Host Access Analyzer 2.0

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Installing HAA on Linux

Introduction

The Host Access Analyzer (HAA) installer for Linux is a tar.gz file that contains docker images for all required components as well as installation scripts and certificate components.

Terminology

The following terminology is used in this guide:

Single machine	When installing HAA on a single machine, the machine is referred to as *Manager*.
Three machines	When installing HAA on three machines, the machines are referred to as: • *Manager* • *Node 1* • *Node 2* Services are distributed between three different machines, including the one where setup is run.

Prerequisites

Supported operating systems:

- RHEL 7.4 and later, RHEL 8.*x*
- SUSE SLES 12, SUSE SLES 15

Hardware:

Each machine requires a minimum of:

- 16 GB RAM
- 4 CPUs

Software:

- Docker engine (minimum version 18.09.0) and docker-compose tool (minimum version 1.22.0)

Firewall:

- The following ports must be available:
  - TCP port 2377 for Manager node.
  - TCP and UDP port 7946 for all nodes.
  - UDP port 4789 for all nodes.

  Any firewall should be configured correctly. On the Manager machine, the firewall must allow either default SSL port 443, or a custom port you provide during setup, as well as port 6566.

Enhanced security features:

Enhanced security features should be turned off.

Certificates:

If you intend to replace the supplied self-signed certificates in the cert directory, you must prepare your own certificates.

Installation node for Elasticsearch:

For single-node installation, Elasticsearch must be installed on the Manager node.

For 3-node installation, Elasticsearch must be installed on Node 1.

Virtual memory for Elasticsearch node:

By default, Elasticsearch uses a mmapfs directory to store its indexes. The default operating system limits on mmap counts is likely to be too low, which may result in out of memory exceptions. On Linux, you can increase the limits by running the following command using administrator permissions on the node where Elasticsearch is going to be installed:

sysctl -w vm.max_map_count=262144

To set this value permanently, update the vm.max_map_count setting in the /etc/sysctl.conf file. To verify after rebooting, run sysctl vm.max_map_count.

Memory lock limits for Elasticsearch node:

Elasticsearch tries to lock memory to improve performance. We recommend removing memory lock limits to enable this. Use administrator permissions to remove the limit for docker on the Elasticsearch node:

1. Add the line LimitMEMLOCK=infinity to the [Service] section of the /usr/lib/systemd/system/docker.service file and containerd.service (if it exists).
2. Run systemctl daemon-reload.
3. Run systemctl restart docker and containerd (if it exists).
4. Restart HAA by running ./stop.sh and ./start.sh on the Manager node if it was already running.

Preparing for installation

1. Run tar -xf <*filename*>.tar.gz to extract the content.
2. Edit the es-indices-settings.ini file and configure the settings for your enterprise.
3. Save the file, then close it.

Setup Script

setup script contains different parameters you can use. To see the usage guide, run ./setup.sh without parameters.

--single-machine	Triggers single machine installation.
User1@HostName|IP User2@HostName|IP	Triggers swarm installation on three defined machines (current machine plus additional supplied machines.)
--tempdir	Specifies where the files are uploaded on the node machines. Optional. If provided, tempdir should be located on all nodes. If omitted, the /tmp directory is used by default.
--hostname	Full public host name of the Manager machine. For example, foo.myorg.com. Optional. If omitted, you are prompted during setup.
--port	Desired SSL port. Optional. If omitted, you are prompted during setup. Defaults to 443.
--certfile	/path/to/your/file.crt. Optional. The installer supplies a self-generated certificate file. If omitted, you are prompted during setup.

--keyfile	/path/to/your/file.key. Optional. The installer supplies a self-generated key file. If omitted, you are prompted during setup.
--eula-accepted	Optional. If omitted, you are prompted to accept the End User License Agreement during setup.

Installing HAA Server on three machines

This is the recommended method of installing HAA Server.

Use the supplied setup.sh script to install HAA Server on the manager node and two specified nodes.

./setup.sh *<User>@<NODE 1(HostName|IP)>* *<User>@<NODE 2(HostName|IP)>* [--tempdir=<*dir*>] [--hostname=<*full_public_host_name_of_machine*>] [--port=<*port*>] [--certfile=<*/path/to/your/file.crt*>] [--keyfile=<*/path/to/your/file.key*>][--eula-accepted]

During the process you might be prompted to accept the End User License Agreement, as well as for hostname/port and the crt/key file path if not entered in advance.

You might also be prompted for passwords to the other nodes.

Note: Installation starts the services automatically.

Stop services

To stop the services, run the ./stop.sh script.

Start services

To start previously stopped services, run the ./start.sh script.

Installing HAA Server on a single machine

Use the supplied setup.sh script to install HAA Server on a single machine.

./setup.sh --single-machine [--tempdir=<*dir*>] [--hostname=<*full_public_host_name_of_machine*>] [--port=<*port*>] [--certfile=<*/path/to/your/file.crt*>] [--keyfile=<*/path/to/your/file.key*>][--eula-accepted]

During the process you might be prompted to accept the End User License Agreement, as well as for hostname/port and the crt/key file path if not entered in advance.

Note: Installation starts the services automatically.

Stop services

To stop the services, run the ./stop.sh script.

Start services

To start previously stopped services, run the ./start.sh script.

Accessing the server

Configuring users

For user integration with LDAP, see *LDAP configuration* on page 19.

For manual user configuration, see *Manual user configuration* on page 20.

Configuring the client

To point the client to the server, provide the Manager node IP address with port 6566 during the installation process.

To change the host address after installation:

1. Edit the following file on the client machine:

   %programdata%\Micro Focus\HostAccessAnalyzer\HostAccessAnalyzerServerConfiguration.conf
2. Change the Host value, then save the file.
3. Restart the HostAccessAnalyzerService service.

Accessing the portal

Enter the following into a browser:

https://<*manager_host_name*>[:<*Non-Default User Defined SSL Port*>]

Accessing Identity and Access management

1. To access the **Identity and Access Management** page, enter the following URL in your browser:

   https://<*manager-host-name*>[:<*user_defined_SSL_port*>]/auth
2. Enter the following credentials:

   admin

   and:

   admin

   Change these after your first login.

Using index management

Old user event data is deleted from the HAA database to save space and keep the Elasticsearch cluster healthy. You can use index management to configure what events should be deleted and how often by implementing policies on the events of your choice.

HAA provides a default policy. You can either edit this policy of create one of your own.

Accessing index management

To start using index management:

1. Enter the following URL in your browser:

https://<*manager_host_name*>[:<*Non-Default User Defined SSL Port*>]/kibana

2. From the **Home** menu, select:

   Management > **Index Management**

Editing the default policy

1. On the **Index policies** page, select the default policy, haa-policy.
2. In the dialog box, click **Edit** to open the **Edit policy** page.
3. Edit the policy as appropriate, then click **Update**.

See *Policy settings* on page 10.

Creating a policy

1. On the **Index policies** page, click **Create policy**.

   The **Create** page appears.
2. In the **Policy ID** field, type a name for the policy.
3. In the **Define policy** frame, edit the default policy as appropriate, then click **Create**.

   You return to the **Index policies** page and the new policy appears in the list of policies.

See *Policy settings* on page 10.

Applying a policy to an index

1. In the left hand menu, select **Indices**.

   The **Indices** page appears.
2. Check each index you want the policy to apply to.

   Note: You can only apply a policy to indices that do not already have a policy applied to them.
3. Click **Apply policy**.

   The **Apply policy** dialog box appears.
4. From the **Policy ID** drop-down list, select the policy you want to apply to the selected events.

   Click **Apply**.
5. To attach a rollover alias to your index, select your policy and select **Add rollover alias**.

   Ensure that the alias already exists. For more information, see *https://opendistro.github.io/for-elasticsearch-docs/docs/im/ism/*.

Removing a policy

To remove a policy from an index:

1. Go to the **Managed Indices** page.
2. Check the appropriate index or indices.
3. In the confirmation dialog box, click **Remove policy**.

Deleting a policy

To delete a policy:

1. Go to the **Index policies** page.
2. Check the appropriate policy or policies.
3. Click **Delete**.
4. In the confirmation dialog box, click **Delete**.

Policy settings

You can change the following settings:

Description	Description	Type	Required
policy_id	The name of the policy.	String	Yes
description	A human-readable description of the policy.	String	Yes
default_state	The default starting state for each index that uses this policy. The default starting state for each index that uses this policy.	String	Yes
name	The name of the state.	String	Yes
state_name	The name of the state to transition to if the conditions are met.	String	Yes
min_index_age	The minimum age of the index required to transition.	String	No

For more information about policy settings, see *https://opendistro.github.io/for-elasticsearch-docs/docs/im/ism/policies/*.

Installing HAA on Windows

Introduction

The Host Access Analyzer (HAA) installer for Windows is an .msi file.

The .msi file is used to install all HAA components:

- JAVA
- HAA Server
- HAA Portal
- RabbitMQ
- Traefik Proxy
- Elasticsearch
- Kibana
- PostgresSQL
- Identity and Access Management

When you run the file, the installation files for each component are extracted to a location you select.

Installation methods

There are two ways to install HAA Server:

msi installation When asked to run an msi installation, double-click the .msi file. This starts the installation wizard.

Batch installation When asked to run a batch install, double-click the batch file with default parameters. You can also use the command prompt to run the same batch file and supply arguments based on this manual.

Note: Ensure you close the command prompt window for each completed batch execution before proceeding to the next installation step.

Terminology

The following terminology is used in this guide:

Single machine When installing HAA on a single machine, the machine is referred to as *Manager*.

Three machines When installing HAA on three machines, the machines are referred to as:

- *Manager*
- *Node 1*
- *Node 2*

Prerequisites

Each machine requires a minimum of:

Hardware:

- 16 GB RAM
- 4 CPUs

Software:

- Windows Server 2016 or 2019

Open firewall ports

If you are not using Windows firewall, you must open the following ports:

Note: For single machine installation, all the ports should be open for the Manager node.

Manager node	Traefik port (default 443) GRPC Port (default 6566) RabbitMQ Ports (5672 & 15672)
Node 1	ElasticSearch Port (default 9200) Kibana Port (default 5601)
Node 2	IAM Port (8081) Portal port (8080)

Installing HAA Server

Enabling .NET 3.5

Note: For 3-node setup, install on all nodes.

1. Open Server Manager from : start→Server Manager.
2. Select **2 Add roles and features**.
3. Click **Next >** four times.
4. Check **.NET Framework 3.5 Features**.
5. Click **Next >**.
6. Click **Install**.
7. When installation is complete, close the window.

Installing Java

Note: For 3-node setup, install on all nodes.

From a command prompt, run the following file in the JAVA folder:

Install_JAVA.bat

The batch file installs JAVA on the machine.

There are no arguments for this file.

Close the command prompt window when execution completes.

Installing Elasticsearch

Note: For 3-node setup, install on Node 1.

In the Elasticsearch folder, double-click the Install_ES.bat file.

The batch file installs Elasticsearch on the machine.

The following arguments can be configured:

-Folder	Sets the installation directory. Default is Program Files.
-Port	Sets the service listening port. Default is 9200.

To configure these arguments, run the following from a command prompt:

Install_ES.bat [-Folder <*folder*>] [-Port <*port*>]

Close the command prompt window when execution completes.

Installing Kibana

Note: For 3-node setup, install on Node 1.

In the Kibana folder, double-click the Install_Kibana.bat file.

The batch file installs Kibana on the machine.

The following arguments can be configured:

-Folder	Sets the installation directory. Default is Program Files.
-Port	Sets the service listening port. Default is 5601.
-Elasticsearch	Sets the Elasticsearch endpoint (host:port). Default is http://localhost:9200.

To configure these arguments, run the following from a command prompt:

Install_Kibana.bat [-Folder <*folder*>] [-Port <*port*>] [-Elasticsearch <*endpoint*>]

Close the command prompt window when execution completes.

Note: Installation can take some time.

Installing RabbitMQ

Note: For 3-node setup, install on the Manager node.

1. In the RabbitMQ folder, install the RabbitMQ prerequisite Erlang using the otp-22.1-win64.exe installer file. Use all installation defaults.

   Note: You might be prompted to install Visual studio 2013 redistributable package. If so, install it by clicking install on the machine.
2. Install RabbitMQ using the supplied rabbitmq-server-3.7.20.exe installer file. Use all installation defaults.
3. From a command prompt, run Configure_RabbitMQ.bat.

   This configures RabbitMQ on the machine. No arguments are available for this file.
4. Close the command prompt window when execution completes.

Installing HAA Server

Note: For 3-node setup, run the installer twice: once on the Manager node and once on Node 2.

1. In the Server folder, double-click the HAA Server-<*ver*>.msi file.

   Follow the instruction up to the **Settings** page.
2. Enter the ElasticSearch host you installed ElasticSearch on, and the port you used for the installation. Default ElasticSearch port is 9200.
3. Enter the RabbitMQ host you installed RabbitMQ on. Keep the default port 5672.
4. *For 3-node setup, perform this step only on the Manager node:*

   Check **Producer Mode** and use 6566 as the default **GRPC Port**.
5. *For 3-node setup, perform this step only on Node 2:*

   Check **Consumer Mode**.
6. *For single-node setup:*

   Check **Producer Mode** and **Consumer Mode**.
7. Click **Next**, then **Install**.
8. During installation, the following message is displayed:

   During installation the configuration file will be opened. You must edit the configuration file, then save and close the file to continue

   Edit the configuration file and configure the settings for your enterprise.
9. Save the file and close it. Installation continues.
10. Click **Finish** to exit the setup wizard.

Installing PostgreSQL

Note: For 3-node setup, install on Node 2.

1. From a command prompt, run the following file in the Postgres folder:

   Install_postgres.bat
2. When prompted for a password, enter:

   postgres
3. Close the command prompt window when execution completes.

Installing Identity and Access Management

Note: For 3-node setup, install on Node 2.

1. From a command prompt, run the following file in the IAM folder:

   Install_Iam.bat [-Folder <*folder*>]

   where:

   <*folder*> specifies the installation folder. Default is C:\IAM.

   During installation you might be prompted to press any key to continue.

2. After installation is complete, close the command prompt window.
3. Open a browser window on the node and navigate to:

   http://localhost:8081
4. Click **Continue**.
5. Enter the following credentials:

   User: admin

   Password: admin

For user integration with LDAP, see *LDAP configuration* on page 19.

For manual user configuration, see *Manual user configuration* on page 20.

Installing the HAA Portal

Note: For 3-node setup, install on Node 2.

1. To install the server, run the HAA Portal-<*ver*>.msi file in the Portal folder.

   Follow The instruction up to the **Settings** page.
2. In the **Proxy** frame, type the Manager node IP. Use 443 for the port.
3. In the **Elasticsearch host** field, type the IP address of the Node 1 machine. Type the Elasticsearch port number in the **port** field.
4. Keep the **Port Field** as 8080.
5. Click **Next**, then **Install**.
6. Click **Finish** to exit the setup wizard.

Installing Traefik Proxy

Note: For 3-node setup, install on the Manager node.

In the Traefik folder, locate the env.properties file. Use your preferred text editor to edit the file.

```
#Set the host and port of the server where Kibana  is installed.
#Example : host:5601
KIBANA_HOST_PORT=
#Set the host and port of the server where Identity Access Manager is installed
IAM_HOST_PORT=
#Set the host and port of the server where HAA Portal is installed
PORTAL_HOST_PORT=
#Set the public host and port of the server where HAA PRODUCER server is installed
#Default port is 6566
HAA_PRODUCER_SERVER_HOST_PORT=
CERT_FILE=.\\cert\\haa.crt
KEY_FILE=.\\cert\\haa.key
```

1. After KIBANA_HOST_PORT=

   add:

   <Manager_Node_DNS_for_single_node_or_node_1_DNS_for_3_node_setup>:*<kibana_port>*

   Default Kibana port is 5601.
2. After IAM_HOST_PORT=

   add:

   <Manager_Node_DNS_for_single_node_or_node_2_DNS_for_3_node_setup>:<iam_port>

Default IAM port is 8081.

3. After PORTAL_HOST_PORT=

   add:

   <Manager_Node_DNS_for_single_node_or_node_2_DNS_for_3_node_setup>:*<portal_port>*

   Default HAA Portal port is 8080.
4. After HAA_PRODUCER_SERVER_HOST_PORT=

   add:

   <Manager_Node_DNS>:*<server_producer_port>*
5. Optional: HAA comes with a default self-signed certificate and private key file (haa.crt and haa.key respectively). If you want to use your own certificate, you must provide the appropriate paths to both files before running the Install_Traefik.bat file.
6. Save the changes and close the editor.
7. Install Traefik using the Install_Traefik.bat file.
8. Close the command prompt window when execution completes.

Accessing the server

Configuring the client

To point the client to the server, provide the Manager node IP address with port 6566 during the installation process.

To change the host address after installation:

1. Edit the following file on the client machine:

   %programdata%\Micro Focus\HostAccessAnalyzer\HostAccessAnalyzerServerConfiguration.conf
2. Change the Host value, then save the file.
3. Restart the HostAccessAnalyzerService service.

Accessing the portal

Enter the following into a browser:

https://*<Manager_Node_IP>*

Using index management

Old user event data is deleted from the HAA database to save space and keep the Elasticsearch cluster healthy. You can use index management to configure what events should be deleted and how often by implementing policies on the events of your choice.

HAA provides a default policy. You can either edit this policy of create one of your own.

Accessing index management

To start using index management:

1. Enter the following URL in your browser:

   https://*<manager_host_name>*[:*<Non-Default User Defined SSL Port>*]/kibana

2. From the **Home** menu, select:

   Management > **Index Management**

Editing the default policy

1. On the **Index policies** page, select the default policy, haa-policy.
2. In the dialog box, click **Edit** to open the **Edit policy** page.
3. Edit the policy as appropriate, then click **Update**.

See *Policy settings* on page 10.

Creating a policy

1. On the **Index policies** page, click **Create policy**.

   The **Create** page appears.
2. In the **Policy ID** field, type a name for the policy.
3. In the **Define policy** frame, edit the default policy as appropriate, then click **Create**.

   You return to the **Index policies** page and the new policy appears in the list of policies.

See *Policy settings* on page 10.

Applying a policy to an index

1. In the left hand menu, select **Indices**.

   The **Indices** page appears.
2. Check each index you want the policy to apply to.

   Note: You can only apply a policy to indices that do not already have a policy applied to them.
3. Click **Apply policy**.

   The **Apply policy** dialog box appears.
4. From the **Policy ID** drop-down list, select the policy you want to apply to the selected events.

   Click **Apply**.
5. To attach a rollover alias to your index, select your policy and select **Add rollover alias**.

   Ensure that the alias already exists. For more information, see *https://opendistro.github.io/for-elasticsearch-docs/docs/im/ism/*.

Removing a policy

To remove a policy from an index:

1. Go to the **Managed Indices** page.
2. Check the appropriate index or indices.
3. In the confirmation dialog box, click **Remove policy**.

Deleting a policy

To delete a policy:

1. Go to the **Index policies** page.
2. Check the appropriate policy or policies.
3. Click **Delete**.
4. In the confirmation dialog box, click **Delete**.

Policy settings

You can change the following settings:

Description	Description	Type	Required
policy_id	The name of the policy.	String	Yes
description	A human-readable description of the policy.	String	Yes
default_state	The default starting state for each index that uses this policy. The default starting state for each index that uses this policy.	String	Yes
name	The name of the state.	String	Yes
state_name	The name of the state to transition to if the conditions are met.	String	Yes
min_index_age	The minimum age of the index required to transition.	String	No

For more information about policy settings, see *https://opendistro.github.io/for-elasticsearch-docs/docs/im/ism/policies/*.

Configuring Identity and Access Management

Opening the Identity and Access Management console

Enter the following URL in your browser:

https://<*manager-host-name*>[:<*User_Defined_SSL_PORT*>]/auth>

User: admin
Password: admin

Change these defaults after you first log in.

LDAP configuration

1. Open the **Identity and Access Management** console.
2. On the **Realm Settings** page, verify that the **haa** realm is selected from the top left drop-down.
3. Click **Clients** and verify that **haa-portal** appears in the list.
4. Click **User Federation**. On the **Settings** page:
   a) Add a **User Federation** provider of type **ldap**.
   b) For **Vendor**, select **Active Directory**.
   c) Populate the required fields with information provided by your system administrator.
5. To use the domain user name in portal authentication, replace the value **cn** with **sAMAccountName** in the following fields:

   Username LDAP attribute
   RDN LDAP attribute
6. Click **Save**.
7. To see the user avatar in the HAA portal:
   a) Select **User Federation** > **Ldap** > **LDAP Mappers**.
   b) Click **Create**.
   c) In the **Name** field, type **picture**.
   d) From the **Mapper Type** drop-down list, select **user-attribute-ldap-mapper**.
   e) Click **Save**.
   f) Select **picture**. The **Picture** window appears.
   g) Complete the fields in the **Picture** window.

   Notes:

   - The **User Model Attribute** field picture must be **picture**.
   - The default Active Directory attribute name that holds the user picture is **thumbnailPhoto**. If you have custom settings, or using a different LDAP server, you must provide the attribute name for thumbnail picture.
   - Ensure the following attributes are toggled **ON**:

Read Only
Always Read Value from LDAP
Is Binary Attribute

h) Click **Save**.

8. Click **Settings**.
9. Click **Synchronise all users** to import all Active Directory users into Identity and Access Management.

Manual user configuration

1. From the left menu select **Users**.
2. Click **Add user**.
3. Type **user** for **User Name** and click **Save**.
4. Navigate to the **Credentials** page.
5. Type **user123** in the **New Password** and **Password Confirmation** fields.
6. Toggle **Temporary** to **OFF**.
7. Click **Reset Password**.
8. Select **Change Password** from the pop-up menu.

Installing and Configuring the HAA Client

System Requirements

Operating systems, applications, and environments

Host Access Analyzer operates on PCs with the following operating systems, applications, and environments:

- Windows 7, 8.1,10, and 11

Note: Windows 8.1 requires the Windows 8.1-KB3094199 update. If your machine requires the update, install the update, then restart your machine.

If you install the update on a machine where it is already installed, the following message appears:

The update is not applicable to your computer

Prerequisite software

The following software is required for the Host Access Analyzer Client to install:

- Microsoft .NET Framework 4.5

  If not already installed, Host Access Analyzer installs it automatically, if the installer is able to download the required files.
- Microsoft Visual C++ 2015-2019 Redistributable (x86 and/or x64)

  If not already installed, Host Access Analyzer installs it automatically.

Installation

The installer automatically installs a new service, Host Access Analyzer Service, which runs under the System account.

The Host Access Analyzer client installer for windows is a .exe file that allows both silent and wizard installation.

In silent installation mode, you can use a command line parameter to avoid starting the service automatically after installation. For example, to allow configuration modifications to be made first. In this case, the service either starts after the next reboot or can be started manually.

Installing the service silently

Run haa-client-installer-<*ver*>.exe as an administrator.

Command line parameters

<*haa-server-hostname*> The IP or host name of the HAA producer server.
<*haa-server-port*> The port of the HAA producer server.
<*silent*> Runs installation without user interaction with the installation progress window displayed.
<*verysilent*> Runs installation without user interaction, without the installation progress window displayed.
<*nostart*> Does not start the service automatically after installation.
<*norestart*> Does not restart Windows, even if the installer requires a system restart.

For more parameters, see *https://jrsoftware.org/ishelp/index.php?topic=setupcmdline*.

Examples:

haa-client-installer-<*ver*>.exe /haa-server-hostname=10.10.13.102 /haa-server-port=6566 /silent /nostart

This installs silently with progress displayed with the provided hostname and port.

haa-client-installer-<*ver*>.exe /silent

This installs silently with progress displayed. If a restart is required, a restart message prompt is displayed at the end.

haa-client-installer-<*ver*>.exe /silent /norestart

This installs silently with progress displayed. No restart message prompt is displayed at the end, even if needed by the installer.

haa-client-installer-<*ver*>.exe /verysilent /norestart

This installs silently without progress displayed. No restart message prompt is displayed at the end, even if needed by the installer.

haa-client-installer-<*ver*>.exe /verysilent

This installs silently without progress displayed. If required, the system restarts automatically without a message prompt.

Uninstalling the service silently

From the install location, run the following command:

unins000.exe /silent

Installing the service using the wizard

Double-click the haa-client-installer-<*ver*>.exe file.

Modifying configurations

Note: To change client configurations on all clients, refer to the HAA Portal Guide.

To modify individual client-side behavior manually (for example, for debugging purposes):

In the install location, edit the HostAccessAnalyzerService.exe.config file and set ConfigurationUpdaterFeature to false (to prevent overrides by the configuration stored on the server).

Edit the configuration files, followed by a service restart.

There are three separate configuration files, controlling server connectivity, service-wide configurations, and user-specific configurations.

Note:

Product configurations and logs can be found under the product configuration location at %ProgramData%\Micro Focus\HostAccessAnalyzer.

User configurations are located in the user's private dir, C:\Users\<*user_name*>\AppData\Local\Micro Focus\HostAccessAnalyzer.

The default product installation location is %ProgramFiles(x86)%\Micro Focus\Host Access Analyzer.

Note: Any configuration change requires a service restart to take effect.

Server configuration

The server configuration defines how the client connects to the server.

The HostAccessAnalyzerUserConfiguration.conf file in the *product configuration location* contains the default server configuration. The following shows an example configuration:

```
{
 "Host": "10.141.11.231",
 "Port": 6566,
 "Security": {
   "EnableSSL": true,
   "HostOverride": "haa",
   "CertificatePath": ""
 }
}
```

The host and port are assigned during installation. The connection is set to be secured by default. Otherwise, you need not change anything.

Service configuration

The service configuration includes tasks for uploading scan results and monitoring TCP connections to specific hosts.

Uploading scan results

The HostAccessAnalyzerUserConfiguration.conf file in the *product configuration location* contains the service configuration:

```
{
   "tasks": [
      {
         "cronSchedulerExpression": "0 0 2 * * ?",
         "offsetInHours": 3,
         "uploadImmediately": false,
         "taskConfiguration": {
            "@type": "type.googleapis.com/
com.microfocus.tecom.rpc.api.management.MessagesUploaderTaskConfiguration"
         }
      }
   ],
   "connectionMonitoring": {
      "enabled": true,
      "monitoredHosts": {},
      "connectionPollingInterval": 5
   },
   "tempMessagesStorageLocation": "%programdata%\\Micro Focus\\HostAccessAnalyzer\\Requests"
}
```

cronSchedulerExpression defines the task schedule:

This value ...	Starts the schedule ...
0	After 0 seconds.
0	After 0 minutes.
2	At 2 AM.
*	Every day.
*	Every month.

This value ...	Starts the schedule ...
?	Any year.

MessagesUploaderTaskConfiguration defines when to upload scan results to the server (see *User Configuration*). By default, the task runs at 2 AM each day, as defined by cronSchedulerExpression, then picks a random time from zero minutes to 3 hours (offsetInHours) and begins uploading. The aim is to reduce network load while uploading across the organization. You can modify this as desired.

Note: If a task misses its schedule, for example, if a machine is offline, it runs automatically at the first available opportunity.

Monitoring connections

HAA monitors all TCP connections to a set of defined hosts. The hosts list is configured at the machine level in the HostAccessAnalyzerServiceConfiguration.conf file in the *product configuration location*.

To add hosts to the list, edit the file and apply your changes to the monitoredHosts entry. For example:

```
  "connectionMonitoring": {
  "enabled": true,
  "monitoredHosts": {
     "Popeye": "*",
     "Olive": "23",
     "Bluto": "22, 23",
     "Wimpy": "20 - 30",
     "10.10.10.100": "*"
  },
  "connectionPollingInterval": 5
}
```

where:

This line ...	Means ...
"enabled": true,	Enable/disable all connection monitoring.
"Popeye": "*",	Monitor all ports of a host.
"Olive": "23",	Monitor a specific port of a host.
"Bluto": "22, 23",	Monitor a comma-separated list of ports of a host.
"Wimpy": "20 - 30",	Monitor a range of ports of a host.
"10.10.10.100": "*"	Monitor all ports of a host address.

Notes:

- If a task misses its schedule, for example, if a machine is offline, it runs automatically at the first available opportunity.
- To turn off monitoring, you can either delete all hosts from this list or change the enabled setting to false.
- connectionPollingInterval is a setting that applies to how often, in seconds, monitoring TCP connections executes on Windows 7. It should be left unchanged unless a valid reason exists to the contrary.

User configuration

User configuration defines which terminal emulator content should be collected for the specific user, Initially, for each user a copy of the default user configuration file, HostAccessAnalyzerUserConfiguration.conf is placed in the *user's private directory*.

This is the default user configuration:


```
{
  "tasks": [
    {
      "cronSchedulerExpression": "0 0 12 2 * ?",
      "offsetInHours": 0,
      "uploadImmediately": false,
      "taskConfiguration": {
        "@type": "type.googleapis.com/
com.microfocus.tecom.rpc.api.management.InstalledProductsTaskConfiguration"
      }
    },
    {
      "cronSchedulerExpression": "0 0 12 2 * ?",
      "offsetInHours": 0,
      "uploadImmediately": false,
      "taskConfiguration": {
        "@type": "type.googleapis.com/
com.microfocus.tecom.rpc.api.management.FileSystemScanTaskConfiguration",
        "includesExpression": [
          "%localDrives%"
        ],
        "excludesExpression": [
          "%windir%",
          "%recycleBins%",
          "%networkDrives%",
          "**node_modules**"
        ],
        "maxFileSize": 50
      }
    }
  ],
  "pluginFamilies": [
    {
      "microfocus": {
        "product": "RUMBA"
      }
    },
    {
      "microfocus": {
        "product": "EXTRA"
      }
    },
    {
      "microfocus": {
        "product": "REFLECTION"
      }
    },
    {
      "microfocus": {
        "product": "INFOCONNECT"
      }
    },
    {
      "ibm": {
        "product": "PCOMM"
      }
    },
    {
      "microfocus": {
        "product": "RUMBA_FTP_CLIENT"
      }
```

```
  },
  {
    "microfocus": {
      "product": "REFLECTION_FTP_CLIENT"
    }
  }
 ]
}
```

cronSchedulerExpression defines the task schedule:

This value ...	Starts the schedule ...
0	After 0 seconds.
0	After 0 minutes.
12	At noon.
2	On the 2nd of each month.
*	Every month.
?	Any year.

Note: Host Access Analyzer currently covers Micro Focus (Rumba+ Desktop, Extra!, InfoConnect, and Reflection) and IBM (PComm) terminal emulator products.

By default, the user configuration file includes several sections:

- A periodic task to scan for installed terminal emulator products. This task is currently set to execute monthly (at noon on the 2nd of the month).
- A periodic task to scan for the terminal emulator files (workspaces, sessions, macros, keyboard maps, and toolbar definitions). All files are verified before being uploaded to the server.

  This task is currently set to execute monthly (at noon on the 2nd of the month). To specify the search or exclude locations for this task:

  - You must specify one or more locations, separated by commas.
  - Escape explicit paths. For example,

    C:\\Temp
  - Ant Path format is supported. For example, C:**\\Macros.
  - You can use environment variables (inside %%), as well as these predefined tokens:

      %localDrives%
      %networkDrives%
- A list of the enabled terminal emulator products to monitor. For example, Rumba+ Desktop and Reflection. You can change the list to enable and disable monitoring of specific products.

Notes:

- If a task has not run before, it runs automatically on launch.
- If a task misses its schedule, for example, if a machine is offline, it runs automatically at the first available opportunity.
- To run all scans again, delete the HostAccessAnalyzerTaskExecutions.conf file in the *product configuration location*, and restart the service.

Adding a custom configuration

In addition to using the provided user configuration file, you can create a custom plug-in configuration.

Note: Custom configurations collect the static data from end user machines, such as emulator installations and their resource files, but do not collect data from emulator processes.

1. In the HAA portal , click **User Configuration** from the side panel.
2. Select **User configuration** from the drop-down list.
3. At the bottom of the user configuration file, under pluginFamilies, add the custom product entry. For example:

```
,
  {
    "generic": {
      "vendorName": "MyVendor",
      "productName": "BlueZone"
    }
  }
```

   Note: productName must be unique.

4. Click **SAVE**. A message appears telling you that the custom emulator has been created and that you should now complete its plug-in definitions.

   When you click **SAVE**, a new default plug-in configuration is created on the server side:

```
{
  "family": {
    "generic": {
      "vendorName": "MyVendor",
      "productName": "BlueZone"
    }
  },
  "pluginDefinition": {
    "productFilters": [
    ],
    "extensions": [
    ],
    "processes": [
    ]
  }
}
```

5. Click **OK**.
6. In the new configuration file, complete the product filters and the extensions that the product should collect. For example:

```
{
  "family": {
    "generic": {
      "vendorName": "MyVendor",
      "productName": "BlueZone"
    }
  },
  "pluginDefinition": {
    "productFilters": [
          {
            "vendorNameRegEx": [
              "(?i)(Rocket)"
            ],
            "productNameRegEx": [
              "(?i)(.*)?BlueZone!(.*)?"
            ],
            "versionRegEx": [],
            "addon": false
          }
    ],
    "extensions": [
```

```
    {
      "ext": "vb2",
      "resourceType": "MACRO",
      "trueVerifier": {}
    }
  ],
  "processes": [
  ]
 }
}
```

7. Click **SAVE**.

   The new configuration is propagated to end users at the time specified in the Service configuration file in MessagesUploaderTaskConfiguration cronSchedulerExpression.

Working Offline

If you want to configure clients that do not upload directly to the server, go through the following steps:

1. If needed, set the server IP address in HostAccessAnalyzerServerConfiguration.conf to 127.0.0.1, then restart the service.
2. Work normally. Uploads remain on disk in the Requests folder in the Pg. 6 Add a link to the *product configuration location*.
3. When you want to upload, stop the service and move all content from the Requests folder to a connected client’s Requests folder.
4. Edit the connected client’s HostAccessAnalyzerTaskExecution.conf file and delete the MessagesUploaderTask block so the upload task executes immediately.
5. Restart the service.

Using the HAA Portal

Introducing the Host Access Analyzer Web Portal

The Host Access Analyzer (HAA) web portal shows you inventory statistics on the assets, users, and machines installed in your enterprise.

Supported browsers

Supported browsers for the HAA web portal are:

- Chrome Version 78 and later
- Firefox Version 70 and later

Portal timeout

After 30 minutes of inactivity, the HAA portal logs out automatically.

60 seconds before the portal logs out, a dialog box appears, warning you of the logout. To close the dialog box and return to the portal session, click **Stay Logged In**.

Portal Dashboards

The HAA portal dashboards contain a number of visualizations that show the current state of the various elements in your enterprise. Here you can view and customize the presented data. You can also filter the data in some visualizations

Defining users and devices

The **Monitored Users** and **Monitored Devices** visualizations on the default dashboard show the progress of the enrollment of user and devices in your enterprise. You can define the total number of users and devices. To do this:

1. Click the ellipsis in the top right corner of the visualization.
2. Select **Configure total users** or **Configure total devices** as appropriate.

   The **Configure total** dialog box appears.
3. Type the number you want in the **Total** field, then click **Save**.

   The visualization shows the percentage of enrolled users, devices, or both.

Customizing a dashboard

You can customize a dashboard and its visualizations. To do this:

1. Click the ellipsis in the upper-right corner of the current dashboard and select **Edit** from the pop-up menu.

   A new browser instance opens showing the dashboard in edit mode.

2. Click the wheel icon in the upper right corner of a visualization to open the **OPTIONS** menu.
3. Select the appropriate option for the task you want to perform.
4. After you have finished editing, click **Save** on the toolbar, then go back to the main portal browser window.

To revert to the default view, click the ellipsis in the top right of the dashboard, then select **Restore to factory version** from the pop-up menu.

Creating your own dashboard

You can create your own dashboard either by using the current dashboard as a template or by starting from an empty dashboard.

1. Select a dashboard from the dashboard drop-down.
2. Select **Add dashboard** > **+ Create New** from the dashboard drop-down.

   The **Create New Dashboard** dialog box appears.
3. Type a name for the dashboard and select either:
   - **Use current Dashboard as template**
   - **Empty Dashboard**
4. Click **CREATE**. The new dashboard opens.
5. Click the ellipsis in the upper-right corner of the current dashboard and select **Edit** from the pop-up menu.

   A new browser instance opens showing the dashboard in edit mode.
6. Make your changes to the dashboard.
7. After you have finished editing, click **Save** on the toolbar, then go back to the main portal browser window.

Customizing the time range

You can specify the time range for some visualizations.

1. Click the ellipsis in the upper-right corner of a visualization, then select **Customize time range**.

   The **Customize panel time range** dialog box appears.
2. Select the time range you want.
3. Click **Add to panel**.

   A label is added to the visualization showing the selected time range.
4. To reset the time range to the default, click the label.

   The **Customize panel time range** dialog box appears.
5. Click **Remove**.

Persisting a filter for all dashboards

You can select a filter to use as a global filter that persists across all dashboards. To persist a selected filter for all dashboards:

1. Select the filter you want to use.
2. Select **Pin across all apps** from the drop-down list.

   You can now navigate between the dashboards and the pinned filter appears on each dashboard.

3. To remove persistence, select the filter again and select **Unpin** from the drop-down list.

Exporting dashboard data

You can export aggregated and raw data from each visualization.

Exporting aggregated data

1. Click the ellipsis in the upper right of a visualization.
2. Click **Inspect** from the pop-up menu.

   A dialog box appears where you can save the data by exporting it as a .csv file.
3. Specify a name for the file and save it.

Exporting raw data

1. Click the ellipsis in the upper right of a visualization.
2. Click **Explore underlying data** from the pop-up menu.

   The **Explore Data** window opens.
3. Hover your mouse over the data list panel, then click the ellipsis in the upper right corner of the panel.
4. Select **Export data** from the **OPTIONS** menu. A notification appears showing the request has been queued. When the file is ready, another notification appears providing a download link for the file. You can also see the data by clicking the **Exported Data** icon on the side panel.

Use case

Exporting a list of Excel files by the repetitions of the embedded VBA scripts

1. Open the **Excel Files** dashboard.
2. Apply any required filters to the visualizations.
3. Export the data to a .CSV file.
   a) Click the ellipsis in the upper right of a visualization.
   b) Click **Explore underlying data** from the pop-up menu.
   c) Hover your mouse over the data list panel, then click the ellipsis in the upper right corner of the panel.
   d) Select **Export data** from the **OPTIONS** menu. A notification appears showing the request has been queued. When the file is ready, another notification appears providing a download link for the file. You can also see the data by clicking the **Exported Data** icon on the side panel.
4. Open the .CSV file in Excel.

   Note the E column called **resource.uniqueId**. This column provide unique ID for the VBA script embedded in the file. Two files that share the same **resource.uniqueId** - share the same VBA script.

   Use the **resource.uniqueId** column and the excel COUNTIF function to generate new column.
5. Add a new column with the title **Rank**.
6. Insert the formula =COUNTIF(E2:E<last-row-index>,E2).
7. Replace <last-row-index> with the index of the last row of the data in the exported data csv. The value will be the number of occurrences of the embedded script of file from row 2.
8. Copy the same formula over the range F2:F<last-row-index>.
9. Sort the **Rank** column.

Importing dashboards

1. From the dashboard drop-down, select **Add dashboard** > **Import**.
2. In the **Import Dashboards** dialog box, click **Select or drag and drop a file**.
3. In the **Open** window, select the dashboard file you want, then click **Open**.
4. In the **Import Dashboards** dialog box, click **Import**.

   The dashboard is imported and replaces the previous dashboard view.

Note: The dashboard file is created from the **Kibana Saved Objects** page.

Modifying client configuration files

You can edit the following client configuration files:

- Service configuration
- User configuration
- Configuration files for any installed plug-ins

To edit a configuration file:

1. From the side panel, select **Settings** > **Client Configuration**.

   The **Client Configuration** page appears.
2. Select the configuration file you want to edit from the drop-down list.

   For information about configuration settings, see *Installing and Configuring the HAA Client*.
3. After editing the configuration with the embedded JSON editor, click **SAVE**.

   The modified configuration is updated on the server and is applied when the client updater service is run by the scheduler. By default, the scheduler runs every 60 minutes.

Side panel

The side panel contains the following elements:

Select this ...	To do this ...
Dashboards	Display the portal dashboards.
Exported Data	View data exported from dashboard visualizations.
Client Configuration	Modify the HAA client configuration files.

Menu options

There are two menu icons in the top right of the HAA portal:

Select this ...	To do this ...
Schema	View the documentation of the schema to see the structure of the collected information. Use as a cheat-sheet when investigating the raw data of visualizations, applying custom filters, or developing new visualizations.

Select this ...	To do this ...
Log out	Log out of the HAA portal.
Help	View the online Help and About information.

Contacting Micro Focus

Our Web site gives up-to-date details of contact numbers and addresses.

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- Your computer make and model.
- Your operating system version number and details of any networking software you are using.
- The amount of memory in your computer.
- The relevant page reference or section in the documentation.
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Contact information

Our Web site gives up-to-date details of contact numbers and addresses.

Additional technical information or advice is available from several sources.

The product support pages contain considerable additional information, including the *Product Updates* section of the Micro Focus Customer Care Web site, where you can download fixes and documentation updates. Go to *Micro Focus Product Updates*.

To connect, enter *https://www.microfocus.com/en-us/home/* in your browser to go to the Micro Focus home page, then click **Support & Services** > **Support**. Type or select the product you require from the product selection dropdown, and then click **Support Login**.

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