



zenon
by COPA-DATA

Manuale di zenon

Installazione e update

v.8.10



COPADATA

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1 Benvenuti nell'help di COPA-DATA

ZENON VIDEO-TUTORIAL

Esempi pratici di progettazione con zenon si trovano nel nostro canale YouTube (https://www.copadata.com/tutorial_menu). I tutorial sono raggruppati per tema e forniscono una panoramica di come si lavora con i diversi moduli di zenon. Tutti i tutorial sono disponibili in inglese.

GUIDA GENERALE

Se mancano informazioni in questo capitolo dell'help o se avete richieste di aggiunte, contattate documentation@copadata.com via E-Mail.

SUPPORTO TECNICO ALLA PROGETTAZIONE

Per domande relative a progetti concreti, ci si può rivolgere via E-Mail all'indirizzo support@copadata.com.

LICENZE E MODULI

Se avete bisogno di moduli aggiuntivi o licenze, il nostro staff di sales@copadata.com sarà lieto di assistervi.

2 Installazione e update

Quando si installa zenon per la prima volta, la routine di installazione si avvia automaticamente e guida l'utente attraverso l'intero processo di installazione. Se è stata disabilitata l'opzione "Autostart da media", avviare l'installazione eseguendo il file **START.exe** nella directory principale del supporto di installazione zenon.

Note sull'installazione:

- Prima dell'installazione di zenon:

- ▶ Si dovrebbero installare tutti gli aggiornamenti correnti del sistema operativo.
Nota: se si utilizza sempre la versione più recente (service pack) del sistema operativo corrispondente, si evitano problemi di compatibilità e lacune di sicurezza.
- ▶ Non ci deve essere nessun riavvio in sospeso.
- ▶ Con Windows 7 Embedded Standard, zenon viene installato tramite la normale routine di installazione. Per i requisiti hardware, vedere il capitolo Runtime sotto Windows Embedded Standard (A pagina: 39).
- ▶ L'installazione di zenon per Windows CE avviene tramite la normale routine di installazione. Vengono installati i file per Windows CE nella versione 7.20. I dettagli si trovano nel capitolo Runtime per Windows CE (A pagina: 45).
- ▶ Durante l'installazione di zenon, viene installato il **COPA-DATA Multiple Network Protocol Driver (cdprotdrv.sys)**. Per avviare il driver, si deve riavviare il sistema operativo dopo la fine del processo di installazione.

Attenzione

A partire dalla versione 7.10, zenon non può essere installato su sistemi in cui è già installato **Microsoft SQL Server Data Engine (MSDE)**. Questo vale per tutti i sistemi su cui è installata la versione 6.01 o 6.20 di zenon.

Info

Se durante l'installazione viene visualizzato un messaggio di errore che indica che non è stato possibile avviare un servizio:

- ▶ Riavviare prima il computer.
- ▶ Quindi riavviare il setup di zenon

3 zenon: installazione standard

zenon avvia automaticamente la sua routine di installazione non appena si collega il supporto di installazione di zenon; il sistema guida l'utente attraverso l'intero processo di installazione. In alternativa, avviare l'installazione eseguendo il file **START.exe** nella directory principale del supporto di installazione di zenon.

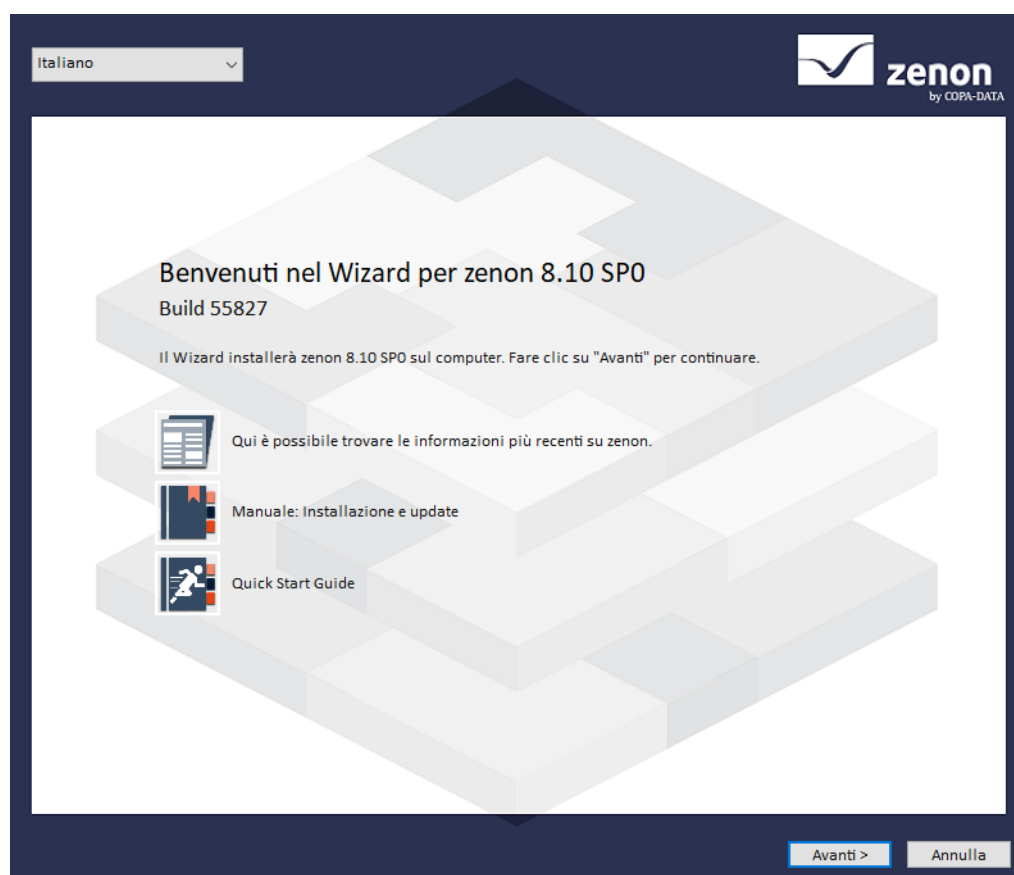
I diritti di amministratore sono necessari per il processo di installazione sul computer!

⚠ Attenzione

Durante l'installazione, il computer viene riavviato automaticamente se necessario. Chiudere tutti gli altri programmi prima dell'installazione.

3.1 Schermata Start

Nella schermata iniziale viene visualizzata la versione da installare, incluso il numero di build.

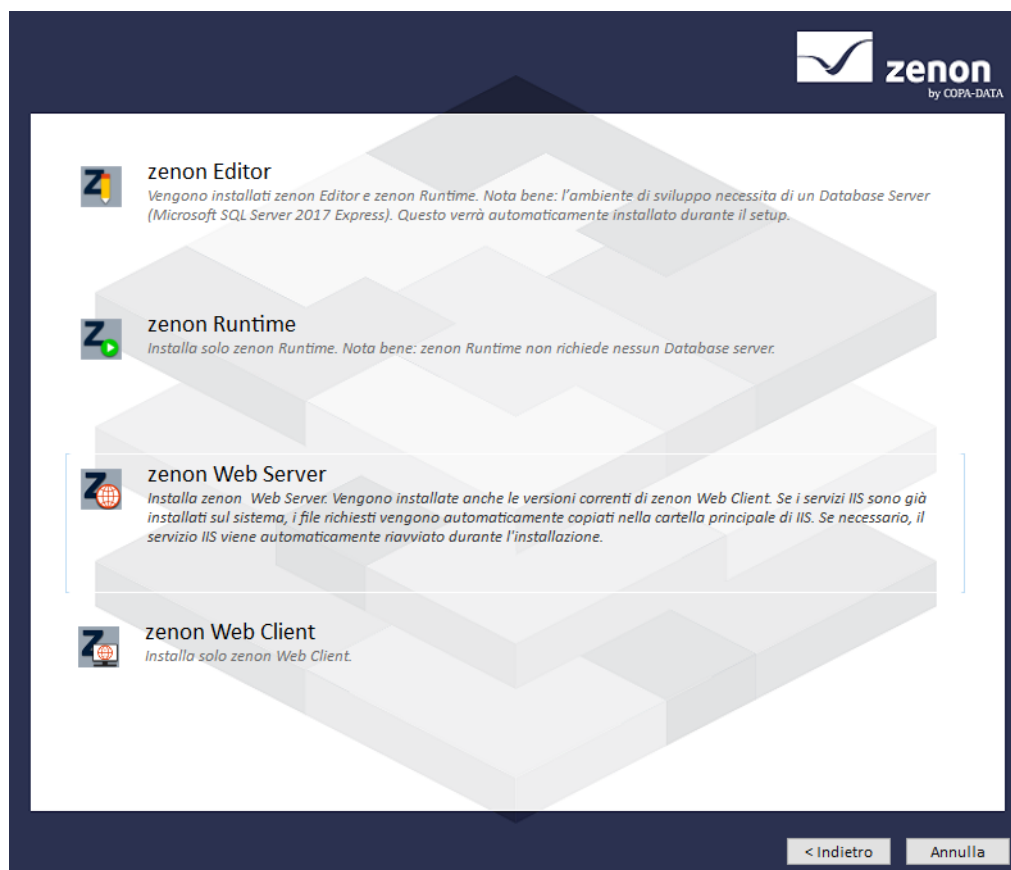


1. Selezionare la lingua desiderata per l'installazione dal menù a tendina nell'angolo in alto a sinistra.
Sono disponibili le seguenti lingue:
 - ▶ tedesco
 - ▶ Inglese
 - ▶ francese
 - ▶ italiano
 - ▶ spagnolo

2. Per informazioni su zenon, cliccare sul pulsante desiderato:
 - Apri un'animazione con le informazioni attuali sulla versione di zenon.
 - Apri la guida di zenon per l'installazione in formato PDF.
 - Apri la guida Quick-Start in formato PDF con suggerimenti per i primi passi di configurazione in zenon.
- Attenzione:** questa pagina non può più essere visualizzata in un secondo momento. Se si ha bisogno di informazioni sulla versione corrente o sul manuale per l'installazione, apritela ora.
3. Fare clic sul pulsante **Avanti** per aprire la finestra con le condizioni di licenza. Condizioni di licenza
4. Confermare le condizioni di licenza attivando la casella di controllo corrispondente.
 - Fare clic sul pulsante **Stampa** per stampare i termini della licenza.
5. Cliccando sul pulsante Impostazioni, aprire il dialogo di configurazione corrispondente.
 - Lesen Sie die Datenschutzerklärung sorgfältig durch. Fare clic sul pulsante **Stampa** per stampare i termini della licenza.
6. Aktivieren Sie die die Checkbox zur Datenschutzerklärung.
 - Damit bestätigen Sie, dass Sie diese gelesen haben.
7. Fare clic sul pulsante **Avanti** per aprire la finestra di personalizzazione delle cartelle di installazione: il pulsante "Avanti" è disponibile solamente se avete accettato le condizioni del contratto di licenza cliccando sul campo di opzione.

3.2 zenon: installazione standard

Selezionare il prodotto desiderato. Possono essere selezionati solo i prodotti che non sono ancora stati installati. Se si desidera una nuova installazione, è necessario prima disinstallare il prodotto già installato tramite il Pannello di controllo.



- ▶ **zenon Editor:**
Installa l'Editor di zenon e il Runtime di zenon. I componenti aggiuntivi necessari per l'Editor vengono installati automaticamente.
- ▶ **zenon Runtime:**
Installa solamente il Runtime di zenon.
- ▶ **zenon Web Server:**
Installa zenon Web Server e i corrispondenti zenon Web Client attuali.
- ▶ **zenon Web Client**
Installa solamente zenon Web Client.

 **Info**

L'installazione inizia immediatamente se si seleziona **zenon Web Server**, oppure **zenon Web Client**.

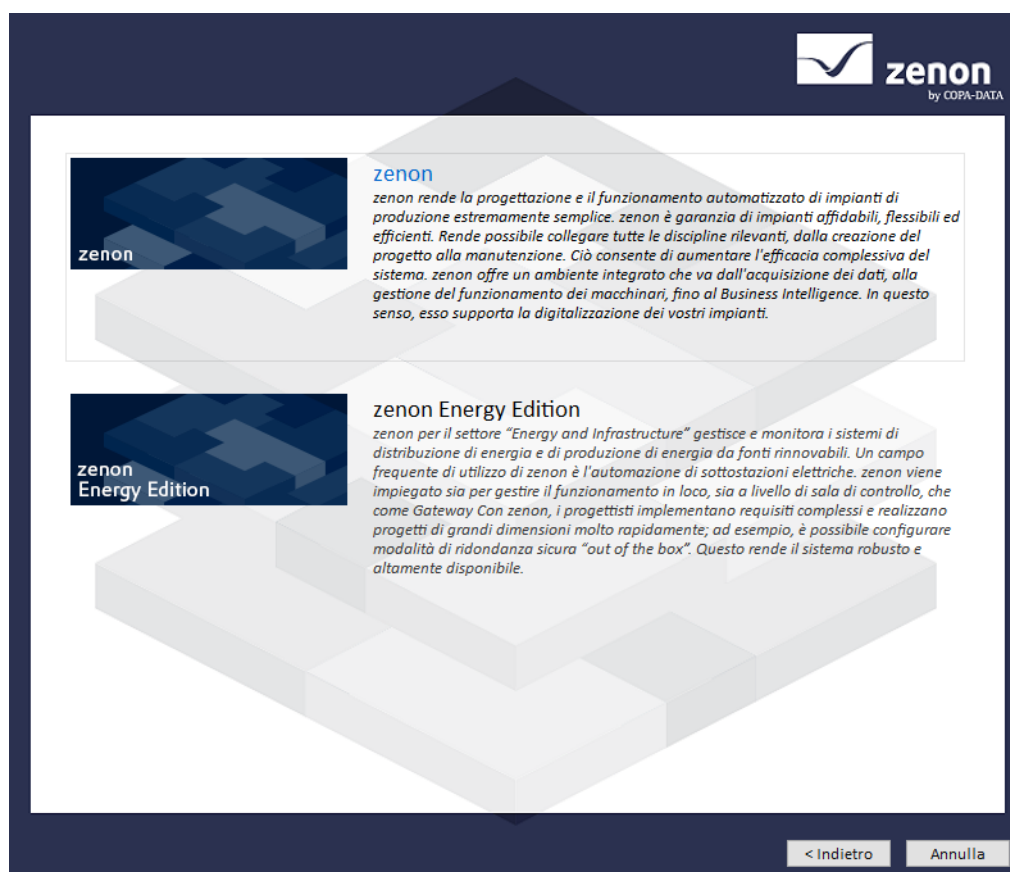
Se si seleziona **zenon Editor**, o **zenon Runtime**, si apre la finestra di dialogo per la selezione di un'edizione.

3.3 Selezione dell'edizione - Tipo di installazione (installazione definita dall'utente)

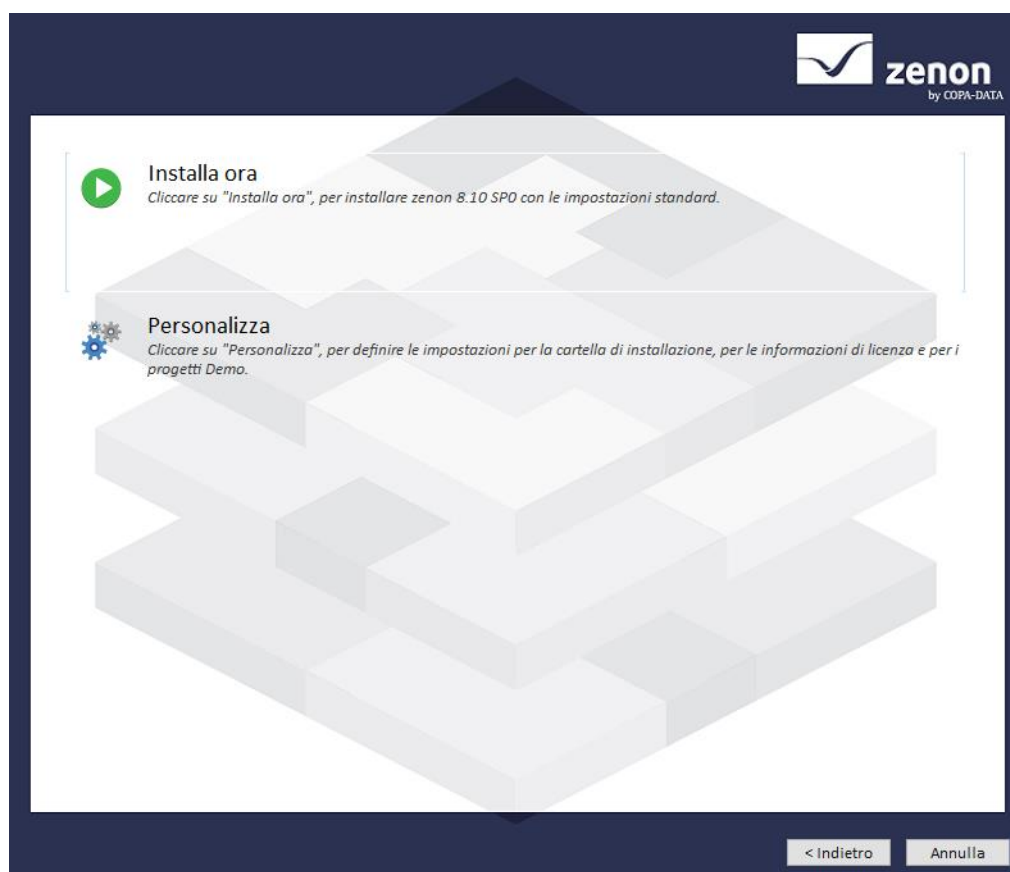
Cliccando sul prodotto desiderato, si apre la finestra che consente di selezionare l'edizione.

1. Selezionare la versione con licenza:

- ▶ **zenon**
- ▶ **zenon Energy Edition**



2. Cliccando sul prodotto desiderato, si apre la finestra che consente di selezionare l'edizione.



- ▶ **Installa ora:**
Avvia l'installazione dell'edizione selezionata.
È possibile che il computer venga riavviato automaticamente durante il processo di installazione. Seguire le istruzioni del Wizard.
- ▶ **Definito dall'utente :**
Apri ulteriori finestre per l'installazione individuale.
Qui è possibile modificare il percorso di installazione e decidere se installare progetti demo.

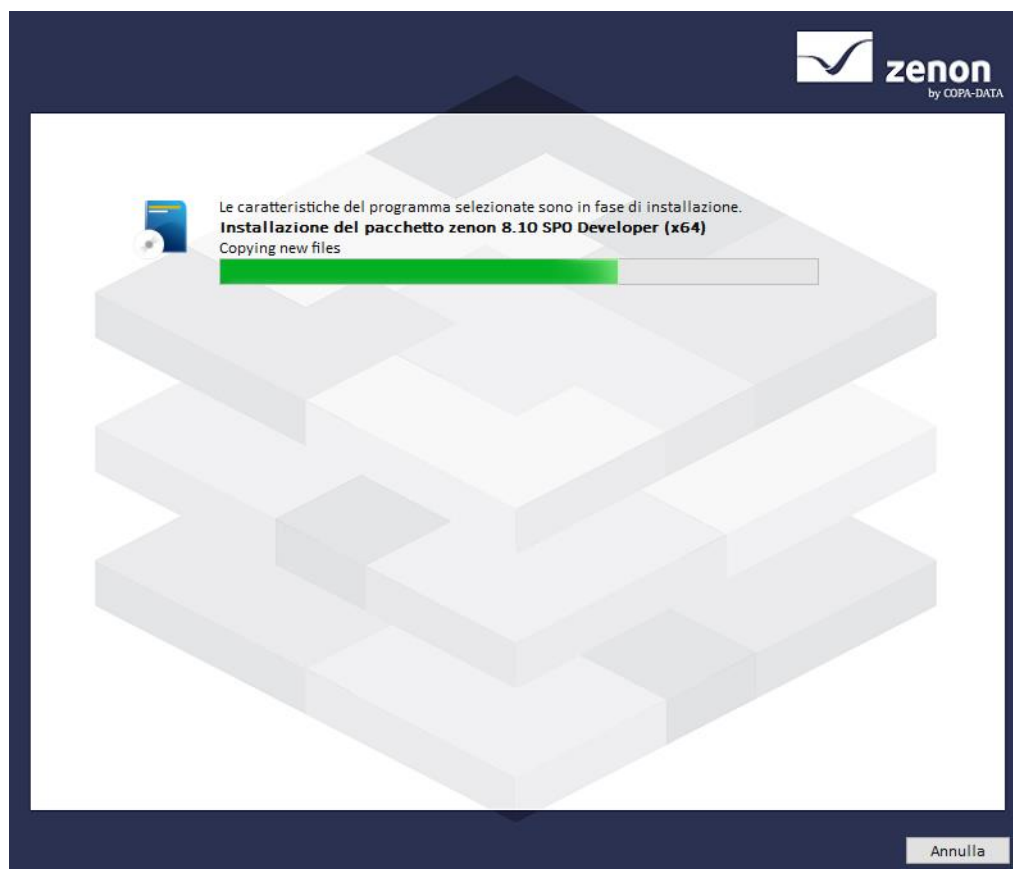
3. Fare clic sul pulsante **Avanti** per aprire la finestra di personalizzazione delle cartelle di installazione:



- ▶ Se necessario, definire le singole cartelle per la versione a 32 bit e la versione a 64 bit del programma.
Per farlo, cliccare sul pulsante **Cambia...**
 - ▶ Specificare la cartella di destinazione per i database di progetto.
Attenzione: il luogo di salvataggio selezionato qui deve avere uno spazio di archiviazione sufficiente. Tutti gli utenti hanno bisogno di diritti di scrittura.
 - ▶ Se si desidera installare anche il progetto demo, attivare la casella di controllo corrispondente.
Il progetto demo fornisce possibili scenari applicativi in diversi settori industriali.
4. Cliccare sul pulsante **Installa**.
Viene avviato il processo di installazione dell'edizione selezionata.
È possibile che il computer venga riavviato automaticamente durante il processo di installazione. Seguire le istruzioni del Wizard.

3.4 Installazione e completamento

Durante l'installazione, una barra informa sullo stato di avanzamento dell'installazione e sulla fase di installazione eseguita al momento.



Il processo di installazione può richiedere del tempo. Non spegnere il computer durante questo periodo di tempo. Assicurarsi inoltre che il computer non venga automaticamente messo in modalità di sospensione.

INSTALLATION ABBRECHEN

È possibile interrompere l'installazione cliccando sul pulsante **Annulla**.

Viene visualizzata una richiesta di conferma prima che l'installazione venga annullata.

- ▶ **Si:** L'installazione viene interrotta.
Viene visualizzata una finestra di dialogo in cui si informa che l'installazione non è stata completata.
- ▶ **No:** L'installazione continua.

ABSCHLUSS DER INSTALLATION

Die erfolgreiche Installation wird über einen Dialog angezeigt.

1. Clickare sul pulsante **Fine** per completare l'installazione.
2. Riavviare il setup per installare altri prodotti, come, ad esempio, **zenon Web Server**.

INSTALLAZIONE ANNULLATA O ERRATA

Se si verifica un errore durante l'installazione o se l'installazione è stata interrotta, viene visualizzata una finestra di dialogo che ne informa l'utente.

1. Clickare sul pulsante **Fine** per chiudere il setup.
2. Versuchen Sie die Installation erneut.
Eine Ursache für einen Abbruch kann eine ausstehende Installation eines Updates des Windows Betriebssystems sein.

4 zenon Logic Runtime für Windows (Standalone Installation)

Am Installationsmedium finden Sie im Verzeichnis *%AdditionalSoftware%\COPA-DATA zenon Logic Runtime* die Installationspakete für eine Standalone Installation der **zenon Logic Runtime für Windows**.

INHALTE DES ZENON LOGIC RUNTIME-INSTALLATIONSPAKETES

Mit dem Standalone Setup für die **zenon Logic Runtime für Windows** werden alle Komponenten für den Betrieb der 61131-3 Runtime am Zielsystem installiert. Dies umfasst unter anderem auch Komponenten zur Lizenzierung und Diagnose. Es werden keine Projektierungskomponenten installiert.

REQUISITI PER LA SOSTITUZIONE

Beachten Sie die allgemeinen Systemvoraussetzungen für die Installation des Produkts. Es dürfen keine Vorab-Installationen von **zenon Operator/Supervisor** oder **zenon Logic Runtime für Windows (Standalone)** vorliegen.

Das Produkt setzt bereits installierte Software am Zielsystem voraus. Sie finden diese auch im *%AdditionalSoftware%* Verzeichnis des Installationsmediums. Führen Sie daher gegebenenfalls die Installation der folgenden Pakete manuell aus:

- ▶ Microsoft Visual C++ Redistributables
- ▶ ...\\AdditionalSoftware\\WIBU-SYSTEMS CodeMeter Runtime Kit

Nach erfolgter Installation führen Sie das für Ihr Zielsystem passende Installationspaket (x86 oder x64) aus.

Info

Die Installation beinhaltet keine Lizenz für das Produkt. Die zenon Logic Runtime startet somit im Test-Modus. Die Lizenzierung kann anhand der allgemeinen Lizenzierungswerkzeuge vorgenommen werden.

UPDATE

Für das Update einer bereits installierten Version deinstallieren Sie diese und führen Sie eine erneute Installation durch.

5 Installazione e disinstallazione invisibile all'utente

Si può installare e disinstallare zenon anche in modalità invisibile all'utente (si parla rispettivamente di Silent Installation e di Silent Remove).

Info

L'installazione e disinstallazione invisibile all'utente è possibile per tutte le versioni di zenon a partire dalla 7.10.

INSTALLAZIONE INVISIBILE ALL'UTENTE A PARTIRE DA ZENON 7.20

Sintassi: **scada.exe /silent /language:[Numero] CDPROP_EDITION=[Edizione] CDPROP_TYPE=[Tipo] ISFeatureInstall=[Funzionalità]**

Parametro	Argomenti	Descrizione
scada.exe		Inizializzazione dell'installazione.
/silent		Installazione invisibile all'utente.
/language:	<ul style="list-style-type: none"> ▶ 1031: tedesco ▶ 1033: inglese ▶ 1034: spagnolo ▶ 1036: francese ▶ 1040: italiano 	Selezione della lingua. Esempio inglese: language:1033
CDPROP_EDITION=	<ul style="list-style-type: none"> ▶ ENERGY ▶ SUPERVISOR 	Selezione della Edition. Esempio Energy Edition:

Parametro	Argomenti	Descrizione
	<ul style="list-style-type: none"> ▶ OPERATOR ▶ PHARMA ▶ SCIENCE 	CDPROP_EDITION=ENERGY Non necessario per zenon Web Server e zenon Web Client.
CDPROP_TYPE=	<ul style="list-style-type: none"> ▶ ED: Editor e Runtime ▶ RT: Runtime 	Selezione di Editor o Runtime. Esempio Runtime: CDPROP_TYPE=RT Non necessario per zenon Web Server e zenon Web Client.
ISFeatureInstall=	<ul style="list-style-type: none"> ▶ PREREQUISITES_EDITOR,SCADA: Editor ▶ PREREQUISITES_RUNTIME,SCADA: Runtime ▶ PREREQUISITES_WEBSERVER,WEBSERVER: Web Server ▶ PREREQUISITES_WEBCLIENT,WEBCLIENT: Web Client 	Selezione della funzionalità da installare. Esempio zenon Editor: ISFeatureInstall=PREREQUISITES_EDITOR,SCADA

Esempi:

- ▶ Installazione Editor, tedesco, Energy Edition:
**scada.exe /silent /language:1031 CDPROP_EDITION=ENERGY CDPROP_TYPE=ED
ISFeatureInstall=PREREQUISITES_EDITOR,SCADA**
- ▶ Installazione Runtime, inglese, Supervisor Edition:
**scada.exe /silent /language:1033 CDPROP_EDITION=SUPERVISOR CDPROP_TYPE=RT
ISFeatureInstall=PREREQUISITES_RUNTIME,SCADA**
- ▶ Installazione zenon Web Server, tedesco.
scada.exe /silent /language:1031 ISFeatureInstall=PREREQUISITES_WEBSERVER,WEBSERVER
- ▶ Installazione zenon Web Client, tedesco:
scada.exe /silent /language:1031 ISFeatureInstall=PREREQUISITES_WEBCLIENT,WEBCLIENT

DISINSTALLAZIONE INVISIBILE ALL'UTENTE A PARTIRE DA ZENON 7.20.

Il **GUID** è parte del percorso e dipende dalla versione. Nelle proprietà dei file di un **GUID** è visualizzata la versione corrispondente.

Senza file LOG:

- ▶ Percorso: %ProgramFiles(x86)%\InstallShield Installation Information\{GUID}
Esempio: C:\Program Files (x86)\InstallShield Installation Information\{9BE6EDFE-3465-486F-87EE-1C439DE5EA9A}
- ▶ Sintassi: **SCADA.exe /remove /silent**

Con file LOG

- ▶ Percorso: %ProgramFiles(x86)%\InstallShield Installation Information\{GUID}
Esempio: C:\Program Files (x86)\InstallShield Installation Information\{9BE6EDFE-3465-486F-87EE-1C439DE5EA9A}
- ▶ Sintassi: **SCADA.exe /remove /silent /log"%TEMP%"**

DISINSTALLAZIONE INVISIBILE ALL'UTENTE ZENON 7.10 E 7.11

Sintassi: **scada.exe /silent /language:[Numero] CDPROP_EDITION=[Edizione] CDPROP_TYPE=[Tipo] ISFeatureInstall=[Funzionalità]**

Parametro	Argomenti	Descrizione
scada.exe		Inizializzazione dell'installazione.
/silent		Installazione invisibile all'utente.
/language:	<ul style="list-style-type: none"> ▶ 1031: tedesco ▶ 1033: inglese ▶ 1034: spagnolo ▶ 1036: francese ▶ 1040: italiano 	Selezione della lingua. Esempio inglese: language:1033
CDPROP_EDITION=	<ul style="list-style-type: none"> ▶ ENERGY ▶ SUPERVISOR ▶ OPERATOR ▶ PHARMA 	Selezione della Edition. Esempio Energy Edition: CDPROP_EDITION=ENERGY Non necessario per zenon Web Server.
CDPROP_TYPE=	<ul style="list-style-type: none"> ▶ ED: Editor e Runtime 	Selezione di Editor o Runtime.

Parametro	Argomenti	Descrizione
	<ul style="list-style-type: none"> ▶ RT: Runtime 	<p>Esempio Runtime: CDPROP_TYPE=RT</p> <p>Non necessario per zenon Web Server.</p>
ISFeatureInstall=	<ul style="list-style-type: none"> ▶ WIBU,SCADA,MS,MSALL,SQL,COMMON: Editor ▶ WIBU,SCADA,MS,MSALL,COMMON: Runtime ▶ WIBU,WS,MSALL,COMMON: Web Server 	<p>Selezione della funzionalità da installare.</p> <p>Esempio zenon Editor: ISFeatureInstall=WIBU,SCADA,MS,MSALL,SQL,COMMON</p>

Esempi:

- ▶ Installazione Editor, tedesco, Energy Edition:
**scada.exe /silent /language:1031 CDPROP_EDITION=ENERGY CDPROP_TYPE=ED
ISFeatureInstall=WIBU,SCADA,MS,MSALL,SQL,COMMON**
- ▶ Installazione Runtime, inglese, Supervisor Edition:
**scada.exe /silent /language:1033 CDPROP_EDITION=SUPERVISOR CDPROP_TYPE=RT
ISFeatureInstall=WIBU,SCADA,MS,MSALL,COMMON**
- ▶ Installazione zenon Web Server, tedesco.
scada.exe /silent /language:1031 ISFeatureInstall=WIBU,WS,MSALL,COMMON

DISINSTALLAZIONE INVISIBILE ALL'UTENTE VERSIONE 7.10 E ZENON 7.11

ZENON 7.10

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

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

ZENON 07:11

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

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

6 Gestione degli errori

CONTROLLO PRIMA DELL'INSTALLAZIONE

Prima dell'installazione, viene eseguito un controllo dei requisiti necessari sul sistema. Se i requisiti non sono soddisfatti, saranno visualizzati in una pagina separata con istruzioni su come correggere i problemi.

ERRORI DURANTE L'INSTALLAZIONE

Se si verificano errori durante l'installazione, viene visualizzato un messaggio di errore corrispondente.

Se si ha bisogno dell'aiuto del supporto tecnico di COPA-DATA per la soluzione di eventuali problemi:

1. Se possibile, fare uno screenshot del messaggio di errore.
2. Passare alla cartella %Temp%/SCADALOG.
3. Qui è possibile trovare i file di LOG dell'installazione.
4. Creare un file ZIP con il contenuto della cartella.
5. Inviare file e screenshot a support@copadata.com.

Se la finestra dei messaggi è già stata chiusa, i file di log con le informazioni di installazione di SQL Server si trovano nella cartella:

C:\Program Files\Microsoft SQL Server\110\Setup Bootstrap\LOG

Suggerimento: il file **Summary.txt** fornisce un indizio su dove potrebbe trovarsi il problema.

Info

Firewall: Durante l'installazione, zenon configura automaticamente il firewall installato con Windows. I firewall di altri produttori, invece, devono essere configurati correttamente dall'utente.

FREQUENTI FONTI DI ERRORE DURANTE L'INSTALLAZIONE:

- ▶ Il programma antivirus è attivo e blocca l'installazione per l'erronea individuazione di virus. Soluzione: scollegare il computer dalla rete, disattivare il programma antivirus, eseguire nuovamente l'installazione.
- ▶ Il firewall non è stato configurato correttamente. Soluzione: scollegare il computer dalla rete, disabilitare il firewall, eseguire nuovamente l'installazione.
- ▶ Nel sistema esiste già un'installazione SQL errata. Soluzione: creare backup del progetto se ancora possibile, disinstallare SQL Server, rinominare la cartella SQL, riavviare l'installazione.

7 Update di Windows

Attenzione: gli aggiornamenti automatici di Windows influiscono sull'installazione!

Se viene eseguito un aggiornamento del sistema operativo Windows durante il setup di zenon, potrebbero verificarsi problemi durante l'installazione di zenon.

Per evitarlo:

- ▶ Disattivate gli update automatici di Windows per tutta la durata dell'installazione.
- ▶ Eseguire gli aggiornamenti di Windows prima di installare zenon.

8 Virus scanner

I software antivirus possono rallentare o addirittura impedire l'installazione di zenon.

Nota: se il software antivirus utilizzato causa problemi di installazione, disattivarlo per tutta la durata dell'installazione. Durante questo periodo i computer interessati possono essere esposti a rischi più elevati. Riattivare il programma antivirus subito dopo aver installato zenon.

9 Struttura file

La struttura file viene creata o estesa durante l'installazione.

I file di programma di zenon sono memorizzati in una cartella specificata durante l'installazione.

Inoltre, durante l'installazione viene richiesta una cartella per i database SQL dei progetti. Sul supporto di memorizzazione deve essere riservato sufficiente spazio libero per la memorizzazione del progetto (SQL, immagini, ecc.), poiché qui vengono memorizzati tutti i dati di progetto attuali e futuri.

Cartella	Percorso
Cartella di programma	Sistema a 32-Bit: <i>%Program Files%\COPA-DATA\zenon7xxx</i> Sistema a 64-Bit: <i>%Program Files%\COPA-DATA\zenon7xxx</i> <i>%Program Files (x86)%\COPA-DATA\zenon7xxx</i>
Cartella dei dati programma, per es. simboli globali, modelli di stampa, file di Log,	<i>%ProgramData%\COPA-DATA\zenon7xxx</i>

Cartella	Percorso
ecc.,	
Cartella database (SQL)	<i>%ProgramData%\COPA-DATA\SQL</i>
Cartella di sistema	<i>%ProgramData%\COPA-DATA\System</i>
Impostazioni Editor e profili	<i>%Users%\UserName\AppData\Local\COPA-DATA\zenon\Editor</i>
Impostazioni per Diagnosis Viewer	<i>%Users%\UserName\AppData\Local\COPA-DATA\zenon\Diag View</i>

DEFINIZIONE DELLA CARTELLA RUNTIME E DELLA CARTELLA DATI

CARTELLA RUNTIME

L'Editor crea i file Runtime nella cartella Runtime, oppure questi vengono trasferiti a questa cartella tramite trasporto remoto. La cartella Runtime viene creata o aggiornata durante la compilazione di un progetto nell'Editor. Questa cartella può essere parametrizzata nell'Editor di zenon con la proprietà del progetto **Cartella Runtime**. Con il trasferimento remoto, la cartella Runtime viene specificata nelle impostazioni del Trasporto Remoto.

CARTELLA DATI

Il Runtime salva tutti i file di dati generati a Runtime (come, per esempio, file di allarme, file di archivi ecc) nella cartella dati. Per impostazione predefinita, la cartella dati viene creata come sottocartella della cartella Runtime. Riceve automaticamente il nome del computer su cui è in esecuzione il Runtime. Si può modificare questo percorso di salvataggio nelle proprietà di progetto (**Generale/Cartella dati**).

Suggerimento: non salvare mai la cartella dati su un'unità rimovibile, come una chiavetta USB o una periferica di rete. Si consiglia di salvare i dati localmente e di eseguirne un backup esternamente.

Attenzione

Se il percorso specificato non esiste o non è disponibile, il Runtime non scriverà più nessun dato. Questo comporta una perdita completa (100%) dei dati. Il Runtime rimane operativo, ma deve essere riavviato non appena il percorso è nuovamente disponibile. La disponibilità della cartella può essere verificata con la variabile driver di sistema **Cartella Runtime non disponibile** (**SYSDRV.chm::/25965.htm**) .

10 Porte libere

zenon e zenon Logic utilizzano determinate porte per comunicare in rete. Se altri programmi, ad esempio un server SQL già installato, occupano queste porte, questo può interferire con la comunicazione di zenon. Molte porte in zenon possono essere modificate utilizzando lo **Startup Tool**, o le proprietà nell'Editor.

Per verificare l'assegnazione delle porte, procedere come segue:

1. Inserire nella riga di comando `netstat -a -n -o`.
Per aprire la riga di comando in Windows:
 - ▶ Premere i tasti Windows+R.
 - ▶ Digitare `cmd` e confermare con **OK**.
 - ▶ Si aprirà una finestra di inserimento DOS.
 - ▶ In questa finestra, inserire il comando `netstat`.
2. Verrà visualizzata una lista di tutte le porte TCP/IP e UDP attive.
3. Controllare le porte di ascolto (stato: *ASCOLTO*) e verificare se per le porte necessarie per la comunicazione di zenon e zenon Logic l'ID processo (PID) corrisponde ai processi di zenon e zenon Logic.
Questi PID possono essere letti nel **Task Manager di Windows**. Per farlo, aprire il **Task Manager di Windows** e passare alla scheda **Servizi**.
4. Se un altro software utilizza queste porte, riconfigurarli.
È possibile vedere quali porte siano utilizzate da zenon e zenon Logic nella tabella **Allocazione delle porte da parte di zenon e zenon Logic**. In questa tabella si può anche verificare se le porte di questi programmi sono personalizzabili.

ALLOCAZIONE DELLE PORTE DA PARTE DI ZENON E ZENON LOGIC

Applicazione	Descrizione	Numeri di porta	Protocollo di trasporto
stratonrt[k].exe	Runtime di zenon Logic Comunicazione polling e workbench di zenon Logic .	▶ 1200-1210	TCP
stratonrt[k].exe		▶ 4500-4510	TCP
stratonrt[k].exe	zenon Logic Ridondanza.	▶ 7000-7010	TCP
stratonrt[k].exe	zenon Logic Runtime -	▶ 9000-9010	TCP

Applicazione	Descrizione	Numeri di porta	Protocollo di trasporto
	comunicazione spontanea.		
zennetsrv.exe	zenon Servizio di rete.	▶ 1100-1100	TCP
zensysrv.exe	zenon Servizio di trasporto.	▶ 1101	TCP
zendbsrv.exe	zenon Servizio di database.	▶ 1103	TCP
zenAdminsrv.exe	zenon Servizio di amministrazione.	▶ 50777	TCP
zenLogSrv.exe	zenon Servizio di Loggin	▶ 50780	TCP
zenvnc.exe	Servizio Desktop remoto di zenon.	▶ 5600 (fisso) ▶ 5610 (fisso)	TCP
CodeMeter.exe	Code Meter Servizio Dongle.	▶ 22350 (modificabile, ma deve rimanere invariato)	TCP
WkSvW32.exe	WibuKey Servizio di rete.	▶ 22347 (fisso)	TCP
Zenrt32.exe	Message Control con Voice over IP.	▶ 5060: SIP ▶ 4000: RTP ▶ 4001: RTCP (fisso) SIP e RTP possono essere configurati tramite l'Editor. RTCP viene impostato automaticamente dal sistema.	UDP

11 Installazione di una versione precedente dopo aver installato zenon 8.10 (sistema operativo a 64-Bit)

Se una versione di zenon inferiore a 7.10 è installata su un sistema operativo a 64 bit dopo aver installato zenon 8.10, i servizi a 64 bit devono essere nuovamente registrati tramite la riga di comando dopo la loro installazione. La registrazione può essere effettuata usando un file batch, oppure manualmente.

Registrazione con file batch:

1. Copiare il file **Register.bat** dal supporto di installazione di zenon.
2. Questo file si trova nella cartella: ...\\AdditionalSoftware\\Register Admin Service and Log Service (x64)\\
3. Eseguire il file sul computer come amministratore.

Registrazione manuale:

1. Avviare la riga di comando con i diritti di amministratore.
2. Passare alla cartella *%Program Files%\\Common Files\\COPA-DATA\\zenAdminSrv*
3. Avviare il servizio **zenAdminSrv.exe** con il parametro **-service**
4. Passare alla cartella *%Program Files%\\Common Files\\COPA-DATA\\zenLogSrv*
5. Avviare il servizio **zenLogSrv.exe** con il parametro **-service**

Esempio

zenAdminSrv:

- ▶ Cartella: C:\\Program Files\\Common Files\\COPA-DATA\\zenAdminSrv
- ▶ Comando: **zenAdminSrv.exe -service**

zenLogSrv:

- ▶ Cartella: C:\\Program Files\\Common Files\\COPA-DATA\\zenLogSrv
- ▶ Comando: **zenLogSrv.exe -service**

12 Installazione parallela della versione 7.x con la versione 6.51

Se una versione 7.x è installata su un sistema su cui è già installato zenon 6.51, il **Multiple Network Protocol Driver** deve essere reinstallato dopo un riavvio seguente all'installazione.

PER SISTEMI X64

Per reinstallare:

1. Riavviare il sistema.
2. Sul supporto di installazione, aprire il percorso *AdditionalSoftware\COPA-DATA Multiple Network Protocol Driver*.
3. Eseguire il file **MNDPx64Setup.bat**

Questo reinstalla il driver e lo collega correttamente agli adattatori di rete.

PER I SISTEMI X86:

Per reinstallare:

1. Riavviare il sistema.
2. Sul supporto di installazione, aprire il percorso *AdditionalSoftware\COPA-DATA Multiple Network Protocol Driver*
3. Eseguire il file **MNDPx86Setup.bat**

Questo reinstalla il driver e lo collega correttamente agli adattatori di rete.

13 Requisiti di sistema

zenon 8.10 può essere utilizzato su tutti gli attuali sistemi operativi Microsoft. zenon viene testato costantemente per verificare la compatibilità con le versioni più recenti dei sistemi operativi, con i più recenti service pack e hotfix disponibili.

Le modifiche apportate da Service Packs, Hotfixes oppure Patches di Microsoft possono causare problemi di incompatibilità e pregiudicare la funzionalità del software. In questo caso, COPA-DATA fornirà al più presto una versione aggiornata di zenon. Per ulteriori informazioni, contattare il supporto di COPA-DATA: support@copadata.com.

Attenzione

Tenere presente quanto segue in fase di progettazione:

- ▶ Per garantire una visualizzazione ottimale di zenon a Runtime, si raccomanda di adottare l'impostazione predefinita per la **visualizzazione** Windows (corrisponde al 100%). Valori più elevati possono causare la visualizzazione non corretta di elementi grafici, simboli, testi, ecc.
- ▶ I temi di Windows possono coprire elementi a Runtime. Quando si configura un progetto, assicurarsi che ci sia una distanza adeguata tra gli elementi e il bordo dello schermo.

▶

13.1 Sistemi operativi desktop

Sistemi operativi desktop supportati e Service Pack/Versione Windows minimo richiesto:

Sistema operativo	zenon Editor	zenon Runtime	zenon Web Server	zenon Web Client	zenon HTML Web Engine	zenon Logic Runtime	zenon Analyzer Server
Windows 7 (versioni Professional, Enterprise e Ultimate, in tutti i casi le versioni x86 e x64).	Non eseguibile	SP 1	SP 1	SP 1	SP 1	SP 1	Non eseguibile
Windows Embedded Standard 7 (a condizione che esistano tutte le componenti necessarie del sistema operativo)	Non eseguibile	SP 1	SP 1	SP 1	SP 1	SP 1	Non eseguibile
Windows 8 e 8.1 (versioni Standard, Professional e Enterprise, in tutti i casi le versioni x86 e x64).	Nur x64 ab SP 0	SP 0	SP 0	SP 0	SP 0	SP 0	Solo x64 con SP 0
Windows Embedded 8 Standard (a condizione che esistano tutte le componenti necessarie del sistema operativo)	Non eseguibile	SP 0	SP 0	SP 0	SP 0	SP 0	Non eseguibile
Windows 10 (Home, Pro, Enterprise, Education, Pro Education, Enterprise LTSB, IoT Enterprise, Pro for Workstations)	Solo x64 da 1507	1507	1507	1507	1507	1507	Solo Home, Pro e Enterprise (sempre x64) da 1507

13.2 Sistemi operativi server

Sistemi operativi server supportati e Service Pack/Versione Windows minimo richiesto:

[illegible]

13.3 Sistemi operativi server e desktop fino a Windows 8.1

Panoramica dei sistemi operativi server e desktop supportati fino a Windows 8.1

	Windows Embedded 7/8 Standard	Windows Embedded 8.1 Pro/Industry	Windows 7 SP1/Windows 8 e 8.1/ Server 2008 (R2) SP1, 2012 e 2012 R2	Windows CE
Editor	--	X	X	--
Runtime	X	X	X	--
Runtime per Windows CE	--	--	--	X
Web Server	X	X	X	X (solo Web Server Pro Light)
Web Client	X	X	X	--
HTML Web Engine	X	X	X	--

Legenda:

- ▶ X: supportato
- ▶ --: non supportato

Attenzione: Dalla versione 7.50, Windows CE non è più supportato.

Verrà installato zenon CE versione 7.20. Per utilizzarla, è necessario creare i file Runtime per la versione 7.20.

13.4 Windows CE e Windows Embedded

Sistemi operativi supportati:

Sistema operativo	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 e x86) Attenzione: supportato solo fino alla versione 7.20. A partire dalla versione 7.50, devono essere creati file Runtime per Runtime per 7.20.	Non eseguibile	Solo zenon Operator	Solo Pro Light	Non eseguibile	Non eseguibile	eseguibile	Non eseguibile
Windows Embedded Compact 7 (ARM e x86) Attenzione: supportato solo fino alla versione 7.20. A partire dalla versione 7.50, devono essere creati file Runtime per Runtime per 7.20.	Non eseguibile	Solo zenon Operator	Solo Pro Light	Non eseguibile	Non eseguibile	eseguibile	Non eseguibile

13.5 Windows 10

Panoramica dei sistemi operativi desktop supportati per Windows 10

Versione 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

Legenda:

- ▶ **X**: disponibile
- ▶ **--**: impossibile eseguire

13.6 Requisiti di sistema per l'utilizzo di DirectX

I seguenti requisiti minimi devono essere soddisfatti quando si utilizza *DirectX Hardware* o *DirectX Software*:

Nota: La gestione di progetti di grandi dimensioni o di più progetti caricati in contemporanea, presuppone l'uso di un hardware dalle elevate performance. In questo caso, i requisiti minimi possono essere maggiori di quelli elencati nella tabella successiva.

Parametro	Requisito minimo	Raccomandato
CPU:	Single Core con supporto SSE2.	Quad Core o più core
Scheda grafica: (solo DirectX Hardware)	Scheda grafica DirectX 11 Mainstream. Nota: soprattutto quando si	Scheda grafica dedicata DirectX 11 AMD o nVidia high-end.

Parametro	Requisito minimo	Raccomandato
	utilizza un chip grafico integrato, a seconda del driver utilizzato, la qualità della visualizzazione potrebbe risultare compromessa	
Memoria grafica: (solo DirectX Hardware)	1 GB VRAM Nota: la quantità di memoria richiesta dipende dal numero di immagini aperte e dagli elementi visualizzati.	2 GB VRAM
Driver della scheda grafica: (solo DirectX Hardware)	Il driver più recente del produttore della scheda grafica.	
Sistema operativo:	<p><i>DirectX Hardware</i> e <i>DirectX Software</i> funzionano solamente sui sistemi operativi che supportano <i>DirectX11.1</i>.</p> <p>Se il sistema non supporta <i>DirectX 11.1</i>, si passa automaticamente a <i>Windows standard</i>.</p> <p>Deve essere installato sul PC il Runtime <i>DirectX</i> corrente. Quest'ultimo viene installato per zenon automaticamente con il setup. Per zenon Web Client, invece, deve essere installato manualmente.</p>	

Per verificare la compatibilità della scheda grafica e del driver con DirectX Hardware, si può usare il tool dei sistemi operativi di Windows **dxdiag.exe**.

Fino a Windows 7: controllare il valore **DDI-Version** alla voce **Visualizzazione**. Ad esempio, il valore *11* sta per DirectX 11.

A partire da Windows 8: tutte le versioni di DirectX supportate sono elencate nella scheda **Display**, alla voce **Feature Levels**. DirectX 11, per esempio, viene visualizzato come *11.0*.

13.7 Software aggiuntivo

SERVER SQL.

L'Editor di zenon funziona con un database SQL. Quest'ultimo viene installato con l'installazione dell'Editor di zenon.

- ▶ Fino alla versione 6.20 SP4:
- ▶ Dalla versione 06:21 SP0:
- ▶ Dalla versione 7:00 SP0:

- ▶ Dalla versione 07:10 SP0:
- ▶ Dalla versione 07:20 SP0:
- ▶ Dalla versione 07:50 SP0:
- ▶ Dalla versione 7:00 SP0:
- ▶ Dalla versione 08:00 SP0:
- ▶ Dalla versione 08:10 SP0:

⚠ **Attenzione**

Quando si cambia la versione o si aggiorna il service pack del SQL Server: i progetti devono essere salvati ed esportati nella versione originale e poi reimportati nella nuova versione.

Nota: se esiste già una versione di zenon con la stessa versione di SQL Server, ma con un Service Pack diverso, questo Service Pack non sarà aggiornato dalla nuova installazione di zenon. L'aggiornamento del Service Pack può essere effettuato manualmente o tramite Windows Update.

DONGLE

- ▶ Il software CodeMeter necessario per la protezione dongle è sempre installato automaticamente.
- ▶ Il software WibuKey è disponibile sul supporto di installazione nel percorso:
...\\AdditionalSoftware\\WIBU-SYSTEMS CodeMeter Runtime Kit

13.8 Autorizzazioni utente

Per l'installazione sono necessari i diritti di amministratore di Windows.

Per la gestione corrente del software, invece, sono necessari i diritti utente standard di Windows. Il controllo account utente (UAC) può essere abilitato con il massimo livello di sicurezza.

13.9 Requisiti hardware

La versione PC e quella CE di zenon hanno esigenze diverse per quanto riguarda l'hardware richiesto. In questo capitolo sono riportati i requisiti hardware per le singole versioni di Editor e Runtime, e per zenon Webserver e zenon Web Client.

L'Editor utilizza un Microsoft SQL Server come server SQL e pone requisiti hardware più elevati rispetto al Runtime. Se Editor e Runtime devono essere eseguiti sullo stesso sistema contemporaneamente, i requisiti si sommano.

⚠️ Attenzione

Si raccomanda l'uso di schede grafiche con memoria grafica propria e supporto di DirectX. Le schede grafiche a memoria condivisa possono occupare troppa memoria, con conseguente degrado delle prestazioni. A questo proposito, fare riferimento a quanto detto nel capitolo Requisiti di sistema quando si utilizza DirectX (A pagina: 33). Quando si utilizza Multi-Touch, è necessario attenersi alla configurazione consigliata in questo capitolo.

OTTIMIZZAZIONE DELLE PRESTAZIONI

Si noti che tutte le specifiche rappresentano solo i requisiti minimi per il sistema. Una qualità superiore dell'hardware migliora notevolmente le prestazioni di zenon.

- ▶ Assicurarsi che l'hardware - i client e soprattutto i server - dispongano di una RAM sufficiente.
- ▶ Ottimizzare l'hardware per il backup dei dati, ad esempio con una veloce memoria dati SSD.
- ▶ Armonizzare l'hardware dei client e della rete. Un sistema è sempre potente quanto la sua componente più debole.
- ▶ Ottimizzare l'architettura di rete, ad esempio utilizzando un cablaggio ad alta velocità di trasferimento dati e i dispositivi corrispondenti (switch e router).
- ▶ Per l'uso in un ambiente virtuale, assicurarsi che il sistema virtuale sia configurato in modo da ottimizzarne le prestazioni.

13.9.1 Editor

I requisiti minimi si riferiscono ad un'installazione completa dell'Editor. La gestione di progetti di grandi dimensioni o di più progetti caricati in contemporanea, presuppone l'uso di un hardware dalle elevate performance. In questo caso, i requisiti minimi possono essere maggiori di quelli elencati nella tabella successiva.

Hardware	Requisito minimo	Raccomandato
CPU	Single Core con supporto SSE2.	Quad Core
Memoria RAM	Da 4 GB Nota: più progetti si tengono in memoria contemporaneamente, più alti sono i requisiti di memoria.	8 GB
Disco fisso	Almeno 4 GB di spazio libero su disco per l'installazione completa, più spazio di memoria	

Hardware	Requisito minimo	Raccomandato
	per i progetti.	
Risoluzione dello schermo	Extended VGA con 1024 x 768. Attenzione: Manche Dialoge, z.B. der Filter des AML/CEL Bildes, sind bei einer Höhe von weniger as 850 Pixels schlecht oder u. U. nicht bedienbar.	Sistema doppio monitor: 2 volte 1920 x 1080
Scheda grafica	64 MB di memoria dedicata Le schede con memoria condivisa possono causare perdite di prestazioni. A questo proposito, fare riferimento a quanto detto nel capitolo Requisiti di sistema quando si utilizza DirectX (A pagina: 33).	
Periferiche di input	Tastiera standard e mouse standard	
Interfaccia USB o unità DVD	Per l'installazione, a seconda del supporto di installazione. L'installazione è possibile anche attraverso la rete. I file di installazione possono essere anche scaricati dall'area clienti del sito di COPA-DATA.	
Interfaccia parallela o USB	Necessaria per dongle in caso di registrazione licenza via dongle. Per il dongle di rete, necessaria solo per il server dongle.	
Connessione di rete (opzionale)	10 MBit/s con protocollo TCP/IP per il Trasporto Remoto, dongle di rete, backup di progetti su server file centrale, Editor multi-utente ecc.	1000 MBit/s

Nota: quando si lavora con progetti multi-utente complessi, tenere presenti le informazioni del capitolo Requisiti hardware.

13.9.2 Runtime

I requisiti minimi si riferiscono ad un'installazione completa del Runtime. La gestione di progetti di grandi dimensioni o di più progetti caricati in contemporanea, presuppone l'uso di un hardware dalle elevate performance. In questo caso, i requisiti minimi possono essere maggiori di quelli elencati nella tabella successiva.

Hardware	Requisito minimo	Raccomandato
CPU	Single Core con supporto SSE2.	Quad Core

Hardware	Requisito minimo	Raccomandato
Memoria RAM	Da 512 MB. Nota: progetti con grandi quantità di dati, progetti di rete, più progetti eseguiti in parallelo e progetti con ridondanza richiedono più spazio di memoria.	4096 MB
Disco fisso	2 GB di spazio di memoria libero per l'installazione del Runtime, più spazio di memoria per i progetti. Attenzione: se si salvano dati storici (per esempio dati d'archivio oppure dai relativi ad allarmi e/o dati CEL), sul disco fisso ci deve essere uno spazio di memoria sufficiente; oppure si deve prevedere in fase di progettazione che i dati storici vengano esportati oppure cancellati.	
Risoluzione dello schermo	1024 x 768. Si prega di notare anche la nota nel riquadro informativo sotto la tabella.	
Scheda grafica	64 MB di memoria dedicata Le schede con memoria condivisa possono causare perdite di prestazioni. A questo proposito, tenere presente le informazioni del capitolo Requisiti di sistema quando si utilizza DirectX (A pagina: 33).	
Periferiche di input	Tastiera e/o mouse. È possibile anche il funzionamento tramite touch screen. Ci sono molti tipi di keyboard personalizzabili disponibili per il touch screen. È anche possibile il funzionamento multi-touch.	
Interfaccia USB (opzionale)	<ul style="list-style-type: none"> ▶ Per l'installazione. Installazione possibile anche tramite rete o altri supporti dati. ▶ Per Dongle. Possibile anche dongle di rete. 	
Connessione di rete (opzionale)	64 kBits/s per progetti Client/Server standard. 100 Mbit/s full duplex per ridondanza..	1000 Mbit/s full duplex per progetti Client/Server standard.

Hardware	Requisito minimo	Raccomandato
Connessione remota (opzionale)	Requisito minimo: Modem dial-up con 9600 bit/s.	1 MBit/s full duplex.
Impiego WAN (opzionale):	Qualsiasi connessione tramite router, per esempio via ISDN oppure DSL. Per motivi tecnici, la trasmissione dei dati nella WAN è più lenta rispetto alla rete locale. Considerare le possibili velocità di trasferimento dati della tecnologia WAN che state utilizzando già durante la creazione del progetto.	
Message Control (opzionale):	I requisiti richiesti sono illustrati nel capitolo Message Control.	
Interfacce (opzionale):	Le interfacce necessarie dipendono dai requisiti del PLC e/o della connessione bus, ad esempio: interfacce seriali RS232 oppure RS422/485, ISA/PCI, ecc.	

Info

La risoluzione minima consigliata a Runtime è 1024 x 768 pixel. Si possono anche configurare risoluzioni minori. Tuttavia, alcune finestre di dialogo online potrebbero non essere utilizzabili. Se non si ha intenzione di utilizzarle, la risoluzione può essere impostata anche su valori inferiori.

13.9.3 Runtime sotto Windows Embedded Standard

I requisiti minimi si riferiscono ad un'installazione del Runtime adattata al sistema operativo Windows Embedded Standard 7 SP1 con aggiornamento piattaforma. Per progetti di ampia portata, l'hardware deve essere corrispondentemente più potente.

In questa tabella sono riportati solo i valori che differiscono dall'installazione standard. I restanti parametri corrispondono ai valori descritti nel capitolo Requisiti hardware per il Runtime (A pagina: 37).

Hardware	Requisiti minimi	Raccoman dato
Memoria RAM	<p>► 512 MB.</p> <p>Nota: progetti con grandi quantità di dati, progetti di rete, più progetti eseguiti in parallelo e progetti con</p>	<p>► 2048 MB</p>

Hardware	Requisiti minimi	Raccoman dato
	ridondanza richiedono più spazio di memoria.	
Supporto di memorizzazione dati	<ul style="list-style-type: none"> ▶ 2 GB liberi di spazio di memoria sull'unità C:\ prima dell'installazione di .NET Framework 3.5 e 4.5 800 MB di spazio libero su disco dopo l'installazione di .NET Framework. ▶ Più lo spazio di memoria per progetti, archivi, ecc. 	▶ 80 GB

Attenzione: se si salvano dati storici (per esempio dati d'archivio oppure dai relativi ad allarmi e/o dati CEL), sul disco fisso ci deve essere uno spazio di memoria sufficiente; oppure si deve prevedere in fase di progettazione che i dati storici vengano esportati oppure cancellati.

13.9.4 Runtime per Windows CE

I requisiti minimi si riferiscono all'installazione completa del Runtime per Windows CE. Per progetti di ampia portata, l'hardware deve essere corrispondentemente più potente.

Hardware	Requisiti minimi	Raccomandato
CPU	Almeno 400 MHz	1 GHz
Memoria RAM	64 MB	1024 MB per Windows CE 6.0.
Supporto di memorizzazione dati	64 MB spazio libero di memoria. Memoria ritenuta permanentemente accessibile a scrittura per i dati di progetto.	256 MB o più di spazio di memoria libera.
Connessione di rete	Per Progetti Client/Server standard: 10 Mbit/s full duplex.	

Attenzione

Dalla versione 7.50, Windows CE non è più supportato. Verrà installato zenon CE versione 7.20. Per poterla utilizzare, è necessario creare i file Runtime per la versione 7.20.

13.9.5 Web Server

I requisiti minimi si riferiscono ad un'installazione completa del Webserver. La gestione di progetti di grandi dimensioni o di più progetti caricati in contemporanea, presuppone l'uso di un hardware dalle elevate performance. In questo caso, i requisiti minimi possono essere maggiori di quelli elencati nella tabella successiva.

Hardware	Requisiti minimi	Raccomandato
CPU	Single Core con supporto SSE2.	
Memoria RAM	Da 1024 MB	
Disco fisso	256 MB spazio libero di memoria.	1 GB spazio libero di memoria.
Accesso rete:	10 Mbit/s Full duplex.	1000 Mbit/s Full duplex.
Connessione remota (opzionale)	Requisito minimo: Modem dial-up con 9600 bit/s.	1 MBit/s full duplex.

13.9.6 Web Client

I requisiti minimi si riferiscono ad un'installazione completa del zenon Web Client. La gestione di progetti di grandi dimensioni o di più progetti caricati in contemporanea, presuppone l'uso di un hardware dalle elevate performance. In questo caso, i requisiti minimi possono essere maggiori di quelli elencati nella tabella successiva.

Hardware	Requisito minimo	Raccomandato
CPU	Single Core con supporto SSE2.	Quad Core
Memoria RAM	Da 1024 MB	
Disco fisso	64 MB di spazio di memoria libero per zenon Web Client, più spazio di memoria per i progetti.	80 GB di spazio libero di memoria.
Accesso rete:	10 Mbit/s Full duplex.	1000 Mbit/s Full duplex.
Connessione remota	Requisito minimo: Modem dial-up con 9600 bit/s.	1 MBit/s full duplex.

Hardware	Requisito minimo	Raccomandato
(opzionale)		
Scheda grafica	64 MB di memoria dedicata Le schede con memoria condivisa possono causare perdite di prestazioni. A questo proposito, tenere presente le informazioni del capitolo Requisiti di sistema quando si utilizza DirectX (A pagina: 33).	

14 Percorsi per setup e funzionamento

Percorsi per zenon:

- ▶ Installazione
- ▶ Editor
- ▶ Runtime

Info

È possibile visualizzare molti percorsi standard con il comando **set**:

- ▶ Avviare la riga di comando (digitare **cmd** nell'area di avvio di Windows).
- ▶ Digitare il comando **set**.
- ▶ Premendo il tasto **Ins** vengono visualizzate le cartelle predefinite di Windows e zenon.

Nota: poiché i percorsi assoluti possono differire nei diversi sistemi operativi, in questo capitolo i percorsi vengono sempre visualizzati come variabili di ambiente Windows. Per esempio *%ProgramData%*, invece di *C:\ProgramData*.

INSTALLAZIONE

Durante l'installazione vengono impostati i percorsi per:

- ▶ zenon Editor
- ▶ Cartella SQL di zenon

Solo i percorsi per l'Editor di zenon e la cartella SQL di zenon sono personalizzabili.

Il setup richiede i diritti di amministratore; questo vale anche per la modifica dei percorsi di installazione.

REQUISITI

I percorsi di installazione dei necessari software di terze parti corrispondono ai percorsi standard dei rispettivi produttori e non possono essere modificati durante il setup.

I pacchetti software aggiuntivi installati dipendono dal tipo di installazione:

- ▶ zenon Editor
- ▶ zenon Runtime
- ▶ zenon Web Client
- ▶ zenon Logic Runtime

Requisiti	Editor	Runtime	Web Client	zenon Logic Runtime
Microsoft .NET Framework 4.6.2	+	+	+	-
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 Tools for Applications VSTA 2.0	+	+	+	-
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	+	+	-	+

ZENON

L'installazione dell'Editor di zenon imposta due percorsi:

- ▶ zenon Editor:
 - ▶ Sistemi a 32-Bit: %ProgramFiles(x86)%\COPA-DATA\zenon [Version]
 - ▶ Sistemi a 64-Bit: %ProgramFiles%\COPA-DATA\zenon [Version]

Questi percorsi possono essere personalizzati durante l'installazione.
- ▶ Cartella SQL di zenon
 - ▶ Dalla versione 08:10 %ProgramData%\COPA-DATA\SQL2017\

Questi percorsi possono essere modificati manualmente tramite zenDB.ini.

ZENON EDITOR

I seguenti percorsi sono utilizzati per impostazione predefinita nell'Editor di zenon:

Oggetto	Percorso
Workspace	%CD_USERDATA% Esempio: C:\Users\Public\Documents\zenon_Projects
Progetti	%CD_USERDATA% Esempio: C:\Users\Public\Documents\zenon_Projects Suggerimento per combinazione di tasti: selezionare progetto -> Ctrl+Alt+D
Cartella SQL del progetto:	%ProgramData%\COPA-DATA\[SQL-Ordner]\[UID]\FILES Suggerimento per combinazione di tasti: selezionare progetto -> Ctrl+Alt+E
project.ini	%ProgramData%\COPA-DATA\[SQL-Ordner]\[UID]\FILES\zenon\system
zenon6.ini	%ProgramData%\COPA-DATA\System Esempio: C:\ProgramData\COPA-DATA\System
Backup	%ProgramData%\COPA-DATA\[SQL-Cartella]\[UID]\BACKUP %ProgramData%\COPA-DATA\[SQL-Ordner\UID]\FILES\[Projekte]
File compilati	%CD_USERDATA%\[Arbeitsbereich]\[Projekt]\RT

Oggetto	Percorso
File esterni	%CD_USERDATA%\[Arbeitsbereich]\[Projekt]\RT\FILES\... Nota: impostabili nel progetto mediante la proprietà Archiviazione file.
File di sistema	Cartella di sistema di Windows.

ZENON RUNTIME

I seguenti percorsi sono utilizzati per impostazione predefinita nel Runtime di zenon:

Oggetto	Percorso
Progetti	%CD_USERDATA%\[Arbeitsbereich]\[Projekt]\RT
File esterni	%CD_USERDATA%\[Arbeitsbereich]\[Projekt]\RT\FILES\...
Archivi esportati, Lista Eventi Cronologica e Lista di informazione allarmi	%CD_USERDATA%\[Arbeitsbereich]\[Projekt]\Export Nota: viene creato al momento della prima esportazione.
File di sistema	Cartella di sistema di Windows.

ZENON LOGIC

I percorsi per zenon Logic vengono creati in modo analogo a quelli per zenon.

15 zenon per Windows CE

COMPONENTI

La versione CE di zenon è composta dai seguenti componenti:

- ▶ zenon CE Runtime
- ▶ DLL di lingua

- ▶ DLL di rete
- ▶ DLL driver
- ▶ zenon6.ini
- ▶ Servizio di trasporto

⚠Attenzione

Dalla versione 7.50, Windows CE non è più supportato.o. Verrà installato zenon CE versione 7.20. Per poterla utilizzare, è necessario creare i file Runtime per la versione 7.20.

REQUISITI PER L'INSTALLAZIONE DEL RUNTIME SU SISTEMI REMOTI.

- ▶ Il servizio di trasporto (**SysSrvCE.exe**) di zenon deve essere installato e avviato sul terminale CE, oppure deve esistere una connessione ActiveSync. Per informazioni sull'installazione manuale mediante supporti dati, vedere il capitolo Installazione manuale e update del Runtime (A pagina: 53).
- ▶ Il terminale CE al quale devono essere trasferiti i nuovi dati, deve avere almeno 8 megabyte di memoria "Program Memory" libera per garantire il corretto trasporto. Questo parametro può essere adeguato usando **Proprietà del sistema** del pannello di controllo.

PROCEDURA

Per i dettagli su compatibilità, installazione e aggiornamento, vedere i capitoli:

- ▶ Versioni CE / Supporto processore (A pagina: 47)
- ▶ Aggiornare Windows CE Runtime (A pagina: 49)

 **Info**

Se, all'avvio di **zenonrce.exe**, viene eseguito anche il file **syssrvce.exe**, è sempre possibile stabilire una connessione TCP. Pertanto è necessario solamente un file per la funzionalità Autostart. Tuttavia, deve essere configurato un ritardo fra i due start.

Causa: quando viene avviato **zenonRCE**, si avvia automaticamente anche **zenLogSrvCE**. Ma anche all'avvio di **syssrvce**, il sistema avvia automaticamente **zenLogSrvCE**.

Se, dunque, **zenonRCE** e **syssrvce** vengono avviati nel giro di poco tempo, entrambi cercheranno di avviare **zenLogSrvCE**. Questo causa un messaggio di errore.

Soluzione: per evitare il verificarsi di questo problema, configurare un ritardo fra lo start di **zenonRCE** e quello di **zenLogSrvCE**. Per farlo, è possibile impostare l'inserimento **STARTDELAY=** del file **zenon6.ini**. Così il Runtime (**zenLogSrvCE**) verrà avviato più tardi. Il sistema, poi, verifica se **zenLogSrvCE** è già in esecuzione, e non tenterà più di avviarlo.

15.1 Versioni CE / Supporto processore

Nella versione 7.20 di zenon vengono supportate le seguenti versioni di Windows CE ed i seguenti processori:

Processori:

- ▶ x86
- ▶ ARM V4/V5

Versioni CE:

- ▶ CE 6.00
- ▶ Windows Embedded Compact 7

Le informazioni relative alle versioni CE e ai processori supportati da precedenti versioni di zenon sono disponibili nella rispettiva documentazione; o contattare il supporto tecnico di COPA-DATA.

Attenzione

Dalla versione 7.50, Windows CE non è più supportato. Verrà installato zenon CE versione 7.20. Per poterla utilizzare, è necessario creare i file Runtime per la versione 7.20.

15.2 File di sistema

Il Runtime per Windows CE richiede la presenza di vari file di sistema.. Se manca uno di questi file, il sistema operativo genera un messaggio di errore quando si avvia il Runtime, che avverte l'utente che non è stato possibile trovare uno o più componenti. I seguenti file di sistema sono obbligatori:

File	Descrizione
mfc90u.dll	Necessario per il Runtime Se questo file non esiste, viene visualizzato un messaggio di errore al momento dell'avvio.
msvcr90.dll	Necessario per il Runtime Se questo file non esiste, viene visualizzato un messaggio di errore al momento dell'avvio.
atl90.dll	Non necessario per l'avvio del Runtime, ma per l'utilizzo di un driver con connessione di rete, o per usare zenon in rete. Se questo file non esiste, il dispositivo non può agire come client o le connessioni dei driver TCP/IP non funzionano.
IMGDECOMP.dll	Non necessario per l'avvio del Runtime, ma per la visualizzazione della trasparenza, se alpha blending non è integrato nel sistema operativo. L'animazione non è possibile con i file GIF sotto Windows CE.
VBSCRIPT.dll + JSCRIPT.dll	Non necessario per l'avvio del Runtime. Questo file è necessario per il PCE (Process Control Engine)

Alcuni di questi file di sistema vengono installati al momento dell'installazione di zenon per CE e possono essere trasferiti al dispositivo CE usando, per esempio, il tool **UpdateCE**. Tutti questi file di sistema dovrebbero essere integrati già dal produttore nell'immagine del sistema operativo del dispositivo CE.

⚠️ Attenzione

Per i produttori di immagini del sistema operativo Windows CE:

le versioni CE precedenti alla 6.0 richiedono il file **toolhelp.dll**. Per assicurarsi che il file sia presente sul dispositivo CE e che il "Toolhelp" sia disponibile anche in SDK, attivare in **Platform Manager** il seguente inserimento:

Core OS -> Display Based Device -> Core OS Services -> Debugging Tools -> Toolhelp API. In questo modo, *Toolhelp.dll* sarà incluso nell'immagine.

Suggerimento: utilizzare sempre il service pack più recente del **Platform Builder**.

Nota: il file **toolhelp.dll** non è richiesto per Windows CE 6 e non deve essere utilizzato con CE 6.

15.3 Aggiorna Runtime di Windows CE

Per aggiornare il Runtime di Windows CE:

- ▶ Assicurarsi che il servizio di trasporto di zenon (**SysSrvCE.exe**) sia in esecuzione sul dispositivo CE.
- ▶ Assicurarsi di non aver stabilito una connessione remota con il dispositivo tramite l'Editor di zenon.
- ▶ Nel menù **Extras** di zenon selezionare il comando **Aggiorna Runtime Windows CE**.
Si apre la finestra di dialogo per il trasferimento dei file Runtime.
- ▶ Configurare la connessione.
- ▶ Definire i file che si vuole trasferire.
- ▶ Selezionare la versione.
- ▶ Avviare l'update.

Nota: quando si trasferiscono i file Runtime/si installa il Runtime per la prima volta, fare riferimento alle note del capitolo **Installazione manuale e update del Runtime**. (A pagina: 53)

CONFIGURARE LA CONNESSIONE

La connessione con il dispositivo Windows CE si configura nella scheda **Connection** della finestra di dialogo "Remote Runtime update....".

Parametro	Descrizione
Serial	Impostazione della connessione seriale con il dispositivo Windows CE; la porta deve essere selezionata.
TCP/IP	Impostazioni della connessione TCP/IP con il dispositivo Windows CE.
Adress	Indirizzo IP.
Name	Nome computer.
Syssrvce.exe starts with these settings	Impostazioni per lo start di syssrvce.exe .
Serial	<i>Attivo:</i> la connessione seriale è selezionata, la porta deve essere selezionata.

Parametro	Descrizione
TCP/IP	<i>Attiva:</i> viene selezionata la connessione TCP/IP.
Connection with MS ActiveSync	Impostazioni per la connessione via MS ActiveSync.
Use MS ActiveSync for initial transport of syssrvce.exe	<i>Attivo:</i> il file syssrvce.exe viene trasferito durante il primo trasporto via MS ActiveSync.
Destination folder	Cartella di destinazione.
Help	Apri la guida online.
Save	Salva tutte le modifiche.
Exit	Chiude il tool di aggiornamento CE e offre prima la possibilità di salvare tutte le modifiche non ancora salvate.

DEFINIRE I FILE DA TRASFERIRE

Parametro	Descrizione
Files to update	File che devono essere trasferiti.
HMI Runtime	<i>Attiva:</i> trasferisce i file di zenon al dispositivo di destinazione. Default: <i>attivo</i> .
PLC Runtime	<i>Attiva:</i> trasferisce i file di zenon al dispositivo di destinazione. Default: <i>non attiva</i> .
OS system files	<i>Attiva:</i> trasferisce i file necessari del sistema operativo. Default: <i>attivo</i> .
Update zenon6.ini	Trasferisce il file zenon6.ini al dispositivo di destinazione. Questo modifica anche le informazioni sulla licenza sul dispositivo di destinazione.
Options	
Language	Lingua desiderata sul sistema di destinazione.

Parametro	Descrizione
	inglese
HMI drivers	Selezione dei driver HMI da trasferire.
Available	Lista dei driver disponibili.
Selected	Lista dei driver selezionati.
Add	Aggiunge i driver selezionati alla lista dei driver scelti.
Add all	Aggiunge tutti i driver alla lista dei driver selezionati.
Remove	Cancella i driver selezionati dalla lista dei driver scelti e li sposta nella finestra di quelli disponibili.
Remove all	Cancella tutti i driver dalla lista dei driver scelti e li sposta nella finestra di quelli disponibili.
Help	Apri la guida online.
Save	Salva tutte le modifiche.
Exit	Chiude il tool di aggiornamento CE e offre prima la possibilità di salvare tutte le modifiche non ancora salvate.

SELEZIONARE VERSIONE

Nella scheda **Versions**, selezionare la versione appropriata se non è stata rilevata automaticamente.

Parametro	Descrizione
WinCE version	Versione del sistema operativo Windows CE sul dispositivo di destinazione. Facendo clic sul pulsante si apre un menù a tendina per la selezione:
Processor type	Tipo di processore del dispositivo.
Source path	Percorso della cartella che contiene i file. Cliccando sul pulsante ... si apre la finestra di dialogo che consente di selezionare una cartella.

Parametro	Descrizione
New	Aggiunge un nuovo inserimento vuoto alla lista.
Delete	Cancella l'inserimento selezionato dalla lista dopo una richiesta di conferma.
Test	Verifica la correttezza delle impostazioni.
Help	Apri la guida online.
Save	Salva tutte le modifiche.
Exit	Chiude il tool di aggiornamento CE e offre prima la possibilità di salvare tutte le modifiche non ancora salvate.

AVVIA UPDATE

Per stabilire una connessione:

1. Nella scheda **Update** della finestra di dialogo "Remote Runtime update....", cliccare sul pulsante **Start**.

Il sistema verifica i dati per il trasferimento che verranno poi visualizzati in una finestra.

2. Cliccando sul pulsante **Next**, si avvia il trasferimento al dispositivo di destinazione.

Se il trasferimento non può essere avviato per la mancanza di file, sarà visualizzato un messaggio di errore contenente la lista dei file mancanti:

Se viene visualizzato il messaggio di errore **The current update was not completed**, l'update è stato interrotto, oppure eseguito non correttamente.

Info

Se zenVNCServer.exe deve essere sostituito da un aggiornamento, verrà terminato e riavviato dopo l'aggiornamento. Il file **zenVNCSrvCE.exe**

in UpdateCE.ini deve contenere nella sezione **[SOURCES_FILES_GENERAL]** le seguenti voci (disponibili di default):

- ▶ zenVNCSrvCE.exe
- ▶ zenVNCCfgCE.exe

15.4 Installazione manuale e update del Runtime.

L'installazione e l'aggiornamento sono possibili anche senza trasporto remoto e ActiveSync. Procedura: i file necessari vengono copiati manualmente su una scheda di memoria per il dispositivo CE. Per farlo, è necessario conoscere la versione CE e il tipo di processore del dispositivo CE.

I seguenti file devono essere copiati dalla cartella appropriata per la piattaforma corretta sulla scheda di memoria destinata al dispositivo CE:

- ▶ **zenonRCE.exe** (Runtime)
- ▶ **LogCliLibCE.dll** (diagnosi DLL)
- ▶ **zenon6.ini** (file di configurazione)
- ▶ **Cd_tooCE.dll** (Help DLL)
- ▶ **ZenNetSrvCE.dll** (Rete)
- ▶ **CDHelper.dll** (Help DLL)
- ▶ Una delle seguenti DDL lingua: **RChineCE.dll**, **RCzechCE.dll**, **REngliCE.dll**, **RFrancCE.dll**, **RGermaCE.dll**, **RIталиCE.dll**, **RRussiCE.dll**, **RSpaniCE.dll** (la lingua selezionata è definita nel file **zenon6.ini**.)
- ▶ **sysssrvce.exe** (servizio di trasporto eDiagnosis Server)
- ▶ **atl90.dll** (file di sistema, possibilmente incluso nel sistema operativo)
- ▶ **mfc90u.dll** (file di sistema, possibilmente incluso nel sistema operativo)
- ▶ **msvcr90.dll** (file di sistema, possibilmente incluso nel sistema operativo)

Altri file, come ad esempio i driver, oppure il software desktop remoto (**zenVNCCfgCE.exe** e **zenVNCSrvCE.exe**), sono opzionali.

15.5 Pocket PC (PDA - PC palmare)

I Pocket PC non sono più supportati a partire dalla versione 7.

15.6 Gestione degli errori

Possibili errori:

Errori	Possibile soluzione
Errore di connessione durante l'aggiornamento via COM.	Windows Explorer aperto ritarda il tempo di accesso. Chiudendo Explorer si risolve il problema.
Il servizio di trasporto non funziona.	Controllare la versione del servizio di trasporto. Almeno:

Errori	Possibile soluzione
	versione 5.21 SP3 o successive; oppure versione 5.50 SP1 o successive.
Il programma di aggiornamento Runtime non può essere collegato.	Terminare le connessioni aperte dell'Editor al servizio di trasporto CE.

16 zenon Logic Runtime per Windows CE

L'installazione del Runtime di zenon Logic (PLC Runtime) su un sistema Windows CE è simile all'installazione del Runtime per Windows CE (A pagina: 45).

Requisito: Servizio di trasporto eseguibile con CE.

Il Runtime di zenon Logic per Windows CE è composto dai seguenti componenti:

- ▶ zenon Logic Runtime
- ▶ DLL di lingua
- ▶ zenon Logic IO driver
- ▶ zenon6.ini

INSTALLAZIONE

- ▶ Selezionare in zenon il menù **Extras/Aggiorna Windows CE Runtime**.
Si apre la finestra di dialogo per il trasferimento dei file Runtime.
- ▶ Nella finestra "Files" attivare la casella di controllo "PLC Runtime", per copiare i file necessari per zenon Logic nel percorso di esecuzione CE.
- ▶ Passare alla scheda "Connection".
- ▶ Definire il collegamento al dispositivo Windows CE. Specificare l'indirizzo IP o la porta seriale.
- ▶ Se si desidera trasferire anche il file zenon6.ini, selezionare Update zenon6.ini. Questo modifica anche le informazioni sulla licenza sul dispositivo di destinazione.
- ▶ Nella scheda "Versions", selezionare la versione appropriata se non è stata rilevata automaticamente.

UPDATE

Funziona come descritto nel capitolo Update Windows CE Runtime (A pagina: 49).

Attenzione: l'opzione "PLC Runtime" deve essere attivata nella scheda "Files"!

Info

Con Windows CE 6.0 vengono sempre trasferiti i file MFC.

17 zenon Web Server.

Per installare il **zenon Web Server** oppure **zenon Web Server Pro**:

1. Attivate i servizi WWW sul computer.
La cartella `C:\inetpub\wwwroot` deve esistere.
2. avviate il supporto di installazione di zenon Apparirà la schermata iniziale.
Nel caso abbiate disattivato "Autostart da media", eseguite il file **start.exe** sul supporto di installazione.
3. Wählen Sie zenon Web Server aus.
Entsprechend der Version des Betriebssystems wird automatisch die 32-Bit oder 64-Bit Version des zenon Web Servers installiert.
4. seguite la routine di installazione.
5. riavviate il computer.

I file di setup per il Web Client li trovate dopo l'installazione nella sottodirectory del percorso di installazione del Webserver zenon (xxx si riferisce alla versione relativa di von zenon), per esempio:
`C:/Programme`
`(x86)/COPA-DATA/zenonWebserver/zenon/controlversions/Versionxxx/zenon_Webclient_Setup_ITALIAN.EXE`
 oppure

`C:/inetpub/wwwroot/zenon/controlversions/Versionxxx/zenon_Webclient_Setup_ITALIAN.EXE`

Vengono installate anche le Webseiten che servono da esempio (index*.html und init*.html). Esse si trovano nel sottopercorso zenon del percorso di installazione del Webserver di zenon, per esempio.:

`C:/Programmi/zenonWebserver/zenon/index.htm`
 oppure
`C:/inetpub/wwwroot/zenon/index.html`

 **Info**

Il servizio per il **zenon Webserver** viene avviato automaticamente solamente nella versione per la quale si possiede la licenza. Nella modalità demo, il Webserver di zenon deve essere avviato manualmente mediante la console Webserver di zenon' nelle proprietà di sistema.

ULTERIORI INFORMAZIONI

I dettagli su zenon Web Server si trovano nel manuale zenon Web Server e Web Server Pro; quelli sulla registrazione licenza nel manuale Registrazione licenza.

18 zenon Web Client

zenon Web Client consiste principalmente in un controllo ActiveX che visualizza le informazioni in un browser. La visualizzazione è 1:1 come in un **zenon Runtime Client**. La connessione a **Runtime Server** viene stabilita tramite **zenon Web Server** utilizzando la comunicazione TCP/IP.

I file di setup per zenon Web Client possono essere trovati dopo l'installazione nelle sottodirectory del percorso di installazione di zenon Web Server (xxx sta per la rispettiva versione di zenon), per esempio:
`%Programfiles%/COPA-DATA/zenon Web
Server/zenon/controlversions/Versionxxx/zenon_Webclient_Setup_GERMAN.EXE`
oder

`C:/Inetpub/wwwroot/zenon/controlversions/Versionxxx/zenon_Webclient_Setup_ITALIAN.EXE`

Tutti i setup di zenon Logic Web Client sono con firma digitale e possono essere facilmente scaricati da Internet.

Con COPA-DATA Web Client viene installato anche **zenon Web Client Starter**. Questo consente di aprire zenon Web Client da qualsiasi browser.

 **Info**

zenon Web Client invia file di errore e LOG. Il Diagnosis Server necessario per l'analisi di questi file è installato durante un'installazione di zenon Web Client.

19 Aggiornamenti (Build Setups)

AGGIORNAMENTI (BUILD SETUP)

Un aggiornamento viene installato sull'installazione esistente e sostituisce solo i file modificati con nuove versioni. Tutti i progetti e le impostazioni individuali vengono mantenuti. La qualità di build setup non è mai garantita al 100%. Vengono testate solamente le correzioni errori (bug fixes) contenute. Se durante la risoluzione dei problemi si verificano effetti collaterali indesiderati, questi potrebbero non essere rilevati durante i test. COPA-DATA raccomanda quindi sempre l'uso di service pack. Questi ultimi, infatti, sono sempre soggetti ad un approfondito test di qualità.

Note:

- ▶ Build Setup possono essere installati solo localmente. Un'installazione sui percorsi di rete (UNC) non è possibile.
- ▶ zenon Web Client: per poter installare un update di zenon Web Client, si deve prima disinstallare zenon Web Client.

PASSAGGIO AD UNA NUOVA VERSIONE

Se si desidera installare una nuova versione di zenon, avviare la routine di installazione. La nuova versione viene installata parallelamente alla versione già esistente. Tutti i progetti e le impostazioni individuali vengono mantenuti. I progetti non vengono convertiti nella nuova versione durante l'installazione. La prima volta che lo si apre nell'Editor, il progetto viene convertito nella nuova versione. Una finestra di dialogo informa l'utente che il processo di conversione è in corso. Viene eseguito un backup automatico della vecchia versione. Se si desidera utilizzare solo la versione più recente, disinstallare la versione precedente utilizzando la routine corrispondente del Pannello di controllo di Windows.

⚠ Attenzione

Se un'installazione comporta la modifica del server SQL (per es. update da zenon 7.00 a zenon 7.10 o superiore), prima della installazione si deve eseguire un backup di tutti i progetti o del workspace. Questo backup viene caricato dopo l'installazione. Per ulteriori dettagli sulla procedura, vedere anche la sezione **Progetti-Multiuser/Update con cambio del server SQL**.

Se si desidera eseguire più versioni di zenon in parallelo, è possibile gestirle utilizzando lo **Startup Tool**. È possibile avviare una sola versione alla volta. Si definisce quale versione viene avviata nello **Startup Tool**, che esegue automaticamente tutte le impostazioni necessarie all'avvio. Per i dettagli vedere il capitolo **Startup Tool**.

Info

Le nuove versioni portano sempre cambiamenti strutturali. Durante l'installazione, i progetti e le impostazioni vengono mantenuti. La prima volta che si apre l'Editor, i progetti vengono convertiti nella nuova versione e viene creata una copia di backup automatico della vecchia versione.

I progetti convertiti non possono più essere modificati nelle versioni precedenti. A partire dalla versione 6.2, l'Editor può creare progetti per diverse versioni del Runtime.

Note importanti sulla conversione dei progetti si trovano nel testo di revisione. Questo viene fornito sul supporto di installazione ed è disponibile anche online.

PROGETTI MULTI-USER

Per essere sicuri di poter passare a una nuova versione di zenon in progetti multi-utente senza perdere dati:

1. Eseguire su tutti i client il check-in di tutti gli elementi rilasciati -> *Accetta modifiche*. Non ci deve essere niente "checked out". Questo vale per tutti i progetti.
2. Installare la nuova versione di zenon sul computer server.
3. Convertire tutti i progetti server nella nuova versione: per farlo, caricare una volta tutti i progetti nell'Editor del computer server.
4. Installare la nuova versione di zenon sui computer client.
5. Caricare i progetti sui client ed eseguire di nuovo il check out.

AGGIORNAMENTO CON MODIFICA DI SQL SERVER

Se un'installazione comporta il cambio del server SQL (per es. da zenon 6.51 a zenon 9.3), sono necessari ulteriori passaggi. Questi passi vengono eseguiti:

- ▶ Dopo che si è eseguito il check in di tutti i progetti.
- ▶ Prima di installare la nuova versione.

Aggiornamento con modifica di SQL Server

1. Eseguire il "Check in" su tutti i client di tutti gli elementi che sono "checked out" -> *Applica modifiche*.
2. Sul server multiutente, aprire l'editor nella versione originale.
3. Creare backup di tutti i progetti che si desidera modificare o aprire con la nuova versione.
 - ▶ O come backup di singoli progetti.

- ▶ Oppure come backup di un intero Workspace.
- 4. Installare la nuova versione sul server.
- 5. Convertire tutti i progetti server nella nuova versione caricando i backup del progetto creati in precedenza una volta nell'Editor.
- 6. Installare l'aggiornamento su ogni client.
- 7. Trasferire i progetti dal server multi-utente ai client (Tenere presente il nuovo nome dell'istanza SQL)

I progetti sono convertiti, sincronizzati e pronti all'uso.

Attenzione: assicuratevi che le impostazioni del firewall consentano il traffico dati dal server multi-utente ai client e viceversa.

COMPATIBILITÀ

L'Editor di zenon può aprire progetti di versioni precedenti in ogni nuova versione. Questi progetti possono essere ulteriormente modificati nella nuova versione. Se si desidera apportare modifiche, troverete informazioni al riguardo nel rispettivo testo di revisione e nel manuale **Conversione di progetto**. Quando si apre un progetto realizzato con un numero di versione inferiore in una versione superiore dell'Editor:

- ▶ Il progetto viene convertito automaticamente
- ▶ Viene creato automaticamente un backup del progetto

⚠Attenzione

i progetti convertiti non potranno più essere aperti nell'Editor con un numero di versione inferiore. Tuttavia, il backup del progetto creato durante la conversione può ancora essere aperto e modificato.

Evitare anche di trasferire i progetti dalle versioni più recenti a quelle più vecchie tramite l'importazione XML. Questo può avere delle conseguenze indesiderate a Runtime. Soprattutto, è possibile che ci siano problemi e anomalie nel funzionamento dei driver.

COMPATIBILITÀ FRA EDITOR E RUNTIME

L'Editor di zenon può essere usato per creare file Runtime per diverse versioni del Runtime. Il Runtime, dunque, non deve necessariamente essere della stessa versione dell'Editor. Questa "retrocompatibilità" è particolarmente utile se si intende utilizzare dei sistemi misti. Esempio: Un progetto configurato con l'Editor per la versione 8.00 può essere avviato anche con un Runtime 6.20 SP4.

⚠️ **Attenzione**

Se in un progetto vengono impostate con un Editor di una versione superiore proprietà non disponibili in una versione precedente, queste ultime non saranno disponibili. Questo può avere delle conseguenze indesiderate a Runtime. Quando si creano file Runtime per versioni precedenti, controllare le configurazioni di progetto modificate, specialmente la configurazione dei driver.

CREAZIONE DEI FILE RUNTIME

Procedura per creare nell'Editor file Runtime per versioni precedenti:

1. Selezionare il progetto nella struttura ad albero del Manager di progetto.
2. Nelle proprietà di progetto, passare alla sezione **Generale**
3. Aprire il menù a tendina della proprietà **Crea file Runtime per**.
4. Selezionare nel menù a tendina la versione desiderata.

Attenzione: per garantire la coerenza dei file Runtime, tutti i file Runtime devono essere ricreati dopo ogni modifica a questa proprietà. Vengono convertite anche le configurazioni di tutti i driver. Le impostazioni che non esistono nella versione corrispondente, sono settate sui valori di default.

ERRORE DURANTE LA CREAZIONE DI FILE RUNTIME E MICROSOFT OFFICE 365

In certe condizioni, può verificarsi un errore durante la creazione dei file Runtime:

- ▶ Si creano file Runtime su un computer con:
 - ▶ Sistema operativo Windows 10 e
 - ▶ Office 365.
- ▶ La creazione dei file Runtime non riesce e termina con un messaggio di errore.

Questo è causato dal caricamento da parte di VBA di una versione errata di un catalogo programmi.

Soluzione:

1. passare alla cartella: `%AppData%\Microsoft\FORMS`.
2. Eliminare il file **zenone32.box**.
3. Questo file viene ricreato automaticamente da zenon.

La creazione di file Runtime è di nuovo possibile.

XML

I dati esportati in formato XML sono disponibili anche per l'importazione in versioni dell'Editor con numero di serie più alto.

Eccezione: se dati del RGM vengono salvati direttamente a Runtime come file XML tramite la funzione di esportazione, non potranno essere reimportati.

20 FAQ

Gli errori durante l'installazione si verificano principalmente quando la sostituzione o la creazione di file viene impedita da antivirus o da installazioni esistenti. Qui trovate le cause più comuni degli errori di installazione e la loro soluzione.

ZENON

Problema	Soluzione
L'installazione viene interrotta. Tipico messaggio di errore: Error 1304. Error writing to file...	Disattivare lo scanner antivirus, chiudere i programmi non necessari.
Progetti demo sono stati installati, ma non vengono visualizzati. Non è possibile creare nuovi progetti.	Controllate il nome computer. Il nome: <ul style="list-style-type: none"> ▶ può avere una lunghezza massima di 15 caratteri. ▶ Deve rispettare le convenzioni del nome di computer NetBIOS.
Messaggio di errore che indica che non è stato possibile avviare un servizio.	<ul style="list-style-type: none"> ▶ Riavviare prima il computer. ▶ Quindi riavviare il setup di zenon

SERVER SQL.

GENERALE

Problema	Soluzione
L'installazione fallisce perché la password non corrisponde ai requisiti.	Se, con l'opzione Local Security Policy di Windows, si imposta la lunghezza minima della password, che di default è 8, su un valore <i>superiore a 10</i> , l'installazione del server SQL non riesce perché la password di zenon SQL è composta da 10 caratteri.

21 Supporto tecnico

BASIC SUPPORT

Se avete bisogno di assistenza per l'installazione, il nostro staff di consulenza tecnica sarà lieto di aiutarvi.

Gli utenti con supporto di base possono contattare la hotline al seguente indirizzo E-Mail support@copadata.com.

ADVANCED E PREMIUM SUPPORT

Se si ha di un contratto di assistenza Advanced o Premium, utilizzare il numero di telefono o l'indirizzo E-Mail indicati nel contratto stesso. Se si desidera estendere il contratto di manutenzione "Basic" gratuito e passare al tipo "Advanced" o "Premium", rivolgersi al nostro personale di vendita (sales@copadata.com).

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- ▶ The HTML Web Engine –Web Application uses ANTLRv3, Bootstrap, jQuery UI, jQuery, Json.NET, NLog, Owin, jQuery.SVG, WebGreas.
- ▶ The HTML Web Engine – Deployment Tool uses Extended WPF Toolkit, Newtonsoft.Json, NLog, WPF Application Framework (WAF).

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22.1.18ini Parser

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22.1.21 jQuery 3.3.1

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22.1.27 Mono.AddIns 1.3

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22.1.42 OpenSSL 1.10h

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Based on the Open Source API proposed by Ross Bencina

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22.1.56 Zlib Library 1.2.8

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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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22.2.1.1.2 Source Code

The “source code” for a work means the preferred form of the work for making modifications to it. “Object code” means any non-source form of a work.

A “Standard Interface” means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The “System Libraries” of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A “Major Component”, in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The “Corresponding Source” for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work’s System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

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22.2.2 MOZILLA PUBLIC LICENSE

Version 1.1

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- ▶ The zenon Logic Workbench uses the following libraries:
 - ▶ CxImage Library (A pagina: 194)
 - ▶ Gong-wpf-dragdrop Library (A pagina: 195)
 - ▶ Jasper Library (A pagina: 195)
 - ▶ JPEG Library (A pagina: 196)
 - ▶ Libpng Library (A pagina: 203)
 - ▶ Math.NET Numerics Library (A pagina: 205)
 - ▶ MNG Library (A pagina: 206)
 - ▶ PCap Library (A pagina: 207)
 - ▶ SQLite Library (A pagina: 207)

- ▶ Tiff Library (A pagina: 208)
- ▶ Tinyxml Library (A pagina: 208)
- ▶ Zlib Library (A pagina: 209)

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22.3.2 Gong-wpf-dragdrop Library

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22.3.4 JPEG Library

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DOCUMENTATION ROADMAP

This file contains the following sections:

Section	Description
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).
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.
coderrules.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.

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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](ftp://ftp.uu.net/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](ftp://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](ftp://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](http://www.cjpeg.com) 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.

22.3.5 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

22.3.6 Math.NET Numerics Library

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

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22.3.7 MNG Library

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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).

22.3.8 PCap Library

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22.3.9 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.

22.3.10 Tiff Library

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22.3.11 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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22.3.12 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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Jean-loup Gailly: jloup@gzip.org

Mark Adler: madler@alumni.caltech.edu