# zenon
by COPA-DATA

# Manuel de zenon
## Installation et mises à jour

v.8.20

**COPADATA**

# Contenu

# 1 Welcome to COPA-DATA help

### TUTORIELS VIDÉO DE ZENON.

Des exemples concrets de configurations de projets dans zenon sont disponibles sur notre chaîne YouTube (https://www.copadata.com/tutorial_menu). Les tutoriels sont regroupés par sujet et proposent un aperçu de l'utilisation des différents modules de zenon. Les tutoriels sont disponibles en anglais.

### AIDE GÉNÉRALE

Si vous ne trouvez pas certaines informations dans ce chapitre de l'aide ou si vous souhaitez nous suggérer d'intégrer un complément d'information, veuillez nous contacter par e-mail : documentation@copadata.com.

### ASSISTANCE PROJET

Vous pouvez obtenir de l'aide pour tout projet en contactant par e-mail notre notre service d'assistance : support@copadata.com

### LICENCES ET MODULES

Si vous vous rendez compte que vous avez besoin de licences ou de modules supplémentaires, veuillezcontacter l'équipe commerciale par e-mail : E-mail sales@copadata.com.

# 2 Installation et mises à jour

Lors de la première installation de zenon, la procédure d'installation démarre automatiquement et vous guide tout au long du processus d'installation. Si la lecture automatique du support est désactivée dans le système d'exploitation de l'ordinateur, la routine d'installation ne démarrera pas automatiquement. Démarrez l'installation en exécutant le fichier **START.exe** dans le dossier racine de votre support d'installation de zenon.

> ☛**Conseil**
>
> La lecture automatique du support peut être activée dans les paramètres de votre système d'exploitation.
>
> ▸ Appuyez sur le bouton **Windows + I**  pour ouvrir la boîte de dialogue des paramètres Windows.
>
> ▸ Entrez *Activer/désactiver Lecture automatique* dans le champ de saisie. Cela ouvre la boîte de dialogue de configuration du système.
>
> ▸ Sélectionnez l'option **Utiliser Lecture automatique pour tous les supports et périphériques**.

**Remarques concernant l'installation :**

▸ Avant d'installer zenon :

- ▸ Toutes les mises à jour actuelles du système d'exploitation doivent être installées. **Remarque :** Si vous utilisez toujours la dernière version (Service Pack) de votre système d'exploitation, vous évitez non seulement les problèmes de compatibilité, mais également les problèmes de sécurité.

- ▸ Le système d'exploitation ne doit pas être en attente de redémarrage.

▸ Avec Windows 7 Embedded Standard, zenon est installé dans le cadre d'une procédure d'installation normale. Vous trouverez des informations concernant la configuration matérielle requise au chapitre Le Runtime sous Windows Embedded Standard (à la page 46).

▸ zenon pour Windows CE est installé dans le cadre de la procédure d'installation normale. La version 7.20 des fichiers pour Windows CE est installée. Vous trouverez plus de détails à ce sujet au chapitre Runtime sous Windows CE (à la page 52).

▸ Pendant l'installation de zenon, **COPA-DATA Multiple Network Protocol Driver (cdprotdrv.sys)** est installé. Pour démarrer le driver, vous devez redémarrer le système d'exploitation après installation.

> ⚠**Attention**
>
> À partir de la version 7.10, zenon ne peut pas être installé sur les systèmes sur lesquels **Microsoft SQL Server Data Engine** (**MSDE**) est déjà installé. Ceci affecte tous les systèmes sur lesquels est installé zenon 6.01 ou 6.20 ou une version antérieure.

**💡Informations**

Durant l'installation, si vous recevez un message d'erreur indiquant qu'un service ne peut pas être démarré :

- ▸ Redémarrez d'abord l'ordinateur
- ▸ Ensuite, redémarrez le programme d'installation de zenon

# 3  Installation standard de< CD_PRODUCTNAME>

zenon démarre automatiquement l'installation et effectue l'ensemble de la procédure d'installation lorsque le support d'installation de zenon est connecté. Vous pouvez également démarrer l'installation en exécutant le fichier **START.exe** situé dans le dossier racine de votre support d'installation de zenon.

Des droits d'administrateur sont requis pour la procédure d'installation sur l'ordinateur !

**⚠Attention**

L'ordinateur redémarre automatiquement durant l'installation, si nécessaire.
Fermez tous les autres programmes avant l'installation.

## 3.1   Fenêtre de démarrage

L'écran de démarrage indique la version à installer, ainsi que le numéro de version.
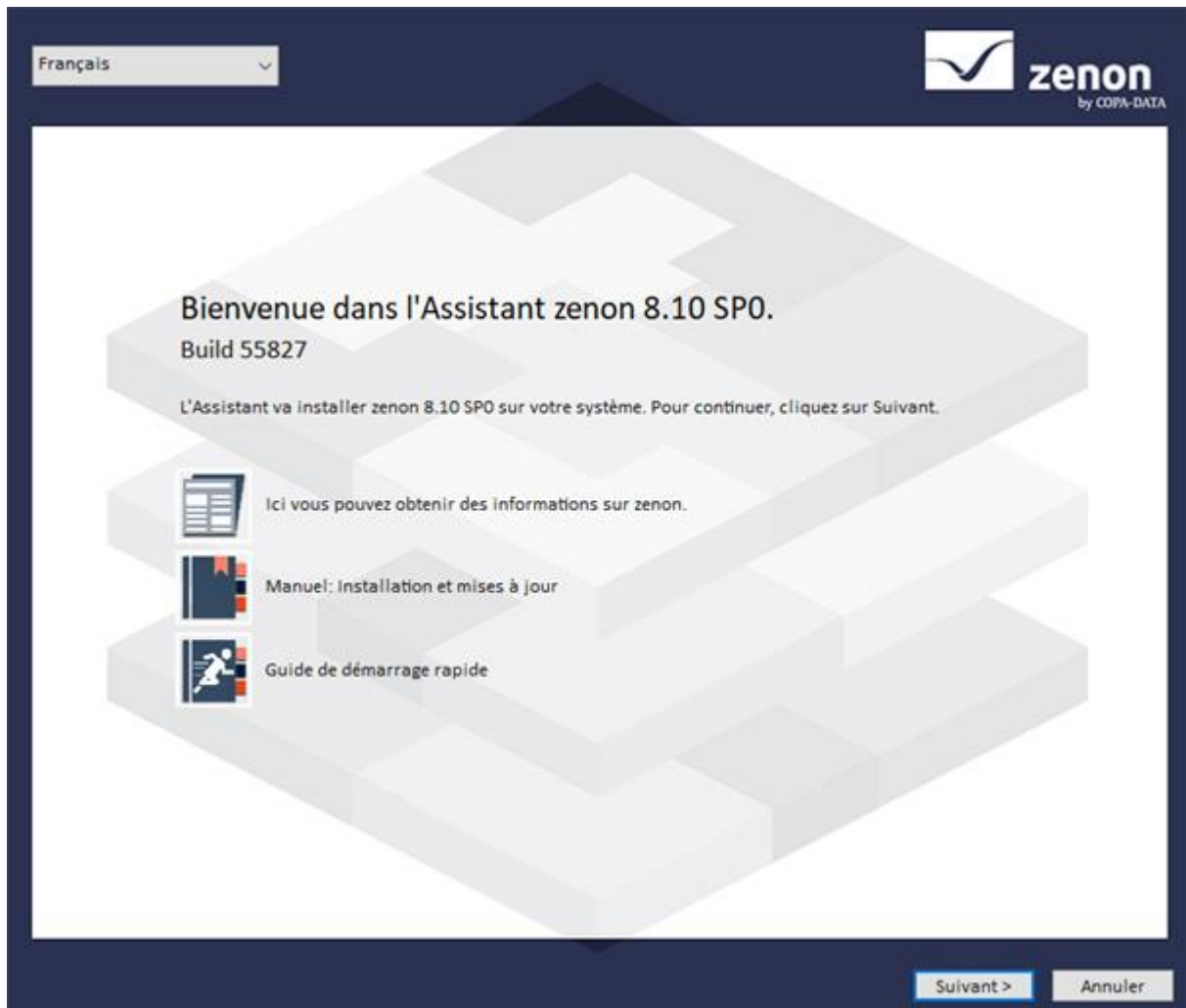


1.   Dans la liste déroulante affichée en haut à gauche, sélectionnez la langue souhaitée pour l'installation.
     Les langues suivantes sont disponibles pour l'installation :

     ▶   Allemand

     ▶   Anglais

     ▶   Français

     ▶   Italien

     ▶   Japonais

     ▶   Coréen

     ▶   Russe

     ▶   Espagnol

2. Des informations concernant zenon sont disponibles en cliquant sur le bouton souhaité :

Ouvre une animation contenant les informations concernant la version actuelle de zenon.

Ouvre l'aide relative à l'installation zenon, sous forme de fichier PDF.

Ouvre le guide de démarrage rapide au format PDF, qui contient des conseils relatifs aux premières étapes de configuration de projets dans zenon.

3. Cliquez sur le bouton **Suivant** pour ouvrir la fenêtre contenant les conditions d'accord de licence.

4. Confirmez les conditions d'accord de licence en cochant la case correspondante.
   Si vous n'acceptez pas les conditions de licence, vous ne pouvez pas installer le produit.

   Vous pouvez également modifier les conditions d'accord de licence en cliquant sur le bouton **Imprimer**.

5. Cliquez sur le bouton **Suivant** pour ouvrir la politique de confidentialité.
   Lisez attentivement la politique de confidentialité.
   Vous pouvez imprimer la politique de confidentialité en cliquant sur le bouton **Imprimer**.

6. Cochez la case de la politique de confidentialité.
   Vous confirmez ainsi que vous l'avez lue. Si vous n'acceptez pas la politique de confidentialité, le produit ne peut pas être installé.

7. Cliquez sur le bouton **Suivant** pour ouvrir la fenêtre de sélection du produit souhaité.
   **Remarque :** Le bouton **Suivant** est uniquement disponible si vous avez accepté les conditions de licence en cliquant sur la case d'option.

## 3.2 Installation standard de< CD_PRODUCTNAME>

Sélectionnez le produit. Il est uniquement possible de sélectionner les produits qui n'ont pas encore été installés. Si vous souhaitez réinstaller un produit, vous devez d'abord le désinstaller depuis le Panneau de configuration.
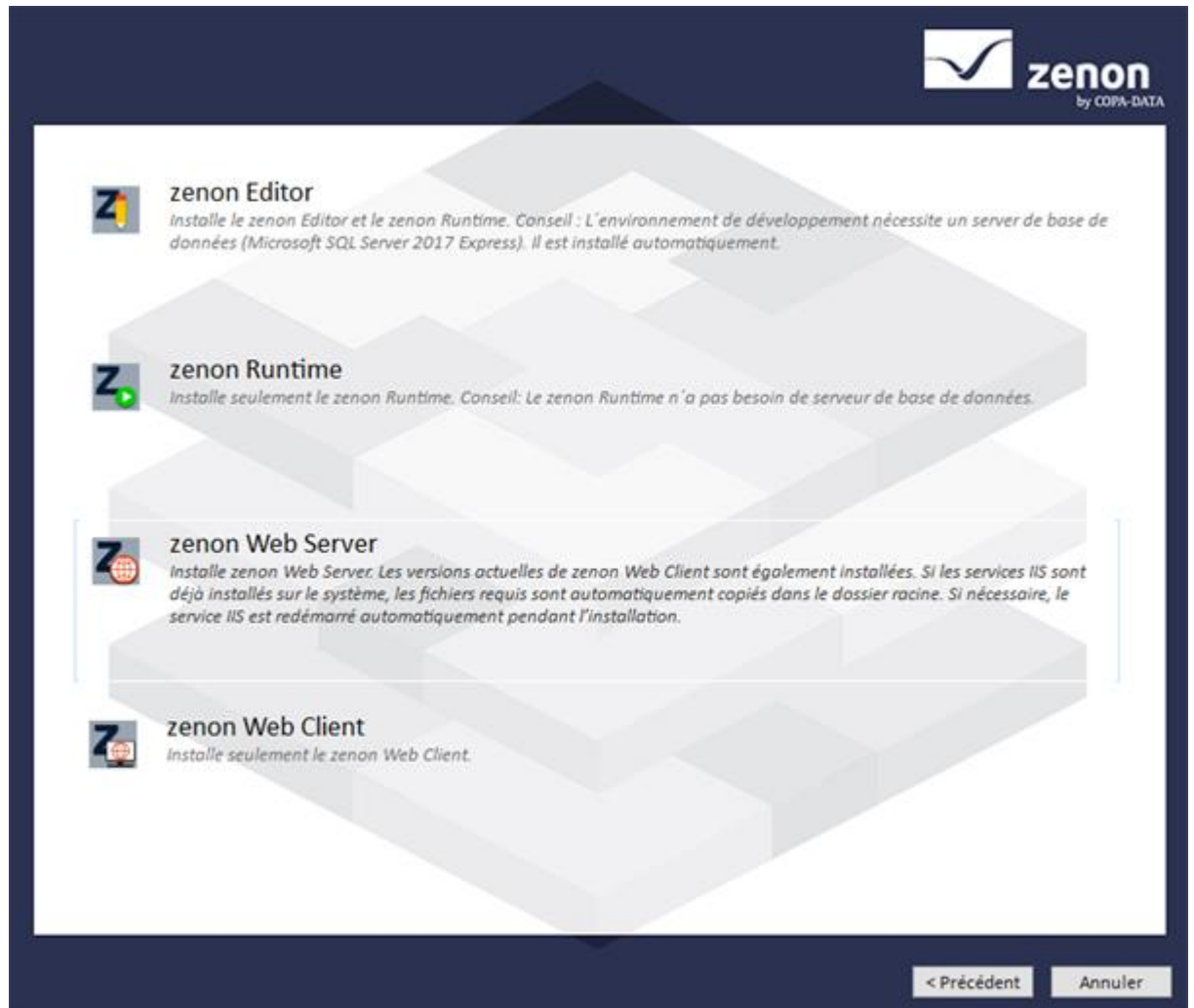


▶ **zenon Editor**
   Installe zenon Editor et le Runtime zenon. Les autres composants requis pour Editor sont également installés ensemble automatiquement.

▶ **zenon Runtime**:
   Installe uniquement le Runtime zenon.

▶ **zenon Web Server**:
   Installe zenon Web Server et les modules <CD_PRODUCTNAME Web Client> correspondants.

▶ **zenon Web Client**
   Installe uniquement zenon Web Client.

> **Informations** 13
>
> L'installation démarre immédiatement lors de la sélection de **zenon Web Server** ou de **zenon Web Client**.
>
> En sélectionnant **zenon Editor** ou **zenon Runtime**, la boîte de dialogue de sélection de l'édition s'ouvre.

## 3.3 Sélection de l'édition – Type d'installation (installation définie par l'utilisateur)

Cliquez sur le produit souhaité pour ouvrir la fenêtre de sélection de l'édition.

1. Sélectionnez la version comportant la licence de votre choix :

   ‣ **zenon**

▶ **zenon Energy Edition**

2. Cliquez sur l'édition souhaitée pour ouvrir la fenêtre de sélection du type d'installation.
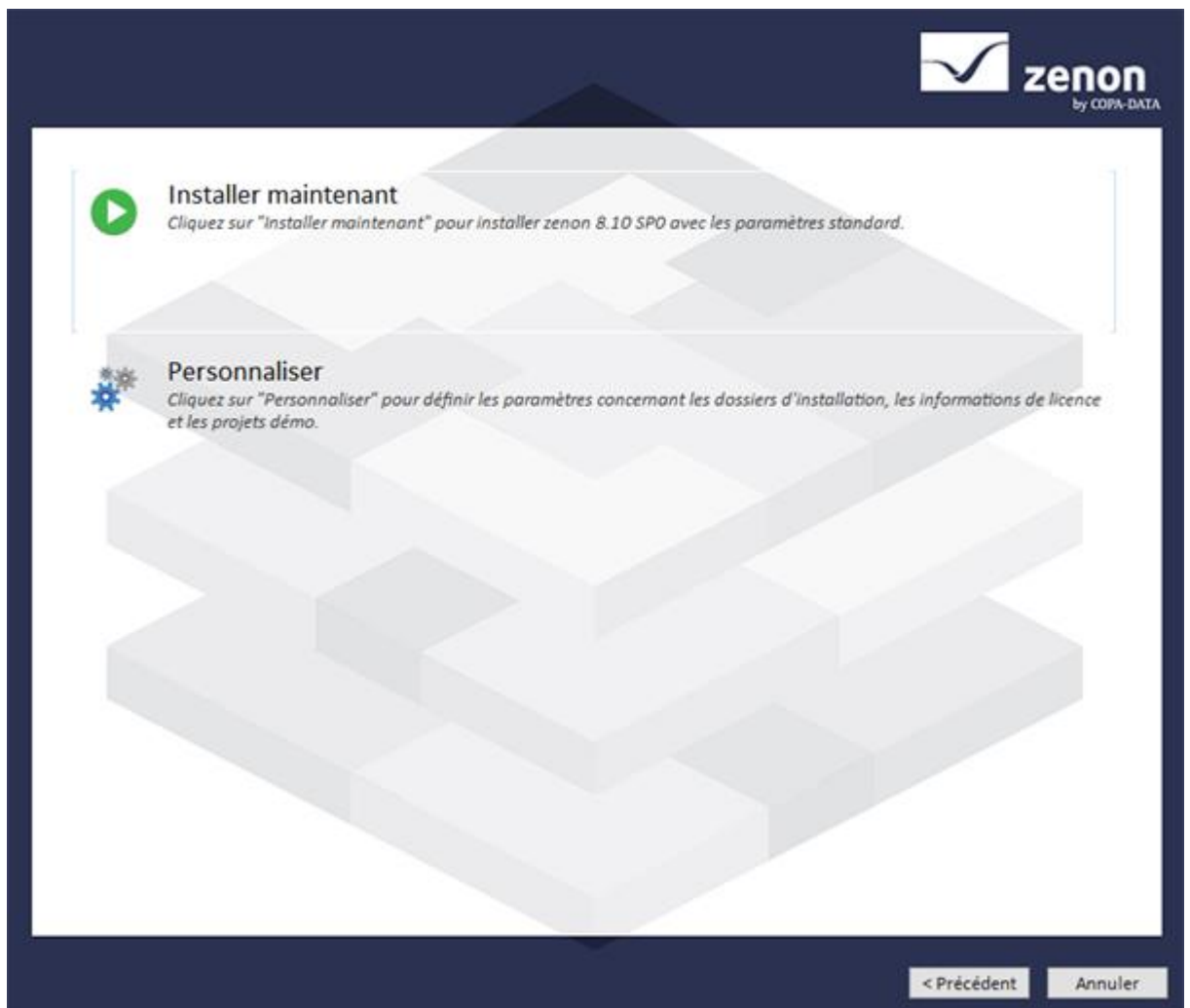


▶ **Installer maintenant** :
démarrer l'installation de l'édition sélectionnée.
L'ordinateur peut redémarrer automatiquement durant l'installation. Suivez les
instructions de l'assistant

▶ **Défini par l'utilisateur :**
ouvre d'autres fenêtres pour l'installation en cours.
Ici, vous pouvez modifier le chemin d'installation et décider si vous voulez installer des
projets de démonstration.

3. Cliquez sur le bouton **Suivant** pour ouvrir la fenêtre permettant de modifier les dossiers d'installation.



▸ Si nécessaire, définissez individuellement les dossiers correspondant aux versions 32 bits et 64 bits du programme.
Pour cela, cliquez sur le bouton **Modifier...**.

▸ Définissez le dossier cible de la base de données du projet.
**Remarque :** L'emplacement de sauvegarde sélectionné ici doit disposer d'une quantité suffisante d'espace libre. Tous les utilisateurs doivent disposer d'une autorisation d'écriture.

▸ Si vous souhaitez également installer le projet de démonstration, cochez la case correspondante.
Le projet de démonstration fournit des exemples de scénarios d'utilisation possibles dans différentes industries.

4. Cliquez sur le bouton **Installer**.
L'installation de l'édition sélectionnée démarre.

L'ordinateur peut redémarrer automatiquement durant l'installation. Suivez les instructions de l'assistant

## 3.4   Installation et finalisation

Pendant l'installation, une barre de progression vous informe de l'avancement de l'installation et de l'étape d'installation actuelle.
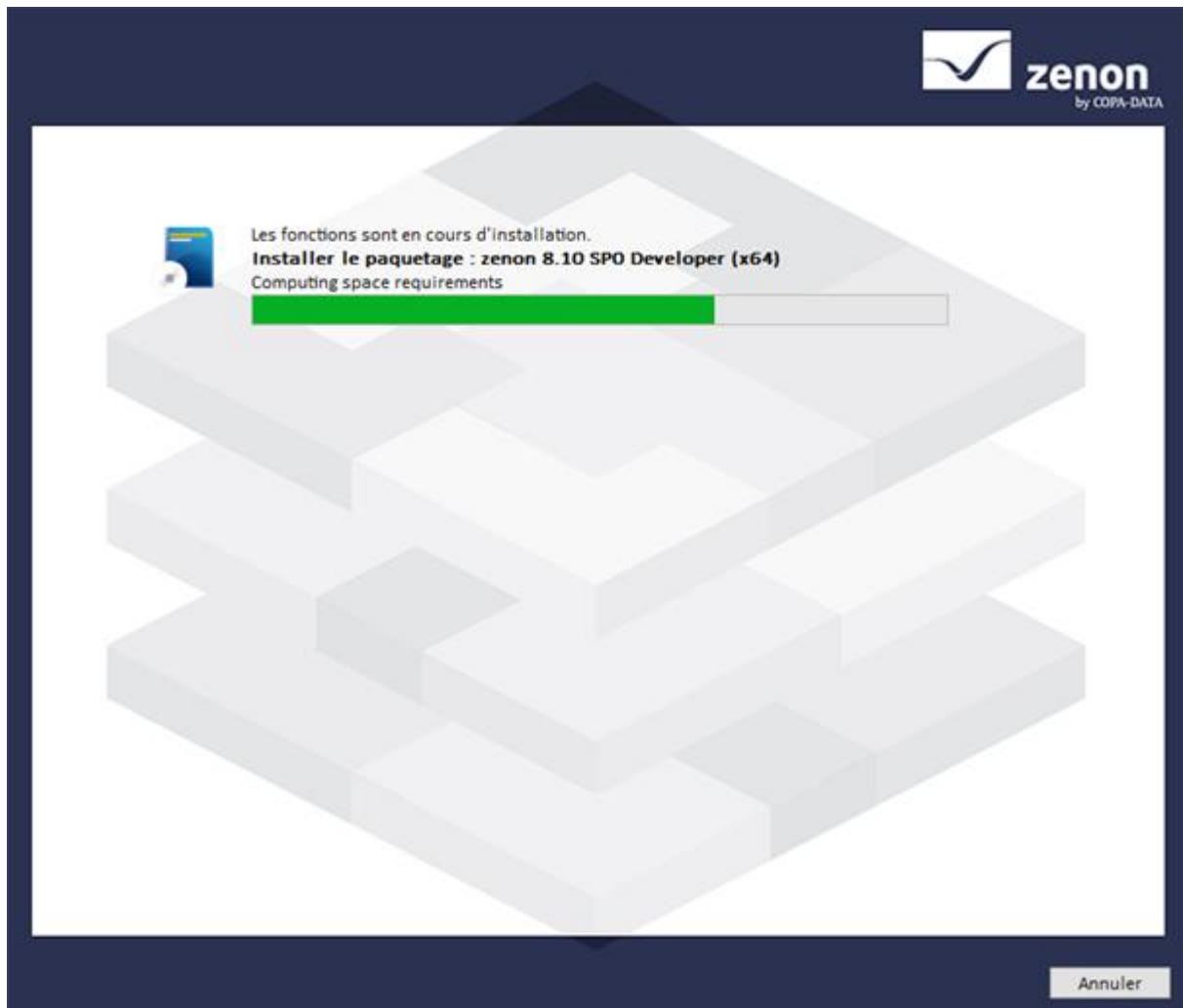


L'installation peut demander un certain temps. N'éteignez pas votre ordinateur à cet instant. Assurez-vous également que le mode de veille de votre ordinateur ne sera pas automatiquement activé.

### ANNULER L'INSTALLATION

Vous pouvez annuler l'installation en cliquant sur le bouton **Annuler**.
Avant d'annuler l'installation, vous devez demander une requête de sécurité.
Actions possibles :

> **Oui** : L'installation est annulée.
> La boîte de dialogue d'avertissement en cas d'installation non valide est affichée.

> **Non** : L'installation se poursuit.

## L'INSTALLATION EST TERMINÉE

L'installation réussie s'affichera dans une boîte de dialogue.

1. Cliquez sur le bouton **Terminer** pour terminer l'installation.
2. Redémarrez le programme d'installation si vous souhaitez installer d'autres produits, tels que **zenon Web Server**.

## ANNULATION OU ÉCHEC DE L'INSTALLATION

Si une erreur se produit durant l'installation, ou si l'installation est annulée, ceci est affiché dans une boîte de dialogue.

1. Cliquez sur le bouton **Terminer** pour quitter le programme d'installation.
2. Vérifiez les messages de fichier journal une fois que l'annulation a eu lieu, le cas échéant.
3. Essayez à nouveau l'installation.

**Remarque :** En cas d'échec de l'installation du SQL Server, le message d'erreur fournit un lien vers les fichiers journaux. Cliquez sur le lien pour recevoir un rapport d'erreur détaillé.

### CAUSES POSSIBLES DE L'ERREUR :

Causes possibles importantes d'une annulation :

> L'installation en cours d'une mise à jour du système d'exploitation Windows.

> Le SQL server requis pour l'Editor zenon n'a pas pu être installé.

# 4 zenon Logic Runtime pour Windows (installation autonome)

Sur le support d'installation, dans le répertoire*%AdditionalSoftware%\COPA-DATA zenon Logic Runtime* vous trouverez les paquets d'installation pour une installation autonome pour le **zenon Logic Runtime pour Windows**.

## CONTENU DU PACKAGE D'INSTALLATION DU RUNTIME ZENON LOGIC

Avec la configuration autonome du **<Runtime pour Windows> CA_PRODUCTNAME**, tous les composants nécessaires au fonctionnement du Runtime 61131-3 sont installés sur le système cible. Il s'agit notamment de composants pour la gestion des licences et les diagnostics. Aucun composant de configuration n'est installé.

## CONDITIONS D'INSTALLATION

Gardez à l'esprit la configuration système générale requise pour l'installation du produit. La pré-installation de **zenon Operator/Supervisor** ou du **<Runtime pour Windows (autonome)> CA_PRODUCTNAME** n'est pas autorisée.

Le produit nécessite un logiciel déjà installé sur le système cible. Vous pouvez également les trouver dans le répertoire *%AdditionalSoftware*% du support d'installation. Par conséquent, si nécessaire, installez manuellement les paquets suivants :

- **Microsoft Visual Studio C++ Redistributables**
- **Kit Runtime CodeMeter WIBU-SYSTEMS**

Après l'installation, exécutez le package d'installation correspondant (x86 ou x64) à votre système cible.

### Informations

L'installation n'inclut pas de licence pour le produit. Le Runtime zenon Logic démarre donc en mode test. La gestion des licences peut se faire à l'aide des outils généraux de gestion des licences.

## MISE À JOUR

Pour mettre à jour une version déjà installée, désinstallez-la et procédez à une nouvelle installation.

# 5  Silent installation and uninstallation

zenon can also be installed and uninstalled silently (Silent Installation) and (Silent Remove).

As part of Silent Installation, it is possible to exclude certain standard components from the installation specifically:

- Firewall rules: the **CDPROP_INSTALLFIREWALL** parameter decides whether rules for the firewall are set.
- **Codemeter** Software: Can be configured using the *PREREQUISITES_* argument for the **ISFeatureInstall** parameter. Codemeter is not installed if the argument is not used.

**Attention:** This argument is applicable for all *Prerequisites*. Other Prerequisites are also not installed in this case!

> 💡**Informations**
>
> All zenon versions from 7.10 on support silent installation and uninstalling.

## SILENT INSTALLATION FROM ZENON 7.20 ON.

Syntax: **scada.exe /silent /language:***[number]* **CDPROP_EDITION=***[edition]* **CDPROP_TYPE=***[type]*
**ISFeatureInstall=***[features]*

| Parameter | Arguments | Description |
|---|---|---|
| **scada.exe** | | Call-up of the installation. |
| **/silent** | | Silent installation. |
| **/language:** | ▸ *1031*: German<br>▸ *1033*: English<br>▸ *1034*: Spanish<br>▸ *1036*: French<br>▸ *1040*: Italian<br>▸ *1041*: Japanese<br>▸ *1042*: Korean<br>▸ *1049*: Russian | Selection of the language.<br><br>Example: English:<br>**language:** *1033* |
| **CDPROP_EDITION=** | ▸ *ENERGY*<br>▸ *SUPERVISOR*<br>▸ *OPERATOR*<br>▸ *PHARMA*<br>▸ *SCIENCE* | Selection of the edition.<br><br>Example: Energy Edition:<br>**CDPROP_EDITION=** *ENERGY*<br><br>Is not needed for zenon Web Server and zenon Web Client. |
| **CDPROP_TYPE=** | ▸ *ED*: Editor and Runtime<br>▸ *RT*: Runtime | Selection of Editor or Runtime.<br><br>Example: Runtime:<br>**CDPROP_TYPE=***RT*<br><br>Is not needed for zenon Web Server and zenon Web Client. |
| **CDPROP_INSTALLFIREW ALL** | ▸ *0* or *1* | Denotes whether rules for the firewall have been created: |

| Parameter | Arguments | Description |
|---|---|---|
| | | ▸ *0*: Rules are not created<br><br>▸ *1*: Rules are created |
| **CDPROP_SQLADMINPASSWORD=** | User-defined password<br><br>You can find further information on passwords in the **Password conventions for SA users** chapter. | Password for the *SA* user in SQL Server. This password is created for the *SA* user and used during installation.<br><br>Example:<br>**CDPROP_SQLADMINPASSWORD=***H1342DFAhzgs§\*464578*<br><br>If no password is transferred, a random password is created during installation.<br><br>**Attention:** User-defined passwords are not validated for validity and compliance with password rules! |
| **ISFeatureInstall=** | ▸ *PREREQUISITES_EDITOR,SCADA*:<br>Editor<br><br>▸ *PREREQUISITES_RUNTIME,SCADA*:<br>Runtime<br><br>▸ *PREREQUISITES_WEBSERVER, WEBSERVER*:<br>Web Server<br><br>▸ *PREREQUISITES_WEBCLIENT,WEBCLIENT*:<br>Web Client | Selection of features to be installed.<br><br>Arguments:<br><br>▸ *PREREQUISITES_*:<br>Decides whether Prerequisites are installed. The reasons why Prerequisites are installed is given after the underscore. E.g.: **EDITOR Codemeter** is not installed if the argument is left out.<br><br>▸ *SCADA*: Installs Editor and/or Runtime, depending on the parameters for **CDPROP_TYPE=**.<br><br>▸ *WEBSERVER*: Installs the Web Server.<br><br>▸ *WEBCLIENT*: Installs the |

| Parameter | Arguments | Description |
|---|---|---|
| | | Web Client. Examples: <br>▶ zenon Runtime with Prerequistes: **ISFeatureInstall=**_PREREQUISITES_RUNTIME,SCADA_ <br>▶ zenon Runtime without Prerequistes: **ISFeatureInstall=**_SCADA_ |

**Examples:**

▶ Installation of Editor, German, Energy Edition:
**scada.exe /silent /language:1031 CDPROP_EDITION=ENERGY CDPROP_TYPE=ED ISFeatureInstall=PREREQUISITES_EDITOR,SCADA**

▶ Installation of Runtime, English, Supervisor Edition:
**scada.exe /silent /language:1033 CDPROP_EDITION=SUPERVISOR CDPROP_TYPE=RT ISFeatureInstall=PREREQUISITES_RUNTIME,SCADA**

▶ Installation of zenon Web Server, German:
**scada.exe /silent /language:1031 ISFeatureInstall=PREREQUISITES_WEBSERVER,WEBSERVER**

▶ Installation of zenon Web Client, German:
**scada.exe /silent /language:1031 ISFeatureInstall=PREREQUISITES_WEBCLIENT,WEBCLIENT**

## PASSWORD CONVENTIONS FOR SA USERS

The random password created during a standard installation for the user _SA_ on the SQL Server can be replaced with your own password. Use an individual password for the argument **CDPROP_SQLADMINPASSWORD=**.

Rules:

▶ Default length: 20 characters

▶ Permitted characters:

   ▶ Letters: _A - Z, a - z_

   ▶ Digits: _0 - 9_

   ▶ Special characters: _!@$?#%&*_

▶ Composition:

   ▶ at least 1 lower case letter

▶ at least 1 upper case letter

▶ at least 1 number

▶ at least 1 special character

> **⚠Attention**
>
> A user-defined password is not validated.

## SILENT UNINSTALLING FROM ZENON 7.20 ON.

The **GUID** is part of the path and depends on the version. The attendant version is visible in the file properties of a **GUID**.

**Without LOG file:**

▶ Path: **%ProgramFiles(x86)%\InstallShield Installation Information\{GUID}**
Example: **C:\Program Files (x86)\InstallShield Installation Information\{9BE6EDFE-3465-486F-87EE-1C439DE5EA9A}**

▶ Syntax: **SCADA.exe /remove /silent**

**With LOG file:**

▶ Path: **%ProgramFiles(x86)%\InstallShield Installation Information\{GUID}**
Example: **C:\Program Files (x86)\InstallShield Installation Information\{9BE6EDFE-3465-486F-87EE-1C439DE5EA9A}**

▶ Syntax: **SCADA.exe /remove /silent /log"%TEMP%"**

## SILENT INSTALLATION FOR ZENON 7.10 AND 7.11

Syntax: **scada.exe /silent /language:[number] CDPROP_EDITION=[edition] CDPROP_TYPE=[type] ISFeatureInstall=[features]**

| Parameter | Arguments | Description |
|---|---|---|
| **scada.exe** | | Call-up of the installation. |
| **/silent** | | Silent installation. |
| **/language:** | ▶ **1031**: German<br>▶ **1033**: English<br>▶ **1034**: Spanish<br>▶ **1036**: French<br>▶ **1040**: Italian | Selection of the language.<br><br>Example: English: **language:1033** |
| **CDPROP_EDITION=** | ▶ **ENERGY** | Selection of the edition. |

| Parameter | Arguments | Description |
|---|---|---|
| | ▸ **SUPERVISOR**<br>▸ **OPERATOR**<br>▸ **PHARMA** | Example: Energy Edition:<br>**CDPROP_EDITION=ENERGY**<br><br>Is not needed for zenon Web Server. |
| **CDPROP_TYPE=** | ▸ **ED**: Editor and Runtime<br>▸ **RT**: Runtime | Selection of Editor or Runtime.<br><br>Example: Runtime:<br>**CDPROP_TYPE=RT**<br><br>Is not needed for zenon Web Server. |
| **ISFeatureInstall=** | ▸ **WIBU,SCADA,MS,MSALL,SQL,C OMMON**:<br>Editor<br>▸ **WIBU,SCADA,MS,MSALL,COM MON**:<br>Runtime<br>▸ **WIBU,WS,MSALL,COMMON**:<br>Web Server | Selection of features to be installed.<br><br>Example: zenon Editor:<br>**ISFeatureInstall=WIBU,SCADA, MS,MSALL,SQL,COMMON** |

**<u>Examples:</u>**

▸ Installation of Editor, German, Energy Edition:
**scada.exe /silent /language:1031 CDPROP_EDITION=ENERGY CDPROP_TYPE=ED ISFeatureInstall=WIBU,SCADA,MS,MSALL,SQL,COMMON**

▸ Installation of Runtime, English, Supervisor Editon:
**scada.exe /silent /language:1033 CDPROP_EDITION=SUPERVISOR CDPROP_TYPE=RT ISFeatureInstall=WIBU,SCADA,MS,MSALL,COMMON**

▸ Installation of zenon Web Server, German:
**scada.exe /silent /language:1031 ISFeatureInstall=WIBU,WS,MSALL,COMMON**

## SILENT UNINSTALLING OF VERSION 7.10 AND ZENON 7:11 AM

### ZENON 7.10

Path: **C:\Program Files (x86)\InstallShield Installation Information\{860C41F0-6034-4822-BCF1-88D4849AE897}**

Syntax: **SCADA.exe /remove /silent**

**ZENON 7.11**

Path: **C:\Program Files (x86)\InstallShield Installation Information\{ED00D319-77B8-4C58-8D67-2DA2D48E90DB}**

Syntax: **SCADA.exe /remove /silent**

# 6  Traitement des erreurs

## VÉRIFICATION AVANT INSTALLATION :

La configuration minimale requise du système doit être vérifiée avant l'installation. Si les critères ne sont pas satisfaits, ils sont affichés sur une page distincte, avec des informations destinées à vous permettre d'y remédier.

## ERREUR DURANT L'INSTALLATION

Un message d'erreur s'affichera à l'écran en cas d'erreur durant l'installation.

Si vous avez besoin d'aide, vous pouvez vous adresser au service de conseil technique de COPA-DATA :

1. Si possible, créez une capture d'écran du message d'erreur.
2. Accédez au dossier nommé %Temp%/SCADALOG.
3. Vous trouverez ici les fichiers journaux de la procédure d'installation.
4. Créez un fichier ZIP avec le contenu du dossier.
5. Transmettez le fichier et la capture d'écran à support@copadata.com.

Si vous avez déjà fermé la fenêtre contenant le message d'erreur, vous pouvez consulter les fichiers journaux contenant toutes les informations concernant l'installation de SQL Server dans le dossier : *C:\Program Files\Microsoft SQL Server\110\Setup Bootstrap\LOG*

**Conseil :** le fichier **summary.txt** contient les informations de dépannage.

> ⚙**Informations**
>
> **Pare-feu :** zenon configures automatiquement le pare-feu installé avec Windows durant l'installation. Les pare-feu d'autres fournisseurs doivent être correctement configurés par l'utilisateur.

**SOURCES D'ERREURS FRÉQUENTES DURANT L'INSTALLATION :**

▸ Le logiciel antivirus est actif et bloque l'installation en méprenant le programme d'installation pour un virus. Solution : isolez le système du réseau, désactivez le logiciel antivirus, puis exécutez l'installation à nouveau.

▸ Le pare-feu n'a pas été correctement configuré. Solution : isolez le système du réseau, désactivez le pare-feu, puis exécutez l'installation à nouveau.

▸ Installation incorrecte de SQL sur le système. Solution : Créez des sauvegardes de projet ; si possible, désinstallez SQL Server, renommez le dossier SQL, puis redémarrez l'installation.

# 7  Mises à jour de Windows

**Attention :** Les mises à jour automatiques de Windows influencent le déroulement de l'installation.

Si une mise à jour du système d'exploitation Windows est effectuée pendant le fonctionnement du programme d'installation de zenon, des problèmes peuvent survenir durant l'installation de zenon.

Pour éviter cela :

▸ Désactivez la fonction de mise à jour automatique de Windows durant l'installation, ou

▸ Exécutez la mise à jour de Windows avant de démarrer l'installation de zenon

# 8  Logiciel antivirus

Un logiciel antivirus peut ralentir, voire empêcher l'installation de zenon.

**Remarque :** Si le logiciel antivirus que vous utilisez entraîne des problèmes durant l'installation, désactivez le logiciel antivirus pour la durée de l'installation. Les ordinateurs concernés peuvent être exposés à des risques plus élevés durant cette période. Réactivez immédiatement votre logiciel antivirus après l'installation de zenon.

# 9  Structure des fichiers

L'arborescence des fichiers est créée (ou étendue) au cours de l'installation.

Les fichiers programme de zenon sont copiés vers un dossier que vous pouvez définir durant l'installation.

De plus, le programme d'installation demande également un dossier pour les bases de données SQL des projets. Le support de stockage utilisé pour l'archivage de projets (SQL, synoptiques, etc.) doit

comporter suffisamment d'espace, car toutes les données des projets et actuels sont enregistrées sur celui-ci.

| Dossier | Chemin |
|---|---|
| **Liste des programmes** | Système 32 bits : <br> *%Program Files%\COPA-DATA\zenon7xxx* <br><br> Système 64 bits : <br><br> *%Program Files%\COPA-DATA\zenon7xxx* <br><br> *%Program Files (x86)%\COPA-DATA\zenon7xxx* |
| **Dossier de données du programme,** <br> **par ex. symboles globale,** <br> **modèles d'impression, fichiers journaux etc.** | *%ProgramData%\COPA-DATA\zenon7xxx* |
| **Dossier de la base de données (SQL)** | *%ProgramData%\COPA-DATA\SQL* |
| **Dossier système** | *%ProgramData%\COPA-DATA\System* |
| **Paramètres et profils d'Editor** | *%Users%\UserName\AppData\Local\COPA-DATA\zenon\Editor* |
| **Paramètre de Diagnosis Viewer**. | *%Users%\UserName\AppData\Local\COPA-DATA\zenon\Diag View* |

## DOSSIER DE DÉFINITION DU RUNTIME ET DOSSIER DE DONNÉES

### DOSSIER DU RUNTIME

Editor crée les fichiers de Runtime dans le dossier du Runtime ; ces fichiers peuvent également être transférés vers ce dossier à l'aide du module Remote Transport. Le dossier Runtime est créé ou mis à jour lors de la compilation d'un projet dans Editor. Les paramètres de ce dossier peuvent être définis dans zenon Editor avec la propriété du projet **Dossier du Runtime**. Avec le module Remote Transfer, le dossier du Runtime est défini dans les paramètres du module Remote Transport.

### DOSSIER DES DONNÉES

Le Runtime enregistre tous les fichiers de données créés dans le Runtime, tels que les fichiers d'alarmes, les fichiers d'archives et autres, dans le dossier de données. Par défaut, le dossier de données est créé sous forme de sous-dossier du dossier du Runtime. Ce dossier reçoit

automatiquement le nom de l'ordinateur sur lequel s'exécute le Runtime. Vous pouvez modifier cet emplacement de sauvegarde dans les propriétés du projet (**Général**/**Dossier des données**).

**Conseil :** ne définissez jamais le dossier de données sur un support amovible, tel qu'une clé USB ou un périphérique réseau. Il est recommandé d'enregistrer les données localement et de les sauvegarder sur un lecteur externe.

> **⚠Attention**
>
> Si le chemin défini n'existe pas ou n'est plus disponible, aucune autre donnée n'est écrite depuis le Runtime. Cela signifie donc que la totalité des données est perdue. Le Runtime peut encore être contrôlé, mais doit être redémarré dès que le chemin redevient disponible. La disponibilité du dossier peut être contrôlée par le biais de la variable de driver du système **Dossier du Runtime indisponible**.

# 10 Ports libres

zenon et zenon Logic nécessitent certains ports de communication pour les communications via le réseau. Si ces ports sont occupés par d'autres programmes, par exemple un serveur SQL précédemment installé, la communication de zenon peut être perturbée. De nombreux ports dans zenon peuvent être modifiés à l'aide de l'outil **Startup Tool** ou des propriétés dans Editor.

Voici comment vérifier les attributions de ports :

1. Saisissez *netstat -a -n -o* dans la ligne de commande.

   Procédez comme suit pour accéder à la ligne de commande dans Windows :

   ▶ appuyez sur la touche Windows et R.

   ▶ Saisissez *cmd* et confirmez en cliquant sur **OK**.

   ▶ Une fenêtre MS-DOS s'affiche.

   ▶ Saisissez la commande *netstat*

2. La liste de tous les ports TCP et UDP actuellement utilisés s'affiche à l'écran.

3. Contrôlez les ports d'écoute (état : *LISTEN*) si l'identifiant de processus (PID) des ports utilisés par zenon et zenon Logic correspond aux processus de zenon et zenon Logic.

   Ces PID peuvent être lus dans le fichier **Gestionnaire de tâches Windows**. Pour cela, ouvrez le **Gestionnaire des tâches de Windows** et passez à l'onglet **Services**.

4. Si un autre logiciel utilise ces ports, reconfigurez ce logiciel.
   Vous pouvez afficher les ports utilisés par zenon et zenon Logic dans le tableau **Attribution des ports par zenon et zenon Logic**. Ici, vous pouvez également voir si ces ports peuvent être modifiés dans ces programmes.

# PARAMÈTRES DES PORTS DE ZENON ET ZENON LOGIC

| Application | Description | Ports | Fichier journal de transport |
|---|---|---|---|
| **stratonrt[k].exe** | Le Runtime de zenon Logic sonde les communications et le module Workbench de zenon Logic. | ▸ *1200-1210* | **TCP** |
| **stratonrt[k].exe** | | ▸ *4500-4510* | **TCP** |
| **stratonrt[k].exe** | Redondance de zenon Logic. | ▸ *7000-7010* | **TCP** |
| **stratonrt[k].exe** | Communications événementielles du Runtime de    zenon Logic. | ▸ *9000-9010* | **TCP** |
| **zennetsrv.exe** | Service réseau de zenon. | ▸ *1100-1100* | **TCP** |
| **zensyssrv.exe** | Service de transport de de zenon. | ▸ *1101* | **TCP** |
| **zendbsrv.exe** | Service de base de données de zenon. | ▸ *1103* | **TCP** |
| **zenAdminsrv.exe** | Service d'administration de zenon. | ▸ *50777* | **TCP** |
| **zenLogSrv.exe** | Service de journalisation de zenon. | ▸ *50780* | **TCP** |
| **CodeMeter.exe** | Service du dongle Code Meter. | ▸ *22350* (peut, mais ne doit pas être modifié) | **TCP** |
| **WkSvW32.exe** | Service réseau WibuKey | ▸ *22347* (fixe) | **TCP** |
| **Zenrt32.exe** | **Message Control** avec Voice over IP. | ▸ *5060* : SIP<br>▸ *4000* : RTP<br>▸ *4001* : RTCP (fixe)<br><br>SIP et TRP peuvent être configurés avec Editor. RTCP est automatiquement défini | **UDP** |

| Application | Description | Ports | Fichier journal de transport |
|---|---|---|---|
|  |  | par le système. |  |

# 11 Installation d'une version antérieure après l'installation de zenon 8.20 (système d'exploitation 64 bits)

Avec un système d'exploitation de 64 bits, si une version de zenon antérieure à la version 7.10 est installée après l'installation de zenon 8.20, les services 64 bits de la version 7.10 doivent être réenregistrés manuellement, à l'aide de la ligne de commande. L'enregistrement peut être réalisé manuellement, ou à l'aide d'un fichier de commandes.

**Enregistrement avec un fichier de commandes :**

1. Copiez le fichier **Register.bat** depuis le support d'installation de zenon.

2. Celui-ci se trouve dans le répertoire suivant : ...\*AdditionalSoftware\Register Admin Service and Log Service (x64)\*

3. Exécutez le fichier comme administrateur sur l'ordinateur correspondant.

**Enregistrement manuel :**

1. exécutez la ligne de commande avec des droits d'administrateur.

2. Accédez au dossier *%Program Files%\Common Files\COPA-DATA\zenAdminSrv*

3. Démarrez le service **zenAdminSrv.exe** avec le paramètre **-service**

4. Accédez au dossier *%Program Files%\Common Files\COPA-DATA\zenLogSrv*

5. Démarrez le service **zenLogSrv.exe** avec le paramètre **-service**

> **▤Exemple**
>
> **zenAdminSrv :**
>
> ▸ Dossier : *C:\Program Files\Common Files\COPA-DATA\zenAdminSrv*
>
> ▸ Commande : **zenAdminSrv.exe -service**
>
> **zenLogSrv :**
>
> ▸ Dossier : *C:\Program Files\Common Files\COPA-DATA\zenLogSrv*
>
> ▸ Commande: **zenLogSrv.exe -service**

# 12 Installation de la version 7.x et de la version 6.51 sur le même ordinateur

Si une version 7.x est installée sur un système sur lequel zenon 6.51 est déjà installé, le driver **Multiple Network Protocol Driver** doit être réinstallé après le redémarrage de l'ordinateur.

### POUR LES SYSTÈMES X64

Pour une nouvelle installation :

1. Redémarrez le système.

2. Sur le support d'installation, ouvrez le chemin suivant : *AdditionalSoftware\COPA-DATA Multiple Network Protocol Driver*.

3. Exécutez le fichier intitulé **MNDPx64Setup.bat**.

Ceci permet de réinstaller correctement le driver et de l'associer correctement aux cartes réseau.

### SUR LES SYSTÈMES X86

Pour une nouvelle installation :

1. Redémarrez le système.

2. Sur le support d'installation, ouvrez le chemin suivant : *AdditionalSoftware\COPA-DATA Multiple Network Protocol Driver*.

3. Exécutez le fichier intitulé **MNDPx86Setup.bat**

Ceci permet de réinstaller correctement le driver et de l'associer correctement aux cartes réseau.

# 13 Versions d'aperçu de licence

Les licences à durée limitée suivantes sont disponibles pour les programmes d'aperçu de zenon. Elles ont une date d'expiration fixe.
Si une version d'aperçu est installée, elle doit nécessite une connexion à Internet. La licence échouera en l'absence de connexion à Internet.
Dans ce cas, l'horodatage peut être mise à jour manuellement.
Pour ce faire :

1. Ouvrez la ligne de commande.

2.   Entrez : **%programfiles(x86)%\CodeMeter\Runtime\bin\cmu32.exe --time-update**

L'horodatage est mis à jour et la licence est valide.

# 14 Configuration système requise

zenon 8.20 peut être utilisé avec tous les systèmes d'exploitation actuels de Microsoft. zenon est toujours testé avec les dernières versions en date des systèmes d'exploitation et les derniers Service Pack et correctifs disponibles.

Les modifications apportées par les Service Packs, Hotfixes ou Patches de Microsoft peuvent être à l'origine d'incompatibilités et peuvent affecter les fonctionnalités du logiciel. Si c'est le cas, COPA-DATA publiera une version mise à jour de zenon dans les meilleurs délais. Dans ce cas, vous pouvez obtenir davantage d'informations auprès du service d'assistance de COPA-DATA : support@copadata.com.

> **⚠Attention**
>
> Remarque lors de la configuration du projet :
>
> ▶   Pour garantir l'affichage optimal de zenon dans le Runtime, il est recommandé d'utiliser le réglage par défaut (*100 %*) du paramètre **Affichage** de Windows. L'utilisation de valeurs supérieures peut entraîner l'affichage incorrect d'éléments graphiques, de symboles, de textes, etc.
>
> ▶   Les thèmes de Windows peuvent recouvrir les éléments du Runtime. Lors de la configuration d'un projet, veillez à laisser une distance suffisante entre les éléments et le bord de l'écran.

**Remarque :** Conformément aux conventions de Windows, les noms d'hôte ne peuvent contenir plus de 15 caractères.

## 14.1 Systèmes d'exploitation de bureau

Systèmes d'exploitation de bureau pris en charge et Service Pack/version Windows minimal requis :

| Système d'exploitation | zenon Editor | zenon Runtime | zenon Web Server | zenon Web Client | zenon HTML Web Engine | zenon Logic Runtime | zenon Analyzer Server |
|---|---|---|---|---|---|---|---|
| **Windows 7** (Professional, Enterprise and Ultimate version, x86 and x64 versions). | Exécution impossible | SP 1 | SP 1 | SP 1 | SP 1 | SP 1 | Exécution impossible |
| **Windows Embedded Standard 7** (if all necessary operating system components exist). | Exécution impossible | SP 1 | SP 1 | SP 1 | SP 1 | SP 1 | Exécution impossible |
| **Windows 8 and 8.1** (Standard, Professional, Enterprise version, x86 and x64 versions) | Uniquement x64 avec SP 0 | SP 0 | SP 0 | SP 0 | SP 0 | SP 0 | Uniquement x64 avec SP 0 |
| **Windows Embedded 8 Standard** (if all necessary operating system components exist). | Exécution impossible | SP 0 | SP 0 | SP 0 | SP 0 | SP 0 | Exécution impossible |
| **Windows 10** (Home, Pro, Enterprise, Education, Pro Education, Enterprise LTSB, Enterprise LTSC, IoT Enterprise, Pro for Workstations) | Uniquement x64 avec 1507 | 1507 | 1507 | 1507 | 1507 | 1507 | Uniquement Home, Pro et Enterprise (chacun x64) à |

| Système d'exploitation | zenon Editor | zenon Runtime | zenon Web Server | zenon Web Client | zenon HTML Web Engine | zenon Logic Runtime | zenon Analyzer Server |
|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  | partir de 1507 |

## 14.2 Système d'exploitation pour serveur

Systèmes d'exploitation de serveurs pris en charge et Service Pack/version Windows minimal requis :

| Système d'exploitation pour serveur | zenon Editor | zenon Runtime | zenon Web Server | zenon Web Client | zenon HTML Web Engine | zenon Logic Runtime | zenon Analyzer Server |
|---|---|---|---|---|---|---|---|
| **Windows Server 2008 R2** (Toutes éditions sauf Core) | Exécution impossible | SP 1 | SP 1 | SP 1 | SP 1 | SP 1 | Exécution impossible |
| **Windows Server 2012 et 2012 R2** (Toutes éditions sauf Core) | SP 0 | SP 0 | SP 0 | SP 0 | SP 0 | SP 0 | SP 0 |
| **Windows Server 2016** (Toutes les éditions sauf Core) | 10,0,14393 | 10,0,14393 | 10,0,14393 | 10,0,14393 | 10,0,14393 | 10,0,14393 | 10,0,14393 |
| **Windows Server 2019** (Toutes les éditions sauf Core) | 10,0,17763 | 10,0,17763 | 10,0,17763 | 10,0,17763 | 10,0,17763 | 10,0,17763 | 10,0,17763 |

## 14.3 Systèmes d'exploitation pour serveurs et ordinateurs de bureau jusqu'à Windows 8.1

Récapitulatif des systèmes d'exploitation pour serveurs et ordinateurs de bureau pris en charge jusqu'à Windows 8.1

| | Windows Embedded 7/8 Standard | Windows Embedded 8.1 Pro/Industry | Windows 7 SP1/Windows 8 et 8.1/ Server 2008 (R2) SP1, 2012 et 2012 R2 | Windows CE |
|---|---|---|---|---|
| **Editor** | -- | X | X | -- |
| **Runtime** | X | X | X | -- |
| **Runtime pour Windows CE** | -- | -- | -- | X |
| **Web Server** | X | X | X | X (Web Server Pro Light) |
| **Web Client** | X | X | X | -- |
| **HTML Web Engine** | X | X | X | -- |

**Légende :**

▶ **X** : pris en charge

▶ **--** : indisponible

> **⚠️ Attention**
>
> Windows CE n'est plus pris en charge à partir de la version 7.50. zenon CE version 7.20 est installé. Pour l'utiliser, vous devez créer les fichiers de Runtime pour la version 7.20.

## 14.4  Windows CE et Windows Embedded

Systèmes d'exploitation compatibles

| Système d'exploitation | zenon Editor | zenon Runtime | zenon Web Server | zenon Web Client | zenon HTML Web Engine | zenon Logic Runtime | zenon Analyzer Server |
|---|---|---|---|---|---|---|---|
| **Windows CE 6.0** (ARM et x86)<br><br>**Attention :** uniquement pris en charge jusqu'à la version 7.20.<br>À partir de la version 7.50, les fichiers de Runtime de la version 7.20 doivent être créés. | Exécution impossible | zenon Operator uniquement | Pro Light uniquement | Exécution impossible | Exécution impossible | exécutable | Exécution impossible |
| **Windows Embedded** Compact 7 (ARM et x86)<br><br>**Attention :** uniquement pris en charge jusqu'à la version 7.20. | Exécution impossible | zenon Operator uniquement | Pro Light uniquement | Exécution impossible | Exécution impossible | exécutable | Exécution impossible |

| Système d'exploitation | zenon Editor | zenon Runtime | zenon Web Server | zenon Web Client | zenon HTML Web Engine | zenon Logic Runtime | zenon Analyzer Server |
|---|---|---|---|---|---|---|---|
| À partir de la version 7.50, les fichiers de Runtime de la version 7.20 doivent être créés. | | | | | | | |

## 14.5  Windows 10

Récapitulatif des systèmes d'exploitation pour ordinateurs de bureau pris en charge pour Windows 10

| Version de Windows | zenon Supervisor / Operator | Everywhere by zenon | zenon Logic Runtime |
|---|---|---|---|
| Windows 10 Home | X | X (PC) | X |
| Windows 10 Mobile | -- | X (Mobile) | -- |
| Windows 10 Pro | X | X (PC) | X |
| Windows 10 Enterprise | X | X (PC) | X |
| Windows 10 Education | X | X (PC) | X |
| Windows 10 Mobile Enterprise | -- | X (Mobile) | -- |
| Windows 10 IoT Core | -- | -- | -- |
| Windows 10 IoT Enterprise (Windows 10 Enterprise LTSB) | X | X (PC) | X |
| Windows 10 Enterprise LTSC | X | X (PC) | X |

Légende :

▶ **X** : disponible

▶ **--** : Exécution impossible

## 14.6  Configuration système requise lors de l'utilisation de DirectX

La configuration minimale requise doit être satisfaite lors de l'utilisation de *périphériques DirectX* ou de *logiciels DirectX* :

**Remarque :** Pour des gros projets ou plusieurs projets chargés en même temps vous aurez besoin d'une configuration avec plus de capacité La configuration minimale requise peut augmenter en conséquence.

| Paramètre | Conditions requises | Recommandée |
|---|---|---|
| **CPU :** | Processeur simple cœur avec prise en charge de SSE2. | Processeur quadrimoteur cœurs ou plus |
| **Carte graphique :** | Carte graphique grand public | Carte graphique DirectX 11 haut de |

| Paramètre | Conditions requises | Recommandée |
|---|---|---|
| (périphérique DirectX uniquement) | compatible DirectX 11.<br><br>**Remarque :** Si un circuit graphique intégré à la carte-mère est utilisé, selon le driver utilisé, il est possible que la qualité d'affichage soit altérée. | gamme dédiée, processeur AMD ou nVidia |
| **Mémoire graphique :**<br><br>(périphérique DirectX uniquement) | 1 Go de VRAM<br><br>**Remarque :** La capacité effectivement requise dépend du nombre de synoptiques appelés et des éléments affichés. | 2 Go de VRAM |
| **Driver de carte graphique :**<br><br>(périphérique DirectX uniquement) | Les derniers drivers publiés par le fabricant de la carte graphique. | |
| **Système d'exploitation :** | Les options *DirectX Hardware* et *DirectX Software* sont uniquement compatibles avec les systèmes d'exploitation prenant en charge *DirectX11.1*.<br><br>Si le système n'est pas compatible avec *DirectX 11.1*, le mode *Windows Enhanced* (Windows optimisé) est sélectionné automatiquement.<br><br>Le programme *DirectX*-Runtime le plus récent doit être installé. Pour zenon, il est installé lors de l'installation du programme. Pour zenon Web Client, il doit être installé manuellement. | |

Vous pouvez vérifier la compatibilité matérielle DirectX de la carte graphique et du driver à l'aide de l'outil **dxdiag.exe** du système d'exploitation Windows.

Jusqu'à Windows 7: Contrôlez la valeur **Version DDI** sous l'intitulé **Affichage**. La valeur *11* désigne DirectX 11, par exemple.

À partir de Windows 8 : Toutes les versions prises en charge de DirectX sont présentées dans l'onglet **Affichage**, sous **Niveaux de fonctionnalités**. Par exemple, DirectX 11 est affiché comme *11.0*.

## 14.7 Logiciels supplémentaires

### SERVEUR SQL

zenon Editor utilise une base de données SQL. Ce logiciel est également installé lors de l'installation de zenon.

▶ Y compris jusqu'à la version 6.20 SP4 : **SQL Server 2000 (MSDE)**

▶ À partir de la version 6.21 SP0 : **SQL Server 2005 Express**

▶ À partir de la version 7.00 SP0 : **SQL Server 2008R2 SP1 Express**

▶ À partir de la version 7.10 SP0 : **SQL Server 2012 SP1 Express**

▶ À partir de la version 7.20 SP0 : **SQL Server 2012 SP2 Express**

▶ À partir de la version 7.50 SP0 : **SQL Server 2012 SP3 Express**

▶ À partir de la version 7.10 SP0 : **SQL Server 2012 SP3 Express**

▶ À partir de la version 7.10 SP0 : **SQL Server 2012 SP3 Express**

▶ À partir de la version 7.10 SP0 : **SQL Server 2017 Express**

> **⚠Attention**
>
> Lors du changement de version ou de l'installation d'une mise à jour du Service
> Pack, veuillez noter le serveur SQL : Les projets doivent être sauvegardés et
> exportés dans leur version d'origine, puis réimportés dans la nouvelle version.
>
> **Remarque :** Si une version de zenon ayant la même version de SQL Server
> mais un autre Service Pack déjà présent, ce Service Pack ne sera pas mis à jour
> lors de la nouvelle installation de zenon. La mise à jour du Service Pack peut
> être installée manuellement ou à l'aide de mises à jour de Windows.

**MOTS DE PASSE POUR UTILISATEUR SA**

Durant l'installation, un mot de passe aléatoire est créé pour l'utilisateur *SA* sur le SQL Server et utilisé.
Il peut également être remplacé par un mot de passe individuel. Pour ce faire, un mot de passe
individuel doit être créé durant l'installation silencieuse (à la page 19) avec l'argument
**CDPROP_SQLADMINPASSWORD=**.

**DONGLE**

▶ Le logiciel CodeMeter indispensable à la protection par dongle est toujours installé
automatiquement.

▶ Le logiciel WibuKey est disponible sur le support d'installation dans le chemin :
*...\AdditionalSoftware\WIBU-SYSTEMS CodeMeter Runtime Kit*

## 14.8 Autorisation utilisateur

Des droits d'administrateur Windows sont nécessaires pour l'installation.

Les droits d'utilisateur Windows standard sont requis pour garantir la continuité du fonctionnement.
Le contrôle de compte utilisateur (UAC) peut être activé au niveau de sécurité le plus élevé.

# 14.9 Configuration matérielle requise

Les versions PC et CE de zenon possèdent différentes exigences au regard des périphériques requis. Dans ce chapitre, vous trouverez les configurations matérielles requises pour chaque version d'Editor et du Runtime, ainsi que pour le serveur Web de zenon et le client Web de zenon

Editor utilise un Microsoft SQL Server en tant que serveur SQL et possède des exigences matérielles supérieures à celles du Runtime. Si Editor et le Runtime doivent s'exécuter simultanément sur un même système, les exigences matérielles s'ajoutent logiquement.

> **⚠Attention**
>
> Il est recommandé d'utiliser une carte graphique dotée d'une mémoire graphique et d'une prise en charge de DirectX indépendantes. Les cartes graphiques utilisant une mémoire partagée peuvent nécessiter une trop grande quantité de mémoire de travail et peuvent donc entraîner une baisse des performances. Tenez compte des indications du chapitre Configuration système requise lors de l'utilisation de DirectX (à la page 39). La configuration recommandée mentionnée dans ce chapitre doit être prise en compte en cas d'utilisation de gestes MultiTouch.

**OPTIMISATION DES PERFORMANCES**

Veuillez noter que toutes les informations indiquées ne constituent que la configuration minimale requise pour votre système. Un meilleur équipement matériel améliore considérablement les performances de zenon.

▸ Équipez votre matériel - les clients et surtout le serveur - d'une mémoire suffisante (RAM).

▸ Optimisez le matériel pour la sauvegarde des données, par exemple avec un stockage de données SSD rapide.

▸ Faites correspondre le matériel des clients avec le réseau. Un système n'est aussi puissant que son composant le plus faible.

▸ Optimisez votre architecture réseau, par exemple avec l'utilisation d'un câblage à haut débit de transfert de données et des appareils correspondants (commutateurs et routeurs).

▸ Lors de l'utilisation d'un environnement virtuel, assurez-vous que le système virtuel est configuré en conséquence avec une optimisation des performances.

## 14.9.1 Editor

La configuration minimale requise présentée ci-dessous repose sur une installation complète d'Editor.Pour des gros projets ou plusieurs projets chargés en même temps vous aurez besoin d'une configuration avec plus de capacité La configuration minimale requise peut augmenter en conséquence.

| Matériel | Conditions requises | Recommandée |
|---|---|---|
| **Processeur** | Processeur simple cœur avec prise en charge de SSE2. | Processeur quadrimoteur |
| **Mémoire** | plus de 1024 Go.<br><br>**Remarque :** plus le nombre de projets disponibles simultanément en mémoire est élevé, plus la quantité de mémoire disponible doit être importante. | 8 Go |
| **Disque dur** | Au moins 13 Go d'espace disque pour une installation complète, plus l'espace disque nécessaire aux projets. | |
| **Résolution du moniteur** | VGA étendu, 1024 x 768 pixels.<br><br>**Attention :** Certains boîtes de dialogue, par exemple le filtre de l'image **AML**/**CEL**, sont difficiles à utiliser ou peut-être inutilisables à une hauteur inférieure à 850 pixels. | Configuration à double écran :<br>2 fois *1920 x 1080*. |
| **Carte graphique** | 64 Mo de mémoire dédiée. Les cartes graphiques utilisant une mémoire partagée peuvent entraîner une baisse des performances. Tenez compte des indications du chapitre Configuration système requise lors de l'utilisation de DirectX (à la page 39). | |
| **Périphériques d'entrée** | Clavier standard ou souris standard. | |
| **Interface USB ou lecteur DVD** | Pour l'installation, indépendamment du support d'installation.<br><br>L'installation peut également être effectuée via le réseau. Les fichiers d'installation peuvent également être téléchargés depuis l'espace client du site Web de COPA-DATA. | |
| **Port USB ou parallèle** | Nécessaire pour brancher le dongle en cas d'utilisation d'une licence par dongle. En cas d'utilisation d'un dongle réseau, uniquement nécessaire sur le serveur de dongle. | |
| **Connexion réseau (facultative)** | Recommandée : 10 Mbit/s avec protocole TCP/IP pour le module Remote Transport, le | 1000 Mbit/s. |

| Matériel | Conditions requises | Recommandée |
|---|---|---|
| | dongle réseau, les sauvegardes de projets sur un serveur de fichiers central, un éditeur compatible avec les projets multi-utilisateurs etc. | |

**Remarque :** Lors de l'utilisation de projets multi-utilisateurs exhaustifs, tenez compte des informations fournies au chapitre Configuration matérielle requise.

## 14.9.2 Runtime

La configuration minimale requise présentée ci-dessous repose sur une installation complète du Runtime. Pour des gros projets ou plusieurs projets chargés en même temps vous aurez besoin d'une configuration avec plus de capacité La configuration minimale requise peut augmenter en conséquence.

| Matériel | Conditions requises | Recommandée |
|---|---|---|
| **Processeur** | Processeur simple cœur avec prise en charge de SSE2. | Processeur quadrimoteur |
| **Mémoire vive (RAM)** | Plus de 512 Mo.<br><br>**Remarque :** l'exécution de projets utilisant de grandes quantités de données, de projets en réseau, de plusieurs projets simultanément et de projets en mode redondant nécessitent davantage de mémoire. | 4096 Mo. |
| **Disque dur** | 2 Go d'espace disque pour l'installation du Runtime, ainsi que l'espace nécessaire aux projets.<br><br>**Attention :** Si vous consignez les données historiques (par ex. les données archivées ou les données de la liste d'alarmes ou de laliste d'événements), vous devez disposer de suffisamment d'espace disque ou devez vous assurer, durant le développement du projet, que les données historiques sont évacuées ou supprimées. | |
| **Résolution du moniteur** | 1024 x 768.<br>Veuillez noter également les informations situées dans le message d'informations sous le tableau. | |

| Matériel | Conditions requises | Recommandée |
|---|---|---|
| **Carte graphique** | 64 Mo de mémoire dédiée. Les cartes graphiques utilisant une mémoire partagée peuvent entraîner une baisse des performances. Tenez compte des indications du chapitre Configuration système requise lors de l'utilisation de DirectX (à la page 39) à cet égard. | |
| **Périphériques d'entrée** | Clavier et/ou souris. Le système peut également être actionné via un écran tactile. De nombreux claviers logiciels personnalisables sont disponibles à cette fin. En outre, le fonctionnement MultiTouch est possible. | |
| **Interface USB**<br><br>**(optionnel)** | ▸ Pour l'installation. L'installation peut également être effectuée via le réseau ou depuis un support de stockage.<br><br>▸ Pour le dongle. Dongle réseau aussi disponible. | |
| **Connexion réseau (facultative)** | 64 kbits/s pour les projets client/serveur standard.<br><br>100 Mbit/s full duplex pour le fonctionnement en mode redondant. | 1000 kbits/s full duplex pour les projets client/serveur standard. |
| **Connexion distante (facultative)** | Configuration minimale requise : modem analogique doté d'un débit de 9600 Bit/s. | 1 Mbit/s full duplex. |
| **Connexion WAN (optionnel)** | Toute connexion via un routeur, par ex. une connexion RNIS ou ADSL ; pour des raisons techniques, les transferts de données via un réseau étendu sont plus lents que les transferts via un réseau local. Assurez-vous de contrôler les taux de transferts de données possibles de votre technologie de réseau étendu lors de la création du projet. | |
| **Message Control (optionnel) :** | Reportez-vous au chapitre Message Control pour consulter la configuration requise pour ce module. | |
| **Interfaces** | Les interfaces requises dépendent des | |

| Matériel | Conditions requises | Recommandée |
|----------|---------------------|-------------|
| **(optionnel)** | exigences de la connexion à l'automate et/ou au bus ; par exemple, interfaces série RS232 ou RS422/485, emplacements ISA/PCI, etc. | |

### 💡Informations

La résolution minimum recommandée dans le Runtime est 1024 x 768 pixels. Des résolutions inférieures peuvent également être configurées. Toutefois, il peut alors parfois être impossible d'utiliser certaines boîtes de dialogue en ligne. Si elles ne sont pas utilisées, une résolution inférieure peut être sélectionnée.

## 14.9.3 Runtime sous Windows Embedded Standard

La configuration minimale concerne une installation du Runtime adaptée au système d'exploitation Windows Embedded Standard 7 SP1 avec mises à jour de la plate-forme. Le matériel employé doit être plus puissant pour les projets plus importants.

Ce tableau présente uniquement les conditions requises différentes de l'installation standard. Les autres paramètres correspondent aux valeurs indiquées au chapitre Configuration matérielle requise pour le Runtime (à la page 44).

| Matériel | Configuration minimale requise | Recommandée |
|----------|-------------------------------|-------------|
| **Mémoire** | ▸ 512 Mo<br><br>**Remarque :** l'exécution de projets utilisant de grandes quantités de données, de projets en réseau, de plusieurs projets simultanément et de projets en mode redondant nécessitent davantage de mémoire. | ▸ 2048 Mo |
| **Support de stockage** | ▸ 2 Go de mémoire disponible sur le lecteur C:\ avant l'installation de .NET Framework.<br>800 Mo de mémoire disponible après l'installation de .NET Framework<br><br>▸ Vous avez également besoin d'espace pour les projets, archives, etc. | ▸ 80 Go |

**Attention :** Si vous consignez les données historiques (par ex. les données archivées ou les données de la liste d'alarmes ou de laliste d'événements), vous devez disposer de suffisamment d'espace

disque ou devez vous assurer, durant le développement du projet, que les données historiques sont évacuées ou supprimées.

## 14.9.4 Runtime pour Windows CE

La configuration minimale requise présentée ci-dessous repose sur une installation complète du Runtime sous Windows CE. Le matériel employé doit être plus puissant pour les projets plus importants.

| Matériel | Configuration minimale requise | Recommandée |
|---|---|---|
| Processeur | Au moins 400 MHz. | 1 GHz |
| Mémoire vive (RAM) | 64 Mo | 1024 Mo pour Windows CE 6.0. |
| Support de stockage | 64 Mo d'espace disque. <br><br> Support de stockage enregistrable permanent pour les données du projet. | 256 Mo d'espace disque ou plus. |
| Connexion réseau | Pour les projets client/serveur standard : 10 Mbit/s full duplex. | |

### ⚠Attention

Windows CE n'est plus pris en charge à partir de la version 7.50. zenon CE version 7.20 est installé. Pour l'utiliser, vous devez créer les fichiers de Runtime pour la version 7.20.

## 14.9.5 Web Server

La configuration minimale requise présentée ci-dessous repose sur une installation complète du module Web Server. Pour des gros projets ou plusieurs projets chargés en même temps vous aurez besoin d'une configuration avec plus de capacité La configuration minimale requise peut augmenter en conséquence.

| Matériel | Conditions requises | Recommandée |
|---|---|---|
| Processeur | Processeur simple cœur avec prise en charge de SSE2. | |
| Mémoire vive | Plus de 1024 Mo. | |

| Matériel | Conditions requises | Recommandée |
|---|---|---|
| (RAM) | | |
| **Disque dur** | 256 Mo d'espace disque. | 1 Go d'espace disque. |
| **Connexion réseau** | 10 Mbit/s full duplex. | 1000 Mbit/s full duplex. |
| **Connexion distante (facultative)** | Configuration minimale requise : modem analogique doté d'un débit de 9600 Bit/s. | 1 Mbit/s full duplex. |

## 14.9.6 Web Client

La configuration minimale requise repose sur une installation complète du client Web de zenon. Pour des gros projets ou plusieurs projets chargés en même temps vous aurez besoin d'une configuration avec plus de capacité La configuration minimale requise peut augmenter en conséquence.

| Matériel | Conditions requises | Recommandée |
|---|---|---|
| **Processeur** | Processeur simple cœur avec prise en charge de SSE2. | Processeur quadrimoteur |
| **Mémoire vive (RAM)** | Plus de 1024 Mo. | |
| **Disque dur** | 64 Mo d'espace disque pour l'installation du client Web de zenon, ainsi que l'espace nécessaire aux projets. | 80 Go d'espace disque. |
| **Connexion réseau** | 10 Mbit/s full duplex. | 1000 Mbit/s full duplex. |
| **Connexion distante (facultative)** | Configuration minimale requise : modem analogique doté d'un débit de 9600 Bit/s. | 1 Mbit/s full duplex. |
| **Carte graphique** | 64 Mo de mémoire dédiée. Les cartes graphiques utilisant une mémoire partagée peuvent entraîner une baisse des performances. Tenez compte des indications du chapitre Configuration système requise lors de l'utilisation de DirectX (à la page 39) à cet égard. | |

# 15 Chemins d'installation et de fonctionnement

Chemins de zenon :

▶ Installation

▶ Editor

▶ Runtime

> ### Informations concernant 💡
>
> Vous pouvez afficher de nombreux chemins par défaut à l'aide de la commande **set** :
>
> ▶ Démarrez l'interface de ligne de commande (saisissez **cmd** dans le menu Démarrer de Windows)
>
> ▶ Saisissez la commande **set**
>
> ▶ En appuyant sur la touche **Entrée**, le dossier par défaut pour Windows et zenon s'affiche.

**Remarque :** puisque les chemins absolus diffèrent selon les systèmes d'exploitation, les chemins sont présentés sous forme de variable d'environnement dans ce chapitre. Par exemple, *%ProgramData%* au lieu de *C:\ProgramData*.

## INSTALLATION

Lors de l'installation, les chemins sont définis pour les éléments suivants :

▶ zenon Editor

▶ Dossier SQL de zenon

Seuls les chemins de zenon Editor et du dossier SQL de zenon peuvent être personnalisés. Le programme d'installation nécessite également des droits d'administrateur. Cela s'applique également à la modification des chemins d'installation.

### CONDITIONS REQUISES

Les chemins d'installation des logiciels tierce partie requis correspondent aux chemins standard définis par le fabricant correspondant et ne peuvent pas être modifiés durant l'installation.

Les packages logiciels supplémentaires devant être installés dépendent du type d'installation :

▶ zenon Editor

- zenon Runtime
- zenon Web Client
- zenon Logic Runtime

| Conditions requises | Editor | Runtime | Web Client | zenon Logic Runtime |
|---|---|---|---|---|
| Microsoft .NET Framework 4.6.2 | + | + | + | -- |
| Microsoft .Net Core Runtime 2.1.5 | -- | + | -- | -- |
| Microsoft SQL Server 2017 Express (x64) | + | -- | -- | -- |
| Microsoft Visual C++ 2010 Redistributable | + | + | + | + |
| Microsoft Visual C++ 2013 Redistributable | + | + | -- | -- |
| Microsoft Visual C++ 2017 Redistributable | + | + | + | + |
| Microsoft .NET Core Hosting Bundle 2.1.5 | -- | -- | -- | -- |
| CodeMeter Runtime Kit 6.80 | + | + | -- | + |
| Microsoft Visual Studio 2008 Remote Debugger | + | + | -- | -- |
| Microsoft Web Deploy 3.6 | -- | -- | -- | -- |
| Visual Basic for Applications \| VBA 7.1 | + | + | + | -- |
| Visual Basic for Applications Language Pack \| VBA 7.1 | + | + | + | -- |
| COPA-DATA Multiple Network Protocol Driver | + | + | -- | + |

**Remarque :** **Microsoft Visual Studio Tools for Applications** (VSTA 2.0) n'est pas requis et n'est pas installé durant la configuration. Il peut être installé séparément à l'aide du **Startup Tool**. Le système doit disposer du fichier **VSTA_AddOn.exe**.

**ZENON**

L'installation de zenon Editor nécessite deux chemins :

- zenon Éditeur :
  - Systèmes 32 bits : %ProgramFiles(x86)%\COPA-DATA\zenon [Version]
  - Systèmes 64 bits : %ProgramFiles%\COPA-DATA\zenon [Version]

Ces chemins peuvent être personnalisés durant l'installation.

▸ Dossier SQL de zenon :

▸ À partir de la version 8.10 : %ProgramData%\COPA-DATA\SQL2017\

Ces chemins peuvent être personnalisés manuellement par le biais du fichier zenDB.ini.

## ZENON EDITOR

Dans zenon Editor, les chemins suivants sont utilisés par défaut :

| Objet | Chemin |
| --- | --- |
| Espace de travail | *%CD_USERDATA%*<br><br>Par exemple : *C:\Users\Public\Documents\zenon_Projects* |
| Projets | *%CD_USERDATA%*<br><br>Par exemple : *C:\Users\Public\Documents\zenon_Projects*<br><br>**Raccourci-clavier conseillé :** sélectionnez le projet -> **Ctrl+Alt+D** |
| Dossier SQL du projet | *%ProgramData%\COPA-DATA\[SQL-Ordner]\[UID]\FILES*<br><br>**Raccourci-clavier conseillé** : sélectionnez le projet -> **Ctrl+Alt+E** |
| project.ini | *%ProgramData%\COPA-DATA\[SQL folder]\[UID]\FILES\zenon\system* |
| zenon6.ini | *%ProgramData%\COPA-DATA\System*<br><br>Par exemple : *C:\ProgramData\COPA-DATA\System* |
| Sauvegarde | *%ProgramData%\COPA-DATA\[SQL folder]\UID]\BACKUP*<br><br>*%ProgramData%\COPA-DATA\[SQL folder\UID]\FILES\[Projekte]* |
| Fichiers compilés | *%CD_USERDATA%\[Workspace]\[Projekt]\RT* |
| Fichiers externes | *%CD_USERDATA%\[Workspace]\[Projekt]\RT\FILES\...*<br><br>**Remarque :** Ces paramètres peuvent être configurés dans le projet, via la propriété de stockage de fichiers. |
| Fichiers système | Dossier système de Windows. |

## ZENON RUNTIME

Dans zenon Runtime, les chemins suivants sont utilisés par défaut :

| Objet | Chemin |
|---|---|
| **Projets** | *%CD_USERDATA%\[Workspace]\[Projekt]\RT* |
| **Fichiers externes** | *%CD_USERDATA%\[Workspace]\[Projekt]\RT\FILES\...* |
| **Archives exportées, liste chronologique d'événements et liste d'alarmes** | *%CD_USERDATA%\[Workspace]\[Projekt]\Export*<br><br>**Remarque :** dossier créé lors de la première exportation. |
| **Fichiers système** | Dossier système de Windows. |

### ZENON LOGIC

Les chemins de zenon Logic sont créés en fonction des chemins de zenon.

# 16 zenon pour Windows CE

### COMPOSANTS

La version CE du Runtime de zenon comprend les composants suivants :

- ▶ Runtime CE de zenon
- ▶ DLL de langue
- ▶ DLL de réseau
- ▶ DLL de driver
- ▶ zenon6.ini
- ▶ Service de transfert.

> **⚠Attention**
>
> Windows CE n'est plus pris en charge à partir de la version 7.50. zenon CE version 7.20 est installé. Pour l'utiliser, vous devez créer les fichiers de Runtime pour la version 7.20.

## ÉLÉMENTS REQUIS POUR L'INSTALLATION DU RUNTIME SUR LES SYSTÈMES DISTANTS

▶ Le service de transport (**SysSrvCE.exe**) de zenon doit être installé et démarré sur le terminal CE, ou vous devez disposer d'une connexion ActiveSync. Vous trouverez des conseils relatifs à l'installation manuelle via un support de stockage au chapitre Installation manuelle et mise à jour du Runtime (à la page 62).

▶ Le terminal CE vers lequel seront transférées les données doit comporter au moins 8 Mo de "mémoire programme" disponible, afin de garantir le bon transfert des données. Ce paramètre peut être adapté via le Panneau de configuration -> **Propriétés du système**.

### SUITE DES ACTIONS

Vous trouverez plus de détails concernant la compatibilité, l'installation et la mise à jour aux chapitres suivants :

▶ Versions CE / processeurs pris en charge

▶ Mise à jour du Runtime Windows CE

---

### Informations concernant 💡

Si, au démarrage du programme **zenonrce.exe**, le fichier **syssrvce.exe** est également exécuté, il est possible d'assurer qu'une connexion TCP peut être établie à tout instant. Ainsi, un seul fichier est nécessaire pour la fonction de démarrage automatique. Toutefois, un délai entre les deux démarrages doit être configuré.

**Raison :** Au démarrage de **zenonRCE**, **zenLogSrvCE** démarre également automatiquement. Toutefois, au démarrage de **syssrvce**, **zenLogSrvCE** est également exécuté.

Si **zenonRCE** et **syssrvce** sont démarrés dans un intervalle très réduit, tous deux tentent de démarrer **zenLogSrvCE**. Ceci génère un message d'erreur.

**Solution :** Pour éviter ce problème, configurez un délai entre le démarrage de **zenonRCE** et de **zenLogSrvCE**. Pour cela, vous pouvez définir l'entrée **STARTDELAY=** dans le fichier **zenon6.ini**. Le Runtime (**zenLogSrvCE**) est ainsi démarré plus tard. Une vérification est ensuite effectuée pour déterminer si **zenLogSrvCE** est déjà en cours d'exécution, en quel cas, il ne redémarre pas.

## 16.1  CE - Versions et processeurs pris en charge

Dans la version 7.20 de zenon, les versions de Windows CE et les processeurs suivants sont pris en charge :

**Processeurs :**

- ▶ x86
- ▶ ARM V4/V5

**Versions CE :**

- ▶ CE 6.00
- ▶ Windows Embedded Compact 7

Vous trouverez des informations concernant les versions de CE et les processeurs pris en charge par les versions antérieures de zenon dans la documentation correspondante ; vous pouvez également contacter l'assistance de COPA-DATA.

> **⚠Attention**
>
> Windows CE n'est plus pris en charge à partir de la version 7.50. zenon CE version 7.20 est installé. Pour l'utiliser, vous devez créer les fichiers de Runtime pour la version 7.20.

## 16.2  Fichiers système

Le Runtime Windows CE a besoin de certains fichiers système. Si un de ces fichiers est manquant, le système affiche un message d'erreur au démarrage du Runtime, indiquant qu'un ou plusieurs composants n'ont pas été trouvés. Les fichiers système suivants sont requis :

| Fichier | Description |
|---|---|
| **mfc90u.dll** | Nécessaire au Runtime. Au démarrage, un message d'erreur apparaît si ce fichier n'existe pas. |
| **msvcr90.dll** | Nécessaire au Runtime. Au démarrage, un message d'erreur apparaît si ce fichier n'existe pas. |
| **atl90.dll** | Non nécessaire pour démarrer le Runtime, mais requis pour utiliser les drivers avec des connexions réseau et pour utiliser zenon sur un réseau. Si ce fichier n'existe pas, la plate-forme ne fonctionnera pas en tant que client ou les connexions de driver TCP/IP ne fonctionneront pas. |
| **IMGDECMP.dll** | Pas nécessaire pour démarrer le Runtime, mais nécessaire pour afficher |

| Fichier | Description |
|---|---|
| | la transparence si la fonction Alpha Blending n'est pas intégrée au système d'exploitation. L'animation de fichiers GIF n'est pas possible sous Windows CE. |
| VBSCRIPT.dll + JSCRIPT.dll | Pas nécessaire au démarrage du Runtime. Ce fichier est nécessaire pour PCE (Process Control Engine) |

Certains de ces fichiers système sont installés lors de l'installation de zenon pour CE et peuvent être transférés vers le périphérique CE à l'aide de l'outil **UpdateCE**. Tous ces fichiers système devraient être intégrés à l'image du système d'exploitation du périphérique CE par le fabricant.

> ⚠ **Attention !**
>
> Pour les fournisseurs d'images du système d'exploitation Windows CE :
> Les versions de CE antérieures à la version 6.0 nécessitent le fichier **toolhelp.dll**.
> Activez l'option suivante dans **Platform Manager**pour que le fichier soit disponible sur le périphérique CE, et que Toolhelp soit disponible dans l'application SDK :
> **Core OS -> Display Based Device ->Core OS Services -> Debugging Tools -> *Toolhelp API***. Ainsi, le fichier *Toolhelp.dll* fait partie de l'image.
> **Conseil :** Utilisez toujours la dernière version en date du Service Pack du module **Platform Builder**.
>
> **Remarque :** Le fichier **toolhelp.dll** n'est pas nécessaire sous Windows CE 6, et ne doit pas être utilisé avec ce système d'exploitation.

## 16.3 Mise à jour du Runtime Windows CE

Pour effectuer une mise à jour du Runtime Windows CE :

▸ Assurez-vous que le service de transport de zenon (**SysSrvCE.exe**) s'exécute sur le périphérique CE.

▸ Assurez-vous de ne pas avoir établi une connexion à distance avec le périphérique via zenon Editor.

▸ Dans le menu **Options** de zenon, sélectionnez la commande **Mise à jour du Runtime de Windows CE**.

La boîte de dialogue de transfert des fichiers de Runtime s'affiche à l'écran.

▸ Configurez la connexion.

▸ Définissez les données que vous souhaitez transférer.

▸ Sélectionnez la version de votre choix.

▶     Démarrez la mise à jour.

**Remarque :** Si vous transférez/installez le Runtime pour la première fois, notez les informations fournies au chapitre **Installation et mise à jour manuelles du Runtime** (à la page 62).

## CONFIGUREZ LA CONNEXION.

Vous pouvez configurer les connexions au périphérique Windows CE dans l'onglet **Connexion**.
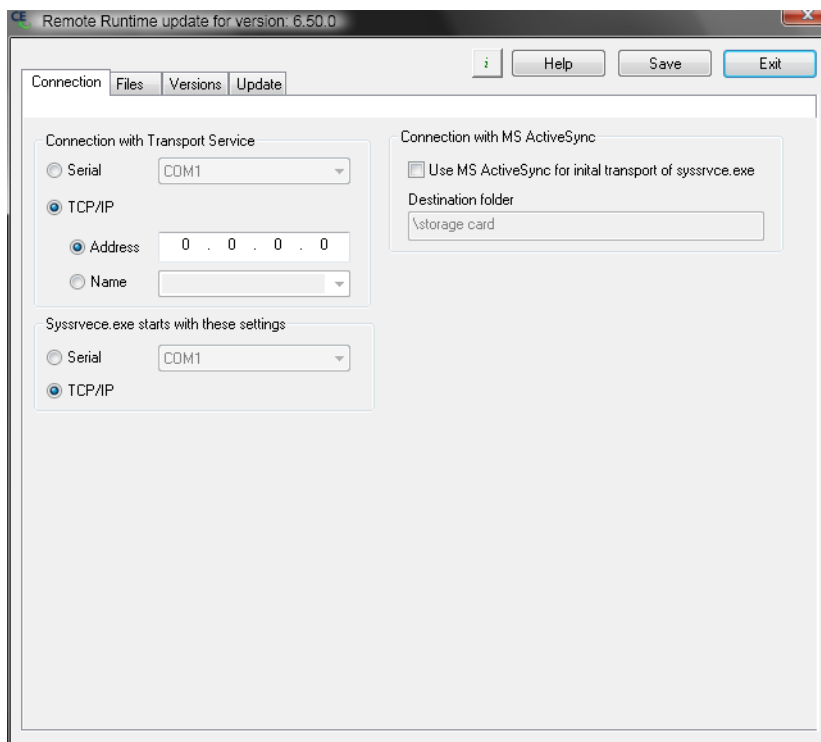


| Paramètre | Description |
|---|---|
| **Serial** | Paramètres de connexion série avec le périphérique Windows CE ; sélectionnez un port. |
| **TCP/IP** | Paramètres de connexion TCP/IP au périphérique Windows CE. |
| **Adress** | Adresse IP |
| **Name** | Nom de l'ordinateur |
| **Syssrvce.exe starts with these settings** | Paramètres de démarrage de **syssrvce.exe**. |
| **Serial** | *Actif* : connexion série sélectionnée ; vous devez sélectionner le port. |
| **TCP/IP** | *Active* : Connexion TCP/IP sélectionnée. |

| Paramètre | Description |
|---|---|
| **Connection with MS ActiveSync** | Paramètres de la connexion via MS ActiveSync |
| **Use MS ActiveSync for initial transport of syssrvce.exe** | Actif : syssrvce.exe est transféré durant le premier transport via MS ActiveSync. |
| **Destination folder** | Dossier cible. |
| **Help** | Ouvre l'aide en ligne |
| **Save** | Enregistre toutes les modifications. |
| **Exit** | Ferme l'outil UpdateCE et affiche un message vous invitant à enregistrer les modifications non sauvegardées. |

## DÉFINISSEZ LES FICHIERS QUE VOUS SOUHAITEZ TRANSFÉRER.
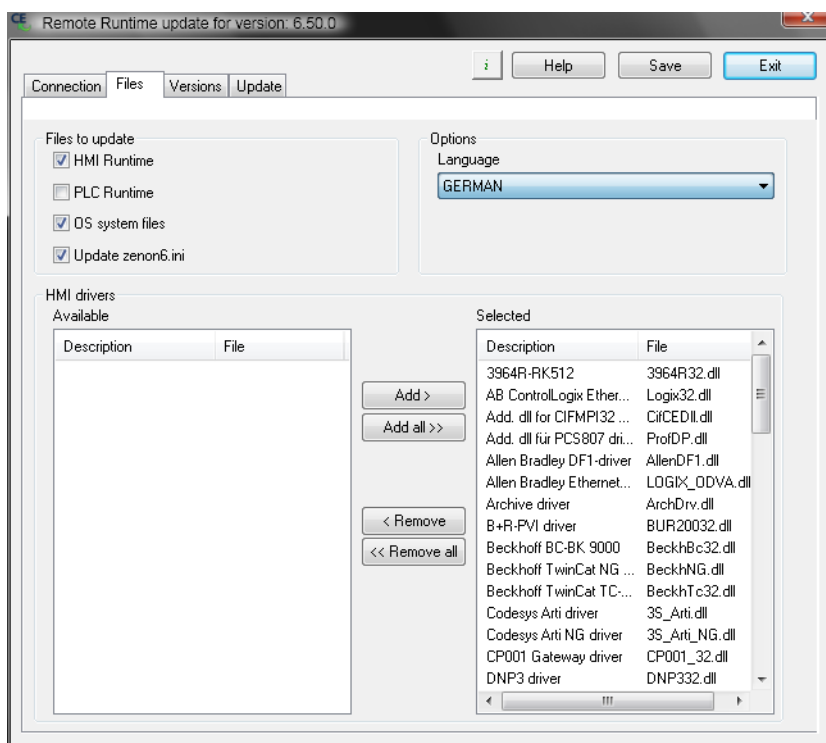


| Paramètre | Description |
|---|---|
| **Files to update** | Fichiers à transférer. |
| **HMI Runtime** | *Active* : Transfère les fichiers zenon vers le périphérique cible.<br><br>Par défaut : *active* |

| Paramètre | Description |
| --- | --- |
| PLC Runtime | *Active* : Transfère les fichiers zenon Logic vers le périphérique cible.<br><br>Par défaut : *inactive* |
| OS system files | *Active* : Transfère les fichiers nécessaires au système d'exploitation.<br><br>Par défaut : *active* |
| Update zenon6.ini | Transfère le fichier zenon6.ini vers le terminal cible. Ceci permet également de modifier les informations concernant la licence du périphérique cible. |
| Options | |
| Language | Langue du système cible.<br><br>Par défaut : *Anglais* |
| HMI drivers | Sélectionnez les drivers HMI que vous souhaitez transférer. |
| Available | Liste de drivers disponibles. |
| Selected | Liste des drivers sélectionnés. |
| Add | Ajoute les drivers choisis à la liste des drivers sélectionnés. |
| Add all | Ajoute tous les drivers à la liste des drivers sélectionnés. |
| Remove | Supprime les drivers sélectionnés de la liste des drivers sélectionnés. |
| Remove all | Supprime tous les drivers de la liste des drivers sélectionnés. |
| Help | Ouvre l'aide en ligne |
| Save | Enregistre toutes les modifications. |
| Exit | Ferme l'outil UpdateCE et affiche un message vous invitant à enregistrer les modifications non sauvegardées. |

## SÉLECTIONNEZ LA VERSION

Sélectionnez la version adéquate dans l'onglet **Versions**, si celle-ci n'a pas été automatiquement reconnue.
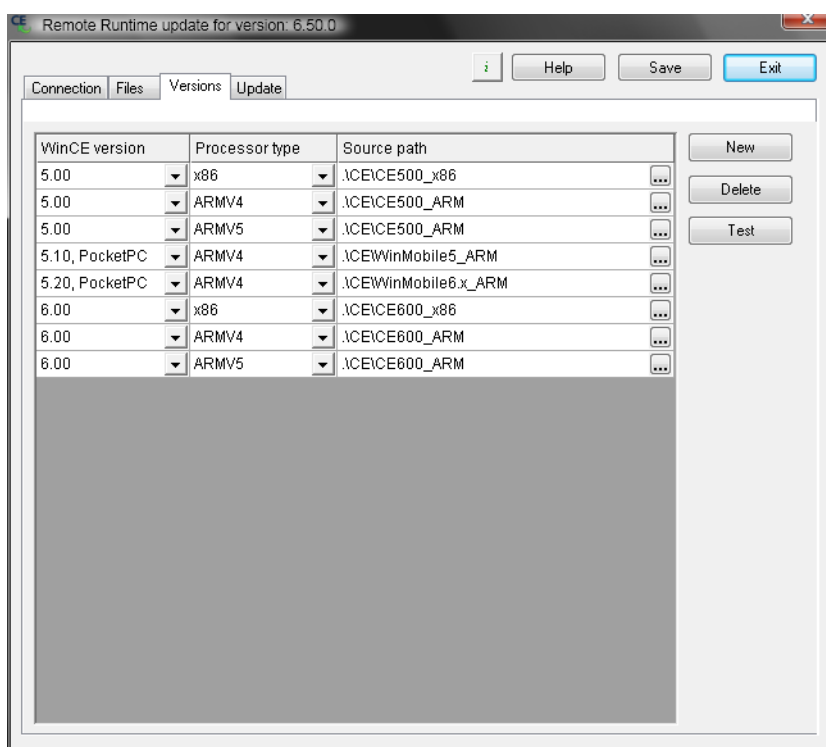


| Paramètre | Description |
|---|---|
| **WinCE version** | Version du système d'exploitation Windows CE installé sur le périphérique cible. Cliquez sur le type de fonction pour ouvrir une liste déroulante de sélection. |
| **Processor type** | Processeur de l'équipement. |
| **Source path** | Chemin du dossier contenant les fichiers. Cliquez sur le bouton ... pour ouvrir une boîte de dialogue permettant de sélectionner un dossier. |
| **New** | Insère une nouvelle entrée vide dans la liste. |
| **Delete** | Supprime l'entrée sélectionnée de la liste. |
| **Test** | Contrôle les paramètres. |
| **Help** | Ouvre l'aide en ligne |
| **Save** | Enregistre toutes les modifications. |
| **Exit** | Ferme l'outil UpdateCE et affiche un message vous invitant à |

| Paramètre | Description |
|---|---|
| | enregistrer les modifications non sauvegardées. |

## DÉMARRER LA MISE À JOUR

Pour établir une connexion :

1. Cliquez sur le bouton **Démarrer** de l'onglet **Mise à jour**.
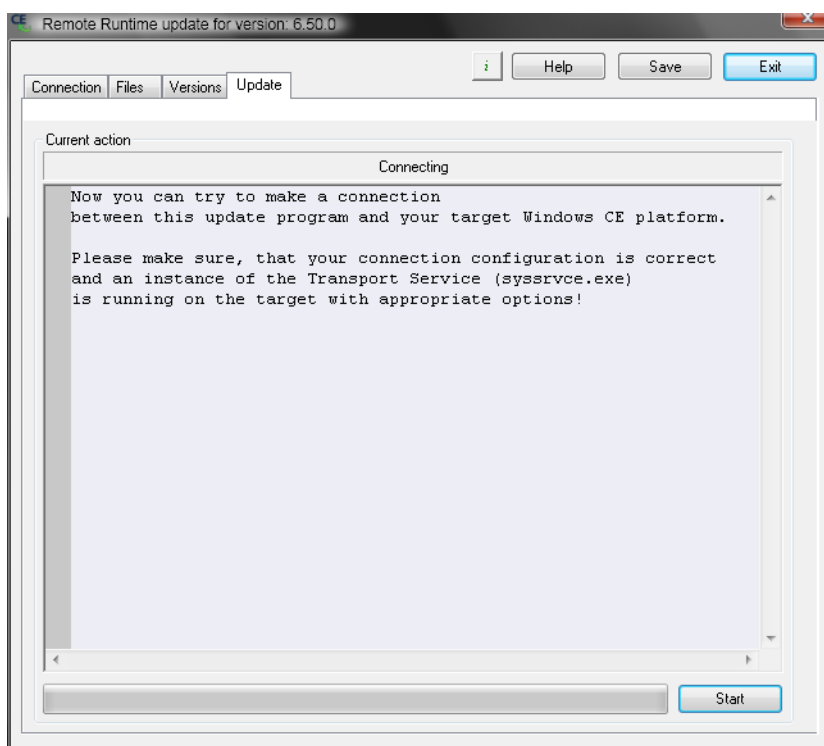


Les données transférées sont contrôlées et affichées dans une fenêtre.

2. Démarrez le transfert vers le périphérique cible en cliquant sur le bouton **Suivant**.
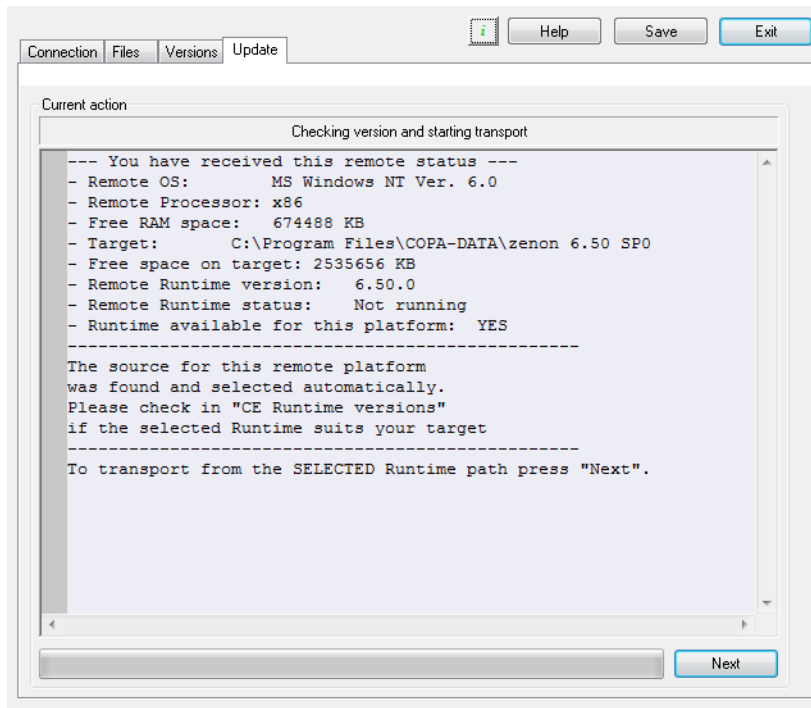


Si le transfert ne peut pas démarrer parce que certains fichiers sont manquants, un message d'erreur contenant la liste des fichiers manquants s'affiche à l'écran :
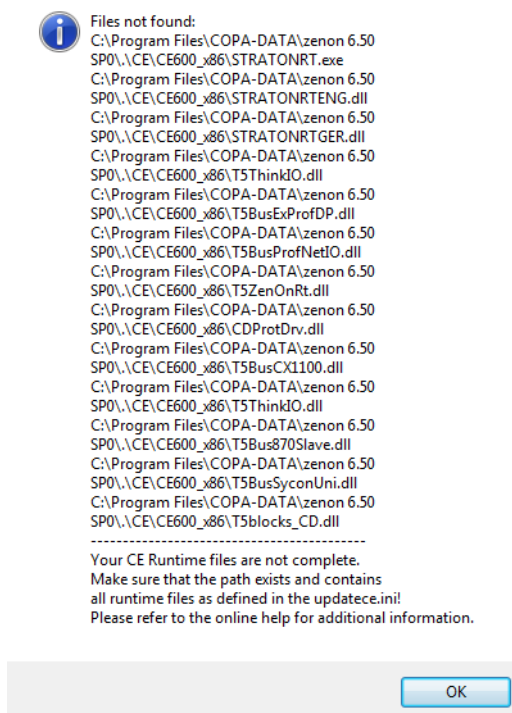


Si vous voyez s'afficher le message d'erreur **La mise à jour actuelle n'a pas été terminée**, la mise à jour a été interrompue ou n'a pas été exécutée correctement.

## 16.4 Installation et mise à jour manuelles du Runtime

L'installation et la mise à jour sont également possibles sans les services Remote Transport et ActiveSync. Dans ce cas, vous devez copier les fichiers requis manuellement sur une carte de stockage destinée au périphérique CE. Vous devez connaître la version de CE et le type de processeur utilisés.

Il est impératif de copier les fichiers suivants du dossier correspondant à la plate-forme utilisée vers une carte de stockage destinée au périphérique CE :

▸ **zenonRCE.exe** (Runtime)

▸ **LogCliLibCE.dll** (DLL de diagnostic)

▸ **zenon6.ini**(Fichier de configuration)

▸ **Cd_tooCE.dll** (DLL d'aide)

▸ **ZenNetSrvCE.dll** (Réseau)

▸ **CDHelper.dll** (DLL d'aide)

▸ L'une des DLL de langue suivante :**RChineCE.dll, RCzechCE.dll, REngliCE.dll, RFrancCE.dll, RGermaCE.dll, RItaliCE.dll, RRussiCE.dll, RSpaniCE.dll** (la langue sélectionnée est stipulée dans le fichier**zenon6.ini**).

▸ **syssrvce.exe** (service de transport et Diagnosis Server)

▸ **atl90.dll** (fichier système, peut former partie du système d'exploitation)

▸ **mfc90u.dll** (fichier système, peut former partie du système d'exploitation)

▸ **msvcr90.dll** (fichier système, peut former partie du système d'exploitation)

D'autres fichiers tels que les drivers sont optionnels.

## 16.5 Pocket PC (PDA, Pocket PC)

Les systèmes Pocket PC ne sont plus pris en charge à partir de la version 7.

## 16.6 Traitement des erreurs

**Erreurs possibles :**

| Erreur | Solution possible |
|---|---|
| Erreur de connexion durant la mise à jour via l'interface COM. | Les délais d'accès sont plus longs lorsque l'Explorateur Windows est ouvert. Fermer l'Explorateur permet de remédier au problème. |

| Erreur | Solution possible |
|---|---|
| Le service de transport ne fonctionne pas. | Contrôlez la version du service de transport. Au moins : Version 5.21 SP3 ou ultérieure, ou version 5.50 SP1 ou ultérieure. |
| Le programme de mise à jour du Runtime ne peut pas établir une connexion. | Fermez les connexions ouvertes d'Editor avec le service de transport CE. |

# 17 Runtime zenon Logic pour Windows CE

L'installation du Runtime zenon Logic (Runtime d'automate) sur un système CE se déroule de manière semblable à l'installation du Runtime sous Windows CE (à la page 52).

Conditions requises : service de transport exécutable sous CE.

La version CE du Runtime zenon Logic comprend les composants suivants :

- ▶ zenon Logic Runtime
- ▶ DLL de langue
- ▶ Driver I/O de zenon Logic
- ▶ zenon6.ini

## INSTALLATION

- ▶ Dans le menu de zenon, sélectionnez **Options/Mise à jour du Runtime Windows CE**.

  La boîte de dialogue de transfert des fichiers de Runtime s'affiche à l'écran.

- ▶ Cochez la case PLC Runtime (Runtime de l'automate) dans la fenêtre Fichier pour copier les fichiers nécessaires à zenon Logic vers le répertoire d'exécution de CE.

▶ Basculez vers l'onglet Connexion.
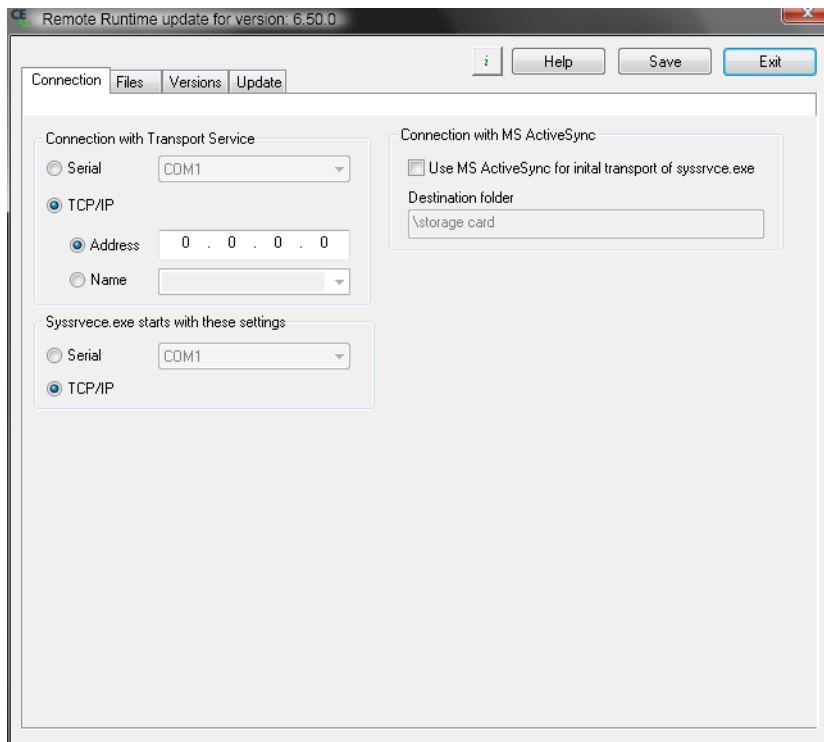


▶ Définissez la connexion au périphérique Windows CE. Saisissez l'adresse IP ou le port série.

▶ Si zenon6.ini doit également être transféré, choisissez d'actualiser zenon6.ini. Ceci permet également de modifier les informations concernant la licence du périphérique cible.

▶ Sélectionnez la version adéquate parmi les versions du Runtime Windows CE , si celui-ci n'a pas été automatiquement reconnu.

**MISE À JOUR**

Pour cette procédure, reportez-vous au chapitre Mise à jour du Runtime Windows CE (à la page 55).

Attention : Vous devez activer l'option PLC Runtime (Runtime de l'automate) dans l'onglet Fichiers !

**💡Informations**

Les fichiers MFC sont toujours transférés à l'aide de Windows CE 6.0.

# 18 zenon Web Server

Pour installer **zenon Web Server** ou **zenon Web Server Pro**:

1. Activez les services Web sur l'ordinateur.

   Le dossier *C:\inetpub\wwwroot* doit exister.

2. Exécutez le support d'installation de zenon. L'écran de démarrage est affiché.

   Si vous avez désactivé la fonction Exécution automatique, exécutez **start.exe** depuis le support d'installation.

3. Sélectionnez zenon Web Server.
   Selon la version du système d'exploitation, la version 32 bits ou 64 bits de zenon Web Server est automatiquement installée.

4. Suivez la procédure d'installation.

5. Redémarrez l'ordinateur.

Une fois l'installation terminée, vous trouverez les fichiers d'installation de l'application Web Client dans les sous-dossiers du répertoire d'installation de zenon Web Server (xxx désigne la version correspondante de    zenon), par exemple : *C:/Program Files (x86)/COPA-DATA/zenonWebserver/zenon/controlversions/Versionxxx/zenon_Webclient_Setup_ENGLISH.EXE*
or

*C:/Inetpub/wwwroot/zenon/controlversions/Versionxxx/zenon_Webclient_Setup_ENGLISH.EXE*

Les exemples de site Web (index*.html et init*.html) sont également installés. Ils se trouvent dans le sous-dossier zenon du répertoire d'installation de zenon Web Server, par exemple :
*C:/Programs/zenonWebserver/zenon/index.htm*
or
*C:/Inetpub/wwwroot/zenon/index.html*

## ⚲Informations

Le service **zenon Web Server** démarre automatiquement uniquement si le programme une licence. Dans le mode de démonstration, vous devez démarrer zenon Web Server manuellement, via la console Web Server, dans le Panneau de configuration.

## INFORMATIONS SUPPLÉMENTAIRES

Vous trouverez d'autres détails concernant zenon Web Server dans le manuel zenon Web Server and Web Server Pro et des détails concernant la gestion des licences dans le manuel Gestion des licences.

# 19 zenon Web Client

Le zenon Web Client est principalement un contrôle ActiveX qui affiche l'information dans un navigateur web. L'affichage est 1:1, tel que dans un **zenon Runtime client**. La connexion au **serveur de Runtime** est mise en œuvre par l'intermédiaire du module **zenon Web Server**, via des communications TCP/IP.

Une fois l'installation terminée, vous trouverez les fichiers d'installation du client Web de zenon dans les sous-dossiers du répertoire d'installation du serveur Web de zenon (xxx désigne la version correspondante de zenon), par exemple : *%Programfiles%/COPA-DATA/zenon Web Server/zenon/controlversions/Versionxxx/zenon_Webclient_Setup_GERMAN.EXE*
or

*C:/Inetpub/wwwroot/zenon/controlversions/Versionxxx/zenon_Webclient_Setup_ENGLISH.EXE*

Toutes les installations du client Web de zenon Logic disposent d'une signature numérique et peuvent également être mises à disposition en téléchargement sur Internet.

L'assistant **zenon Web Client Starter** est également fourni avec le module COPA-DATA Web Client. Ceci permet d'ouvrir le zenon Web Client depuis n'importe quel navigateur.

## Informations concernant 💡

Le module    zenon Web Client envoie des fichiers d'erreurs et des fichiers journaux (log). L'application Diagnosis Server (nécessaire à l'évaluation de ces fichiers) est incluse dans l'installation du zenon Web Client.

# 20 Modifications et mises à jour de la version (installations de versions)

Dans zenon, vous pouvez passer à de nouvelles versions telles que 8.10 ou 8.20. Ou vous pouvez installer des mises à jour au sein d'une version. Elles sont également appelées installations de versions. De nouvelles versions peuvent être installées en parallèle avec des versions existantes. Elles offrent principalement de nouvelles fonctionnalités. Les mises à jour modifient la version précédemment installée. Elles corrigent principalement les bugs.

## MISE À JOUR (INSTALLATION DE VERSION)

Une mise à jour met uniquement à jour les fichiers plus récents que les fichiers précédemment installés. Tous les projets et paramètres individuels restent inchangés. Veuillez noter que la qualité des installations de versions n'est jamais garantie à 100 %. Seuls les correctifs sont testés. Si des effets

collatéraux indésirables se produisent site à l'installation d'un correctif, il arrive parfois que ces "effets secondaires" ne soient pas visibles durant les tests. COPA-DATA préconise donc toujours l'utilisation de Service Pack. Ces correctifs sont soumis à un processus d'assurance-qualité rigoureux.

**Note :**Les versions peuvent aussi être installées localement. Installation impossible sur des chemins de réseau (UNC).

## CHANGEMENT DE VERSION

Si vous souhaitez installer une nouvelle version de zenon, démarrez la procédure d'installation. La nouvelle version sera installée parallèlement à l'ancienne version. Tous les projets et paramètres individuels restent inchangés. Les projets ne sont pas convertis au format de la nouvelle version durant l'installation. Les différents projets sont convertis lors de leur première ouverture dans Editor. Une boîte de dialogue vous informe au sujet de cette procédure. L'ancienne version est automatiquement sauvegardée. Si vous souhaitez uniquement utiliser la dernière version en date, utilisez l'outil Ajout/suppression de programmes du Panneau de configuration de Windows pour supprimer l'ancienne version.

**⚠Attention**

Si une installation implique la modification de SQL Server (par exemple, mise à jour de zenon 7.00 vers zenon 7.10), vous devez sauvegarder tous les projets ou l'espace de travail avant de procéder à l'installation. Cette sauvegarde est lue après l'installation. Pour plus de détails, reportez-vous également à la section **Projets multi-utilisateurs/Mise à jour avec modification du serveur SQL**.

Si vous souhaitez utiliser plusieurs versions de zenon simultanément, vous devez gérer ces dernières à l'aide de l'outil **Startup Tool**. Vous ne pouvez démarrer qu'une version à la fois. Vous pouvez sélectionner la version que vous souhaitez exécuter en utilisant l'outil **Startup Tool**, qui ajuste automatiquement tous les paramètres nécessaires. Vous trouvez plus de détails au chapitre **Startup Tool**.

**💡Informations**

Les nouvelles versions comportent toujours des modifications structurelles. Les projets et paramètres restent inchangés durant l'installation. Si vous ouvrez Editor pour la première fois, les projets sont convertis pour la nouvelle version. Parallèlement à cela, une sauvegarde automatique de l'ancienne version est créée.

Les projets convertis ne peuvent pas être modifiés dans les anciennes versions. À compter de la version 6.2, Editor permet de créer des projets adaptés aux différentes versions du Runtime.

Vous trouverez des conseils importants concernant la conversion de projets dans le texte de révision et dans le manuel concernant la **conversion de projets**.

## PROJETS MULTI-UTILISATEURS

Pour garantir que l'évolution vers une nouvelle version de zenon se déroule sans perte de données dans un projet multi-utilisateurs :

1. Activez tous les éléments désactivés sur tous les Clients en cliquant sur *Accepter les modifications*.
   Aucun élément ne doit être désactivé. Ceci s'applique pour tous les projets.

2. Installez la nouvelle version de zenon sur l'ordinateur du serveur.

3. Convertissez tous les projets de serveur dans la nouvelle version.
   Pour ce faire, chargez chaque projet de l'ordinateur du serveur dans l'Editor et acceptez la conversion.

4. Installez la nouvelle version de zenon sur les ordinateurs du client.

5. Chargez les projets vers les clients.

## MODIFIEZ LE SQL SERVER

Si une installation nécessite de modifier le serveur SQL (par ex. mise à jour de zenon 7.00 vers zenon 9.4), des étapes supplémentaires sont requises.
Ces étapes sont effectuées :

   ▶ Après l'activation de tous les projets

   ▶ Avant l'installation de la nouvelle version

### Procédure lors de la modification du serveur SQL :

1. Activez tous les éléments désactivés en sélectionnant Clients -> *Accepter les modifications*.

2. Ouvrez Editor dans la version de démarrage sur le serveur de projets multi-utilisateurs.

3. Créez des sauvegardes de tous les projets que vous souhaitez modifier ou ouvrir avec la nouvelle version :

   ▶ Soit sous forme de sauvegardes de projet uniques

   ▶ Soit sous forme de sauvegarde de l'espace de travail complet

4. Installez la nouvelle version sur le serveur.

5. Convertissez tous les projets de serveur vers la nouvelle version en chargeant une fois les sauvegardes de projet précédemment créées dans Editor.

6. Installez la mise à jour sur tous les clients.

7. Transférez les projets provenant du serveur de projets multi-utilisateurs vers les clients
   Tenez compte du nouveau nom de l'instance SQL.

Les projets sont convertis, synchronisés et prêts à être utilisés

**Attention :** Assurez-vous que les paramètres du pare-feu autorisent le trafic des données circulant entre le serveur de projets multi-utilisateurs et les clients.

# 20.1 Compatibilité

Compatibilité dans le zenon concerne :

- ▶ Runtime : Différentes versions du Runtime fonctionnant ensemble.
- ▶ Editor : Mise à jour de projets existants vers de nouvelles versions d'Editor.
- ▶ Editor : Création de fichiers de Runtime pour différentes versions du Runtime dans l'Editor.

## RUNTIME

La compatibilité en ligne du Runtime permet aux systèmes du Runtime de travailler ensemble dans le réseau de zenon et les clients web de zenon.

Dans ce cas, les considérations suivantes s'appliquent : La version du Runtime du client doit être supérieure ou égale à la version du Runtime du serveur.
Par exemple :

- ▶ Un client A 8.20 peut fonctionner avec un serveur 8.10.
- ▶ Un client 8.00 ne peut plus fonctionner avec un serveur 8.10. Dans ce cas, le Runtime du client doit être mis à jour à la version 8.10 ou supérieure.

**La version actuelle du Runtime peut charger des projets des versions suivantes :**

- ▶ *6.20 SP4*
- ▶ *6.21 SP0*
- ▶ *6.21 SP1*
- ▶ *6.22 SP0*
- ▶ *6.22 SP1*
- ▶ *6.50 SP0*
- ▶ *6.51 SP0*
- ▶ *7.00 SP0*
- ▶ *7.10 SP0*
- ▶ *7.11 SP0*
- ▶ *7.20 SP0*
- ▶ *7.20 SP0[no. de la version actuelle]*
- ▶ *7.50 SP0*
- ▶ *7.60 SP0*

▶ *8.00 SP0*

▶ *8.10 SP0*

▶ *8.20 SP0*

La fonction de gestion multi-projets permet de charger les projets provenant de différentes versions. Par exemple, le projet d'intégration peut comporter le numéro de version 8.20, tandis qu'un sous-projet peut comporter le numéro de version 8.10 et qu'un autre sous-projet peut comporter le numéro de version 7.60.

## EDITOR

zenon Editor peut ouvrir les projets des versions précédentes dans chaque nouvelle version. Ceux-ci peuvent être édités dans la nouvelle version. Si des ajustements sont requis par l'utilisateur, des informations se trouvent dans les notes de mise à jour actuelles et dans le manuel **Conversion de projets**. Lors de l'ouverture d'un projet avec un numéro de version inférieur dans une version d'Editor supérieure :

▶ le projet est automatiquement converti

▶ une sauvegarde du projet est automatiquement créée

> **⚠Attention**
>
> Il n'existe aucune rétrocompatibilité entre les versions d'Editor. La rétrocompatibilité n'est garantie qu'entre Editor et Runtime.
>
> Ceci signifie :
>
> ▶ Les projets convertis ne peuvent plus être ouverts dans un éditeur possédant un numéro de version inférieur.
>
> ▶ La sauvegarde de projet créée durant la conversion peut encore être ouverte et modifiée.
>
> **Recommandation :** Évitez d'ouvrir un projet dans un Editor dont le numéro de build est inférieur à celui de l'Editor avec lequel le projet a été créé.
>
> Évitez également de transférer des projets via l'importation XML de nouvelles versions vers des versions plus anciennes. Ceci peut produire des résultats indésirables. Les drivers, notamment, peuvent avoir des performances différentes de celles attendues.

## COMPATIBILITÉ D'EDITOR ET DU RUNTIME :

Avec zenon Editor, des fichiers de Runtime peuvent être créés pour différentes versions du Runtime. Il n'est donc pas nécessaire que la version du Runtime corresponde à la version d'Editor. Cette rétrocompatibilité est particulièrement adaptée à l'utilisation de systèmes mixtes. Par exemple : Un

projet ayant été configuré avec l'Editor pour la version 8.00 peut également être démarré dans le Runtime 6.20 SP4.

> **⚠Attention**
>
> Si, dans un projet planifié avec une version ultérieure d'Editor, des propriétés affichées ne sont pas disponibles dans la version antérieure, ces propriétés ne sont pas disponibles. Ceci peut produire des résultats indésirables dans le Runtime. Lors de la création de fichiers du Runtime pour les anciennes versions, vérifiez les configurations de projet modifiées, en particulier les configurations du driver.

### CRÉATION DE FICHIERS DE RUNTIME

Pour créer des fichiers de Runtime dans Editor pour les versions antérieures du Runtime :

1. Sélectionnez le projet dans l'arborescence du projet.
2. Accédez à la section **Général** des propriétés du projet.
3. Ouvrez la liste déroulante de la propriété **Créer fichiers RT pour**.
4. Sélectionnez la version souhaitée dans la liste déroulante.

**Attention :** Pour garantir la cohérence des fichiers de Runtime, tous les fichiers de Runtime doivent être recréés à chaque modification de cette propriété. Les configurations de tous les drivers sont converties. Les paramètres qui n'existent pas dans la version correspondante sont définis sur le paramètre par défaut.

### ERREUR LORS DE LA CRÉATION DE FICHIERS RUNTIME ET DE MICROSOFT OFFICE 365

Dans une certaine configuration, une erreur peut se produire lors de la génération des fichiers Runtime :

▸ Vous pouvez créer des fichiers Runtime sur un ordinateur avec :

  ▸ Système d'exploitation
     Windows 10 et

  ▸ Office 365.

▸ La création de fichiers Runtime a échoué et se termine par un message d'erreur.

Cela est dû au chargement d'une version incorrecte d'une bibliothèque de programmes par VBA.

**Solution :**

1. Accédez au dossier : *%AppData%\Microsoft\FORMS*.
2. Supprimez le fichier **zenone32.box**.
3. Ce fichier est créé automatiquement par zenon.

La création de fichiers Runtime est à nouveau possible.

## XML

Les données exportées au format XML sont alors disponibles et peuvent être importées dans des versions ultérieures d'Editor.

**Exception :** Si des données provenant du module Recipe Group Manager sont directement enregistrées dans le Runtime sous forme de fichier XML à l'aide de la fonction d'exportation, ces données ne peuvent pas être réimportées.

**Recommandation :** Évitez de transférer des projets via l'importation XML de nouvelles versions vers des versions plus anciennes. Cela peut entraîner des évènements indésirables dans Editor et Runtime.

# 21 FAQ

Les erreurs durant l'installation se produisent principalement lorsqu'un logiciel antivirus ou une installation existante empêche le remplacement ou la création de fichiers. Vous trouverez ici les causes les plus fréquentes d'erreurs d'installation et leur solution.

## ZENON

| Problème | Solution |
|---|---|
| L'installation est interrompue.<br><br>Message d'erreur habituel : **Erreur 1304. Erreur d'écriture du fichier...** | Désactivez le logiciel antivirus. Fermez les programmes inutiles. |
| Des projets de démonstration ont été installés, mais il est impossible de les afficher. De nouveaux projets ne peuvent pas être créés. | Contrôlez le nom de l'ordinateur. L'ordinateur :<br><br>▶ Ne doit pas comporter plus de 15 caractères<br><br>▶ Doit être conforme aux conventions de dénomination d'ordinateurs de NetBIOS |
| Message d'erreur indiquant qu'un service ne peut pas être démarré. | ▶ Redémarrez d'abord l'ordinateur<br><br>▶ Ensuite, redémarrez le programme d'installation de zenon |

## SERVEUR SQL

### GÉNÉRAL

| Problème | Solution |
|---|---|
| L'installation a échoué, car le mot de passe n'est pas conforme aux critères. | Si la longueur minimale du mot de passe est modifiée de *8* (valeur par défaut) en une *valeur supérieure à 10* par l'intermédiaire de la directive de sécurité locale de Windows, l'installation de SQL Server échouera, car le mot de passe SQL de zenon comprend 10 caractères. |

# 22 Support technique

## NIVEAU D'ASSISTANCE BASIC

Si vous avez besoin d'assistance durant l'installation, le personnel de notre service d'assistance technique sera ravi de vous aider.

Les utilisateurs bénéficiant du niveau d'assistance Basic peuvent contacter le service d'assistance à l'adresse e-mail suivante : support@copadata.com.

## NIVEAUX D'ASSISTANCE ADVANCED ET PREMIUM

Si vous êtes titulaire d'un accord de service de niveau Advanced ou Premium, utilisez le numéro de téléphone ou l'adresse e-mail qui vous ont été fournis. Les employés de notre service commercial (sales@copadata.com) seront ravis de vous aider si vous souhaitez remplacer votre accord de service de niveau Basic par un accord de service de niveau Advanced ou Premium.

# 23 Informations sur les licences relatives aux logiciels libres

Les produits COPA-DATA utilisent les logiciels libres suivants.

**Remarque :** Ces informations sont uniquement disponible en anglais.

## 23.1 zenon Open Source licences for several features

▶ The SNMP driver (SNMPNG32.exe) uses OpenSSL and NetSNMP.

▶ The DNP3 driver, the IEC 60870 driver, the OPC UA driver, the Message Control and the Web Server Client are using the OpenSSL 1.1.1 Long Term Support with the Open SSL License.

▶ The LicenseManager uses the JSON and the zlib Library.

▶ The OPC UA Process Gateway (AccessOPCUA.dll) and the OPC UA driver (OPCUA32.exe) use OpenSSL.

▶ The Message Control uses MIMEMail and OpenSSL (zenon32.dll).

▶ The HTML Web Engine –Web Application uses ANTLRv3, Bootstrap, jQuery UI, jQuery, Json.NET, NLog, Owin, jQuery.SVG, WebGrease.

▶ The HTML Web Engine – Deployment Tool uses Extended WPF Toolkit, Newtonsoft.Json, NLog, WPF Application Framework (WAF).

▶ The HTML Web Engine – Compiler uses Newtonsoft.Json, Nlog.Windows.Forms, NLog.

▶ The JavaScript library jQuery 3.3.1 uses the MIT License.

▶ The Everywhere Essentials QR Code Generator Wizard uses QrCode.Net.

▶ The Message Control VoiceOverIP Extension (MsgCtrlVoip.dll) uses libSRTP, Speex, PortAudio, Alaw/Ulaw Converter, GSM Codec 06.10 and iLBC Codec.

▶ The 3D Configuration Tool uses DWF Toolkit License, the MIT License (MIT), the SharpDX - Alexandre Mutel License.

▶ The 3D Integration uses the zlib Library.

▶ The 3D Integration uses the Intel® Threading Building Blocks (Intel® TBB) (Version 2018, 0, 2017, 0919) under the Apache 2.0 License.

▶ The 3D Integration uses the liblzma under the XZ Utils License 5.2.2.

▶ The GIS-Control uses the Gmap-Control with the MIT License (MIT).

▶ The System.Data.SQLite and the System Window Interactivity WPF are using the Microsoft Public License (MS-PL).

▶ As framework for .NET the Newtonsoft.Json 11.0.2 software uses the MIT License (MIT).

▶ The NLog.Extensions.Logging 1.0.1 uses the BSD 2-Clause "Simplified" License.

▶ The NLog 4.4.0 uses the NLog / License.

▶ The NLog 4.5.3 uses the BSD 3-Clause "New" or "Revised" License.

▶ The NLog.Web.AspNetCore 4.5.3 software, which contains targets and layout-renderes specific to ASP.NET (Core), MVC and IIS, uses the BSD 3-Clause "New" or "Revised" License.

▶ The Predictive Analytics and the Analyzer Management Studio use Math.Net Numerics 4.4.0 with the MIT/X11 License.

▶ The Add-In Framework uses the SharpDevelop 5.1.0 with the MIT License, the Mono.AddIns 1.3 with the MIT License, the Mono.Cesil 0.9.6.4 with the MIT/X11 License, the WPF Application Framework (WAF) 3.2.0 with the Microsoft Public License (MS-PL).

▶ The zenon Analyzer Management Studio uses the Castel.Core 4.2.1 with Apache License.

▶ The *.ini-file handling is using a ini-parser with the MIT License (MIT).

▶ The Drag&Drop functionality is using package with the BSD 3-Clause License.

▶ The Toggle Switch Control Library is using the Microsoft Public License (MsPL).

▶ Process Gateway uses cpprestsdk (cpprestsdk.v120.winxp.msvcstl.dyn.rt-dyn 2.9.1; cpprestsdk.v120.winphonesl.msvcstl.dyn.rt-dyn 2.9.1; cpprestsdk.v120.windesktop.msvcstl.dyn.rt-dyn 2.9.1; cpprestsdk.v120.winphone.msvcstl.dyn.rt-dyn 2.9.1; cpprestsdk.v120.winapp.msvcstl.dyn.rt-dyn 2.9.1; cpprestsdk.v140.winapp.msvcstl.dyn.rt-dyn 2.9.1; cpprestsdk.v140.windesktop.msvcstl.dyn.rt-dyn 2.9.1; cpprestsdk 2.9.1.1) with the MIT License.

▶ For the creation and execution of platform independent software components the .NET Core 2.1 Software uses the MIT License (MIT).

▶ The @aspnet/signalr 1.0.0 software uses the Apache License, Version 2.0.

▶ The IdentityModel2 3.0.0 software, a A.NET standard helper library for claims-based identity, OAuth 2.0 and OpenID connect, uses the Apache License 2.0.

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## 23.1.19 IdentityModel2 3.0.0

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## 23.1.32 Mono.AddIns 1.3

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## 23.1.49 popper.js 1.14.3

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zlib.h -- interface of the 'zlib' general purpose compression library version 1.2.11, January 15th, 2017

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| OVERVIEW | General description of JPEG and the IJG software. |
| LEGAL ISSUES | Copyright, lack of warranty, terms of distribution. |
| REFERENCES | Where to learn more about JPEG. |
| ARCHIVE LOCATIONS | Where to find newer versions of this software. |
| RELATED SOFTWARE | Other stuff you should get. |
| FILE FORMAT WARS | Software *not* to get. |
| TO DO | Plans for future IJG releases. |

Other documentation files in the distribution are:

User documentation:

| Documentation | Description |
|---|---|
| install.doc | How to configure and install the IJG software. |
| usage.doc | Usage instructions for cjpeg, djpeg, jpegtran, rdjpgcom, and wrjpgcom. |
| *.1 | Unix-style man pages for programs (same info as usage.doc). |

| Documentation | Description |
|---|---|
| wizard.doc | Advanced usage instructions for JPEG wizards only. |
| change.log | Version to version change highlights. |

Programmer and internal documentation:

| Documentation | Description |
|---|---|
| libjpeg.doc | How to use the JPEG library in your own programs. |
| example.c | Sample code for calling the JPEG library. |
| structure.doc | Overview of the JPEG library's internal structure. |
| filelist.doc | Road map of IJG files. |
| coderules.doc | Coding style rules - please read if you contribute code. |

Please read at least the files install.doc and usage.doc. Useful information can also be found in the JPEG FAQ (Frequently Asked Questions) article. See ARCHIVE LOCATIONS below to find out where to obtain the FAQ article.

If you want to understand how the JPEG code works, we suggest reading one or more of the REFERENCES, then looking at the documentation files (in roughly the order listed) before diving into the code.

OVERVIEW

This package contains C software to implement JPEG image compression and decompression. JPEG (pronounced "jay-peg") is a standardized compression method for full-color and gray-scale images. JPEG is intended for compressing "real-world" scenes; line drawings, cartoons and other non-realistic images are not its strong suit. JPEG is lossy, meaning that the output image is not exactly identical to the input image. Hence you must not use JPEG if you have to have identical output bits. However, on typical photographic images, very good compression levels can be obtained with no visible change, and remarkably high compression levels are possible if you can tolerate a low-quality image. For more details, see the references, or just experiment with various compression settings.

This software implements JPEG baseline, extended-sequential, and progressive compression processes. Provision is made for supporting all variants of these processes, although some uncommon parameter settings aren't implemented yet. For legal reasons, we are not distributing code for the arithmetic-coding variants of JPEG; see LEGAL ISSUES. We have made no provision for supporting the hierarchical or lossless processes defined in the standard.

We provide a set of library routines for reading and writing JPEG image files, plus two sample applications "cjpeg" and "djpeg", which use the library to perform conversion between JPEG and some other popular image file formats. The library is intended to be reused in other applications.

In order to support file conversion and viewing software, we have included considerable functionality beyond the bare JPEG coding/decoding capability; for example, the color quantization modules are not strictly part of JPEG decoding, but they are essential for output to colormapped file formats or colormapped displays. These extra functions can be compiled out of the library if not required for a particular application. We have also included "jpegtran", a utility for lossless transcoding between different JPEG processes, and "rdjpgcom" and "wrjpgcom", two simple applications for inserting and extracting textual comments in JFIF files.

The emphasis in designing this software has been on achieving portability and flexibility, while also making it fast enough to be useful. In particular, the software is not intended to be read as a tutorial on JPEG. (See the REFERENCES section for introductory material.) Rather, it is intended to be reliable, portable, industrial-strength code. We do not claim to have achieved that goal in every aspect of the software, but we strive for it.

We welcome the use of this software as a component of commercial products.

No royalty is required, but we do ask for an acknowledgement in product documentation, as described under LEGAL ISSUES.

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ansi2knr.c is NOT covered by the above copyright and conditions, but instead by the usual distribution terms of the Free Software Foundation; principally, that you must include source code if you redistribute it. (See the file ansi2knr.c for full details.) However, since ansi2knr.c is not needed as part of any program generated from the IJG code, this does not limit you more than the foregoing paragraphs do.

The Unix configuration script "configure" was produced with GNU Autoconf. It is copyright by the Free Software Foundation but is freely distributable. The same holds for its supporting scripts (config.guess, config.sub, ltconfig, ltmain.sh). Another support script, install-sh, is copyright by M.I.T. but is also freely distributable.

It appears that the arithmetic coding option of the JPEG spec is covered by patents owned by IBM, AT&T, and Mitsubishi. Hence arithmetic coding cannot legally be used without obtaining one or more licenses. For this reason, support for arithmetic coding has been removed from the free JPEG software. (Since arithmetic coding provides only a marginal gain over the unpatented Huffman mode, it is unlikely that very many implementations will support it.) So far as we are aware, there are no patent restrictions on the remaining code.

The IJG distribution formerly included code to read and write GIF files. To avoid entanglement with the Unisys LZW patent, GIF reading support has been removed altogether, and the GIF writer has been simplified to produce "uncompressed GIFs". This technique does not use the LZW algorithm; the resulting GIF files are larger than usual, but are readable by all standard GIF decoders.

We are required to state that "The Graphics Interchange Format(c) is the Copyright property of CompuServe Incorporated. GIF(sm) is a Service Mark property of CompuServe Incorporated."

REFERENCES

We highly recommend reading one or more of these references before trying to understand the innards of the JPEG software.

The best short technical introduction to the JPEG compression algorithm is:

Wallace, Gregory K. "The JPEG Still Picture Compression Standard",

Communications of the ACM, April 1991 (vol. 34 no. 4), pp. 30-44.

(Adjacent articles in that issue discuss MPEG motion picture compression, applications of JPEG, and related topics.) If you don't have the CACM issue handy, a PostScript file containing a revised version of Wallace's article is available at ftp://ftp.uu.net/graphics/jpeg/wallace.ps.gz. The file (actually a preprint for an article that appeared in IEEE Trans. Consumer Electronics) omits the sample images that appeared in CACM, but it includes corrections and some added material. Note: the Wallace article is copyright ACM and IEEE, and it may not be used for commercial purposes.

A somewhat less technical, more leisurely introduction to JPEG can be found in "The Data Compression Book" by Mark Nelson and Jean-loup Gailly, published by M&T Books (New York), 2nd ed. 1996, ISBN 1-55851-434-1. This book provides good explanations and example C code for a multitude of compression methods including JPEG. It is an excellent source if you are comfortable reading C code but don't know much about data compression in general. The book's JPEG sample code is far from industrial-strength, but when you are ready to look at a full implementation, you've got one here...

The best full description of JPEG is the textbook "JPEG Still Image Data Compression Standard" by William B. Pennebaker and Joan L. Mitchell, published by Van Nostrand Reinhold, 1993, ISBN 0-442-01272-1. Price US$59.95, 638 pp. The book includes the complete text of the ISO JPEG standards (DIS 10918-1 and draft DIS 10918-2). This is by far the most complete exposition of JPEG in existence, and we highly recommend it.

The JPEG standard itself is not available electronically; you must order a paper copy through ISO or ITU. (Unless you feel a need to own a certified official copy, we recommend buying the Pennebaker and Mitchell book instead; it's much cheaper and includes a great deal of useful explanatory material.) In the USA, copies of the standard may be ordered from ANSI Sales at (212) 642-4900, or from Global Engineering Documents at (800) 854-7179. (ANSI doesn't take credit card orders, but Global does.) It's not cheap: as of 1992, ANSI was charging $95 for Part 1 and $47 for Part 2, plus 7% shipping/handling. The standard is divided into two parts, Part 1 being the actual specification, while Part 2 covers compliance testing methods. Part 1 is titled "Digital Compression and Coding of Continuous-tone Still Images, Part 1: Requirements and guidelines" and has document numbers ISO/IEC IS 10918-1, ITU-T T.81. Part 2 is titled "Digital Compression and Coding of Continuous-tone Still Images, Part 2: Compliance testing" and has document numbers ISO/IEC IS 10918-2, ITU-T T.83.

Some extensions to the original JPEG standard are defined in JPEG Part 3, a newer ISO standard numbered ISO/IEC IS 10918-3 and ITU-T T.84. IJG currently does not support any Part 3 extensions.

The JPEG standard does not specify all details of an interchangeable file format. For the omitted details we follow the "JFIF" conventions, revision 1.02. A copy of the JFIF spec is available from:

Literature Department

C-Cube Microsystems, Inc.

1778 McCarthy Blvd.

Milpitas, CA 95035

phone (408) 944-6300, fax (408) 944-6314

A PostScript version of this document is available by FTP at ftp://ftp.uu.net/graphics/jpeg/jfif.ps.gz. There is also a plain text version at ftp://ftp.uu.net/graphics/jpeg/jfif.txt.gz, but it is missing the figures. The TIFF 6.0 file format specification can be obtained by FTP from ftp://ftp.sgi.com/graphics/tiff/TIFF6.ps.gz. The JPEG incorporation scheme found in the TIFF 6.0 spec of 3-June-92 has a number of serious problems. IJG does not recommend use of the TIFF 6.0 design (TIFF Compression tag 6). Instead, we recommend the JPEG design proposed by TIFF Technical Note #2 Straton3dPartySoftware-(Compression tag 7). Copies of this Note can be obtained from ftp.sgi.com or from ftp://ftp.uu.net/graphics/jpeg/. It is expected that the next revision of the TIFF spec will replace the 6.0 JPEG design with the Note's design. Although IJG's own code does not support TIFF/JPEG, the free libtiff library uses our library to implement TIFF/JPEG per the Note. libtiff is available from ftp://ftp.sgi.com/graphics/tiff/.

ARCHIVE LOCATIONS

The "official" archive site for this software is ftp.uu.net (Internet address 192.48.96.9). The most recent released version can always be found there in directory graphics/jpeg. This particular version will be archived as ftp://ftp.uu.net/graphics/jpeg/jpegsrc.v6b.tar.gz. If you don't have direct Internet access, UUNET's archives are also available via UUCP; contact help@uunet.uu.net for information on retrieving files that way.

Numerous Internet sites maintain copies of the UUNET files. However, only ftp.uu.net is guaranteed to have the latest official version.

You can also obtain this software in DOS-compatible "zip" archive format from the SimTel archives (ftp://ftp.simtel.net/pub/simtelnet/msdos/graphics/), or on CompuServe in the Graphics Support forum (GO CIS:GRAPHSUP), library 12 "JPEG Tools". Again, these versions may sometimes lag behind the ftp.uu.net release.

The JPEG FAQ (Frequently Asked Questions) article is a useful source of general information about JPEG. It is updated constantly and therefore is not included in this distribution. The FAQ is posted every two weeks to Usenet newsgroups comp.graphics.misc, news.answers, and other groups. It is available on the World Wide Web at http://www.faqs.org/faqs/jpeg-faq/ and other news.answers archive sites, including the official news.answersarchive at rtfm.mit.edu: ftp://rtfm.mit.edu/pub/usenet/news.answers/jpeg-faq/. If you don't have Web or FTP access, send e-mail to mail-server@rtfm.mit.edu with body

send usenet/news.answers/jpeg-faq/part1

send usenet/news.answers/jpeg-faq/part2

RELATED SOFTWARE

Numerous viewing and image manipulation programs now support JPEG. (Quite a few of them use this library to do so.) The JPEG FAQ described above lists some of the more popular free and shareware viewers, and tells where to obtain them on Internet.

If you are on a Unix machine, we highly recommend Jef Poskanzer's free PBMPLUS software, which provides many useful operations on PPM-format image files. In particular, it can convert PPM images to and from a wide range of other formats, thus making cjpeg/djpeg considerably more useful. The latest version is distributed by the NetPBM group, and is available from numerous sites, notably ftp://wuarchive.wustl.edu/graphics/graphics/packages/NetPBM/.

Unfortunately PBMPLUS/NETPBM is not nearly as portable as the IJG software is; you are likely to have difficulty making it work on any non-Unix machine.

A different free JPEG implementation, written by the PVRG group at Stanford, is available from ftp://havefun.stanford.edu/pub/jpeg/. This program is designed for research and experimentation rather than production use; it is slower, harder to use, and less portable than the IJG code, but it is easier to read and modify. Also, the PVRG code supports lossless JPEG, which we do not. (On the other hand, it doesn't do progressive JPEG.)

FILE FORMAT WARS

Some JPEG programs produce files that are not compatible with our library. The root of the problem is that the ISO JPEG committee failed to specify a concrete file format. Some vendors "filled in the blanks" on their own, creating proprietary formats that no one else could read. (For example, none of the early commercial JPEG implementations for the Macintosh were able to exchange compressed files.)

The file format we have adopted is called JFIF (see REFERENCES). This format has been agreed to by a number of major commercial JPEG vendors, and it has become the de facto standard. JFIF is a minimal or "low end" representation. We recommend the use of TIFF/JPEG (TIFF revision 6.0 as modified by TIFF Technical Note #2) for "high end" applications that need to record a lot of additional data about an image. TIFF/JPEG is fairly new and not yet widely supported, unfortunately.

The upcoming JPEG Part 3 standard defines a file format called SPIFF. SPIFF is interoperable with JFIF, in the sense that most JFIF decoders should be able to read the most common variant of SPIFF. SPIFF has some technical advantages over JFIF, but its major claim to fame is simply that it is an official standard rather than an informal one. At this point it is unclear whether SPIFF will supersede JFIF or whether JFIF will remain the de-facto standard. IJG intends to support SPIFF once the standard is frozen, but we have not decided whether it should become our default output format or not. (In any case, our decoder will remain capable of reading JFIF indefinitely.)

Various proprietary file formats incorporating JPEG compression also exist. We have little or no sympathy for the existence of these formats. Indeed, one of the original reasons for developing this free software was to help force convergence on common, open format standards for JPEG files. Don't use a proprietary file format!

TO DO

> The major thrust for v7 will probably be improvement of visual quality. The current method for scaling the quantization tables is known not to be very good at low Q values. We also intend to investigate block boundary smoothing, "poor man's variable quantization", and other means of improving quality-vs-file-size performance without sacrificing compatibility.

> In future versions, we are considering supporting some of the upcoming JPEG Part 3 extensions --- principally, variable quantization and the SPIFF file format.

> As always, speeding things up is of great interest.

> Please send bug reports, offers of help, etc. to jpeg-info@uunet.uu.net.

## 23.3.5 Libpng Library

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A "png_get_copyright" function is available, for convenient use in "about" boxes and the like: printf("%s",png_get_copyright(NULL));

Also, the PNG logo (in PNG format, of course) is supplied in the files "pngbar.png" and "pngbar.jpg (88x31) and "pngnow.png" (98x31).

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Glenn Randers-Pehrson

glennrp at users.sourceforge.net

December 14, 2007

## 23.3.6 Math.NET Numerics Library

The Math.NET Numerics Library uses the License MIT/X11.

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Parts of this software have been adapted from the libpng package. Although this library supports all features from the PNG specification (as MNG descends from it) it does not require the libpng package. It does require the zlib library and optionally the IJG jpeg library, and/or the "little-cms" library by Marti Maria (depending on the inclusion of support for JNG and Full-Color-Management respectively.

This library's function is primarily to read and display MNG animations. It is not meant as a full-featured image-editing component! It does however offer creation and editing functionality at the chunk level (future modifications may include some more support for creation and or editing).

## 23.3.8 PCap Library

Copyright (C) 1999 WIDE Project.

## 23.3.9 SQLite Library

2001 September 15

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This header file defines the interface that the SQLite library presents to client programs. If a C-function, structure, datatype, or constant definition does not appear in this file, then it is not a published API of SQLite, is subject to change without notice, and should not be referenced by programs that use SQLite.

Some of the definitions that are in this file are marked as "experimental". Experimental interfaces are normally new features recently added to SQLite. We do not anticipate changes to experimental interfaces but reserve the right to make minor changes if experience from use "in the wild" suggest such changes are prudent.

The official C-language API documentation for SQLite is derived from comments in this file. This file is the authoritative source on how SQLite interfaces are supposed to operate.

The name of this file under configuration management is "sqlite.h.in".

The makefile makes some minor changes to this file (such as inserting the version number) and changes its name to "sqlite3.h" as part of the build process.

## 23.3.10 Tiff Library

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## 23.3.11 Tinyxml Library

www.sourceforge.net/projects/tinyxml

Original code (2.0 and earlier)copyright (c) 2000-2006 Lee Thomason (www.grinninglizard.com)

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## 23.3.12 Zlib Library

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zlib.h -- interface of the 'zlib' general purpose compression library version 1.2.11, January 15th, 2017

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