# Citect Anywhere

## Server Installation and Configuration Guide

November 2015

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09/01/2015 edition for Schneider Electric Citect Anywhere Version 1.0.0.

Manual Revision Version 1.0.

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Validity Note

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# Contents

## Safety Information

**Read these instructions carefully, and familiarize yourself with Citect Anywhere before trying to install, operate, or maintain your system**. The following special messages may appear throughout this documentation or on the Citect Anywhere application to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.

⚠ This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚡ The addition of this symbol to a Danger or Warning safety label indicates that an electrical hazard exists, which will result in personal injury if the instructions are not followed.

| ⚠ DANGER |
|---|
| DANGER indicates an imminently hazardous situation which, if not avoided**, will result in death or serious injury.** |

| ⚠ WARNING |
|---|
| WARNING indicates a potentially hazardous situation which, if not avoided**, can result in death or serious injury.** |

| ⚠ CAUTION |
|---|
| CAUTION indicates a potentially hazardous situation which, if not avoided, **can result in minor or moderate injury.** |

## CAUTION

**CAUTION,** used without the safety alert symbol, indicates a potentially hazardous situation which, if not avoided, **can result in equipment damage.**

### Please Note

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction and operation of electrical equipment and the installation, and has received safety training to recognize and avoid the hazards involved.

# Chapter 1: Welcome

Use Schneider Electric Citect Anywhere (hereafter referred to as Citect Anywhere) to access Vijeo Citect clients hosted on Terminal Servers with HTML5 compatible web browsers. Follow the instructions in this guide to begin using Citect Anywhere.

This guide assumes knowledge of the following:

- Vijeo Citect
- Enabling and configuring RDP on Windows operating systems
- Firewall configuration
- Web server administration

Important terminology used in this guide includes the following:

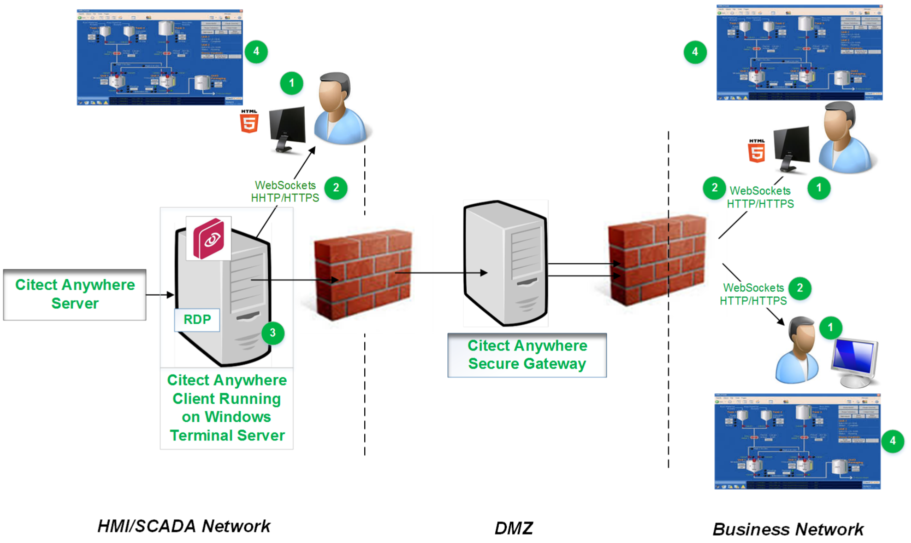
- **RDP** - Remote Desktop Protocol. A remote desktop protocol developed by Microsoft. RDP is a standard component of Microsoft Windows.
- **RDP Host** - a Windows system that can be remotely accessed using Microsoft RDP, such as a Terminal Server (RDS Session Host) with remote access enabled.
- **HTML5** - a new update to the HTML specification. Extends HTML with new features and functionality for communication, display, etc.
- **WebSocket** - a bi-directional, full-duplex communication mechanism introduced in the HTML5 specification.
- **SSL** - Secure Sockets Layer. A cryptographic protocol that provides communications security over the Internet.

# Chapter 2: Overview

Citect Anywhere provides remote access to Vijeo Citect clients using any HTML5 web browser running on a desktop computer or a mobile device. Any browser that supports HTML5 canvas can be used as the client to view Vijeo Citect. HTML5 WebSockets are typically required for Citect Anywhere.

## Architecture

The following diagram illustrates how the different components of Citect Anywhere work together:



| Reference | Description |
|---|---|
| 1 | Initiate a connection from the client device by directing the browser to the Citect Anywhere start page hosted on the web server (*https://<computer name>:8080/*). The *Start.html* page is displayed in the web browser using HTTP/HTTPS. |
| 2 | The browser opens a WebSocket connection to the Citect Anywhere Server, which is running on the RDP host itself. |

| REFERENCE | DESCRIPTION |
|---|---|
| | If the optional Citect Anywhere Secure Gateway is installed, a Citect Anywhere Server browser session will connect through it. |
| 3 | The Citect Anywhere Server translates the WebSocket communication to and from RDP, thus establishing a connection from the browser to the RDP host itself. |
| 4 | The browser then displays the content of the remote Vijeo Citect client. |

**Note**: If the optional Citect Anywhere Secure Gateway is installed, a Citect Anywhere Server browser session will connect through it.

**Important**: Using the Secure Gateway to connect to your SCADA system from an external network may expose your SCADA system to unauthorized access. It is recommended that you use the Secure Gateway in conjunction with other security measures to improve the overall security of your system.

This is the recommended architecture to remotely access Vijeo Citect clients running on an HMI/SCADA network from an untrusted business network.

- The Citect Anywhere Server (WebSocket Server) is installed on the same RDP host where the Vijeo Citect client runs. The server includes a collection of web resources (HTML files, CSS, JavaScript, images, etc.).
- The Citect Anywhere Secure Gateway is an optional server installed separately on a computer in a DMZ to access Vijeo Citect protected by a firewall.

## RDP Compression and Acceleration

Citect Anywhere provides RDP compression and acceleration technology to improve remote client performance over a network and Internet. There are three main features of RDP technology:

- Image compression

  Images are compressed before they are transmitted to a browser for rendering. A higher compression value results in lower image quality, less impact to the network and faster update.

- Packet shaping

  Packet shaping is a computer network traffic management technique that delays some or all datagrams to reduce latency and increase usable network bandwidth.

- Whole frame rendering

  Whole frame rendering updates the display as a whole rather than in blocks, as performed by standard RDP. The benefit of whole frame rendering is especially noticeable when watching video over slow network connections. Coupled with the other optimization features, whole frame rendering results in a smoother video display on a browser.

## Licensing

Citect Anywhere is licensed for use with Vijeo Citect versions v7.20 (SP5a), v7.40 (SP1 and SP2) and v7.50 only.

In order to run Citect Anywhere, licenses are required for the following:

1. Microsoft Remote Desktop Service (RDS): Every remote desktop session opened with a browser using Citect Anywhere consumes an RDS license. Confirm that the required number of RDS licenses is available to users.
2. Vijeo Citect License(s) - Availability of a Vijeo Citect license is verified every time a user attempts to connect to a Vijeo Citect Client using Citect Anywhere.
3. Citect Anywhere License(s) - Citect Anywhere licenses are available as a bundle of 5, with one license being used per active connection. When connection is established with a Vijeo Citect client, a license is used up. The license becomes available for use again when the session is terminated.
   The availability of a license is checked at 5-minute intervals. If the license check does not detect a license three times in a row, an error message is displayed and the Vijeo Citect client is shut down.

# Chapter 3: Before You Install

Prior to installing Citect Anywhere, confirm that:

- The computer that will host the Citect Anywhere Server is running an operating system supported by Vijeo Citect.
- The Citect Anywhere Server and the Secure Gateway need to be installed on separate computers.
- Remote Desktop Services is configured on the host computer.

**Important**: Citect Anywhere leverages RDP and translates RDP to WebSockets. RDP access must be enabled on the computer hosting Citect Anywhere. For more information, see the Remote Desktop Services with Vijeo Citect 2015 whitepaper. Note that you need to register with the site before you can access the document.

- The host computer's firewall is configured to permit inbound and outbound network traffic on port 8080.

## Prerequisites

The Citect Anywhere Server has been tested with Microsoft Windows Server versions 2008 and 2012. Citect Anywhere Server must be installed on the RDP server where Vijeo Citect resides. The Citect Anywhere Server is highly efficient, and will have minimum impact on the RDP host’s performance and scalability.

The Citect Anywhere Server itself includes a built-in web server. This includes a copy of the Citect Anywhere web components.

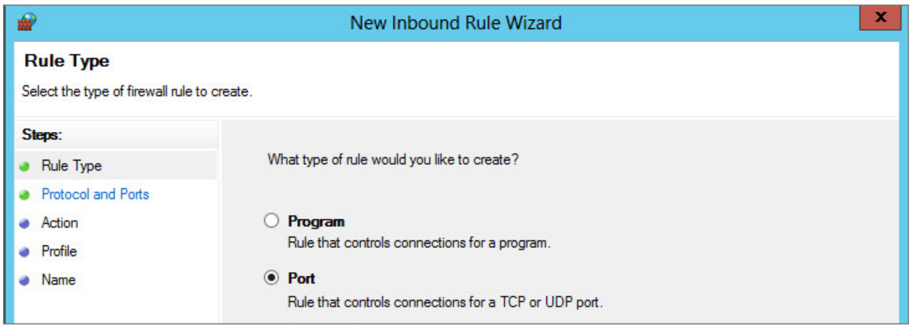
## Configuring Firewalls

By default, a client (browser) connects to a Citect Anywhere Server using port 8080 for both encrypted and unencrypted WebSocket communication. This port number can be changed using the Citect Anywhere Server Configuration utility.

To enable direct connection from the client to the Citect Anywhere Server (without using the Secure Gateway), the server must be directly accessible from the client using port 8080.

If the Windows firewall is enabled on the same computer where the Citect Anywhere Server is installed, configure it to enable the Citect Anywhere client connection.

1. Open the **Windows Control Panel** and then **Windows Firewall**
2. Select **Advanced Settings** and select **Inbound Rules**.
3. Click **New Rule**.



New Inbound Rule Wizard

**Rule Type**

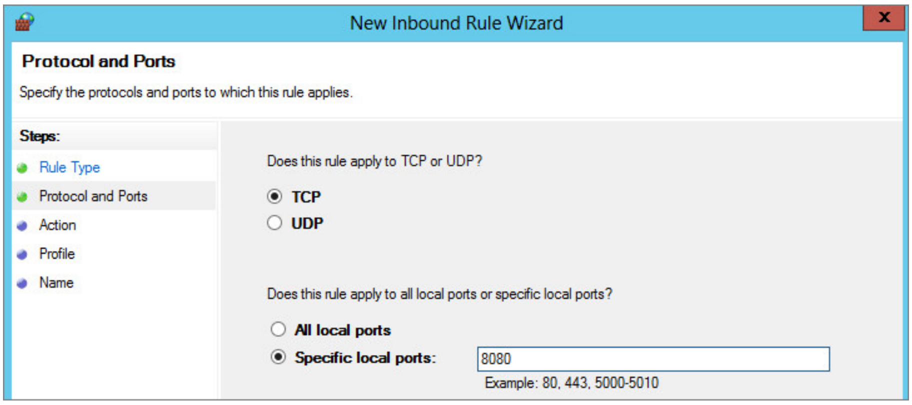
Select the type of firewall rule to create.

What type of rule would you like to create?

○ **Program**
Rule that controls connections for a program.

● **Port**
Rule that controls connections for a TCP or UDP port.

4. Select **Port** and click **Next**.
5. Enter the specific port: 8080.



New Inbound Rule Wizard

**Protocol and Ports**

Specify the protocols and ports to which this rule applies.

Steps:
- Rule Type
- Protocol and Ports
- Action
- Profile
- Name

Does this rule apply to TCP or UDP?

● **TCP**

○ **UDP**

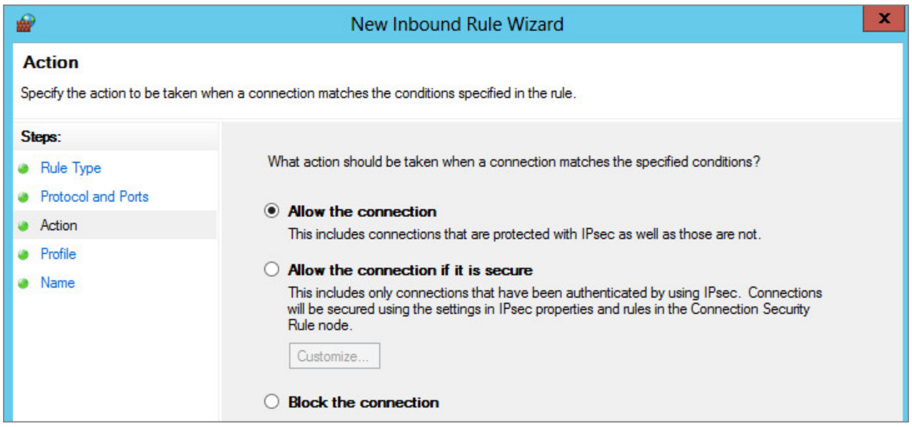
Does this rule apply to all local ports or specific local ports?

○ **All local ports**

● **Specific local ports:** 8080

Example: 80, 443, 5000-5010

6. Click **Next** and select **Allow the connection**.



New Inbound Rule Wizard

**Action**

Specify the action to be taken when a connection matches the conditions specified in the rule.

Steps:
- Rule Type
- Protocol and Ports
- Action
- Profile
- Name

What action should be taken when a connection matches the specified conditions?

● **Allow the connection**

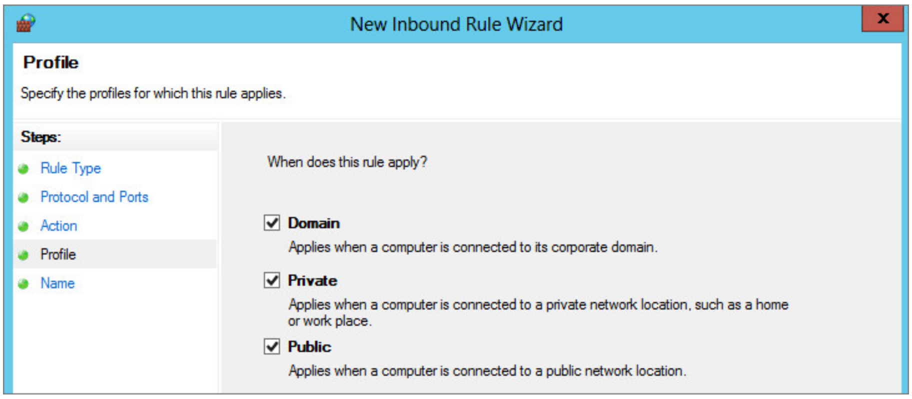
This includes connections that are protected with IPsec as well as those are not.

○ **Allow the connection if it is secure**

This includes only connections that have been authenticated by using IPsec. Connections will be secured using the settings in IPsec properties and rules in the Connection Security Rule node.

○ **Block the connection**

7. Click **Next** and select to apply the rule on the **Domain, Private** and **Public** networks.



New Inbound Rule Wizard

**Profile**

Specify the profiles for which this rule applies.

Steps:
- Rule Type
- Protocol and Ports
- Action
- Profile
- Name

When does this rule apply?

☑ **Domain**

Applies when a computer is connected to its corporate domain.

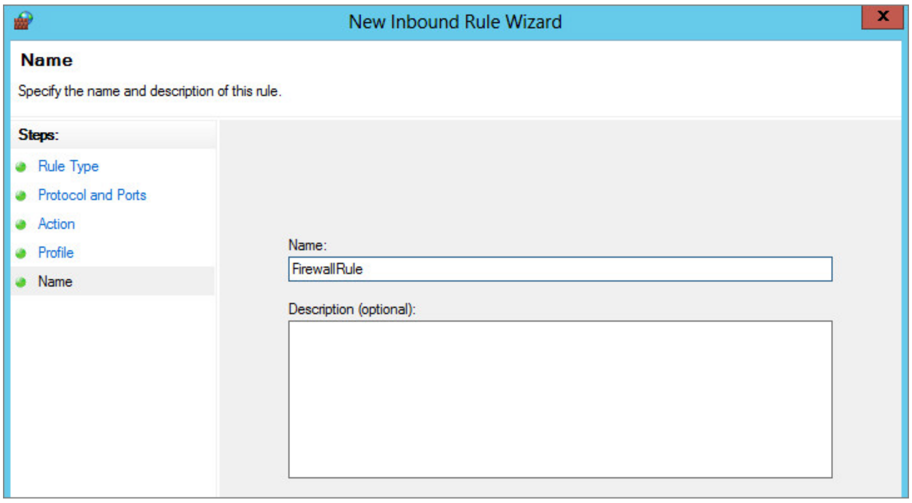
☑ **Private**

Applies when a computer is connected to a private network location, such as a home or work place.

☑ **Public**

Applies when a computer is connected to a public network location.

8. Click **Next**, assign a name for the rule.



New Inbound Rule Wizard

**Name**

Specify the name and description of this rule.

Steps:

- Rule Type
- Protocol and Ports
- Action
- Profile
- Name

Name:

FirewallRule

Description (optional):

9. Click **Finish**.

## Binding Service to All Network Interfaces

In a virtual network environment, Citect Anywhere Server should use all virtual network interfaces, rather than just one virtual Network Interface Controller (NIC). Network interfaces used by Citect Anywhere Server must be accessible to the target group of users.

### Verifying the Current Network Interface Configuration

As a quick test of your current network configuration, run PowerShell 3.0 and enter the following command:

```
RESOLVE-DNSNAME dnsname
```

**Example**:

```
PS C:\Users\user1> resolve-dnsname itaatest
```

**Note**: PowerShell 3.0 is included with Microsoft Windows Server 2012. You will need to install it if you are running earlier versions of Windows Server.

# Chapter 4: Installation

Citect Anywhere Server is the server-side service that translates RDP into WebSocket communication. The Citect Anywhere Server is installed on the RDP host.

The Citect Anywhere client interface, running in the browser, connects to this service using WebSockets directly or through the Secure Gateway.

For more information about the Secure Gateway, refer to the Citect Anywhere Secure Gateway Installation and Configuration Guide.

## Installing Citect Anywhere Server

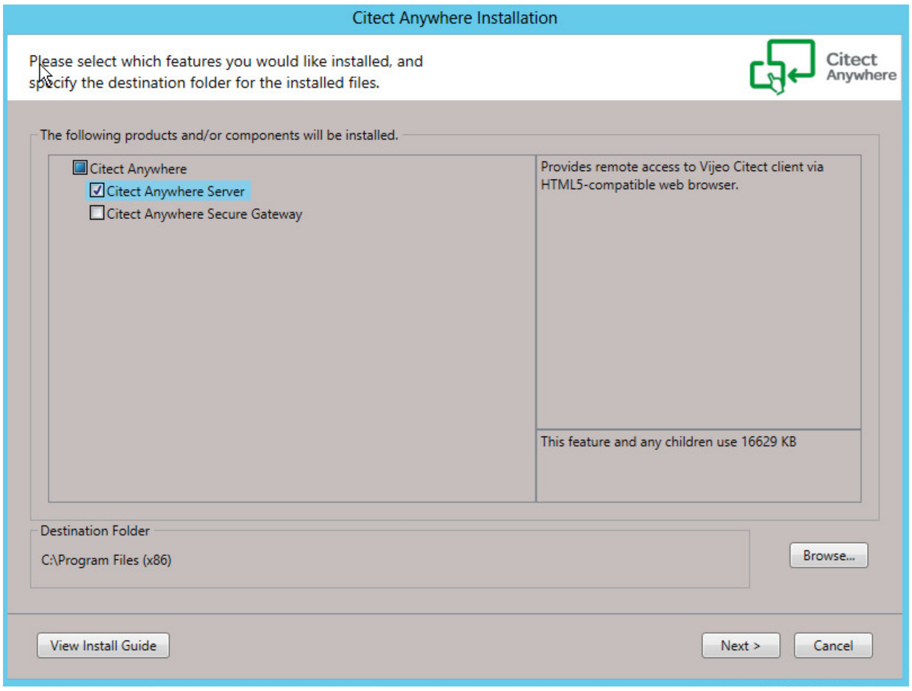
The Citect Anywhere installer allows you to install the Citect Anywhere Server and the Secure Gateway. Note that these two components **cannot** be installed on the same computer.

To install Citect Anywhere Server:

1. Insert the CD into your CD-ROM drive, and run the *Setup.exe* file. The Citect Anywhere splash screen appears.

The message *"Please wait for configuration to complete"* appears as the installer prepares to start the installation.

2. Select the **Citect Anywhere Server** option.



Citect Anywhere Installation

Please select which features you would like installed, and specify the destination folder for the installed files.

The following products and/or components will be installed.

- Citect Anywhere
  - ☑ Citect Anywhere Server
  - □ Citect Anywhere Secure Gateway

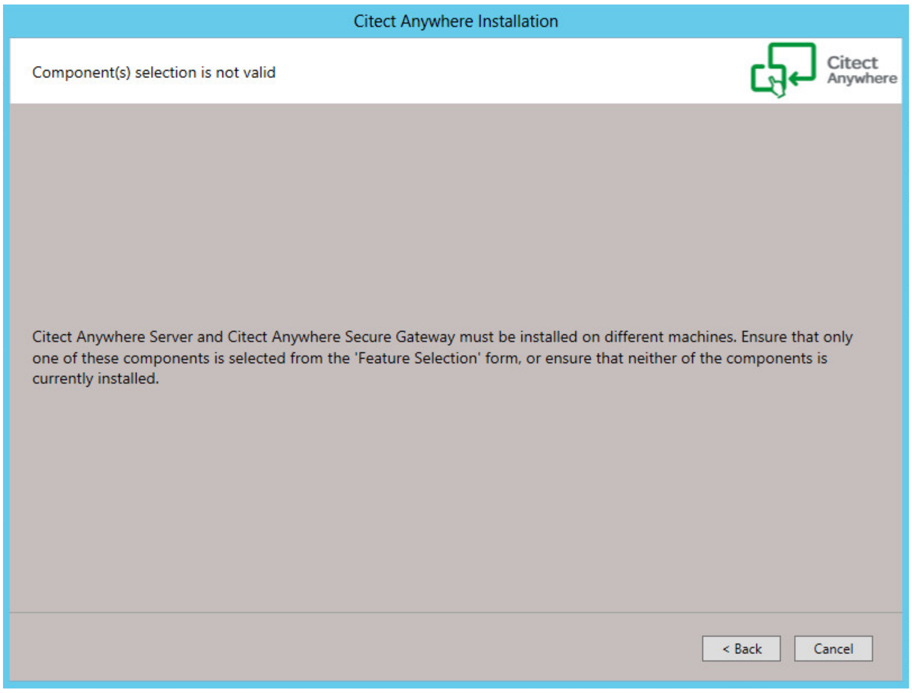
Provides remote access to Vijeo Citect client via HTML5-compatible web browser.

This feature and any children use 16629 KB

Destination Folder

C:\Program Files (x86)

If you select both options, the installer will prevent you from proceeding with the installation. The following message appears.

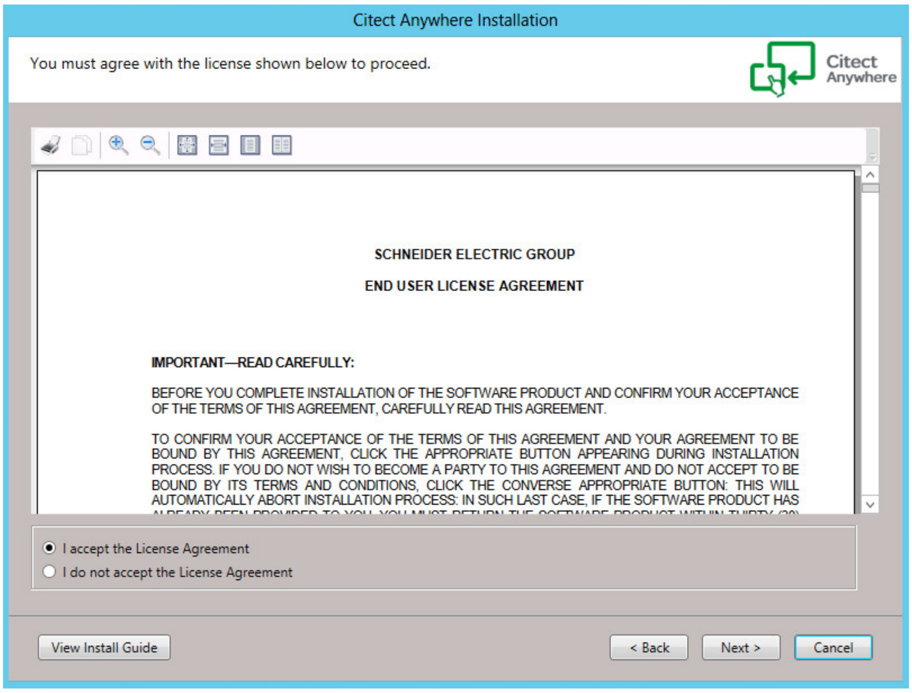


Component(s) selection is not valid

Citect Anywhere Server and Citect Anywhere Secure Gateway must be installed on different machines. Ensure that only one of these components is selected from the 'Feature Selection' form, or ensure that neither of the components is currently installed.

Click **Back** to return to the Component Selection screen.

3. Click **Next**. The License Agreement screen appears. Read the license agreement carefully, and select the **I accept the License Agreement** option to continue. Selecting **I do not accept the License Agreement** will prevent you from proceeding with the installation.



Citect Anywhere Installation

You must agree with the license shown below to proceed.

SCHNEIDER ELECTRIC GROUP

END USER LICENSE AGREEMENT

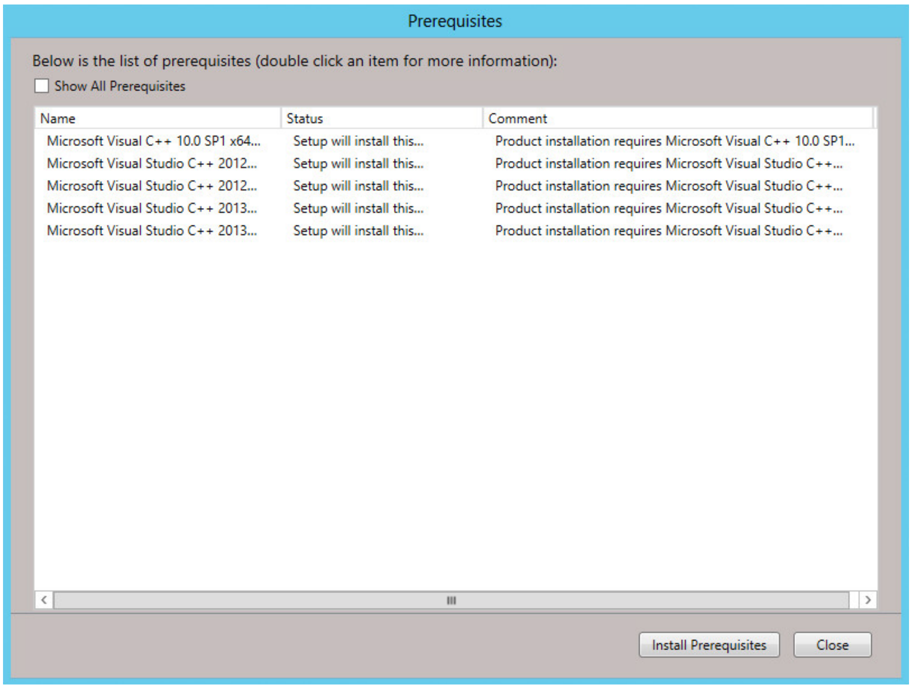
IMPORTANT—READ CAREFULLY:

BEFORE YOU COMPLETE INSTALLATION OF THE SOFTWARE PRODUCT AND CONFIRM YOUR ACCEPTANCE OF THE TERMS OF THIS AGREEMENT, CAREFULLY READ THIS AGREEMENT.

TO CONFIRM YOUR ACCEPTANCE OF THE TERMS OF THIS AGREEMENT AND YOUR AGREEMENT TO BE BOUND BY THIS AGREEMENT, CLICK THE APPROPRIATE BUTTON APPEARING DURING INSTALLATION PROCESS. IF YOU DO NOT WISH TO BECOME A PARTY TO THIS AGREEMENT AND DO NOT ACCEPT TO BE BOUND BY ITS TERMS AND CONDITIONS, CLICK THE CONVERSE APPROPRIATE BUTTON: THIS WILL AUTOMATICALLY ABORT INSTALLATION PROCESS: IN SUCH LAST CASE, IF THE SOFTWARE PRODUCT HAS ALREADY BEEN PROVIDED TO YOU, YOU MUST RETURN THE SOFTWARE PRODUCT WITHIN THIRTY (30)

● I accept the License Agreement
○ I do not accept the License Agreement

4. Click **Next**. The Installation Prerequisites screen appears.
   The installation program checks whether the installation prerequisites are met, and shows the missing prerequisites.



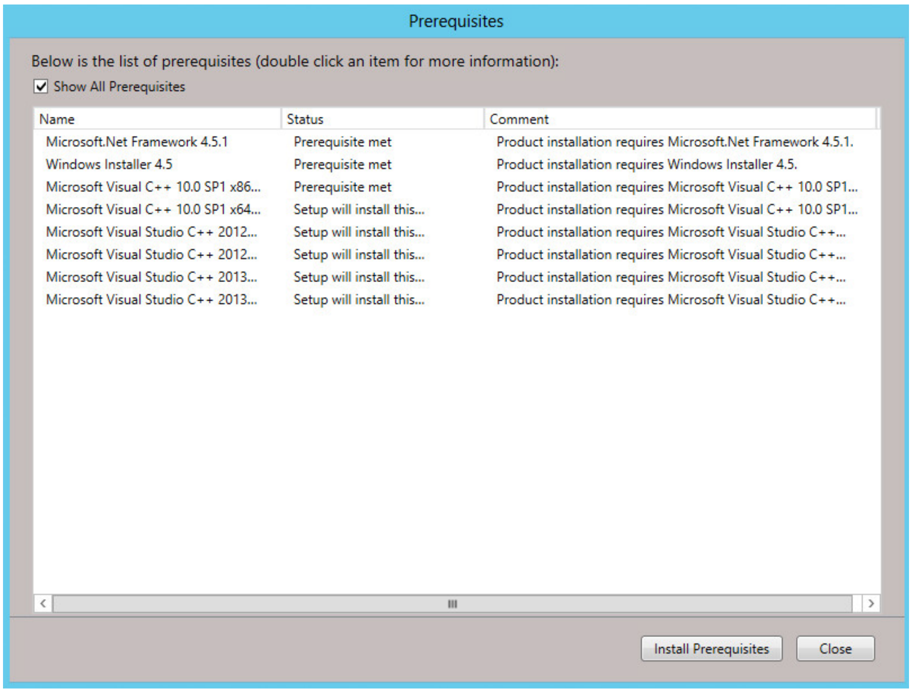
Prerequisites

Below is the list of prerequisites (double click an item for more information):

□ Show All Prerequisites

| Name | Status | Comment |
|---|---|---|
| Microsoft Visual C++ 10.0 SP1 x64... | Setup will install this... | Product installation requires Microsoft Visual C++ 10.0 SP1... |
| Microsoft Visual Studio C++ 2012... | Setup will install this... | Product installation requires Microsoft Visual Studio C++... |
| Microsoft Visual Studio C++ 2012... | Setup will install this... | Product installation requires Microsoft Visual Studio C++... |
| Microsoft Visual Studio C++ 2013... | Setup will install this... | Product installation requires Microsoft Visual Studio C++... |
| Microsoft Visual Studio C++ 2013... | Setup will install this... | Product installation requires Microsoft Visual Studio C++... |

5. To view a list of all prerequisites, select the **Show All Prerequisites** option.



Prerequisites

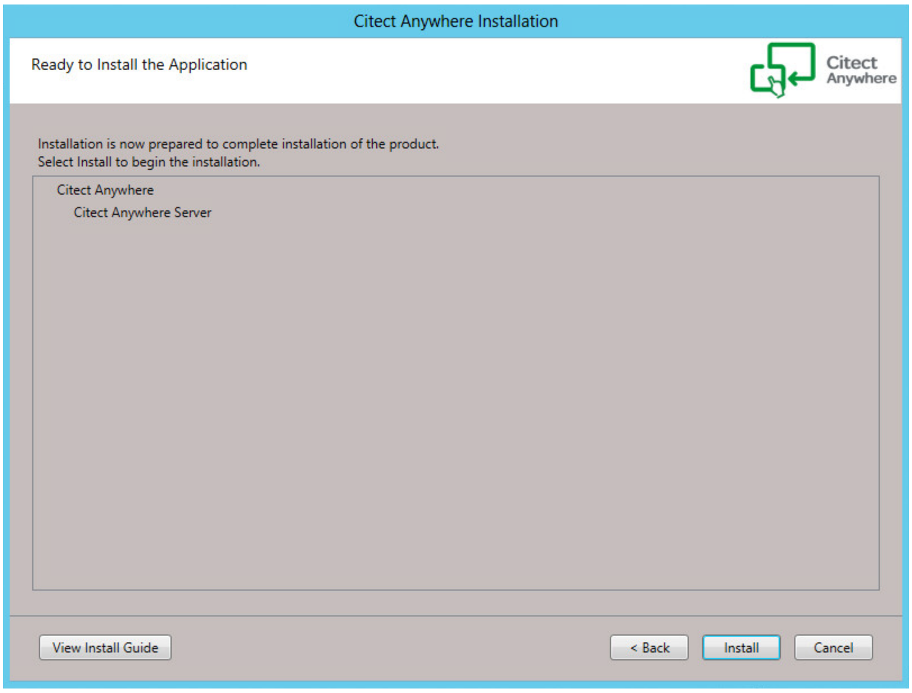
Below is the list of prerequisites (double click an item for more information):

☑ Show All Prerequisites

| Name | Status | Comment |
|---|---|---|
| Microsoft.Net Framework 4.5.1 | Prerequisite met | Product installation requires Microsoft.Net Framework 4.5.1. |
| Windows Installer 4.5 | Prerequisite met | Product installation requires Windows Installer 4.5. |
| Microsoft Visual C++ 10.0 SP1 x86... | Prerequisite met | Product installation requires Microsoft Visual C++ 10.0 SP1... |
| Microsoft Visual C++ 10.0 SP1 x64... | Setup will install this... | Product installation requires Microsoft Visual C++ 10.0 SP1... |
| Microsoft Visual Studio C++ 2012... | Setup will install this... | Product installation requires Microsoft Visual Studio C++... |
| Microsoft Visual Studio C++ 2012... | Setup will install this... | Product installation requires Microsoft Visual Studio C++... |
| Microsoft Visual Studio C++ 2013... | Setup will install this... | Product installation requires Microsoft Visual Studio C++... |
| Microsoft Visual Studio C++ 2013... | Setup will install this... | Product installation requires Microsoft Visual Studio C++... |

6. Click **Install Prerequisites** to install the missing prerequisites.

7. Click **Next**. The list of components selected for installation is displayed.

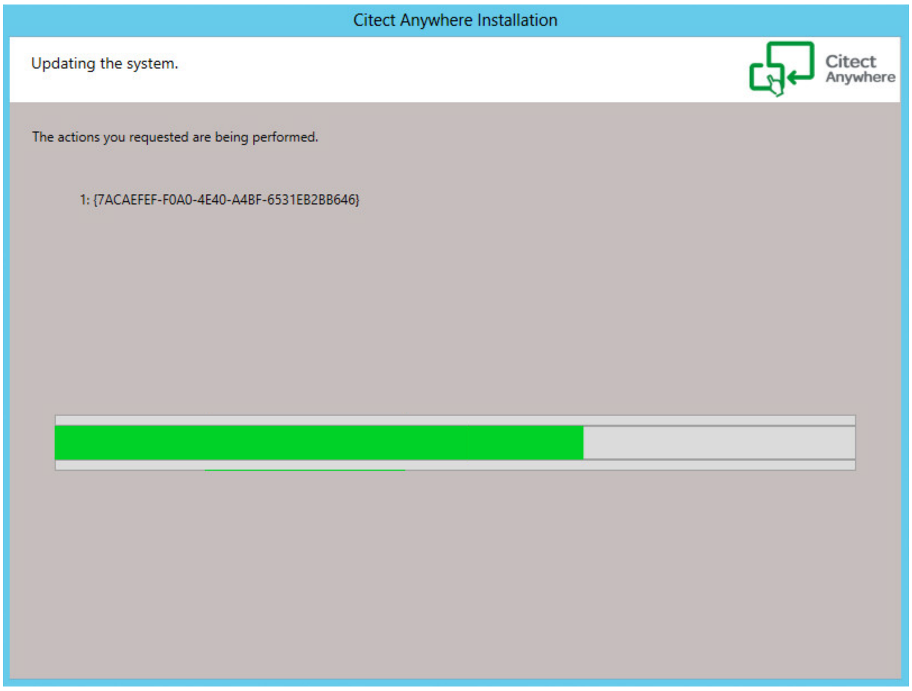


Ready to Install the Application

Installation is now prepared to complete installation of the product.
Select Install to begin the installation.

Citect Anywhere
Citect Anywhere Server

8. Click **Install**. The progress bar appears.

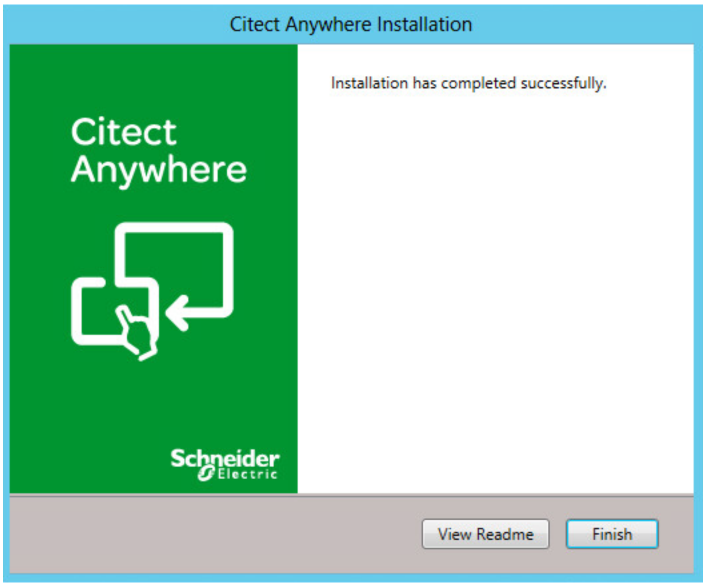


Updating the system.

The actions you requested are being performed.

1: {7ACAEFEF-F0A0-4E40-A4BF-6531EB2BB646}

9. After the installation is complete, the Installation Complete dialog box appears. Click **View Readme** to open the *Readme.html* file, which contains details about Citect Anywhere features, or click **Finish**.



Installation has completed successfully.

The Citect Anywhere Server service is configured to run automatically on system startup. If the service is stopped or is unable to listen on its default port (8080), clients will not be able to connect to that host. Configure firewalls and proxies between the end-point devices and the server-side component to allow communication using port 8080, or use the Citect Anywhere Secure Gateway.

**Note**: Citect Anywhere Server cannot be installed on systems where the host name contains non-English characters.
Citect Anywhere Server and Citect Anywhere Secure Gateway cannot be installed on the same machine.

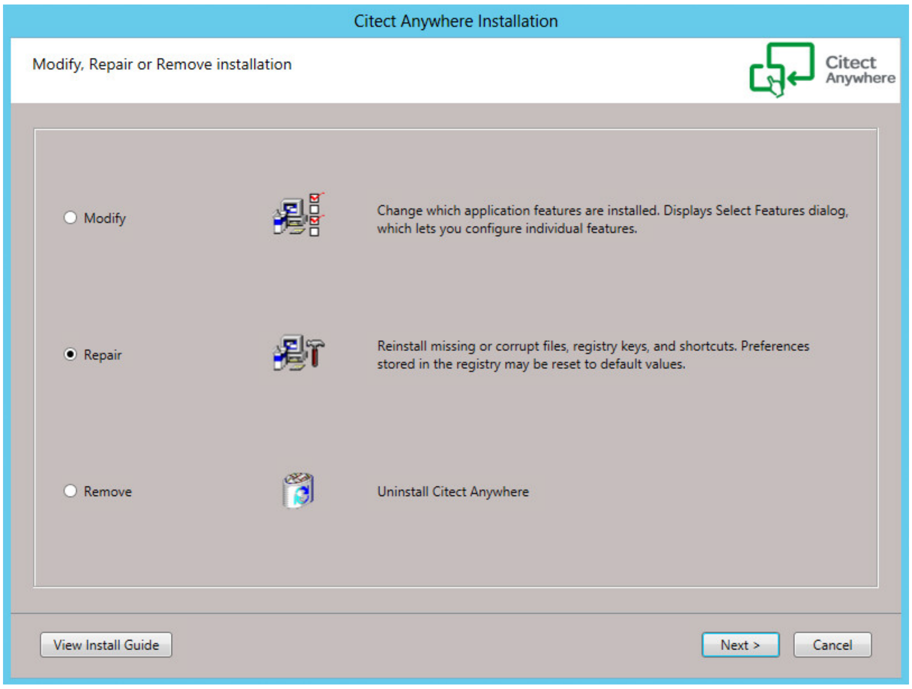
## Repairing an Installation

You can use the installation program to repair corrupt files of installed Citect Anywhere components.

**Note**: You need to have the installation CD inserted in the CD-ROM drive before you can repair an installation, or have access to other media where the installation files are located.

To repair an installation:

1. From the **Windows Start** menu, select **Control Panel > Programs > Programs and Features > Uninstall a Program**. All programs installed on your computer are listed.
2. Select the Citect Anywhere component you wish to repair. Click **Uninstall/Change**. The installer program appears.
3. Select **Repair**, and then click **Next**.



Citect Anywhere Installation

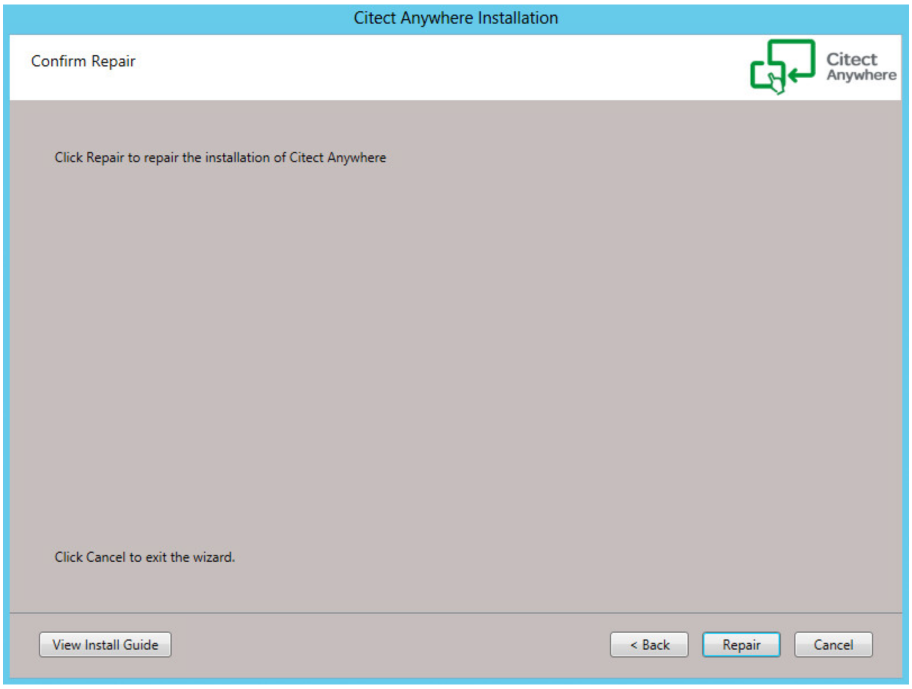
Modify, Repair or Remove installation

○ Modify — Change which application features are installed. Displays Select Features dialog, which lets you configure individual features.

● Repair — Reinstall missing or corrupt files, registry keys, and shortcuts. Preferences stored in the registry may be reset to default values.

○ Remove — Uninstall Citect Anywhere

4. Click **Repair**.


Citect Anywhere Installation

Confirm Repair

Click Repair to repair the installation of Citect Anywhere

Click Cancel to exit the wizard.

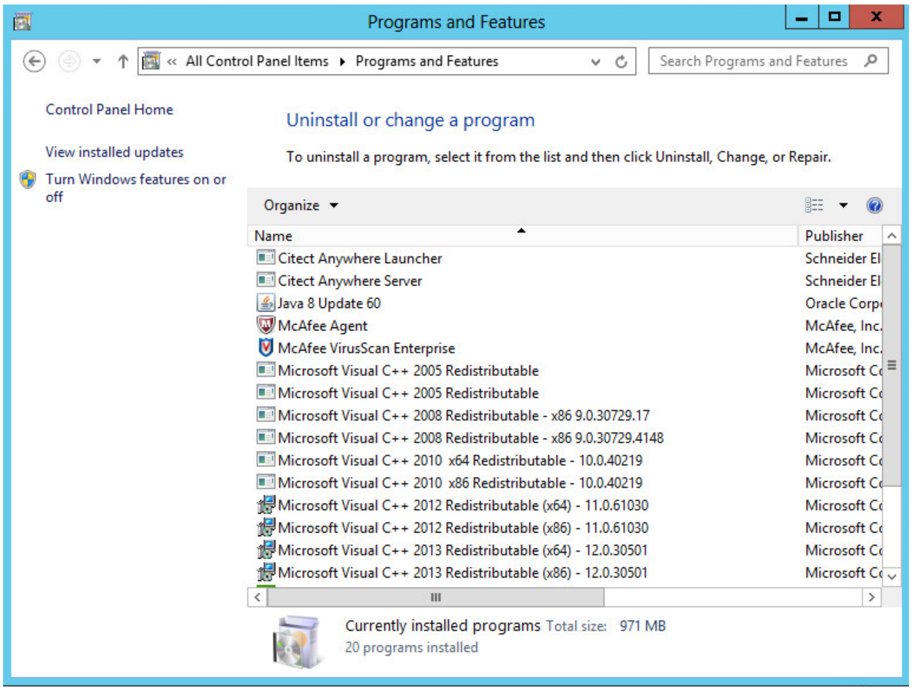
5. Installed Citect Anywhere components are repaired, and a message confirming successful repair appears.
6. Click **Finish** to close the dialog box.

## Uninstalling Citect Anywhere

You may wish to remove Citect Anywhere components. This section provides instructions for uninstalling Citect Anywhere components.

To uninstall Citect Anywhere components:

1. From the Windows Start menu, select **Control Panel > Programs > Programs and Features > Uninstall a Program**. All programs installed on your computer are listed.
2. Locate the Citect Anywhere Server component to uninstall, and click to select the component.



Programs and Features
« All Control Panel Items ▸ Programs and Features
Search Programs and Features
Control Panel Home
View installed updates
Turn Windows features on or off
Organize ▾

Uninstall or change a program

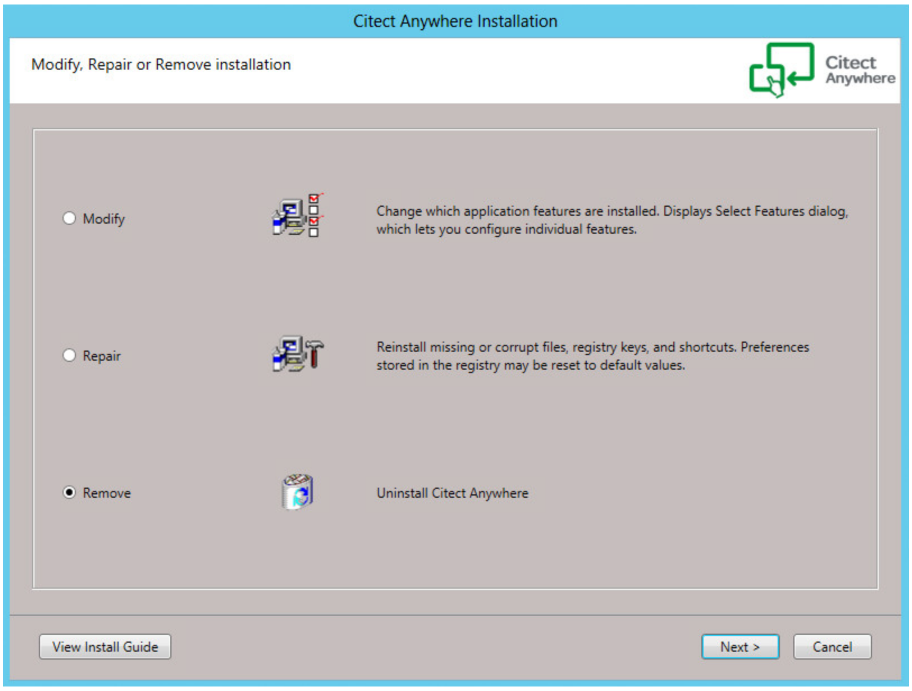
To uninstall a program, select it from the list and then click Uninstall, Change, or Repair.

| Name | Publisher |
|---|---|
| Citect Anywhere Launcher | Schneider El |
| Citect Anywhere Server | Schneider El |
| Java 8 Update 60 | Oracle Corp |
| McAfee Agent | McAfee, Inc. |
| McAfee VirusScan Enterprise | McAfee, Inc. |
| Microsoft Visual C++ 2005 Redistributable | Microsoft Co |
| Microsoft Visual C++ 2005 Redistributable | Microsoft Co |
| Microsoft Visual C++ 2008 Redistributable - x86 9.0.30729.17 | Microsoft Co |
| Microsoft Visual C++ 2008 Redistributable - x86 9.0.30729.4148 | Microsoft Co |
| Microsoft Visual C++ 2010 x64 Redistributable - 10.0.40219 | Microsoft Co |
| Microsoft Visual C++ 2010 x86 Redistributable - 10.0.40219 | Microsoft Co |
| Microsoft Visual C++ 2012 Redistributable (x64) - 11.0.61030 | Microsoft Co |
| Microsoft Visual C++ 2012 Redistributable (x86) - 11.0.61030 | Microsoft Co |
| Microsoft Visual C++ 2013 Redistributable (x64) - 12.0.30501 | Microsoft Co |
| Microsoft Visual C++ 2013 Redistributable (x86) - 12.0.30501 | Microsoft Co |

Currently installed programs Total size: 971 MB
20 programs installed

3. Click **Uninstall/Change**. The Modify, Repair or Remove Installation dialog box appears.

4. Select **Remove**.



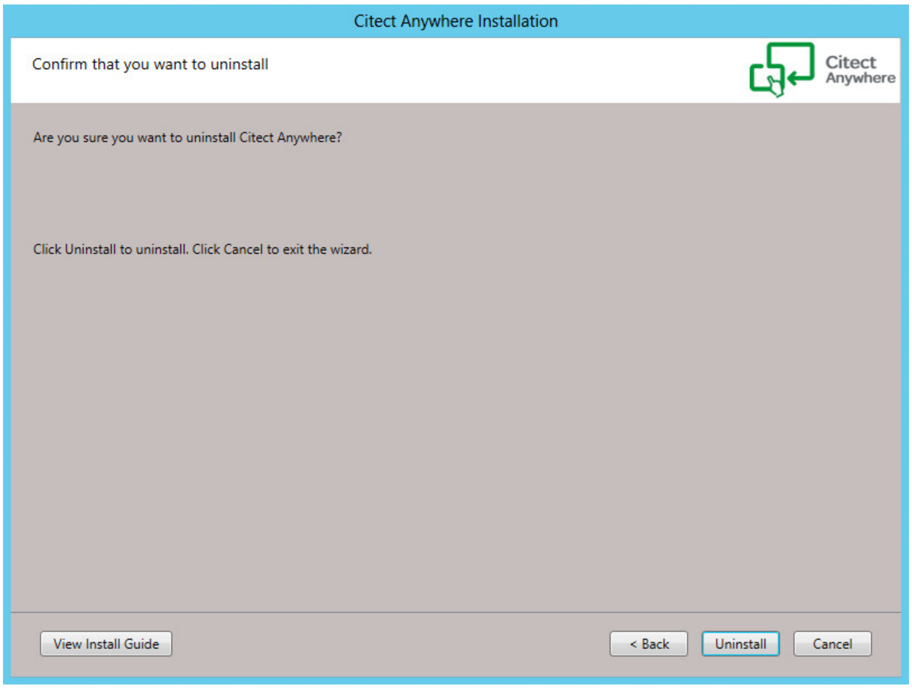
Modify, Repair or Remove installation

○ Modify — Change which application features are installed. Displays Select Features dialog, which lets you configure individual features.

○ Repair — Reinstall missing or corrupt files, registry keys, and shortcuts. Preferences stored in the registry may be reset to default values.

● Remove — Uninstall Citect Anywhere

5. Click **Uninstall** and then click **Next**. A screen confirming the uninstallation appears.



Confirm that you want to uninstall

Are you sure you want to uninstall Citect Anywhere?

Click Uninstall to uninstall. Click Cancel to exit the wizard.

**Note**: This will remove only the selected component. To remove all components installed with the Citect Anywhere Secure Gateway (the Citect Anywhere Secure Gateway Client Components), run *setup.exe* again and perform a complete uninstall. Some files may still exist in the installation folders after the uninstallation.

## Citect Anywhere Web Component

The web component contains the resources that are used by the web browser to display an interface for users to use to connect to their remote application or desktop. These resources include HTML pages, JavaScript and CSS files and graphic images. Review the chapter on Advanced Configuration to modify the appearance and behavior of the web component interface.

### Installing the Web Component

The Citect Anywhere web component is automatically installed along with the Citect Anywhere Server. The web component may be found in the Citect Anywhere Server folder:

*<drive letter>\Program Files (x86)\Schneider Electric\Citect Anywhere\ Server\WebServer\CitectAnywhere*

## Secure Connections

This section describes secure connection communication between WebSockets to both remote desktops and to the Citect Anywhere Secure Gateway.

### Secured WebSocket Communication to Remote Desktops

The Citect Anywhere Server installation includes a self-signed certificate for SSL connections. Some browsers, such as Google Chrome, allow self-signed certificates for SSL- encrypted WebSocket connections.

Chrome and Safari 5.x do not allow SSL connections using self-signed certificate.

In order to provide connectivity from these browsers, a trusted certificate must be imported into the Citect Anywhere Server or into the Citect Anywhere Secure Gateway if it is being used as a proxy for Citect Anywhere Server. A trusted certificate must be purchased from a trusted certificate authority (i.e. VeriSign).

**Note**: The DNS address of the Citect Anywhere Server or Secure Gateway server needs to match the certificate name. If a wildcard certificate is being used, the domain needs to match. For example, if the certificate is for **.acme.com* the server name must end with *acme.com*.

To import a trusted certificate into the Citect Anywhere Server, perform the following steps using the Microsoft Certificate Manager:

1. Show the Windows Command Prompt running as an Administrator.
2. Type certmgr.msc to show the Certificate Manager.
3. Import the trusted certificate to the Computer (**Personal | Certificates**) store.
4. Mark the certificate as exportable during the import.
5. Go to the Certificate’s Details tab and highlight the Thumbprint.
6. Copy the thumbprint (CTRL+c).
7. Stop the Citect Anywhere Server service.

8. Using the Command Prompt (cmd.exe) go to the folder that contains *AccessServer64.exe*.
9. Run: *AccessServer64.exe /genbincert <thumbprint of cert to export enclosed in quotation marks>*
10. After importing the thumbprint, a notification appears confirming the BIN certificate has been successfully created.
11. Start the Citect Anywhere Server service and it will be ready for use.

## Secured WebSocket connections via Citect Anywhere Secure Gateway

When using the Citect Anywhere Secure Gateway, the connection between the Citect Anywhere Server browser client and the Citect Anywhere Secure Gateway can be secured. The Secure Gateway is installed with a self-signed certificate by default, but supports trusted certificates as well. Refer to the Citect Anywhere Secure Gateway Administrator’s Manual for full instructions on how to install and configure it for use with Citect Anywhere.

### Benefit of Using a Trusted Certificate

Certain browsers require that HTTPS or SSL connections be made only when a trusted certificate is present. Install a trusted certificate in the Citect Anywhere Secure Gateway or Citect Anywhere Server to confirm secure and reliable connections from a wide range of web browsers. A trusted certificate must be purchased from a trusted certificate authority (i.e. VeriSign).

# Chapter 5: Configuring Citect Anywhere Server

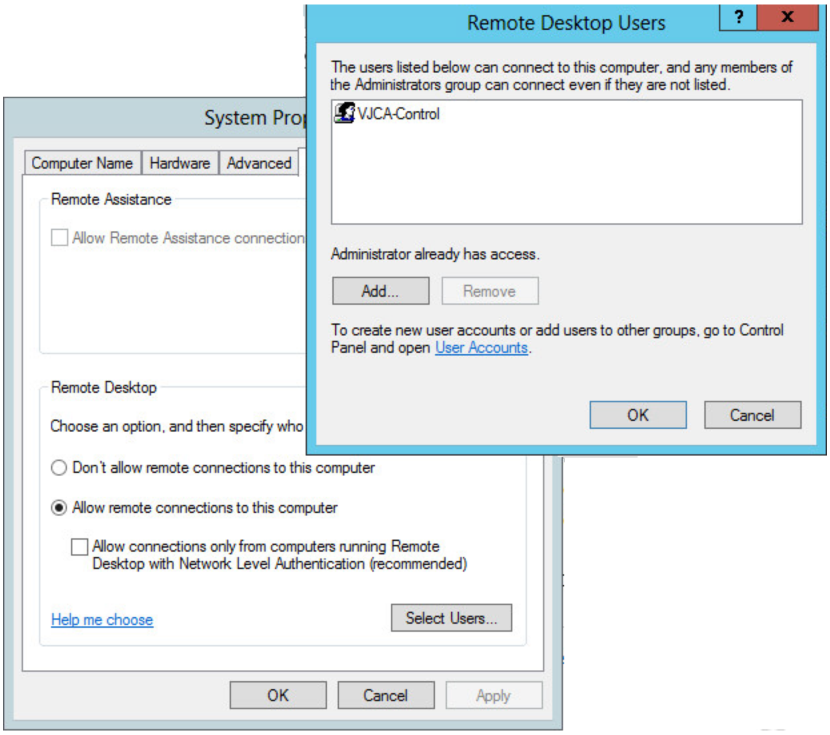
This chapter provides detailed information about configuring your Citect Anywhere Server. Configuration of the Citect Anywhere Server involves the following tasks:

- Configure settings for the Citect Anywhere Server service in the Configuration Console
- Configuring user access for Vijeo Citect

## Configuring Remote Desktop Services

To sign in remotely, users or groups to which users belong need to be added to the Remote Desktop Users group. Complete these steps on the computer on which the Citect Anywhere Server is installed:

1. Navigate to the Control Panel. Select **System and Security > System**.
2. Select the **Advanced system settings** option on the left. The System Properties dialog is displayed.
3. Click the **Remote** tab.
4. Select the **Allow remote connections to this computer** option.



Remote Desktop Users

The users listed below can connect to this computer, and any members of the Administrators group can connect even if they are not listed.

VJCA-Control

Administrator already has access.

To create new user accounts or add users to other groups, go to Control Panel and open User Accounts.

System Prop

Remote Assistance

□ Allow Remote Assistance connection

Remote Desktop

Choose an option, and then specify who

○ Don't allow remote connections to this computer

● Allow remote connections to this computer

□ Allow connections only from computers running Remote Desktop with Network Level Authentication (recommended)

5. Click **Select Users**. The Remote Desktop Users dialog is displayed.
6. Add the required users and click **OK**.

**Note**: For more details about configuring RDS, see the Remote Desktop Services with Vijeo Citect 2015 whitepaper. You need to register with the site before you can access the document.

## Configuring User Access

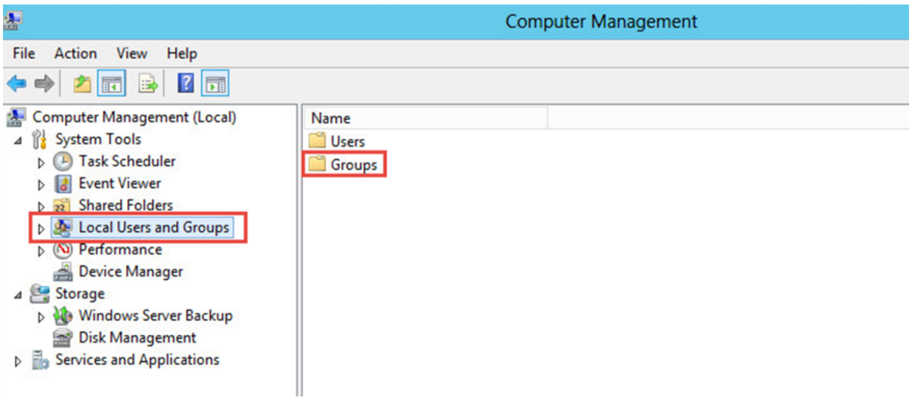
Depending upon their access, users can launch a Vijeo Citect View-only client or a Control client.

A View-only client is a computer configured with view-only access to the Vijeo Citect runtime system. No control of the system is possible, but full access to data monitoring is performed.

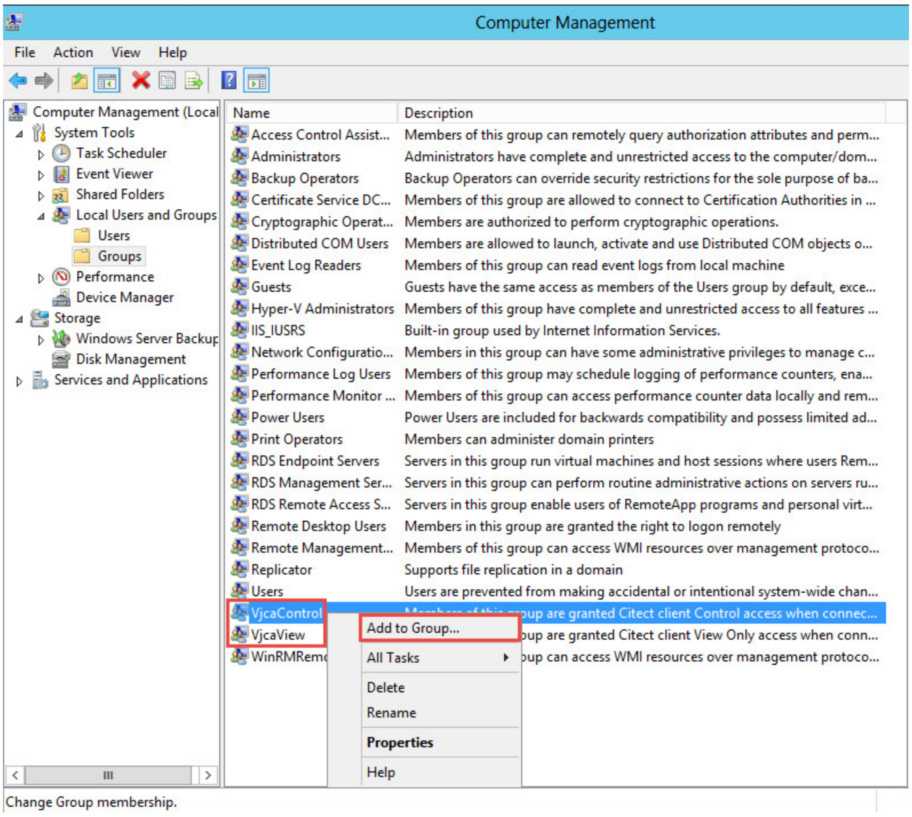
A Control client is the interface between the Vijeo Citect runtime system and an operator. If you are using Vijeo Citect on a network, all Vijeo Citect computers (on the network) are control clients.

Access to the client type is granted through two special Windows user groups created by the installer on the computer where the Citect Anywhere Server is installed. Users need to be added to the required group manually. To do this:

1. Navigate to the Control Panel. Select **Administrative Tools > Computer Management**.
2. In the left pane, navigate to **System Tools | Local Users and Groups**.



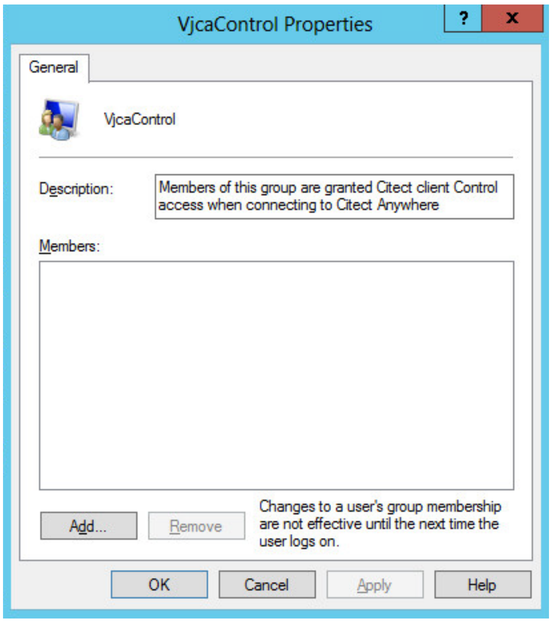
3. In the right pane, double-click on **Groups** to expand the node.
4. Locate the Citect Anywhere groups, and right-click on the group to which you want to add a user.



| Name | Description |
|---|---|
| Access Control Assist... | Members of this group can remotely query authorization attributes and perm... |
| Administrators | Administrators have complete and unrestricted access to the computer/dom... |
| Backup Operators | Backup Operators can override security restrictions for the sole purpose of ba... |
| Certificate Service DC... | Members of this group are allowed to connect to Certification Authorities in ... |
| Cryptographic Operat... | Members are authorized to perform cryptographic operations. |
| Distributed COM Users | Members are allowed to launch, activate and use Distributed COM objects o... |
| Event Log Readers | Members of this group can read event logs from local machine |
| Guests | Guests have the same access as members of the Users group by default, exce... |
| Hyper-V Administrators | Members of this group have complete and unrestricted access to all features ... |
| IIS_IUSRS | Built-in group used by Internet Information Services. |
| Network Configuratio... | Members in this group can have some administrative privileges to manage c... |
| Performance Log Users | Members of this group may schedule logging of performance counters, ena... |
| Performance Monitor ... | Members of this group can access performance counter data locally and rem... |
| Power Users | Power Users are included for backwards compatibility and possess limited ad... |
| Print Operators | Members can administer domain printers |
| RDS Endpoint Servers | Servers in this group run virtual machines and host sessions where users Rem... |
| RDS Management Ser... | Servers in this group can perform routine administrative actions on servers ru... |
| RDS Remote Access S... | Servers in this group enable users of RemoteApp programs and personal virt... |
| Remote Desktop Users | Members in this group are granted the right to logon remotely |
| Remote Management... | Members of this group can access WMI resources over management protoco... |
| Replicator | Supports file replication in a domain |
| Users | Users are prevented from making accidental or intentional system-wide chan... |
| VjcaControl | Members of this group are granted Citect client Control access when connec... |
| VjcaView | oup are granted Citect client View Only access when conn... |
| WinRMRem | oup can access WMI resources over management protoco... |

Change Group membership.

5. Select **Add to Group** from the context menu. The group properties dialog box appears.

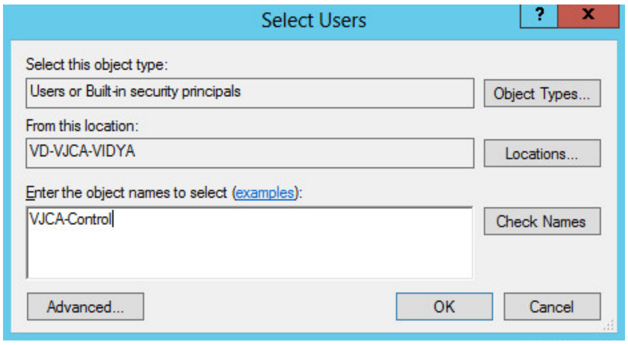


VjcaControl

Description: Members of this group are granted Citect client Control access when connecting to Citect Anywhere

Changes to a user's group membership are not effective until the next time the user logs on.

6. Click **Add**. The Select User dialog box appears.



Select Users

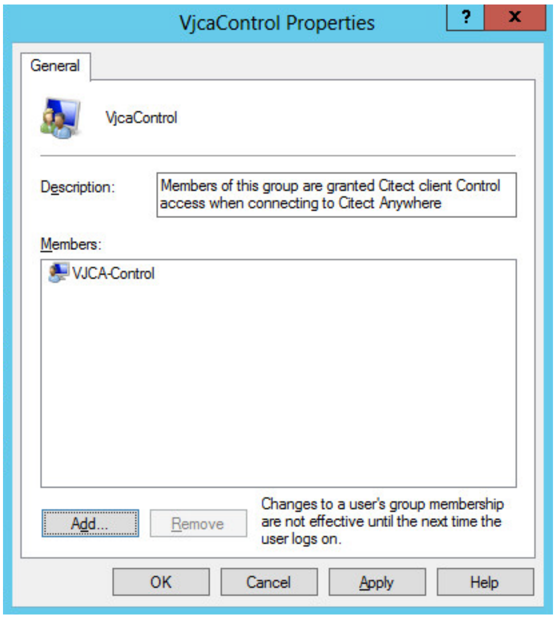
Select this object type:
Users or Built-in security principals

From this location:
VD-VJCA-VIDYA

Enter the object names to select (examples):
VJCA-Control

7. In the **Enter the object name to select** box, type the name of the user you want to add.

8. Click **Check Names**. Once the user name is verified, click **OK**.group properties dialog box appears.



VjcaControl Properties

General

VjcaControl

Description: Members of this group are granted Citect client Control access when connecting to Citect Anywhere

Members:
VJCA-Control

Changes to a user's group membership are not effective until the next time the user logs on.

9. Click **Apply**. The user is added to the selected group.

## Activating a Vijeo Citect License

To connect to a Vijeo Citect client using Citect Anywhere, you need a Vijeo Citect floating license. Connection is possible only after the floating license is activated.

Obtain a Vijeo Citect floating license, and activate it using the Schneider Electric Floating License Manager. For instructions on activation, refer to the Activation Methods section in the Floating License Manager online help.

## Configuring Flexera License Server

Flexera License Server is a prerequisite for installing Citect Anywhere Server. Typically the Flexera License Server is installed on the computer where the Citect Anywhere Server is installed. However, if you install the Flexera License Server on a different computer, you need to explicitly point to this computer from the computer where the Citect Anywhere Server is installed. To do this:

1. After you install the Citect Anywhere Server, navigate to the folder \\*Program Files (x86)*\*Schneider Electric*\*Citect Anywhere*\*Launcher*.
2. Locate the file *SE.Scada.AnywhereLauncher.exe.config*.
3. Update the following lines:

```
<setting name="LicenseServer" serializeAs="String">

<value>localhost</value>

</setting>
```

Change "localhost" to the name or IP address of the computer on which the License Server is installed. For example:

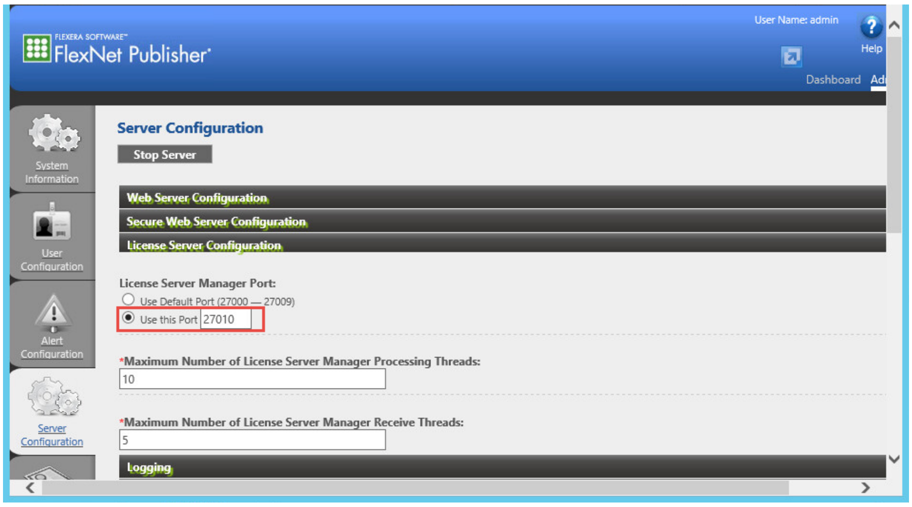
```
<setting name="LicenseServer" serializeAs="String">

<value>10.175.10.158</value>

</setting>
```

4. Save the file.
5. Restart the Citect Anywhere service for the change to take effect.

## Configuring the License Server Manager Port

When Citect Anywhere Server is installed, the Flexera License Server Manager is upgraded to the latest version. The new version uses port 27010 to communicate with Vijeo Citect. Previous versions of Flexera used port 27000 as the default. The default will however remain the same when Flexera is upgraded. You will need to change the default port. To do so, follow these steps:

1. Open the FlexNet License Administrator.
2. Click the **Server Configuration** tab on the left. The Server Configuration page is displayed.
3. Click the **License Server Configuration** tab.
4. Select the **Use this Port** option, and specify the port to be used.



Server Configuration

License Server Manager Port:
○ Use Default Port (27000 — 27009)
● Use this Port 27010

*Maximum Number of License Server Manager Processing Threads: 10

*Maximum Number of License Server Manager Receive Threads: 5

5. Click **Save**.
6. Restart the following services:

- Flexnet Licensing service
- ImadminSchneider service

Ensure that the Citect Anywhere Server is communicating on the same port. To do this:

1. Navigate to the folder *\\Program Files (x86)\Schneider Electric\Citect Anywhere\Launcher*.
2. Locate the file *SE.Scada.AnywhereLauncher.exe.config*.

3. Update the following lines:

```
<setting name="LicenseServerPort" serializeAs="String">

<value>27000</value>

</setting>
```

Change "27010" to the new port number. For example:

```
<setting name="LicenseServerPort" serializeAs="String">

<value>27010</value>

</setting>
```

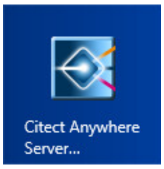
4. Save the file.

5. Restart the Citect Anywhere service for the change to take effect.

## The Configuration Console

The Server Configuration console presents a series of tabs that enable an administrator to configure various settings for the server service.

Double-click *ServerConfiguration.hta* file, located in the <drive letter>\Program Files (x86)\Schneider Electric\Citect Anywhere\Server folder. Alternatively, click the Citect Anywhere Server Configuration icon on your Desktop.



The Configuration Console appears. The Configuration Console only works on systems with Microsoft Internet Explorer 7 or later.

In general, changing Citect Anywhere Server configuration is not required. It is recommended to use the default settings.

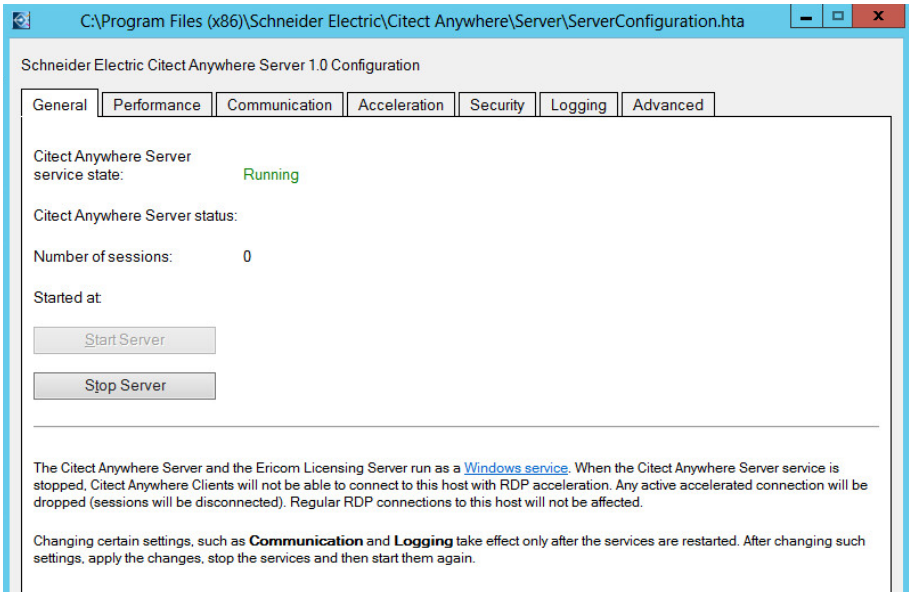
**IMPORTANT**: It is recommended that end users are not given access to the computer on which the Citect Anywhere Server is installed.

The following sections describe the different configuration tabs of the Citect Anywhere Server.

- General
- Performance
- Communication
- Acceleration
- Security
- Logging
- Advanced (for Administrator User Only)

## General Tab

This page provides functions to start and stop the Citect Anywhere Server service. For certain configuration changes, a service restart is required. This page also displays the number of active Citect Anywhere Server client sessions connected to this computer.



Schneider Electric Citect Anywhere Server 1.0 Configuration

Citect Anywhere Server service state: Running

Citect Anywhere Server status:

Number of sessions: 0

Started at:

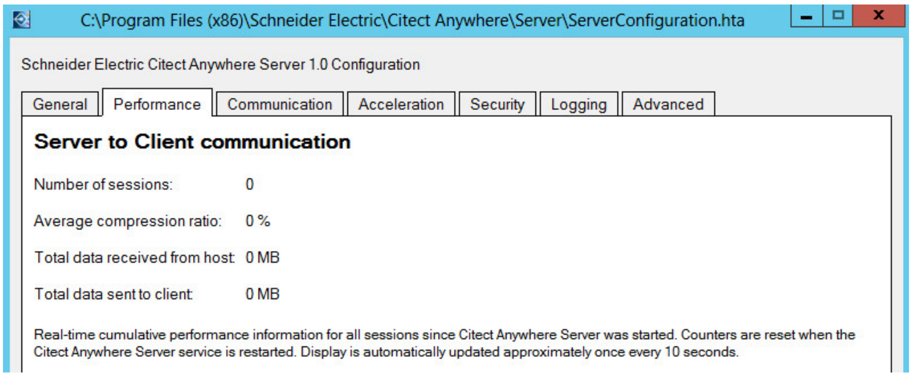
The Citect Anywhere Server and the Ericom Licensing Server run as a Windows service. When the Citect Anywhere Server service is stopped, Citect Anywhere Clients will not be able to connect to this host with RDP acceleration. Any active accelerated connection will be dropped (sessions will be disconnected). Regular RDP connections to this host will not be affected.

Changing certain settings, such as **Communication** and **Logging** take effect only after the services are restarted. After changing such settings, apply the changes, stop the services and then start them again.

Whenever the Citect Anywhere Server service is restarted, all sessions on the server will be disconnected.

## Performance Tab

The Performance tab displays current performance statistics related to Citect Anywhere connections.



C:\Program Files (x86)\Schneider Electric\Citect Anywhere\Server\ServerConfiguration.hta
General
Performance
Communication
Acceleration
Security
Logging
Advanced

Schneider Electric Citect Anywhere Server 1.0 Configuration

**Server to Client communication**

Number of sessions: 0

Average compression ratio: 0 %

Total data received from host: 0 MB

Total data sent to client: 0 MB

Real-time cumulative performance information for all sessions since Citect Anywhere Server was started. Counters are reset when the Citect Anywhere Server service is restarted. Display is automatically updated approximately once every 10 seconds.

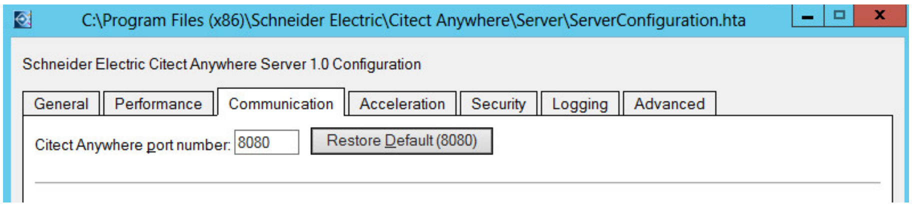
## Communication Tab

This tab provides options to change the Citect Anywhere Server port and the address of the host computer running RDP.

When using a Citect Anywhere Server listening port other than the default (8080), the port number needs to be explicitly specified in the client address field (i.e., http://<computer name>:5678/).

When running Citect Anywhere Server on a computer with multiple network cards, change the RDP host address from localhost to the IP or DNS address of the network card that has RDP access to the system.

A change to either setting requires a service restart. This can be done via the General tab or using the Windows Service Manager.



C:\Program Files (x86)\Schneider Electric\Citect Anywhere\Server\ServerConfiguration.hta

Schneider Electric Citect Anywhere Server 1.0 Configuration

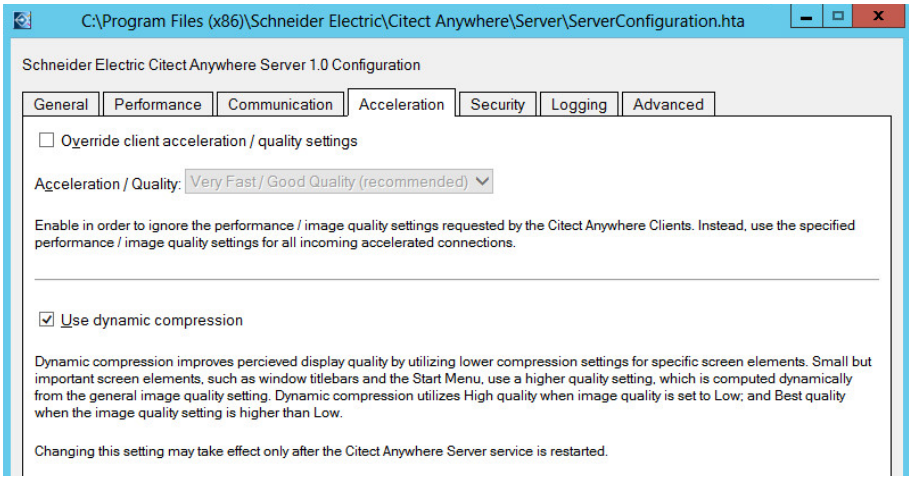
Citect Anywhere port number: 8080

## Acceleration Tab

This tab provides options to change the Acceleration/Quality level and disable dynamic compression. When the **Override client acceleration / quality settings** option is selected, all sessions use the configured setting, and all client settings are ignored. When selecting or clearing this setting, the service must be restarted for the change to take effect. When the setting is enabled, changing the acceleration level does not require a service restart, but active users must reconnect to use the new setting.

Dynamic Compression identifies small graphical objects on the screen (such as toolbar icons, task bar icons, Start Menu icons, etc.) and compresses them. Setting the image quality to low will result in maximum compression, minimizing the impact on the network. All other graphical objects are compressed at the selected quality. This provides the visual impression of a high quality remote desktop session.

By default, this feature is enabled. To disable, clear the **Use dynamic compression** box.



C:\Program Files (x86)\Schneider Electric\Citect Anywhere\Server\ServerConfiguration.hta
Schneider Electric Citect Anywhere Server 1.0 Configuration
General
Performance
Communication
Acceleration
Security
Logging
Advanced

□ Override client acceleration / quality settings

Acceleration / Quality: Very Fast / Good Quality (recommended)

Enable in order to ignore the performance / image quality settings requested by the Citect Anywhere Clients. Instead, use the specified performance / image quality settings for all incoming accelerated connections.

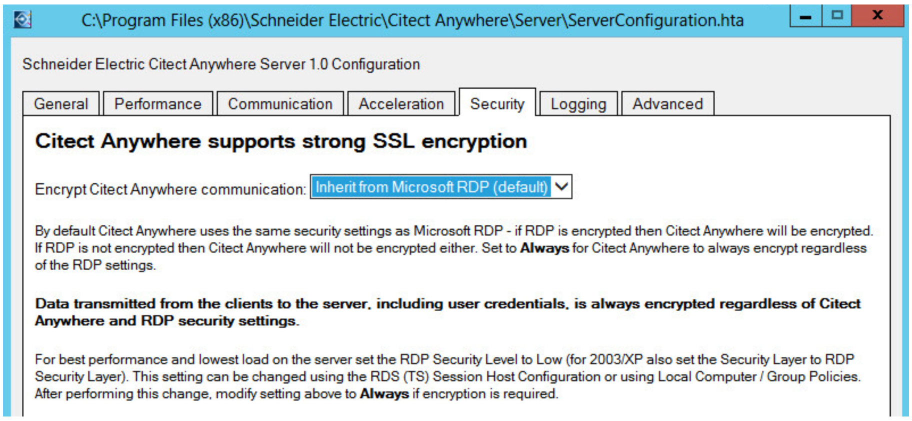
☑ Use dynamic compression

Dynamic compression improves percieved display quality by utilizing lower compression settings for specific screen elements. Small but important screen elements, such as window titlebars and the Start Menu, use a higher quality setting, which is computed dynamically from the general image quality setting. Dynamic compression utilizes High quality when image quality is set to Low; and Best quality when the image quality setting is higher than Low.

Changing this setting may take effect only after the Citect Anywhere Server service is restarted.

## Security

This page configures the Citect Anywhere Server security settings.



C:\Program Files (x86)\Schneider Electric\Citect Anywhere\Server\ServerConfiguration.hta
Schneider Electric Citect Anywhere Server 1.0 Configuration
General
Performance
Communication
Acceleration
Security
Logging
Advanced

**Citect Anywhere supports strong SSL encryption**

Encrypt Citect Anywhere communication: Inherit from Microsoft RDP (default)

By default Citect Anywhere uses the same security settings as Microsoft RDP - if RDP is encrypted then Citect Anywhere will be encrypted. If RDP is not encrypted then Citect Anywhere will not be encrypted either. Set to **Always** for Citect Anywhere to always encrypt regardless of the RDP settings.

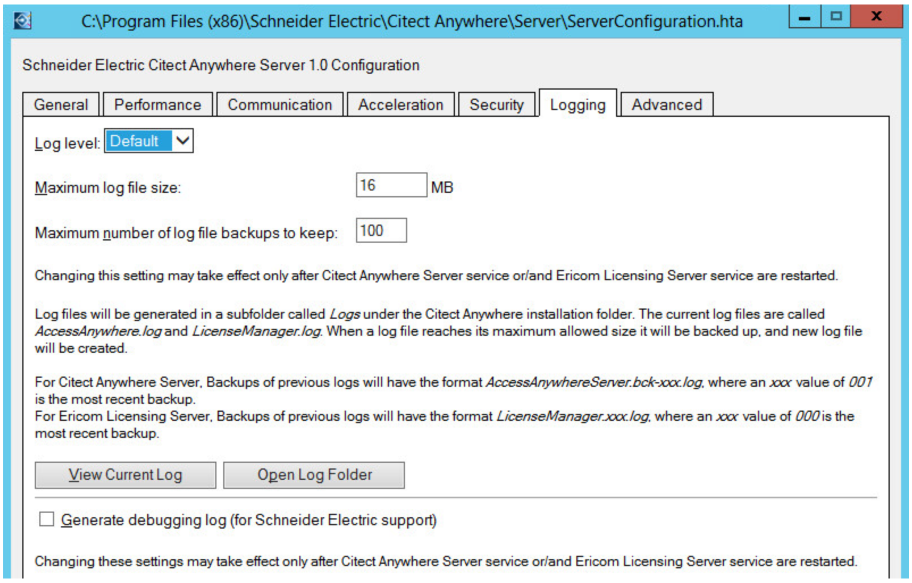
**Data transmitted from the clients to the server, including user credentials, is always encrypted regardless of Citect Anywhere and RDP security settings.**

For best performance and lowest load on the server set the RDP Security Level to Low (for 2003/XP also set the Security Layer to RDP Security Layer). This setting can be changed using the RDS (TS) Session Host Configuration or using Local Computer / Group Policies. After performing this change, modify setting above to **Always** if encryption is required.

**Note**: Citect Anywhere provides integrated 128-bit SSL encryption. For best performance, set the host’s RDP Security Encryption level to Low and change the **Encrypt Citect Anywhere communication** to *Always*. Using this configuration, Citect Anywhere SSL encryption will be used instead of the RDP encryption. Do not set this if users will be connecting directly to RDP regularly, as those sessions will end up using Low encryption.

## Logging Tab

This tab provides options to enable/disable certain logging features. Technical Support may request a debugging log for diagnostic purposes. The debugging log is enabled here.



C:\Program Files (x86)\Schneider Electric\Citect Anywhere\Server\ServerConfiguration.hta
Schneider Electric Citect Anywhere Server 1.0 Configuration
General
Performance
Communication
Acceleration
Security
Logging
Advanced
View Current Log
Open Log Folder

Log level: Default

Maximum log file size: 16 MB

Maximum number of log file backups to keep: 100

Changing this setting may take effect only after Citect Anywhere Server service or/and Ericom Licensing Server service are restarted.

Log files will be generated in a subfolder called *Logs* under the Citect Anywhere installation folder. The current log files are called *AccessAnywhere.log* and *LicenseManager.log*. When a log file reaches its maximum allowed size it will be backed up, and new log file will be created.

For Citect Anywhere Server, Backups of previous logs will have the format *AccessAnywhereServer.bck-xxx.log*, where an *xxx* value of *001* is the most recent backup.
For Ericom Licensing Server, Backups of previous logs will have the format *LicenseManager.xxx.log*, where an *xxx* value of *000* is the most recent backup.

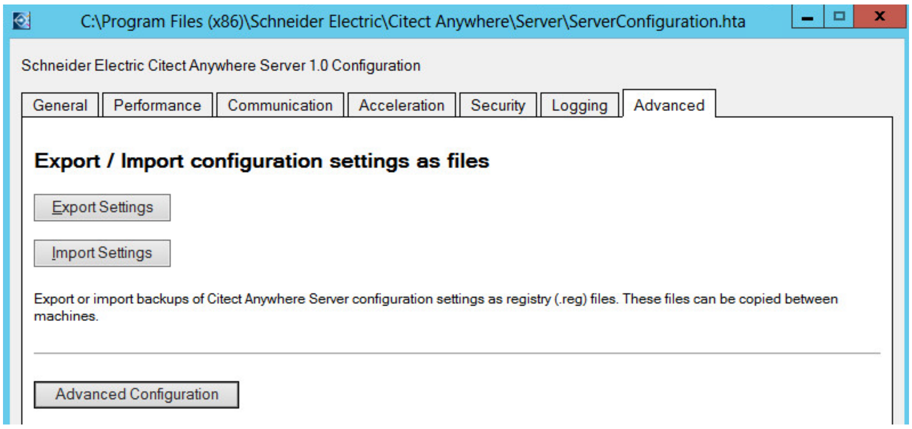
☐ Generate debugging log (for Schneider Electric support)

Changing these settings may take effect only after Citect Anywhere Server service or/and Ericom Licensing Server service are restarted.

## Advanced

This page provides access to advanced Server settings that are stored in the system’s Registry.

- **Export Settings**: Exports the Citect Anywhere Server Registry key to the user’s home folder (i.e., My Documents).
- **Import Settings**: Imports previously saved Citect Anywhere Server Registry settings.
- **Advanced Configuration**: Adds all configurable Registry key settings to the Registry. By default, only settings that are changed from the default value are saved into the Registry.


C:\Program Files (x86)\Schneider Electric\Citect Anywhere\Server\ServerConfiguration.hta
Schneider Electric Citect Anywhere Server 1.0 Configuration
General
Performance
Communication
Acceleration
Security
Logging
Advanced
Export Settings
Import Settings
Advanced Configuration

Export / Import configuration settings as files

Export or import backups of Citect Anywhere Server configuration settings as registry (.reg) files. These files can be copied between machines.

# Chapter 6: Configuring Mobile Devices

This chapter contains information about using Citect Anywhere on mobile devices. The following information is covered here:

- Supported Browsers
- Logging On to Citect Anywhere
- Automatic Display Resize

## Supported Browsers

With Citect Anywhere, users can access remote Vijeo Citect from HTML5 compatible web browsers on any device including smartphones, tablets, and laptop computers. To start a session, navigate to the *start.html* file that is installed on the Citect Anywhere Server. To do this, point a browser to the Citect Anywhere Server URL:

*http://machineaddress:8080*

### Browsers Tested with Citect Anywhere

- Internet Explorer 10 and 11
- Microsoft Edge
- Google Chrome 33
- Safari 8 on Apple iOS

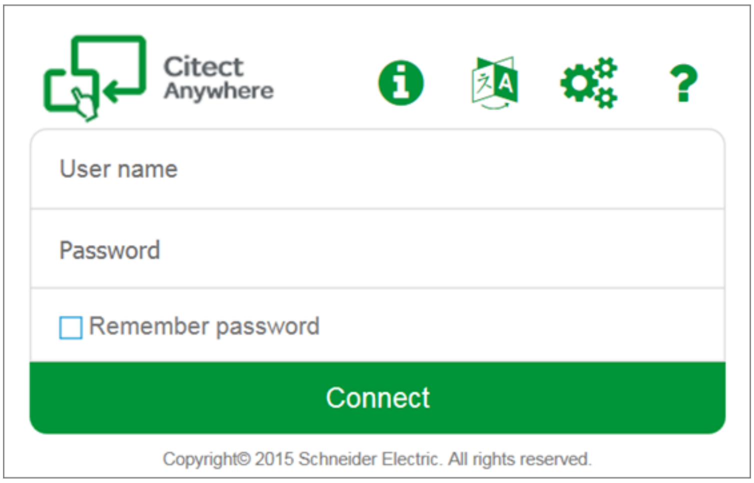
Multiple Citect Anywhere sessions can be opened in different tabs within the web browser, or in different browser windows. When a session is not in use (its tab or window is not displayed) it will reduce its CPU and memory utilization.

## Logging On to Citect Anywhere

To log on to the Citect Anywhere Connection Web Page, follow these steps:

**Note**: If you have any trouble remotely connecting to the Citect Anywhere environment, see Checking Connectivity on page 1 for help.

1. Navigate to *http://<VJCA Server Node Name>:8080/*. The logon form appears.



2. Enter the connection parameters.

**Note**: When using a Secure Gateway, the **User Name** and **Password** fields are mandatory, otherwise they are optional.

| **CONNECTION PARAMETERS** | **DESCRIPTION** |
|---|---|
| User Name | Credentials to log on to the RDP host. It can optionally contain domain specification, for example, domain\user. If it is not specified, you will be prompted for credentials by the RDP host.<br>The user needs to be a Windows user, be a member of the VjcView or |

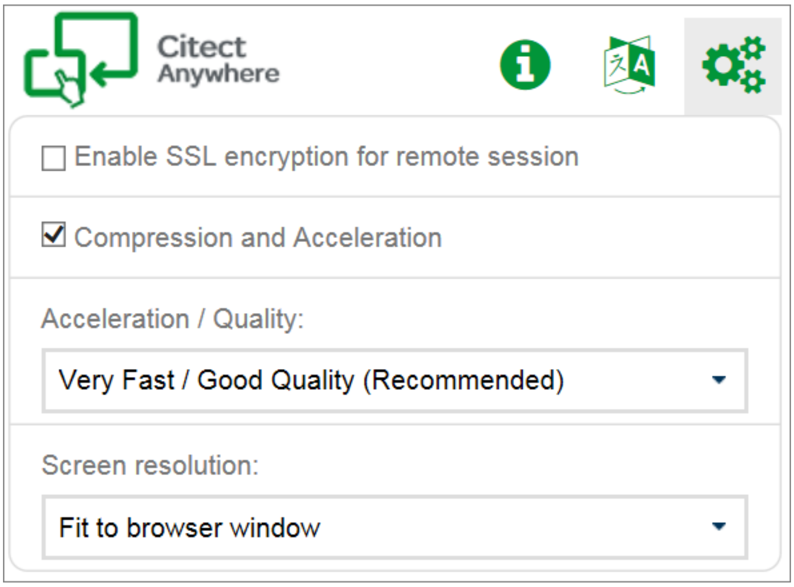
| CONNECTION PARAMETERS | DESCRIPTION |
|---|---|
| | VjcControl group and must be a valid Vijeo Citect user. |
| Password | Corresponding password for the user name. For security reasons, this value should not be saved for future connections. If it is not specified, you will be prompted for credentials by the RDP host. |
| Remember Password | Select this option to save the specified password for the next session. This option can be hidden from the web page. |

3. Tap or click **Connect** to initiate the connection. The following progress indicator is displayed before connection is established.

## Configuring Advanced Settings

To configure advanced settings:

1. Click ⚙. The options appear as shown below:



□ Enable SSL encryption for remote session

☑ Compression and Acceleration

Acceleration / Quality: Very Fast / Good Quality (Recommended)

Screen resolution: Fit to browser window

2. Complete the following options:

| OPTIONS | DESCRIPTION |
|---|---|
| Enable SSL encryption for | This option is selected as a default. It enables the client to use Secure Socket Layer (SSL) encrypted WebSocket communication to the Citect Anywhere Server. |

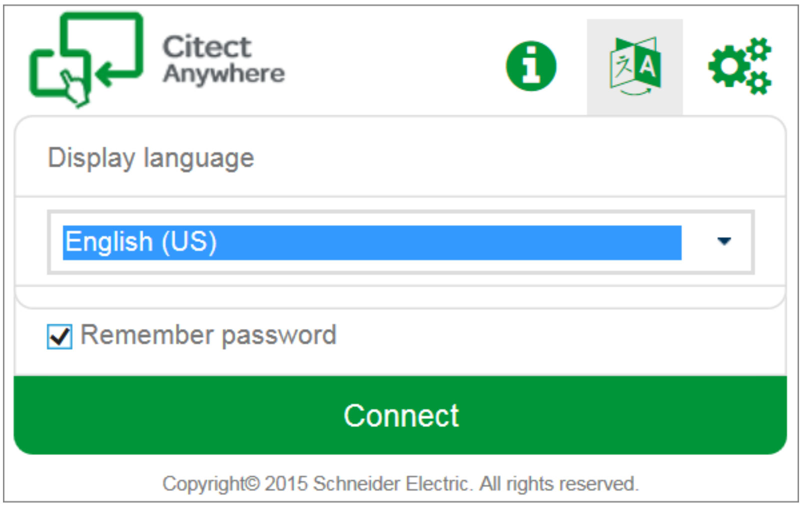
| OPTIONS | DESCRIPTION |
|---|---|
| remote session | |
| Compression and Acceleration | Select this option to enable lossy image compression for the session. The acceleration, or degree of quality loss, can be specified by selecting options from a drop down list. |
| Acceleration Quality | Controls the degree of acceleration that is enabled in the session. Faster acceleration will result in lower quality images. |
| Screen Resolution | Sets the resolution size of the Citect Anywhere session. Select a value from the drop down list of values. For example: "800 x 600". This should be configured to match the Vijeo Citect project. |

3. Click anywhere to return to the connection details.
4. Tap or click **Connect** to initiate the connection.

## Changing the Display Language

To change the language in which the form is displayed:

1. Click .
2. From the **Display language** list, select the required language.



Display language

English (US)

☑ Remember password

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**Note**: For details about the version of Citect Anywhere you are running, click ℹ.

## Automatic Display Resize

Citect Anywhere supports automatic display re-size. Whenever a browser window is re-sized, the Citect Anywhere session automatically adjusts itself to the new dimensions. To re-size a browser window, drag any corner of the browser window and release it when the desired dimensions are reached. If a browser is placed into full screen mode, the Citect Anywhere session will automatically expand to the full screen.

## Using Gestures on Client Portable Devices

### Google Chromebooks

Citect Anywhere operates on Google Chromebook and Chromebox just like it does with a Google Chrome browser. Here are some tips to keep in mind when using Citect Anywhere with a Chromebook or Chromebox.

| FUNCTION | DESCRIPTION |
|---|---|
| Mouse Left-click | Click the Chromebook trackpad with one finger. |
| Mouse Right-click | Click the Chromebook trackpad with two fingers |
| Scrolling a document or website | Drag two fingers on the Chromebook trackpad up or down to scroll |
| Configure Chromebook | In the address field: *chrome://settings* |

### Chrome Keyboard

The Chromebook keyboard lacks several keys that are used by Windows. ChromeOS provides standard mappings that use existing keys with the ALT button to represent certain missing keys. Citect Anywhere supports these key combinations:

| COMMAND | KEY COMBINATION |
|---|---|
| Delete (DEL) | ALT+Backspace |
| Page Up | ALT+Up |
| Page Down | ALT+Down |
| Home | CTRL+ALT+Up |
| End | CTRL+ALT+Down |

In addition, Citect Anywhere provides special non-standard mappings for additional key combinations on ChromeOS.

| COMMAND | KEY COMBINATION |
|---|---|
| F1 | CTRL+1 |
| F2, … | CTRL+2, … |

| COMMAND | KEY COMBINATION |
|---|---|
| ALT+TAB | ALT+` |
| ALT+SHIFT+TAB | ALT+SHIFT+` |
| CTRL+Home | CTRL+ATL+Left |
| CTRL+End | CTRL+ALT+Right |

## Tablet and Smartphones

Citect Anywhere can operate on tablets or smartphones with an HTML5 compliant browser (see list of browsers in Citect Anywhere Readme). Browser versions that have been tested and their specific behaviors are detailed in the Citect Anywhere User Guide.

When you design Vijeo Citect clients for use with Citect Anywhere, remember that touch devices have different interface requirements and capabilities than a keyboard and mouse. For example, input animations should not invoke a Vijeo Citect or Windows keyboard, as mobile devices have their own.

With existing Vijeo Citect clients that make use of mouse events and keys or key combinations without a supported equivalent, you may want to modify your application to use alternate application events.

The following list provides gestures available when using Citect Anywhere from a tablet or smartphone device where a physical keyboard and mouse is not available. Functionality will vary across different devices and certain commands may not be available.

- Single Tap performs a left click.
- Single long Tap performs a right-click.
- Tap + Hold + Drag performs a select then drag/scroll function.
- Double Tap, or tapping once with two fingers, performs double-click.
- Tap with three fingers sends Back command to a remote browser.
- Swipe down with three fingers is Page Up.

- Swipe up with three fingers is Page Down.
- Drag left or right with three fingers performs a left arrow and right arrow respectively.
- Tap the keyboard icon (upper right-hand corner of window) to open/close the virtual keyboard.
- Swipe and pinch gestures will apply to the Citect Anywhere session (i.e. zoom in with pinch in).
- (iOS only) When saving a Citect Anywhere icon to the iOS desktop, the shortcut will open the Citect Anywhere session full-screen mode. The browser’s toolbar will be hidden and there will be more remote desktop area available.

## HTTPS Mode

For environments where WebSockets support is not available, Citect Anywhere can work in HTTPS mode such that all communication will be sent via HTTPS only. HTTPS mode will only be used if WebSockets is not available. WebSockets will be used when available as it will provide better performance. HTTPS mode is required when using Microsoft Internet Explorer 9 or with SSL VPNs that only proxy HTTPS traffic.

To enable HTTPS Mode, the Citect Anywhere Secure Gateway is required. The Citect Anywhere Server web pages need to be delivered using the web server built into the Citect Anywhere Secure Gateway (files are located under the Webserver/Citect Anywhere folder). Carry out the following steps to enable Citect Anywhere for HTTPS support.

1. Install Citect Anywhere Server on the desired RDP Host.
2. Install the Secure Gateway in a separate machine located in a DMZ. The Secure Gateway must be installed on a server that is accessible by the target end-user group(s).
3. To connect to the Citect Anywhere Server using HTTPS - enter the Citect Anywhere URL of the Secure Gateway (the Secure Gateway includes the Citect Anywhere web component) https://<securegatewayaddress>/Citect Anywhere/start.html
4. Enter the parameters for the target Citect Anywhere Server in the start.html page.
5. Upon connection, if HTTPS mode is active a ‘-‘ symbol will then be shown as a prefix to the address in the browser tab.

**Note**: HTTPS mode requires a browser that supports Canvas. Older browsers, such as Microsoft Internet Explorer 8 (or earlier) do not support Canvas.

# Chapter 7: Advanced Configuration

Citect Anywhere also easily integrates with other web pages and portals. The application can accept configuration settings from other pages or directly from a web server. These settings can also be displayed in the Citect Anywhere start page for the user to view and modify, or trigger an automatic connection.

## Static Configuration of *Config.js*

An administrator can modify configuration settings for Citect Anywhere by editing the config.js file that is installed as part of the Citect Anywhere web component. This is a JavaScript file that can be modified using any text editor.

**Note**: Always create a backup of the original *config.js* file before making any changes. This will ensure easy rollback to the original configuration.

Most settings in the file have the following format:

*name: value*

A value can be a number, a flag (true or false), or text enclosed in quotes. Some settings are prefixed by a double slash // which means they are disabled. Remove the double slash in order to set a value for the setting. Javascript rules apply in this file, certain characters need to be escaped (i.e. backslash). Once the settings are configured, save the file and the next user will have the new settings applied.

Refer to the Settings Table for a description of each setting.

## Settings Table

The *config.js* file contains the following configuration settings. Setting names are case sensitive. When settings are specified using cookies, their name are prefixed by *EAN_*.

| SETTING NAME | DESCRIPTION |
|---|---|
| overrideSaved | **False** (default), settings that the user changes are preserved between sessions and override values set in *config.js*. Change to **True** for *config.js* to override preserved settings. |
| onlyHTTPS By | By default, Citect Anywhere first attempts to connect using WebSockets. If the Secure Gateway is used with Citect Anywhere, the connection will fall back to HTTPS when WebSockets is not available. If this setting is true, HTTPS is used immediately. |
| noHTTPS | By default, Citect Anywhere first attempts to connect using WebSockets. If the Secure Gateway is used with Citect Anywhere, the connection will fall back to HTTPS when WebSockets is not available. If this setting is true, only WebSockets will be used and HTTPS fallback will be disabled. |
| hidden | A comma- or space-separated list of field names as they appear in *config.js*. For example “username, password,domain”. The listed fields will be hidden so that the user will not be able to modify them.<br>To hide a button, such as the Advanced button, prefix the button text with the word show. For example, “showAdvanced,showAbout” hides both the Advanced and About buttons.<br>All hidden variables ignore previously saved settings. |
| settings (URL parameter only) | Name of a Configuration Group to be used. |
| wsport | The default WebSocket port that will be used by the client. The value specified in the file (8080 by default) will be used for both encrypted and unencrypted WebSocket communication. The user can override this value by explicitly specifying a port address in the client UI.<br>For backward compatibility with older versions of Citect Anywhere Server, this behavior can be modified. If singlePort is set to false then the port value specified is only for encrypted communication. The value specified in the file plus one (8081 by default) will be used for unencrypted WebSocket communication. |

| SETTING NAME | DESCRIPTION |
|---|---|
| gwport | The default gateway port that will be used if it is not explicitly specified in the address field. |
| dialogTimeoutMinutes | Timeout period, in minutes, after which an inactive dialog is automatically closed and the session is logged off. This is only relevant for dialogs that have a logoff button. |
| sessionTimeoutMinutes | Timeout period, in minutes, after which an inactive session is disconnected. This timeout is reset whenever user clicks on the keyboard or a mouse button. The default value is 0, which disables this feature. |
| specialkeys | Enables support for special RDP key combination commands, such as CTRL+ALT+END which starts the Windows NT Security dialog box (similar to local CTRL+ALT+DEL). See http://support.microsoft.com/kb/186624 for the list of key combinations. |
| chromeKeys | **true** (default) support special ChromeOS keys combinations |
| showDownload | **true** displays a link in the connection dialog to download the Citect Anywhere Server installer. |
| clipboardSupport | **true** (default) enables clipboard functionality; **false** disables it. |
| clipboardTimeoutSeconds | The delay duration before the clipboard image automatically fades out. |
| clipboardUseFlash | **true** (default) uses Flash when available for one-click copy into local clipboard. |
| clipboardKey | Key to open clipboard paste dialog, set to **false** to disable. |
| console | **false** (default) set true to enable RDP console mode. |
| settingsURL | **false** (default) set **true** to enable RDP console mode. |
| endURL | URL to open to after the Citect Anywhere session has ended (# value closes window).<br>If there is a prefix with the symbol ^ then this sets the value of window.location instead of top.location. This is useful when the Citect Anywhere session is embedded in a frame. |
| address | Address of Citect Anywhere Server. Always blank for the standard configuration. |
| fulladdress | Address of RDP host. Always blank for the standard configuration. |
| username | Username to pass into the Citect Anywhere session. |

| SETTING NAME | DESCRIPTION |
|---|---|
| password | Password to pass into the Citect Anywhere session (entered as clear text in *config.js* file) |
| domain | Domain to pass into the Citect Anywhere session. |
| remember | **False** (default) determines whether the user's password will be saved in the Citect Anywhere page for future use. Set to **true** to enable password saving (not recommended for kiosk usage). |
| encryption | **False** determines if encryption will be enabled from the Citect Anywhere client to the server |
| blaze_acceleration | **True** determines if RDP acceleration will be used |
| blaze_image_quality | Sets the quality level using a numeric For example: 40 (fair quality), 75, 95 (best). |
| resolution | Sets the resolution size of the Citect Anywhere session. The value set must be a valid option under the Citect Anywhere screen resolution setting. For example: "1024,768" For Full Screen, use: screen. |
| use_gateway | **False** (default), set to true to use a Secure Gateway for remote access. |
| gateway_address | Defines the address and port of the Secure Gateway For example: secure.acme.com:4343 |
| useScancodes | No longer in use, see *convert_unicode_to_scancode*. |
| convert_unicode_to_ scancode | **False** (default), set to **True** when using certain applications that send characters as scancodes (i.e. VMware vSphere Client, any application where you may have issues typing text). This setting will generate scancodes based on the selected locale. |
| leaveMessage | The message displayed to the user after they navigate away from an active session. |
| audiomode | 0, enables audio redirection (default)<br>1, play audio on remote computer<br>2, disables audio redirection |
| name | Defines a custom string for the connection name. By default, the RDP Host address is used. |
| minSendInterval | Specifies the minimum duration between mouse position messages sent from the client when the mouse button is pressed. Units is milliseconds. |

**Note**: In some cases, the local browser must be closed and reopened before changes take effect. The local browser cache may also need to be cleared.

## Defining Configuration Groups

All users share the configuration settings defined in the *config. js* configuration file. It is possible to specify special settings that will override the global settings for certain groups of users. Multiple configuration groups are defined in the configuration file.

For example, if the Marketing group will have clipboard redirection and printing enabled, change *config.js* as follows:

```
var defaults = { //this already exists in the file

...

      "Marketing":{ //Bold text are new additions

remember:false,

audiomode:0

 },

};
```

**Note**: The double quotes surrounding Marketing must be identical. It may be necessary to delete them and re-type them if the text was copied from another source.
Also, the last setting of the configuration group should not have a ‘,’ at the end. This comma will be placed after the closing bracket ‘}’.

In the URL to be used by the Marketing group, add the **settings** parameter:

http://<computer name>:8080/Cit*ect Anywhere/start.html?* ***settings=Marketing***

## Settings Precedence

When a Citect Anywhere client starts, it reads configuration information from a variety of sources. If two or more sources contain different values for the same setting, the value that Citect Anywhere will use is determined by the following precedence order:

Highest precedence to Lowest precedence

- URL parameters
- Cookies
- Saved settings from previous session
- *config.js*

For example, if the gateway_address is specified to be "server1" in config.js but "server2" in a cookie (EAN_ gateway_address), then the value "server2" will be used.

If the setting override Saved is set to true in *config.js*, then any settings predefined in the config.js file will override previously used settings, and the precedence order will change slightly:

Highest Precedence to Lowest Precedence

- URL parameters
- Cookies
- Saved settings from previous session
- config.js

These settings become effective only after the user starts a new session. In some cases, the local browser must be closed and reopened before changes become effective. The local browser cache may also need to be cleared.

## Passing Credentials using Form POST

User credentials may be passed to Citect Anywhere using the form POST method. This functionality is used to provide SSO (single sign-on) from an outside source that has already authenticated the user (such as an SSL VPN.)

The Citect Anywhere Secure Gateway is required in order to use form POST with Citect Anywhere. Refer to the Citect Anywhere Secure Gateway manual for detailed instructions.

## Embedding Citect Anywhere in an iframe

To embed Citect Anywhere within a third-party web page using the iframe mechanism, simply place an iframe tag within the containing page, and have the iframe's SRC attribute reference the Citect Anywhere URL.

For example:

```
<body>

      <h1>Embedded Citect Anywhere</h1>

      <iframe src="http://127.0.0.1:8080/CitectAnywhere/start.html"
       style="width:1024px; height:768px"></iframe>

</body>
```

When a Citect Anywhere session ends, it can be configured to send the browser to a specified URL using the endURL setting.

- Specify a simple URL to redirect the iframe.
- Prefix the URL with ^ to redirect the iframe's parent (container).
- Prefix the URL with $ to redirect the top-most container.
- Specify # and the URL will close the browser tab.

# Chapter 8: SSL VPN Configuration

Citect Anywhere is compatible with most SSL VPNs. An SSL VPN that does not support WebSockets will require the Secure Gateway (SG) as well. Juniper IVE version 7.4 supports WebSockets, so the Secure Gateway is not required.

Citect Anywhere has been tested with Juniper's SA SSL VPNs and the documentation in this section will be based off Juniper's administration pages. Configuration with other third-party SSL VPN appliances will be similar to the procedures described here (difference are mostly in terminology).

## Web Proxy with 7.4

Juniper version 7.4 supports WebSockets. Citect Anywhere links are published in the Juniper's web interface as web applications. To publish a new Citect Anywhere connection, go to the Juniper Admin page and do the following:

1. Go to **Resource Profiles | Web | New Web Application Resource Profile**.
2. Enter the **Name** of the Citect Anywhere connection that the users should see.
3. Enter the Citect Anywhere URL in the **Base URL** box.
4. Click **Save and Continue**.
5. In the Roles dialog add all roles that should have access to the Citect Anywhere link and click **Save Changes**.
6. In the Bookmarks tab, enter the desired label for the connection.
7. When you log into Juniper, a Citect Anywhere link will be displayed under the Web bookmarks section (i.e. Citect Anywhere). Click on the link to connect to a Vijeo Citect client published with Citect Anywhere.

## Web Proxy with Older Juniper Versions

Juniper versions prior to 7.4, and most other SSL VPNs do not support native WebSockets. Such SSL VPNs require HTTPS Mode (see HTTPS Mode chapter in this guide) to run Citect Anywhere. HTTPS mode is enabled by installing the Secure Gateway (SG).

To use Citect Anywhere and the Secure Gateway:

1. Go to **Resource Profiles | Web | New Web Application Resource Profile**.
2. Enter the **Name** of the Citect Anywhere connection that the users should see.
3. Enter the Gateway’s Citect Anywhere URL address as the Base URL. Click **Save**.
4. Go to **Autopolicy: Web Access Control.**
5. Edit the automatically entered address and delete the subfolder “Citect Anywhere ”. Instead of https://GWaddress.com:443/Citect Anywhere /* the correct resource is https://GWaddress.com:443/*
6. Click **Save and Continue**
7. In the Roles dialog, add all roles that should have access to the Citect Anywhere link and click **Save Changes**.
8. When you log into Juniper - the Citect Anywhere link will be displayed under the Web bookmarks section (i.e. Citect Anywhere Connection to RDP Host). Simply click on the link to connect to an application or desktop published with Citect Anywhere.

**Note**: If the link is not translating properly, make sure that there is not a Passthrough Proxy policy defined for the Gateway Server (where the web component is hosted).

## Single Sign On(SSO) Using Cookies

In the Single Sign-on Config, set **Remote SSO**.

Set **Send the following data as request headers** to the Citect Anywhere URL. Set the desired cookies, for example:

- EAN_username=<USER> (this passes the username)
- EAN_password=<PASSWORD> (this passes the password
- EAN_autostart=true (this auto starts the connection, “bypassing” the start page)
- Other Citect Anywhere parameters may also be passed as cookies

## Network Connect

Juniper’s Network Connect mode opens a VPN tunnel to the private network. When using Network Connect, simply enter the Citect Anywhere parameters as if they were on the private network.

## JSAM and WSAM

The Java and Windows Secure Access Manager provide additional security by limiting the end user’s access on the private network to only assigned resources. The Citect Anywhere parameters will be masked by Juniper and will not be directly accessible by the end user. To configure Citect Anywhere for JSAM, go to the Juniper Admin page and do the following (WSAM configuration is similar to the JSAM procedure below):

1. Publish a JSAM Client Application Profile by going to **Resource Profiles | SAM | Client Applications**
2. Click **New Profile** and enter the following parameters:
    a. Type: *JSAM*
    b. Application: *Custom*
    c. Name: <enter desired label here>
    d. Server Name: <enter address of Citect Anywhere Server>
    e. Server Port: <enter Citect Anywhere port # (default is 8080)>
    f. Client Loopback IP: Juniper’s aliased address for the Citect Anywhere Server (Important note: this address must be entered as the Citect Anywhere address for Juniper users).
    g. Client Port: Juniper’s aliased port for the Citect Anywhere Server (Important note: this port must be entered as the Citect Anywhere port for Juniper users). The default port 8080 may be used here if it does not create a port conflict.
    h. Click **Save and Continue**

i. Select the Roles that will have access to this JSAM application.

j. Click **Save Changes**, and now this application is ready for use.

## Auto-starting JSAM or WSAM upon Login

Users may have to manually start a Client Application Session upon login.

To have the JSAM or WSAM applet launch on login to Juniper, go to the Juniper Admin page and do the following:

1. Click on **User Roles | <select desired Role> | General**.
2. Verify that the **Secure Application Manager** is checked and click on **Options**.
3. Check the **Auto-launch Secure Access Manager** option.
4. Click **Save Changes** and the next time you log in the SAM will automatically start.