EVERTRUST

Horizon Client

Version 1.12, 2025-07-11

Table of Contents

1. Introduction

Description

Horizon Client is the client software associated to EverTrust Horizon. This client is developed in Golang, and compiled for the following platforms:

- Linux for x86-64 and arm64 processors
- Windows for x86-64 processors
- Darwin for x86-64 and arm64 processors
- AIX for ppc64 processors

System requirements

To run Horizon Client the underlying system must comply with the following minimum requirements :

For certificate lifecycle purposes

- 1 gigahertz (GHz) or faster with 1 or more cores
- 1 gigabyte (GB) of RAM for Linux environments
- 2 gigabyte (GB) of RAM for Microsoft environments
- 10 gigabyte (GB) or larger storage device

For discovery purposes

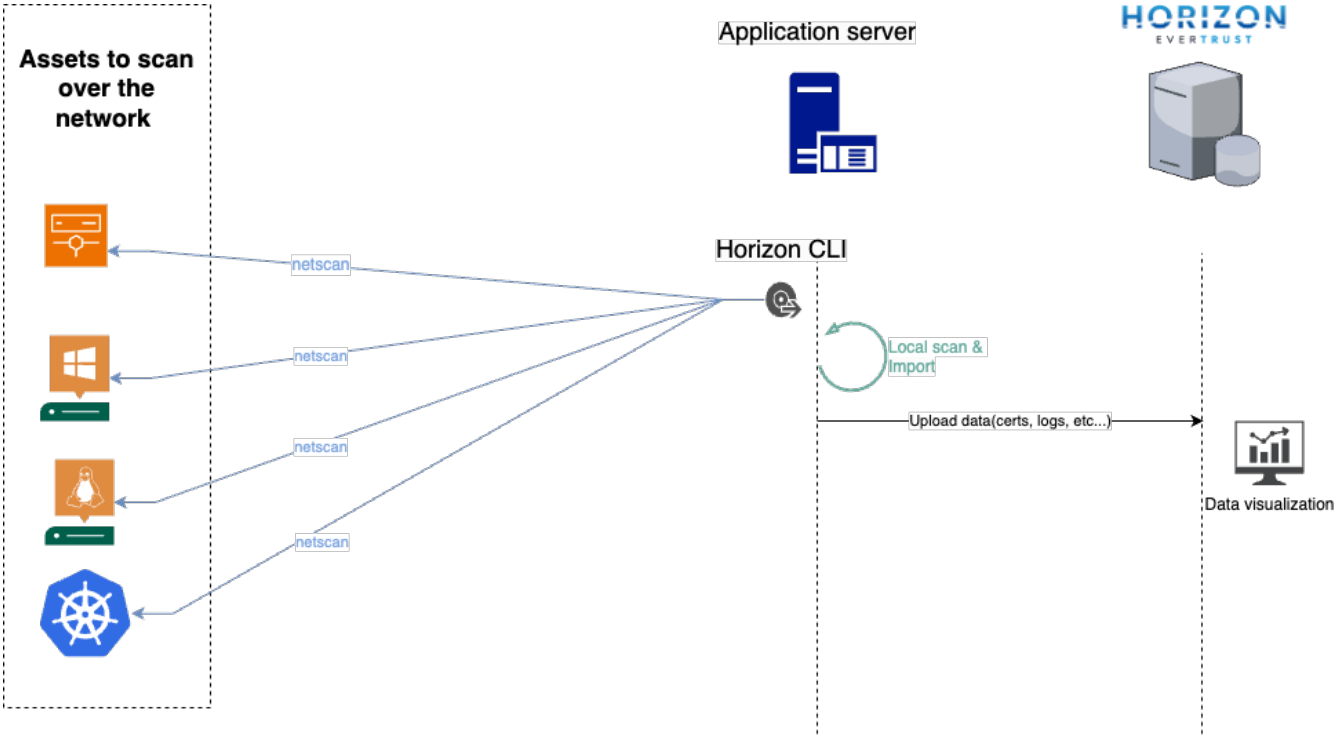
- 2 gigahertz (GHz) or faster with 2 or more cores
- 2 gigabyte (GB) of RAM for Linux environments
- 4 gigabyte (GB) of RAM for Microsoft environments
- 20 gigabyte (GB) or larger storage device

This document is specific to Horizon Client version **1.12**, which may be used with EverTrust Horizon 2.4.0 or later.

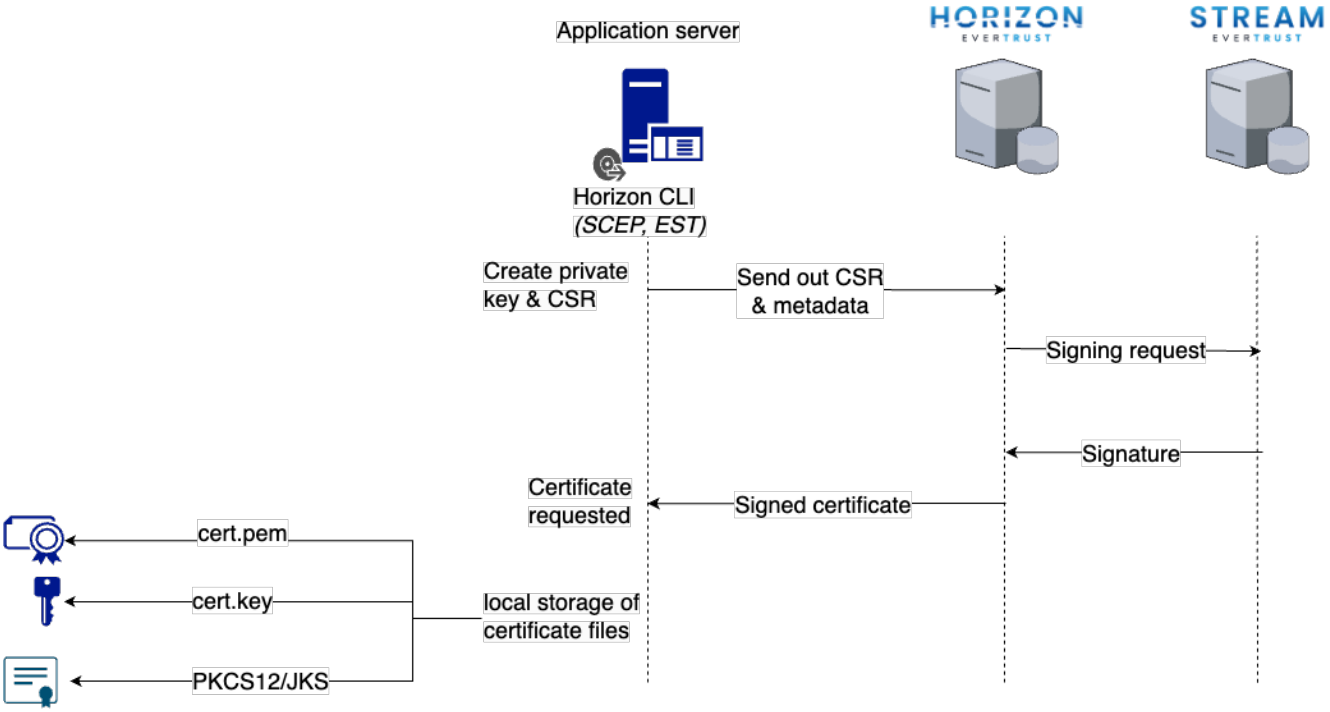
Scope

This document is a guide describing how to use the Horizon Client to perform the following tasks:

- Certificate discovery & import



- Certificate lifecycle management



2. General Configuration and Usage

Installations

Package install/uninstall

Using RPMs file

- Installing the package

```
yum install horizon-cli-<version>-1.x86_64.rpm
```

- Uninstalling the package

```
yum remove horizon-cli
```

Using MSI file:

To install the package, double click on the MSI file and follow the instructions. To uninstall the package, simply browse to the Applications & program menu and uninstall the program.

Using binary file:

The linux binary file is usable on any linux distribution, to install it follow the steps below :

- Add the binary file to the "PATH", in order to easily launch it on your shell.
- Apply the executable permission on the binary file

```
chmod +x horizon-cli.bin
```

Command line installation & initialization

Use the command below to install the client and generate interactively your configuration file:

```
horizon-cli install
```

The configuration file can also be created using command line parameters:

```
horizon-cli install --endpoint https://horizon-test.com
```

Use the help to get the full list of available parameters.

If you did not use an installer, this command should always be run first to ensure everything is set up correctly.

Configuration Location

General parameters of Horizon Client are configured through a file placed in one of the following locations:

Global configuration :

- `/opt/horizon/etc/horizon-cli.conf`
- `[C|D]:\ProgramData\EverTrust\Horizon\horizon-cli.conf`

Per-user configuration :

- `~/.horizon-cli/etc/horizon-cli.conf`
- `[C|D]:\Users\<username>\AppData\Local\horizon-cli\horizon-cli.conf`

In case the user running the Horizon Client is an administrator and the global configuration file is present and accessible by the user, the global configuration file will be used. Otherwise, the per-user configuration file will be used.

If the per-user configuration file is not present and the global configuration file is not accessible, the client will throw an error.

Configuration Content

Since version **1.10**, the configuration was migrated from JSON to YAML, if you are upgrading from an earlier version, the configuration migration will be done automatically and should be seamless.

The configuration file is in YAML format and contains the following:

```yaml
api_id: API-ID
api_key: API-Key
endpoint: endpoint url. e.g. https://horizon-test.evertrust.fr
debug: false
timeout: 2
proxy: proxy. e.g. http://myproxy.corp.local:3128
root_ca: Root CA PEM Certificate(s).
log_file: The log file of Horizon.
external_proxy: proxy. e.g. http://myproxy.corp.local:3128
sudo_commands:
  - command_one
  - another_command
```

These parameters may be instead specified or overridden using environment variables, as detailed in the table below.

Table 1. General configuration parameters

Parameter	Environment variable	Description
`api_id`	`HRZ_APIID`	The API ID: the identifier of a local account user defined in Horizon. Used for discovery, import modes and for the revocation in the EST module

Parameter	Environment variable	Description
`api_key`	`HRZ_APIKEY`	The API Key. Used together with API ID
`endpoint`	`HRZ_ENDPOINT`	The URL of the Horizon instance, starting with `http` or `https` and without trailing "/"
`debug`	`HRZ_DEBUG`	Set to true to enable debug mode of the Horizon Client, defaults to false if unspecified.
`timeout`		Connection timeout in seconds, defaults to 2 seconds if unspecified.
`proxy`	`HRZ_HTTPS_PROXY`	HTTPS proxy used to reach Horizon (if any), in URL form which can contain login and password if needed.
`root_ca`		PEM chain of CA certificates that issued the TLS certificate exposed by Horizon. This parameter is optional, as preferred way is to put these CA certificates in the machine trust store.
`log_file`	`HRZ_LOGFILE`	Log file of horizon. This parameter is optional, but a default value is set as the Horizon Client displays useful messages on STDOUT and logs should always be kept.
`external_proxy`	`HRZ_EXTERNAL_PROXY`	HTTPS proxy used to reach Third Parties (if any), in URL form which can contain login and password if needed.
`sudo_commands`	`HRZ_SUDO_COMMANDS`	Array of commands that should be executed using sudo.

In case you want to change the whole configuration file, the `HRZ_CONFIG` environment variable can contain an absolute path to the configuration file and will try to read it before defaulting to the standard configuration as detailed above.

In order to keep backward compatibility, legacy environment variables are still available and are the same as the one above without the `HRZ_` prefix. These should not be used and should be migrated to HRZ-prefixed one.

You can use the “--help” parameter to get command line help on any command or sub-command.

```
horizon-cli <command> <subcommand> --help
```

3. Basic commands

Ping

The Ping command can be useful to ensure the client configuration to access Horizon is correct. It will exit in error if the client could not join the Horizon server.

```
horizon-cli ping
```

The `--permissions` flag will display the permissions associated with the account the client is using, or if it is not, it will log a message indicating it.

```
horizon-cli ping --permissions
```

4. Discovery Operations

These operations aim at feeding Horizon with certificates discovered on the network through different means. These certificates will be fed along with appropriate Discovery metadata, such as IP address or Hostname of the machine on which the discovered certificate is held.

Local Scan

In local scan mode, the Horizon Client will scan the machine it is installed on for certificates, and reports them to Horizon. Certificates are discovered if they match following conditions:

- They are saved in PEM or DER format in a file that is pointed in a configuration file
- They are contained in a Machine or User "MY" certificate store (Windows Only)
- They are not CA certificates

In local scan mode, Horizon client should be launched with root or administrator rights, or it will probably fail to discover all certificates.

```
horizon-cli localscan --campaign=test
```

When detecting a path to a certificate file containing an environment variable, a

warning event with code `HCL-LOCALSCAN-ENV-001` will be raised

Keystores

To handle keystores, the `--containers-passwords` option allows to specify keystore passwords to try on encountered keystore.

When a keystore cannot be opened, a warning event with code `HCL-LOCALSCAN-KS-001` will be raised

Scheduling

In order to perform local scans on a recurring schedule, the Horizon Client offers the possibility to create periodic tasks to run a scan.

The three supported options for the `period` parameter are:

- daily - runs the task everyday between 0-4 AM UTC
- weekly - runs the task every Sunday between 0-4 AM UTC
- monthly - runs the task on the first day of the month between 0-4 AM UTC

```
horizon-cli localscan --campaign=test --create-periodic-task --period
=monthly
```

This periodic task can be run with a specific user identity on Linux using the `user` parameter.

```
horizon-cli localscan --campaign=test --create-periodic-task --period
=monthly --user=horizon-cli
```

The created task can then be removed using:

```
horizon-cli localscan --campaign=test --remove-periodic-task
```

Network Scan

In network scan mode, the Horizon Client will first connect to Horizon to get the campaign's scanning parameters (Hosts and Ports), then perform the network scanning and feed Horizon with the scan results.

The following algorithm is used for network scanning:

1. If `--ping-first` flag is given, perform ICMP ping on the defined hosts and discard hosts that are not reachable

2. Scan the hosts and ports for an open TCP port
3. If TCP port is opened:
    - If port is not '25', try a TLS handshake. If handshake succeeds, retrieve the certificate and report it to Horizon
    - If port is '25', perform SMTP STARTTLS, retrieve the certificate and report it to Horizon

The "timeout" global configuration variable has an impact on both open ports discovery and TLS handshake. In case you get unexpected handshake errors or EOF, try to increase the timeout. However, this will also make the network scan perform slower.

```
horizon-cli netscan --campaign=test
```

In order to perform network scans on a recurring schedule, the Horizon Client offers the possibility to create periodic tasks to run a scan.

The three supported options for the `period` parameter are:

- daily - runs the task everyday between 0-4 AM UTC
- weekly - runs the task every Sunday between 0-4 AM UTC
- monthly - runs the task on the first day of the month between 0-4 AM UTC

```
horizon-cli netscan --campaign=test --create-periodic-task --period
=monthly
```

This periodic task can be run with a specific user identity on Linux using the `user` parameter.

```
horizon-cli netscan --campaign=test --create-periodic-task --period
=monthly --user=horizon-cli
```

The created task can then be removed using:

```
horizon-cli netscan --campaign=test --remove-periodic-task
```

nmap import

In nmap import mode, the discovery itself is performed by nmap, using the `ssl-cert` plugin. Horizon Client then has the ability to import the nmap scanning results into Horizon using the nmap import mode.

To be able to do so, nmap needs to be launched with the `-oX` option, in order to export its scan result as XML file. This XML file is then passed on to Horizon Client.

```
horizon-cli importscan nmap --campaign=test --xmlfile=nmapresults.xml
```

Qualys Certificate View import

In Qualys Certificate View (CV) import mode, the discovery itself is performed by Qualys CV. Horizon Client then has the ability to import the Qualys CV scanning results into Horizon using the `qualyscv` import mode.

To be able to do so, a technical account must have been created into Qualys CV for Horizon Client, with appropriate rights to be able to view the scanning results. You need also to identify your Qualys CV API Gateway URL using the following link.

```
horizon-cli importscan qualyscv --campaign=test --endpoint
=https://gateway.qg1.apps.qualys.eu --username=testlogin --password
=testpassword
```

Nessus Scan Import

In Nessus scan import mode, Horizon Client enables the importation of scanning results from Nessus into Horizon. This mode allows for a seamless integration of Nessus vulnerability scans into the Horizon environment.

To utilize this feature, you need to ensure that you have valid credentials for Nessus with the necessary permissions to access and export scan data and the scan id on which you want to perform the import. Additionally, you must know your Nessus URL through which Horizon Client will communicate with the Nessus API and use the "SSL Certificate Information" plugin output to get the certificates into horizon.

```
horizon-cli importscan nessus --campaign=test --endpoint
=https://cloud.tenable.com --username=testlogin --password=testpassword
--scan-id=5
```

5. Import operations

Import operations are designed to import certificate into Horizon without any metadata. This is useful mainly when installing Horizon, e.g. to import all certificates from an existing PKI database.

Local Import

In order to be able to import certificates, you need to put them as PEM files in a folder, and launch Horizon Client by pointing at that folder. Horizon Client will recurse on the folder, find all PEM files, and import certificates into Horizon. It is advised to use sub-folders to store certificates, so

that you avoid to hit any file-per-folder file system limit.

```
horizon-cli localimport --campaign=test --path=/path/to/certificates
--source=MyADCS
```

By default, this command does not import CA certificates. To import CA certificates, use the --enable -ca-import flag.

```
horizon-cli localimport --campaign=test --path=/path/to/certificates
--source=MyADCS --enable-ca-import
```

If you wish to import certificates along with their private keys (e.g. when importing from a PKI escrow), you need to put them as PKCS#12 files in a folder, and launch Horizon Client by pointing at that folder. Horizon Client will recurse on the folder, find all PEM files, and import certificates into Horizon. It is advised to use sub-folders to store certificates, so that you avoid to hit any file-per-folder file system limit. All the PKCS#12 files must be encrypted using the same password that will be passed to Horizon Client using the command line.

```
horizon-cli localimport --campaign=test --path=/path/to/certificates
--source=MyADCS --pfx-password=<pkcs12_password>
```

You can also import certificates from a csv file. Certificates must be in a column named "certificate". As of now, three formats are supported:

1. DERBase64: Certificate in DER (binary) Base 64 encoded (default);
2. DERHex: Certificate in DER (binary) Hex String encoded;
3. PEM: Certificate in PEM (with or without the certificate header and footer).

```
horizon-cli localimport --campaign=test --csv /path/to/csv/file.csv
--csv-separator ";"
```

In order to add technical metadata to the imported certificate, the `--csv-metadata` flag can be used to import metadata from a column with the same name. For example, to configure a `pki_connector` on each certificate with a file containing the `pki_connector` column:

```
horizon-cli localimport --campaign=test --csv /path/to/csv/file.csv
--csv-separator ";" --csv-metadata pki_connector
```

Supported metadata are:

- `pki_connector`

- `certeurope_id`
- `digicert_id`
- `digicert_order_id`
- `entrust_id`
- `fcms_id`
- `gsatlas_id`
- `metapki_id`

Network Import

DigiCert CertCentral

You can import all your valid certificates from DigiCert CertCentral. Please note that only certificates in "issued" state can be imported. Certificates that are revoked will not be imported.

```
horizon-cli netimport digicert --campaign=test --digicert-api-key=<api-key>
```

AWS ACM

You can import all your valid certificates from AWS ACM. Please note that only certificates in "issued" state can be imported. Certificates that are revoked will not be imported.

```
horizon-cli netimport aws-acm --campaign=test --aws-region=<aws-region> --access-key-id=<aws-access-key-id> --secret-access-key=<aws-secret-access-key>
```

AWS Role Assumption is supported. You need to provide the ARN of the role you wish to assume using the `--assume-role-arn` option.

Azure Key Vault

You can import all your valid certificates from Azure Key Vault. Please note that only certificates in "issued" state can be imported. Certificates that are in pending state will not be imported.

```
horizon-cli netimport akv --campaign=test --vault-name=<vault short name> --azure-tenant=<tenant name> --client-id=<client app Id> --client-secret=<client app secret>
```

F5 BIG-IP

You can import all your valid certificates from F5 BIG-IP.

This feature requires the use of an administrator account on the F5 BIG-IP instance.

```
horizon-cli netimport bigip --campaign=test --hostname=<F5 BigIp
hostname> --login=<F5 BigIp login> --password=<F5 BigIp password>
```

It is also possible to import the certificates as managed certificates in Horizon. This will allow renewal and removal of the certificate upon revocation using Horizon's triggers mechanism.

In order to activate this behavior, the `connector` property must reference a valid F5 Connector in Horizon.

```
horizon-cli netimport bigip --campaign=test --connector=<Horizon F5
Connector name> --hostname=<F5 BigIp hostname> --login=<F5 BigIp login>
--password=<F5 BigIp password>
```

In order for the trigger mechanism to work correctly, an Horizon WebRA profile must use the F5 Connector trigger and a schedule task should reference the connector and the WebRA profile.

Global Options

- `--login-provider` specifies the login provider to use for TACACS to connect to the BIG-IP instance

IControl Options

- `--partition` specifies the F5 partition to retrieve the certificates from

AS3 Options

- `--as-3` enables AS3 compatibility
- `--filter-globs` is a list of globs to filter the certificates to import, based on the JSON path in the AS3 configuration

Akamai CPS

You can import all your valid certificates from Akamai Certificate Provisioning System. To do so, authentication credentials are required.

```
horizon-cli netimport akamai --campaign=test --host=<Akamai hostname>
--client-secret=<client secret> --client-token=<client token> --access
-token=<access token>
```

Gandi

You can import all your valid certificates from Gandi. To do so, authentication credentials are required.

```
horizon-cli netimport gandi --campaign=test --access-token=<access
token>
```

6. EST Certificate Lifecycle Operations

EST Enrollment

Horizon Client is able to use the EST module of Horizon to enroll certificates.

Enrollment modes

The following enrollment modes are supported:

- Authorized user/password in decentralized mode
- Authorized user/password in centralized mode
- Challenge password in decentralized mode
- Challenge password in centralized mode
- Certificate swap in decentralized mode
- Certificate swap in centralized mode

Authorized user

In this enrollment mode, a local user account is created in Horizon for Horizon Client, and the EST profile on Horizon is configured in `authorized` mode thus a static username and password can be provided to Horizon Client for enrollment.They need to be set in general configuration as `APIID` and `APIKEY`.

```
horizon-cli est enroll --profile=test --cn=TestCN [data parameters]
[key and certificate parameters]
```

Challenge password

In this enrollment mode, the EST profile on Horizon is set to `challenge` mode. A request must then be made on Horizon in order to retrieve the one-time password `challenge` to be used to authenticate the EST request.No `APIID` nor `APIKEY` need to be set.

Use the `--challenge` option.

```
horizon-cli est enroll --challenge=<challenge> --profile=test --cn
=TestCN [data parameters] [key and certificate parameters]
```

Certificate swap

In this enrollment mode, the EST profile on Horizon is set to `x509` mode.The client is then able to make a request to Horizon by authenticating with an existing certificate.This certificate can be specified either:

- by using the `--key` and `--cert` parameters, respectively pointing at the key and the certificate to be used to authenticate
- by using the `--win-store-auth` parameter (Windows only), that will look into the "MY" certificate store (user by default, unless `--win-machine-store` is specified) for a non-expired certificate whose CN matches the Common Name specified in `--cn` parameter

Use the `--in-cert`, `--win-user-store-auth` or `--win-computer-store-auth` option.

```
horizon-cli est enroll --in-cert=/path/to/cert/to/swap --in-key
=/path/to/key/to/swap  --profile=test --key=/path/to/key --cert
=/path/to/cert --cn=TestCN [data parameters] [key and certificate
parameters]

horizon-cli est enroll --win-user-store-auth --profile=test --cn=TestCN
[data parameters] [key and certificate parameters]
```

Decentralized mode

In decentralized mode, which is the default mode, Horizon Client generates a private key and a CSR.The CSR is generated according to the given certificate parameters, and the private key and the retrieved certificate are then stored according to the output parameters.

Centralized mode

In Centralized mode, triggered by adding the “--centralized” parameter to the command line, Horizon Client generates a fake private key and a CSR.The CSR is generated according to certificate parameters.The private key generated by Horizon Client is discarded.A random password is generated and inserted into the CSR.If the enrollment is successful, Horizon generates a private key

and a certificate and sends them back to Horizon Client as PKCS#12, which Horizon Client decodes using the randomly generated password.The retrieved private key and the retrieved certificate are then stored according to the output parameters.

The random password generated has 16 characters, letters and numbers.If a password policy is enforced on Horizon side for the centralized mode in the considered EST profile, ensure that it is compatible with such characteristics.

General enrollment parameters

Table 2. General parameters

Parameter	Description
`--profile`	Horizon's technical name of the profile to enroll on. Mandatory
`--challenge`	Challenge generated on Horizon on the profile. Mandatory in challenge mode
`--discovery`	Horizon's discovery campaign name to use in order to report the certificate to Horizon after enrollment
`--centralized`	Switches to centralized enrollment
`--script`	Path to the script to execute after enrollment. See script for more details

Input certificate parameters (x509 mode)

These parameters define how to find the certificate to swap in x509 mode. It can be stored in the following formats:

- Key and certificate stored separately in two files, in PEM format (`--in-cert` & `--in-key`)
- Key and certificate stored together in a PKCS#12 file (`--in-cert` & `--in-pfx-pwd`)
- Key and certificate stored together in a JKS file (`--in-cert` & `--in-jks-pwd` & `--in-jks-alias` & `--in-jks-alias-pwd`)
- Key and certificate stored together in Windows certificate store:
  - Using certificate thumbprint, available in the details tab of windows certificate explorer or in certutil (`--in-cert`)
  - Using the certificate CN (see Windows parameters)

Table 3. Input certificate parameters

Parameter	Description
`--in-cert`	Path to the certificate to renew (PEM file, PKCS#12 file, JKS file) or certificate thumbprint for Windows certificate store entries

`--in-key`	Path to the private key of the certificate to renew if --in-cert is a PEM file
`--in-pfx-pwd`	Password for the PKCS#12 file to renew
`--in-jks-pwd`	Password for the JKS file to renew
`--in-jks-alias`	Alias for the JKS file to renew
`--in-jks-alias-pwd`	Alias password for the JKS file to renew

Certificate parameters

Table 4. Data parameters

Parameter	Description
`--cn`	Requested subject Common Name. Single value
`--ou`	Requested subject `OU`. Can contain multiple values
`--dnsnames`	Requested subject alternative name DNS entries. Can contain multiple values
`--ip`	Requested subject alternative name IP entries. Can contain multiple values
`--emails`	Requested subject alternative name RFC822Name entries. Can contain multiple values

Table 5. Metadata parameters

Parameter	Description
`--contact-email`	Contact email of the request. Single value
`--owner`	Owner of the request. Single value
`--team`	Team of the request. Single value
`--labels`	Labels of the request. Can contain multiple values

Table 6. Crypto parameters

Parameter	Description
`--key-type`	Key-type of the certificate. See key types for more details

Output parameters

These parameters define how to store the retrieved certificate and its associated private key. The following alternatives are available:

- Key and certificate stored separately in two files, in PEM format. This is typically used by

Apache or NGINX web servers;

- Key and certificate stored together in a PKCS#12 file. This is typically used by Tomcat application server;
- Key and certificate stored together in Windows certificate store. This is typically used by IIS web server (see Windows parameters)

Table 7. Output parameters

Parameter	Description
`--cert`	Path to the certificate to store
`--key`	Path to the private key to store
`--ca-chain`	Path to the chain to store
`--pfx`	Path to write the PKCS#12 output
`--pfx-pwd`	Password for the PKCS#12 output. Mandatory if `--pfx` is set
`--pfx-aes`	Enable AES encryption for PKCS#12, compatible with openssl v3
`--jks`	Path to write the JKS output
`--jks-pwd`	Password for the JKS output. Mandatory if `--jks` is set
`--jks-alias`	Alias for the JKS output. Mandatory if `--jks` is set
`--jks-alias-pwd`	Password for the alias in the JKS output. Mandatory if `--jks` is set
`--overwrite`	Always overwrite existing files

Windows parameters

These parameters define how to integrate with the Windows certificate store:

Table 8. Windows parameters

Parameter	Description
`--win-user-store-auth`	Triggers the use of Windows current user certificate store for certificate authentication. Most recent valid certificate with matching CN will be used
`--win-computer-store-auth`	Triggers the use of Windows local machine certificate store for certificate authentication. Most recent valid certificate with matching CN will be used
`--win-user-store-save`	Triggers the use of user Windows certificate store to save the certificate after enrollment

`--win-computer-store-save`	Triggers the use of computer Windows certificate store to save the certificate after enrollment
`--win-store-use-tpm`	Triggers the ability to store the certificate in the `Microsoft Platform Crypto Provider` KSP. If not specified, the `Microsoft Software Key Storage Provider` KSP will be used
`--win-store-use-legacy`	Triggers the ability to store the certificate in the legacy `Microsoft Enhanced Cryptographic Provider v1.0` CSP. If not specified, the `Microsoft Software Key Storage Provider` KSP will be used
`--win-store-set-exportable`	Marks the key as exportable from the Windows certificate store. If not specified, the key is not exportable

EST Renewal

The certificate renewal is performed by using the “renew” command.

- it is designed to renew a certificate already issued by Horizon on the same profile.
- it can be scheduled as a periodic task (cron or Scheduled Task), that will perform the renewal only when the certificate is N days before its expiration. N can be specified using the “--renewal-interval” parameter, and defaults to 30.

```
horizon-cli est renew --profile=test --in-cert=/path/to/cert/to/renew
[key and certificate parameters]

horizon-cli est renew --profile=test --win-store-auth --cn=TestCN [key
and certificate parameters]
```

General renewal parameters

Table 9. General parameters

Parameter	Description
`--profile`	Horizon’s technical name of the profile to enroll on. Mandatory
`--discovery`	Horizon’s discovery campaign name to use in order to report the certificate to Horizon after renewal
`--centralized`	Switches to centralized enrollment
`--key-type`	Key-type of the certificate. See key types for more details

`--script`	Path to the script to execute after renewal. See script for more details
`--renewal-interval`	Number of days before expiration to trigger the renewal. Defaults to 30

Input certificate parameters

These parameters define how to find the certificate to renew. It can be stored in the following formats:

- Key and certificate stored separately in two files, in PEM format (`--in-cert` & `--in-key`)
- Key and certificate stored together in a PKCS#12 file (`--in-cert` & `--in-pfx-pwd`)
- Key and certificate stored together in a JKS file (`--in-cert` & `--in-jks-pwd` & `--in-jks-alias` & `--in-jks-alias-pwd`)
- Key and certificate stored together in Windows certificate store:
  - Using certificate thumbprint, available in the details tab of windows certificate explorer or in certutil (`--in-cert`)
  - Using the certificate CN (see Windows parameters)

Table 10. Input certificate parameters

Parameter	Description
`--in-cert`	Path to the certificate to renew (PEM file, PKCS#12 file, JKS file) or certificate thumbprint for Windows certificate store entries
`--in-key`	Path to the private key of the certificate to renew if --in-cert is a PEM file
`--in-pfx-pwd`	Password for the PKCS#12 file to renew
`--in-jks-pwd`	Password for the JKS file to renew
`--in-jks-alias`	Alias for the JKS file to renew
`--in-jks-alias-pwd`	Alias password for the JKS file to renew

Output parameters

These parameters define how to store the retrieved certificate and its associated private key. The following alternatives are available:

- Key and certificate stored separately in two files, in PEM format. This is typically used by Apache or NGINX web servers;
- Key and certificate stored together in a PKCS#12 file. This is typically used by Tomcat application server;
- Key and certificate stored together in Windows certificate store. This is typically used by IIS web server (see Windows parameters)

Table 11. Output parameters

Parameter	Description
`--cert`	Path to the certificate to store
`--key`	Path to the private key to store
`--ca-chain`	Path to the chain to store
`--pfx`	Path to write the PKCS#12 output
`--pfx-pwd`	Password for the PKCS#12 output. Mandatory if `--pfx` is set
`--pfx-aes`	Enable AES encryption for PKCS#12, compatible with openssl v3
`--jks`	Path to write the JKS output
`--jks-pwd`	Password for the JKS output. Mandatory if `--jks` is set
`--jks-alias`	Alias for the JKS output. Mandatory if `--jks` is set
`--jks-alias-pwd`	Password for the alias in the JKS output. Mandatory if `--jks` is set
`--overwrite`	Always overwrite existing files

Windows parameters

These parameters define how to integrate with the Windows certificate store:

Table 12. Windows parameters

Parameter	Description
`--cn`	CN of the certificate to renew in the Windows certificate store. Use with `--win-store-auth`
`--win-user-store-auth`	Triggers the use of Windows current user certificate store for certificate authentication. Most recent valid certificate with matching CN will be used
`--win-computer-store-auth`	Triggers the use of Windows local machine certificate store for certificate authentication. Most recent valid certificate with matching CN will be used
`--win-user-store-save`	Triggers the use of user Windows certificate store to save the certificate after enrollment
`--win-computer-store-save`	Triggers the use of computer Windows certificate store to save the certificate after enrollment

`--win-store-use-tpm`	Triggers the ability to store the certificate in the `Microsoft Platform Crypto Provider` KSP. If not specified, the `Microsoft Software Key Storage Provider` KSP will be used
`--win-store-use-legacy`	Triggers the ability to store the certificate in the legacy `Microsoft Enhanced Cryptographic Provider v1.0` CSP. If not specified, the `Microsoft Software Key Storage Provider` KSP will be used
`--win-store-set-exportable`	Marks the key as exportable from the Windows certificate store. If not specified, the key is not exportable

Key Types

Depending on your Horizon version, the following key types are supported:

RSA

To add a RSA key type, the following syntax must be used.

> rsa-<key-size>

`rsa-2048`, `rsa-3072`, `rsa-4096`

ECDSA

To add a ECDSA key type, the following syntax must be used.

> ec-<curve>

The following curves are supported:

- secp256r1
- secp384r1
- secp521r1

`ec-secp256r1`, `ec-secp384r1`

EDDSA

To add a EDDSA key type, the following syntax must be used.

> ed-<curve>

The following curves are supported:

- Ed25519

`ed-Ed25519`

Script parameter

You can tell Horizon Client to launch a script upon successful certificate enrollment or renewal by using the `--script` parameter, which takes the path to the script as an argument.

The script will receive arguments passed by Horizon Client in the following order:

1. Issued certificate serial number
2. Issued certificate fingerprint (SHA-1 hash of the certificate in DER format - windows store thumbprint)
3. Issued certificate Subject DN
4. Issued certificate Issuer DN

Below is an example of a very simple bash script:

```
#!/bin/sh

echo $1
echo $2
echo $3
echo $4
```

Below is an example of a very simple PowerShell script:

```
param($serial, $fingerprint, $subject, $issuer)

Write-Output $serial
Write-Output $fingerprint
Write-Output $subject
Write-Output $issuer
```

Examples

You will find below a few examples detailing how to use the client for EST enrollment in various context

Decentralized enrollment with challenge, output as key and certificate

```
horizon-cli est enroll --challenge=<challenge> --profile=<profile> --key=/path/to/key
--cert=/path/to/cert --cn=test.example.com --dnsnames
=test.example.com,www.test.example.com
```

Decentralized enrollment with challenge, output as PKCS#12

```
horizon-cli est enroll --challenge=<challenge> --profile=<profile> --cn
=test.example.com --dnsnames=test.example.com,www.test.example.com --pfx
=/path/to/pkcs12 --pfx-pwd=<pkcs12_password>
```

Centralized enrollment with challenge, output as key and certificate

```
horizon-cli est enroll --centralized --challenge=<challenge> --profile=<profile> --cn
=test.example.com --dnsnames=test.example.com,www.test.example.com --cert
=/path/to/cert --key=/path/to/key
```

Centralized enrollment with challenge, output as PKCS#12

```
horizon-cli est enroll --centralized --challenge=<challenge> --profile=<profile> --cn
=test.example.com --dnsnames=test.example.com,www.test.example.com --pfx
=/path/to/pkcs12 --pfx-pwd=<pkcs12_password>
```

Decentralized enrollment with challenge, output in machine windows store

```
horizon-cli est enroll --challenge=<challenge> --profile=<profile> --cn
=test.example.com --dnsnames=test.example.com,www.test.example.com --win-store-save
--win-machine-store
```

Decentralized renewal from certificate and key, output as key and certificate

```
horizon-cli est renew --profile=<profile> --in-cert=/path/to/old/cert --in-key
=/path/to/old/key --cert=/path/to/new/cert --key=/path/to/new/key
```

Decentralized renewal from PKCS#12, output as key and certificate

```
horizon-cli est renew --profile=<profile> --in-cert=/path/to/old/pkcs12 --cert
=/path/to/cert --key=/path/to/key
```

Decentralized renewal using machine windows store

```
horizon-cli est renew --profile=<profile> --cn=test.example.com --win-store-auth --win
-store-save --win-machine-store
```

7. SCEP Certificate Lifecycle Operations

The Horizon Client includes a SCEP client to perform challenge based pre-validated enrollments and renewals. Its usage is similar to that of the EST client in challenge mode.

Usage:

```
horizon-cli scep [command] [flags]
```

SCEP Enrollment

The `enroll` command allows you to perform a SCEP enrollment operation. It will generate a new key pair and a CSR based on the content parameters, and send it to the SCEP server to obtain a certificate.

Enrollment modes

The following enrollment modes are supported:

- Authorized user/password in decentralized mode
- Challenge password in decentralized mode

Authorized user

In this enrollment mode, a local user account is created in Horizon for Horizon Client, and the SCEP profile on Horizon is configured in `authorized` mode thus a static username and password can be provided to Horizon Client for enrollment.They need to be set in general configuration as `APIID` and `APIKEY`.

```
horizon-cli scep enroll --profile=test --cn=TestCN [data parameters]
```

```
[key and certificate parameters]
```

Challenge password

In this enrollment mode, the SCEP profile on Horizon is set to `challenge` mode. A request must then be made on Horizon in order to retrieve the one-time password `challenge` to be used to authenticate the SCEP request.No `APIID` nor `APIKEY` need to be set.

Use the `--challenge` option.

```
horizon-cli scep enroll --challenge=<challenge> --profile=test --cn
=TestCN [data parameters] [key and certificate parameters]
```

General enrollment parameters

Table 13. General parameters

Parameter	Description
`--profile`	Horizon's technical name of the profile to enroll on. Mandatory
`--challenge`	Challenge generated on Horizon on the profile. Mandatory in challenge mode
`--discovery`	Horizon's discovery campaign name to use in order to report the certificate to Horizon after enrollment
`--script`	Path to the script to execute after enrollment. See script for more details

Certificate parameters

Table 14. Data parameters

Parameter	Description
`--cn`	Requested subject Common Name. Single value
`--ou`	Requested subject `OU`. Can contain multiple values
`--dnsnames`	Requested subject alternative name DNS entries. Can contain multiple values
`--ip`	Requested subject alternative name IP entries. Can contain multiple values
`--emails`	Requested subject alternative name RFC822Name entries. Can contain multiple values

Table 15. Metadata parameters

Parameter	Description
`--contact-email`	Contact email of the request. Single value
`--owner`	Owner of the request. Single value
`--team`	Team of the request. Single value
`--labels`	Labels of the request. Can contain multiple values

Table 16. Crypto parameters

Parameter	Description
`--key-type`	Key-type of the certificate. See key types for more details

Output parameters

These parameters define how to store the retrieved certificate and its associated private key. The following alternatives are available:

- Key and certificate stored separately in two files, in PEM format. This is typically used by Apache or NGINX web servers;
- Key and certificate stored together in a PKCS#12 file. This is typically used by Tomcat application server;
- Key and certificate stored together in Windows certificate store. This is typically used by IIS web server (see Windows parameters)

Table 17. Output parameters

Parameter	Description
`--cert`	Path to the certificate to store
`--key`	Path to the private key to store
`--ca-chain`	Path to the chain to store
`--pfx`	Path to write the PKCS#12 output
`--pfx-pwd`	Password for the PKCS#12 output. Mandatory if `--pfx` is set
`--pfx-aes`	Enable AES encryption for PKCS#12, compatible with openssl v3
`--jks`	Path to write the JKS output
`--jks-pwd`	Password for the JKS output. Mandatory if `--jks` is set
`--jks-alias`	Alias for the JKS output. Mandatory if `--jks` is set

`--jks-alias-pwd`	Password for the alias in the JKS output. Mandatory if `--jks` is set
`--overwrite`	Always overwrite existing files

Windows parameters

These parameters define how to integrate with the Windows certificate store:

Table 18. Windows parameters

Parameter	Description
`--win-user-store-save`	Triggers the use of user Windows certificate store to save the certificate after enrollment
`--win-computer-store-save`	Triggers the use of computer Windows certificate store to save the certificate after enrollment
`--win-store-use-tpm`	Triggers the ability to store the certificate in the `Microsoft Platform Crypto Provider` KSP. If not specified, the `Microsoft Software Key Storage Provider` KSP will be used
`--win-store-use-legacy`	Triggers the ability to store the certificate in the legacy `Microsoft Enhanced Cryptographic Provider v1.0` CSP. If not specified, the `Microsoft Software Key Storage Provider` KSP will be used
`--win-store-set-exportable`	Marks the key as exportable from the Windows certificate store. If not specified, the key is not exportable

SCEP Renewal

The `renew` command is designed to work similarly to the `enroll` command, but with a few differences:

- It will enroll a certificate based on the `--in-cert` parameter (or similar, see below) instead of the content parameters. Only the `--key-type` parameter is used to generate a new key pair.
- No challenge is needed for a SCEP renewal operation

General renewal parameters

Table 19. General parameters

Parameter	Description
`--profile`	Horizon's technical name of the profile to enroll on. Mandatory

`--discovery`	Horizon's discovery campaign name to use in order to report the certificate to Horizon after renewal
`--key-type`	Key-type of the certificate. See key types for more details
`--script`	Path to the script to execute after renewal. See script for more details
`--renewal-interval`	Number of days before expiration to trigger the renewal. Defaults to 30

Input certificate parameters

These parameters define how to find the certificate to renew. It can be stored in the following formats:

- Key and certificate stored separately in two files, in PEM format (`--in-cert` & `--in-key`)
- Key and certificate stored together in a PKCS#12 file (`--in-cert` & `--in-pfx-pwd`)
- Key and certificate stored together in a JKS file (`--in-cert` & `--in-jks-pwd` & `--in-jks-alias` & `--in-jks-alias-pwd`)
- Key and certificate stored together in Windows certificate store:
  - Using certificate thumbprint, available in the details tab of windows certificate explorer or in certutil (`--in-cert`)

Table 20. Input certificate parameters

Parameter	Description
`--in-cert`	Path to the certificate to renew (PEM file, PKCS#12 file, JKS file) or certificate thumbprint for Windows certificate store entries
`--in-key`	Path to the private key of the certificate to renew if --in-cert is a PEM file
`--in-pfx-pwd`	Password for the PKCS#12 file to renew
`--in-jks-pwd`	Password for the JKS file to renew
`--in-jks-alias`	Alias for the JKS file to renew
`--in-jks-alias-pwd`	Alias password for the JKS file to renew

Output parameters

These parameters define how to store the retrieved certificate and its associated private key. The following alternatives are available:

- Key and certificate stored separately in two files, in PEM format. This is typically used by Apache or NGINX web servers;

- Key and certificate stored together in a PKCS#12 file. This is typically used by Tomcat application server;
- Key and certificate stored together in Windows certificate store. This is typically used by IIS web server (see Windows parameters)

Table 21. Output parameters

Parameter	Description
`--cert`	Path to the certificate to store
`--key`	Path to the private key to store
`--ca-chain`	Path to the chain to store
`--pfx`	Path to write the PKCS#12 output
`--pfx-pwd`	Password for the PKCS#12 output. Mandatory if `--pfx` is set
`--pfx-aes`	Enable AES encryption for PKCS#12, compatible with openssl v3
`--jks`	Path to write the JKS output
`--jks-pwd`	Password for the JKS output. Mandatory if `--jks` is set
`--jks-alias`	Alias for the JKS output. Mandatory if `--jks` is set
`--jks-alias-pwd`	Password for the alias in the JKS output. Mandatory if `--jks` is set
`--overwrite`	Always overwrite existing files

Windows parameters

These parameters define how to integrate with the Windows certificate store:

Table 22. Windows parameters

Parameter	Description
`--win-user-store-save`	Triggers the use of user Windows certificate store to save the certificate after enrollment
`--win-computer-store-save`	Triggers the use of computer Windows certificate store to save the certificate after enrollment
`--win-store-use-tpm`	Triggers the ability to store the certificate in the `Microsoft Platform Crypto Provider` KSP. If not specified, the `Microsoft Software Key Storage Provider` KSP will be used

`--win-store-use-legacy`	Triggers the ability to store the certificate in the legacy `Microsoft Enhanced Cryptographic Provider v1.0` CSP. If not specified, the `Microsoft Software Key Storage Provider` KSP will be used
`--win-store-set-exportable`	Marks the key as exportable from the Windows certificate store. If not specified, the key is not exportable

Key Types

Depending on your Horizon version, the following key types are supported:

RSA

To add a RSA key type, the following syntax must be used.

> rsa-<key-size>

`rsa-2048`, `rsa-3072`, `rsa-4096`

ECDSA

To add a ECDSA key type, the following syntax must be used.

> ec-<curve>

The following curves are supported:

- secp256r1
- secp384r1
- secp521r1

`ec-secp256r1`, `ec-secp384r1`

EDDSA

To add a EDDSA key type, the following syntax must be used.

> ed-<curve>

The following curves are supported:

- Ed25519

`ed-Ed25519`

Script parameter

You can tell Horizon Client to launch a script upon successful certificate enrollment or renewal by using the `--script` parameter, which takes the path to the script as an argument.

The script will receive arguments passed by Horizon Client in the following order:

1. Issued certificate serial number
2. Issued certificate fingerprint (SHA-1 hash of the certificate in DER format - windows store thumbprint)
3. Issued certificate Subject DN
4. Issued certificate Issuer DN

Below is an example of a very simple bash script:

```
#!/bin/sh

echo $1
echo $2
echo $3
echo $4
```

Below is an example of a very simple PowerShell script:

```
param($serial, $fingerprint, $subject, $issuer)

Write-Output $serial
Write-Output $fingerprint
Write-Output $subject
Write-Output $issuer
```

Examples

You will find below a few examples detailing how to use the client for SCEP enrollment in various context

Enrollment with output as key and certificate

```
horizon-cli scep enroll --profile=<profile> --challenge=<challenge> --cn
=test.example.com --dnsnames=test.example.com,www.test.example.com --cert
=/path/to/cert --key=/path/to/key
```

Enrollment with lots of metadata and output as PKCS#12

```
horizon-cli scep enroll \
  --profile=<profile> \
  --challenge=<challenge> \
  --key-type=rsa-2048 \
  --cn=test.example.com \
  --dnsnames=test.example.com,www.test.example.com \
  --owner="John Doe" \
  --ou="IT" \
  --team="IT" \
  --labels="env:prod" \
  --pfx=/path/to/pkcs12 \
  --pfx-pwd=<pkcs12_password>
```

Renewal with output as key and certificate

```
horizon-cli scep renew --profile=<profile> --in-cert /path/to/cert --cert
=/path/to/cert --key=/path/to/key
```

8. WebRA Certificate Lifecycle Operations

The Horizon Client can perform post-validated lifecycle operations using the WebRA protocol. This includes certificate enrollment, renewal and revocation.

WebRA operations validation

Like SCEP and EST, WebRA operations requires the intervention of a third party to validate the request. Unlike SCEP and EST though, it is a post-validation protocol, meaning that no challenge is produced before the operation, instead a request is created and sent to the WebRA server, which will need to be validated or cancelled by an operator with the appropriate rights on the web app.

This means the Horizon Client performs enrollment and renewal operations in two steps:

1. Create the request
2. Once the request is validated, retrieve the certificate

Depending on the time it takes for the request to be validated, the Horizon Client can be configured to either enter a blocking loop and wait for the request to be validated, or merely create the request and exit.

If the latter is chosen, the Horizon Client will keep in its internal database the pending request, and will check for its validation each time the `horizon-cli automate routine` command is executed. If the request is validated, the certificate will be retrieved and stored in the appropriate location. If it is denied, the request will be removed from the database. In some cases you would want to configure

a crontab or scheduled task to perform this check periodically. You can use the command `horizon-cli automate create-periodic-task <period>` to help you in the process, or create it manually.

By default, the behavior is to create the request and exit. If you wish for the client to enter a blocking loop until the request is validated, specify the `--now` flag.

WebRA Enrollment

General enrollment parameters

Table 23. General parameters

Parameter	Description
`--profile`	Horizon's technical name of the profile to enroll on. Mandatory
`--now`	Start a blocking loop to wait for request approval
`--discovery`	Horizon's discovery campaign name to use in order to report the certificate to Horizon after enrollment
`--script`	Path to the script to execute after enrollment. See script for more details

Certificate parameters

Table 24. Data parameters

Parameter	Description
`--cn`	Requested subject Common Name. Single value
`--ou`	Requested subject `OU`. Can contain multiple values
`--dnsnames`	Requested subject alternative name DNS entries. Can contain multiple values
`--ip`	Requested subject alternative name IP entries. Can contain multiple values
`--emails`	Requested subject alternative name RFC822Name entries. Can contain multiple values
`--ms-guid`	Requested Microsoft GUID. Single value
`--ms-sid`	Requested Microsoft SID. Single value

Table 25. Metadata parameters

Parameter	Description

`--contact-email`	Contact email of the request. Single value
`--owner`	Owner of the request. Single value
`--team`	Team of the request. Single value
`--labels`	Labels of the request. Can contain multiple values

Table 26. Crypto parameters

Parameter	Description
`--key-type`	Key-type of the certificate. See key types for more details

Output parameters

These parameters define how to store the retrieved certificate and its associated private key. The following alternatives are available:

- Key and certificate stored separately in two files, in PEM format. This is typically used by Apache or NGINX web servers;
- Key and certificate stored together in a PKCS#12 file. This is typically used by Tomcat application server;
- Key and certificate stored together in Windows certificate store. This is typically used by IIS web server (see Windows parameters)

Table 27. Output parameters

Parameter	Description
`--cert`	Path to the certificate to store
`--key`	Path to the private key to store
`--ca-chain`	Path to the chain to store
`--pfx`	Path to write the PKCS#12 output
`--pfx-pwd`	Password for the PKCS#12 output. Mandatory if `--pfx` is set
`--pfx-aes`	Enable AES encryption for PKCS#12, compatible with openssl v3
`--jks`	Path to write the JKS output
`--jks-pwd`	Password for the JKS output. Mandatory if `--jks` is set
`--jks-alias`	Alias for the JKS output. Mandatory if `--jks` is set
`--jks-alias-pwd`	Password for the alias in the JKS output. Mandatory if `--jks` is set
`--overwrite`	Always overwrite existing files

Windows parameters

These parameters define how to integrate with the Windows certificate store:

Table 28. Windows parameters

Parameter	Description
`--win-user-store-save`	Triggers the use of user Windows certificate store to save the certificate after enrollment
`--win-computer-store-save`	Triggers the use of computer Windows certificate store to save the certificate after enrollment
`--win-store-use-tpm`	Triggers the ability to store the certificate in the `Microsoft Platform Crypto Provider` KSP. If not specified, the `Microsoft Software Key Storage Provider` KSP will be used
`--win-store-use-legacy`	Triggers the ability to store the certificate in the legacy `Microsoft Enhanced Cryptographic Provider v1.0` CSP. If not specified, the `Microsoft Software Key Storage Provider` KSP will be used
`--win-store-set-exportable`	Marks the key as exportable from the Windows certificate store. If not specified, the key is not exportable

WebRA Renewal

The `webra renew` command is designed to work similarly to the `webra enroll` command, except that it will enroll a certificate based on the `--in-cert` parameter (or similar, see below) instead of the content parameters.

General renewal parameters

Table 29. General parameters

Parameter	Description
`--key-type`	Key-type of the certificate. See key types for more details
`--now`	Start a blocking loop to wait for request approval
`--discovery`	Horizon's discovery campaign name to use in order to report the certificate to Horizon after renewal
`--script`	Path to the script to execute after renewal. See script for more details

`--renewal-interval`	Number of days before expiration to trigger the renewal. Defaults to 30

Input certificate parameters

These parameters define how to find the certificate to renew. It can be stored in the following formats:

- Key and certificate stored separately in two files, in PEM format (`--in-cert` & `--in-key`)
- Key and certificate stored together in a PKCS#12 file (`--in-cert` & `--in-pfx-pwd`)
- Key and certificate stored together in a JKS file (`--in-cert` & `--in-jks-pwd` & `--in-jks-alias` & `--in-jks-alias-pwd`)
- Key and certificate stored together in Windows certificate store:
  - Using certificate thumbprint, available in the details tab of windows certificate explorer or in certutil (`--in-cert`)

Table 30. Input certificate parameters

Parameter	Description
`--in-cert`	Path to the certificate to renew (PEM file, PKCS#12 file, JKS file) or certificate thumbprint for Windows certificate store entries
`--in-key`	Path to the private key of the certificate to renew if --in-cert is a PEM file
`--in-pfx-pwd`	Password for the PKCS#12 file to renew
`--in-jks-pwd`	Password for the JKS file to renew
`--in-jks-alias`	Alias for the JKS file to renew
`--in-jks-alias-pwd`	Alias password for the JKS file to renew

Output parameters

These parameters define how to store the retrieved certificate and its associated private key. The following alternatives are available:

- Key and certificate stored separately in two files, in PEM format. This is typically used by Apache or NGINX web servers;
- Key and certificate stored together in a PKCS#12 file. This is typically used by Tomcat application server;
- Key and certificate stored together in Windows certificate store. This is typically used by IIS web server (see Windows parameters)

Table 31. Output parameters

Parameter	Description

`--cert`	Path to the certificate to store
`--key`	Path to the private key to store
`--ca-chain`	Path to the chain to store
`--pfx`	Path to write the PKCS#12 output
`--pfx-pwd`	Password for the PKCS#12 output. Mandatory if `--pfx` is set
`--pfx-aes`	Enable AES encryption for PKCS#12, compatible with openssl v3
`--jks`	Path to write the JKS output
`--jks-pwd`	Password for the JKS output. Mandatory if `--jks` is set
`--jks-alias`	Alias for the JKS output. Mandatory if `--jks` is set
`--jks-alias-pwd`	Password for the alias in the JKS output. Mandatory if `--jks` is set
`--overwrite`	Always overwrite existing files

Windows parameters

These parameters define how to integrate with the Windows certificate store:

Table 32. Windows parameters

Parameter	Description
`--win-user-store-save`	Triggers the use of user Windows certificate store to save the certificate after enrollment
`--win-computer-store-save`	Triggers the use of computer Windows certificate store to save the certificate after enrollment
`--win-store-use-tpm`	Triggers the ability to store the certificate in the `Microsoft Platform Crypto Provider` KSP. If not specified, the `Microsoft Software Key Storage Provider` KSP will be used
`--win-store-use-legacy`	Triggers the ability to store the certificate in the legacy `Microsoft Enhanced Cryptographic Provider v1.0` CSP. If not specified, the `Microsoft Software Key Storage Provider` KSP will be used
`--win-store-set-exportable`	Marks the key as exportable from the Windows certificate store. If not specified, the key is not exportable

WebRA Import

The `webra import`command is designed to import a certificate and its key on a profile.

Import parameters

Table 33. WebRA import parameters

Parameter	Description
`--profile`	Existing profile on which to import

Table 34. Metadata parameters

Parameter	Description
`--owner`	Owner of the request. Single value
`--team`	Team of the request. Single value
`--contact-email`	Contact email of the request. Single value
`--labels`	Labels of the request. Can contain multiple values
`--metadata`	Technical metadata of the imported certificate, in key:value form

Input parameters

These parameters define how to find the certificate to import. It can be stored in the following formats:

- Key and certificate stored separately in two files, in PEM format (`--in-cert` & `--in-key`)
- Key and certificate stored together in a PKCS#12 file (`--in-cert` & `--in-pfx-pwd`)
- Key and certificate stored together in a JKS file (`--in-cert` & `--in-jks-pwd` & `--in-jks-alias` & `--in-jks-alias-pwd`)
- Key and certificate stored together in Windows certificate store:
  - Using certificate thumbprint, available in the details tab of windows certificate explorer or in certutil (`--in-cert`)

Table 35. WebRA input certificate parameters

`--in-cert`	Path to the Certificate to import (PEM file, PKCS#12 file, JKS file) or cert thumbprint for Windows certificate store entries
`--in-key`	Path to the private key of the certificate to import if it is not included in the certificate file
`--in-pfx-pwd`	Password for the PKCS#12 file to import
`--in-jks-pwd`	Password for the JKS file to import

`--in-jks-alias`	Alias for the certificate to import in the JKS file
`--in-jks-alias-pwd`	Alias password for the JKS file to import

WebRA Revocation

The `webra revoke` command takes the following parameters:

Revocation parameters

Define how to revoke this certificate:

Table 36. WebRA revocation parameters

Parameter	Description
`--reason`	Reason for revocation (unspecified, keycompromise, cacompromise, affiliationchanged, superseded, cessationofoperation)

Input parameters

These parameters define how to find the certificate to revoke. It can be stored in the following formats:

- Key and certificate stored separately in two files, in PEM format (`--in-cert` & `--in-key`)
- Key and certificate stored together in a PKCS#12 file (`--in-cert` & `--in-pfx-pwd`)
- Key and certificate stored together in a JKS file (`--in-cert` & `--in-jks-pwd` & `--in-jks-alias` & `--in-jks-alias-pwd`)
- Key and certificate stored together in Windows certificate store:
  - Using certificate thumbprint, available in the details tab of windows certificate explorer or in certutil (`--in-cert`)

Table 37. WebRA input certificate parameters

`--in-cert`	Path to the Certificate to revoke (PEM file, PKCS#12 file, JKS file) or cert thumbprint for Windows certificate store entries
`--in-key`	Path to the private key of the certificate to revoke if it is not included in the certificate file
`--in-pfx-pwd`	Password for the PKCS#12 file to revoke
`--in-jks-pwd`	Password for the JKS file to revoke
`--in-jks-alias`	Alias for the certificate to revoke in the JKS file
`--in-jks-alias-pwd`	Alias password for the JKS file to revoke

For a revocation operation, the `--now` flag is unavailable, and the `automate routine` command will not track the revocation status, as no actions are to be performed after the revocation is complete. This command thus merely creates the revocation request and exits.

Key Types

Depending on your Horizon version, the following key types are supported:

RSA

To add a RSA key type, the following syntax must be used.

> rsa-<key-size>

`rsa-2048`, `rsa-3072`, `rsa-4096`

ECDSA

To add a ECDSA key type, the following syntax must be used.

> ec-<curve>

The following curves are supported:

- secp256r1
- secp384r1
- secp521r1

`ec-secp256r1`, `ec-secp384r1`

EDDSA

To add a EDDSA key type, the following syntax must be used.

> ed-<curve>

The following curves are supported:

- Ed25519

`ed-Ed25519`

Script parameter

You can tell Horizon Client to launch a script upon successful certificate enrollment or renewal by

using the `--script` parameter, which takes the path to the script as an argument.

The script will receive arguments passed by Horizon Client in the following order:

1. Issued certificate serial number
2. Issued certificate fingerprint (SHA-1 hash of the certificate in DER format - windows store thumbprint)
3. Issued certificate Subject DN
4. Issued certificate Issuer DN

Below is an example of a very simple bash script:

```
#!/bin/sh

echo $1
echo $2
echo $3
echo $4
```

Below is an example of a very simple PowerShell script:

```
param($serial, $fingerprint, $subject, $issuer)

Write-Output $serial
Write-Output $fingerprint
Write-Output $subject
Write-Output $issuer
```

Examples

You will find below a few examples detailing how to use the client for WebRA enrollment in various context

Enrollment with output as key and certificate, waiting for the certificate to be issued

```
horizon-cli webra enroll --profile=<profile> --cn=test.example.com --dnsnames
=test.example.com,www.test.example.com  --cert=/path/to/cert --key=/path/to/key --now
```

Enrollment with lots of metadata, output as PKCS#12 and no blocking loop

```
horizon-cli webra enroll \
```

```
  --profile=<profile> \
  --cn=test.example.com \
  --dnsnames=test.example.com,www.test.example.com \
  --owner="John Doe" \
  --ou="IT" \
  --team="IT" \
  --labels="env:prod" \
  --pfx=/path/to/pkcs12 \
  --pfx-pwd=<pkcs12_password>
```

after this command, run periodically:

```
horizon-cli automate routine > /path/to/my/logfile
```

Renewal with output as key and certificate, waiting for the certificate to be issued

```
horizon-cli webra renew --in-cert /path/to/old/cert --in-key /path/to/old/key --cert
/path/to/cert --key /path/to/key --now
```

Revocation of a certificate

```
horizon-cli webra revoke --in-cert /path/to/cert --in-key /path/to/key
```

9. Updating a certificate

The horizon client can perform update operations on certificates using the `update-cert` command. This will modify the information associated with the certificate on Horizon.

This command can either be used to update a certificate present on your machine or to update certificates on Horizon using an account with sufficient permission.

To update a local certificate, the 'Update (pop)' common configuration permission must be enabled on the profile the certificate is linked to.

General Parameters

`--confirm`	The command asks for confirmation after the changes are computed. Use this flag to disable this behavior and proceed directly. (Optional)

`--prompt`	Use this flag to be prompted for edition of all the certificate fields. In this mode, using enter on an existing value means the value is not changed. (Optional)

Update Parameters

An update concerns only metadata fields, that is fields added by Horizon.

`--owner`	Set the owner of the certificate. An empty string means deletion of this information. (Optional)
`--team`	Set the team of the certificate. An empty string means deletion of this information. (Optional)
`--contact-email`	Set the contact email of the certificate. An empty string means deletion of this information. (Optional)
`--labels`	Set the labels of the certificate. An empty string means deletion of this information. (Optional)
`--metadata`	Set the technical metadata of the certificate. To use with caution. An empty string means deletion of this information. (Optional)

Certificate selection parameters

Local certificate

The update is only possible on local certificates for which you possess the key:

`--cert`	Path to the certificate to update (PEM file, PKCS#12 file, JKS file) or cert thumbprint for Windows certificate store entries. (Optional)
`--key`	Path to the private key of the certificate to update if it is not included in the certificate file. (Optional)
`--pfx-pwd`	Password for the PKCS#12 file to update. (Optional)
`--jks-pwd`	Password for the JKS file to update. (Optional)
`--jks-alias`	Alias for the JKS file to update. (Optional)
`--jks-alias-pwd`	Alias password for the JKS file to update. (Optional)

Certificate on Horizon server

An account must be configured on the client using `horizon-cli install` and it must have update permissions on the certificate

`--id`	Id of the certificate to update (Optional)

Examples

You will find below a few examples detailing how to use the client to update certificates in various contexts

Updating the owner of a certificate

```
horizon-cli update-cert --cert=/path/to/cert --key=/path/to/key --owner=newowner
```

Removing the team from a certificate stored in JKS file

```
horizon-cli update-cert --cert=/path/to/cert.jks --jks-pwd=<jks_password> --team=""
```

Updating labels and metadata of a certificate stored in windows certificate store

```
horizon-cli update-cert --cert=<certificate_thumbprint> --labels
="label1:value1,label2:value2" --metadata="metadata1:value1,metadata2:value2"
```

Updating contact email of a certificate referenced on Horizon

```
horizon-cli update-cert --id=<certificate_id> --contact-email="test@evertrust.fr"
```

10. Bulk Operations

The horizon client allows you to perform bulk operations on certificates using the *Horizon Certificate Query Language* (HCQL).

Bulk update

The `bulk update` command allows update of certificate metadata en masse. The command takes a HCQL query as parameter and updates the matching certificates with the provided metadata. You can update the **owner**, the **team**, the **labels** and the **contact email** of the certificates. To unset an

existing value use the value *"unset"*.

Table 38. Bulk update command parameters

Parameter	Description
`--query`	The HCQL query string. Update will be performed on results.
`--confirm`	Skip confirm.
`--owner`	The owner to set on certificates matching the query. (Optional)
`--team`	The team to set on certificates matching the query. (Optional)
`--labels`	The labels, in the comma separated key:value form, to set on certificates matching the query. (Optional)
`--contact-email`	The contact email to set on certificates matching the query. (Optional)

```
horizon-cli bulk update --query 'module equals "est" and status is
valid' --owner "myuser" --team "myteam" --labels "mylabel:myvalue"
--contact-email "unset"
```

Bulk migrate

The `bulk migrate` command allows certificate migration from one profile to another. The command takes an HCQL query as parameter and migrate the matching certificates to the provided profile. The command can also update the certificates metadata. You can update the **owner**, the **team**, the **labels** and the **contact email** of the certificates. To unset an existing value use the value *"unset"*.

Table 39. Bulk migrate command parameters

Parameter	Description
`--query`	The HCQL query string. Update will be performed on results.
`--confirm`	Skip confirm.
`--profile`	The target profile for the migration.
`--owner`	The owner to set on certificates matching the query. (Optional)
`--team`	The team to set on certificates matching the query. (Optional)

Parameter	Description
`--labels`	The labels, in the comma separated key:value form, to set on certificates matching the query. (Optional)
`--contact-email`	The contact email to set on certificates matching the query. (Optional)

```
horizon-cli bulk migrate --query 'module equals "est" and status is valid' --profile new-est-profile --team myteam --labels mylabel:myvalue
```

Bulk revoke

The `bulk revoke` command allows certificate revocation en masse. The command takes an HCQL query as parameter and revoke the matching certificates.

Table 40. Bulk revoke command parameters

Parameter	Description
`--query`	The HCQL query string. Update will be performed on results.
`--confirm`	Skip confirm.

```
horizon-cli bulk revoke --query 'team equals "myterminatedteam" and status is valid' --confirm
```

11. Automatic TLS Certificate Installation

The horizon-cli automate command helps you automate the installation of your TLS certificates. It is designed to streamline the process of certificate enrollment, renewal, and installation. This functionality is particularly useful for managing Transport Layer Security (TLS) on web servers, ensuring secure and encrypted connections. It simplifies complex operations through its suite of subcommands, each tailored for specific aspects of certificate management.

Subcommands

To begin with Horizon CLI automation, use the `--help` flag with any subcommand for detailed usage information:

```
./horizon-cli automate <subcommand> --help
```

Table 41. Automation module subcommands

Subcommand	Description
enroll	This command is versatile, functioning similarly to the init command on servers without certificates, while also capable of re-enrolling or taking control of servers with existing certificates.
init	This command is designed to automatically configure SSL on any newly installed web server. When executed, it seamlessly sets up a secure connection by arranging SSL certificates and enabling SSL on the default HTTPS port (usually port 443). The process includes configuring the necessary SSL settings and restarting the server with SSL enabled.
control	This command is designed to locate certificates within a web server's configuration and offers to bring them under automation control. Taking a certificate under control involves adding necessary metadata and incorporating it into the local memory for routine management and oversight. This process ensures that the certificates are systematically monitored and managed as part of the automated workflow. Be aware that enrolling a new certificate will replace any certificate currently bound to an application running on your machine.
modify	This command allows the user to select one of the managed certificates and modify its sans.
create-periodic-task	Sets up a routine task for automated certificate renewal. The task frequency can be specified, with a default period of 6 hours. This helps in automating the renewal process to ensure certificates remain valid without manual intervention.
remove-periodic-task	Removes the previously set periodic task for certificate renewal. This is useful when automated renewal is no longer needed or needs to be reconfigured.
routine	Performs a routine check on all managed certificates to assess if any need renewal. This is a part of proactive certificate management to avoid service disruptions.

Subcommand	Description
list	Lists all managed certificates. This provides an overview of all certificates under management, including details like expiration dates, domains covered, etc.
remove	Removes a managed certificate or a group of certificates. The <id> parameter specifies which certificates to remove, with the option to remove all services using a keyword like 'all'.

If you're looking for a more guided experience while using horizon-cli automate, the `--prompt` flag is an excellent tool. It enables interactive prompts that guide you step-by-step through the command's options, making it easier to configure and execute your commands accurately.

```
./horizon-cli automate <subcommand> --prompt
```

Supported Services

The horizon-cli automate feature supports a variety of web server and application server services. This ensures a wide range of compatibility and flexibility for users working with different server environments. The `--target` flag is used within the tool to specify the specific service on which to perform automation tasks, allowing for precise and targeted configuration and management.

In order for horizon-cli to function properly, the targeted service should be started on the machine.

List of the supported services:

- *nginx* (linux)
- *apache* (linux)
- *haproxy* (linux)
- *jboss wildfly* (linux)
- *lighttpd* (linux)
- *microsoft iis* (windows)
- *evertrust winhorizon* (windows)
- *evertrust adcsconnector* (windows)
- *windows* (windows)
- *tomcat* (linux & windows)
- *generic* (linux & windows)

Example of a standard setup on the default HTTPS port (443) for NGINX:

```
./horizon-cli automate init --target=nginx --automation-policy=<POLICY_NAME>
```

To set up SSL on a custom port (e.g., 9000), use the `--PORT` flag. This option allows SSL configuration on a specific port of your Nginx server.

```
./horizon-cli automate init --target=nginx --automation-policy
=<POLICY_NAME> --PORT=9000
```

For *microsoft iis*, *evertrust winhorizon* and *evertrust adcsconnector* services, the renewal will remove the old certificates (except the original one for backup purposes) from the windows store.

Generic Service Automation

The Generic Service within the Horizon Client's automation module provides a versatile and user-friendly method for obtaining TLS certificates, eliminating the need to specify a pre-existing service or certificate file. This feature is especially beneficial in scenarios where certificates are required to be generated dynamically or for users who seek a more automated certificate management process.

Through the interactive mode:

```
./horizon-cli automate init --target=generic --prompt
```

Non-Interactive Mode: For an even more streamlined experience, certificates can be automatically generated with default parameters in non-interactive mode.

```
./horizon-cli automate init --target=generic --automation-policy=<POLICY_NAME> --cert
=my_cert.pem --key=my_key.key --chain-file=my_chain.pem --no-interactive
```

Default Storage Location: Newly generated certificates are automatically stored in a default location, which is **/opt/horizon/var/generic** on Unix systems, and **C:\ProgramData\EverTrust\Horizon\Var\Generic** on Windows systems.

Configuration Folder Override: Users have the flexibility to override the default storage location using the `--config-folder` option. This allows for customization of the storage path as per individual requirements or organizational standards.

```
./horizon-cli automate init --config-folder=/path/to/folder --target=generic
--automation-policy=<POLICY_NAME> --pfx=my_cert.p12 --pfx-pwd=pass123 --chain-file
=my_chain.pem --no-interactive
```

The Generic Service's emphasis on flexibility and user-friendliness makes it a valuable tool for a wide range of users, from those requiring on-the-fly certificate generation to those preferring a hands-off, automated approach.

Windows-Specific Features: On Windows systems, the Horizon CLI offers additional flags to specify the certificate store location:

`--win-user-store`: Save the certificate in the user store. This option is beneficial when certificates need to be accessible on a per-user basis.

`--win-computer-store`: Save the certificate in the computer store. Ideal for certificates that must be available system-wide.

These options provide flexibility in managing certificate storage, catering to different security and accessibility requirements on Windows systems.

Windows Service Automation

The `windows` target handles application that use a certificate in the Windows store without specific configuration files.

It supports:

- Remote Desktop certificates (`rdp`)
- Domain Controller certificates (`domaincontroller`)

To enroll a RDP certificate:

Through the interactive mode:

```
./horizon-cli automate init --target=windows --prompt
```

Non-Interactive Mode: Specific windows usages can be targeted using the `--win-usages` option

```
./horizon-cli automate init --target=windows --win-usages rdp,domaincontroller
```

Automation policies

Automation policies are central to the operation of the automation module in the Horizon system. These policies dictate how certificates should be enrolled and renewed, providing a customizable framework to suit various client requirements.

Before using automation policies, they must be pre-configured in the Horizon web app. Each policy is given a unique name for easy identification.

Profile Selection: Policies can be based on EST, SCEP, or ACME profiles, depending on the specific requirements of the enrollment and renewal process.

EverTrust recommends using EST for most use cases of server automation.

Execution Policy: Includes settings that define how and when the automation should be executed.

Compliance Settings: Specify which CAs are authorized for use within the policy.

Authorized Hash Algorithms: Determine which hash algorithms are acceptable.

Trust Chains: Configure the trust chains that are essential for establishing the trustworthiness of the certificates.

Parameter Specification: When performing automation operations, the relevant automation policy is specified using the `--automation-policy` parameter.

Existing WebServer certificates

The Horizon CLI's automation module is equipped with a discovery feature that scans and identifies certificates on your machine. It does this by parsing configuration files of your web server or TLS service.

By default, it searches for certificates across all supported services.

```
./horizon-cli automate enroll --automation-policy=<POLICY_NAME>
```

Limit the search to specific services. Separate multiple services with commas.

```
./horizon-cli automate enroll --automation-policy=<POLICY_NAME>
--target=apache,nginx
```

If you use a different config folder than the default one you can specify your custom folder using `--config-folder`

```
./horizon-cli automate enroll --automation-policy=<POLICY_NAME>
--target=apache,nginx --config-folder=/path/to/folder
```

Perform only the discovery phase and print the results without enrolling certificates using `--analyze-only`:

```
./horizon-cli automate enroll --automation-policy=<POLICY_NAME>
--target=apache,nginx --analyze-only
```

The `--discovery` parameter allows you to integrate certificate enrollment with a discovery campaign pre configured in the Horizon web app before running the CLI command. It includes additional information on the certificate's usage and location on the host machine.

```
./horizon-cli automate enroll --automation-policy=<POLICY_NAME> --discovery-campaign
=<DISCOVERY_CAMPAIGN_NAME>
```

Additional enrollment parameters

Challenge Passwords for Enrollment

The `--challenge` parameter is used to provide challenge passwords for EST or SCEP during the enrollment process. Challenge passwords are crucial for the authentication phase in these protocols, ensuring secure communication and identity verification.

When enrolling certificates using EST or SCEP protocols, the `--challenge` parameter allows you to specify one or more challenge passwords required by the enrollment server. Multiple challenge passwords can be provided, separated by commas, to support various scenarios or multiple servers enrollment.

You can also use the `--request-challenge` parameter to create a challenge request on Horizon. When the challenge request will be validated a periodic task will get the challenge and finish the enrollment. The periodic task can be configured with the `--challenge-routine-period` parameter.

You must be authenticated to use the `--request-challenge` parameter.

Post-Enrollment Script Execution

The `--script` parameter allows the execution of a custom script upon the successful completion of a certificate enrollment process. It supports both Bash scripts in Linux environments and PowerShell scripts in Windows environments.

```
./horizon-cli automate enroll --automation-policy=<POLICY_NAME> --script
=/home/user/post_enroll.sh
```

The script will receive arguments passed by Horizon Client in the following order:

1. Issued certificate serial number
2. Issued certificate fingerprint (SHA-1 hash of the certificate in DER format - windows store thumbprint)
3. Issued certificate Subject DN
4. Issued certificate Issuer DN
5. Storage information

Below is an example of a very simple bash script:

```
#!/bin/sh
```

```
echo $1
echo $2
echo $3
echo $4
echo $5
```

Below is an example of a very simple PowerShell script:

```
param($serial, $fingerprint, $subject, $issuer, $storage)

Write-Output $serial
Write-Output $fingerprint
Write-Output $subject
Write-Output $issuer
Write-Output $storage
```

Storage information

The storage information is a json array containing information about the storage, with one object per storage.

```
[
  {
    "type": "jks",
    "path": "/path/to/jks",
    "alias": "jks alias",
    "password": "jks password",
    "caChainPath": "/path/to/chain"
  }
]
```

Storage are often linked to a target. Here are the available storages for each target:

- **apache**: Certificate, chain and key in separate files or Chain and key in separate files
- **nginx**: Chain and key in separate files
- **tomcat**: Certificate, chain and key in separate files or JKS or PKCS#12
- **lighttpd**: Chain and key in separate files
- **wildfly**: JKS or PKCS#12
- **iis**: Windows store entry
- **winhorizon**: Windows store entry or PKCS#12
- **adcsconnector**: Windows store entry
- **windows**: Windows store entry

- **generic**: Certificate, chain and key in separate files or Windows store entry or JKS or PKCS#12
- **haproxy**: Chain and key in separate files or Chain and key in a single file

Storage Types

Chain and key in a single file

Description:

- `path` contains the path to the certificate chain (including leaf certificate, in leaf to root order) followed by the certificate private key in PEM format

Example:

```
[
  {
    "type": "bundle",
    "path": "/path/to/cert+chain+key"
  }
]
```

Chain and key in separate files

Description:

- `chainPath` contains the path to the certificate chain (including leaf certificate, in leaf to root order) in PEM format
- `keyPath` contains the path to the certificate key in PEM format

Example:

```
[
  {
    "type": "chainKey",
    "chainPath": "/path/to/cert+chain",
    "keyPath": "/path/to/key"
  }
]
```

Certificate, chain and key in separate files

Description:

- `certPath` contains the path to the certificate (without chain) in PEM format
- `keyPath` contains the path to the certificate key in PEM format
- `caChainPath` contains the path to the certificate chain (excluding leaf certificate, in leaf to root order) in PEM format

- `certFormat` contains the format of the certificate file (PEM or DER)

Example:

```
[
  {
    "type": "certChainKey",
    "certPath": "/path/to/cert",
    "keyPath": "/path/to/key",
    "caChainPath": "/path/to/chain",
    "certFormat": "PEM or DER"
  }
]
```

Windows store entry

Description:

- `thumbprint` contains the thumbprint of the certificate in the windows store
- `machineStore` if true, means the certificate is stored in the machine store, else in the user store

Example:

```
[
  {
    "type": "windowsStore",
    "thumbprint": "thumbprint of the certificate",
    "machineStore": false
  }
]
```

JKS

Description:

- `path` is the path to the JKS file
- `alias` contains the alias in which the certificate is stored
- `password` contains the JKS password
- `caChainPath`(optional) contains the path to the chain file (excluding leaf certificate, in root to leaf order) in PEM format

Example:

```
[
  {
    "type": "jks",
    "path": "/path/to/jks",
```

```
    "alias": "jks alias",
    "password": "jks password",
    "caChainPath": "/path/to/chain"
  }
]
```

PKCS#12

Description:

- `path` is the path to the pkcs12 file
- `password` contains the pkcs12 password
- `caChainPath`(optional) contains the path to the chain file (excluding leaf certificate, in root to leaf order) in PEM format

Example:

```
[
  {
    "type": "pkcs12",
    "path": "/path/to/pkcs12",
    "password": "pkcs12 password",
    "caChainPath": "/path/to/chain"
  }
]
```

Metadata parameters

Add metadata to certificates during the enrollment process: These certificate information parameters enhance the management and traceability of TLS certificates. By using these optional fields, organizations can maintain better oversight and control over their certificate infrastructure.

Table 42. Metadata parameters

Parameter	Description
`--owner`	Owner of the certificate
`--contact-email`	Contact email of the certificate owner
`--team`	Team owning the certificate
`--labels`	Labels to attach to the certificate, in the form `key:value`

ACME Account Specification for Enrollment

The `--acme-account` parameter is mandatory when enrolling certificates using the ACME protocol. It specifies the ACME account to be used for the enrollment process.

```
./horizon-cli automate enroll --acme-account=myAcmeAccount
```

Installation

After a successful enrollment or renewal, the certificate will be installed on your machine. The impacted services will be restarted automatically after each certificate enrollment or renewal.

In certain scenarios, you might not want the Horizon CLI to automatically install the new certificate or restart the related services.

If you wish for the client to **not install** your new certificate, that is, not replace the old certificate and not restart the impacted services, you can use the `--no-install` option. Each new file (cert, key, CA chain, keystore...) will then be placed in the same folder as it's predecessor, with the `.new` extension.

Renewal

Each time a certificate is discovered and enrolled by the automation module of the Horizon Client, its details are stored in the internal database for future reference. Each time the `automate routine` command is run, the client will check if any of the locally known certificates need to be renewed. Reasons for renewal can be:

- The certificate is about to expire
- The certificate has been revoked
- Preferences such as key type or enrollment CA were changed in the profile or automation policy

If a certificate needs to be renewed, the client will perform the renewal according to the automation policy, and its corresponding profile.

We recommend that you run the `automate routine` command periodically as a cron job or scheduled task. You can use the command `horizon-cli automate create-periodic-task <period>` or the flag `--auto-renew` on the `automate enroll` command to help you in the process, or create it manually.

This mechanism allows for more resilient web servers, as the certificates will be renewed automatically, before any interruption of service can happen because of an expired or revoked certificate. It also helps your organisation migrate your TLS certificates to a new CA quickly, by simply changing the preferred enrollment CA in the automation policy and waiting a few hours for all your instances of the Horizon Client to execute their routine tasks.

Using `--auto-renew` flag will check and check the certificate every 6 hours:

```
./horizon-cli automate enroll --target=nginx --automation-policy
=<POLICY_NAME> --auto-renew
```

Interactivity

Two options are available to control the interactivity of the `automate` commands:

- The `--no-interactive` flag will prevent any prompt from being displayed, and will use the default values or those provided in the command line arguments. It will:
  - select all discovered certificates for enrollment. In order to select specific certificates without interaction, the `--select-certs` flag can be used to specify a glob matching the website identifier.

Example: Running the `automate enroll --analyze-only --automation-policy <automation policy name>` returns the following result:

CN	Locations	Bindings
New Certificate	Not yet prompted	generic-893c8435-08c5-4d2d-b9f6-88b952b34ca4
New Certificate	/etc/pki/nginx/server.crt	nginx-*:443

To select and enroll only the nginx cert, the following command can be used `automate enroll --automation-policy <automation policy name> --no-interactive --select-certs nginx*`

- if a challenge is required, use the provided `--challenge` argument. If no challenge is provided, or the given challenge has already been used, the enrollment will fail.
- not add any additional SANs
  - The `--prompt` flag will force the client to prompt the user for any missing information. If specified, any other command line arguments are optional. It will:
- prompt the user to select which services to search for on the machine (equivalent to the `--target` option)
- prompt the user for the automation policy (equivalent to the `--automation-policy` option)
- prompt the user for the configuration folder (equivalent to the `--config-folder` option)

Certificate commands

Enroll

The `enroll` command can either setup a certificate and empty https configuration from scratch, or take control of certificates, reenrolling them to be compliant when necessary.

Parameters

Table 43. Enroll general parameters

Parameter	Mandatory	Type	Description
--automation-policy	☑	string	The automation policy to link the certificate to.
--challenge		string array (comma separated)	See challenge section.
--script		string (path to file)	See script section.
--auto-renew		boolean	Configures a status check every 6 hours.
--request-challenge		boolean	See challenge section.
--challenge-routine-period		duration	Period of execution of the periodic task.
--user		string	Name of the user to impersonate while running the request challenge periodically.
--discovery-campaign		string	Also add discovery info on the enrolled certificate on the campaign passed.
--force-enroll		boolean	Reenroll all selected certificates regardless of their compliance.
--analyze-only		boolean	Instead of executing the enrollments, only displays a summary of possible actions.
--no-interactive		boolean	Disables all interactive inputs. All parameters must then be given using cli flags.
--prompt		boolean	Enable all interactive inputs. All parameters will now be asked for, except ones given using cli flags.

Table 44. Enroll webServer configuration

Parameter	Mandatory	Type	Description
--target		string array (comma separated)	List of services to target. If not given, all available services are targeted.
--no-install		boolean	Disables installation.
--config-folder		string (path to folder)	Explicitly point your webserver configuration folder.

Parameter	Mandatory	Type	Description
--port		integer	When initializing an empty https configuration on a blank server, choose on which port to listen for https (defaults to the standard https port for the webserver *443* or *8443*)
--keystore-password		string	Password of the webserver's keystore if it cannot be deduced from configuration

Table 45. Enroll certificate configuration

Parameter	Mandatory	Type	Description
--dnsnames		string array (comma separated)	List of DNS SANs. If not given, the machine hostname is used.
--ip		string array (comma separated)	List of IP SANs. If not given, no ips are set.
--labels		string array (comma separated, in label:value form)	Horizon labels to add to the certificate on enrollment.
--team		string	Horizon team to add to the certificate on enrollment
--owner		string	Horizon owner to add to the certificate on enrollment
--contact-email		string	Horizon contact email to add to the certificate on enrollment

Table 46. Enroll ACME options

Parameter	Mandatory	Type	Description
--acme-account	☑ (if using ACME)	string	The identifier (email) of the ACME account to use
--http-01-port		int	The http 01 port on which to listen
--dns-01-provider		string	DNS provider script to use for ACME enrollments. ACME.sh based on Linux, Posh-ACME based on Windows
--eab-kid		string	Kid for External Account Binding
--eab-key		string	Key for External Account Binding

Table 47. Enroll ACME External options

Parameter	Mandatory	Type	Description
--standalone		boolean	Use built in http server
--local		boolean	Use an existing http server
--document-root		string	Path of the document root where to put the well-known folder for the challenge

Table 48. Enroll generic options

Parameter	Mandatory	Type	Description
--destination-folder		string (path to folder)	Folder to write the new certificates to. Default to `/opt/horizon/var/generic` on linux and `C:\ProgramData\EverTrust\Horizon\Generic` on windows.
--pfx		string	Name of the PKCS#12 file to write the enrolled certificate to.
--pfx-pwd		string	Password of the PKCS#12 file to write the enrolled certificate to.
--jks		string	Name of the JKS file to write the enrolled certificate to.
--jks-pwd		string	Password of the JKS file to write the enrolled certificate to.
--jks-alias		string	Alias of the JKS file to write the enrolled certificate to.
--cert		string	Name of the file to write the enrolled certificate to in PEM format.
--key		string	Name of the file to write the enrolled key to.
--der		boolean	Save the certificate and key in DER format.
--chain-file		string	Name of the file to write the enrolled certificate chain to.
--win-user-store		boolean	[Windows certificate store] Save the certificate in the windows user store.

Parameter	Mandatory	Type	Description
--win-computer-store		boolean	[Windows certificate store] Save the certificate in the windows computer store (LocalMachine).
--win-store-use-tpm		boolean	[Windows certificate store] Use the `Microsoft Platform Crypto Provider` for certificate store storage.
--win-store-use-legacy		boolean	[Windows certificate store] Use the `Microsoft Platform Crypto Provider` for certificate store storage.
--win-store-set -exportable		boolean	[Windows certificate store] Set the private key as exportable from the certificate store.

Storage output for generic must choose between pfx, certificate, jks or windows store output.

Table 49. Enroll windows options

Parameter	Mandatory	Type	Description
--win-usages		string array (comma separated)	Windows usages for this certificate. See windows target.

Examples

Use the interactive mode

```
horizon-cli automate enroll --prompt
```

Enroll a new certificate in the default generic folder

```
horizon-cli automate enroll --automation-policy=<automation policy> --target=generic
--cert cert.pem --key key.pem --chain-file chain.pem
```

Add https or control a nginx service

```
horizon-cli automate enroll --automation-policy=<automation policy> --target=nginx
```

Add https to a nginx service without interaction and with custom san values

```
horizon-cli automate enroll --automation-policy=<automation policy> --target=nginx
--no-interactive --dnsnames="nginx.test,*.test" --ip "1.1.1.1"
```

Init

The `init` command can setup a certificate and empty https configuration from scratch.

The `init` command can only be used on webservers where no certificate is configured in order to avoid conflicts. See the other commands to match your use case.

Parameters

Table 50. Init general parameters

Parameter	Mandatory	Type	Description
--automation-policy	☑	string	The automation policy to link the certificate to.
--challenge		string array (comma separated)	See challenge section.
--script		string (path to file)	See script section.
--auto-renew		boolean	Configures a status check every 6 hours.
--request-challenge		boolean	See challenge section.
--challenge-routine-period		duration	Period of execution of the periodic task.
--user		string	Name of the user to impersonate while running the request challenge periodically.
--discovery-campaign		string	Also add discovery info on the enrolled certificate on the campaign passed.
--analyze-only		boolean	Instead of executing the enrollments, only displays a summary of possible actions.
--no-interactive		boolean	Disables all interactive inputs. All parameters must then be given using cli flags.

Parameter	Mandatory	Type	Description
--prompt		boolean	Enable all interactive inputs. All parameters will now be asked for, except ones given using cli flags.

Table 51. Init webServer configuration

Parameter	Mandatory	Type	Description
--target		string array (comma separated)	List of services to target. If not given, all available services are targeted.
--no-install		boolean	Disables installation.
--config-folder		string (path to folder)	Explicitly point your webserver configuration folder.
--port		integer	When initializing an empty https configuration on a blank server, choose on which port to listen for https (defaults to the standard https port for the webserver *443* or *8443*)
--keystore-password		string	Password of the webserver's keystore if it cannot be deduced from configuration

Table 52. Init certificate configuration

Parameter	Mandatory	Type	Description
--dnsnames		string array (comma separated)	List of DNS SANs. If not given, the machine hostname is used.
--ip		string array (comma separated)	List of IP SANs. If not given, no ips are set.
--labels		string array (comma separated, in label:value form)	Horizon labels to add to the certificate on enrollment.
--team		string	Horizon team to add to the certificate on enrollment
--owner		string	Horizon owner to add to the certificate on enrollment
--contact-email		string	Horizon contact email to add to the certificate on enrollment

Table 53. Init ACME options

Parameter	Mandatory	Type	Description
--acme-account	☑ (if using ACME)	string	The identifier (email) of the ACME account to use
--http-01-port		int	The http 01 port on which to listen
--dns-01-provider		string	DNS provider script to use for ACME enrollments. ACME.sh based on Linux, Posh-ACME based on Windows
--eab-kid		string	Kid for External Account Binding
--eab-key		string	Key for External Account Binding

Table 54. Init ACME External options

Parameter	Mandatory	Type	Description
--standalone		boolean	Use built in http server
--local		boolean	Use an existing http server
--document-root		string	Path of the document root where to put the well-known folder for the challenge

Table 55. Init generic options

Parameter	Mandatory	Type	Description
--destination-folder		string (path to folder)	Folder to write the new certificates to. Default to `/opt/horizon/var/generic` on linux and `C:\ProgramData\EverTrust\Horizon\Generic` on windows.
--pfx		string	Name of the PKCS#12 file to write the enrolled certificate to.
--pfx-pwd		string	Password of the PKCS#12 file to write the enrolled certificate to.
--jks		string	Name of the JKS file to write the enrolled certificate to.
--jks-pwd		string	Password of the JKS file to write the enrolled certificate to.
--jks-alias		string	Alias of the JKS file to write the enrolled certificate to.

Parameter	Mandatory	Type	Description
--cert		string	Name of the file to write the enrolled certificate to in PEM format.
--key		string	Name of the file to write the enrolled key to.
--der		boolean	Save the certificate and key in DER format.
--chain-file		string	Name of the file to write the enrolled certificate chain to.
--win-user-store		boolean	[Windows certificate store] Save the certificate in the windows user store.
--win-computer-store		boolean	[Windows certificate store] Save the certificate in the windows computer store (LocalMachine).
--win-store-use-tpm		boolean	[Windows certificate store] Use the `Microsoft Platform Crypto Provider` for certificate store storage.
--win-store-use-legacy		boolean	[Windows certificate store] Use the `Microsoft Platform Crypto Provider` for certificate store storage.
--win-store-set-exportable		boolean	[Windows certificate store] Set the private key as exportable from the certificate store.

Storage output for generic must choose between pfx, certificate, jks or windows store output.

Table 56. Init windows options

Parameter	Mandatory	Type	Description
--win-usages		string array (comma separated)	Windows usages for this certificate. See windows target.

Examples

Use the interactive mode

```
horizon-cli automate init --prompt
```

Enroll a new certificate in the default generic folder

```
horizon-cli automate init --automation-policy=<automation policy> --target=generic
--cert cert.pem --key key.pem --chain-file chain.pem
```

Add https to a nginx service

```
horizon-cli automate init --automation-policy=<automation policy> --target=nginx
```

Add https to a nginx service without interaction and with custom san values

```
horizon-cli automate init --automation-policy=<automation policy> --target=nginx --no
-interactive --dnsnames="nginx.test,*.test" --ip "1.1.1.1"
```

Control

The `control` command can take control of an existing certificate on your machine.

The `control` command can only be used on known and compliant with Horizon certificates. If the certificate needs to be enrolled, see the other commands to match your use case.

Parameters

Table 57. Control general parameters

Parameter	Mandatory	Type	Description
--automation-policy	☑	string	The automation policy to link the certificate to.
--challenge		string array (comma separated)	See challenge section.
--script		string (path to file)	See script section.
--auto-renew		boolean	Configures a status check every 6 hours.
--discovery-campaign		string	Also add discovery info on the enrolled certificate on the campaign passed.
--analyze-only		boolean	Instead of executing the control, only displays a summary of possible actions.

Parameter	Mandatory	Type	Description
--no-interactive		boolean	Disables all interactive inputs. All parameters must then be given using cli flags.
--prompt		boolean	Enable all interactive inputs. All parameters will now be asked for, except ones given using cli flags.

Table 58. Control webServer configuration

Parameter	Mandatory	Type	Description
--target		string array (comma separated)	List of services to target. If not given, all available services are targeted.
--no-install		boolean	Disables installation.
--config-folder		string (path to folder)	Explicitly point your webserver configuration folder.
--keystore-password		string	Password of the webserver's keystore if it cannot be deduced from configuration

Table 59. Control certificate configuration

Parameter	Mandatory	Type	Description
--labels		string array (comma separated, in label:value form)	Horizon labels to add to the certificate on enrollment.
--team		string	Horizon team to add to the certificate on enrollment
--owner		string	Horizon owner to add to the certificate on enrollment
--contact-email		string	Horizon contact email to add to the certificate on enrollment

Table 60. Control ACME options

Parameter	Mandatory	Type	Description
--acme-account	☑ (if using ACME)	string	The identifier (email) of the ACME account to use when renewing
--http-01-port		int	The http 01 port on which to listen

Parameter	Mandatory	Type	Description
--dns-01-provider		string	DNS provider script to use for ACME enrollments. ACME.sh based on Linux, Posh-ACME based on Windows

For generic control, it is as of now disabled outside the default folder (`/opt/horizon/var/genric` or `C:\ProgramData\EverTrust\Horizon\Generic`) to ensure no service interruption. Use post enrollment scripts to copy the certificate.

Table 61. Control generic options

Parameter	Mandatory	Type	Description
--pfx		string	Name of the PKCS#12 file to control.
--pfx-pwd		string	Password of the PKCS#12 file to control.
--jks		string	Name of the JKS file to control.
--jks-pwd		string	Password of the JKS file to control.
--jks-alias		string	Alias of the JKS file to control.
--cert		string	Name of the certificate file to control.
--key		string	Name of the key file to control.
--der		boolean	If true, the certificate and key to control are in DER format.
--chain-file		string	Name of the file to write the enrolled certificate chain to.
--win-user-store		boolean	Control the certificate in the windows user store.
--win-computer-store		boolean	Control the certificate in the windows machine store.
--win-thumbprint		boolean	Thumbprint of the certificate to control. To use with --win-computer-store or --win-user-store

Input for generic must choose between pfx, certificate, jks or windows store.

Table 62. Control windows options

Parameter	Mandatory	Type	Description
--win-usages		string array (comma separated)	Windows usages for this certificate. See windows target.

Examples

Use the interactive mode

```
horizon-cli automate control --prompt
```

Control a certificate in the default generic folder

```
horizon-cli automate control --automation-policy=<automation policy> --target=generic
--cert cert.pem --key key.pem --chain-file chain.pem
```

Control a certificate on an already configured nginx

```
horizon-cli automate control --automation-policy=<automation policy> --target=nginx
```

Modify

The `modify` command allows to select a managed certificate and reenroll it, modifying its sans.

Automation policy cannot be modified

Parameters

Table 63. Modify general parameters

Parameter	Mandatory	Type	Description
--challenge		string array (comma separated)	See challenge section.
--script		string (path to file)	See script section.
--request-challenge		boolean	See challenge section.
--challenge-routine-period		duration	Period of execution of the periodic task.
--user		string	Name of the user to impersonate while running the request challenge periodically.

Parameter	Mandatory	Type	Description
--discovery-campaign		string	Also add discovery info on the enrolled certificate on the campaign passed.
--prompt		boolean	Enable all interactive inputs. All parameters will now be asked for, except ones given using cli flags.

Table 64. Modify webServer configuration

Parameter	Mandatory	Type	Description
--target		string array (comma separated)	List of services to target. If not given, all available services are targeted.
--no-reload		boolean	Do not reload webservers after certificate enrollment.

Table 65. Modify certificate configuration

Parameter	Mandatory	Type	Description
--dnsnames		string array (comma separated)	List of DNS SANs. If not given, the machine hostname is used.
--ip		string array (comma separated)	List of IP SANs. If not given, no ips are set.
--labels		string array (comma separated, in label:value form)	Horizon labels to add to the certificate on enrollment.
--team		string	Horizon team to add to the certificate on enrollment
--owner		string	Horizon owner to add to the certificate on enrollment
--contact-email		string	Horizon contact email to add to the certificate on enrollment

Table 66. Modify ACME options

Parameter	Mandatory	Type	Description
--acme-account	☑ (if using ACME)	string	The identifier (email) of the ACME account to use.

Examples

Use the interactive mode

```
horizon-cli automate modify --prompt
```

Set sans for the generic certificates

```
horizon-cli automate modify --target=generic --dnsnames="nginx.test,*.test" --ip
"1.1.1.1"
```

Backup

Each time a file is replaced by the Horizon Client, the old file is backed up. The backup files are stored in the `cert/backup/<HASH(BACKUPED FILE PATH)>` directory relative to the Horizon Client data folder (`/opt/horizon` on unix and `C:/ProgramData/EverTrust/Horizon` on Windows), as `filename_n.ext` where `n` is the number of the backup. Thus, the `filename_0.ext` is the original version, before any intervention of the Horizon Client.

Internal Database operations

The internal database is used to store the details of the certificates that are discovered and enrolled by the automation module. You can list them using the `automate list` command, and delete them using the `automate delete` command. Certificates are indexed by their bindings, which are the combination of all the services along with the hostnames and ports that use the certificate. For example, if you have a certificate that is used by *Apache* for all hosts on the port 443, it's "id" in the local database will be `apache-*:443`.

You can choose the output format of the `automate list` command. By default, it outputs a string, but you can use the `--json` option to output a JSON object. example:

```
horizon-cli automate list --json | jq
```

The `automate remove <id1> ⋯ <idn>` command erases certificates from the local database. This command will not remove the certificate files from your machine, only remove it from the "managed certificates" local database. This way, the client will not check its status at each routine execution anymore.

You can use the `automate remove all` command to remove all certificates from the local database.

The `--restore` option of the `automate remove` command can be used to restore a certificate from a backup file. The backup file to be restored will always be the older one, in most cases the

`filename_0.ext`, that is, the original file before any tampering by the Horizon Client. For certificates stored in the Windows store, the store thumbprints will be stored in a file corresponding to the server type, like `iisbackups`.

The `--revoke` option of the `automate remove` command can be used to revoke the certificate after being removed from the "managed certificate" local database. You can add the option `--reason` to specify the revocation reason of the certificate.

System commands

`horizon-cli` uses system commands to manage webservers. In order to use them with `sudo`, the `SUDO_COMMANDS` configuration is available and the commands that might be executed on each flow are available below (linux only):

apache

- `systemctl`
- `apachectl`
- `a2enmod`
- `a2dismod`
- `which`
- `whereis`
- `ln`
- `bash` for script execution

nginx

- `systemctl`
- `nginx`
- `ln`
- `bash` for script execution

tomcat

- `systemctl`
- `bash` for script execution

lighttpd

- `systemctl`
- `ln`
- `bash` for script execution

wildfly

- `systemctl`
- `bash` for script execution

generic

- `bash` for script execution

haproxy

- `systemctl`
- `haproxy`
- `bash` for script execution

Routine

Table 67. Routine arguments

Argument	Mandatory	Type	Description
automation-policies		string array (comma separated)	List of automation policies to check for certificate renewal. If not given, all policies are checked.

Its usage is described in the renewal section.

Management commands

Periodic task

To run the routine at specified intervals, the periodic task command can create scheduled execution on windows (scheduled task) and linux (cron).

Two commands are available, to remove and add the task.

Parameters

Table 68. Create periodic task arguments

Argument	Mandatory	Type	Description
Period		duration	Run the routine command every `period` from midnight UTC. Must be superior to 1h and inferior to 24h. Defaults to 6h.

Table 69. Create periodic task parameters

Parameter	Mandatory	Type	Description
--user		string	**Linux only**: The user to impersonate while running the routine. Defaults to root user.

Examples

Create a periodic task to run routine every 7h

```
horizon-cli automate create-periodic-task 7h
```

Remove the periodic task

```
horizon-cli automate remove-periodic-task
```

List

The `list` command lists the currently managed certificates and various information about them, notably the associated automation policy.

Parameters

Table 70. List parameters

Parameter	Mandatory	Type	Description
--json		string	Output the current state as json instead of human readable format.

Examples

Show the currently managed certificates

```
horizon-cli automate list
```

Show the currently managed certificates as json

```
horizon-cli automate list --json
```

Remove

The `remove` command erases a certificate binding from the horizon-cli managed certificates.

Parameters

Table 71. Remove arguments

Argument	Mandatory	Type	Description
id		string	Id of the services to remove. See automate list to get the id. Use `all` to erase every managed certificate.

Table 72. Remove parameters

Parameter	Mandatory	Type	Description
--restore		boolean	Enables restoration of the oldest backup for the removed certificate.
--revoke		boolean	Enables the revocation of the removed certificate
--reason		string	Reason for revocation (unspecified, keycompromise, cacompromise, affiliationchanged, superseded, cessationofoperation)
--acme-account	☑ (if revoking ACME certificate)	string	The identifier (email) of the ACME account to use

Examples

Remove all currently managed certificates

```
horizon-cli automate remove all
```

Remove the certificate linked to nginx https and restore the original one

```
horizon-cli automate remove nginx-*:443 --restore
```

Remove and revoke the certificate linked to nginx https one

```
horizon-cli automate remove nginx-*:443 --revoke --reason affiliationchanged
```

Examples

Enroll certificates used by nginx and apache

```
horizon-cli automate enroll \
  --target=nginx,apache \
  --automation-policy=<POLICY_NAME>
```

Enroll certificates using the generic target

```
horizon-cli automate enroll \
  --target=generic \
  --automation-policy=<POLICY_NAME>
```

Use the interactive mode

```
horizon-cli automate enroll --prompt
```

Check if the previously enrolled certificates need to be renewed

```
horizon-cli automate routine
```

Get the DN of all the certificates enrolled by the automation module

```
horizon-cli automate list --json | jq -r '.[] | .certificate | .subject'
```

Remove the certificate used by nginx on the port 443 from the automatically renewed certificates

```
horizon-cli automate remove nginx-*:443
```

Remove the certificate used by tomcat on the port 8443 from the automatically renewed certificates and restore the original certificate

```
horizon-cli automate remove --restore tomcat-*:8443
```

12. Release notes

12.1. Horizon Cli 1.12.2 release notes

Here are the release notes for EverTrust Horizon Client v[object Object], released on 2025-07-01. For the installation and upgrade procedure, please refer to the Installation and Upgrade guide.

New Features

[None]

Enhancements

[None]

Bug Fixes

- [HCL-494] - IIS: Fixed a bug when installing on a website configured with hostname
- [HCL-503] - Fixed a bug where multiple requests could be added for the same binding

Reworked features

[None]

Known defects

[None]

12.2. Horizon Cli 1.12.1 release notes

Here are the release notes for EverTrust Horizon Client v[object Object], released on 2025-06-24. For the installation and upgrade procedure, please refer to the Installation and Upgrade guide.

New Features

[None]

Enhancements

[None]

Bug Fixes

- [HCL-490] - Fixed a bug where the MSI packaging could not be uninstalled

Reworked features

[None]

Known defects

[None]

12.3. Horizon Cli 1.12.0 release notes

Here are the release notes for EverTrust Horizon Client v[object Object], released on 2025-06-23. For the installation and upgrade procedure, please refer to the Installation and Upgrade guide.

New Features

- [HCL-366] - Netimport: Now supports Gandi
- [HCL-476] - IIS: Initialization can now be performed independently for each site
- [HCL-479] - Configuration: An external proxy can now be configured to connect to non-Horizon services (e.g., ACME External, third parties to scan, etc.)
- [HCL-485] - Localscan: Execution can now be scheduled
- [HCL-486] - Configuration: Commands requiring `sudo` can now be specified

Enhancements

- [HCL-487] - Uninstalling the client via MSI or RPM now also removes scheduled tasks

Bug Fixes

- [HCL-484] - Fixed a bug where the WinHorizon service could fail to locate certificates in the Windows store

Reworked features

[None]

Known defects

- [HCL-490] - MSI packaging cannot be uninstalled. Upgrade to 1.12.1 and then uninstall to fix the issue