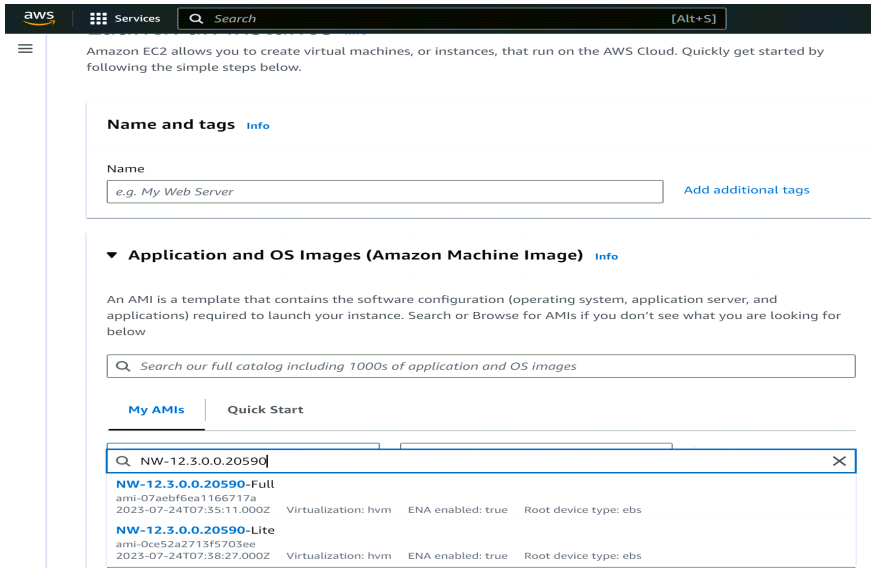
1. Log in to the Amazon EC2 console.
2. Go to **EC2 Dashboard** and click **Launch Instance**.



Launch an Instance page is displayed.

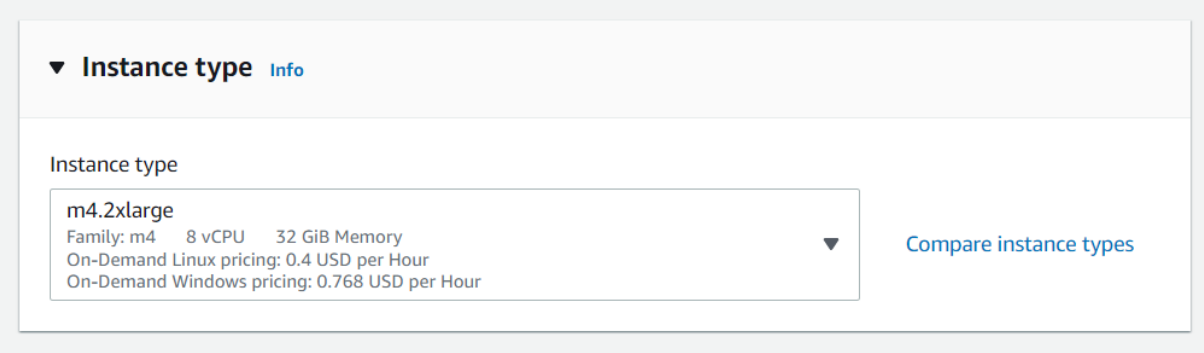


3. (Optional) Under **Name and tags**, enter a name for your instance.
4. Under **Application and OS Images (Amazon Machine Image)**, click **My AMIs** and select either **Owned by me** or **Shared with me** option.
5. Search for **NW-12** and select the **NW-12.3.0.0.20590-Full** image from the **Amazon Machine Image (AMI)** drop-down menu.

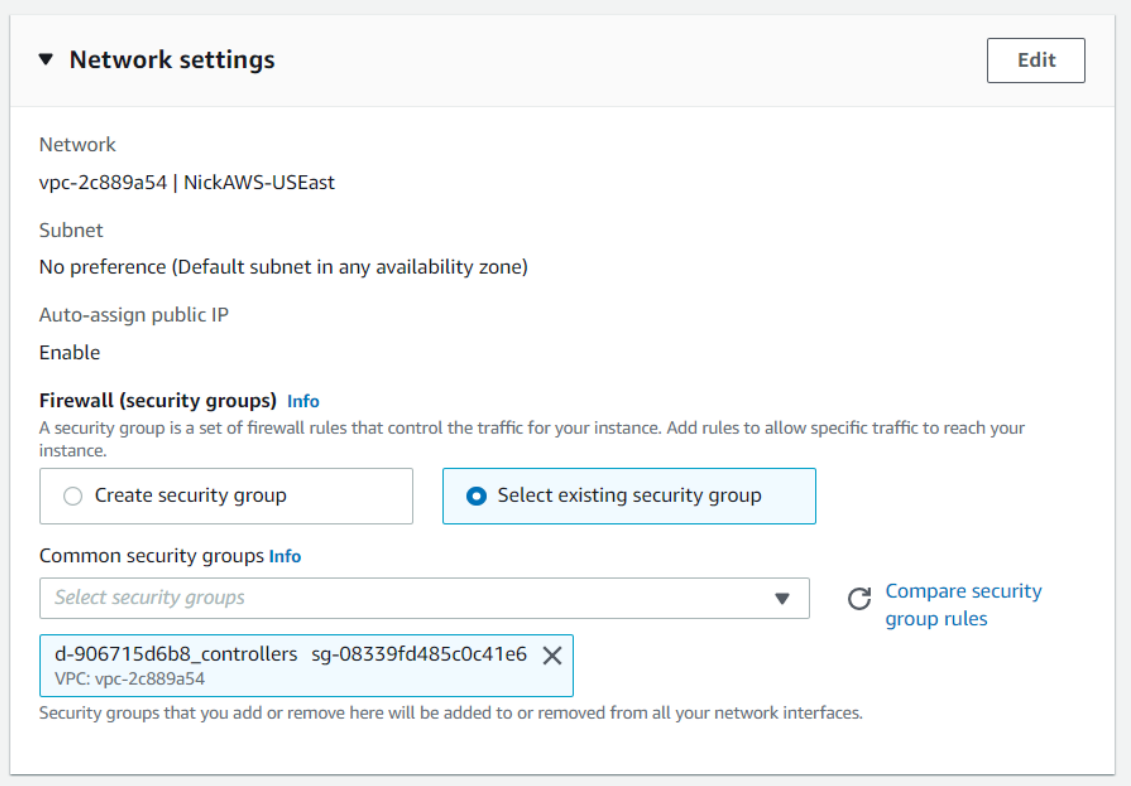


6. Under **Instance type**, Choose the RAM and CPUs by selecting the instance type.
   For more information, see Storage Guide for NetWitness® Platform XDR 12.3 for guidelines on how to configure the EC2 Instance based on the requirements of the NetWitness component (that is, service) for which you are launching an instance. The following example has the **m4.2xlarge**

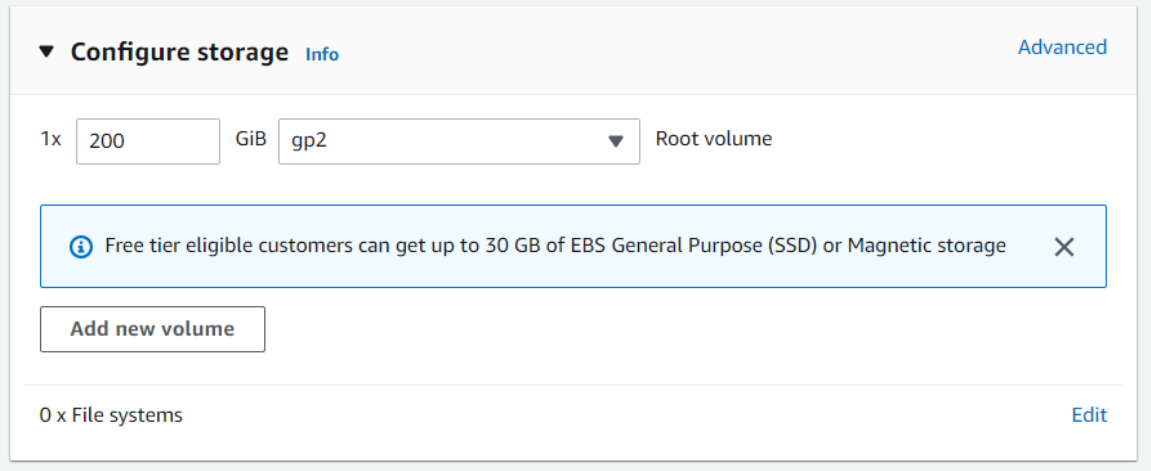
instance type selected with **8** CPUs and **32** GB of RAM.



7. Under **Network settings**, select **Select existing security grop** option and select your security group from **Common security groups** drop-down menu.

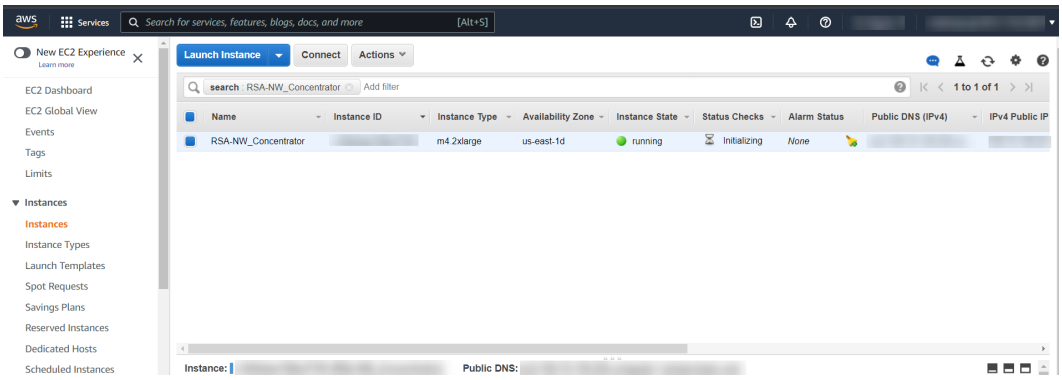


8. Under **Configure Storage** specify the size and type of the volume.

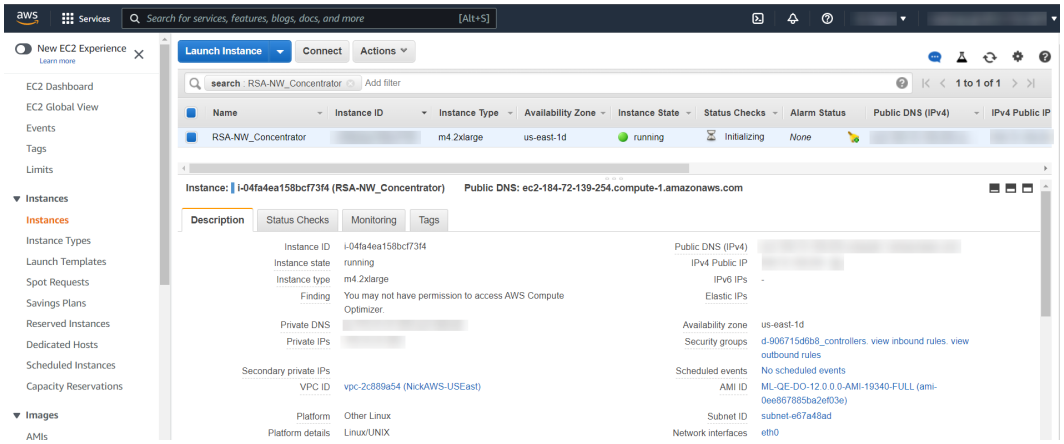


For more information, see the Storage Guide for NetWitness® Platform XDR 12.3 for guidelines on how to configure storage based on based on the requirements of the NetWitness component (that is, service) for which you are launching an instance.

9. Under **Summary**, you can specify the number of instances required and to review your instance configuration.
10. Click **Launch Instance**.
11. Click **Instances**.
12. Select **Instances** from the left navigation panel to review all instances that AWS is initializing (for example, the **RSA-NW_Concentrator**) .



The IP Address for the new **RSA-NW-Concentrator** host is ***sample-ip-address***.



13. SSH to the newly-created instance using the default NetWitness credentials.
14. Go to Configure Hosts (Instances) in NetWitness Platform XDR.

Storage Configurations

For storage allocations of all host types, see the Prepare Virtual or Cloud Storage topic in the *Storage Guide for NetWitness® Platform XDR 12.3*.

Installation Tasks

Before you begin the installation tasks make sure you open the firewall ports. For more information on the lists of all the ports in a deployment, see the"Network Architecture and Ports" topic in the *Deployment Guide for NetWitness Platform XDR 12.3*.

Caution: Do not proceed with the installation until the ports on your firewall are configured.

Task 1 - Install 12.3 on the NW Server Host and Component Hosts

Complete the following steps to install 12.3 on NW Server host and other component hosts. Steps that are specific to the NW Server host or to component hosts are noted.

Note: You can perform this task for **NW-12.3.0.0.20590-Full** instance.

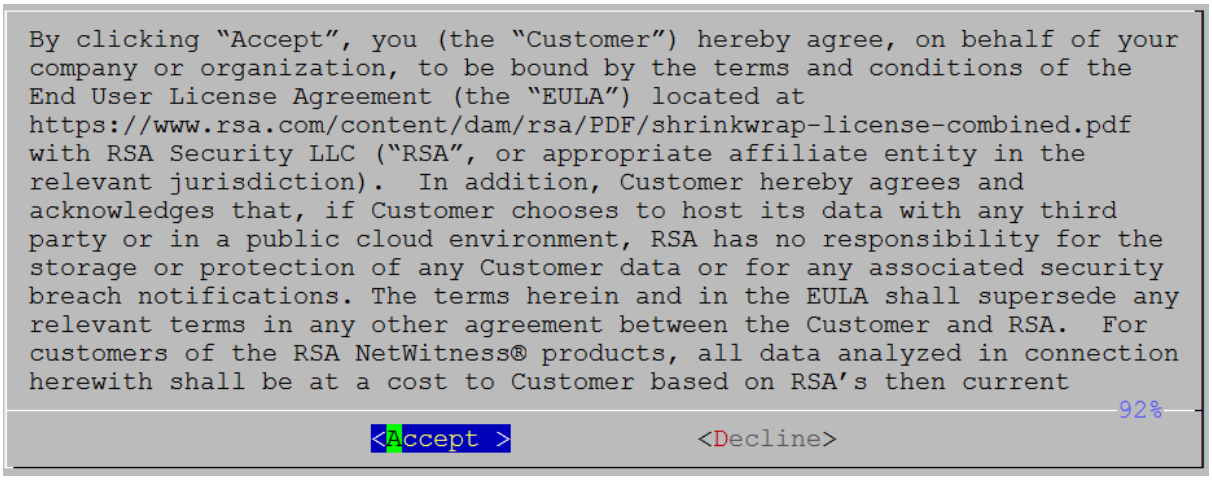
Caution: If you want to install the Endpoint Relay Server, do not run the `nwsetup-tui` script. Follow the instructions in "(Optional) Installing and Configuring Relay Server" in the *NetWitness Endpoint Configuration Guide*.

IMPORTANT: In NetWitness Platform version 11.6 or later, deployment account password must contain at least one number, one upper and lower case letter, and one special characters (!@#%^,+ .) along with the existing policy. The same password policy applies while updating deploy_admin password using `nw-manage script`. If `deploy_admin` password is changed on Primary NW Server, It must be changed on the Warm Standby Server if it exists.

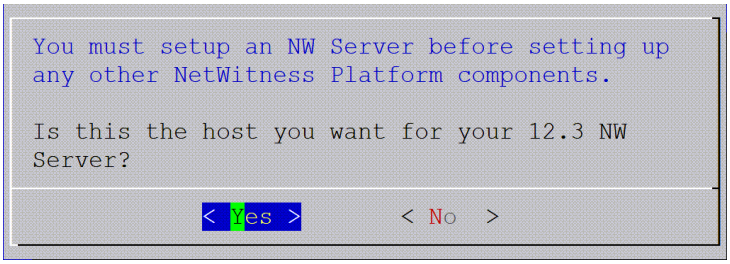
1. Log in to the host with the `root` credentials and run the `nwsetup-tui` command to set up the host.

   This initiates the `nwsetup-tui` (Setup program) and the EULA is displayed.

> **Note:** Use the following options to navigate the Setup prompts.
> 1.) When you navigate through the Setup program prompts, use the down and up arrows to move among fields, and use the Tab key to move to and from commands (such as **<Yes>**, **<No>**, **<OK>**, and **<Cancel>**). Press **Enter** to register your command response and move to the next prompt.
> 2.) The Setup program adopts the color scheme of the desktop or console you use to access the host.
> 3.) If you specify DNS servers during the Setup program (`nwsetup-tui`) execution, they MUST be valid (valid in this context means valid during setup) and accessible for the `nwsetup-tui` script to proceed. Any misconfigured DNS servers cause the Setup program to fail. If you need to reach a DNS server after setup that is unreachable during setup, (for example, to relocate a host after setup that would have a different set of DNS Servers), see "Change Host Network Configuration" topic in the System Maintenance Guide.
> If you do not specify DNS Servers during setup (`nwsetup-tui`), you must select **1 The Local Repo (on the NW Server)** in the **NetWitness Update Repository** prompt in step 12 (the DNS servers are not defined so the system cannot access the external repo).



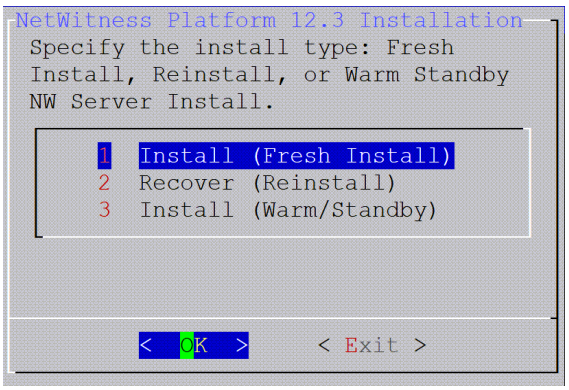
2. Tab to **Accept** and press **Enter**.
   The **Is this the host you want for your 12.3 NW Server** prompt is displayed.



3. Tab to **Yes** and press **Enter** to install 12.3 on the NW Server.
   Tab to **No** and press **Enter** to install 12.3 on other component hosts.

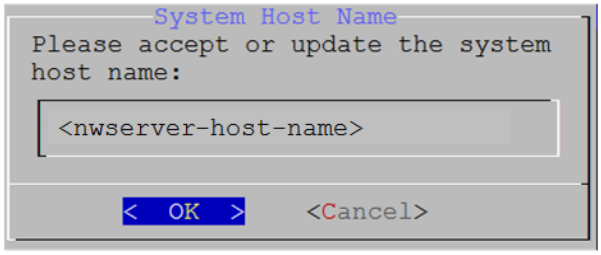
Caution: If you choose the wrong host for the NW Server and complete the Setup, you must restart the Setup Program (step 2) and complete steps all the subsequent steps to correct this error.

4. The **Install** prompt is displayed (**Recover** does not apply to the installation. It is for 12.3 Disaster Recovery.).
   NW Server Host prompt:



   Other Component Hosts, the prompt is the same, but does not include option 3 Install (Warm/Standby)

5. Press **Enter**. **Install (Fresh Install)** is selected by default.
   The **System Host Name** prompt is displayed.
   NW Server prompt:

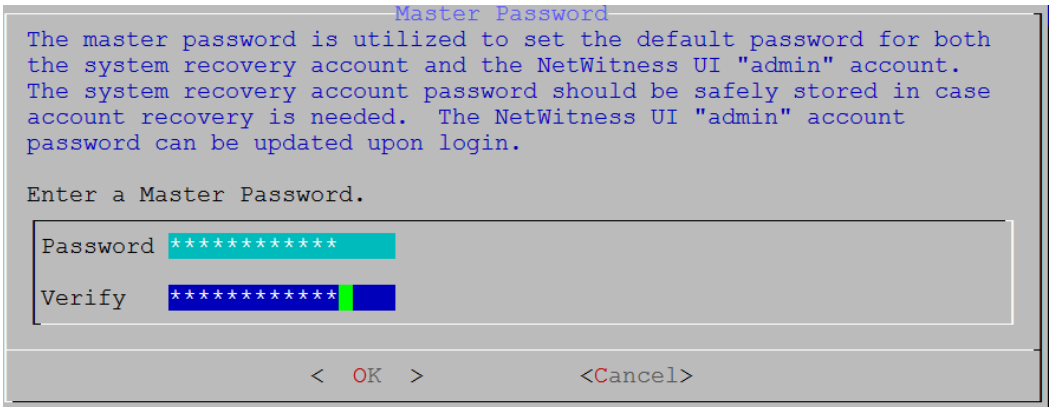


   Other Component Hosts prompt says <non-nwserver-host-name>

   Caution: If you include "." in a host name, the host name must also include a valid domain name.

   Press **Enter** if want to keep this name. If not, edit the host name, tab to **OK**, and press **Enter** to change it.

6. **This step applies only to NW Server hosts**.
   The **Master Password** prompt is displayed.



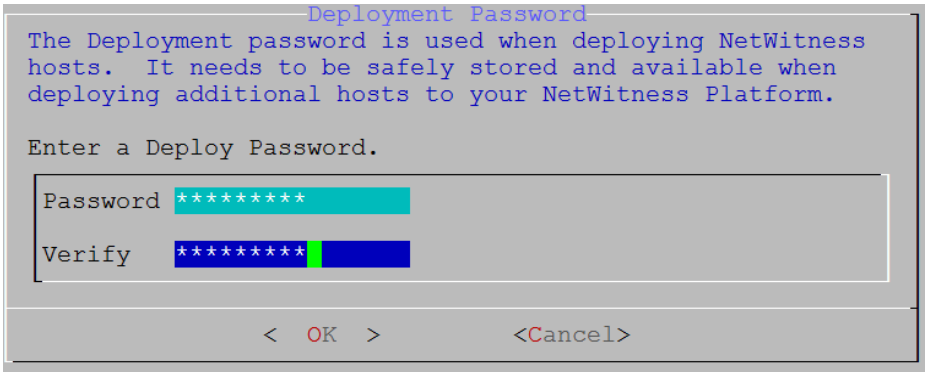
The following list of characters are supported for Master Password and Deployment Password:

- Symbols: **! @ # % ^ +**
- Numbers: **0-9**
- Lowercase Characters: **a-z**
- Uppercase Characters: **A-Z**

No ambiguous characters are supported for Master Password and Deployment Password. For example:
space { } [ ] ( ) / \ ' " ` ~ ; : . < > -

Type the **Password**, down arrow to **Verify**, retype the password, tab to **OK**, and press **Enter**.

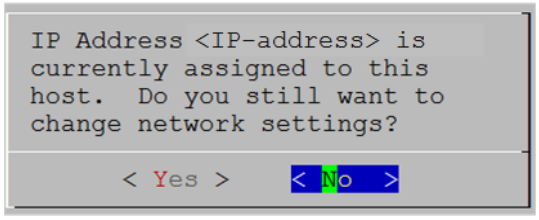
7. **This step applies to both NW Server hosts and component hosts.**
   The **Deployment Password** prompt is displayed.



   Type the **Password**, down arrow to **Verify**, retype the password, tab to **OK**, and press **Enter**.

8. One of the following conditional prompts is displayed.

   - If the Setup program finds a valid IP address for this host, the following prompt is displayed.

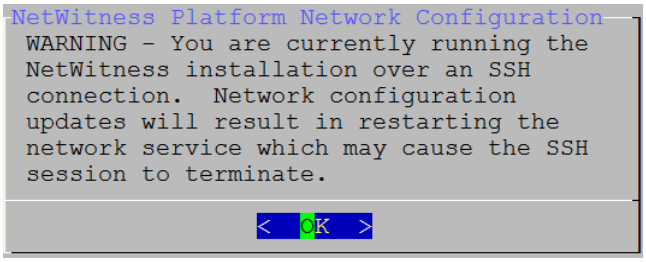


     Press **Enter** if you want to use this IP and avoid changing your network settings. Tab to **Yes** and

press **Enter** if you want to change the IP configuration on the host.

- If you are using an SSH connection, the following warning is displayed.

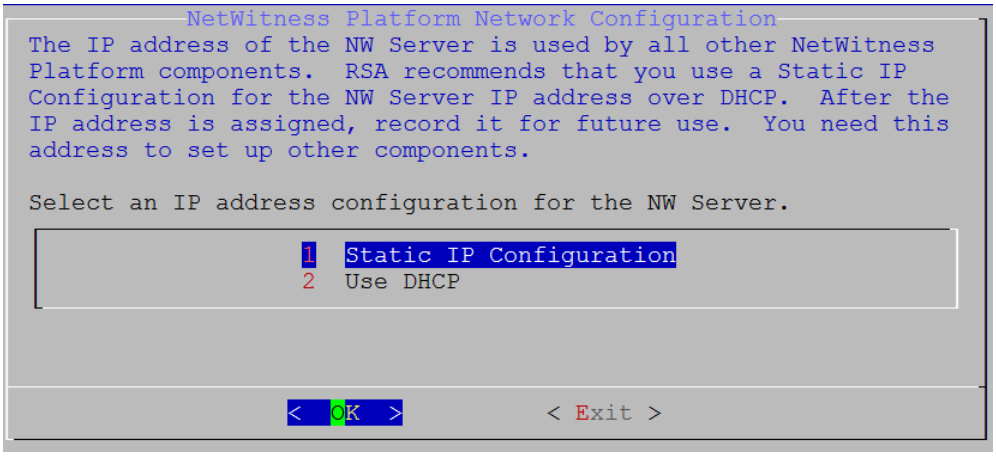
Note: If you connect directly from the host console, the following warning is not displayed.



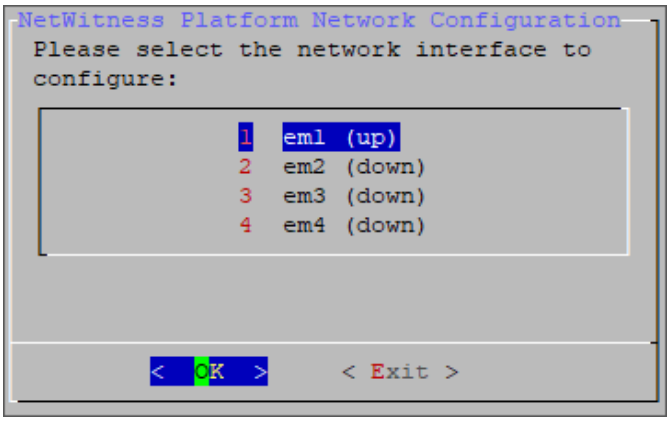
Press **Enter** to close warning prompt.

- If the Setup Program finds an IP configuration and you choose to use it, the **Update Repository** prompt is displayed. Go to step 12 and complete the installation.
- If the Setup Program did not find an IP configuration or if you choose to change the existing IP configuration, the **Network Configuration** prompt is displayed.

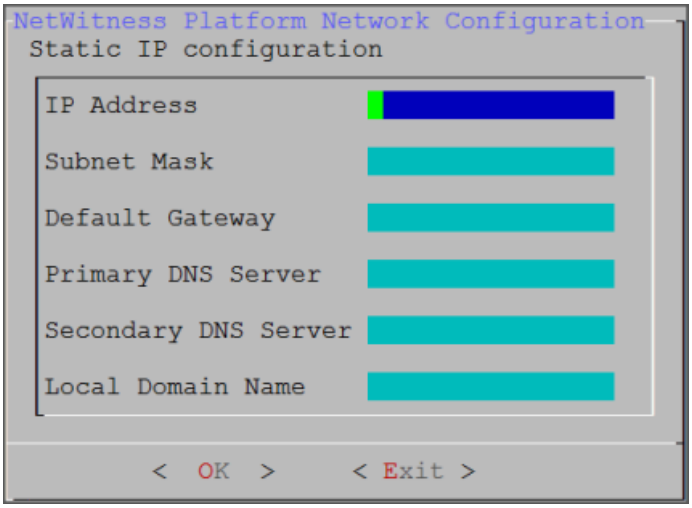
Caution: Only select "**Use DHCP**" as an IP address configuration for the NW Server if DHCP issues static IP addresses.



Tab to **OK** and press **Enter** to use **Static IP**.
If you want to use DHCP, down arrow to **2 Use DHCP** and press **Enter**.
The **Network Configuration** prompt is displayed.



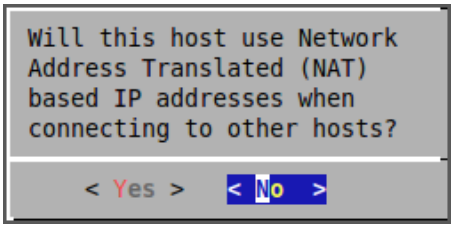
9. Down arrow to the network interface you want, tab to **OK**, and press **Enter**. If you do not want to continue, tab to **Exit.**
   The following **Static IP Configuration** prompt is displayed.



10. Type the configuration values, tab to **OK**, and press **Enter**. If you do not complete all the required fields, an `All fields are required` error message is displayed (**Secondary DNS Server** and **Local Domain Name** fields are not required). If you use the wrong syntax or character length for any of the fields, an `Invalid <field-name>` error message is displayed.

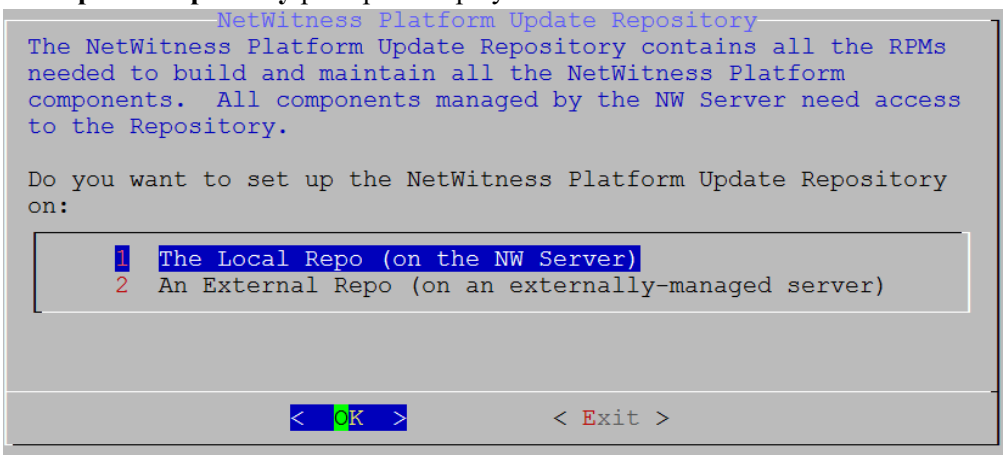
    Caution: If you select **DNS Server**, make sure that the DNS Server is correct and the host can access it before proceeding with the installation.

11. The Use Network Address Translation (NAT) prompt is displayed.



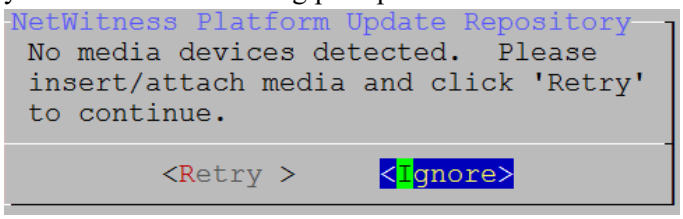
    For the NW Server, tab to **No** and press **Enter**.
    For component hosts, if this host requires the use of NAT-based addresses to communicate with the NW Server, tab to **Yes**. Otherwise, tab to **No** and press **Enter**.

12. The **Update Repository** prompt is displayed.

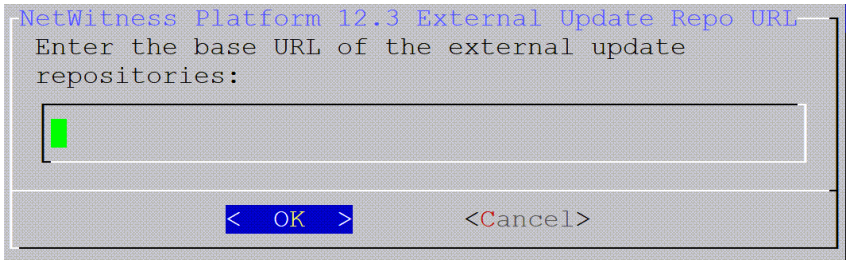


For the NW Server:

- Press **Enter** to choose the **Local Repo**.
- If you want to use an external repo, down arrow to **External Repo**, tab to **OK**, and press **Enter**. If you select **1 The Local Repo (on the NW Server)** in the Setup program, make sure that you have the appropriate media attached to the host (media that contains the ISO file, for example a build stick) from which it can install NetWitness 12.3. If the program cannot find the attached media, you receive the following prompt.



- If you select **2 An External Repo (on an externally-managed server)**, the UI prompts you for a URL. The repositories give you access to RSA updates and CentOS updates. Refer to "Appendix B. Create an External Repo" in this guide for instructions on how to create this repo and its external repo URL so you can enter it in the following prompt.

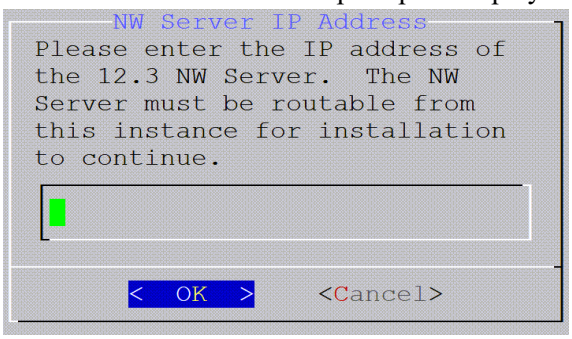


Enter the base URL of the NetWitness external repo and click **OK.** The **Start Install** prompt is displayed.

For component hosts:

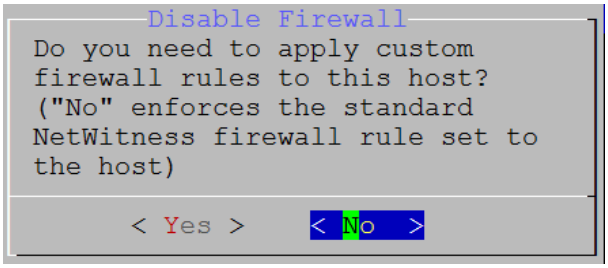
- Select the same repo that you selected when you installed the NW Server host and follow the steps above.

- The NW Server IP Address prompt is displayed.

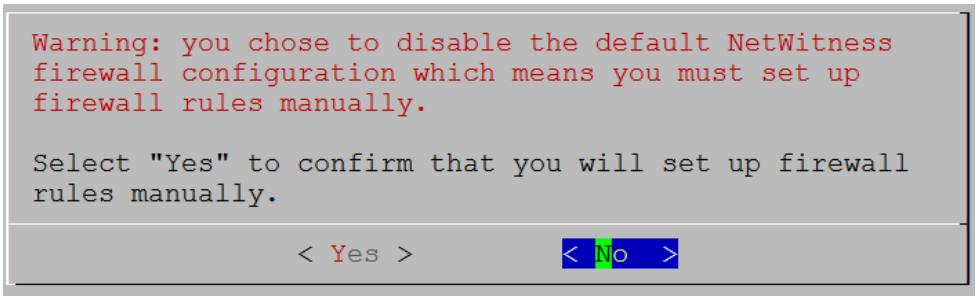


Type the NW Server IP address. Tab to **OK** and press **Enter**.

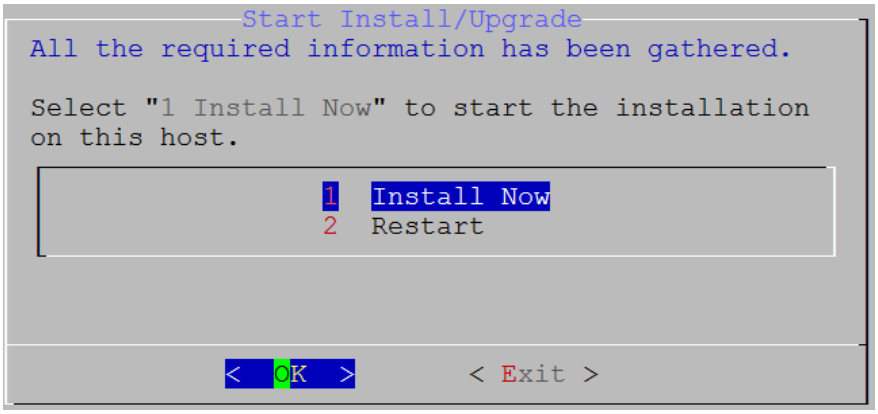
13. The Disable firewall prompt is displayed.



Tab to **No** (default), and press **Enter** to use the standard firewall configuration.
To disable the standard firewall configuration, tab to **Yes**, and press **Enter**.
If you select **Yes**, confirm your selection(select **Yes** again) or select **No** to use the standard firewall configuration.



14. The **Start Install** prompt is displayed.



15. Press **Enter** to install 12.3.
    When **Installation complete** is displayed, you have installed 12.3 on this host.

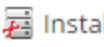
    Note: Ignore the hash code errors similar to the errors shown in the following figure that are displayed when you initiate the `nwsetup-tui` command. Yum does not use MD5 for any security operations so they do not affect the system security.

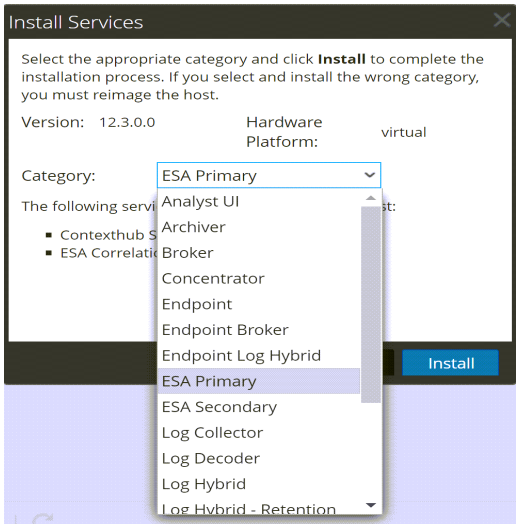
```
ValueError: error:3207A06D:lib(50):B_HASH_init:cr new
Checksum type 'md5' disabled
 (skipped due to only_if)
    * file[/etc/yum.repos.d/CentOS-Base.repo] action delete (up to date)
    * ruby_block[yum-cache-reload-CentOS-Base] action nothing (skipped due to action :nothing)
     (up to date)
  * yum_repository[Remove CentOS-CR repository] action delete
    * execute[yum clean all CentOS-CR] action runERROR:root:code for hash md5 was not found.
Traceback (most recent call last):
  File "/usr/lib64/python2.7/hashlib.py", line 129, in <module>
    globals()[__func_name] = __get_hash(__func_name)
  File "/usr/lib64/python2.7/hashlib.py", line 98, in __get_openssl_constructor
    f(usedforsecurity=False)
```

16. (Optional) If your system configuration requires that a component host must use a NAT IP address to reach the NW Server host, you must configure the NAT IP address of the NW Server by running the following command:
    `nw-manage --update-host --host-id <NW Server Host UUID> --ipv4-public <NAT IP address>`

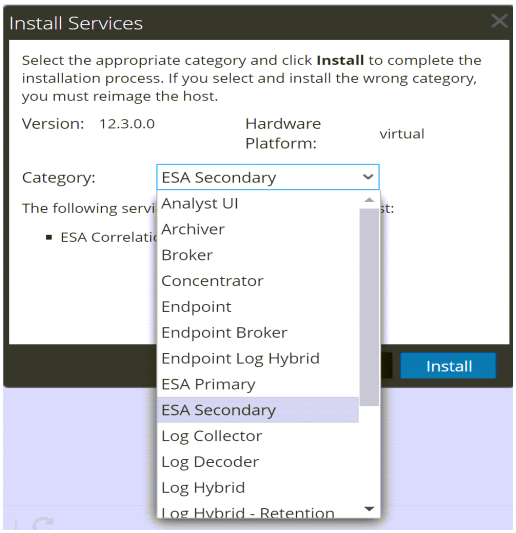
Set Up ESA Hosts

After you install your NW Server and component hosts, follow these steps to set up your ESA hosts.

- Install your primary ESA host following the instructions in "Install 12.3 on the NetWitness Server (NW Server) Host and Other Component Hosts" in this guide, and install the **ESA Primary** service on it after you finish the Set Up program in the UI in  (Admin) > **Hosts** >  :



- (Conditional) If you have a secondary ESA host, install it and install the **ESA Secondary** service on it after you finish the Set Up program in the UI in (Admin) > **Hosts** > Install:



Install Component Services on Hosts

After you have installed NW Server and component hosts, and set up your ESA hosts, follow these steps to install component services, such as Decoders and Concentrators, on your host systems.

1. Install a component service on the host:

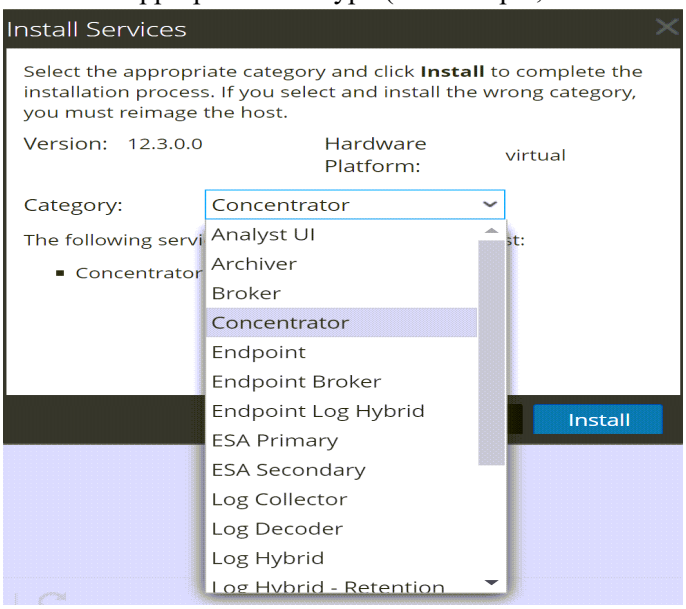
   a. Log into NetWitness and go to (Admin) > **Hosts**.
   The **New Hosts** dialog is displayed with the **Hosts** view grayed out in the background.

   Note: If the **New Hosts** dialog is not displayed, click **Discover** in the Hosts view toolbar.

   b. Select the host in the **New Hosts** dialog and click **Enable**.
   The **New Hosts** dialog closes and the host is displayed in the **Hosts** view.

   c. Select that host in the **Hosts** view and click Install.
   The **Install Services** dialog is displayed.

d. Select the appropriate host type (for example, **Concentrator**) in **Category** and click **Install**.



Complete Licensing Requirements

Complete licensing requirements for installed services. See the *NetWitness Platform 12.3 Licensing Management Guide* for more information. Go to the NetWitness All Versions Documents page and find NetWitness Platform guides to troubleshoot issues.

(Optional) Install Warm Standby NW Server

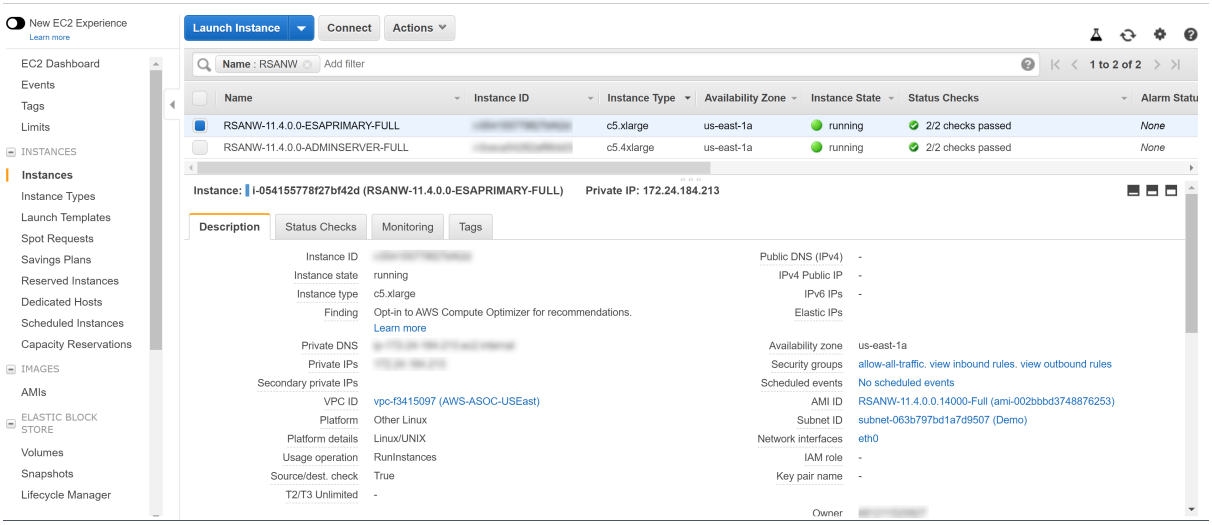
Refer to "Warm Standby NW Server Host" under "Deployment Option Setup Procedures" in the *Deployment Guide for NetWitness Platform XDR 12.3* for instructions on how to set up a Warm Standby NW Server.

(Optional) Boot NetWitness 11.4 EC2 Instance using c5 Instance Types

Following are the steps:

1. Deploy an EC2 instance using NW 11.4 Lite/Full AMI (RSANW-11.4.0.0.14000-Full, ami-002bbbd3748876253).
2. Select a non-nitro based instance type. For example, "_m4.large_" and boot the instance.
3. Install the package "_dracut-config-generic_" and rebuild the initramfs image.
4. For environment without internet connection, copy the provided RPM package to target 11.4 EC2 instance and install it.
5. Shutdown or stop the EC2 instance. Ensure that the instance shutdown behavior is set to "Stop" and not "_Terminate._".

6. Change the instance type of existing EC2 instance to nitro-based c5 types (For example, c5.4xlarge) and start the EC2 instance.
7. The EC2 instance boots successfully now, passing the system and instance status health checks.



Note: Once the instance is moved to c5 instance types and booted successfully, the system will remain fixed in c5 instance state and cannot be reverted back to m4 instance types.

Configure Hosts (Instances) in NetWitness Platform XDR

Configure individual hosts and services as described in NetWitness *Host and Services Getting Started Guide*. This guide also describes the procedures for applying updates and preparing for version upgrades.

Note: After you successfully launch an instance, AWS assigns a default hostname to it. For more information, see "Change Host Network Configuration" in the *System Maintenance Guide* for instructions on changing a hostname.Go to the NetWitness All Versions Documents page and find NetWitness Platform guides to troubleshoot issues.

Configure Packet Capture

You can integrate any of the following Third-Party solutions with the Network Decoder to capture packets in the AWS cloud:

- Gigamon® GigaVUE
- Ixia CloudLens™
- f5® BIG-IP
- VPC Traffic Mirroring

Integrate Gigamon GigaVUE with the Network Decoder

There are two main tasks to configure the Gigamon® third-party Tap vendor packet capture solution:

Task 1. Integrate the Gigamon Solution

Gigamon® Visibility Platform on AWS will be available through the AWS Marketplace and activated by a BYOL license. A thirty-day free trial is also available.

For more information on the Gigamon® solution, see "Gigamon® Visibility Platform for AWS Data Sheet"https://www.gigamon.com/sites/default/files/resources/datasheet/ds-gigamon-visibility-platform-for-aws-4095.pdf.

For more information on the deployment details, see "Gigamon® Visibility Platform for AWS Getting Started Guide" https://www.gigamon.com/sites/default/files/resources/deployment-guide/dg-visibility-platform-for-aws-getting-started-guide-4111.pdf.

After the “Monitoring Session” is deployed within the Gigamon GigaVUE-FM, you can configure the Network Decoder Tunnel.

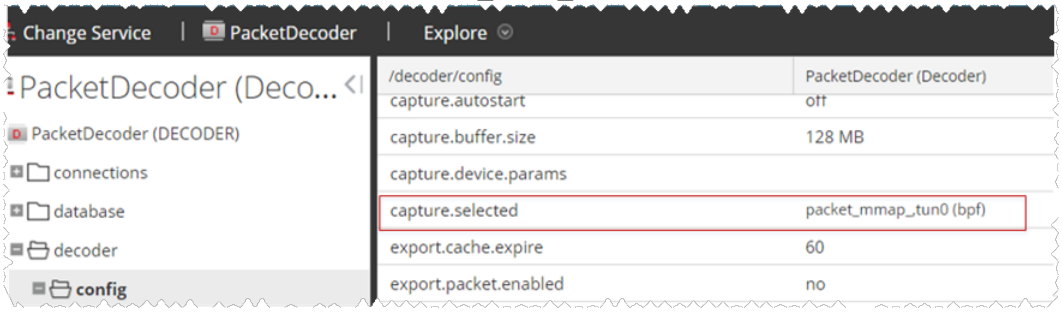
Task 2. Configure Tunnel on the Network Decoder

1. SSH to the Decoder.
2. Submit the following command strings.

```
$ sudo ip link add tun0 type gretap local any remote <ip_address_of_
VSERIES_NODE_TUNNEL_INTERFACE> ttl 255 key 0

$ sudo ip link set tun0 up mtu <MTU-SIZE>

$ sudo ifconfig (to verify if the tunnel tun0 is being listed in the list
of interfaces)

$ sudo lsmod | grep gre ( to make sure if the below kernel modules are
running:

ip_gre 18245 0

ip_tunnel 25216 1)

If they are not running then execute the below commands to enable the
modules

$ sudo modprobe act_mirred

$ sudo modprobe ip_gre
```

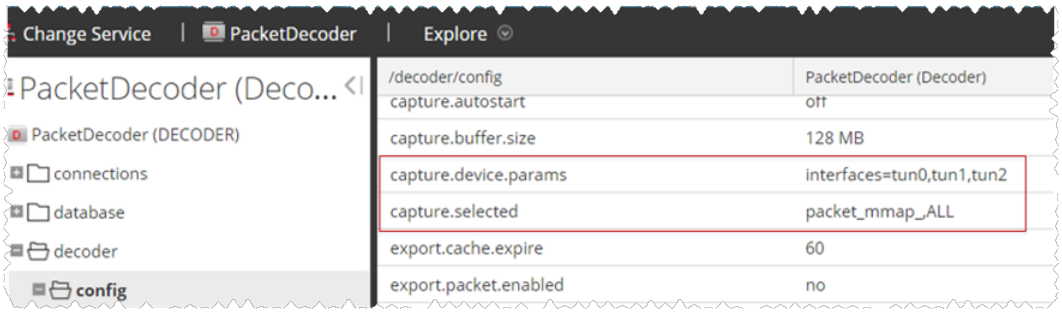
3. Create a firewall rule in the Network Decoder to allow traffic through the tunnel.
   a. Open the `iptables` file.
      `vi /etc/sysconfig/iptables`
   b. Append the line `-A INPUT -p gre -j ACCEPT` before the `commit` statement
   c. Restart `iptables` by executing the following commands.
      `service iptables restart`
      `service ip6tables restart`

4. Set the interface in the Network Decoder.
   a. Log in NetWitness, select the `decoder/config` node in Explorer view for the Network Decoder service.
   b. Set the `capture.selected = packet_mmap_,tun0`.



5. (Conditional) - If you have multiple tunnels on the Network Decoder.
   a. Restart Decoder service after you create the tunnel in Network Decoder.
   b. Log in to NetWitness, select the `decoder/config` node in Explorer view for the Network Decoder service, and set the following parameters.

```
capture.device.params = interfaces=tun0,tun1,tun2
capture.selected = packet_mmap_,All
```



6. Restart decoder service.

```
$ sudo restart nwdecoder
```

   The user should be all set to capture the network traffic in Decoder.

Integrate Ixia with the Network Decoder

You must complete the following tasks to integrate the Network Decoder with Ixia CloudLens.

Task 1. Deploy Client Machines
Task 2. Create CloudLens Project
Task 3. Install Docker Container on Decoder
Task 4. Install Docker Container on Clients
Task 5. Map Network Decoder to Ixia Clients
Task 6. Validate CloudLens Packets Arriving at Decoder
Task 7. Set Interface in Network Decoder

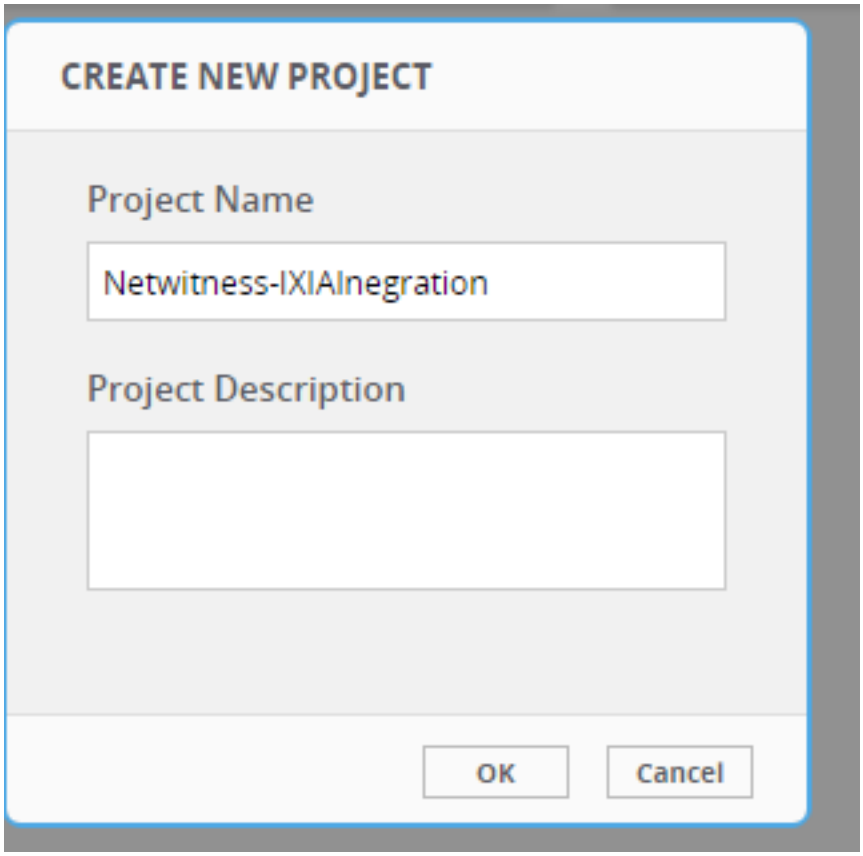
Task 1. Deploy Client Machines

- Deploy client machines onto which you want to route the traffic to the Network Decoder. See the Ixia CloudLens documentation (https://www.ixia.cloud/help/Default.htm) for specifications needed for supported client machines.
- For Client Machines (as well as Decoder machine) the following ports must be opened on AWS Security Group Inbound Rules; UDP 19993 from all, TCP 22 from Admin IP.

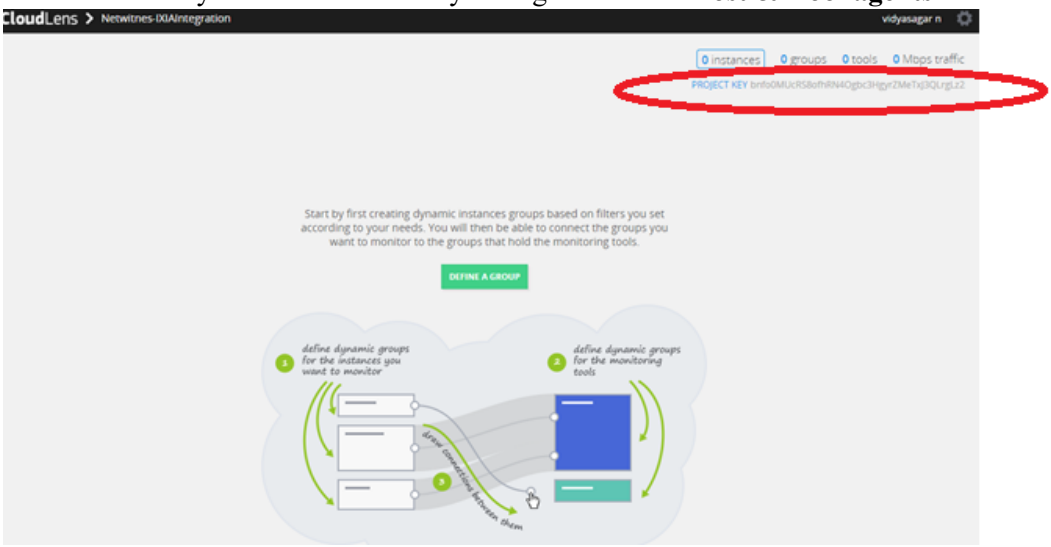
Task 2. Create CloudLens Project

Complete the following steps to create a new project and get your project key.

1. Get Cloudlens login credentials and access to a free trial.
   a. Create an Ixia login account at https://www.ixiacom.com/products/cloudlens-trial-a.
2. Go to the Cloudlens public site (https://www.ixia.cloud).
3. Click + (add) to create a new project with a name of your choosing (for example, **NetWitness-IxiaIntegration**).



4. Click on your newly created project and make note of your Project Key.
   You need the key later for the API key configured on the **Host & Tool agents**.



Task 3. Install Docker Container on Decoder

Complete the following steps to install the Docker container onto the Network Decoder.

1. SSH to the Network Decoder.
2. Enter the following commands to complete the install the Docker service on the Decoder.

```
#yum clean all
# yum -y install docker
```

3. Enter the following command string to start the Docker service.

```
# service docker start
```

4. Enter the following commands to:
   - Access the Ixia repository and obtain the cloudlens-agent container.
   - Replace the **ProjectKeyFromIxiaProjectPortal** variable, which identifies your project key in Ixia portal, with the Project Key you created in Task 2. Create CloudLens Project.

```
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 ProjectKeyFromIxiaProjectPortal \
```

Task 4. Install Docker Container on Clients

Complete the follow steps to Y install the Docker Container onto the client machines for which you want to route the traffic to the Network Decoder.

1. SSH to the AWS Client instance.
2. Enable root access to OS CLI (for example `sudo su -`).
3. Enter the following commands to install Docker.
   ```
   # yum -y install docker
   ```
   Caution: The above example of the installed docker engine is for CentOS7. The instructions may vary slightly for different Linux Distributions. For more information, see the Docker docs at https://docs.docker/install.
4. Enter the following commands to start the Docker service.
   ```
   # service docker start
   ```
5. Enter the following commands to:
   - Access the Ixia repository and obtain the **cloudlens-agent** container.
   - Replace the variable **ProjectKeyFromIxiaProjectPortal**, which identifies your project key in Ixia portal, with the Project Key you created in the previous section.
     ```
     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 ProjectKeyFromIxiaProjectPortal \
     ```

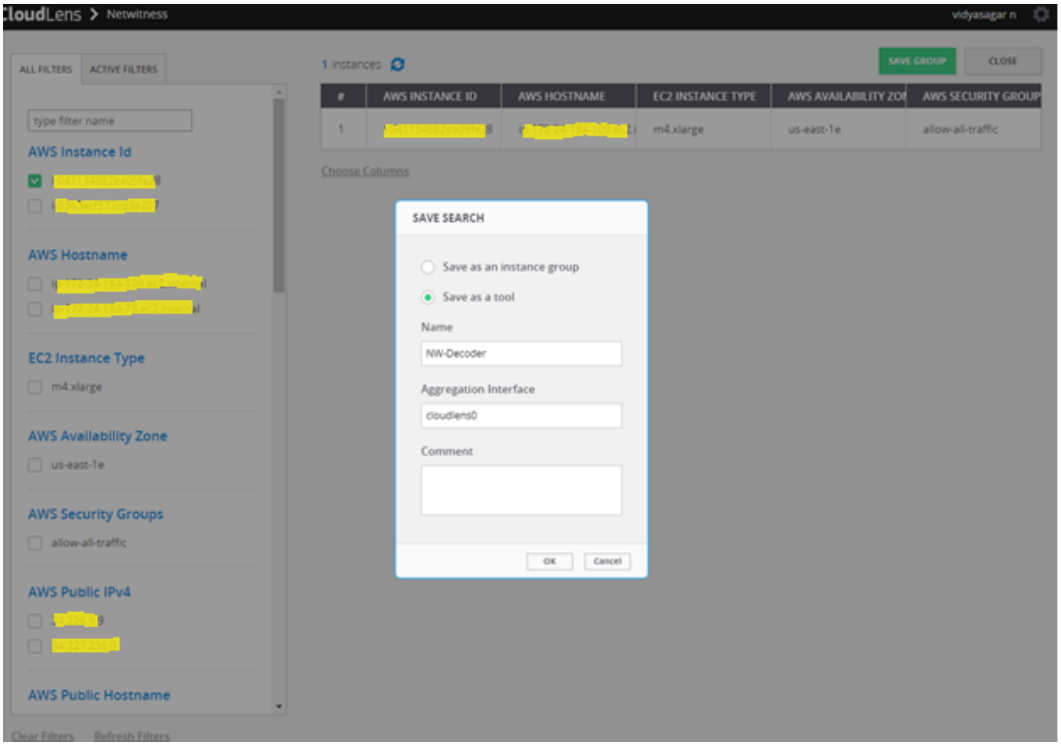
Warning: If you cut and paste commands from a PDF, first paste them into a test editor such as Notepad to confirm the syntax before pasting into the OS CLI. Direct cut and paste between PDF and CLI can contain dashes or other special characters that should not be part of the commands.

Task 5. Map the Network Decoder to Ixia Clients

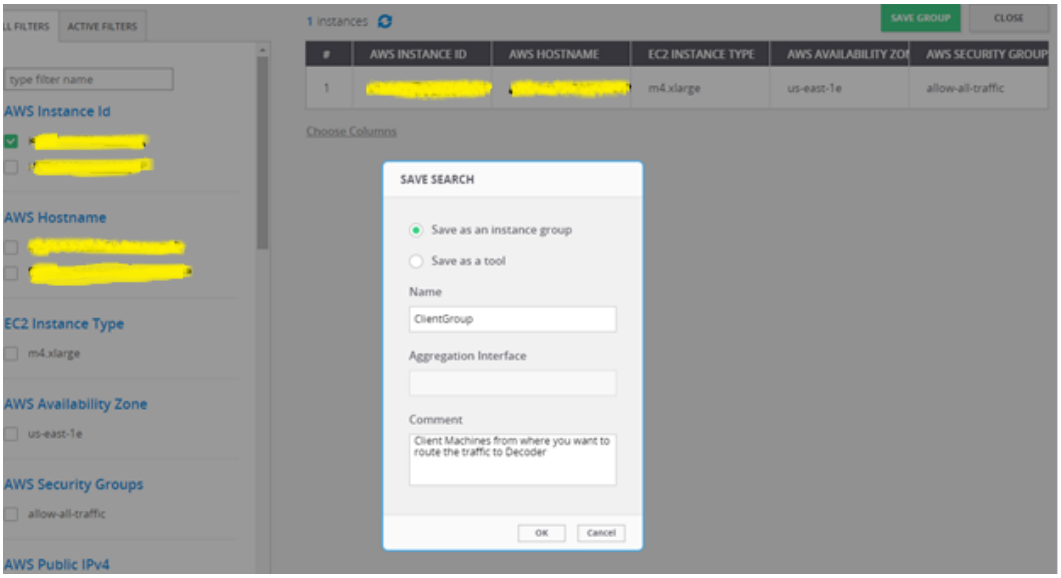
Complete the following steps to map the Network Decoder to the client machines to route the traffic to the Network Decoder.

1. Go to the Cloudlens public site (https://www.ixia.cloud).
2. Double-click on your project to open it.
3. Click the **Define Group** button or the Instances count.
   You should see two instances listed, one for your decoder and the other for the client machines.
4. Filter for the decoder instance and click **Save Search**.
5. Choose **Save as a tool**.
6. Specify a name for the tool, and the **Aggregation Interface**.
   Use a meaningful name for the Aggregation Interface (for example **cloudlens0**. This is a virtual

interface that appears in the OS where your Tool is installed. You need to instruct your tool to 'listen' to that interface in a subsequent step.

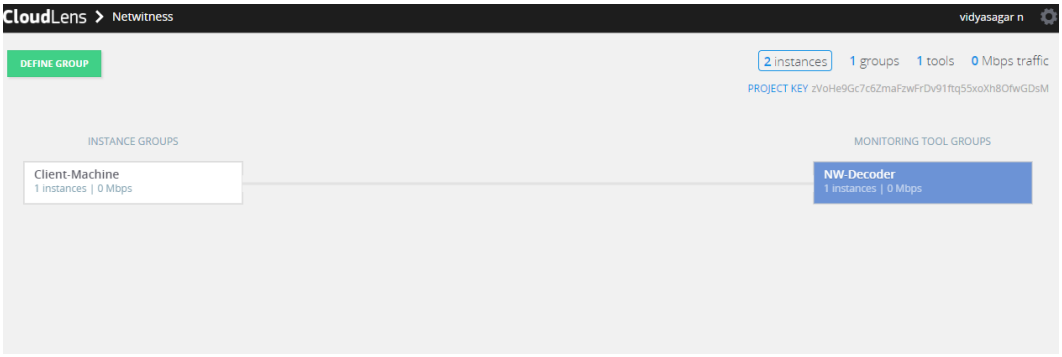


7. Filter the client host instance from the list, and click **Save Search**.



8. Navigate back to the top-level view of the project.
   Your client machine instance and Decoder instance are now displayed.

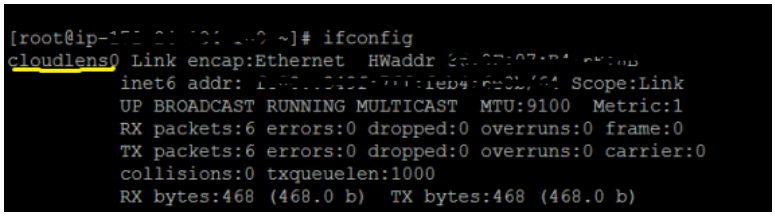
9. Drag a connection between the your client machine instance and Decoder instance to allow the flow of packets.



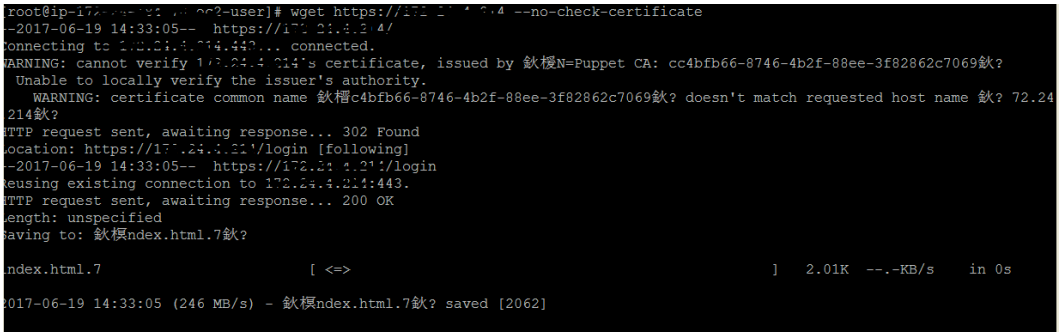
Task 6. Validate CloudLens Packets Arriving at Decoder

Complete the following steps to validate that packets are actually arriving at the Network Decoder.

1. SSH to the Network Decoder.
2. Enter the following command.
   `ifconfig`
   The new aggregation interface you created is displayed.

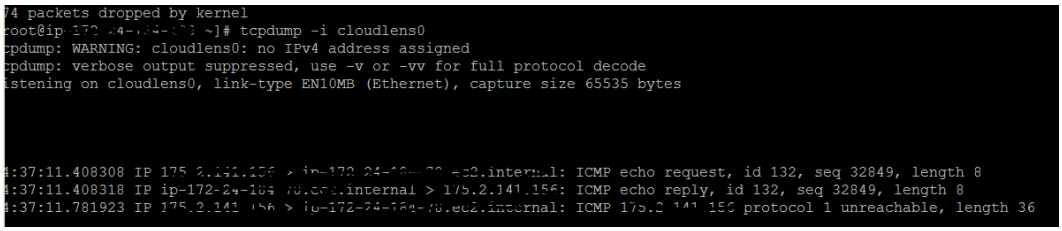


3. Generate traffic from the client OS instance CLI (for example, `wget http://www.google.com/`).



4. SSH to Network Decoder to go to your Network Decoder instance CLI.

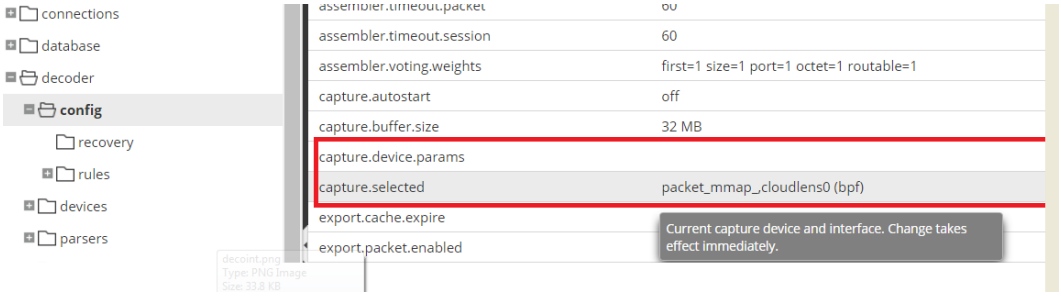
5. Enter the following commands to look for suitable results in the tcpdump.
   `tcpdump -I Cloudlens0`



Task 7. Set the Interface in the Network Decoder

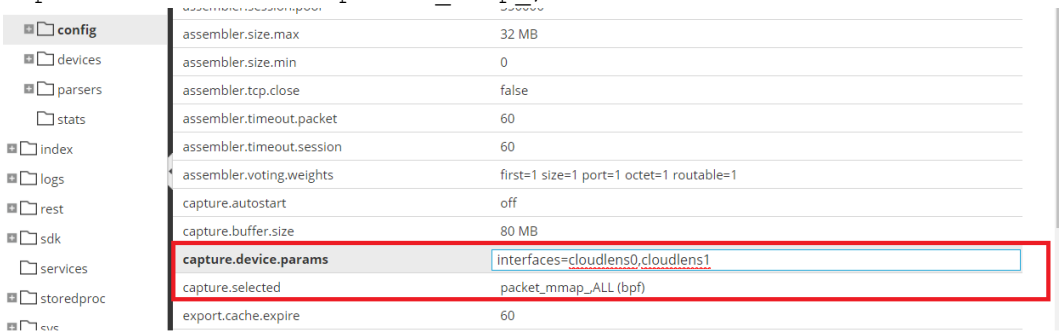
Complete the following steps in the Network Decoder to set the interface to use for the Ixia integration.

1. SSH to the Network Decoder.
2. Enter the following commands to restart decoder service.
   `$ sudo restart nwdecoder`
   The Network Decoder is now set to capture network traffic.
3. Log in to NetWitness and click  **(Admin) > Services**.
4. Select a Decoder service and click  > **View > Explore**.
5. Expand the **decoder** node and click **config** to view the configuration settings.
6. Set the **capture.selected** parameter to the following value.
   packet_mmap_,cloudlens0(bpf)



7. (Conditional) - If you have multiple capture interfaces on the Network Decoder, set the parameters with the following values.
   `capture.device.params --> interfaces=cloudlens0,cloudlens1`

```
capture.selected --> packet_mmap_,All
```



8. Restart the Decoder service after you set the **capture.selected** parameter.

Integrate f5® BIG-IP with the Network Decoder

IG-IP Virtual Edition (VE) is an inline virtual server and load balancer. A common use case would be for the f5® box to be a virtual web server that presents a single IP address / host name that manages requests to a pool of web servers in the cloud.

All traffic to NetWitness flows through the f5® BIG-IP VE virtual server.

The virtual server functions of the BIG-IP clone all traffic to a designated computer by re-writing mac addresses and loading them into a subnet shared with the destination sniffer. This guide describes how to set up the Decoder as the sniffer.

f5® BIG-IP VE Deployment Information

f5® BIG-IP VE on AWS will be available through the AWS Marketplace and activated by a BYOL license. A thirty-day free trial is also available.

For more information on this solution refer to the f5® BIG-IP DNS Data Sheet (https://www.f5.com/pdf/products/big-ip-dns-datasheet.pdf).

Task 1: Set Up a BIG-IP VE Virtual Server Instance

Set up a BIG-IP VE Virtual Server Instance according to the instructions in the "BIG-IP Virtual Edition 12.1.0 and Amazon Web Services: Multi-NIC Manual" (https://support.f5.com/kb/en-us/products/big-ip_ltm/manuals/product/bigip-ve-multi-nic-setup-amazon-ec2-12-1-0.html). Complete all the steps through the last steps, "Creating a virtual server."

This virtual server performs packet capture. You may need to create multiple virtual servers to depending on your volume.

As part of creating the virtual server, you must have at least one server in your NetWitness domain to handle the traffic routed by the virtual server (for example, you can create another instance in AWS to host the internal server).

Task 2: Create a Clone Pool

1. Make sure that your Decoder has a network interface on the same subnet as one of the network interfaces on the BIG-IP VE instance.
   The clone pool sends packets to the Decoder by rewriting MAC addresses and sending them out a

network interface. MAC address rewriting can be used to route packets to another subnet.

2. Set up the clone pool within the BIG-IP VE virtual server according to the instructions in "K13392: Configuring the BIG-IP system to send traffic to an intrusion detection system (11.x - 13.x)" article (https://support.f5.com/kb/en-us/solutions/public/13000/300/sol13392.html).
   This document explains how to create the clone pool, and how to make an existing virtual server copy traffic to the clone pool. In this case, we will place the Decoder instance in the clone pool.

Guidelines

The following guidelines will help you to configure packet capture correctly using BIG-IP VE.

- The Decoder instance must have its own IP address on one of the same subnets as BIG-IP VE. BIG-IP uses that IP address to identify the Decoder as being part of the clone pool.
- When adding the Decoder instance to the clone pool, BIG-IP asks for a port number in addition to the IP address. This port number does not matter for the cloned traffic. The Decoder will receive all the cloned traffic, regardless of what port number was used here.
- By default, the AWS subnet shared by the Decoder and BIG-IP VE will not allow the cloned traffic to travel from the BIG-IP VE interface to the Decoder interface. You must disable the **`source/dest. check`** on both the Decoder and BIG-IP VE network interfaces in AWS.
- The Decoder instance must have a single network interface, eth0, by default. The Decoder captures traffic on this interface, but it may also receive administrative traffic on this interface. NetWitness recommends using network rules to filter out ssh and nwdecoder traffic from the capture stream. These are ports 22 (ssh) and 50004/56004 (nwdecoder).

Troubleshooting Tips

There are areas to troubleshoot if packets are not being accepted by the Decoder.

- Make sure that the BIG-IP VE is sending the packets out of the correct interface.
  The BIG-IP VE instance contains tcpdump. Use it to verify the cloned packets are being sent out the expected interface. If they are not, there is a problem in the setup of the clone pool or the virtual server.
- Make sure that the Decoder is receiving packets.
  The Decoder has `tcpdump` installed on it. Use it to verify that the Decoder is receiving packets. If the Decoder is not capturing packets, make sure that
  - The AWS **`source/dest. check`** is turned off.
  - The Decoder is on the same subnet as the interface the BIG-IP VE is using to clone packets.

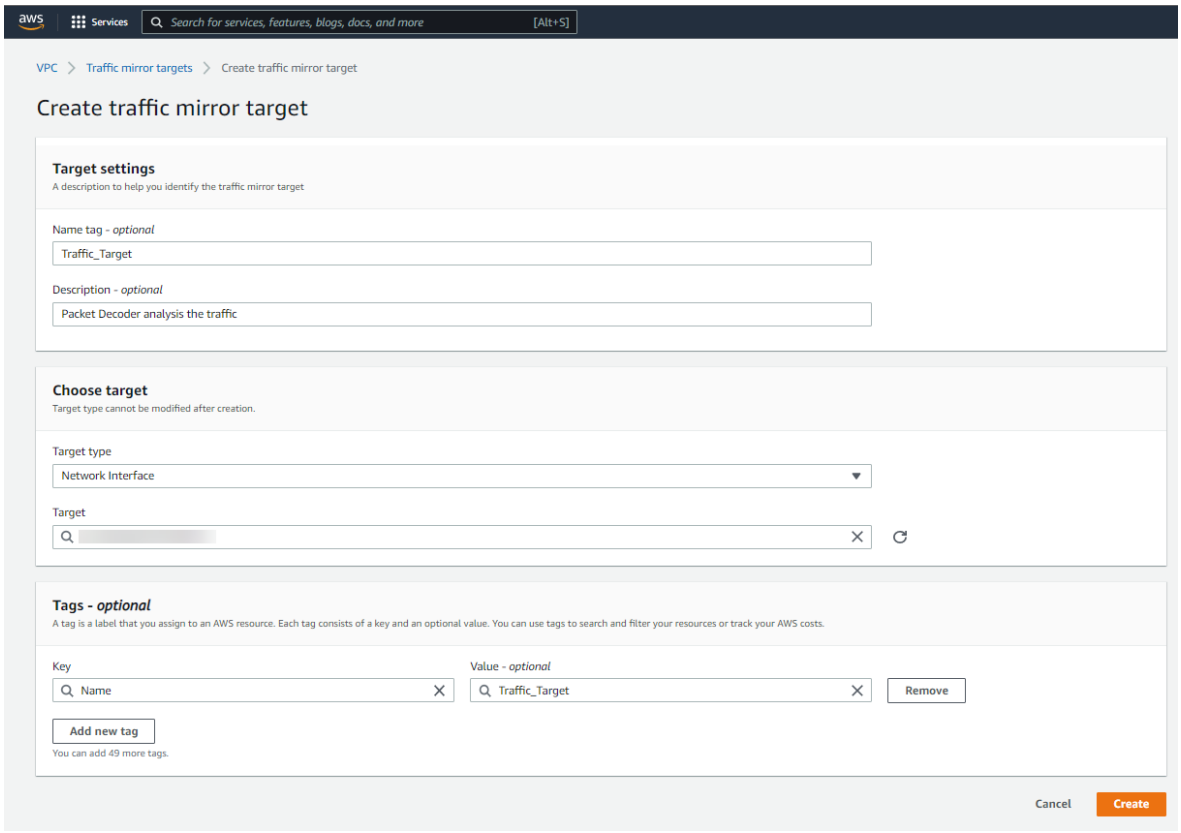
Integrate VPC Traffic Mirroring with the Network Decoder

VPC Traffic Mirroring allows users to capture and inspect network traffic to analyze packets without using any third-party packet forwarding agents. The solution provides insight and access to network traffic across VPC infrastructure. Users can copy network traffic at any ENI (Elastic Network Interfaces) in VPC, and send it to NetWitness to analyze, monitor, and troubleshoot performance issues.

You must complete the following tasks to integrate the Network Decoder with VPC Traffic Mirroring:

Task 1. Configure the Network Decoder as a VPC Traffic Mirroring Destination.

1. Open the VPC service console view at https://console.aws.amazon.com/vpc/home.
2. In the navigation panel, select **Traffic mirror targets**.
3. Click **Create traffic mirror target**.



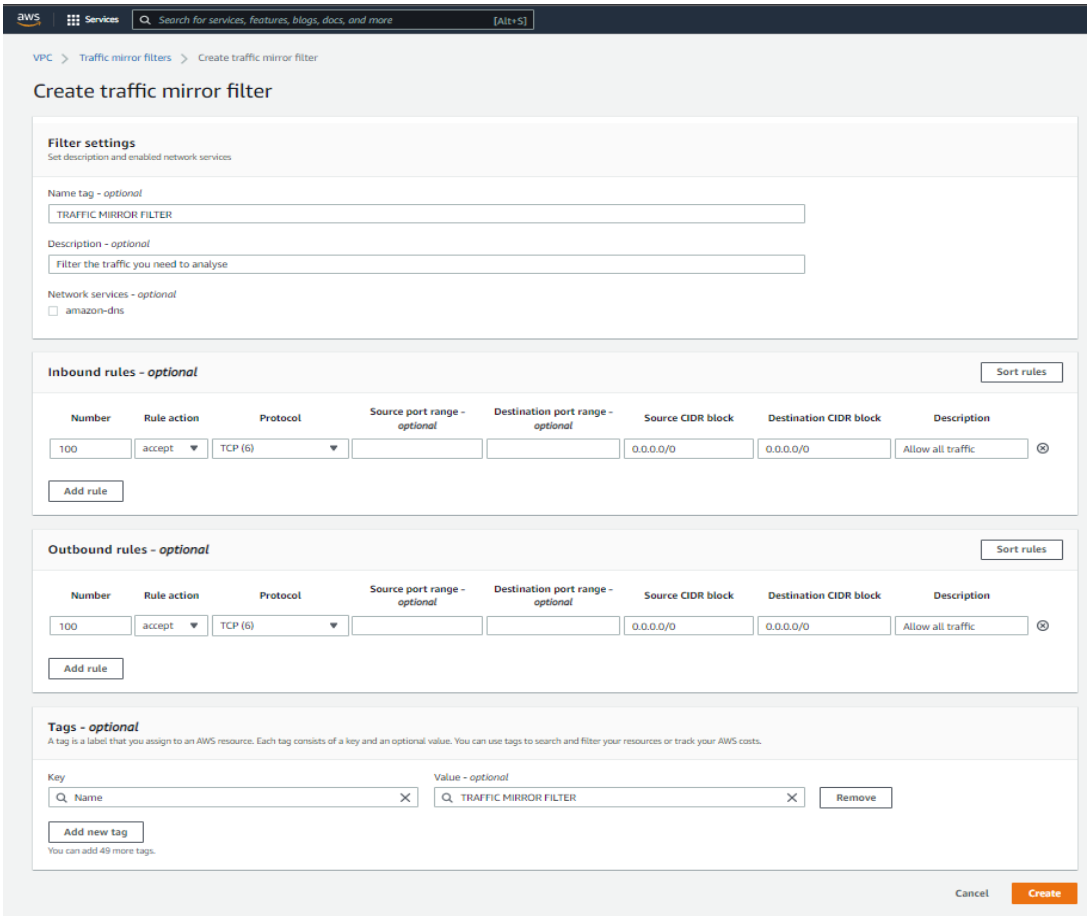
4. In the **Create traffic mirror target** dialog, provide all the required information and click **Create**.

Task 2. Configure a VPC Traffic Mirror Filter

Configure the VPC traffic mirror filter to send only the required packets to the Network Decoder. You can determine if the inbound or outbound traffic needs to be captured or not.

Note: Make sure the UDP port 4789 is open on the AWS instance of Network Decoder.

1. In the navigation panel, select **Traffic mirror filters**.
2. Click **Create traffic mirror filter**.

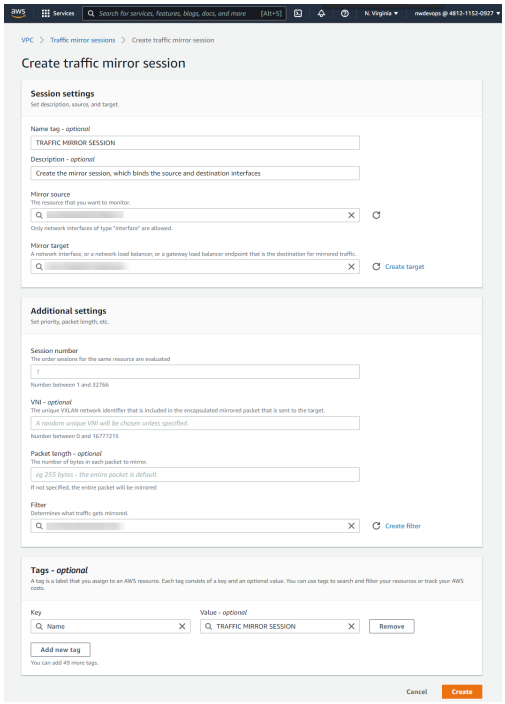


3. In the **Create traffic mirror filter** dialog, provide all the required information and click **Create**.

Task 3. Configure a VPC Traffic Mirror Session

You must configure a VPC Traffic Mirror Session to mirror the traffic by a communication channel between source ENI and destination ENI.

1. In the navigation panel, select **Traffic mirror sessions**.
2. Click **Create traffic mirror session**.



3. In the **Create traffic mirror session** dialog, provide all the required information and click **Create**.

Task 4. Set Up a new VXLAN Interface on the Network Decoder

To capture the UDP enabled traffic you must create an interface and tunnel it to Network Decoder by performing the following steps.

1. SSH to the Decoder.
2. Enter the following commands.

```
sudo ip link add tun0 type vxlan id <VXNLAN ID> local any dev <primary
interface ex: eth0> dstport 4789

sudo ip link set tun0 up

ifconfig
```

```
tun0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 8951
        inet6 fe80::bc58:afff:fe06:ec29  prefixlen 64  scopeid 0x20<link>
        ether be:58:af:06:ec:29  txqueuelen 1000  (Ethernet)
        RX packets 989  bytes 74140 (72.4 KiB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 0  bytes 0 (0.0 B)
        TX errors 0  dropped 8 overruns 0  carrier 0  collisions 0
```

3. To create a firewall rule in the Network Decoder to allow traffic through the tunnel.

a. Open the IP tables file using the command `vi /etc/sysconfig/iptables`.

b. Append the line `-I INPUT -p udp -m udp --dport 4789 -j ACCEPT`.

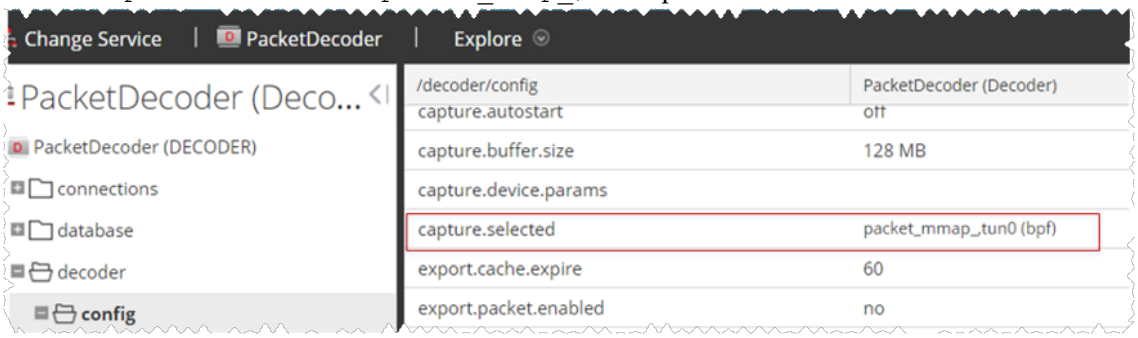
c. Restart IP tables by using the following commands.

```
service iptables restart
service iptables status
```

4. To set the interface in the Network Decoder.

   a. Log in to NetWitness, select the `decoder/config` node in Explorer view of the Network Decoder service.

   b. Set the `capture.selected = packet_mmap_,tun0` parameter.

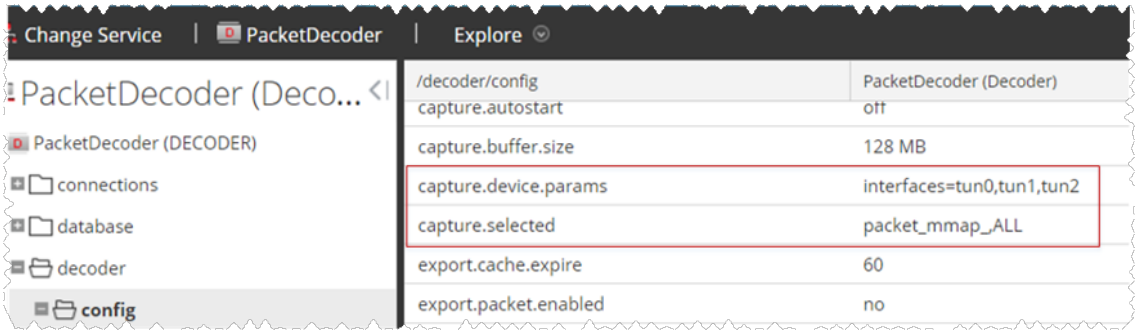


5. (Conditional) If you have multiple tunnels on the Network Decoder.

   a. Restart the Decoder service after you create the tunnel in Network Decoder.

   b. Log in to NetWitness, select the `decoder/config` node in Explorer view of the Network Decoder service, and set the following parameters.

```
capture.device.params = interfaces=tun0,tun1,tun2
capture.selected = packet_mmap_,All
```



6. Restart the Decoder service.

```
$ sudo restart nwdecoder
```

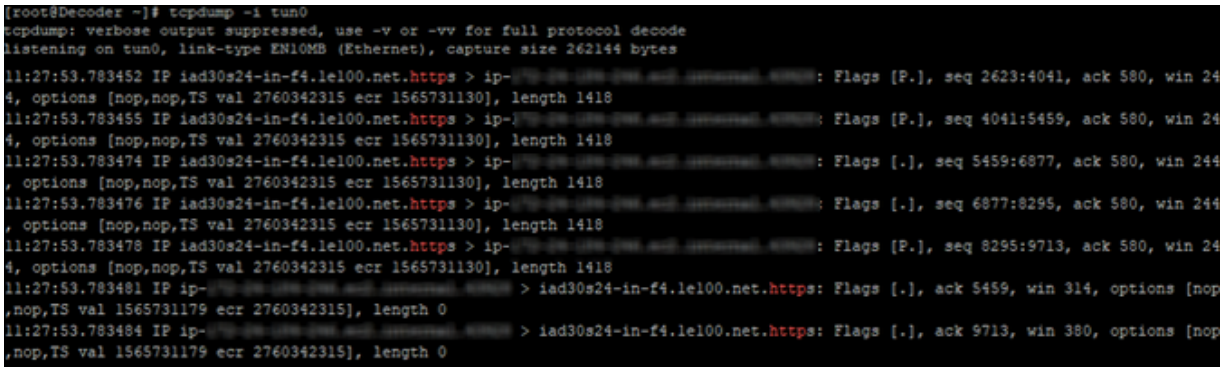
   The user should be all set to capture the network traffic in the Network Decoder.

Task 5. Validate VPC Traffic Mirroring Packets Arriving at the Network Decoder

Perform the following steps to validate if the Network Decoder is receiving the network data (packets) successfully.

1. Generate traffic from the client OS instance CLI (for example, `wget http://www.google.com/`).

2. Enter the `tcpdump -i tun0` command to look for suitable results in the tcpdump.



3. The NetWitness reflects meta values as shown below.

Note: You can mirror traffic from an EC2 instance that is supported by the AWS Nitro system (A1, C5, C5d, C5n, I3en, M5, M5a, M5ad, M5d, p3dn.24xlarge, R5, R5a, R5ad, R5d, T3, T3a, and z1d).

Note: For more information, see "New – VPC Traffic Mirroring" documentation at https://aws.amazon.com/blogs/aws/new-vpc-traffic-mirroring/.

AWS Instance Configuration Recommendations

Note: These recommendations can be used as a baseline for 12.3.0.0 and adjusted as needed.

This topic contains the minimum AWS instance configuration settings recommended for the NetWitness virtual stack components.

- EC2 Instance:
  - Instance type adjustments -you must adjust instance types according to your ingestion rate, content and parsers, dashboard reports, scheduled reports, investigations, and active users.
  - Recommended settings - the recommended settings in the NW component instance tables below were calculated under the following conditions.
    - Ingestion rates of 15,000 EPS and 1.5 Gbps were used.
    - All the components were integrated.
    - The Log stream includes a Log Decoder, Concentrator, and Archiver.
    - The Packet stream includes a Network Decoder and Concentrator.
    - The Endpoint Hybrid stream includes a Endpoint Server, Concentrator and Log Decoder.
    - Respond is receiving alerts from the Reporting Engine and Event Stream Analysis.
    - The background load includes reports, charts, alerts, investigation, and respond.
- Block Storage

  For more information on the required volumes and the storage allocations, see the Storage Guide for NetWitness® Platform 12.3.

Archiver

EC2 Instance			
EPS	**Instance Type**	**Enhanced Networking Enabled**	**Tenancy Type - Dedicated - Run a Dedicated Instance**
5,000	m4.xlarge No of CPU: 4 Memory: 16 GB	No	Yes
10,000	m4.2xlarge No of CPU: 8 Memory: 32 GB	No	Yes
15,000	m4.4xlarge No of CPU: 16 Memory: 64 GB	No	Yes

Cloud Provider Block Storage			
Volumes	**Device**	**Volume Type**	**IOPS/Baseline Throughput**
/ (root)	/dev/sda1	General Purpose SSD	N/A
usr,var,opt,home,tmp	/dev/sdf	General Purpose SSD	N/A
archiver	/dev/sdg	Throughput Optimized HDD	240 MB/s
workbench	/dev/sdh	Throughput Optimized HDD	N/A

Broker

EC2 Instance		
Instance Type	**Enhanced Networking Enabled**	**Tenancy Type - Dedicated - Run a Dedicated Instance**
m4.xlarge No of CPU: 4 Memory: 16 GB	No	Yes

Cloud Provider Block Storage			
Volumes	**Device**	**Volume Type**	**IOPS/Baseline Throughput**
/ (root)	/dev/sda1	General Purpose SSD	N/A
usr,var,opt,home,tmp	/dev/sdf	General Purpose SSD	N/A
broker	/dev/sdg	General Purpose SSD	N/A

Concentrator - Log Stream

EC2 Instance			
EPS	**Instance Type**	**Enhanced Networking Enabled**	**Tenancy Type - Dedicated - Run a Dedicated Instance**
5,000	m4.xlarge No of CPU: 4 Memory: 16 GB	No	Yes
10,000	m4.2xlarge No of CPU: 8 Memory: 32 GB	No	Yes
15,000	m4.4xlarge No of CPU: 16 Memory: 64 GB	No	Yes

Cloud Provider Block Storage			
Volumes	**Device**	**Volume Type**	**IOPS/Baseline Throughput**
/ (root)	/dev/sda1	General Purpose SSD	N/A
usr,var,opt,home,tmp	/dev/sdf	General Purpose SSD	N/A
index	/dev/sdg	Provisioned IOPS	10,000
session, metadb	/dev/sdh	Throughput Optimized HDD	240 MB/s

Packet Stream Solutions

Concentrator - Gigamon Solution

EC2 Instance			
Mbps/Gbps	Instance Type	Enhanced Networking Enabled	Tenancy Type - Dedicated - Run a Dedicated Instance
500 Mbps	c4.4xlarge No of CPU: 16 Memory: 30 GB	No	Yes
1,000 Mbps	c4.8xlarge No of CPU: 36 Memory: 60 GB	No	Yes
1.5 Gbps	m4.10xlarge No of CPU: 40 Memory: 160 GB	No	Yes

Concentrator - f5 BIG-IP Solution

To be updated when f5 BIG-IP performance testing is complete.

EC2 Instance			
Mbps/Gbps	Instance Type	Enhanced Networking Enabled	Tenancy Type - Dedicated - Run a Dedicated Instance
230 Mbps	m4.4xlarge No. of CPU: 16 Memory: 64 GB	No	No

Cloud Provider Block Storage			
Volumes	**Device**	**Volume Type**	**IOPS/Baseline Throughput**
/ (root)	/dev/sda1	General Purpose SSD	N/A
usr,var,opt,home,tmp	/dev/sdf	General Purpose SSD	N/A
index	/dev/sdg	Provisioned IOPS	15,000
session, metadb	/dev/sdh	Throughput Optimized HDD	240 MB/s

Decoder - Gigamon Solution

EC2 Instance			
Mbps/Gbps	**Instance Type**	**Enhanced Networking Enabled**	**Tenancy Type - Dedicated - Run a Dedicated Instance**
500 Mbps	c4.2xlarge No of CPU: 8 Memory: 15 GB	Yes	Yes
1000 Mbps	c4.4xlarge No of CPU: 16 Memory: 30 GB	Yes	Yes
1.5 Gbps	c4.8xlarge No of CPU: 36 Memory: 60 GB	Yes	Yes

Decoder - f5 BIG-IP Solution

To be updated when f5 BIG-IP performance testing is complete.

EC2 Instance			
Mbps/Gbps	**Instance Type**	**Enhanced Networking Enabled**	**Tenancy Type - Dedicated - Run a Dedicated Instance**
230 Mbps	m4.4xlarge No. of CPU: 16 Memory: 64 GB	No	No

Cloud Provider Block Storage			
Volumes	**Device**	**Volume Type**	**IOPS/Baseline Throughput**
/ (root)	/dev/sda1	General Purpose SSD	N/A
usr,var,opt,home,tmp	/dev/sdf	General Purpose SSD	N/A
index,session,meta	/dev/sdg	Throughput Optimized HDD	240 MB/s
packet	/dev/sdh	Throughput Optimized HDD	240 MB/s

ESA and Context Hub on Mongo Database

	EC2 Instance		
EPS	Instance Type	Enhanced Networking Enabled	Tenancy Type - Dedicated - Run a Dedicated Instance
9,000	m4.2xlarge No of CPU: 8 Memory: 32 GB	No	Yes
18,000	r4.2xlarge No of CPU: 8 Memory: 61 GB	No	Yes
30,000 Aggregation Rate	r4.4xlarge No of CPU: 16 Memory: 122 GB	No	Yes

Cloud Provider Block Storage			
Volumes	Device	Volume Type	IOPS/Baseline Throughput
/ (root)	/dev/sda1	General Purpose SSD	N/A
usr,var,opt,home,tmp	/dev/sdf	General Purpose SSD	N/A
apps (/opt/rsa)	/dev/sdg	General Purpose SSD	N/A

Log Collector (Syslog, Netflow, and File Collection Protocols)

EC2 Instance			
EPS	**Instance Type**	**Enhanced Networking Enabled**	**Tenancy Type - Dedicated - Run a Dedicated Instance**
30,000 NON SSL	c4.2xlarge No of CPU: 8 Memory: 15 GB	No	Yes

Cloud Provider Block Storage			
Volumes	**Device**	**Volume Type**	**IOPS/Baseline Throughput**
/ (root)	/dev/sda1	General Purpose SSD	N/A
usr,var,opt,home,tmp	/dev/sdf	General Purpose SSD	N/A
logcollector	/dev/sdg	General Purpose SSD	N/A

Log Decoder

EC2 Instance			
EPS	**Instance Type**	**Enhanced Networking Enabled**	**Tenancy Type - Dedicated - Run a Dedicated Instance**
5,000	c4.2xlarge No of CPU: 8 Memory: 15 GB	Yes	Yes
10,000	c4.4xlarge No of CPU: 16 Memory :30 GB	Yes	Yes
15,000	c4.8xlarge No of CPU: 36 Memory: 60GB	Yes	Yes

Cloud Provider Block Storage			
Volumes	**Device**	**Volume Type**	**IOPS/Baseline Throughput**
/ (root)	/dev/sda1	General Purpose SSD	N/A
usr,var,opt,home,tmp	/dev/sdf	General Purpose SSD	N/A
index,session,meta	/dev/sdg	Throughput Optimized HDD	240 MB/s
packet	/dev/sdh	Throughput Optimized HDD	240 MB/s

NW Server, Reporting Engine, Respond and Health & Wellness

EC2 Instance		
Instance Type	**Enhanced Networking Enabled**	**Tenancy Type - Dedicated - Run a Dedicated Instance**
m4.2xlarge No of CPU: 8 Memory: 32 GB	No	Yes
m4.4xlarge No of CPU: 16 Memory: 64 GB	No	Yes

Cloud Provider Block Storage			
Volumes	**Device**	**Volume Type**	**IOPS/Baseline Throughput**
/ (root)	/dev/sda1	General Purpose SSD	N/A
usr,var,opt,home,tmp	/dev/sdf	General Purpose SSD	N/A
uax,ipdb	/dev/sdg	General Purpose SSD	N/A
redb,rehome	/dev/sdh	General Purpose SSD	N/A

NetWitness Endpoint Hybrid

	EC2 Instance		
Agents	**Instance Type**	**Enhanced Networking Enabled**	**Tenancy Type - Dedicated - Run a Dedicated Instance**
15,000 agents	m4.10xlarge No of CPU: 40 Memory: 160 GB RAM	Yes	Yes

Cloud Provider Block Storage			
Volumes	**Device**	**Volume Type**	**IOPS/Baseline Throughput**
/ (root)	/dev/sda1	General Purpose SSD	N/A
usr,var,opt,home,tmp	/dev/sdf	General Purpose SSD	N/A
index,session,meta (Log Decoder)	/dev/sdg	Throughput Optimized HDD	240 MB/s
packet (Log Decoder)	/dev/sdh	Throughput Optimized HDD	240 MB/s
index (Concentrator)	/dev/sdi	Provisioned IOPS	10,000
session,meta (Concentrator)	/dev/sdj	Throughput Optimized HDD	240 MB/s
mongoDB	/dev/sdl	Throughput Optimized HDD	240 MB/s

Appendix A. Silent Installation Using CLI

You can use the following Command Line Interface commands to run the installation script (`nwsetup-tui`) without getting prompted for inputs. This enables you to automate the installation of a host by supplying response to the scripts prompts through the command line.

1. After you have created a base image on the host, log in to the host with the `root` credentials.
2. Submit the `nwsetup-tui` script with the `--silent` command and the arguments that you want to apply.

   The following command string is an example of how you would install a basic NW Server host.

   ```
   nwsetup-tui --silent --is-head=true --host-name=new-host --master-
   pass=netwitness --deploy-pass=netwitness --repo-type=1 --custom-
   firewall=false --ip-override=false --eula=true
   ```

Note: In NetWitness Platform version 11.6 or later, deployment account password must contain at least one number, one upper and lower case letter, and one special characters (!@#%^,+ .) along with the existing policy. The same password policy applies while updating deploy_admin password using `nw-manage script`.
If `deploy_admin` password is changed on Primary NW Server, It must be changed on the Warm Standby Server if it exists.

3. (Conditional - For Component Hosts Only) Install the appropriate service **Category** on the newly provisioned host in the NetWitness Platform Hosts view.

   a. Log into NetWitness and go to  **(Admin)** > **Hosts**.

   The **New Hosts** dialog is displayed with the **Hosts** view grayed out in the background

   Note: If the **New Hosts** dialog is not displayed, click **Discover** in the Hosts view toolbar.

   b. Select the host in the **New Hosts** dialog and click **Enable**.

   The **New Hosts** dialog closes and the host is displayed in the **Hosts** view.

   c. Select that host in the **Hosts** view (for example, **Event Stream Analysis**) and click 

.

   The **Install Services** dialog is displayed.

   d. Select the appropriate host type in **Category** and click **Install**.

Arguments

Argument	Description
`--help-install-opts`	Display all the arguments in this table.

Argument	Description
`--eula`	Accept or decline the End User License Agreement (EULA). Specify: • `true` (default) to accept the agreement • `false` to decline it and cancel the installation. For example: `--eula=true`
`--is-head`	Designate the host as the NW Server host or a component host. Specify: • `true` for NW Server host. • `false` for Component host. For example: `--is-head=true`
`--host-name`	Specify new hostname. If you do not specify this argument, NetWitness Platform retains the existing hostname. For example: `--host-name=<hostname>`
`--master-pass`	Enter master password. For example: `--master-pass=<password>`
`--deploy-pass`	Enter deployment password. For example: `--deploy-pass=<password>`
`--iface-name`	Specify network interface. For example: `--iface-name=eth0`
`--ip-override`	Accept or override IP address found for this host or change the IP configuration found on the host. Specify: • `true` provide IP address. • `false` use IP address found on the host. For example: `--ip-override=false`
`--ip-type`	Select ip address configuration type. Specify: • `1` Static IP Configuration) • `2` DCHP For example: `--ip-type=1`
`--ip-addr`	For Static IP configuration, enter IP Address for static address. For example: `--ip-addr=<ip-address>`
`--ip-netmask`	For Static IP configuration, enter Subnet Mask for static address. For example: `--ip-gateway=<subnet-mask>`

Argument	Description
`--ip-gateway`	For Static IP configuration, enter default gateway for static address. For example: `--ip-gateway=<default-gateway>`
`--ip-nameserver`	IP address assigned to DNS server. `--ip-nameserver=<ip-address>`
`--ip-nameserver-secondary`	Optional - IP address assigned to a secondary DNS server. For example: `--ip-nameserver-secondary=<ip-address>`
`--ip-domain`	For Static IP configuration, enter Local Domain Name for static address. For example: `--ip-domain=<default-gateway>`
`--repo-type`	Select type of update repository. Specify: • `1` Local repository • `2` External repository For example: `--repo-type=1`
`--repo-url`	For an external update repository, specify the url of the repository. For example: `--repo-url=<url>`
`--head-ip`	For a component host, specify IP Address of the NW Server. For example: `--head-ip=<ip-address>`
`--custom-firewall`	Disable default firewall configuration and use your custom configuration. Specify: • `true` use custom firewall configuration. • `false` use default firewall configuration. For example: `--custom-firewall=true`
`--use-nat`	Configure the host to use Network Address Translation (NAT) based IP addresses: • `true` use NAT IPs to connect to other hosts • `false` do not use NAT IPs to connect to other hosts (default) For example: `--use-nat=false`