Genetec – AEOS Nedap Plugin – Functional Description and installation manual

Genetec Security Center – Nedap AEOS Plugin

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Genetec™

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Genetec – AEOS Nedap Plugin – Functional Design Description and installation manual

Introduction

Nedap is an access control manufacturer in the Netherlands developing proprietary access control hardware and software. Their flagship product, Nedap AEOS, along with their AEPu hardware controller is targeted at medium to large customers in a variety of different verticals. Nedap AEOS also supports a variety of wireless online and offline locking systems (including support for the OSS Standard) and besides Access Control, also has a built-in Intrusion System. Nedap is a well established brand in the Benelux, France and Nordics region and considered as one of Genetec's main competitors in the Enterprise space.

For strategic purposes, integration of Nedap AEOS into Genetec SecurityCenter is requested and allows for new commercial opportunities.

In this document, we describe the functionality of the AEOS – Genetec Plugin, license structure, event synchronization, implemented actions & reporting on an AEOS federated door, and installation of the AEOS – Genetec Plugin.

Functionality description

The AEOS Genetec plugin enables the integration of AEOS access control as a federated entity in Genetec. The plugin creates Access Points of AEOS as Federated doors in Genetec. Additionally, live events will be received as events on the Federated doors. The events implemented in the plugin are described in this document. The plugin also allows the one-time opening of a Federated door. As a second aspect, Cardholders with corresponding credentials are created as Federated Cardholders and credentials (in AEOS, respectively Visitors, Employees). These AEOS carriers are thus established as Federated entities under the AEOS Genetec Plugin.

License structure

The license structure consists of two parts.

For the first part, you need to request the correct license for each AEOS Plugin role on an existing system ID from Genetec (SKU: GSC-1SDK- NEDAP-AEOS).

The second part of the license is generated with the following parameters: System ID, number of AEOS doors, Company Name (the entity purchasing the license), Validity Period of the license, and the email address of the license owner. This license is a key generated by the author of the software. The purchase is made according to the distribution agreement.

This License Agreement for the use of the Plugin ("Agreement") is entered into between the licensee ("User") and the developer ("Developer") regarding the use of the software provided by the Developer. By accepting this Agreement, the User acknowledges agreement with the terms and conditions outlined below.

License Grant: The Developer hereby grants the User a non-exclusive, non-transferable license to use the software ("Software") for the duration corresponding to the purchase of the license.

Time Restriction: The license is limited to a specific time duration, as indicated during the purchase process. Upon expiration of this period, the User is no longer entitled to use the Software unless the license is renewed.

Ownership:

Intellectual Property: The code, architecture, documentation, and user interface/user experience (UI/UX) of the Software remain the exclusive property of the Developer at all times. The User acknowledges and agrees that

they have no rights to the intellectual property of the Software, except the right to use the Software as specified in this Agreement.

Usage Restrictions:

Limitations: The User may not reverse engineer, decompile, disassemble, or attempt in any other way to discover the source code of the Software.

Transfer: The User may not transfer or sublicense the license without prior written consent from the Developer.

Support and Updates:

Support: The Developer may, at their discretion, provide technical support during the license period as specified in the purchase information.

Updates: The User may be entitled to updates of the Software during the license period, as made available by the Developer.

Termination:

Termination by User: The User may terminate the license at any time by discontinuing the use of the Software and removing all copies.

Termination by Developer: The Developer reserves the right to immediately terminate the license if the User fails to comply with the terms of this Agreement.

General:

Entire Agreement: This Agreement constitutes the entire agreement between the parties and supersedes all prior oral or written agreements.

Applicable Law: This Agreement is governed by the applicable law in the jurisdiction of the Developer.

By installing or using the Software, the User agrees to the terms of this License Agreement.

Description of events

The plugin will establish a live connection over the NEDAP socket. This socket will actively receive TCP messages from the AEOS server. The AEOS server will post all live events on this socket. The AEOS plugin will capture the live events and pipe them to the Genetec events on the respective entity of the AEOS plugin in Genetec.

The events that are captured are listed below:

EVENT ID AEOS: 1001 Access point locked

EVENT GENETEC: Door Lock

EVENT ID AEOS: 1003 Access point unlocked

EVENT GENETEC: Door Unlock

EVENT ID AEOS: 1005 Direct door alarm start

EVENT GENETEC: DoorOpenedForTooLong

EVENT ID AEOS: 1012 Door manual unlock start

EVENT GENETEC: DoorRexOn

EVENT ID AEOS: 1013 Door manual unlock end

EVENT GENETEC: DoorRexOff

EVENT ID AEOS: 1015 Authorized badge $BADGEINFO$ of $CARRIERINFO$ at door $DOORINFO$ has been accessed to AccessPoint

EVENT GENETEC: AcessGranted CARRIER INFO and BADGE number

EVENT ID AEOS: 1044 Device network operational
EVENT GENETEC: DoorOnline

EVENT ID AEOS: 1060 AEpuStatusEvent reachable (Generated by AEOS Server or interface server) AEpu is been reached by AEOS server(lookup server)
Action GENETEC: Servicekey of door make online

EVENT ID AEOS: 1061 AEpuStatusEvent unreachable (Generated by AEOS Server or interface server) AEpu is not been reached any longer by AEOS server(lookup server)
Action GENETEC: Servicekey of door make offline

EVENT ID AEOS: 1127 Unauthorized badge $BADGEINFO$ of $CARRIERINFO$ at door $DOORINFO$, badge is not assigned to a carrier

EVENT GENETEC: CredentialUnassignedEvent

EVENT ID AEOS: 1129 Unauthorized badge $BADGEINFO$ of $CARRIERINFO$ at door $DOORINFO$, badge is not valid

EVENT GENETEC: AccessOutOfSchedule

EVENT ID AEOS: 1131 Unauthorized badge $BADGEINFO$ of $CARRIERINFO$ at door $DOORINFO$, badge has no authorization for this entrance

EVENT GENETEC: AccessInsufficientPrivileges

EVENT ID AEOS: 1196 ProvideAccessEvent

EVENT GENETEC: DoorUnlock

EVENT ID AEOS: 1201 Unauthorized badge $BADGEINFO$ of $CARRIERINFO$ at door $DOORINFO$, no authorization for this entrance

EVENT GENETEC: AccessInsufficientPrivileges

Health Events:

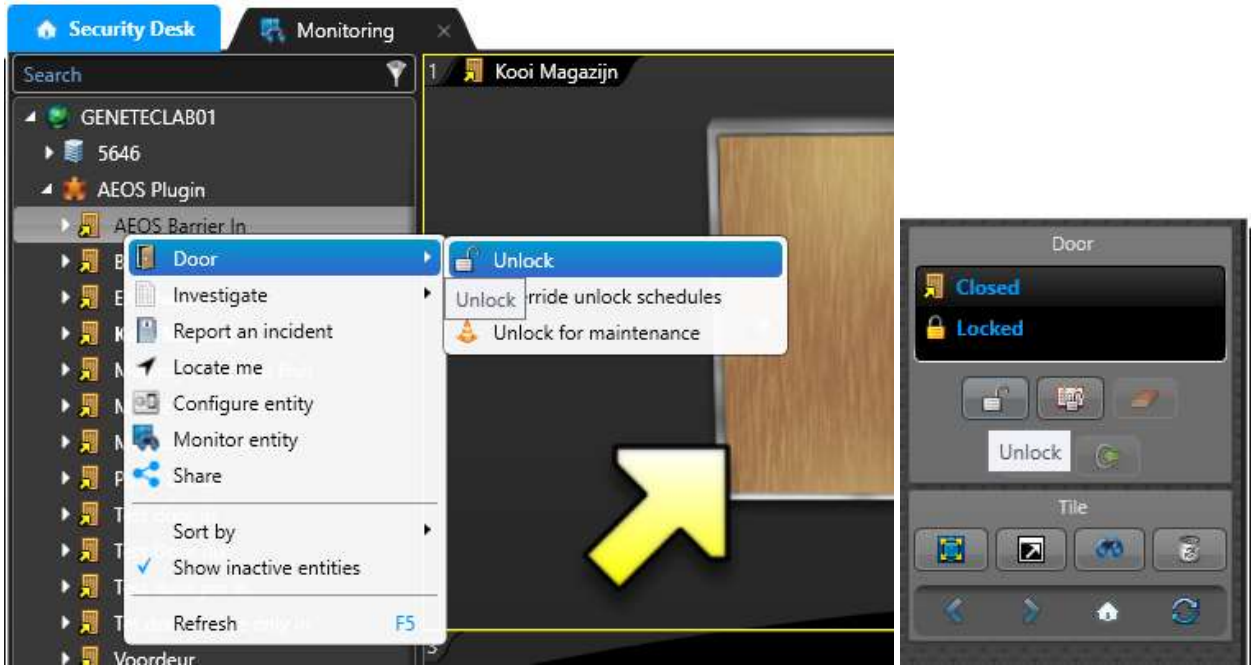
The health events in AEOS are based on heartbeats. When we miss an hardbeath of a specific controller we will flag this controller and his doors for down. The plugin isn’t flagging offline readers only. We only refer offline controllers.

Implemented Actions & Reporting on an AEOS Federated Door

You can perform the following actions on a fully operational AEOS federated door integrated with a live AEOS server from Genetec Security Center. To control each federated door from workstations and/or servers, the "AEOS Plugin" must be installed following the instructions outlined in this document. Additionally, a valid license must be active on the server, as described in the licensing section of this document.

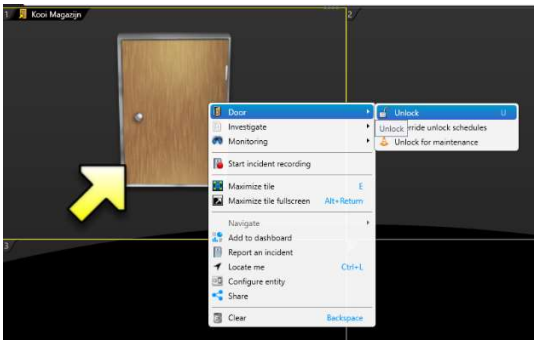
Manual unlock via monitoring task

On an AEOS federated door through the AEOS plugin, you can open the door using the Unlock button. You can access this function from the entity tree view in your monitoring task or through the action menu if you have selected the door in your tile overview.



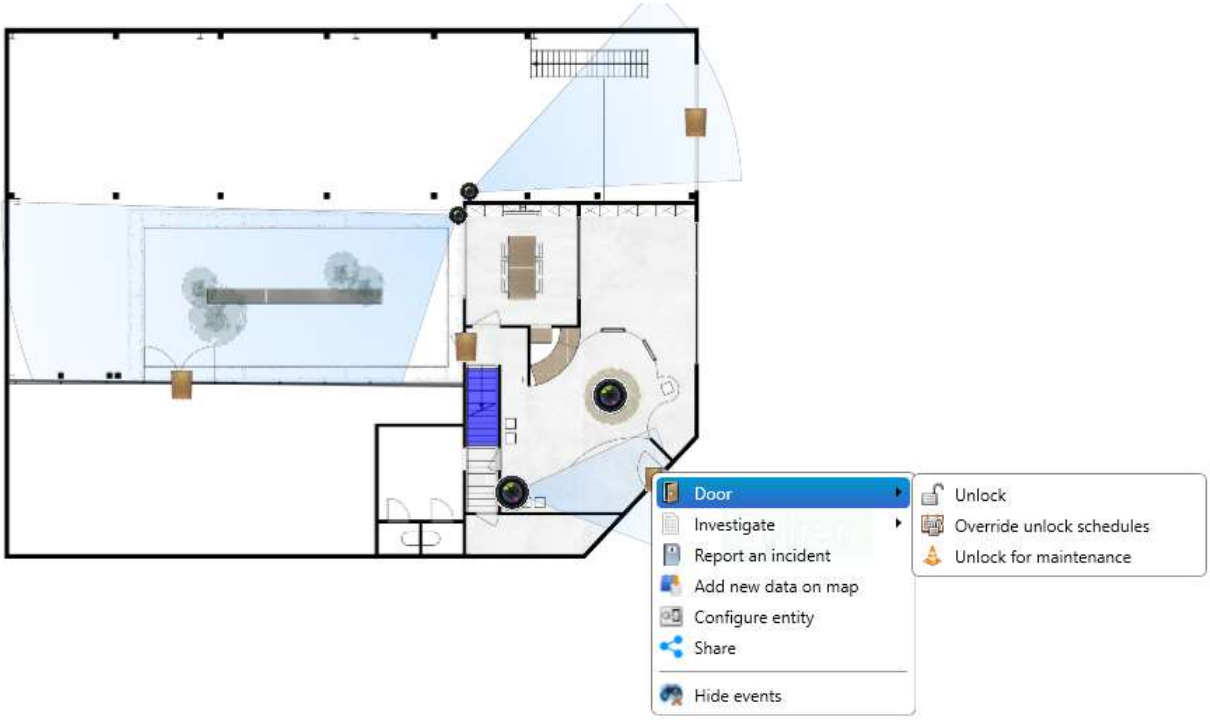
Known issue

Another aspect of the AEOS Genetec Plugin involves a known problem: attempting to invoke the same action by right-clicking on the door loaded in the tile does not allow you to open the door. This is a recognized issue within the functionality of the plugin.



Manual unlock via Maps

On an AEOS federated door through the AEOS plugin, you can send an open command to this door using the Unlock button. You can access this function from the entity tree view in your mapped layout. Doors can be mapped using the configuration tool on an existing and/or new layout. Similarly, through the Genetec Security Center, you can also send open commands to the doors in a similar manner.



Reporting

Several reports have been implemented that you can easily access from within Security Center. All the reports described below retrieve data from the master data of the live AEOS server. This includes all Cardholder events, Credentials activity, and Door activities fetched from the AEOS server. The speed of the reports is determined by the response time of the AEOS server. The AEOS Plugin Role ensures that all retrieved history is passed on to the native reports in Genetec in the correct format.

Door activity report

Through the "Door Activity Report," you can select one or more Areas, Doors, or plugin roles and use the standard filter fields to customize the report according to your preferences. The fields available for customization include Firstname, Lastname, Credential, Event Timestamp, Cardholder, Credential Code, Card Format, and Email Address.

If cameras are linked to specific doors, the standard functionality of retrieving camera images for the respective timestamp will also work seamlessly.

Cardholder activity report

Through the "Cardholder Activity Report," you can select one or more Cardholders, Doors, or plugin roles and use the standard filter fields to customize the report according to your preferences.

If cameras are linked to specific doors, the standard functionality of retrieving camera images for the respective timestamp will also work seamlessly.

Credential activity report

Through the "Credential Activity Report," you can select one or more Credentials, Doors, or plugin roles and use the standard filter fields to customize the report according to your preferences.

If cameras are linked to specific doors, the standard functionality of retrieving camera images for the respective timestamp will also work seamlessly.

Installation Procedure AEOS – Genetec Plugin

The installation files for the AEOS-Genetec Plugin are delivered in a compressed folder. This ZIP file contains the compiled program code for the AEOS-Genetec Plugin. Along with this ZIP file, upon purchasing the license, you will receive a license key generated according to the data described in the License Structure section.

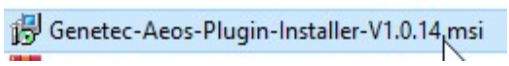
Below is the step-by-step plan outlined to install both the Client and Server AEOS plugin applications.

Procedure for installation on Server and Client

Copy or download the zip file locally to the server and/or client(s) that need to use the AEOS federated doors. If the file is on the file system, you need to extract it. You can open the ZIP file with Windows Explorer.

In the zip file, you will find the following files:

Genetec-Aeos-Plugin-Installer-V1.0.14.msi

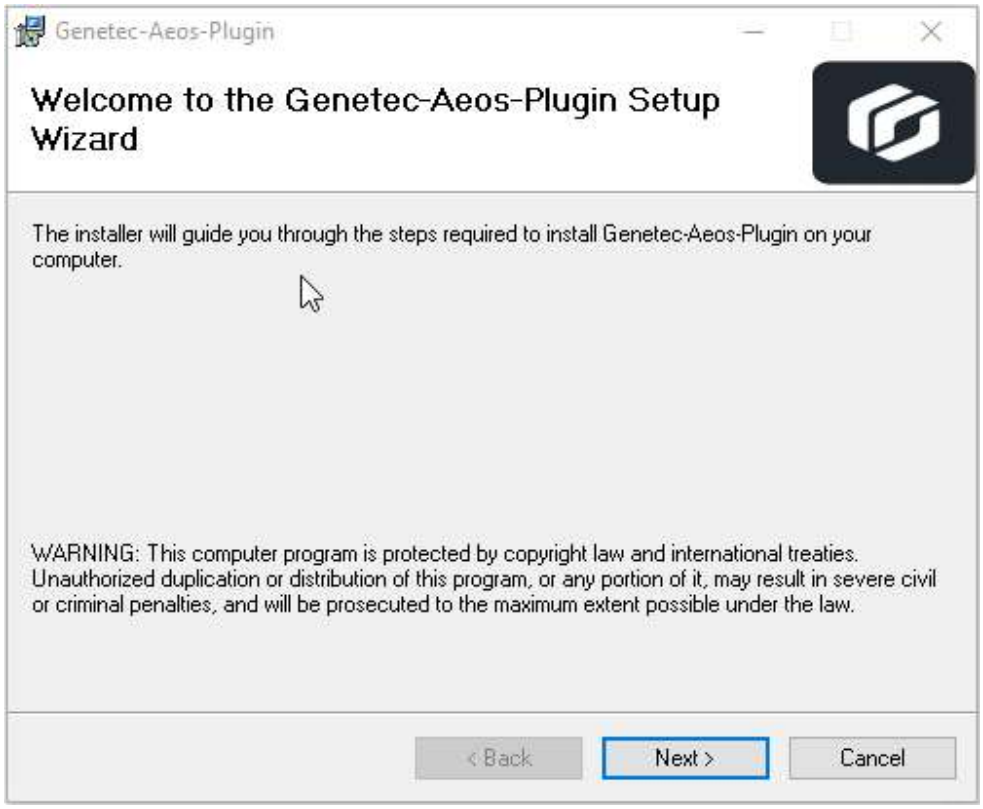


Run this MSI as administrator.

This will start the Genetec-Aeos-Plugin installation.

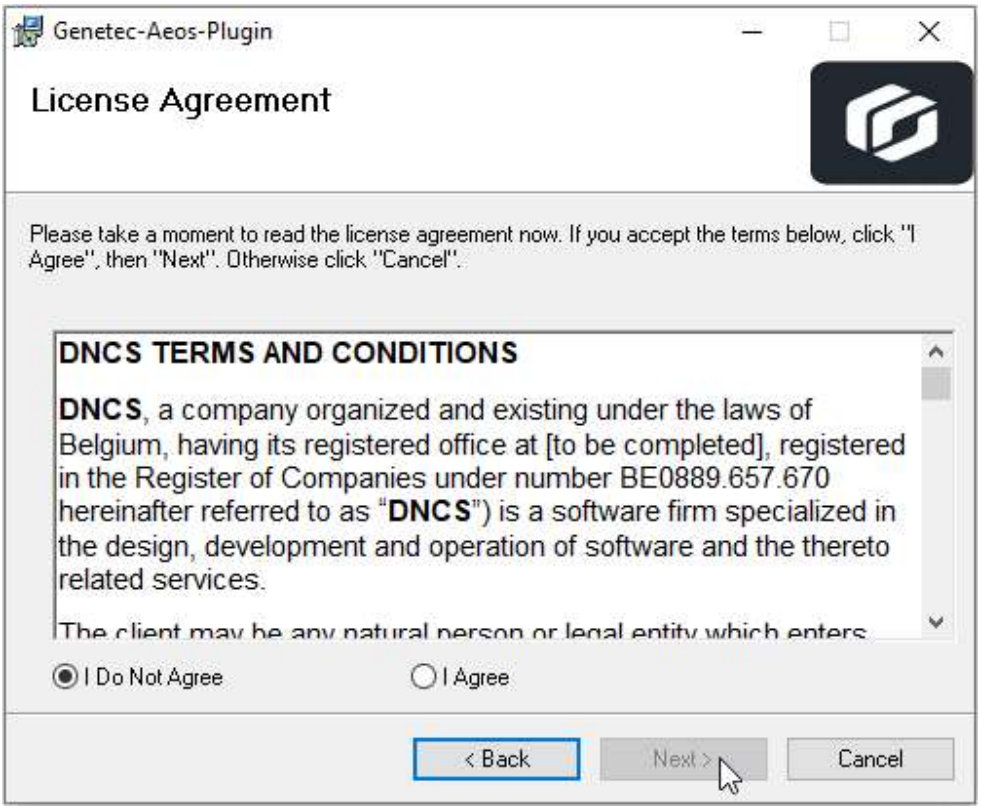
You will see the following screen:

Click Next.

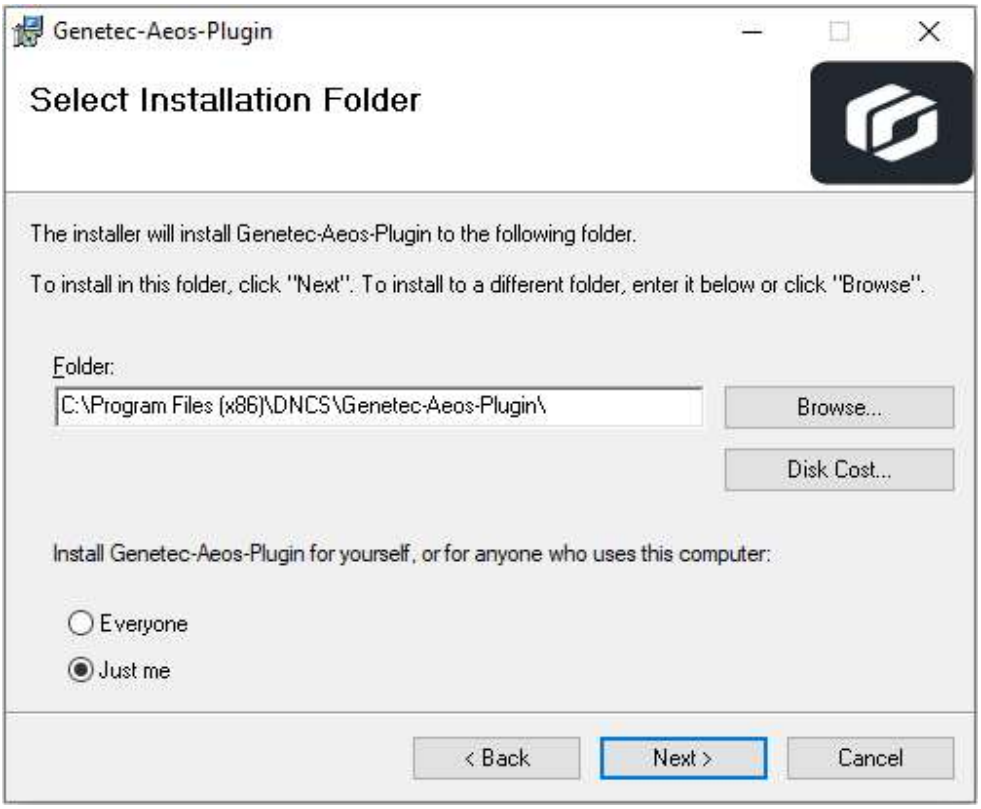


License Agreement: Read the Terms And Conditions of the license agreement.

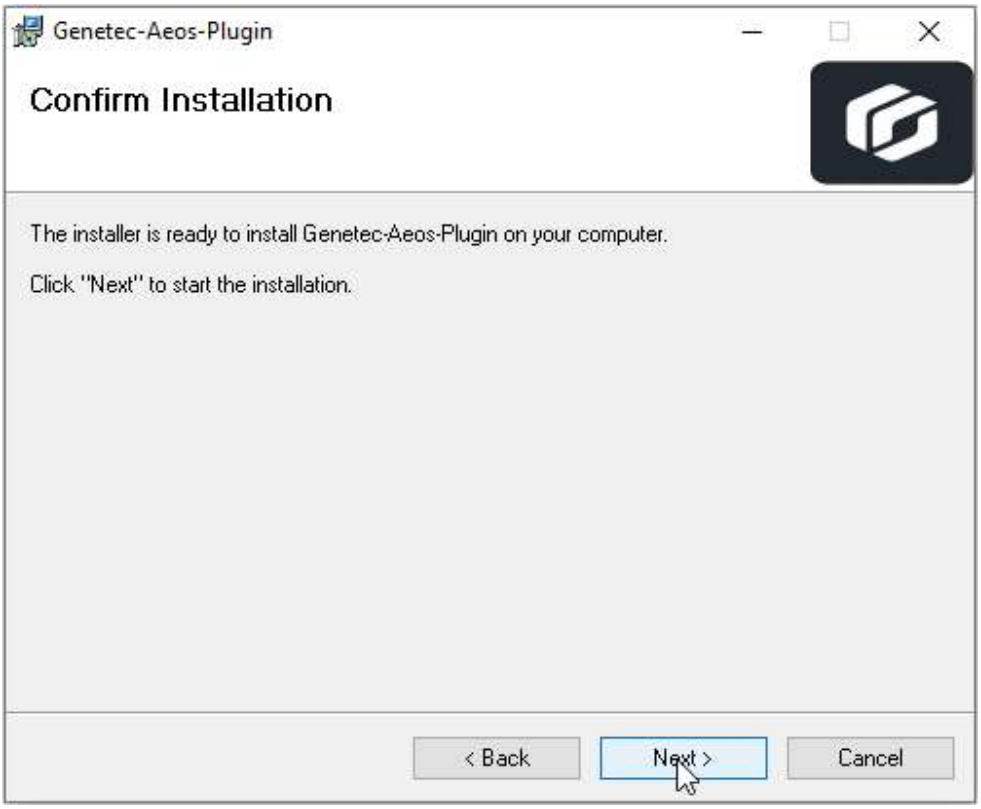
Click I Agree and Click Next to proceed.



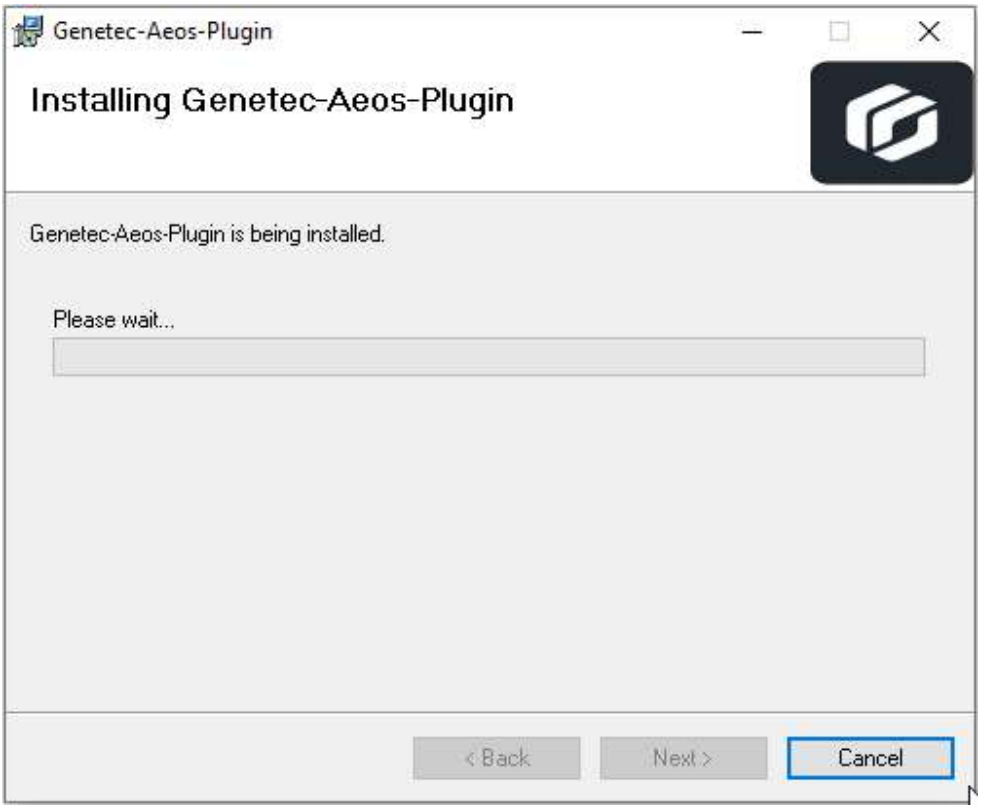
Select Installation Folder: following step will show you the installation folder. Please choose an installation location of the plugin code or use the default location and click Next.



Confirm Installation: The installer is ready to install the plugin code on to this computer. Please Click next to proceed. Keep in your mind if you are installing this on a Genetec Server the Genetec Service will restart automatically.



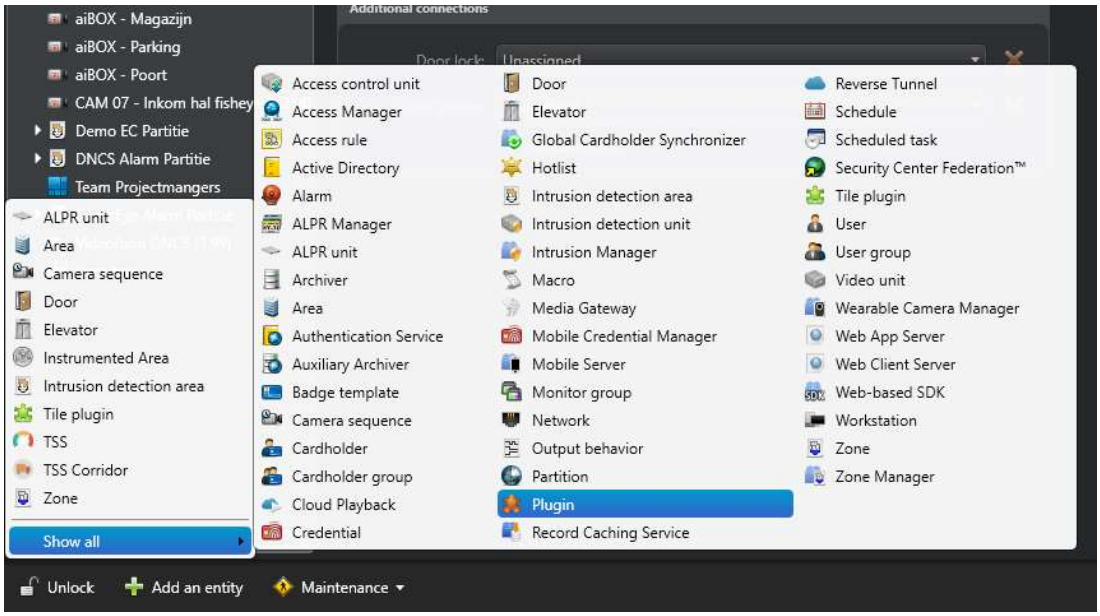
Installing Genetec-Aeos-Plugin: The installer is installing necessary components.



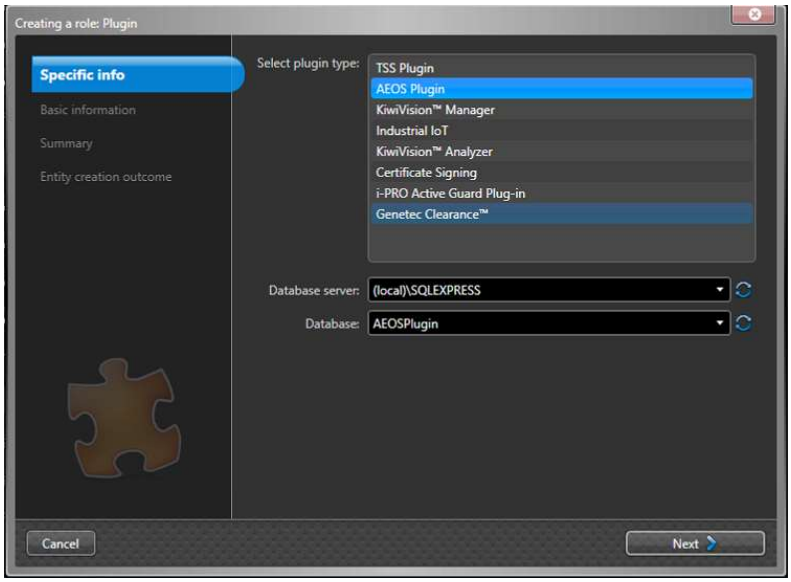
After installation of the plugin code. The setup wizard will show you installation successfully.

Additional steps for server installation

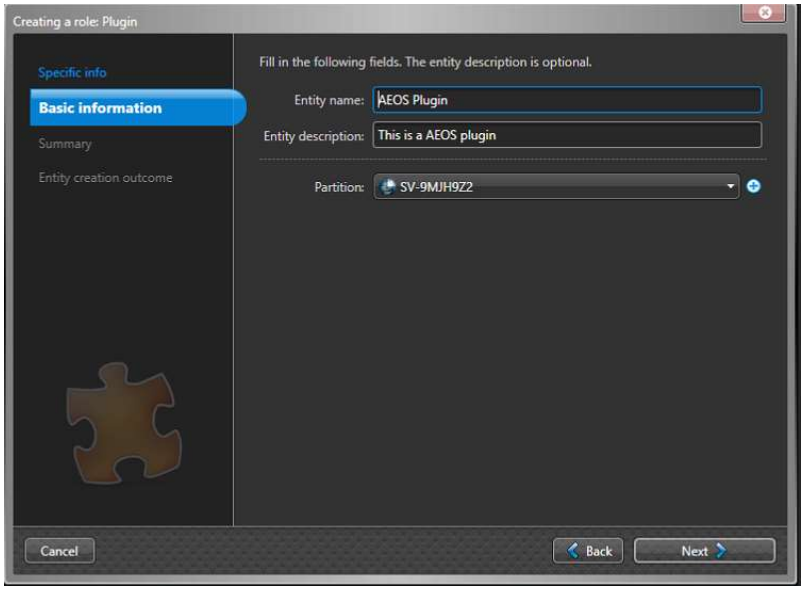
Next, you need to start Config Tool to install the AEOS Plugin on the server. After launching it, open the Area View. Then, click on "Add an entity" and select "Plugin."



After this, you will be presented with a list of all installed plugins on your system to add. Choose the AEOS Plugin with the desired DATABASE settings. Then, click on "NEXT."

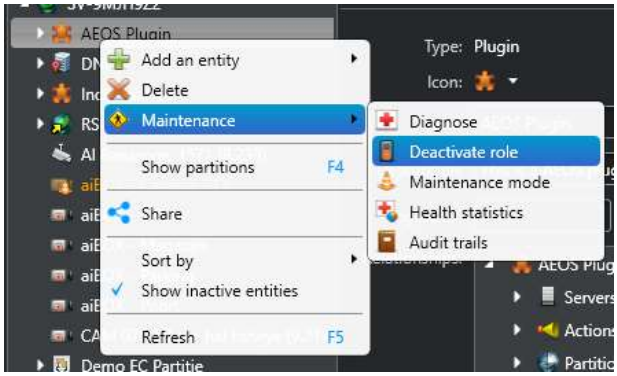


Next, you can give the entity a name and a description. Then, click on "Next."

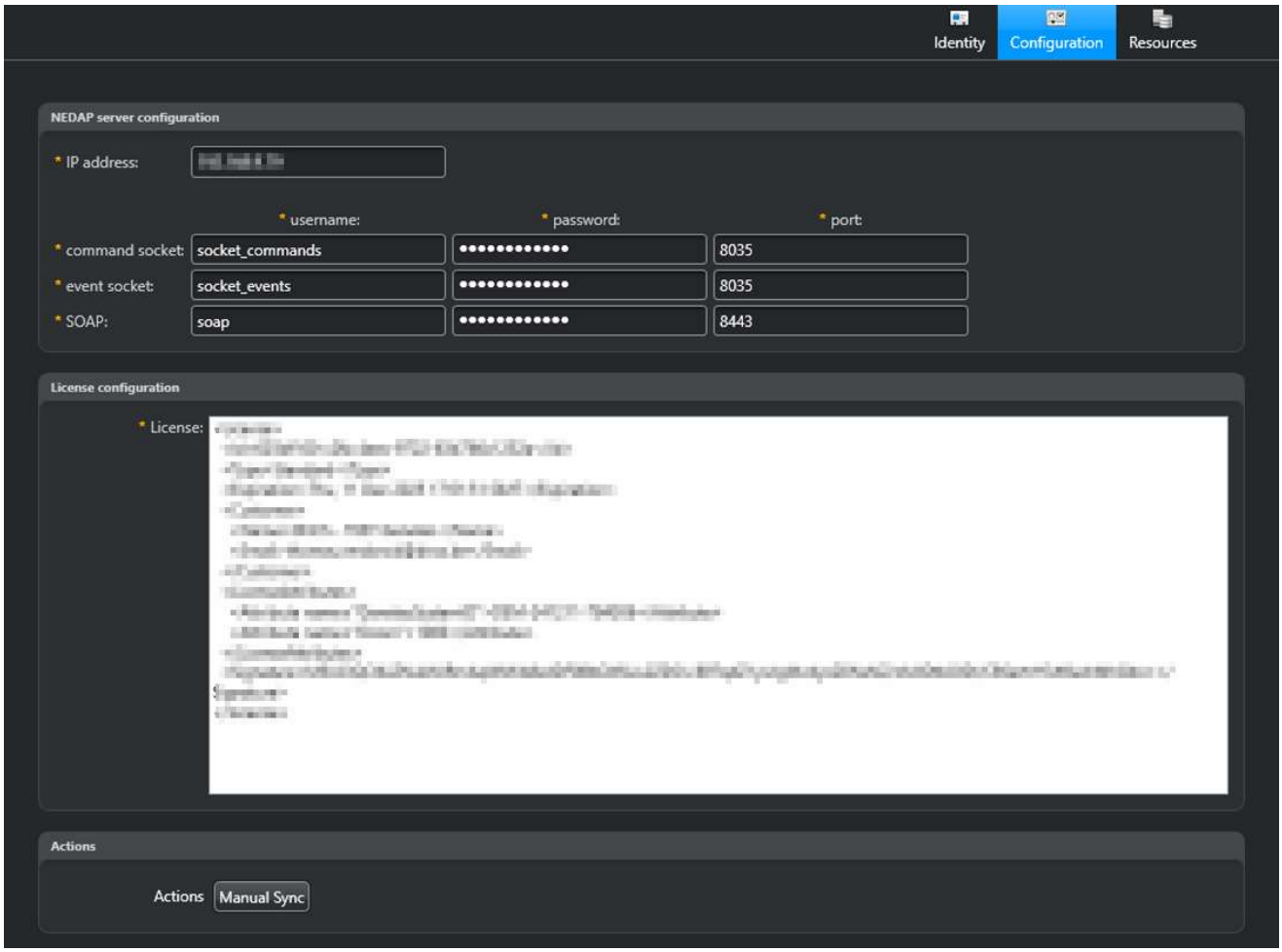


After this, you will see an overview of the settings you have entered. Click on "Create" to proceed. The Plugin will then be created on the server.

After this, you will see the "AEOS Plugin" role appear in the tree view. Right-click to temporarily deactivate this role.



Afterward, open the configuration tab of the plugin role:



In the fields above, fill in the following information:

IP Address: IP address or FQDN of the AEOS server

Command socket credentials (default port 8035)

Username: Username of an admin user in AEOS (SOCKET user rights must be active)

Password: Password of the respective admin user

Event socket credentials (default port 8035) needs to be a different user than the Command socket.

Username: Username of an admin user in AEOS (SOCKET user rights must be active)

Password: Password of the respective admin user

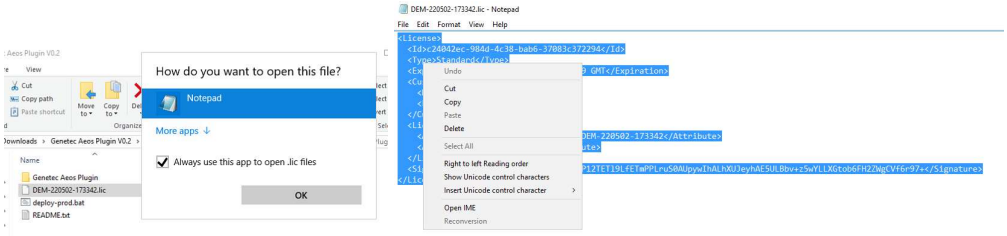
Soap credentials (default port 8443)

Username: Username of an admin user in AEOS

Password: Password of the respective admin user

Soap needs te be activated on the AEOS server. We refer to the AEOS SOAP Webservice manuel to correctly configure the SOAP interface in AEOS. You will find short an brief summary of this on the next page of this manuel.

License: Paste the content of the license file here. You can open the license file in Notepad to view its content.



Next, reactivate the role by right-clicking on the role -> maintenance -> activate role. Afterward, a connection will be established with AEOS, and the doors will be added as federated doors in Genetec Security Center.

Set up SOAP in AEOS.

Latest information about this topic you will find on portal.nedapsecurity.com.

1) Set up SOAP in AEOS
    a. With the AEOS SOAP WebService, third parties can receive and change data in AEOS with SOAP calls.
    b. This chapter describes how to get SOAP and how to connect it to AEOS.
    c. Enable SOAP in AEOS
        i. During the AEOS software installation (setup), select **SOAP WebService** in the **Select the desired options for the AEOS application** window. If the AEOS is already installed, just run the setup again and don't change any settings except the selection of the SOAP WebService.
        ii. **NOTE:** From AEOS 2023.1, all options (including SOAP) are installed by default and are only activated as necessary. You do not have to select SOAP during the setup anymore.
        iii. **In AEOS enable SOAP in the system properties.**

1. a. go to go to **Administration > Maintenance > Settings > System properties**.
2. b. Select the **SOAP WebService** checkbox (44.15).
3. c. Click **OK**.
4. d. Restart the AEOS application server service

Performance Testing Results AEOS – Genetec Plugin

Test Environment

The performance tests were conducted using:

A test Genetec Server

A simulated AEOS Server populated with 10,000 cardholders

Initial Synchronization Time

During the initial synchronization, the plugin processes all cardholders from the AEOS system into Genetec. In our test setup with 10,000 cardholders, the synchronization time was approximately 3 seconds per cardholder.

Thus, the total initial sync time:

10,000 cardholders × 3 seconds = 30,000 seconds

Converted to hours: 30,000 ÷ 3,600 = 8.33 hours (~8 hours 20 minutes)

During this time, the plugin will not be fully operational and will remain in a warning state. Once the initial synchronization is complete, the plugin will be fully active.

Impact of an Ongoing Synchronization

Any events related to cardholders, credentials, or doors that have not yet been fully synchronized may cause anomalies in the interface. If you experience unexpected behavior during this period, please wait until the full synchronization is complete.

How to Calculate Your Synchronization Time

To estimate the synchronization duration for your specific environment, follow these steps:

List the following data from your AEOS system:

Total number of doors

Total number of cardholders

Total number of credentials

Calculate the total number of entities to be synchronized:

Total entities

=Number of doors

+

Number of cardholders

+

Number of credentials

Total entities=Number of doors+Number of cardholders+Number of credentials

Estimate the total synchronization time:

The synchronization process runs sequentially and takes approximately 2-3 seconds per entity.
Multiply the total entity count by 3 seconds to get an estimate of the synchronization time in seconds.
Ongoing Synchronization Behavior
After the initial sync, the plugin will only synchronize modified cardholder data.
Doors will always be fully resynchronized whenever a sync occurs.