Executive Summary

This guide explains how to deploy a Netrounds Test Agent in Amazon EC2 (Elastic Compute Cloud) by launching an AWS instance on which to run a Netrounds AMI (Amazon Machine Image).

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1  **Netrounds Solution Overview**

Netrounds consists of two parts:

1. **Test Agents** – software-based active traffic generators. Virtual Test Agents (vTAs) are ones that you upload and boot from your own virtualized environment. These vTAs will automatically connect to Netrounds Control Center as part of the deployment process described in this guide. (Netrounds also offers non-virtual Test Agents in the form of software that is installed on stand-alone x86 hardware.)

2. **Netrounds Control Center** – for centralized control and coordination of Test Agents, including distributed VNF vTAs. This includes initiating test sequences and monitoring sessions, as well as evaluating collected measurement data, SLAs and KPIs.

Netrounds vTAs are controlled through Netrounds Control Center. The interface towards Netrounds Control Center is either a web GUI or an orchestration API, as illustrated below:

2  **Prerequisites**

2.1  **Netrounds Control Center Account**

You need an account in a Netrounds Control Center in order to access it: either the one belonging to the Netrounds SaaS solution or one installed on-premise in your organization. If you do not already have a Netrounds account, please contact sales@netrounds.com or (in the SaaS case) reach out to our regional sales responsible for the SaaS solution.

2.2  **Netrounds AMI for Test Agent**

An Amazon Machine Image (AMI) is a special type of virtual appliance used to create a virtual machine within the Amazon Elastic Compute Cloud (“EC2”), which is part of Amazon Web Services. The AMI serves as the basic unit of deployment for services delivered using EC2.

A Netrounds AMI is provided either directly from Netrounds or from your NFV orchestration partner. You will need to provide the ID of your AWS account, to which the private Netrounds AMI will then be shared.
3        Launching an AWS Instance

This chapter tells how to launch an AWS instance on which to run the Netrounds AMI.

Be aware that the AMI is shared to a specific geographical region within EC2. Therefore you need to know what region that is and make sure you access the same region.

3.1        Logging In to Amazon EC2

- Go to https://aws.amazon.com/ec2.
- Click the button Get started with Amazon EC2
- Sign in to your AWS account:

![Root user sign in](image)

- Click Services on the top bar.
- In the Compute section, click EC2. You are taken to the EC2 Management Console.

3.2        Choosing an AMI

- Under the heading Create Instance, click the Launch Instance button.

![Create Instance](image)

- On the "Step 1" screen, select My AMIs on the navigation bar on the left.
- Check the Shared with me box.
Your Netrounds AMI should now appear in the list. It is named simply “Netrounds AMI <version>”, where the version number is a Netrounds-internal one.

- Click the Select button next to the Netrounds AMI. You are now taken to the next step.

### 3.3 Choosing an AWS Instance Type

A large number of AWS instance types will typically appear in this list. Which one to choose depends on the performance needed when running the AMI. We recommend an Amazon EC2 CS instance for the Test Agent.

- Select an AWS instance type, then click the button **Next: Configure Instance Details** at the bottom of the page.

### 3.4 Configuring AWS Instance Details

One addition is crucial here:

- Expand the Advanced Details section at the bottom of the page.

- Under **User data**, provide the cloud-init config for the vTA, either by pasting it into the box (As text option) or by browsing to a file (As file option).

The basic cloud-init config is as shown below. Text in angle brackets `< >` needs to be replaced by the proper strings. Note that lines with parameter settings must be indented as shown. Lines where the default value is kept can be omitted.

```
#cloud-config
netrounds_test_agent:
  name: <vTA name>
  email: <Netrounds user email address>
  password: <Netrounds password>
  account: <Netrounds account name>
  server: <Netrounds server> (default: login.netrounds.com:443)
  management_interface: eth1 (default: eth0)
  management_address_type: dhcp | static (default: dhcp)
```
The following parameters are required only if `management_address_type` is "static":

- `management_ip`: <management IP address>/<prefix>
- `management_dns`: <DNS server IP address>[,<DNS server IP address>]
- `management_default_gateway`: <gateway IP address>
- `management_ntp`: <NTP server IP address or host name> (default: ntp.netrounds.com)

The following parameters are required only if the vTA is connecting to the server through an HTTP proxy:

- `http_proxy`: <proxy server>
- `http_proxy_port`: <proxy port>
- `http_proxy_auth_type`: none | basic (default: none)

The following parameters are required only if `http_proxy_auth_type` is "basic":

- `http_proxy_username`: <proxy authorization user name>
- `http_proxy_password`: <proxy authorization password>

- The remaining settings can be left as-is.
- Once you have entered your cloud-init config data, click the Next: Add Storage button.

### 3.5 Selecting Storage

The recommendation here is at least 2 GB of storage.

- Select a suitable storage device, then click the Next: Add Tags button.

### 3.6 Adding Tags

This step is optional. There is no need to add any tags for the AMI Test Agent.

- Click the Next: Configure Security Group button.

### 3.7 Configuring Security Group

The security group selected here must allow outgoing traffic on ports that the vTA needs in order to communicate with Netrounds Control Center. Specifically, for SaaS, TCP port 443; for an on-premise installation, TCP port 6000. In addition, UDP port 123 needs to be open to permit NTP time sync.

The security group must also allow traffic on all ports needed for the testing you intend to do with the vTA.

- After selecting a security group, click the Review and Launch button.

### 3.8 Reviewing Your Instance Settings and Selecting an SSH Key Pair

- On this page, check that all settings for the AWS instance are appropriate. Then click Launch.

- You are prompted to select a public–private key pair for connecting securely to your AWS instance via SSH. If you have such a private key, select the option Choose an existing key pair. Otherwise, select the option Proceed without a key pair and check the ‘I acknowledge...” box.
• Finish by clicking the **Launch Instances** button.

Your instance should now appear under **Instances** in the EC2 Management Console. After it has started up, **Instance State** will be “running”:

The Test Agent will now automatically register with Netrounds Control Center and will then appear in the Netrounds Control Center web GUI under **Test Agents**. Check for the AWS instance name in that view to verify that the Test Agent has registered.

## 4 Verifying Successful Test Agent Configuration

To verify that the cloud-init configuration of the vTA instance has been successful and that you get access to the Netrounds Test Agent user interface, do as follows:

- Select the Netrounds AMI in the AMI view.
- Click the **Actions** button and select **Instance Settings -> Get System Log**.

The log should look something like this:
System Log: i-0360e9b80115a2513

[cloudinit] Found 1 possible source(s)
[cloudinit] Testing networked sources
[cloudinit] Waiting for network
[cloudinit] Waiting for network manager done
[cloudinit] Waiting for network done
[cloudinit] Testing source: Amazon EC2
[cloudinit] Using source: Amazon EC2
[cloudinit] Attempting management configuration
[cloudinit] Waiting for network manager
[cloudinit] Waiting for network manager done
[cloudinit] Successfully configured eth0
[cloudinit] Attempting registration
[cloudinit] Waiting for network
[cloudinit] Waiting for network manager done
[cloudinit] Waiting for network done
[cloudinit] Waiting for connection
[cloudinit] Waiting for connection done
[cloudinit] Registration successful
[...]) startpar: service(s) returned failure: expand-root ...

netrounds

Login with username "admin" and password "admin"

genalyzer login:
5 Troubleshooting

If the vTA does not show up in Netrounds Control Center, it is useful to open its local console to investigate the cause of the problem. This requires that you supplied an SSH public key when creating the AWS instance (see section 3.8).

- In the **Instances** view, inspect the public IP address of the instance.
- At a command prompt, type:

```
ssh -i <private_key> admin@<instance_public_ip>
```

where `<private_key>` is the name of the file holding your SSH private key and `<instance_public_ip>` is the public IP address of the vTA instance.

You are now taken to the Test Agent admin menu:

![Test Agent Admin Menu](image)

The functionality found here is described in the Netrounds support documentation: see the topics under **Test Agents → Configuring Test Agents from the local console**. The following functions are particularly helpful:

- **Utilities → Ping** for checking that the vTA has a working internet connection.
- **Utilities → Troubleshoot connection** for verifying that the Netrounds management connection is working.