



Installation & Maintenance Guide

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Everbridge Control Center

5.73

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# About Control Center Installation

The Control Center™ installation process can be performed on desktops, laptops, and servers. The Control Center installer is easy to use and provides default options to automate the installation process.

**Important:** There are two important changes to the installation process that will affect the installation where a Control Center database already exists.

1. **Schema management** – The installer will remove any objects from the databases listed below if they are not part of the current Control Center database model. That is, any existing custom tables, stored procedures etc. will be removed. If custom tables are required, create these in separate databases.
  - Pacific
  - Connection Manager
  - Auditing
  - Atlantic
2. **Database cleanup** – Control Center will delete all Control Center objects in the database that do not comply with the database integrity rules. For example, deleting an object manually from the device table would leave invalid rows in other tables such as the permission tables, therefore such entries will now be removed.

## Overview of the Installation Process

At a high-level, the installation process covers the following sections:

- Software Requirements and Prerequisites.
- Installing Control Center and Connection Manager installation.
- Database setup during installation. The steps for setting up SQL server is not covered in this document. See the Microsoft SQL Server Configuration Help for instructions.
- Control Center License Certificate, which is the Software license code used for unlocking features and functionality in Control Center.

## Control Center Installers

Control Center comes packaged with several components that enable you to accomplish a specific function within a solution. The Server installer includes all the required components except for the Windows Client, which is provided using a separate installer.

### Control Center Server Installer

The Control Center Server installer comes packaged with all server-side components.

The Control Center Server installer includes the following components:

- Alarm Types

- Alarm Types Service
- Rules Engine Service
- Auditing Service
- Connection Manager Service
- Data Management Service
- Data Web Service (IIS)
- Federated Service
- GIS Service
- Location Import Tool
- Open API Service
- Remote Deployment Tool
- Security Service
- Sensor Service
- Server Service
- Video Export Service
- Web Server (IIS)
- Web Service

### Control Center Windows Client Installer

The Control Center Windows Client installer includes the Windows Client application, which enables you to connect to an Control Center Server installation. Although the Windows Client can easily be installed on the same computer as the server (for example, for training or demonstrations), it is typically installed on separate computers.

### Software Requirements

The following sections describe the software requirements for Control Center, depending on what components you are installing.

**CAUTION:** When installing , you must install Control Center Server and Control Center Clients with the same major.minor.patch version numbers. For example, if you are installing Control Center Server version 5.20.5 then you must install Control Center Client Version 5.20.5 on your client machines.

### Control Center Server Requirements

Before installing Control Center Server, ensure that you have installed the required software listed below.

Supported Operating Systems	<ul style="list-style-type: none"> <li>• Windows Server 2022</li> <li>• Windows Server 2019</li> </ul>
Supported Databases	<ul style="list-style-type: none"> <li>• SQL Server 2022</li> <li>• SQL Server 2019</li> </ul>

Other	<ul style="list-style-type: none"> <li>• Microsoft Data Tier Application Framework 2019 (15), 2022 (16)</li> <li>• Microsoft .NET Framework 4.7.2</li> <li>• Microsoft Message Queuing (MSMQ). See Enabling MSMQ.</li> </ul>
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**NOTE:** Everbridge recommends that you do not install the Express edition of SQL Server as it supports databases only up to 10 GB.

### Microsoft Data Tier Application Framework

Control Center installation uses Microsoft Data Tier Application Framework to create and manage the Control Center database in Microsoft SQL Server.

Microsoft SQL Server Data-Tier Application Framework requires that you install the following components from the Microsoft website for your respective version of SQL Server:

- SQL SqlDom
- SQLSysClrTypes

Control Center works with SqlPackage version 10 to version 16 (2022). Sqlpackage.exe is backwards compatible but not forwards compatible with SQL server. If you want to deploy Control Center to SQL 2022 you require DACPAC 16 (2022).

### Control Center Windows Client Requirements

Before installing Control Center Windows Client, ensure that you have installed the required software listed below.

Supported Operating Systems	<ul style="list-style-type: none"> <li>• Microsoft Windows 10, Windows 11</li> </ul>
Microsoft .NET Framework	<ul style="list-style-type: none"> <li>• Microsoft Net Framework 4.7.2</li> </ul>

# Prerequisites for Installing Control Center

After installing the software required for Control Center, you must configure some settings to install Control Center successfully. Everbridge recommend you follow the steps described in the following order:

1. [Enable named pipes and TCP/IP for SQL](#)
2. [Update Group Policy for a Service Account](#)
3. [Configure prerequisites for Windows OS](#)

## User Account Requirements

Installing and configuring Control Center requires the following.

- Windows user - responsible for installing and configuring Control Center
- Database user - responsible for creating and administrating the Control Center database
- Service Account - responsible for running the Control Center Services and access to the Control Center database

### Windows User

The Windows user must have the following roles:

- **db\_owner**
- **db\_creator**

### Database User

The Database user must also have a **db\_owner** role. Everbridge recommends that you use Windows authentication when you supply the database run time credentials when installing Control Center. If you use SQL authentication, you must enter a password that is then stored as plain text in other areas of Control Center, for example, dashboards. For security reasons, therefore, it is better to use Windows authentication.

### Service Account

The Service Account requires:

- Local System Admin permissions because of the net.tcp port sharing service.
- Read and Execute, List folder contents and Read permissions to the folder where Control Center is installed
- Read Permissions on CN=\Users in Active Directory Users and Computers (if Active Directory is being used)
- Local Policy - Log on as a Service for the account.

**NOTE:** Active Directory groups are not required but can be used.





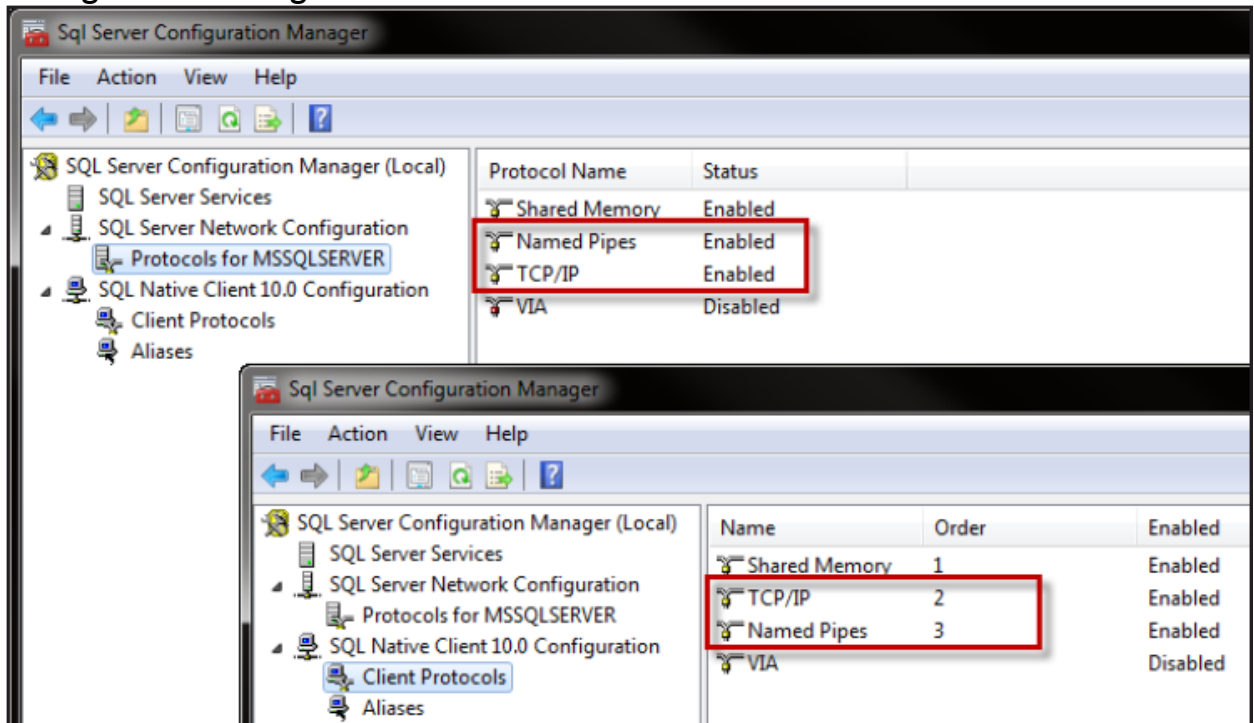
## Enabling Named Pipes and TCP/IP for SQL

You must enable named Pipes and TCP/IP communications in Microsoft SQL Server for Control Center to successfully communicate.

**NOTE:** This section assumes that you have already installed Microsoft SQL Server.

To enable Named Pipes and TCP/IP:

1. Click **Start > All Programs > Microsoft SQL Server 2012 > SQL Server Configuration Manager**.



2. Expand **SQL Server Network Configuration** and enable all Named Pipes and TCP/IP protocols.

## Updating Group Policy for a Service Account

You must run all Control Center services and applications under a known Windows account.

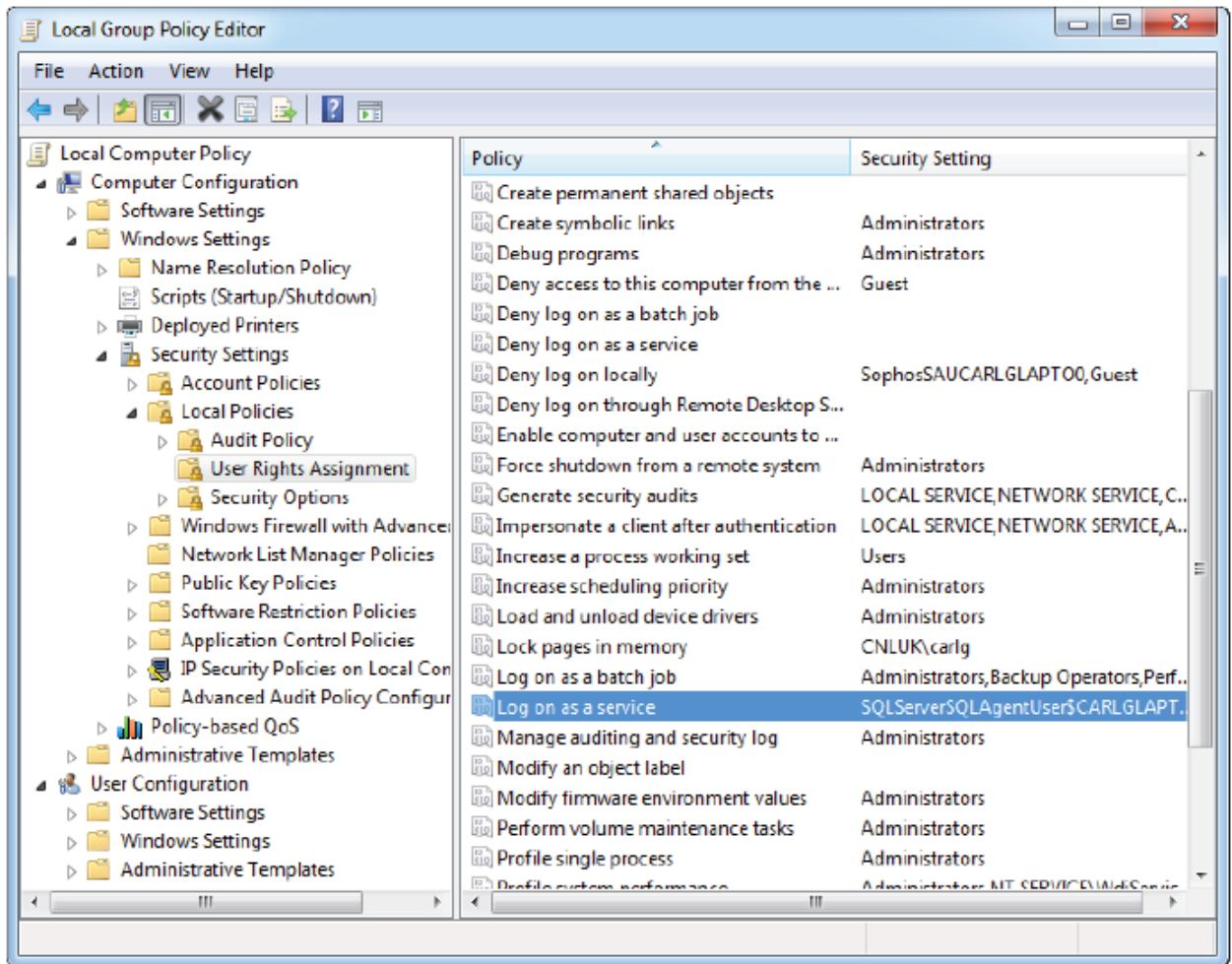
To enable the installer to apply the specified account, update the Log on as a service policy.

To assign log on as a service policy:

1. Click **Start > Run**.
2. Type **gpedit.msc** and then press **Enter**.
3. Expand **Computer Configuration > Windows Settings > Security Settings > Local Policies**, and then click **User Rights Assignment**.

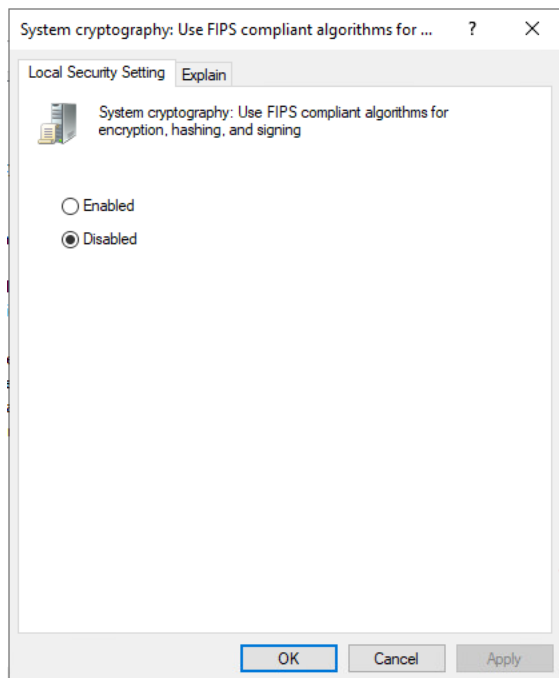
4. On the right pane, right-click **Log on as a service** and select **Properties**.

5. Add the specified users to the policy that are required to run Control Center, and select **OK**.



### System Cryptography: Use FIPS Compliant Algorithms for Encryption, Hashing, and Signing

You must set the **System Cryptography: Use FIPS compliant algorithms for encryption, hashing and signing** option in your **Local Security Policy** to **Disabled**.



The United States Federal Information Processing Standard (FIPS) 140 standard defines cryptographic algorithms approved for use by US Federal government computer systems for the protection of sensitive data.

Control Center is a software application, built using Microsoft .Net, that runs on the Windows platform.

**System cryptography: Use FIPS 140 compliant cryptographic algorithms, including encryption, hashing and signing algorithms** is a policy available within Microsoft Windows operating system and disabled by default.

Enabling this policy makes Windows and its subsystems use only FIPS-validated cryptographic algorithms. Enabling FIPS mode also causes the .NET Framework to disallow the use of non-validated algorithms. If FIPS mode is enabled, the .NET Framework disallows the use of all non-validated cryptographic classes. .Net Framework offers multiple implementations of most algorithms, and not all of them have been submitted for validation.

If an application tries to use a cryptographic class that has not been validated, and FIPS mode is enabled, the Framework will raise an exception and not allow the class to be used; this exception will almost always cause the application to fail, if not terminate immediately.

Control Center is using .Net Framework classes that have not been submitted and is therefore likely to fail should the policy be enabled. For this reason, Everbridge recommends the policy to be turned off.

## Configuring Prerequisites for Windows Operating Systems

The prerequisites assumed are:

- A clean installation of Microsoft Windows. The Microsoft Windows installation disk may be required for some steps.
- Microsoft SQL Server and Microsoft .NET Framework 4.7.2 are installed.

### Enabling MSMQ

To enable MSMQ:

1. Open the **Server Manager**.
2. Click **Add roles and features** and leave the default selection as it is.
3. Click **Next** until you locate the **Server Roles** page.



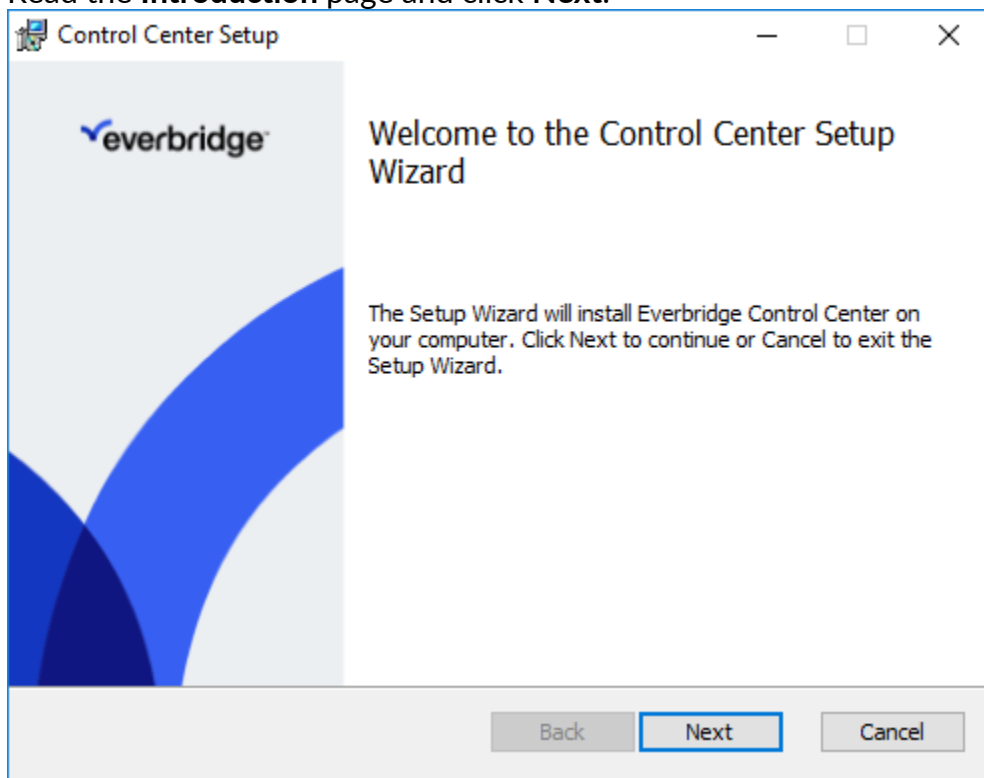
# Installing Control Center Server

**Notes:**

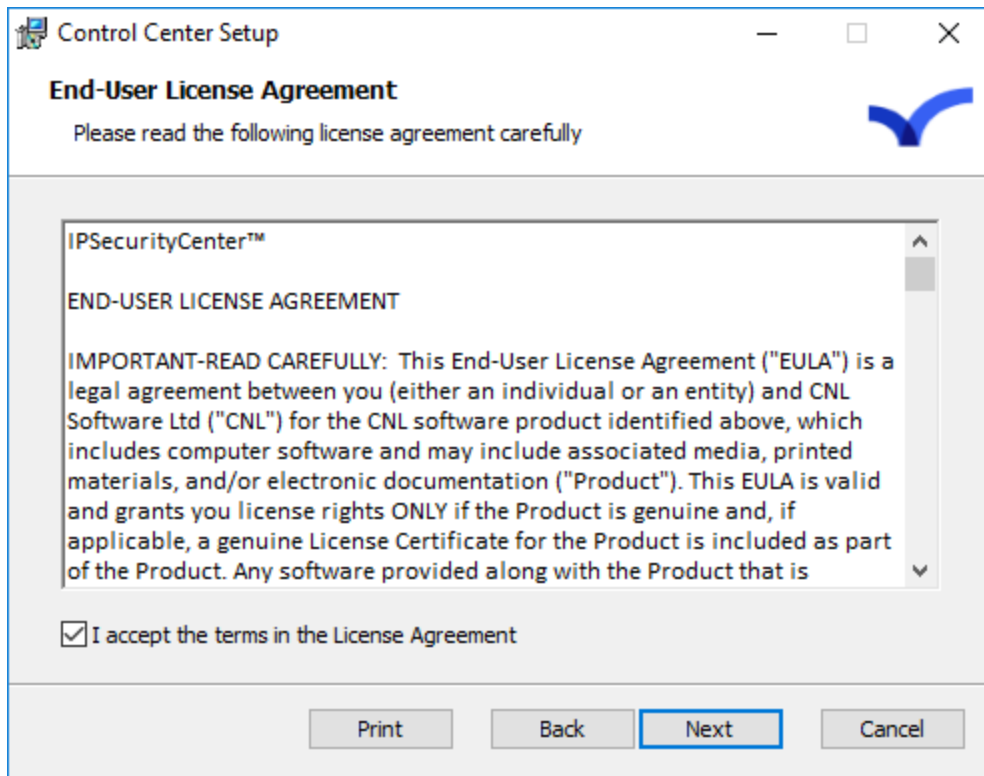
- Before installing Control Center, ensure that you have completed the steps in the [Configuring Prerequisites for Control Center](#).
- The installer will remove any tables in the Control Center database that are not part of the latest Control Center database schema. Do not create custom tables in the Control Center databases as these will be removed on upgrade. If custom tables are needed, create those in a separate database.

To install Control Center Server:

1. Run the **Everbridge.ControlCenter.Server.Installer.msi** Windows installer package.
2. Read the **Introduction** page and click **Next**.



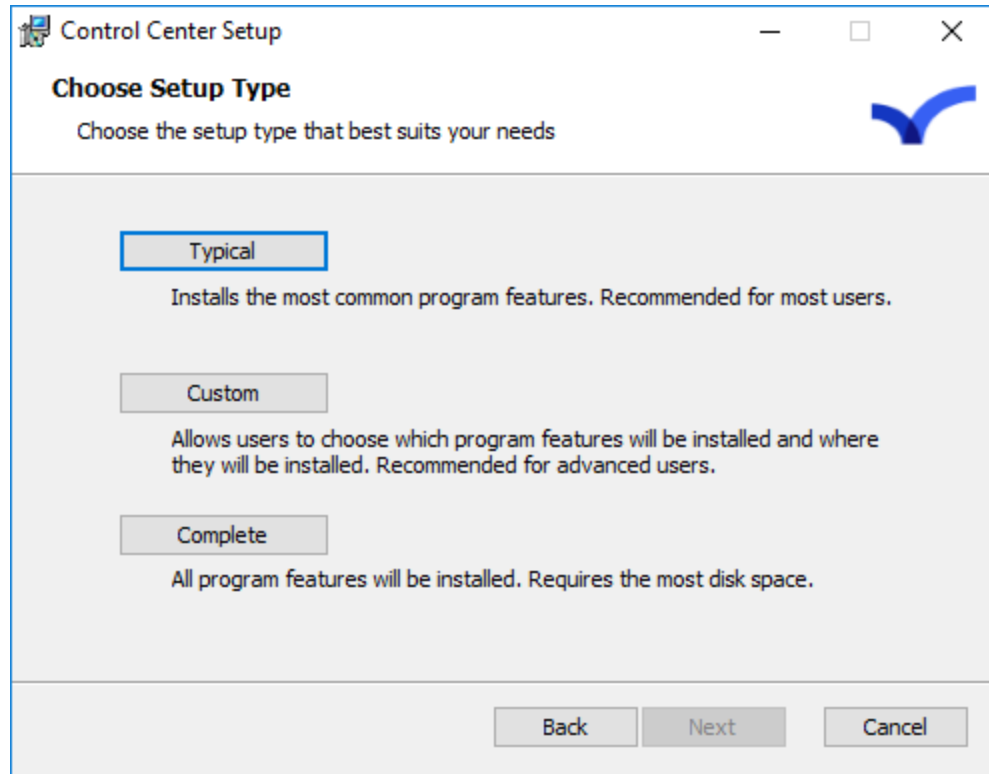
3. Read and accept the license agreement, and then click **Next**.



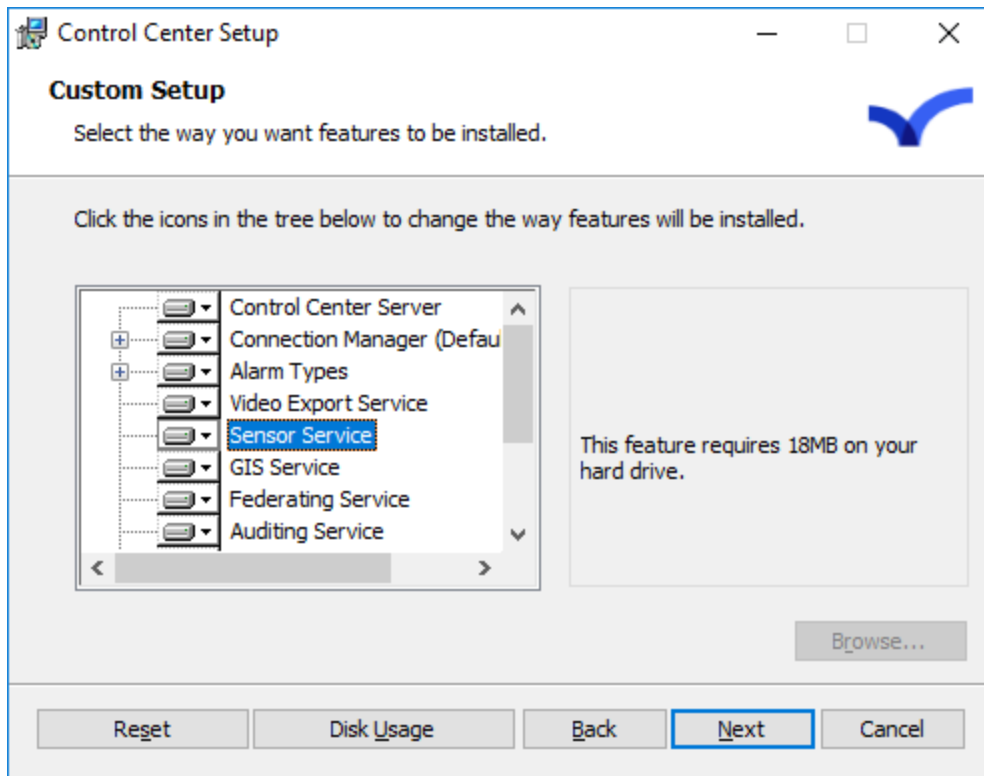
The **Choose Setup Type** page offers the following options:

- **Typical** – Provides options to pre-select the Server, Connection Manager, Alarm Types components, Data Management Service, GIS Service, Remote Deployment Tool and Location Importer Tool.
- **Custom** – Provides individual component selection.
- **Complete** – Installs all components.

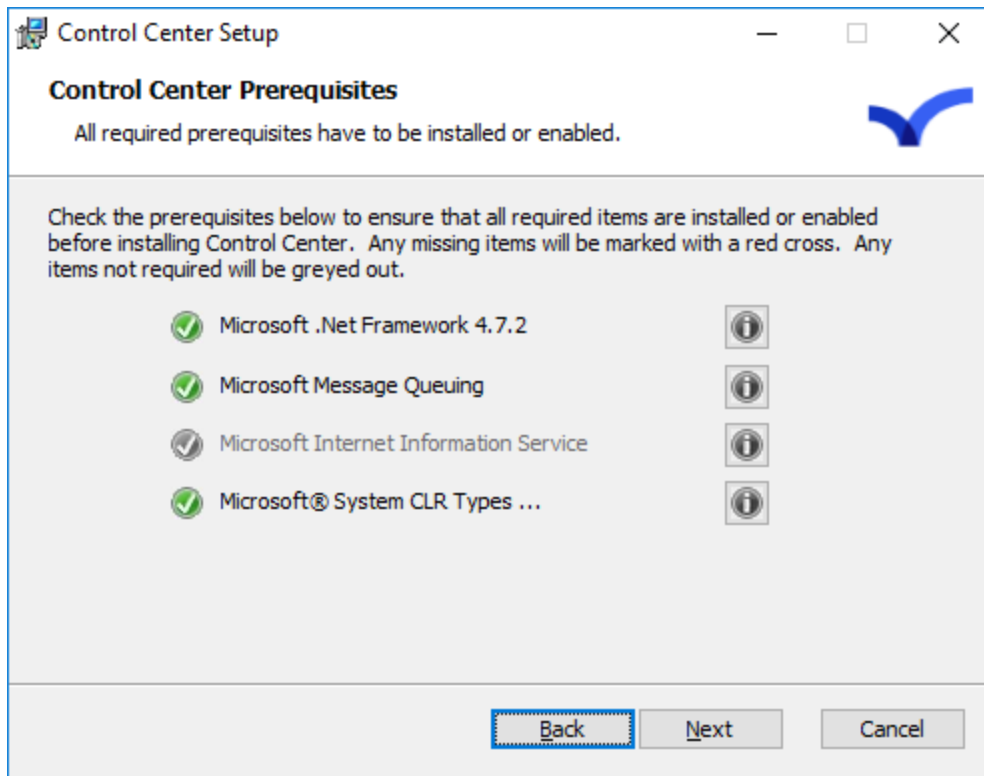




4. Click **Custom** to continue.
5. On the **Custom Setup** page, select the required components for the installation. Typically, you only need the Server, Connection Manager, Data Management, Reporting, GIS, and Alarm Types components. Select all the required components and click **Next** to continue.

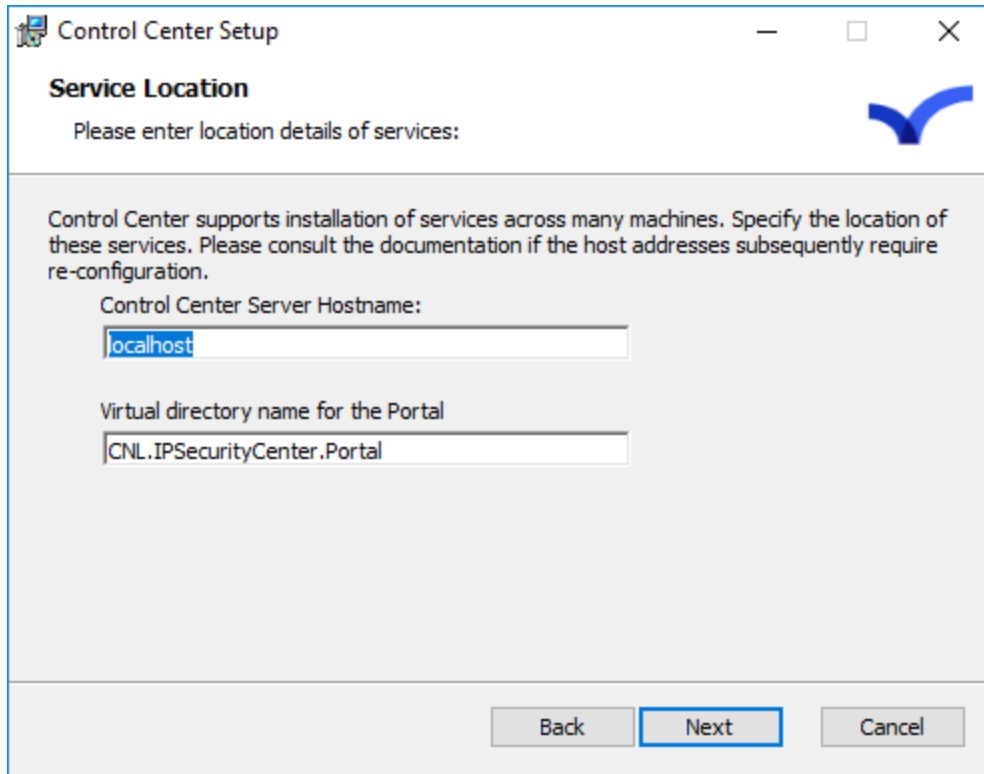


6. Ensure that all prerequisites are met. The **Control Center Prerequisites** page will check for all the required components and report the ones that are missing. Click **Next** to continue.



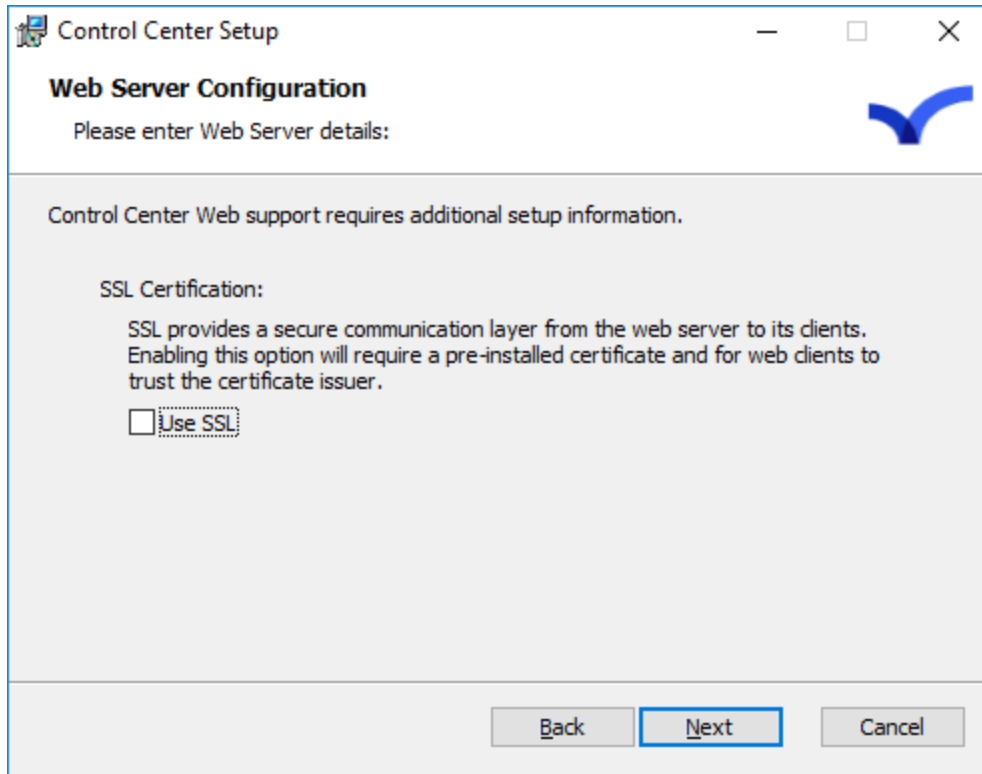
7. On the **Service Location** page, specify the hostnames for the different services in the solution.

**NOTE:** This page is only shown when installing either the Web Server or the Data Web Service components. See Streaming Server Installation Guide.

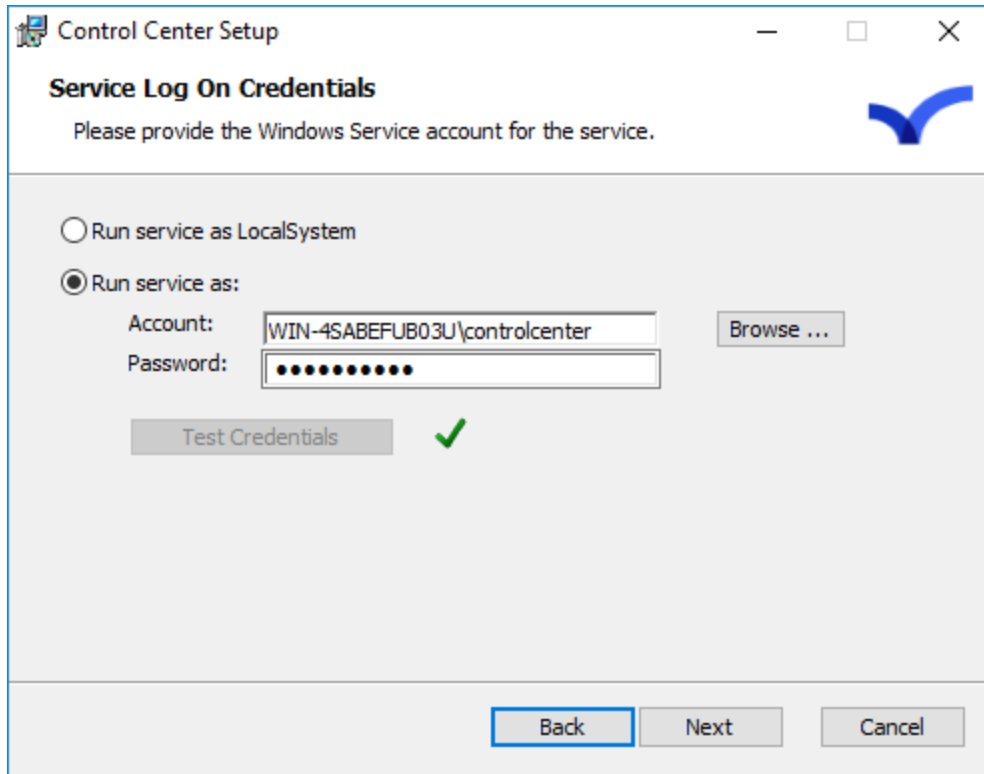


The **Web Server Configuration** page includes an option for specifying an SSL certificate for secure communications.

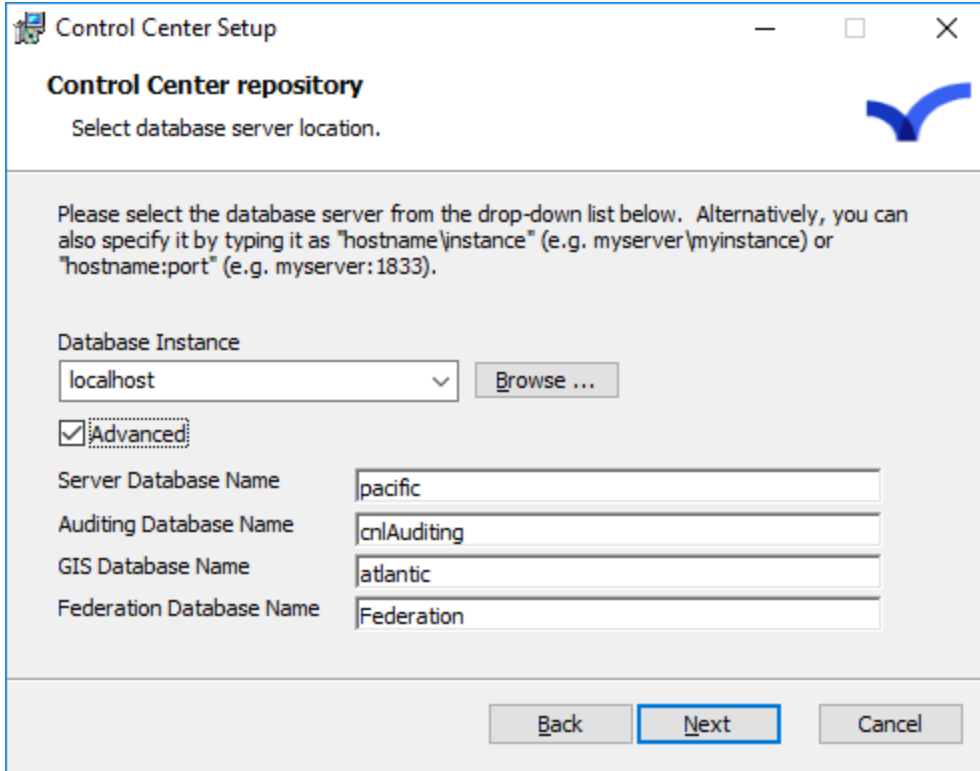
**NOTE:** This page only appears if you selected the Web Server or the Data Web Service components on the Custom Setup page. See Streaming Server Installation Guide.



8. Specify the log on credentials for all the different Windows services and IIS applications. It is recommended to use a dedicated account to run the various services instead of the **LocalSystem** account for greater control over security. Additionally, **LocalSystem** typically does not have the required access levels for SQL Server.
9. Enter a valid service account and password, and click **Test Credentials**. Everbridge recommends that you use Windows authentication. If you use SQL authentication, you must enter a password that is then stored as plain text in other areas of Control Center, for example, dashboards. For security reasons, therefore, it is better to use Windows authentication.



10. Click **Next**. The installer will create or update the necessary databases during installation. Specify the database instance to contain the Control Center databases. The installer will use a set of pre-defined database names. It is particularly useful if multiple Control Center instances are using the same database server. To change the pre-defined database names, select the **Advanced** checkbox.



**Control Center Setup**

**Control Center repository**

Select database server location.

Please select the database server from the drop-down list below. Alternatively, you can also specify it by typing it as "hostname\instance" (e.g. myserver\myinstance) or "hostname:port" (e.g. myserver:1833).

Database Instance  
localhost

**Advanced**

Server Database Name:

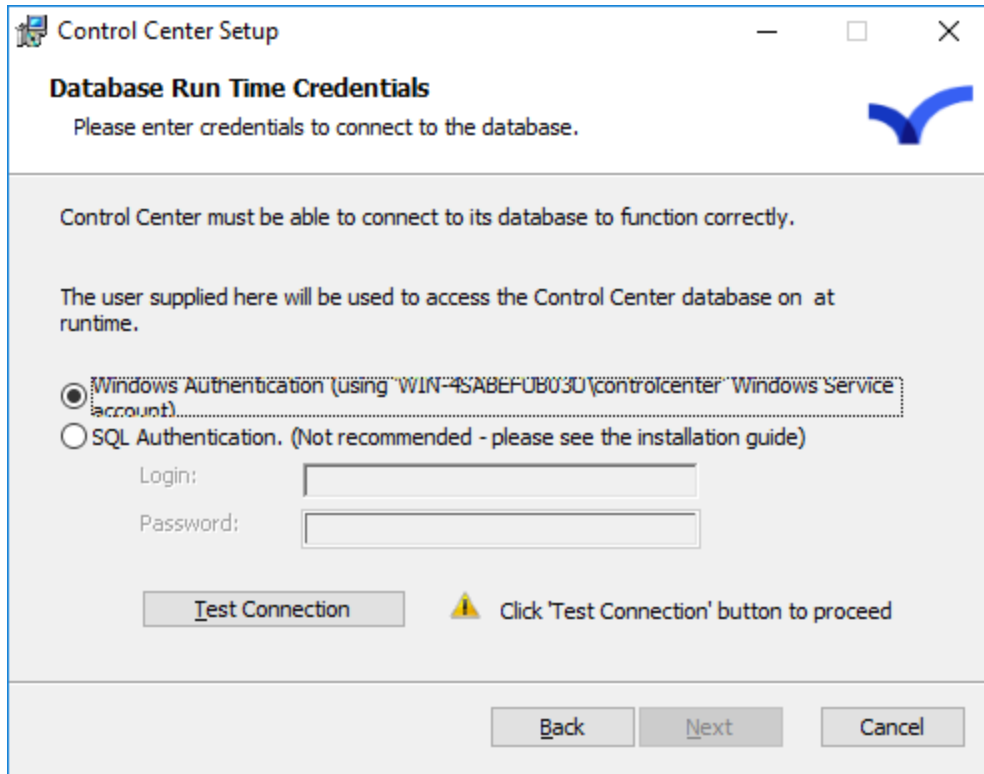
Auditing Database Name:

GIS Database Name:

Federation Database Name:

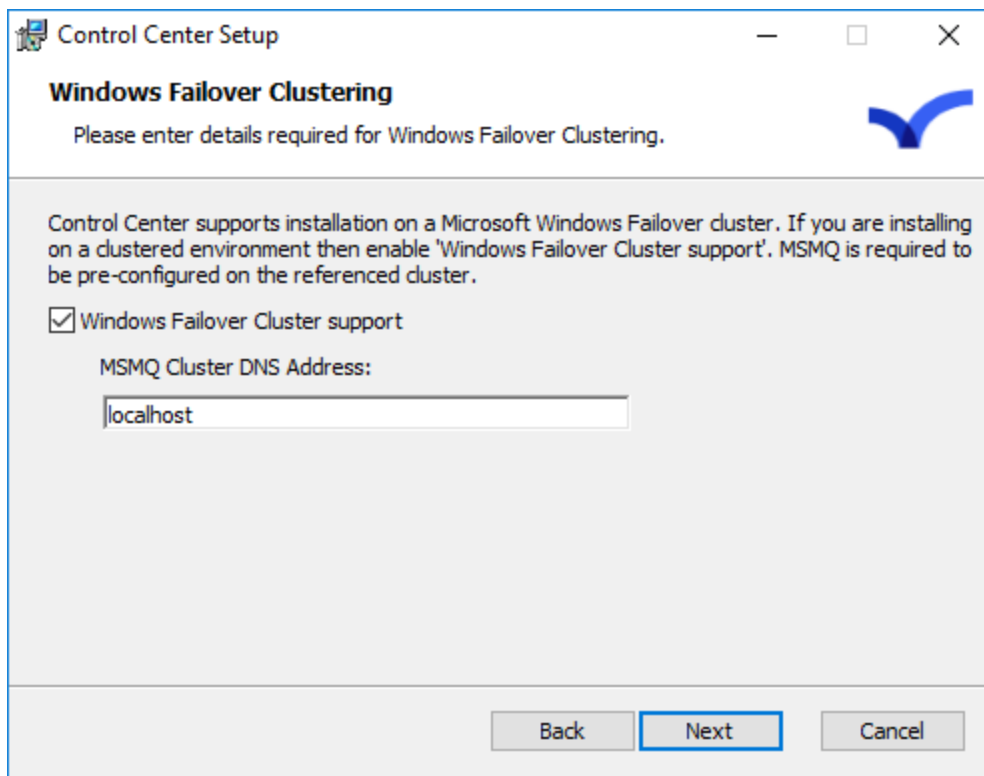
**Note:**

- The installer will update the database content if you select an existing database.
  - The Control Center Installer assumes that your SQL server database is using the default port number, **1433**. If your SQL server database is not using the default port number, then you can install to another SQL server database temporarily, restore the database to the correct SQL server and manually update your `connectionstings.config` file.
11. Click **Next** to continue. Once the correct SQL instance is specified, you must specify the credentials that you want to connect with. If you want to use Dashboards in Control Center, then you must use Windows Authentication.

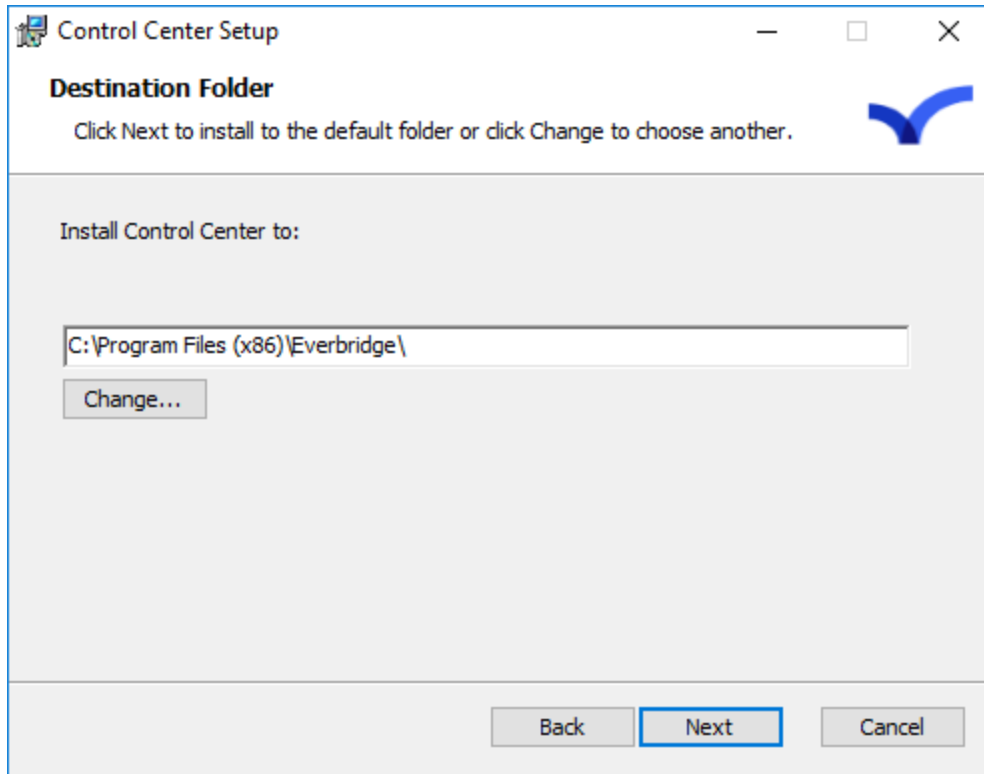


12. Click **Test Connection** and then click **Next**.
13. On the **Windows Failover Clustering** page, leave the option deselected and then click **Next** to continue.



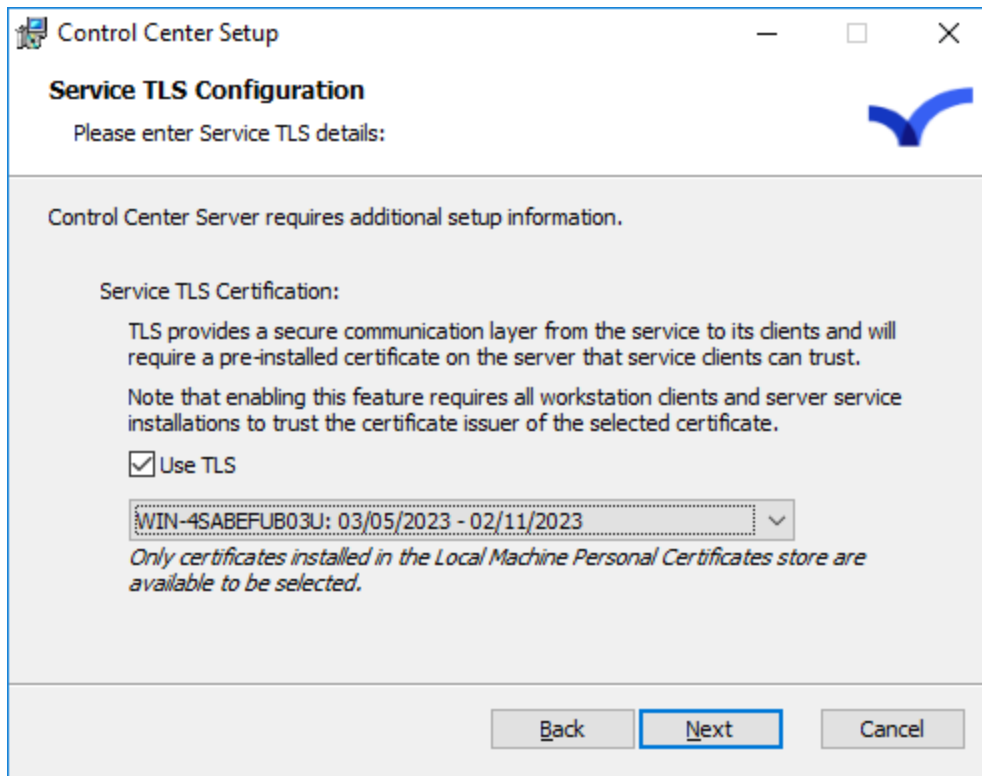


14. Select the destination folder in which the components need to be saved. By default, all components are stored under `c:\Program Files (x86)\Everbridge` folder.



**NOTE: Note:** When Server and Client are saved in different custom locations, the addons installed on the Control Center will be saved on both server and client side.

15. Enable the use of **Service TLS** if you wish to have a more secure communication channel between Server and Clients. This requires a pre-installed certificate on the server that the service clients can trust.

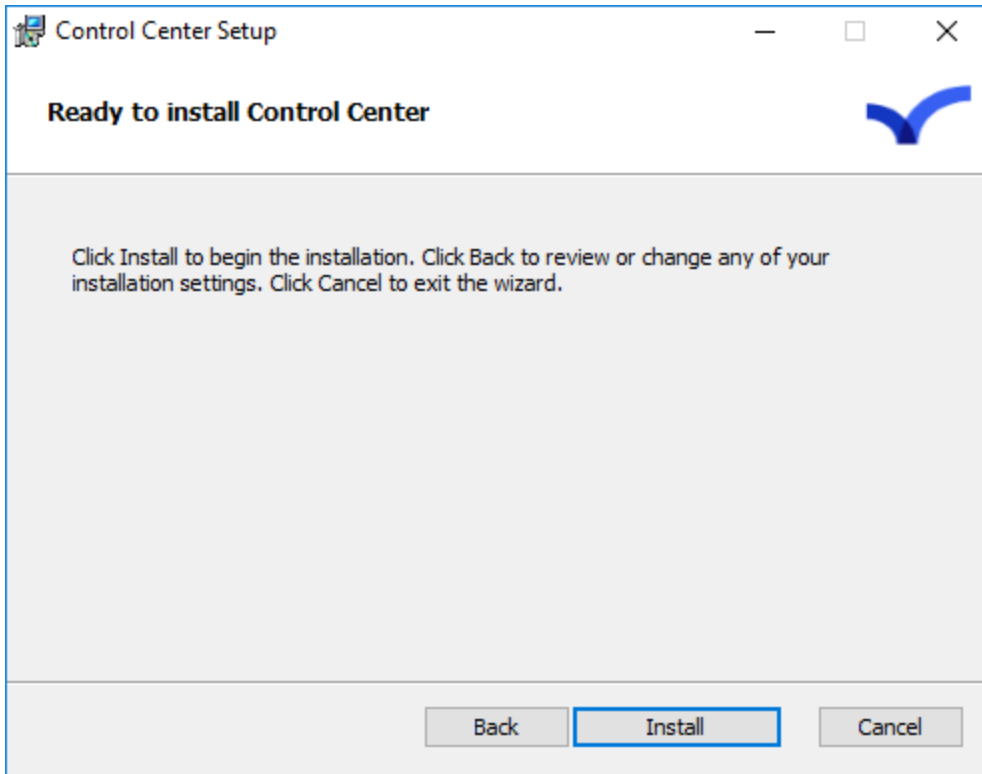


16. By enabling the **Use TLS** option, a drop down menu of all the certificates installed on your local machine is displayed. Choose the one you want to use and click **Next**.

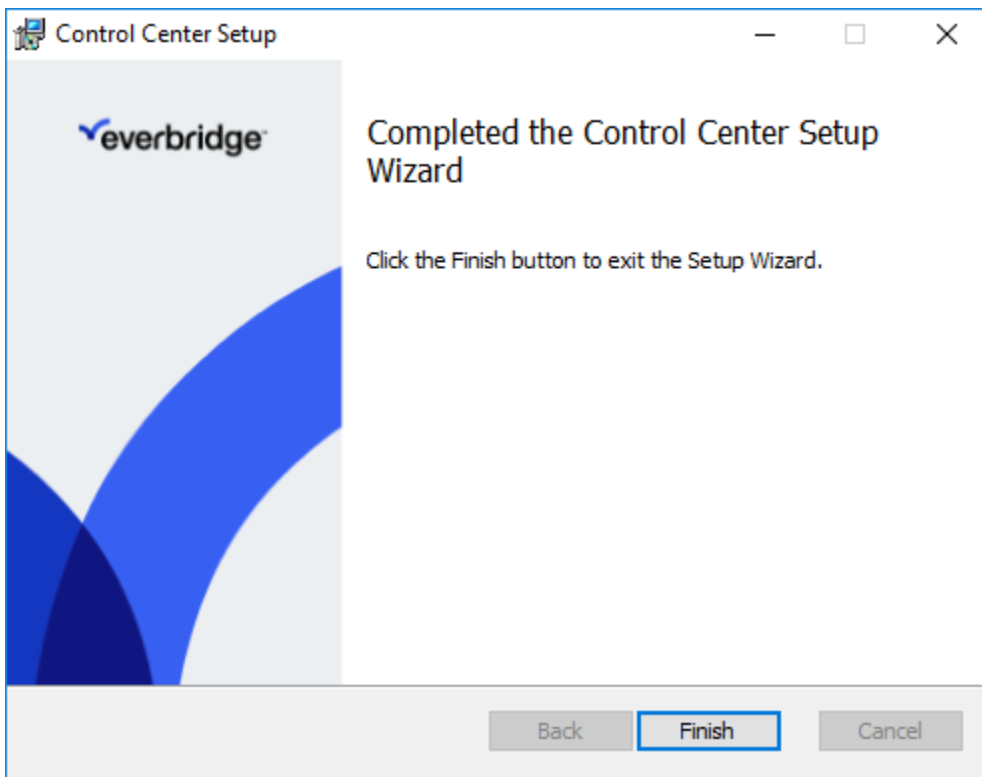
This certificate will also be used to secure the OpenAPI Service if the OpenAPI Service is selected to be installed.

**NOTE:** Ensure that the certificate is installed in the Windows Local Machine Personal Certificates store. For more details on TLS, see [TLS for secured connection between Server and Client](#).

17. Click **Install**.



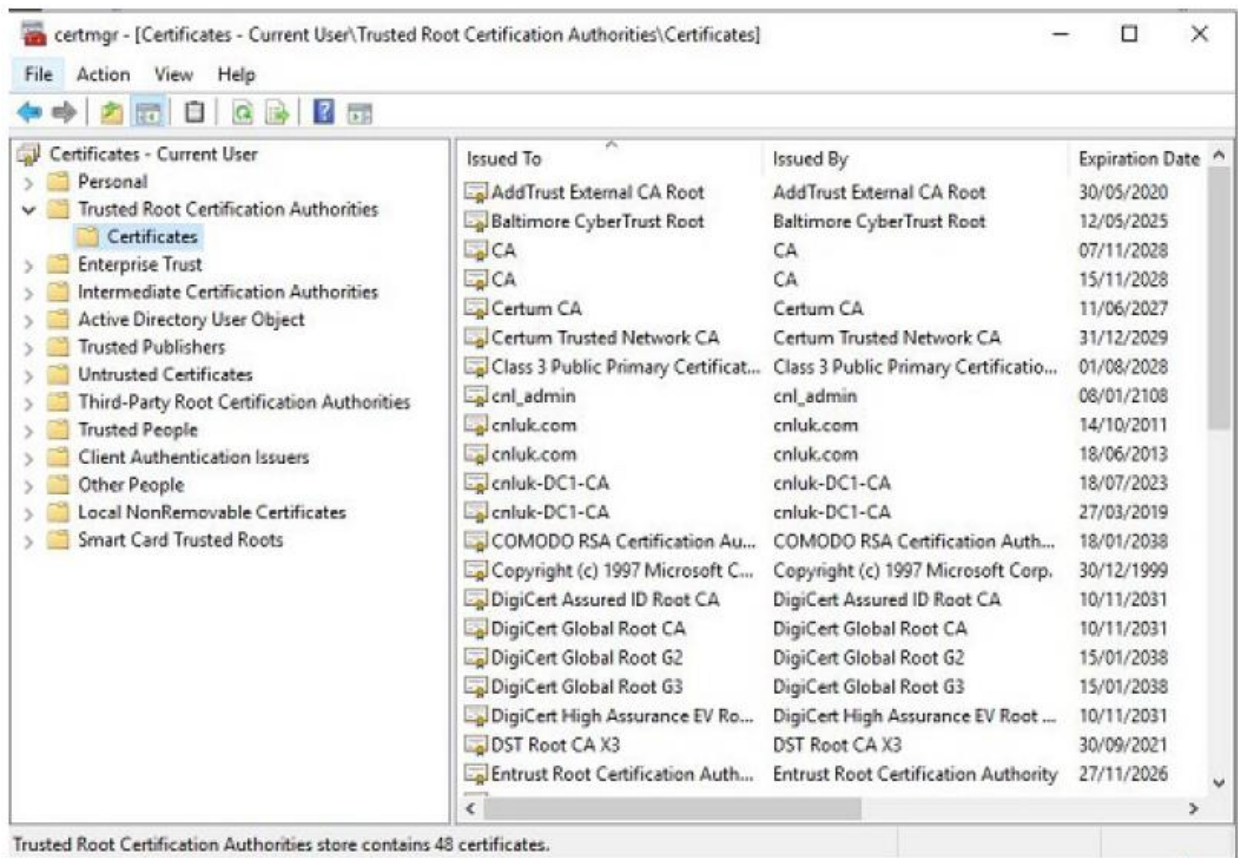
18. Click **Finish** to complete the Control Center Setup Wizard.



## TLS for Secured Connection Between Server and Client

Server TLS authentication or certificate based authentication refers to the client verifying the server it needs to connect to, through the digital certificate provided by the Certificate Authorities. In real terms, the client requests the server for authentication and the server presents its certificate issued by the trusted Certificate Authorities (CAs) which the client validates and a secure communication channel is established.

As authentication relies purely on authorizing the digital certificate, certification authorities such as Verisign or Microsoft Certificate Server are an important part of the Server authentication process. You need to purchase the certificate from any trusted authorities or host your own trusted certificates and install them on your Windows Local Machine Personal Certificates store. You could verify the certificates installed on your machine by going to Manage Local Machine Certificates window. You could either navigate through Control Panel or type certmgr.msc on the command prompt to open the window for you.



From a high-level point of view, the process of authenticating and establishing an encrypted channel using certificate-based authentication involves the following steps:

A client requests access to a protected resource on the Server

1. The server presents its certificate to the client for authentication
2. The client verifies the certificate presented by the Server
3. If successful, a handshake is initiated between the server and the client.
4. The server grants access to the protected resource requested by the client

Everbridge suggests the following recommendation listed below for a seamless secure communication channel between Server and client.

- Always configure Windows Operating System and .NET Frameworks to only use TLS 1.2 and above
- Always Enable Security provider's 'Use Strong Crypto flag'
- For more information on Server setup, we recommend you read Microsoft .Net TLS Best Practices and Microsofts Channel TLS1.2 Reference

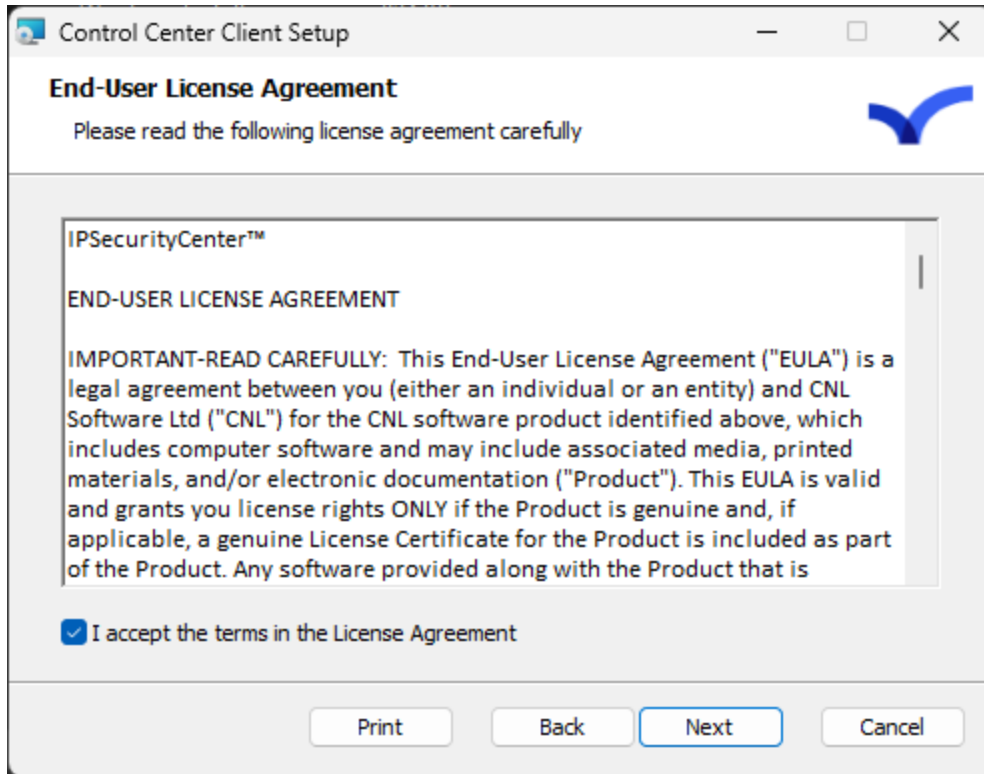
### Installing Control Center Client

The Control Center Windows Client provides a front-end to the Users. It is where you perform most configuration of an Control Center solution.

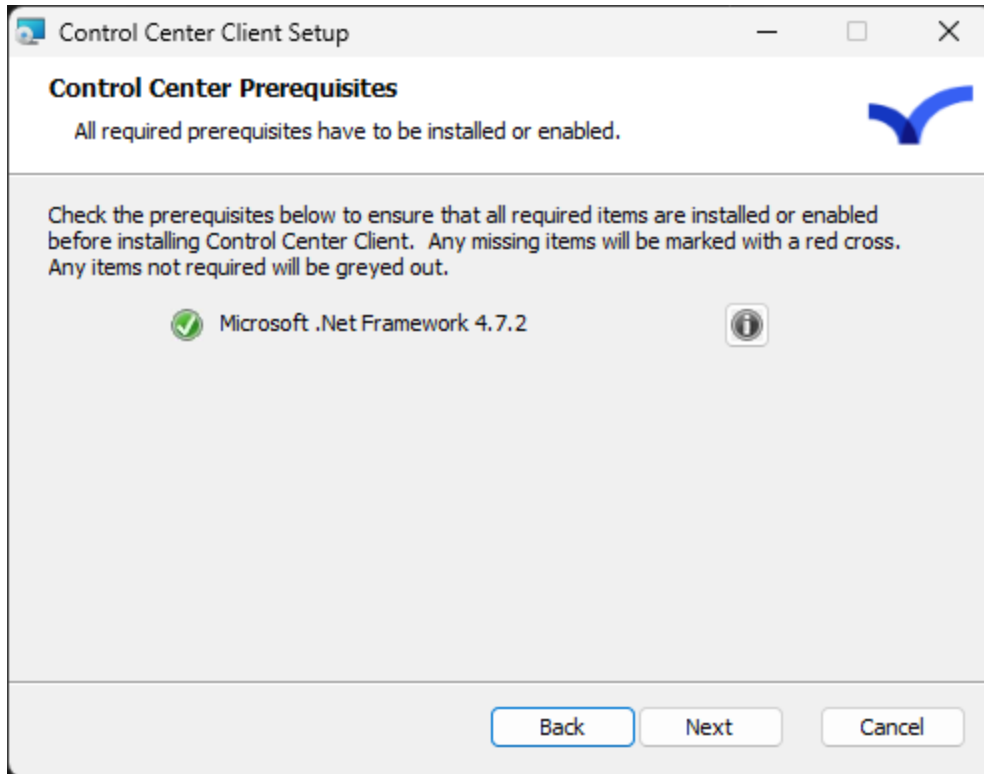
**NOTE:** If using TLS, the client certificate needs to be installed before doing the Client installation

To install Windows Client:

1. Run the **Everbridge.ControlCenter.WindowsModernClient.Installer.msi** Windows installer package.
2. Read the introduction page and click **Next**.

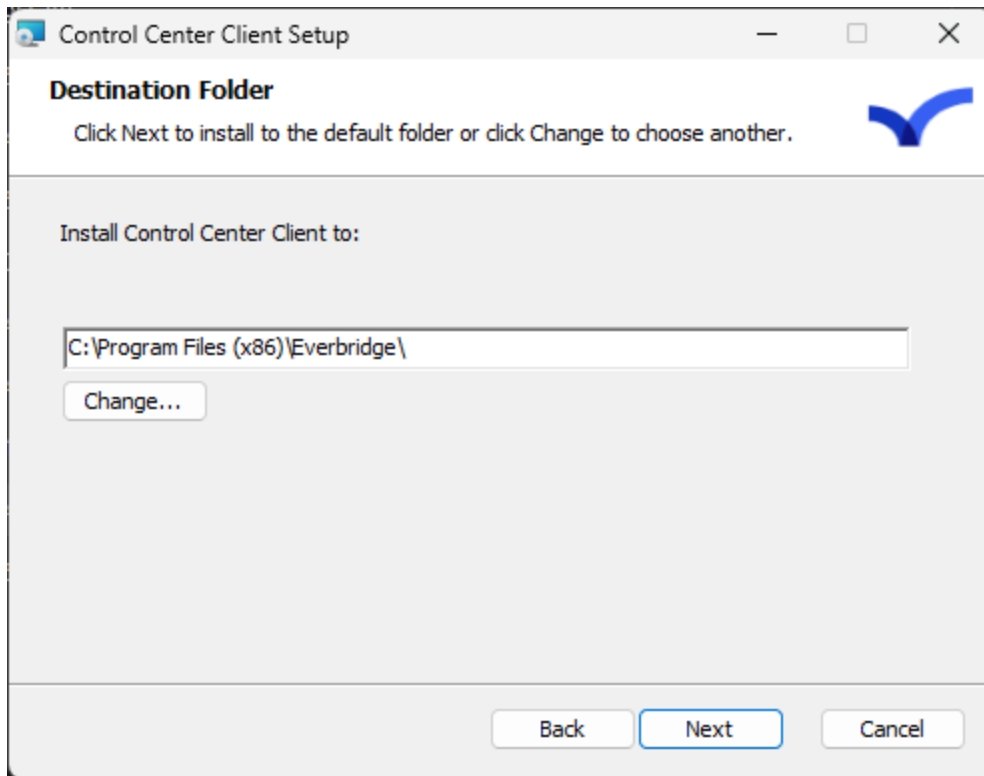


3. Ensure that all prerequisites are met. The **Control Center Prerequisites** page will check for all required components and report any that are missing. Once all prerequisites are met, click **Next**.

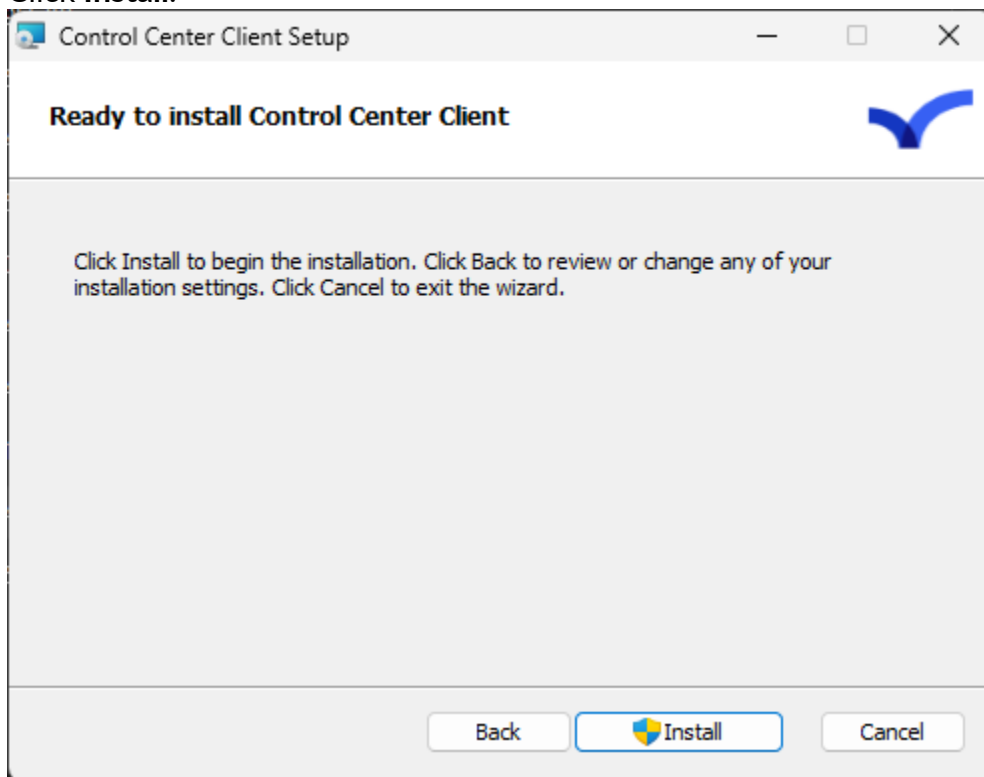


4. Select the destination folder in which the components need to be saved. By default, all components are stored under `c:\Program Files (x86)\Everbridge` folder.

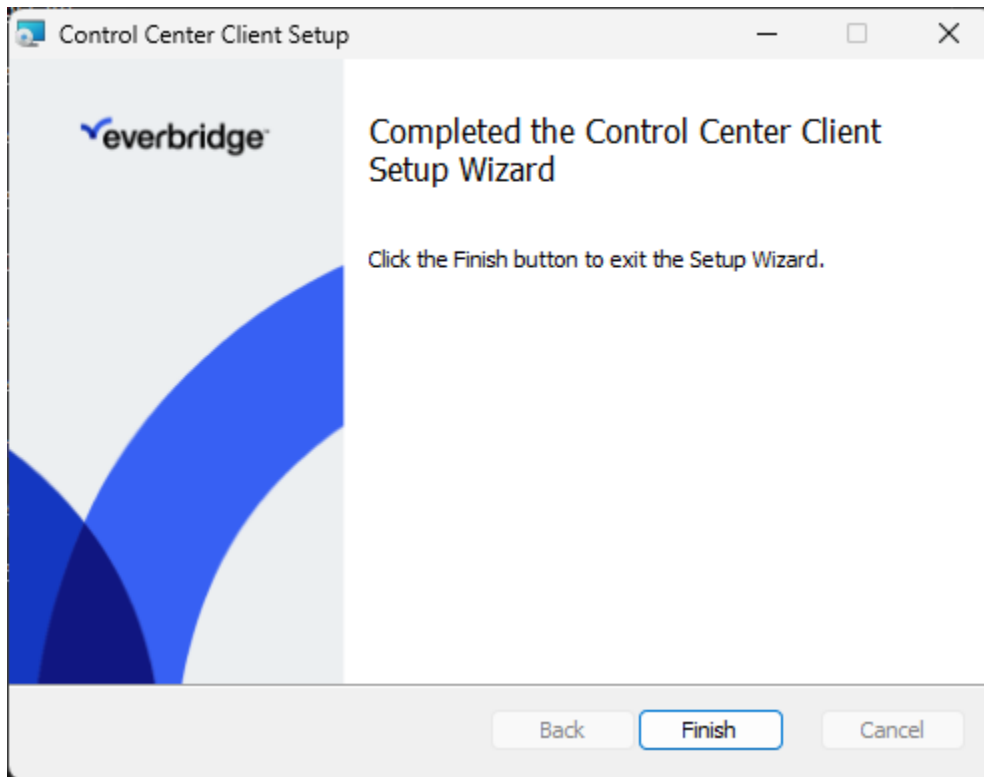




5. Click **Install**.



- Click **Finish** to complete the **Control Center Windows Client Setup Wizard**.



**NOTE:** The TLS connection settings can be verified in the properties of the Notification Service. Go to **System Configuration > Services** and click on Notification Service. The properties window on the right displays the connection settings for TLS. The properties are read-only and is not allowed to be modified by the user.

: Properties - (Notification Service)	
<div style="background-color: #f0f0f0; padding: 2px;"> <span>⌵</span> Connection Settings                 </div>	
Load Balanced Host Name	PC1065.cnluk.com
Load Balanced Port Num	9004
Requires TLS	False
<div style="background-color: #f0f0f0; padding: 2px;"> <span>⌵</span> General Settings                 </div>	
Core Service	Core Service
Created	2/12/2019 4:13 PM
Description	Notification Service
Enabled	True
Environment	Production
Label	Notification Service
Owner	System
Tag	
<div style="background-color: #f0f0f0; padding: 2px;"> <span>⌵</span> Permissions                 </div>	
Security	Security Settings

## Starting Windows Services

Once the Control Center Server installation is complete, you must start the Control Center Windows services. Make sure to start all services detailed in the Prerequisites section.

1. Click **Start > Run**, type **services.msc** and then press **Enter**.
2. Start all the Control Center windows services using a valid Log On As account.

## Configuring No Domain Tool

When running Control Center outside of a domain, where the client is located on a different computer to the server, you must update certain configuration files to allow the client to successfully communicate with the server.

The default configuration is applicable for a domain and you must change it only if connecting to the server from a separate computer. If Control Center is setup for a domain, or if there is no domain and the client and server are running on the same computer, then you can use the default configuration.

A `Tools.SwitchFile` is included when installing Control Center to update the configuration files for the required type of configuration (domain or no domain). This tool copies the relevant configuration files to the appropriate folders based on the configuration selected. To locate the `Tools.SwitchFile`, go to **Program Files > ControlCenter Tools**. The Control Center installers will place the tool at the following location:

```
\Everbridge\ControlCenter\ControlCenter Tools
```

You must run the `Tools.SwitchFile` from the Command Prompt as an Administrator. The following steps will run the tool to toggle the configuration between domain and no domain.

1. Click **Start > Run**, then type **cmd** and click **Run as administrator**.
2. Go to **Program Files > Everbridge > ControlCenter > ControlCenter Tools**. For example, `C:\Program Files (x86)\Everbridge\ControlCenter\ControlCenter Tools`
3. Type **Everbridge.ControlCenter.Tools.SwitchFile.exe** and click Enter.

Running the `SwitchFile` tool will detect the current configuration and then switch the configuration files to the opposite setting. For example, if you run the tool repeatedly, it will toggle between domain and no domain configuration.

Alternatively, you can also specify the required configuration using parameters when running the `SwitchFile` tool. The available parameters are as follows:

- **/nodomain** - Move to a no domain configuration
- **/domain** - Move to a domain configuration

## Connection Manager

The Control Center Connection Manager is designed to process all communications to and from devices. You can install multiple instances of the service in any of the solutions. In addition, the Connection Manager services can reside on computer that do not have the Control Center Server installed to accommodate load balancing.

You should install the Connection Manager from a dedicated application using the separate installer included with the installer.

**NOTE:** The application is limited to 16 instances of a connection manager on any one machine.

It is recommended to install separate connection managers for the following reasons:

High volume of assets - You can spread across many assets in a solution across multiple connection managers to spread the load. Alternatively, you can locate the connection managers on separate hardware to improve performance.

- **Reduce network traffic and processing** - The Connection Manager enables filtering of events before they are sent to other Control Center services. A filter can be applied to disregard events closer to the source, particularly if the connection manager is installed on or near to the sub system.
- **Increase stability** - Stability issues in a solution caused by a troublesome sub-system or device driver can be isolated to a separate Connection Manager to improve the stability of other devices.
- **Connection Manager Redundancy** - Multiple instances of the Connection Manager service can be configured to act as failover nodes for the other instances without the need for a Windows Cluster.

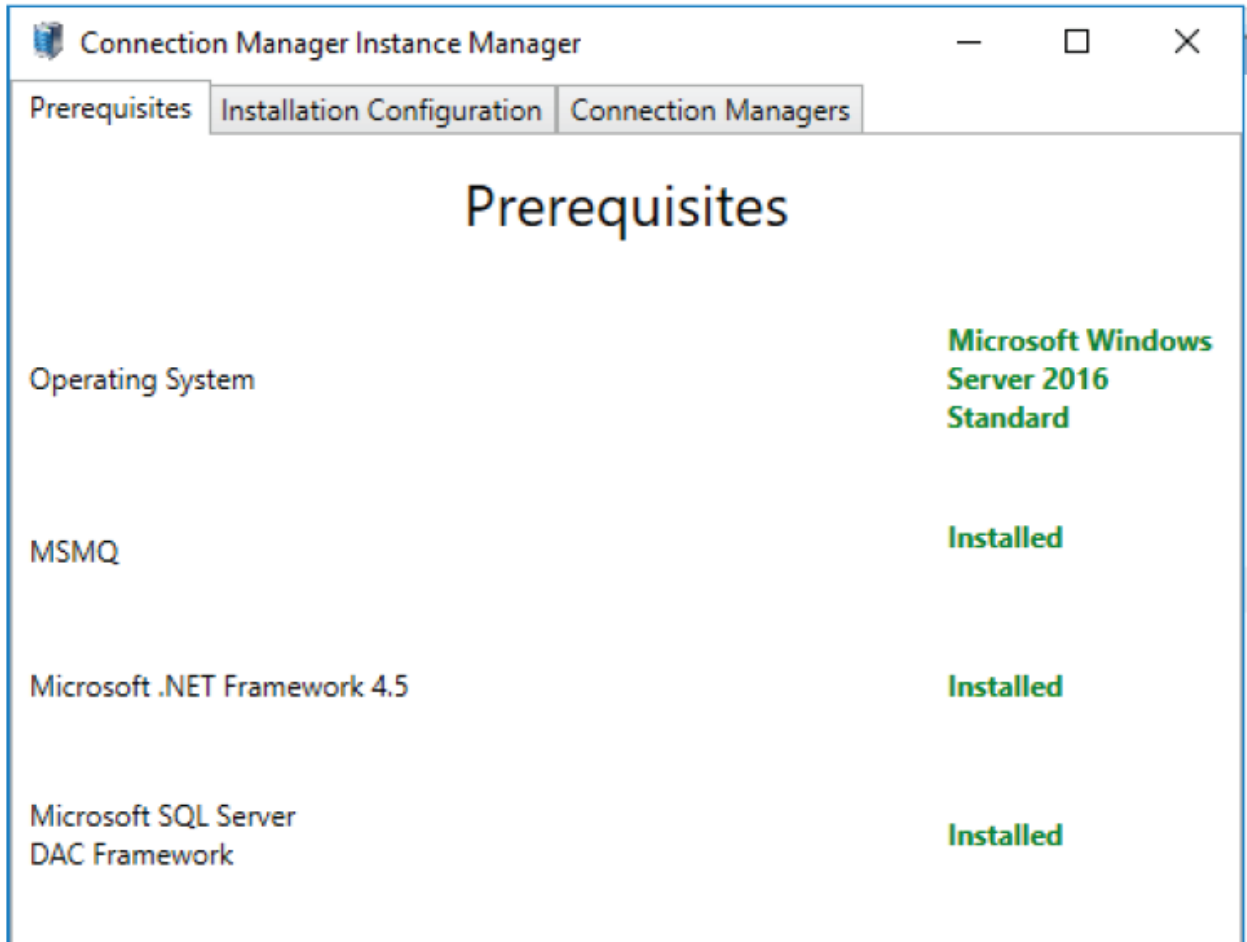
## Installing Connection Manager

The Connection Manager installer comprises the following files:

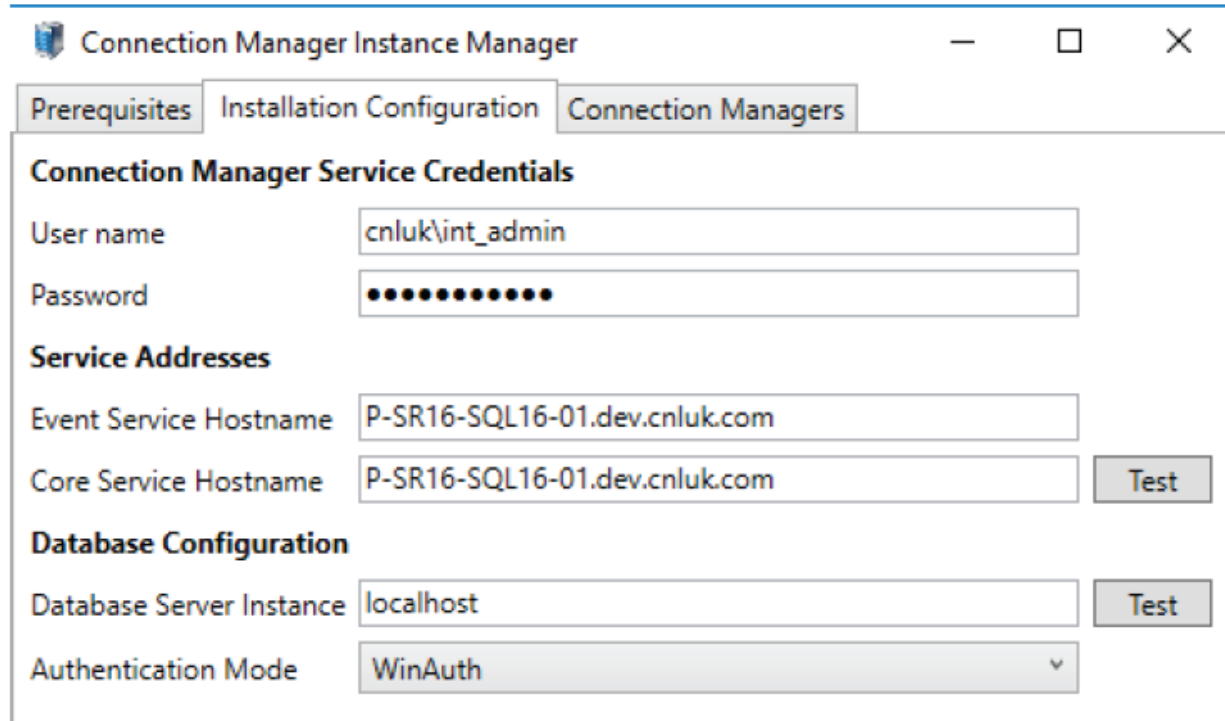
- **Everbridge.ControlCenter.ConnectionManager.Installer.exe** - Loads an application to manage the installed Connection Managers.
- **Everbridge.ControlCenter.ConnectionManager.Installer.exe** - Performs the installation using the application.

To install the Connection Manager:

1. Double-click to run the **Everbridge.ControlCenter.ConnectionManager.Installer.exe**. The Connection Manager Instance Manager will appear.
2. Verify if all the prerequisites are met and install applications that appear with a warning message.



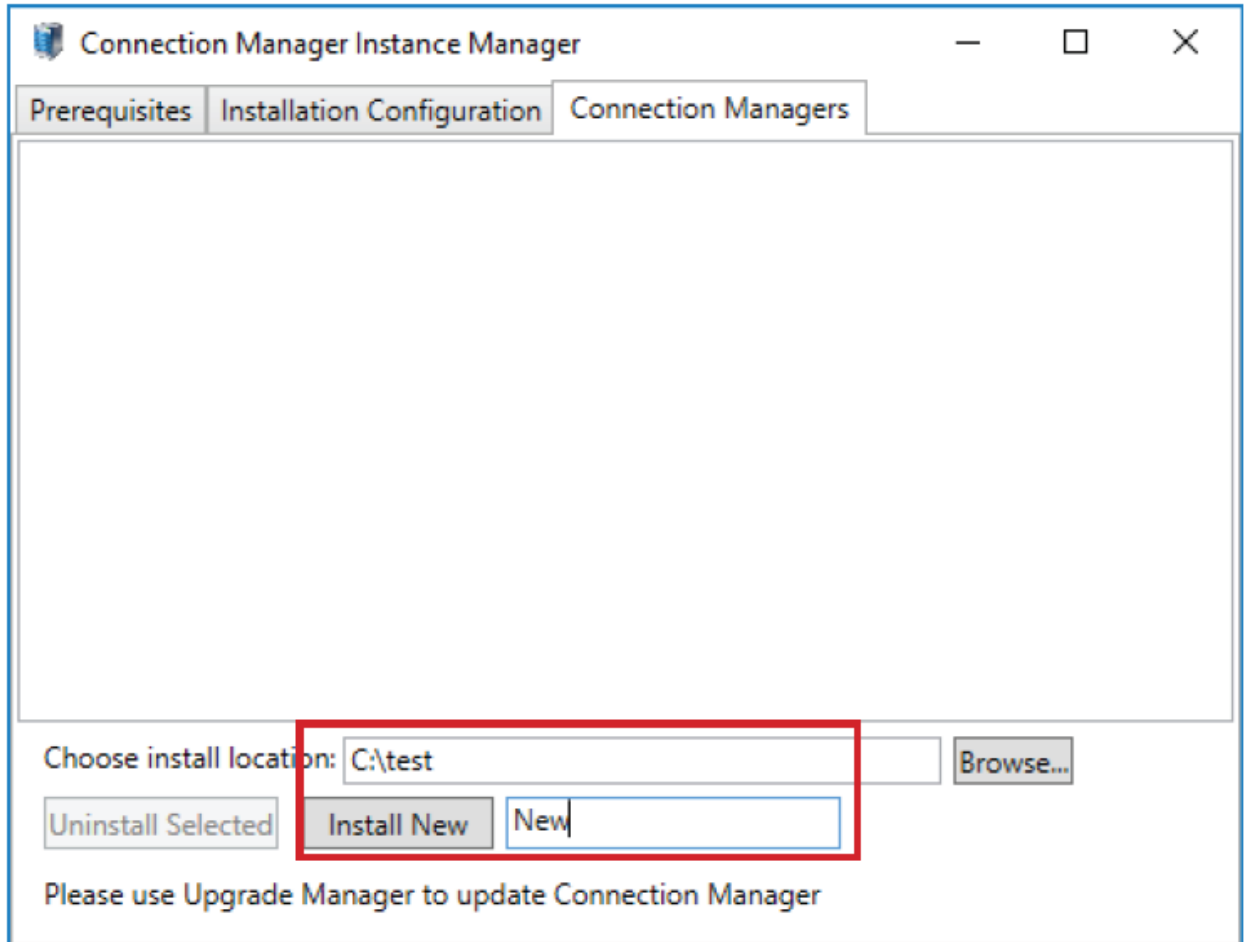
3. Before installing the Connection Manager service, navigate to the **Installation Configuration** tab and enter the following connection details:
  - **Connection Manager Service Credentials** – Domain\User credentials of the account being used.
  - **Service Addresses** – Hostnames for the Event and Core Control Center services.
  - **Database Configuration** – The Database Server instance name and authentication mode (Windows authorization or SQL Server authorization).



The screenshot shows the 'Connection Manager Instance Manager' window with the 'Connection Managers' tab selected. The window contains the following sections and fields:

- Connection Manager Service Credentials**
  - User name:
  - Password:
- Service Addresses**
  - Event Service Hostname:
  - Core Service Hostname:
- Database Configuration**
  - Database Server Instance:
  - Authentication Mode:

4. Navigate to the **Connection Managers** tab and enter a name for the new Connection Manager. Note that all instances are always stored in the default location. The user can also choose to save the instances in a custom location. Browse through to the location you want to save and then enter the instance name.
5. Click **Install New** to install the connection manager service with the specified name.



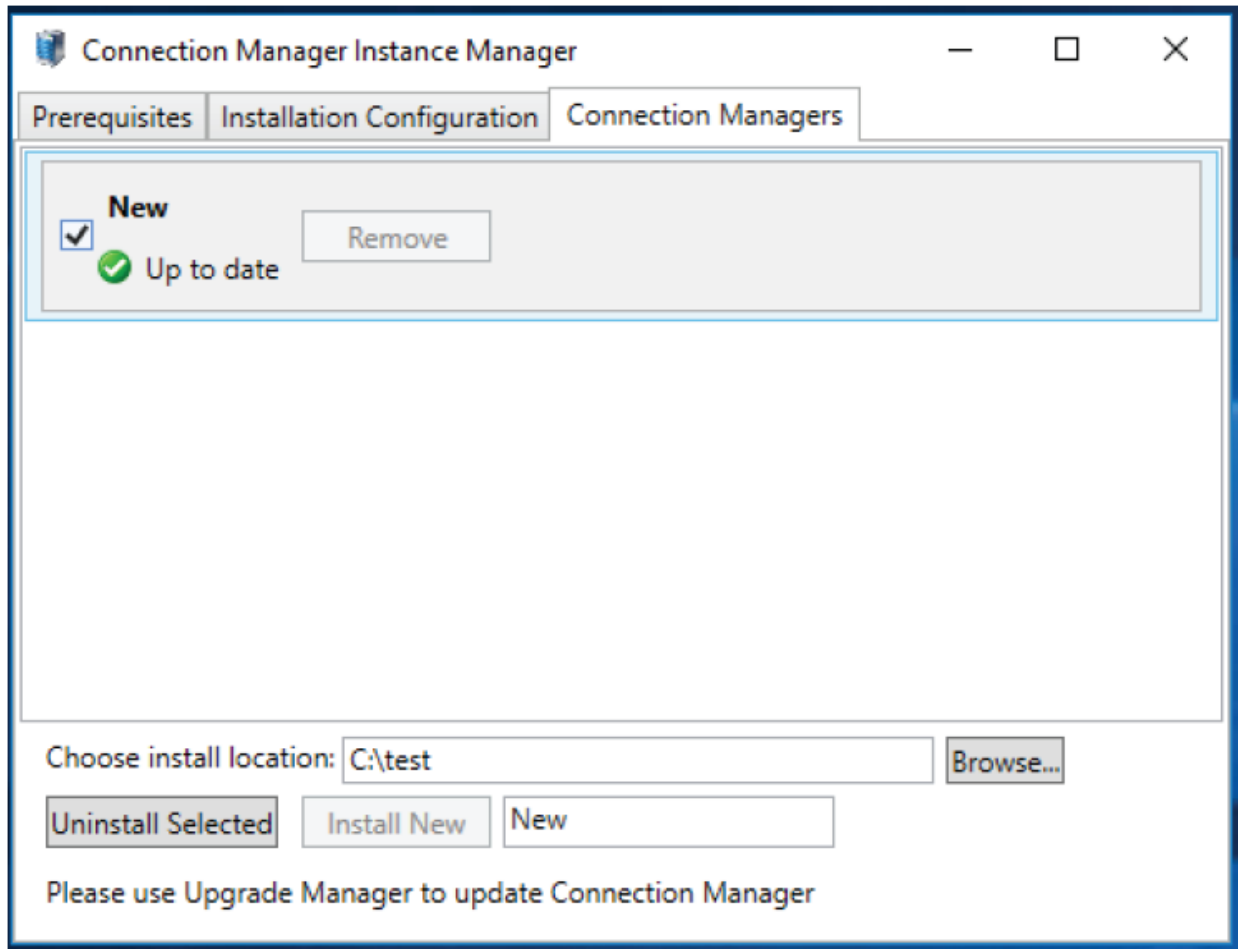
A new connection manager service is installed.

6. Once the installation of the service is complete, start the Control Center Connection Manager Service (New).
7. The Connection Manager creates a corresponding record for itself in the specified Control Center solution as per the Installation Configuration tab of the Connection Manager Installation Manager. The new service object can be found in the **Services** folder.

Connection Manager Service			
	Default	Connection Manager Instance 'Default'	Connection Manager Service 2/8/2019 2:53:06 PM
	New	Connection Manager Instance 'New'	Connection Manager Service 2/8/2019 3:01:43 PM

To update an existing Connection Manager and database stored in the default location, you need to use the Upgrade Manager to make all necessary updates. However, if the Connection Manager instances are stored in the custom location it has to be uninstalled manually and a newer version installed in the desired location.

To uninstall a Connection Manager, select the Connection Manager instances that you want to remove, and then click **Uninstall Selected**.



### Importing Control Center Objects

Copy the Control Center XML files from your installation package to the local drive of the machine where your Control Center client is installed.

1. Login to your client as **root**.
2. Go to **System Configuration**.
3. Create or select a folder to contain your new Control Center objects, for example, **System Objects**.
4. From the folder, right-click and select **Import...** The **Import Wizard** displays.
5. Select **Open...** to select the file to import.
6. Navigate to the folder where your Control Center Installation Package is stored. For example, `c:\Everbridge 5.23.0.0\`.
7. Open the **Default Templates** folder.



8. Select **CC\_Baseline\_Functionality.xml** and select **Open**. The **Import Wizard** shows all objects found in the file.
9. Select **Next** to move to the next step. The **Object Dependencies** page displays. There should be no dependencies.
10. Select **Next** to move to the next step. The file to be imported contains objects that already exist in Control Center. These are listed on the next screen. You must overwrite or merge all the existing objects with the new objects. To do this, select **Overwrite/Merge action for all**.
11. Select **Finish**. Once the import has completed successfully, select **Close** to close the **Import Wizard**.
12. Log out and log in to your Control Center client as **root**.

## Upgrading Control Center

The recommended upgrade process is to use Control Center Upgrade Manager. This automates the upgrade of Control Center. It can upgrade all server components (except web) as well as the client application and its plugins.

With the Upgrade Manager, you do not have to perform the following additional steps that are required when you install the software normally:

- Manually uninstall each product or add-on component one-by-one.
- Select the correct .msi packages to re-install based on the previous packages installed.
- Manually run multiple packages one-by-one.
- Provide the correct configuration for service accounts, database connection, and additional information collected by the installer UIs that was lost during uninstallation.
- Manually restart the same services that were running before installation.

### Upgrade Manager Prerequisites

The prerequisites for using Upgrade Manager are as stated below:

1. Make sure you already have an existing version of Control Center installed.
2. Make sure you are using the Upgrade Manager from the latest version of Control Center that you want to upgrade to. The latest Control Center Upgrade Manager supports upgrading from Control Center version 5.25 onward.
3. Sign out of Control Center Client.

**Note:** IPSecurityCenter was rebranded to Control Center from version 5.25. The Upgrade Manager in IPSecurityCenter supports upgrading from all versions of IPSecurityCenter from 5.5 onwards. Upgrading from IPSecurityCenter to Control Center requires uninstalling the old version of IPSecurityCenter and installing the new version of Control Center as this is not supported by the Upgrade Manager.

### Using Control Center Upgrade Manager

To use Control Center Upgrade Manager:

1. Locate the Upgrade Manager executable file. Normally, it is packaged along with the rest of the Control Center .msi packages.
2. Run the **Everbridge.ControlCenter.UpgradeManager.exe**. The Upgrade Manager dialog appears showing the various steps in the upgrade process.
3. When it reaches the **Confirmation** tab (on the left), a list of products that can be upgraded are listed.



When upgrading a site, open the Upgrade Manager on every Control Center server and client machine you want to upgrade in the hub.

### Unattended Upgrade of the Control Center Client

You can also run the Upgrade Manager silently to update the Control Center Client components on a machine that has Control Center Windows Client installed.

The Upgrade Manager generates a log file of the upgrade process and logs information into the Console window.

#### Prerequisites:

- To successfully run the Upgrade Manager in silent mode, you must only have Client components installed.
- You must always run as an Administrator.

#### Syntax

```
Everbridge.ControlCenter.UpgradeManager.exe ["MSI Directory"] unattended [force] [dontrestart]
```

#### Parameters

Parameter	Description
MSI Directory	Directory containing the installer MSI files. Must be entered within quotes without trailing “\”
unattended	Mandatory instruction to run unattended
force	Terminates any running Control Center application without prompting the user
dontrestart	Prevents restart after installation. Manual restart might be necessary

#### Remarks

Upgrade Manager has to run as Administrator.

The unattended upgrade manager will always install the modern client.

The Upgrade Manager will ignore the Server component installers if necessary.

#### Examples

Upgrade Control Center client:

```
D:\Everbridge>Everbridge.ControlCenter.UpgradeManager.exe "D:\Current Build\Everbridge 5.22.0.183" unattended
```

Upgrade Control Center client, force any client application to be terminated:

```
D:\Everbridge>Everbridge.ControlCenter.UpgradeManager.exe "D:\Current Build\Everbridge  
5.22.0.183" unattended force
```

### Upgrade Manager Support From Custom Locations

Upgrade Manager also provides supports upgrading the Installers, Addons, and Connection Managers from a custom location chosen by the user. The installers, Addons, and Connection Managers are always installed in the default location unless explicitly specified during the installation process. So while upgrading, the upgrade manager will look in the exact same location as specified during the installation process. The Upgrade Manager GUI now includes an extra column of information called **Installed Location** which indicates the file path to the location of the installers.

# Maintenance

## Data Archiving & Retention

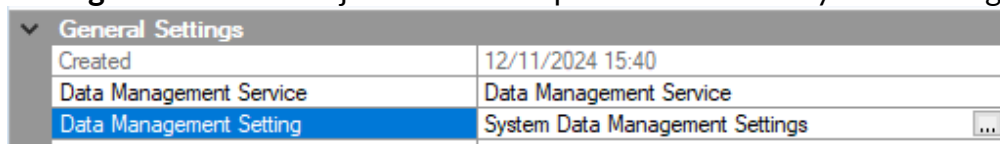
Control Center stores data in several databases. Alarm data is mainly stored in the databases pacific and pacificArchive.

### Control Center Data Maintenance

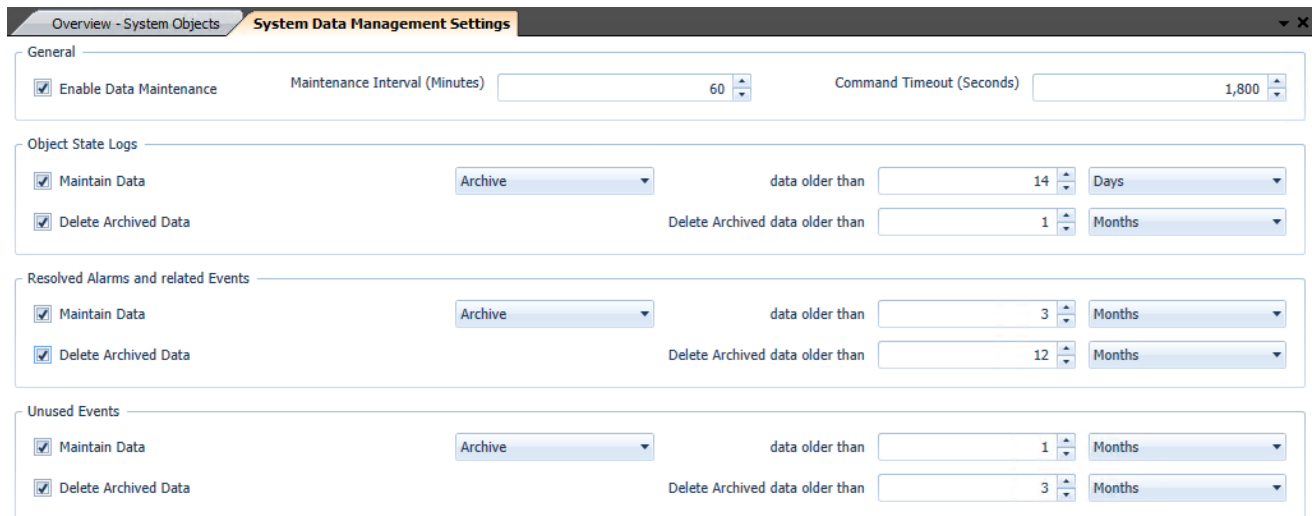
From v5.72 onwards, the Data Maintenance Service is responsible for the maintenance of data within Control Center. It is installed by default for new installations but must be installed separately when upgrading from an earlier version. A separate installer is provided to add this service to an existing installation.

By default, the **System Data Management Settings** object contains the configuration used by the Data Management Service.

A different Data Management Settings object can be specified from the **Data Management Server** object in the Computers section of System Configuration.



Double clicking this object opens a UI with multiple configuration options.



At the top of the screen are several global settings:

**Enable Data Maintenance**

This setting controls whether the Data Management service will perform maintenance tasks.

The default value is OFF.

**Maintenance Interval**

This setting controls how often maintenance processes are run.

The default value is 60 minutes.

**Command Timeout**

This setting controls how long processes will be allowed to run against SQL Server before timing out.

The default value is 1800 seconds (30 minutes).

Below this are configuration options for different data sets. Each data set has the same configuration options and can be enabled independently.

The **Maintain Data** checkbox controls whether maintenance is performed on data in the operational (pacific) database.

The **Archive/Delete** dropdown controls whether data is moved from the operational database to the archival database, or deleted from the operational database without archival, once they reach the configured age.

The **Delete Archived Data** checkbox controls whether records which have been archived are deleted from the archive once they reach the configured age.

As of version 5.73, the Data Management Settings object allows for configuration of maintenance tasks for:

- Resolved Alarms and Events
- Unused Events
- Object State data

The Data Maintenance service also processes the following data sets based on configuration options in Global Settings:

- Trails - moved to `pacificArchive.IPSC.TrackArchive`
- Trail Points - moved to `pacificArchive.IPSC.TrackPointsArchive`
- Change Requests (Secondary Authorization) – moved to `pacificArchive.IPSC.ChangeRequestArchive` and `pacificArchive.IPSC.ChangeRequestDetailArchive` after 90 days.

**Control Center Data Retention**

The following Enterprise Settings determine how trail data is retained:

- Trails – Retention period for trails that are not alarms (hours) – Trails not in alarm will be deleted after this time.
- Trails – Retention period for trails that are resolved alarms (hours)

When enabled, data is deleted from the pacific database. A copy is **not** made.

Everbridge recommends enabling this feature and setting it to a period appropriate to the customer implementation. Please refer to the Control Center reference guide for more information about how to change the data retention periods.

## Transaction Log

Every MS SQL databased has a transaction log. The log keeps a record of every change to the database. There is a great risk that the transaction log grows until all storage has been consumed, causing further database operations to fail, if the default MS SQL settings are being used.

All Control Center databases must be maintained so that this doesn't occur. Everbridge recommends that appropriate action is taken to ensure the transaction log does not grow beyond a manageable size. For more information, see

<https://docs.microsoft.com/en-us/sql/relational-databases/sql-server-transaction-log-architecture-andhttps://docs.microsoft.com/en-us/sql/relational-databases/sql-server-transaction-log-architecture-and-management-guide?view=sql-server-ver15management-guide?view=sql-server-ver15>

## Media

Consider the impact of allowing users to store CCTV snapshots and map snapshots as media objects. If this is in frequent use with high resolution images, this will impact storage requirements.

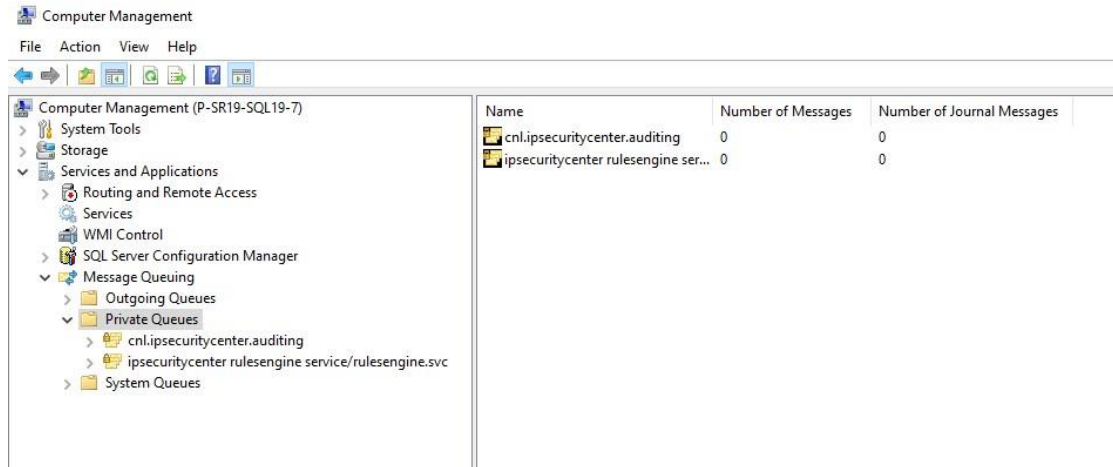
## Monitoring

Monitor disk space, MSMQ length and SQL query time regularly to identify performance degradation.

Queue length in private queues in MSMQ should be low and constant.

The table EventQueue in the Connection Manager database will build up if there is an issue passing event data from the Connection Manager to the core Control Center services.





## Database Maintenance

### Audit Log

The table auditlog in the database cnlAudit will, by default, not have any retention applied. In the same way as for the object state log table in pacific, Everbridge recommends that the audit table data is managed through regular exports and deletes.

### Federation Data

The Federation Synchronization data in the following tables in the Federation database must be maintained if Federation is in use.

- AlarmActivitySyncHistory
- PublishStatusHistory
- EventSyncHistory
- ResolvedAlarmSyncHistory

A SQL script is available on request to assist with this.

### Disk Space

Depending on permission, users can have the ability to store map and CCTV snapshots on disk. If this is the case, the local client disk or designated storage location can fill up and should be monitored regularly.

### Limiting Transactions

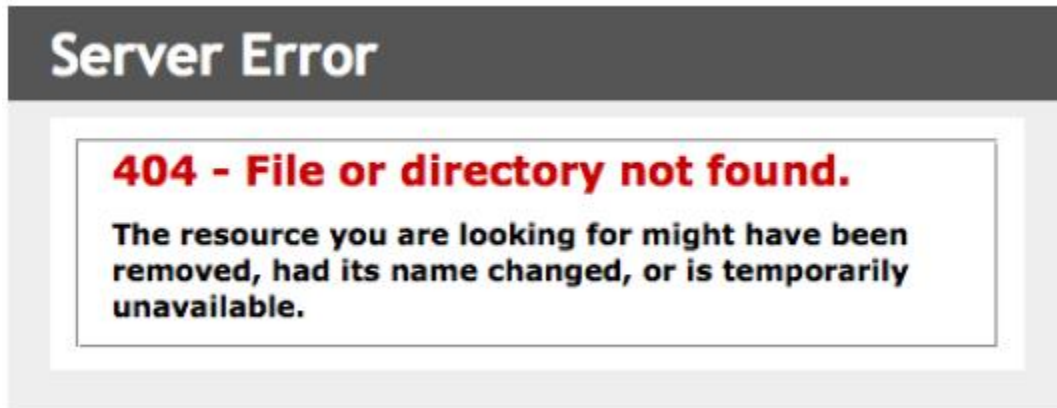
A good way to reduce data management overhead is to prevent data to enter the system in the first place by taking the following steps:

- Add filtering within the Connection Manager for events that are not of interest

- Where appropriate, configure Connector in System Configuration so that least number of events are subscribed to (see individual Connector documentation for more information)
- Configure Rate Limiting. This makes it possible for Control Center to better process data of the same type from the same object. See *Event Flood Prevention* in the reference guide.
- Configure sub-systems to limit data exposed to Control Center. For instance, limit radar track update frequency to reduce entries to the track tables

# Troubleshooting

Internet Information Server Home page fails to display, when accessing `http://localhost` and the following error message appears:



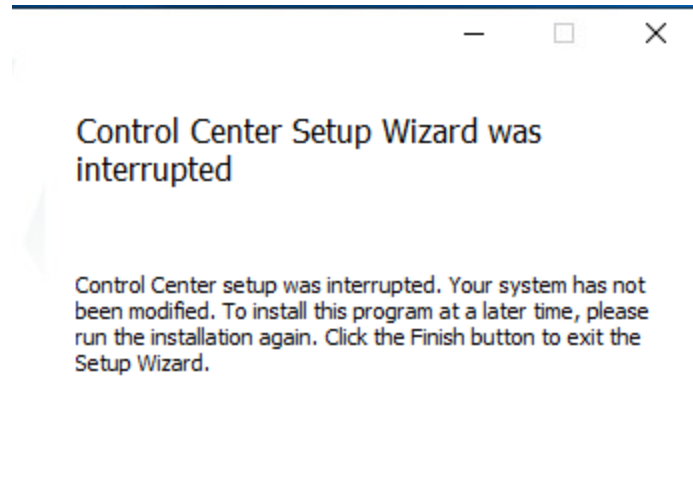
A common cause of this error is when IIS is unable to utilize port 80 as another application is using it. One of the conflicting applications is Skype, particularly when Skype is installed before configuring IIS.

To resolve this:

1. Configure Skype to stop using port 80
  - a. Open Skype.
  - b. From the menu, select **Tools > Options**.
  - c. Click **Advanced > Connection**.
  - d. Clear the option: **Use port 80 and 443 as alternatives for incoming connections**.
  - e. Click **Save**.
  - f. Quit Skype.
2. Reset IIS.
  - a. Click **Start > Run**, type `cmd`, and then press Enter.
  - b. Type `iisreset`, and then press Enter.
3. Re-start Skype.

## Control Center Installation Fails to Complete

The Control Center Installation wizard ended prematurely.



This issue typically relates to permissions issues and must be investigated by creating a log file from the installation.

To resolve this, investigate the issue by generating a log file of the install. To generate a log file for the database installer:

1. Copy the installer to the root of the local disk, for example C:\.
2. Click **Start** > **Run**, type cmd, and then press Enter.
3. Navigate to the folder containing the installer.
4. Paste the following text and then press enter: `msiexec /i "Everbridge.ControlCenter.Server.Installer.msi" /l*v log.txt`
5. Run through the installer and then inspect the log file created on the desktop. For example, the following message appears in the log file when a database cannot be created, **CAQuietExec: \*\*\* SQL01268 C:\Program Files\Everbridge\pacific.sql(39,0) .Net SqlClient Data Provider: Msg 5170, Level 16, State 1, Line 1 Cannot create file 'C:\Databases\Current\pacific.mdf, because it already exists.**
6. Change the file path or the file name, and retry the operation.

**Note:**

- When looking for errors in the log file, search for return value 3 and the error should appear above an instance of this text near the end of the log file.
- Database needs to be NOT participating in an availability group.

### Installer Error: `Sqlpackage.exe` has Stopped Working

The Control Center installer fails and reports that `sqlpackage.exe` has stopped working. The installer then rolls back and fails to install successfully.

This error message is related to the missing Microsoft SQL Server components that are required for the SQL Server Data-Tier Application Framework.

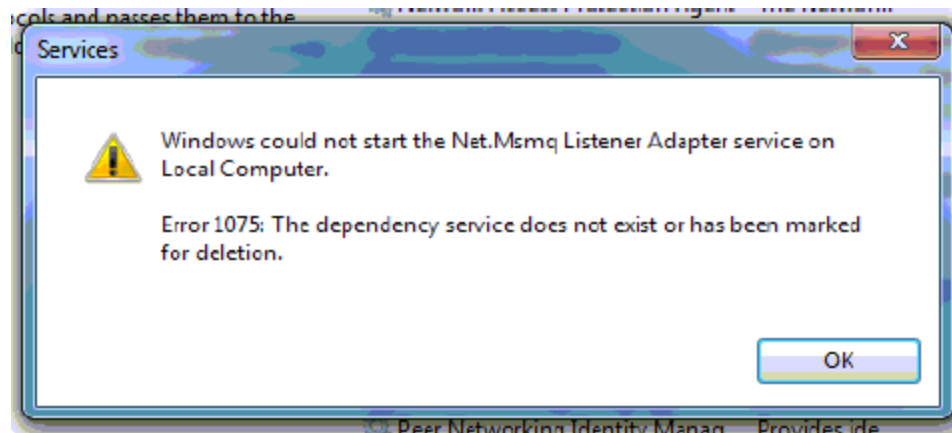
To resolve this, install the following files:

- SqlDom.msi
- SQLSysClrTypes.msi

<https://learn.microsoft.com/en-us/sql/tools/sqlpackage/sqlpackage-download?view=sql-server-ver16#windows-net-framework>

### Unable to Start Net.Msmq Listener Adapter Service

The Control Center installation wizard displays an error message on the **Select Components** page, when you click **Next** after selecting the **Install the Auditing service** option.



This is because Microsoft MSMQ has not been correctly installed.

To resolve this:

1. Configure MSMQ correctly and restart the machine.
2. Run through the prerequisites, see [Configuring Prerequisites for Control Center](#).

### General Service Failure

Control Center services fail to start or do not function as expected. The Windows event log and Debug View do not report any exceptions.

To resolve this, run the suspected services, including the Server service, in debug mode. Follow these steps to run the Alarm Types service in debug mode. The server service is also included as this can also indicate the cause of the issue.

1. Ensure that all services run in debug mode are stopped. For example, stop the Control Center AlarmTypes Service and the Control Center Server Service.
2. Open a Command Prompt dialog for each service to be run in debug mode. In this case, 2 command prompt dialogs are required.
3. Navigate to the **Program Files > Service** folder, filter the folder contents by type **Application**, and then drag the file into a command prompt window.
4. Type `debug` after the file path and then press Enter.

- Repeat this for all services to be run in debug mode and then check the command prompt dialog for any debug information to identify the issue.

### Waiting for Security Service to Start

The Windows Client is successfully communicating with the Control Center Server, but the following message is displayed.



The Client application cannot reach the Control Center Server workstation using its hostname.

To resolve this, edit the hosts file on the workstation where Control Center Client is installed. To edit the hosts file:

- Locate the hosts file in the following path:  
`c:\windows\system32\drivers\etc\hosts`
- Edit the hosts file to add the hostname of the Control Center Server workstation and the IP address at which it can be reached. For example:  

```
# 102.54.94.97 rhino.acme.com # source server
# 38.25.63.10 x.acme.com # x client host
```

**NOTE:** Refer to the documentation for your version of Windows for the steps required to update the hosts file.

# Appendix

## Port Description

The following tables describe the executables, ports, protocol and direction that has to be considered when configuring network security.

Some services, such as the Rules Engine and Alarm Types Service communicate within the same host (not via the firewall) and are thus excluded from the tables.

Furthermore, certain windows services shall be configured and enabled and able to talk to each of the components in the architecture to ensure the system works correctly. These are:

- NTP
- Active Directory
- Ping - used to check availability of services between Control Center Client and all other components
- MSMQ – used to send messages between some subsystems and Control Center server (see <https://support.microsoft.com/en-gb/help/183293/how-to-configure-a-firewall-for-msmq-access>)

For the purposes of this document, it is assumed that MS SQL Server is configured to use its default ports of TCP/UDP 1433 and 1434.

## Control Center Server

### Server Inbound

Name & Executable	Port	Protocol	Source	Notes
ipscserver.exe	9000	TCP	CC Client	Core Server
Everbridge.ControlCenter.AlarmTypes.WindowsService.exe	9003	TCP	CC Client	Alarm Types Service
System.exe	9004	TCP	CC Client	Notification Service - SignalR Listening on HTTP, and TCP level protocol is handled by OS, hence no executable.
Everbridge.ControlCenter.GIS.WindowsService.exe	9005	TCP	CC Client	GIS Service

System.exe	9006	TCP	CC Client	GIS Service - Listening on HTTP, and TCP level protocol is handled by OS, hence no executable.
System.exe	9007	TCP	CC Client	<p>The Connection Manager is listening on HTTP, and TCP level protocol is handled by OS, hence no executable and running under the [System] process.</p> <p>9007 is used by SignalR HTTP (Event viewer).</p>
System.exe	9008	TCP	CC Client	Listening on HTTP, and TCP level protocol is handled by OS, hence no executable.
Everbridge.ControlCenter. .Security. WindowsService.exe	9009	TCP	CC Client	Security Service
Everbridge.ControlCenter. .Sensor. WindowsService.exe	9025	TCP	CC Client	Sensor Service
Data Web services	9010	TCP		SignalR for Notification to Web Clients
Data Management Service	9012	TCP		Data Management Service
SMSvcHost.exe SMSvcHost64.exe	9099	TCP	CC Client	<p>Connection Manager use the Net.Tcp Port Sharing Service (SMSvcHost).</p> <p>9099 is used by Device services.</p>
Default\ Everbridge.ControlCenter. .Driver. ConnectionManager.Windows	9100	TCP	CC Client	The instance name is specific to the installation. One rule has to be configured per instance.



Service.exe				Used by Connection Manager services to modify configuration.
Everbridge.ControlCenter.Federation.WindowsService.exe	9901 9902	TCP	CC Client	Federated Service
Everbridge.ControlCenter.WindowsModernClient.exe	7333	TCP	CC Client	Video Export Service
MS firewall default "Message Queuing TCP Inbound" "Message Queuing UDP"				%systemroot%\system32\mqsvc.exe; MS firewall rule added automatically when enabling MSMQ.
ICMP		ICMP		

### Server Outbound

Name & Executable	Port	Protocol	Destination	Notes
Everbridge.ControlCenter.AlarmTypes.WindowsService.exe Default\ Everbridge.ControlCenter.Driver.ConnectionManager.WindowsService.exe Everbridge.ControlCenter.GIS.WindowsService.exe Everbridge.ControlCenter.RulesEngine.WindowsService.exe ipscserver.exe	1433 1434	TCP, UDP	MS SQL	MS SQLPort not specified by Control Center. Check SQL Server installation for specific ports.
Everbridge.ControlCenter.Security.WindowsService.exe	1434	UDP	MS SQL	

Data Management Service	9012	TCP	Data Management Service	
Federated Service	9901	TCP	CC Server	
Everbridge.ControlCenter.Windows Client.exe	7333	TCP	CC Client	Video Export Service
MS firewall default "Message Queuing TCP Inbound" "Message Queuing UDP"				%systemroot%\system32\mqsvc.exe MS firewall rule added automatically when enabling MSMQ.
ICMP		ICMP		

## Control Center Client

### Client Inbound

Name & Executable	Port	Protocol	Source	Notes
Client Watchdog	8567	TCP	Loopback	
Heartbeat		ICMP	IPSC Server	Ping

### Client Outbound

Name & Executable	Port	Protocol	Destination	Notes
Everbridge.ControlCenter.WindowsModernClient.exe Everbridge.ControlCenter.ClientWatchdog.WindowsService.exe Everbridge.ControlCenter.Driver.VideoControlManager.exe Everbridge.ControlCenter.Driver.VideoControlManager64.exe	9004	TCP	CC Server	Notification Service - SignalR
Everbridge.ControlCenter.	9000 9003	TCP	CC Server	Core Server, Alarm Types Service, GIS Service,

WindowsModernClient.exe	9005 9006 9007 9008 9009 9025			Connection Manager service, Security Service, Sensor Service
Everbridge.ControlCenter. WindowsModernClient.exe	7333	TCP	CC Server	Video Export Service
Everbridge.ControlCenter. WindowsModernClient.exe	7339	TCP	CC Server	Reporting
Everbridge.ControlCenter. WindowsModernClient.exe Everbridge.ControlCenter. Driver. VideoControlManager.exe Everbridge.ControlCenter. Driver. VideoControlManager64.exe	9099 9100	TCP	CIPSC Server	Connection Manager service
Federated Service	9901 9902	TCP	CC Server	
Everbridge.ControlCenter. Driver. VideoControlManager.exe Everbridge.ControlCenter. Driver. VideoControlManager64.exe	554	TCP	Video Edge NVR	VideoEdge - RTSP video streams
Heartbeat		ICMP	CC Server	Video Edge NVR, MS SQL, Cameras, Ping