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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, si prega di contattare il Customer Service 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 la funzionalità "Usa AutoPlay per tutti i supporti e i dispositivi" è disabilitata nel sistema operativo del computer, la routine di installazione non si avvia automaticamente. Avviare l'installazione eseguendo il file **START.exe** che si trova nella cartella principale del supporto di installazione di zenon.



■Suggerimento

L'avvio automatico di componenti software si attiva nelle impostazioni del sistema operativo.

- Premere il tasto Windows + I per aprire la finestra di dialogo delle impostazioni di Windows.
- Inserire *Attiva o disattiva AutoPlay* nel campo di input in alto a sinstra. Si apre il dialogo per la configurazione.
- Attivare l'opzione Usa AutoPlay per tutti i supporti e i dispositivi.

Note sull'installazione:

- Prima di installare 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: 46).
- 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: 52).
- Durante l'installazione di zenon, viene installato il COPA-DATA Multiple Network Protocol Driver (cdprotdrv.sys). Per avviare il driver, il sistema operativo deve essere riavviato dopo l'installazione.

Attenzione

A partire dalla versione 7.10, zenon non può essere installato su sistemi su 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!

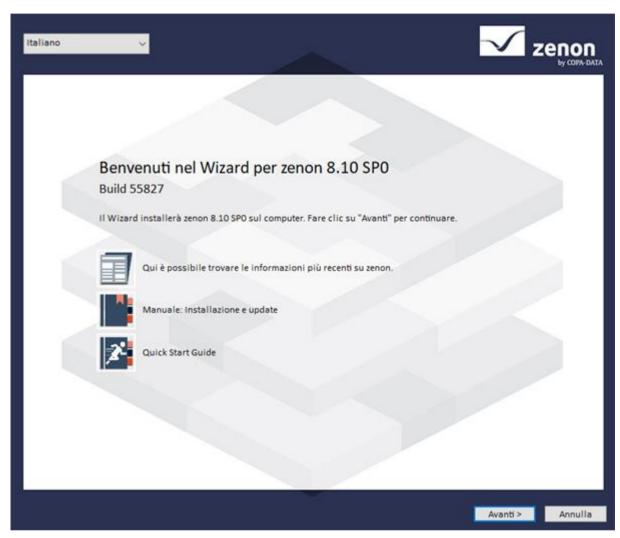
Attenzione

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



3.1 Finestra iniziale

Nella finestra di avvio 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
- Giapponese
- Coreano
- Russo
- Spagnolo



2. Per informazioni su zenon, cliccare sul pulsante desiderato:



Apre la quida di zenon per l'installazione in formato PDF.

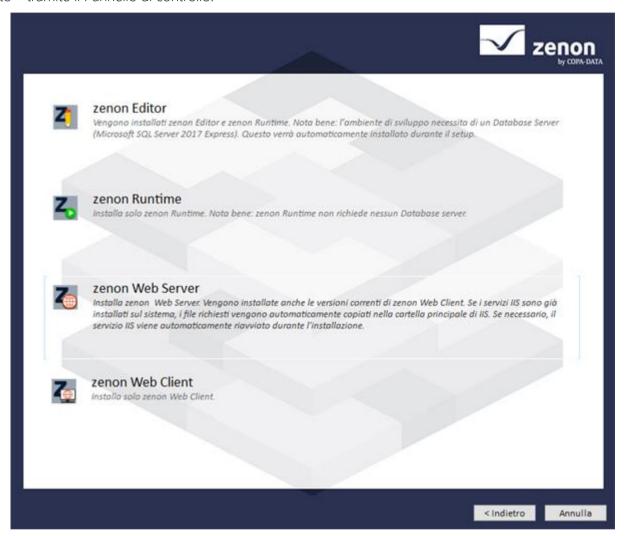
Apre la guida Quick-Start in formato PDF, con suggerimenti per i primi passi di configurazione in zenon.

- 3. Fare clic sul pulsante **Avanti** per aprire la finestra con le condizioni di licenza.
- 4. Confermare le condizioni di licenza attivando la casella di controllo corrispondente. Se le condizioni di licenza non vengono accettate, il prodotto non può essere installato. Fare clic sul pulsante **Stampa** per stampare le condizioni di licenza.
- Fare clic sul pulsante Avanti per aprire l'informativa sulla privacy.
 Leggere attentamente l'informativa sulla privacy.
 Fare clic sul pulsante Stampa per stampare l'informativa sulla privacy.
- 6. Attivare la casella di controllo per l'informativa sulla privacy. In questo modo si conferma di averla letta. Il prodotto non può essere installato senza questa conferma.
- 7. Fare clic sul pulsante **Avanti** per aprire la finestra di selezione del prodotto desiderato. **Nota:** il pulsante **Avanti** è disponibile solo se i termini della licenza sono stati accettati cliccando sul relativo pulsante 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 della Edition - Tipo di installazione (installazione definita dall'utente)

Cliccare sul prodotto desiderato per aprire la finestra di selezione della Edition.

- 1. Selezionare la versione con licenza:
 - zenon



zenon Energy Edition





2. Cliccare sulla Edition desiderata per aprire la finestra di selezione del tipo di installazione:



Installa ora:

Avvia l'installazione della Edition selezionata.

È possibile che il computer venga riavviato automaticamente durante il processo di installazione. Seguire le istruzioni del Wizard.

Personalizza:

Apre 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 della Edition 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 e sulla fase del processo eseguita al momento.



Il processo di installazione può richiedere del tempo. Non spegnere il computer quando esso è in corso. Assicurarsi inoltre che il computer non venga automaticamente messo in modalità di sospensione.

ANNULLARE L'INSTALLAZIONE

È possibile annullare l'installazione cliccando sul pulsante **Annulla**. Viene visualizzata una richiesta di conferma prima che l'installazione venga annullata. Possibili azioni:

▶ Sì: 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.

COMPLETAMENTO DELL'INSTALLAZIONE

Se l'installazione è riuscita, viene visualizzata una finestra di dialogo che ne informa l'utente.

- 1. Cliccare sul pulsante **Termina** per completare l'installazione.
- 2. Riavviare il setup per installare prodotti aggiuntivi, 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. Cliccare sul pulsante **Termina** per chiudere il setup.
- 2. Controllare i messaggi LOG relativi all'annullamento (se disponibili).
- 3. Ripetere l'installazione.

Nota: se l'installazione del server SQL non riesce, nel messaggio di errore viene offerto un link ai file LOG. Cliccando sul link si ottiene un rapporto dettagliato sugli errori.

POSSIBILI CAUSE DI ERRORE

Possibili ragioni che possono causare un annullamento della procedura di installazione:

- Installazione in sospeso di un aggiornamento del sistema operativo Windows.
- Impossibile installare il server SQL richiesto per l'Editor di zenon.

4 zenon Logic Runtime per Windows (Installazione Standalone)

Nella directory *%AdditionalSoftware%\COPA-DATA zenon Logic Runtime* del supporto di installazione si trovano i pacchetti di installazione per **zenon Logic Runtime per Windows**.

CONTENUTO DEL PACCHETTO DI INSTALLAZIONE DI ZENON LOGIC RUNTIME

Il Setup Standalone per **zenon Logic Runtime per Windows** installa tutti i componenti per il funzionamento del 61131-3 Runtime sul sistema di destinazione. Sono compresi anche i componenti per la registrazione della licenza e la diagnostica . Non sono installati componenti di progettazione.



REQUISITI PER L'INSTALLAZIONE

Si prega di tenere presenti i requisiti generali di sistema per l'installazione del prodotto. Non devono esserci preinstallazioni di **zenon Operator/Supervisor**, o di **zenon Logic Runtime per Windows** (Standalone).

Il prodotto richiede software già installato sul sistema di destinazione. È inoltre possibile trovarlo nella directory *%AdditionalSoftware%* del supporto di installazione. Se necessario, installare manualmente i seguenti pacchetti:

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

Una volta completata l'installazione, eseguire il pacchetto di installazione appropriato (x86 o x64) per il sistema di destinazione.



L'installazione non include una licenza per il prodotto. zenon Logic Runtime si avvia in modalità test. La registrazione della licenza può essere effettuata utilizzando gli strumenti di licenza generale.

UPDATE

Per aggiornare una versione già installata, disinstallarla e reinstallarla.

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).

Nel corso di una Silent Installation è possibile anche escludere dall'installazione alcuni componenti standard:

- ▶ Regole per il firewall: il parametro **CDPROP_INSTALLFIREWALL** determina se vengono impostate regole per il firewall.
- Codemeter Software: configurabile tramite l'argomento PREREQUISITES_ per il parametro ISFeatureInstall. Se l'argomento non viene utilizzato, Codemeter non è installato.
 Attenzione: questo argomento si applica a tutti i Prerequisites. In questo caso, anche altri Prerequisites non verranno installati!



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



INSTALLAZIONE INVISIBILE ALL'UTENTE A PARTIRE DALLA VERSIONE ZENON 7.20.

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

Parametro	Argomenti	Descrizione
scada.exe		Inizializzazione dell'installazione.
/silent		Installazione invisibile all'utente.
/language:	 1031: Tedesco 1033: Inglese 1034: Spagnolo 1036: Francese 1040: Italiano 1041: Giapponese 1042: Coreano 1049: Russo 	Selezione della lingua. Esempio inglese: language:1033
CDPROP_EDITION=	 ENERGY SUPERVISOR OPERATOR PHARMA SCIENCE 	Selezione della Edition. Esempio Energy Edition: CDPROP_EDITION=ENERGY Non necessario per zenon Web Server e zenon Web Client.
CDPROP_TYPE=	ED: Editor e RuntimeRT: Runtime	Selezione di Editor o Runtime. Esempio Runtime: CDPROP_TYPE=RT Non necessario per zenon Web Server e zenon Web Client.
CDPROP_INSTALLFIREW ALL	▶ 001	Specifica se le regole del firewall vengono create: • 0: le regole non vengono create



Parametro	Argomenti	Descrizione
		1: le regole vengono create
CDPROP_SQLADMINPAS SWORD=	Password definita dall'utente Per ulteriori informazioni sulla password, consultare il capitolo Convenzioni sulla password per gli utenti SA.	Password per l'utente SA su SQL Server. Questa password viene creata per l'utente SA e utilizzata durante l'installazione. Esempio: CDPROP_SQLADMINPASSWOR D=H1342DFAhzgs§*464578 Se non viene specificata nessuna password, durante l'installazione viene generata una password casuale. Attenzione: le password definite dall'utente non sono sottoposte ad un controllo di validità e del rispetto delle regole sulle password!
ISFeatureInstall=	 PREREQUISITES_EDITOR,SCAD A: Editor PREREQUISITES_RUNTIME,SCA DA: Runtime PREREQUISITES_WEBSERVER, WEBSERVER: Web Server PREREQUISITES_WEBCLIENT,W EBCLIENT: Web Client 	Selezione della funzionalità da installare. Argomenti: PREREQUISITES_: Determina se installare Prerequisites. Dopo il trattino basso viene specificato per cosa vengono installati i Prerequisites. Per esempio EDITOR. Se l'argomento viene omesso, anche Codemeter non viene installato. SCADA: Installa Editor e/o Runtime, a seconda del parametro per CDPROP_TYPE=.



Parametro	Argomenti	Descrizione
		 WEBSERVER: Installa il Web Server.
		 WEBCLIENT: Installa il Web Client.
		Esempi:
		 zenon Runtime con Prerequistes ISFeatureInstall=PRERE QUISITES_RUNTIME,SC ADA
		zenon Runtime senzaPrerequistes:ISFeatureInstall=SCADA

Esempi:

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

CONVENZIONI SULLA PASSWORD PER GLI UTENTI SA

La password casuale generata per l'utente *SA* sul server SQL durante l'installazione standard, può essere sostituita da una password propria. A questo scopo, utilizzare una password personalizzata con l'argomento **CDPROP_SQLADMINPASSWORD=**.

Regole:

- ▶ Lunghezza standard: 20 caratteri
- Caratteri ammessi:
 - \blacktriangleright Lettere: A Z, a z
 - ▶ Cifre: 0 9
 - ► Caratteri speciali: !@\$?#%&*



- ▶ Composizione:
 - ▶ Almeno 1 lettera minuscola
 - ▶ Almeno 1 lettera maiuscola
 - ▶ Almeno 1 cifra
 - ▶ Almeno 1 carattere speciale

AAttenzione

Una password definita dall'utente non viene convalidata.

DISINSTALLAZIONE INVISIBILE ALL'UTENTE A PARTIRE DALLA VERSIONE 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=[Edition] CDPROP_TYPE=[Tipo] ISFeatureInstall=[Funzionalità]

Parametro	Argomenti	Descrizione
scada.exe		Inizializzazione dell'installazione.
/silent		Installazione invisibile all'utente.
/language:	1031: Tedesco1033: Inglese	Selezione della lingua. Esempio inglese:



Parametro	Argomenti	Descrizione
	▶ 1034: Spagnolo	language:1033
	▶ 1036 : Francese	
	▶ 1040 : Italiano	
CDPROP_EDITION=	▶ ENERGY	Selezione della Edition.
	▶ SUPERVISOR	Esempio Energy Edition:
	▶ OPERATOR	CDPROP_EDITION=ENERGY
	► PHARMA	Non necessario per zenon Web Server.
CDPROP_TYPE=	▶ ED : Editor e Runtime	Selezione di Editor o Runtime.
	▶ RT : Runtime	Esempio Runtime: CDPROP_TYPE=RT
		Non necessario per zenon Web Server.
ISFeatureInstall =	WIBU,SCADA,MS,MSALL,SQL,OMMON: Editor	installare.
	WIBU,SCADA,MS,MSALL,COM MON: Runtime	Esempio zenon Editor: ISFeatureInstall=WIBU,SCADA, MS,MSALL,SQL,COMMON
	WIBU,WS,MSALL,COMMON: Web Server	

Esempi:

- Installazione dell'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 di 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. I requisiti non soddisfatti vengono visualizzati in una pagina separata, con istruzioni su come risolvere 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 si trovano i file di LOG del processo di 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'indicazione di dove potrebbe essere 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.

FONTI DI ERRORE COMUNI DURANTE L'INSTALLAZIONE:

- ▶ Il programma antivirus è attivo e blocca l'installazione a causa di un errato rilevamento di un virus. Soluzione: disconnettere il computer dalla rete, disattivare il programma antivirus, eseguire nuovamente l'installazione.
- Il firewall non è stato configurato correttamente. Soluzione: disconnettere il computer dalla rete, disabilitare il firewall, esequire 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 programmi	Sistema a 32-Bit: %Program Files%\COPA-DATA\zenon7xxx
	Sistema a 64-Bit:
	%Program Files%\COPA-DATA\zenon7xxx
	%Program Files (x86)%\COPA-DATA\zenon7xxx
Cartella dei dati del programma, per es. simboli globali, modelli di stampa, file di Log, ecc.,	%ProgramData%\COPA-DATA\zenon7xxx
Cartella database (SQL)	%ProgramData%\COPA-DATA\SQL
Cartella di sistema	%ProgramData%\COPA-DATA\System
Impostazioni Editor e profili	%Users%\UserName\AppData\Local\COPA-DATA\zenon\Edit or
Impostazioni per il Diagnosis Viewer	%Users%\UserName\AppData\Local\COPA-DATA\zenon\Diag View

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 **Runtime-Ordner**. 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 (Allgemein/Datenordner).

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.

AAttenzione

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 del driver di sistema **Cartella Runtime non disponibile**.

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 apre una finestra di inserimento DOS.
 - In questa finestra, inserire il comando *netstat*.
- 2. Viene visualizzata una lista con tutte le porte TCP/IP e UDP attive.
- 3. Per quanto riguarda le porte di ascolto (stato: *ASCOLTO*), verificare se l'ID di processo (PID) delle porte richieste da zenon e zenon Logic corrisponde ai processi di zenon e zenon Logic.
 - Questi PID possono essere letti nel **Task Manager di Windows**. Per farlo, aprire il **Task Manager (Gestione attività) di Windows** e passare alla scheda **Servizi**.



4. Se un altro software utilizza queste porte, modificare la configurazione. È possibile vedere quali porte siano utilizzate da zenon e zenon Logic nella tabella Assegnazione delle porte tramite zenon e zenon Logic. In questa tabella si può anche verificare se le porte di questi programmi sono personalizzabili.

ASSEGNAZIONE DELLE PORTE TRAMITE 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	ТСР
stratonrt[k].exe		4500-4510	ТСР
stratonrt[k].exe	zenon Logic Ridondanza.	▶ 7000-7010	ТСР
stratonrt[k].exe	zenon Logic Runtime - comunicazione spontanea.	▶ 9000-9010	ТСР
zennetsrv.exe	zenon Servizio di rete.	1100-1100	ТСР
zensyssrv.exe	zenon Servizio di trasporto.	> 1101	ТСР
zendbsrv.exe	zenon Servizio di database.	1103	ТСР
zenAdminsrv.exe	zenon Servizio di amministrazione.	▶ 50777	ТСР
zenLogSrv.exe	zenon Servizio di Loggin	▶ 50780	ТСР
CodeMeter.exe	Servizio dongle Code Meter.	 22350 (modificabile, ma deve rimanere invariata) 	ТСР
WkSvW32.exe	Servizio di rete WibuKey.	► 22347 (fisso)	ТСР
Zenrt32.exe	Message Control con Voice over IP.	 ► 5060: SIP ► 4000: RTP ► 4001: RTCP (fisso) SIP e RTP possono essere 	UDP



Applicazione	Descrizione	Numeri di porta	Protocollo di trasporto
		configurati tramite l'Editor. RTCP viene impostato automaticamente dal sistema.	

11 Installazione di una versione precedente dopo aver installato zenon 8.20 (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 8.20, i servizi a 64 bit devono essere nuovamente registrati tramite la riga di comando dopo la loro installazione. La registrazione può essere effettuata tramite un file batch o 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 Registrazione della licenza di versioni di anteprima

Per le versioni di anteprima di zenon sono disponibili licenze separate e a durata limitata. Hanno una data di scadenza fissa.

Se viene installata una versione di anteprima, è necessaria una connessione a Internet. In mancanza di una connessione a Internet il processo di registrazione della licenza non riesce.

In questo caso, il timestamp può essere aggiornato manualmente. Per farlo:

- 1. Aprire la riga di comando.
- 2. Inserire: %programfiles(x86)%\CodeMeter\Runtime\bin\cmu32.exe --time-update

Il timestamp viene aggiornato e la licenza è valida.

14 Requisiti di sistema

zenon 8.20 può essere utilizzato su tutti gli attuali sistemi operativi Microsoft. zenon è sempre testato con le versioni più recenti dei sistemi operativi, con i più recenti service pack e hotfix disponibili.

Le modifiche apportate da Service Packs, Hotfixes o Patches di Microsoft possono causare problemi di incompatibilità e compromettere 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.

Nota: le convenzioni di Windows limitano la lunghezza massima dei nomi host a 15 caratteri.

14.1 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).	Solo x64 da 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	Solo x64 da	1507	1507	1507	1507	1507	Solo Home, Pro e Enterprise

Sistema operativo	zenon Editor	zenon Runtime	zenon Web Server	zenon Web Client	zenon HTML Web Engine	zenon Logic Runtime	zenon Analyzer Server
Education, Enterprise LTSB/LTSC, IoT Enterprise, Pro for Workstations)	1507						(sempre x64) da 1507

14.2 Sistemi operativi server

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

Sistema operativo server	zenon Editor	zenon Runtime	zenon Web Server	zenon Web Client	zenon HTML Web Engine	zenon Logic Runtime	zenon Analyzer Server
Windows Server 2008 R2 (tutte le edizioni, eccetto Core.)	Non eseguibile	SP 1	SP 1	SP 1	SP 1	SP 1	Non eseguibile
Windows Server 2012 e 2012 R2 (tutte le edizioni, eccetto Core.)	SP 0	SP 0	SP 0	SP 0	SP 0	SP 0	SP 0
Windows Server 2016 (tutte le edizioni, eccetto Core.)	10.0.14393	10.0.14393	10.0.14393	10.0.14393	10.0.14393	10.0.14393	10.0.14393
Windows Server 2019 (tutte le edizioni, eccetto Core.)	10.0.17763	10.0.17763	10.0.17763	10.0.17763	10.0.17763	10.0.17763	10.0.17763

14.3 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	х	x	X	
Runtime per Windows CE				х
Web Server	Х	Х	Х	X (nur Web Server Pro Light)
Web Client	х	x	x	
HTML Web Engine	х	x	х	

<u>Legenda:</u>

X: supportato

--: non supportato

▲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.

14.4 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 eseguibil e	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 eseguibil e	Solo zenon Operator	Solo Pro Light	Non eseguibile	Non eseguibile	eseguibile	Non eseguibile



14.5 Windows 10

Panoramica dei sistemi operativi desktop supportati per Windows 10

Versione Windows	zenon Supervisor/Operat or	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)	х	X (PC)	X
Windows 10 Enterprise LTSC	x	X (PC)	x

Legenda:

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

14.6 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:	Scheda grafica DirectX 11	Scheda grafica dedicata DirectX 11
(solo DirectX	Mainstream.	AMD o nVidia high-end.



Parametro	Requisito minimo	Raccomandato	
Hardware)	Nota: soprattutto quando si utilizza un chip grafico integrato, a seconda del driver utilizzato, la qualità della visualizzazione potrebbe risultare compromessa		
Memoria grafica:	1 GB VRAM	2 GB VRAM	
(solo DirectX Hardware)	Nota: la quantità di memoria richiesta dipende dal numero di immagini aperte e dagli elementi visualizzati.		
Driver della scheda grafica:	Il driver più recente del produttore della scheda grafica.		
(solo DirectX Hardware)			
Sistema operativo:	DirectX Hardware e DirectX Software funzionano solamente sui sistemi operativi che supportano DirectX11.1.		
	Se il sistema non supporta <i>DirectX 11.1</i> , si passa automaticamente a <i>Windows standard</i> .		
	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.		

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*.

14.7 Software aggiuntivo

SERVER SQL.

L'Editor di zenon utilizza un database SQL. Quest'ultimo viene installato con l'Editor di zenon:

- Fino alla versione 6.20 SP4: **SQL Server 2000 (MSDE)**
- ▶ Dalla versione 06:21 SP0: **SQL Server 2005 Express**



- Dalla versione 07:00 SP0: SQL Server 2008R2 SP1 Express
- Dalla versione 07:10 SP0: SQL Server 2012 SP1 Express
- Dalla versione 07:20 SP0: SQL Server 2012 SP2 Express
- Dalla versione 07:50 SP0: SQL Server 2012 SP3 Express
- ▶ Dalla versione 7.60 SP0: **SQL Server 2012 SP3 Express**
- Dalla versione 08:00 SP0: SQL Server 2012 SP3 Express
- ▶ Dalla versione 8.10 SP0: **SQL Server 2017 Express**

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.

PASSWORD PER L'UTENTE SA

Durante l'installazione viene creata una password casuale per l'utente *SA* e utilizzata sul server *SQL*. Questa può anche essere sostituita da una password individuale. Per farlo, deve essere creata una password individuale per l' installazione automatica (A pagina: 19) con l'argomento **CDPROP_SQLADMINPASSWORD=** .

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

14.8 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.



14.9 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 Web Server e zenon Web Client.

L'Editor utilizza un Microsoft SQL Server come server SQL e richiede all'hardware requisiti 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: 39). 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.
- Dttimizzare 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.

14.9.1 Editor

I requisiti minimi si riferiscono all'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
СРИ	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 rigido	Almeno 13 GB di spazio libero su disco per l'installazione completa, più spazio di memoria per i progetti.	
Risoluzione dello schermo	Extended VGA con 1024 x 768. Attenzione: alcune finestre di dialogo, ad esempio il filtro dell'immagine AML/CEL , sono difettose ad un'altezza inferiore a 850 pixel o potrebbero non essere utilizzabili.	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: 39).	
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.

14.9.2 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
СРИ	Single Core con supporto SSE2.	Quad Core
Memoria RAM	Da 512 MB.	4096 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.	
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: 39).	
Periferiche di input	Tastiera e/o mouse. È possibile anche il funzionamento tramite touch screen. Ci sono molti tipi di keyboard personalizzabili	



Hardware	Requisito minimo	Raccomandato
	disponibili per il touch screen. È anche possibile il funzionamento multi-touch.	
Interfaccia USB (opzionale)	 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.
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.



14.9.3 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 della 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: 44).

Hardware	Requisiti minimi	Raccoman dato
Memoria RAM	 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. 	► 204 8 MB
Supporto di memorizzazione dati	 2 GB liberi di spazio di memoria sull'unità C:\ prima dell'installazione di .NET Framework 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 registrano 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.

14.9.4Runtime 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
СРИ	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 ritentiva 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	



Hardware	Requisiti minimi	Raccomandato
	full duplex.	

AAttenzione

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.

14.9.5Web 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 Fullduplex.	1000 Mbit/s Fullduplex.
Connessione remota (opzionale)	Requisito minimo: Modem dial-up con 9600 bit/s.	1 MBit/s full duplex.

14.9.6Web 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 Fullduplex.	1000 Mbit/s Fullduplex.
Connessione remota (opzionale)	Requisito minimo: Modem dial-up con 9600 bit/s.	1 MBit/s full duplex.
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: 39).	

15 Percorsi per l'installazione e il 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 SOL 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	Edito r	Runtim e	Web Client	zenon Logic Runtime
Microsoft .NET Framework 4.6.2	+	+	+	
Microsoft .Net Core Runtime 2.1.5		+		
Microsoft SQL Server 2017 Express (x64)	+			
Microsoft Visual C++ 2010 Redistributable	+	+	+	+
Microsoft Visual C++ 2013 Redistributable	+	+		
Microsoft Visual C++ 2017 Redistributable	+	+	+	+
Microsoft .NET Core Hosting Bundle 2.1.5				
CodeMeter Runtime Kit 6.80	+	+		+
Microsoft Visual Studio 2008 Remote Debugger	+	+		



Requisiti	Edito r	Runtim e	Web Client	zenon Logic Runtime
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	+	+		+

Nota: Microsoft Visual Studio Tools for Applications (VSTA 2.0) non è necessario e non viene installato con il setup. Può essere installato separatamente tramite lo **Startup Tool**. Presupposto è che il file **VSTA_AddOn.exe** sia disponibile nel sistema.

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 ->



Oggetto	Percorso
	Ctrl+Alt+D
Cartella SQL del	%ProgramData%\COPA-DATA\[Cartella SQL]\[UID]\FILES
progetto:	Suggerimento per combinazione di tasti: selezionare progetto -> Ctrl+Alt+E
project.ini	%ProgramData%\COPA-DATA\[Cartella SQL]\[UID]\FILES\zenon\system
zenon6.ini	%ProgramData%\COPA-DATA\System
	Esempio: C:\ProgramData\COPA-DATA\System
Backup	%ProgramData%\COPA-DATA\[Cartella SQL]\UID]\BACKUP
	%ProgramData%\COPA-DATA\[Cartella SQL\UID]\FILES\[Progetti]
File compilati	%CD_USERDATA%\[Workspace]\[Progetto]\RT
File esterni	%CD_USERDATA%\[Workspace]\[Progetto]\RT\FILES\
	Nota: impostabili nel progetto mediante la proprietà "Percorsi".
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%\[Workspace]\[Progetto]\RT
File esterni	%CD_USERDATA%\[Workspace]\[Progetto]\RT\FILES\
Archivi esportati, Lista Eventi Cronologica e Lista di informazione allarmi	%CD_USERDATA%\[Workspace]\[Progetto]\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.



16 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: 62).
- 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: 53)
- Aggiornare Windows CE Runtime (A pagina: 55)



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.

16.1 Versioni CE / Supporto processore

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

Processori:

- ×86
- ▶ 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.o. Verrà installato zenon CE versione 7.20. Per poterla utilizzare, è necessario creare i file Runtime per la versione 7.20.



16.2 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.
IMGDECMP.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.



16.3 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 CF
- Assicurarsi di non aver stabilito una connessione remota con il dispositivo tramite l'Editor di zenon.
- Selezionare il comando **Aggiorna Runtime di Windows CE** del menù **Extras** nell'Editor di zenon

Si apre la finestra di dialogo per il trasferimento dei file Runtime.

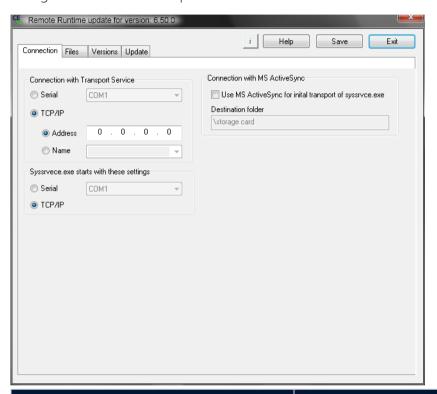
- ▶ Configurare la connessione.
- Definire i file che si vuole trasferire.
- Selezionare la versione.
- Avviare l'update.

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: 62)



CONFIGURARE LA CONNESSIONE

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

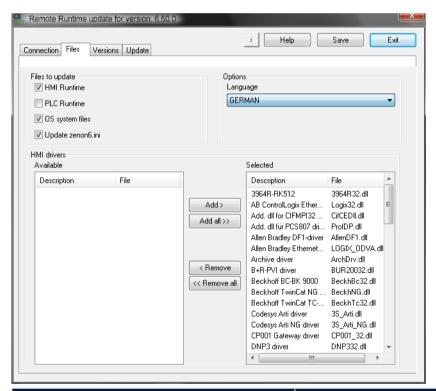


Parametro	Descrizione
Serial	Impostazione della connessione seriale con il dispositivo Windows CE; la porta deve essere selezionata.
TCP/IP	Impostazioni della connessione TCP/IP con il dispositivo Windows CE.
Adress	Indirizzo IP.
Name	Nome computer.
Syssrvce.exe starts with these settings	Impostazioni per lo start di syssrvce.exe.
Serial	Attivo: la connessione seriale è selezionata, la porta deve essere selezionata.
TCP/IP	Attivo: viene selezionata la connessione TCP/IP.
Connection with MS ActiveSync	Impostazioni per la connessione via MS ActiveSync.
Use MS ActiveSync for initial transport	Attivo: il file syssrvce.exe viene trasferito durante il



Parametro	Descrizione
of syssrvce.exe	primo trasporto via MS ActiveSync.
Destination folder	Cartella di destinazione.
Help	Apre 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 da trasferire.
HMI Runtime	Attivo: trasferisce i file di zenon al dispositivo di destinazione. Default: attivo.
PLC Runtime	Attivo:: trasferisce i file di zenon al dispositivo di destinazione.

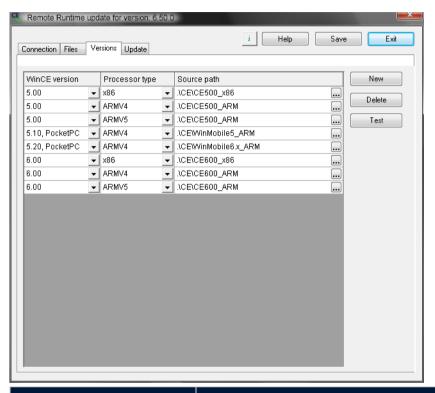


Parametro	Descrizione
	Default: non attiva.
OS system files	Attivo: trasferisce i file necessari del sistema operativo.
	Default: attivo.
Update zenon6.ini	Trasferisce il file zenon6.ini al dispositivo di destinazione. Questo modifica anche le informazioni di licenza sul dispositivo di destinazione.
Options	
Language	Lingua desiderata sul sistema di destinazione.
	Default: inglese
HMI drivers	Selezione dei driver HMI da trasferire.
Available	Lista dei driver disponibili.
Selected	Lista dei driver selezionati.
Add	Aggiunge i driver selezionati all'elenco 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	Apre 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.



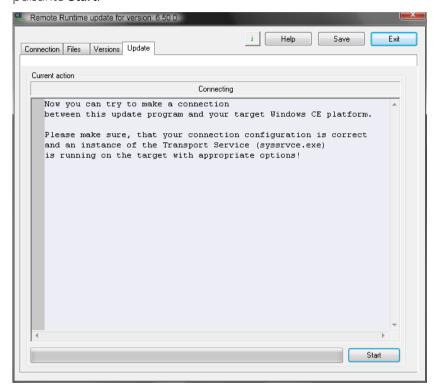
Parametro	Descrizione
WinCE version	Versione del sistema operativo Windows CE sul dispositivo di destinazione. Facendo clic sul pulsante si apre un menù a tendina per la selezione:
Processor type	Tipo di processore del dispositivo.
Source path	Percorso della cartella che contiene i file. Cliccando sul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

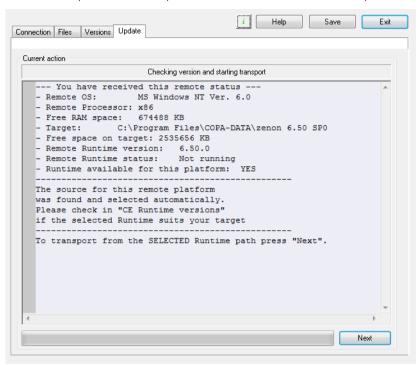
1. Nella scheda **Update** della finestra di dialogo "Remote Runtime update....", cliccare sul pulsante **Start**.



I dati per il trasferimento vengono controllati e visualizzati in una finestra.



2. Cliccare sul pulsante **Next** per avviare il trasferimento al dispositivo di destinazione.



Se il trasferimento non può essere avviato a causa di file mancanti, viene visualizzato un messaggio di errore con l'elenco di questi file:



Se viene visualizzato il messaggio di errore **The current update was not completed**, l'installazione è stata interrotta o non è stata completata correttamente.



16.4 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, RItaliCE.dll, RRussiCE.dll, RSpaniCE.dll(la lingua selezionata è definita nel file zenon6.ini.)
- **syssrvce.exe** (servizio di trasporto e Diagnosis Server)
- **atl90.dll** (file di sistema, eventualmente parte del sistema operativo)
- ▶ mfc90u.dll (file di sistema, eventualmente parte del sistema operativo)
- **msvcr90.dll** (file di sistema, eventualmente parte del sistema operativo)

Altri file (ad es. i driver) sono opzionali.

16.5 Pocket PC (PDA - PC palmare)

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

16.6 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: versione 5.21 SP3 o successive; oppure versione 5.50 SP1



Errori	Possibile soluzione
	o successive.
Il programma di aggiornamento Runtime non può essere collegato.	Terminare le connessioni aperte dell'Editor al servizio di trasporto CE.

17 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: 52).

Requisito: Servizio di trasporto eseguibile con CE.

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

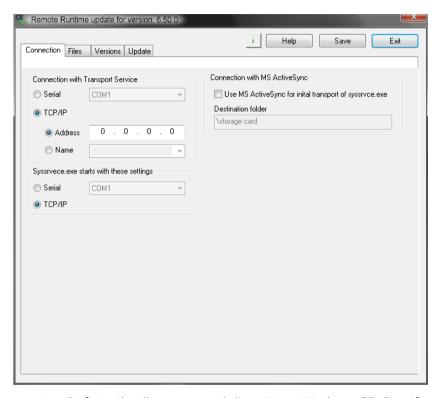
- zenon Logic Runtime
- DLL di lingua
- zenon Logic IO driver
- zenon6.ini

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: 55).

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



Con Windows CE 6.0 vengono sempre trasferiti i file MFC.

18 zenon Web Server.

Per installare il zenon Web Server o zenon Web Server Pro:



- 1. Attivare i servizi WWW sul computer.
 - La cartella C:\inetpub\wwwroot deve esistere.
- 2. Avviare il supporto di installazione di zenon Viene visualizzata la schermata iniziale.
 - Se si è disabilitato "Autostart da media", eseguire il file **start.exe** sul supporto di installazione.
- 3. Selezionare zenon Web Server.
 - A seconda della versione del sistema operativo, viene installata automaticamente la versione a 32 o 64 bit di zenon Web Server.
- 4. Seguire la routine di installazione.
- 5. Riavviare il computer.

Dopo l'installazione, i file di configurazione del Web Client si trovano nelle sottodirectory del percorso di installazione di zenon Web Server (xxx sta per la rispettiva versione di zenon), per esempio: C:/Programmi(x86)/COPA-DATA/zenonWebserver/zenon/controlversions/Versionxxx/zenon_Webclient _Setup_ITALIAN.EXE oppure

C:/Inetpub/wwwroot/zenon/controlversions/Versionxxx/zenon_Webclient_Setup_GERMAN.EXE

Sono installati anche i siti web di esempio (index*.html e init*.html). Si trovano nella sottodirectory zenon del percorso di installazione di zenon Web Server, per esempio:

C:/Programmi/zenonWebserver/zenon/index.htm oppure

C:/Inetpub/wwwroot/zenon/index.html



Il servizio per **zenon Webserver** viene avviato automaticamente solo nella versione con licenza. In modalità demo, zenon Web Server deve essere avviato manualmente tramite la console zenon Web Server nelle proprietà del 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.

19 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.



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.

20 Cambio di versione e update (Build Setups)

È possibile passare a nuove versioni di zenon, per esempio dalla 8.10 alla 8.20. Oppure è possibile installare gli aggiornamenti di una versione. Questi sono chiamati anche "build setup". Le nuove versioni possono essere installate in parallelo alle versioni esistenti. Esse portano soprattutto nuove funzionalità. Gli update modificano una versione già installata. Portano principalmente la risoluzione di errori.

UPDATE (BUILD SETUP)

Durante un update vengono aggiornati solo quei file che sono più attuali rispetto a quelli già installati. 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.

Nota:Build Setup possono essere installati solo localmente. Un'installazione sui percorsi di rete (UNC) non è possibile.



CAMBIO DI 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. Un progetto viene convertito nella nuova versione solo quando lo si apre per la prima volta nell'Editor. 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 dell'installazione si deve eseguire un backup di tutti i progetti o del Workspace. Questo backup viene ripristinato dopo l'installazione. Per ulteriori dettagli sulla procedura, vedere anche la sezione **Progetti multiutente/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 e nel manuale **Conversione di progetto**.

PROGETTI MULTI-USER

Per poter passare a una nuova versione di zenon senza perdere dati in progetti multiutente:

- 1. Con il comando *Applica modifiche*, eseguire su tutti i client il "check in" di tutti gli elementi che sono "checked out".
 - Non ci deve essere più 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 ogni progetto sul computer server nell'Editor e accettare la conversione.
- 4. Installare la nuova versione di zenon sui computer client.
- 5. Caricare i progetti sui client.

CAMBIARE IL SERVER SQL.

Se un'installazione comporta il cambiamento del server SQL (per es. da zenon 7.00 a zenon 9.4), 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 in caso di cambio di SQL Server

- 1. Eseguire su tutti i client il "check in" 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 una volta nell'Editor i backup di progetto creati in precedenza.
- 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: assicurarsi che le impostazioni del firewall consentano il traffico dei dati dal server multiutente ai client e viceversa.

20.1 Compatibilità

In zenon, il tema della compatibilità riguarda:

- Runtime possibilità di un utilizzo contemporaneo di diverse versioni del Runtime.
- ▶ Editor conversione di progetti esistenti in nuove versioni dell'Editor.
- Editor creazione nell'Editor di file Runtime per diverse versioni del Runtime.



RUNTIME

La compatibilità Runtime online consente la cooperazione di sistemi Runtime nella rete di zenon, anche tramite zenon Web Client.

Si applica quanto segue: la versione Runtime del client deve essere uguale o superiore alla versione Runtime del server.

Esempio:

- Un client 8.20 può funzionare con un server 8.10.
- ▶ Un client 8.00 non funziona con un server 8.10. In questo caso, il Runtime del client deve essere aggiornato alla versione 8.10 o superiore.

Il Runtime corrente può caricare progetti delle seguenti versioni:

- ▶ 6.20 SP4
- ▶ 06:21 SPO
- ▶ 06:21 SP1
- ▶ 06:22 SP0
- ▶ 06:22 SP1
- ▶ 06:50 SP0
- 06:51 SPO
- 07:00 SP0
- ▶ 07:10 SP0
- ▶ 07:11 SPO
- ▶ 07:20 SP0
- ▶ 7.20 SP0[Nr. Build corrente]
- ▶ 07:50 SP0
- ▶ 7.60 SPO
- ▶ 08:00 SP0
- ▶ 08:10 SP0
- ▶ 08:20 SP0

Diversi progetti possono essere caricati anche nell'ambito della gestione multi-progetto. Ad esempio, il progetto di integrazione può essere dalla versione 8.20, un sottoprogetto dalla versione 8.10 e un altro sottoprogetto dalla versione 7.60.



EDITOR

L'Editor di zenon può aprire progetti di versioni precedenti in ogni nuova versione. Questi progetti possono essere ulteriormente modificati nella nuova versione. In caso si intenda apportare modifiche, informazioni al riguardo si trovano 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

Non c'è retrocompatibilità tra le versioni dell'Editor. La retrocompatibilità è garantita solo tra l'Editor e il Runtime.

Questo significa:

- I progetti convertiti non possono più essere aperti in un Editor con un numero di versione inferiore.
- ► Tuttavia, il backup del progetto creato durante la conversione può ancora essere aperto e modificato.

Suggerimento: evitare di aprire un progetto in un Editor il cui numero di build è inferiore a quello dell'Editor utilizzato per creare il progetto.

Evitare anche di trasferire progetti dalle versioni più recenti a quelle più vecchie tramite importazione XML. Questo può avere delle conseguenze indesiderate a Runtime. È soprattutto possibile che ci siano 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. La versione del Runtime non deve necessariamente corrispondere a quella dell'Editor. Questa "retrocompatibilità" è particolarmente utile se si intende utilizzare dei sistemi misti. Esempio: Un progetto configurato con l'Editor della versione 8.00 può essere avviato anche con un Runtime 6.20 SP4.

Attenzione

Le proprietà configurate con un Editor di una versione superiore e che non disponibili in una versione precedente, non saranno disponibili nel progetto in quest'ultima versione. Questo può avere 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 Allgemein
- 3. Aprire il menù a tendina della proprietà RT Dateien erzeugen für.
- 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
 - 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 reimportarti.

Suggerimento: evitare di trasferire progetti dalle versioni più recenti a quelle più vecchie tramite importazione XML. Questo può avere delle conseguenze indesiderate nell'Editor e a Runtime.



21FAQ

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: 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.	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 superiore a 10, l'installazione del server SQL non riesce perché la password di zenon SQL è composta da 10 caratteri.



22 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).

23 Informazioni sulla licenza per Open Source Software

I prodotti di COPA-DATA utilizzano il seguente software open source.

Nota: queste informazioni sono disponibili solo in inglese.

23.1 zenon Open Source licences for several features

- ▶ The SNMP driver (SNMPNG32.exe) uses OpenSSL and NetSNMP.
- ▶ The DNP3 driver, the IEC 60870 driver, the OPC UA driver, the Message Control and the Web Server Client are using the OpenSSL 1.1.1 Long Term Support with the Open SSL License.
- ▶ The LicenseManager uses the JSON and the zlib Library.
- ▶ The OPC UA Process Gateway (AccessOPCUA.dll) and the OPC UA driver (OPCUA32.exe) use OpenSSL.
- The Message Control uses MIMEMail and OpenSSL (zenon32.dll).
- ► The HTML Web Engine –Web Application uses ANTLRv3, Bootstrap, jQuery UI, jQuery, Json.NET, NLog, Owin, jQuery.SVG, WebGrease.
- The HTML Web Engine Deployment Tool uses Extended WPF Toolkit, Newtonsoft. Json, NLog, WPF Application Framework (WAF).
- ▶ The HTML Web Engine Compiler uses Newtonsoft. Json, Nlog. Windows. Forms, NLog.



- ▶ The JavaScript library jQuery 3.3.1 uses the MIT License.
- ▶ The Everywhere Essentials QR Code Generator Wizard uses QrCode.Net.
- ► The Message Control VoiceOverIP Extension (MsgCtrlVoip.dll) uses libSRTP, Speex, PortAudio, Alaw/Ulaw Converter, GSM Codec 06.10 and iLBC Codec.
- ► The 3D Configuration Tool uses DWF Toolkit License, the MIT License (MIT), the SharpDX Alexandre Mutel License.
- ▶ The 3D Integration uses the zlib Library.
- The 3D Integration uses the Intel® Threading Building Blocks (Intel® TBB) (Version 2018, 0, 2017, 0919) under the Apache 2.0 License.
- ▶ The 3D Integration uses the liblzma under the XZ Utils License 5.2.2.
- ▶ The GIS-Control uses the Gmap-Control with the MIT License (MIT).
- ▶ The System.Data.SQLite and the System Window Interactivity WPF are using the Microsoft Public License (MS-PL).
- As framework for .NET the Newtonsoft. Json 11.0.2 software uses the MIT License (MIT).
- ▶ The NLog.Extensions.Logging 1.0.1 uses the BSD 2-Clause "Simplified" License.
- ▶ The NLog 4.4.0 uses the NLog / License.
- ▶ The NLog 4.5.3 uses the BSD 3-Clause "New" or "Revised" License.
- ▶ The NLog.Web.AspNetCore 4.5.3 software, which contains targets and layout-renderes specific to ASP.NET (Core), MVC and IIS, uses the BSD 3-Clause "New" or "Revised" License.
- ▶ The Predictive Analytics and the Analyzer Management Studio use Math.Net Numerics 4.4.0 with the MIT/X11 License.
- The Add-In Framework uses the SharpDevelop 5.1.0 with the MIT License, the Mono.AddIns 1.3 with the MIT License, the Mono.Cesil 0.9.6.4 with the MIT/X11 License, the WPF Application Framework (WAF) 3.2.0 with the Microsoft Public License (MS-PL).
- ▶ The zenon Analyzer Management Studio uses the Castel.Core 4.2.1 with Apache License.
- ▶ The *.ini-file handling is using a ini-parser with the MIT License (MIT).
- ▶ The Drag&Drop functionality is using package with the BSD 3-Clause License.
- The Toggle Switch Control Library is using the Microsoft Public License (MsPL).
- Process Gateway uses cpprestsdk (cpprestsdk.v120.winxp.msvcstl.dyn.rt-dyn 2.9.1; cpprestsdk.v120.winphonesl.msvcstl.dyn.rt-dyn 2.9.1; cpprestsdk.v120.windesktop.msvcstl.dyn.rt-dyn 2.9.1; cpprestsdk.v120.winphone.msvcstl.dyn.rt-dyn 2.9.1; cpprestsdk.v120.winapp.msvcstl.dyn.rt-dyn 2.9.1; cpprestsdk.v140.winapp.msvcstl.dyn.rt-dyn 2.9.1; cpprestsdk.v140.windesktop.msvcstl.dyn.rt-dyn 2.9.1; cpprestsdk 2.9.1.1) with the MIT License.
- For the creation and execution of platform independent software components the .NET Core 2.1 Software uses the MIT License (MIT).



- ▶ The @aspnet/signalr 1.0.0 software uses the Apache License, Version 2.0.
- The IdentityModel2 3.0.0 software, a A.NET standard helper library for claims-based identity, OAuth 2.0 and OpenID connect, uses the Apache License 2.0.
- The popper.js 1.14.3 software, a library used to position poppers in web applications, uses the MIT License (MIT).
- ▶ The bootstrap 4.1.0 software, a toolkit for developing with HTML, CSS and JS, uses the MIT License (MIT).
- ▶ The @types/cryptojs 3.1.29 software, which contains type definitions for CdyptoJS 3.1.2, uses the MIt License (MIT).
- ▶ The OPC Foundation UA ANSI C Stack 1.03.341 software, which is used as Ansi C Stack of the OPC Foundation, uses the Reciprocal Community License (RCL).
- ▶ The OpenSSL 1.10h software, which is a toolkit for Transport Layer Security (TLS) and Secure Sockets Layer (SSL) protocols, uses the Open SSL License and the SSLeay License.
- ▶ The Chromium Embedded Framework (CEF), which is a framework for embedding Chromium-based browsers in other applications, uses the Chromium Embedded Framework (CEF) License.
- ▶ The zenon Analyzer and the zenon Supervisor uses the mosquitto 1.4.12 MQTT Broker with the Eclipse Public License v 1.0.
- ▶ The zenon Supervisor uses the phao MQTT C client 1.2.1 with the Eclipse Public License v 1.0
- ▶ The Web Server Client Modul uses System.Configuration.ConfigurationManager 4.4.1 with the MIT License (MIT).
- ▶ The Command Line Parser 2.3 uses the MIT License (MIT).
- ▶ The Web Server Client Modul uses Microsoft.Extensions.Primitives 2.1.1 with the Apache License 2.0.
- The Web Server Client Modul uses Microsoft. Extensions. Options 2.1.1 with the Apache License 2.0.
- ▶ The Web Server Client Modul uses Microsoft.Extensions.Logging.Abstractions 2.1.1 with the Apache License 2.0.
- ▶ The Web Server Client Modul uses Microsoft.Extensions.Logging 2.1.1 with the Apache License 2.0.
- ▶ The Web Server Client Modul uses Microsoft.Extensions.Hosting.Abstractions 2.1.1 with the Apache License 2.0.
- ▶ The Web Server Client Modul uses Microsoft.Extensions.FileSystemGlobbing 2.1.1 with the Apache License 2.0.
- ▶ The Web Server Client Modul uses Microsoft.Extensions.FileProviders.Physical 2.1.1 with the Apache License 2.0.



- ▶ The Web Server Client Modul uses Microsoft.Extensions.FileProviders.Abstractions 2.1.1 with the Apache License 2.0.
- ▶ The Web Server Client Modul uses Microsoft.Extensions.Dependencylnjection.Abstractions 2.1.1 with the Apache License 2.0.
- ▶ The Web Server Client Modul uses Microsoft.Extensions.Configuration.Json 2.1.1 with the Apache License 2.0.
- The Web Server Client Modul uses Microsoft. Extensions. Configuration. File Extensions 2.1.1 with the Apache License 2.0.
- ▶ The Web Server Client Modul uses Microsoft.Extensions.Configuration.Binder 2.1.1 with the Apache License 2.0.
- ▶ The Web Server Client Modul uses Microsoft.Extensions.Configuration.Abstractions 2.1.1 with the Apache License 2.0.
- The Web Server Client Modul uses Microsoft. Extensions. Configuration 2.1.1 with the Apache License 2.0.
- ▶ The Web Server Client Modul uses Microsoft.Extensions.Caching.Memory 2.1.2 with the Apache License 2.0.
- ▶ The Web Server Client Modul uses Microsoft.Extensions.Caching.Abstractions 2.1.2 with the Apache License 2.0.
- ▶ The Web Server Client Modul uses Microsoft.AspNetCore.Http.Features 2.1.1 with the Apache License 2.0.
- The Web Server Client Modul uses Microsoft.AspNetCore.Http.Abstractions 2.1.1 with the Apache License 2.0.
- ▶ The Web Server Client Modul uses Microsoft.AspNetCore.Hosting.Server.Abstractions 2.1.1 with the Apache License 2.0.
- The Web Server Client Modul uses Microsoft.AspNetCore.Hosting.Abstractions 2.1.1 with the Apache License 2.0.
- ► The zenon screens and frames use Microsoft.AspNetCore.All 2.1.5 with the Apache License 2.0 (Copyright (c) .NET Foundation and Contributors)
- ▶ The Mono.Posix.NETStandard 1.0.0, which is a component that is used to figure out, if an application is running as Administrator under linux, uses the MIT and BSD License (for Mono distribution).
- ▶ The zenon Supervisor uses the libzip 1.5.1 library with the 3-clause BSD license.
- The zenon Supervisor uses the Angular 7.1.3 User Interface Framework with the MIT License (Copyright (c) 2010-2019 Google LLC. http://angular.io/license).
- ▶ The zenon Supervisor uses the Angular Material 7.3.1 Component Framework for Angular with the MIT License (Copyright (c) 2019 Google LLC).
- ▶ The zenon Data Hub uses the curl 7.64.0.0 Software and License.



- ▶ The zenon Data Hub uses the Mosquitto 1.5.7 and the Mosquitto 1.5.8 software which are dual licensed under the Eclipse Distribution License 1.0 and the Eclipse Public License 1.0.
- ▶ The zenon Data Hub uses the mosquitto-auth-plug 0.1.3 with the mosquitto-auth-plug Licenses.
- ▶ The zenon Data Hub uses the OpenSSL 1.1.1a and OpenSSL 1.1.1b software with the Apache License 2.0 (OpenSSL License and Original SSLeay License).
- The zenon Identity Service and the Policy Service use the MongoDB Community Server 4.0.6 (=document oriented NoSQL Database) with the MongoDB Server Side Public License (SSPL).
- ▶ The zenon Supervisor, zenon Analyzer, zenon Licensing, Service Grid and zenon Logic use the JSON for Modern C++ serialization version 3.6.1 with the MIT License.
- ▶ The Service Grid and the REST Interface use the AutoMapper library with the MIT License.
- ▶ The zenon Data Hub uses the docker-mosquitto scripts (version n.a.) with the BSD 2-Clause "Simplified" License.

You have to accept the according license agreements as well as the standard end user license agreement (EULA).

23.1.1 Alaw/Ulaw Converter

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23.1.4Bootstrap, jQuery UI, jQuery, Newtonsoft.Json

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23.1.19 Identity Model 2 3.0.0

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23.1.49 popper.js 1.14.3

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Based on the Open Source API proposed by Ross Bencina

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23.1.56 Toggle Switch Control 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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Version 1.1

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 - CxImage Library (A pagina: 221)
 - ► Gong-wpf-dragdrop Library (A pagina: 222)
 - ▶ Jasper Library (A pagina: 222)
 - ▶ JPEG Library (A pagina: 223)
 - ▶ Libpng Library (A pagina: 231)
 - ▶ Math.NET Numerics Library (A pagina: 233)
 - ▶ MNG Library (A pagina: 233)
 - ▶ PCap Library (A pagina: 234)
 - ▶ SQLite Library (A pagina: 235)



► Tiff Library (A pagina: 235)

► Tinyxml Library (A pagina: 236)

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Documentation	Description
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*.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.

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Documentation	Description
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example.c	Sample code for calling the JPEG library.
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filelist.doc	Road map of IJG files.



Documentation	Description
coderules.doc	Coding style rules - please read if you contribute code.

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

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

OVERVIEW

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

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

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

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

The emphasis in designing this software has been on achieving portability and flexibility, while also making it fast enough to be useful. In particular, the software is not intended to be read as a tutorial on JPEG. (See the REFERENCES section for introductory material.) Rather, it



is intended to be reliable, portable, industrial-strength code. We do not claim to have achieved that goal in every aspect of the software, but we strive for it.

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

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

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

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

REFERENCES

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

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

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

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

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



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

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

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

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

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

Literature Department

C-Cube Microsystems, Inc.

1778 McCarthy Blvd.

Milpitas, CA 95035

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

A PostScript version of this document is available by FTP at ftp://ftp.uu.net/graphics/jpeg/jfif.ps.gz. There is also a plain text version at ftp://ftp.uu.net/graphics/jpeg/jfif.txt.gz, but it is missing the figures. The TIFF 6.0 file format specification can be obtained by FTP from ftp://ftp.sgi.com/graphics/tiff/TIFF6.ps.gz. The JPEG incorporation scheme found in the TIFF 6.0 spec of 3-June-92 has a number of serious



problems. IJG does not recommend use of the TIFF 6.0 design (TIFF Compression tag 6). Instead, we recommend the JPEG design proposed by TIFF Technical Note #2 Straton3dPartySoftware-(Compression tag 7). Copies of this Note can be obtained from ftp.sgi.com or from ftp://ftp.uu.net/graphics/jpeg/. It is expected that the next revision of the TIFF spec will replace the 6.0 JPEG design with the Note's design. Although IJG's own code does not support TIFF/JPEG, the free libtiff library uses our library to implement TIFF/JPEG per the Note. libtiff is available from ftp://ftp.sgi.com/graphics/tiff/.

ARCHIVE LOCATIONS

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

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

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

The JPEG FAQ (Frequently Asked Questions) article is a useful source of general information about JPEG. It is updated constantly and therefore is not included in this distribution. The FAQ is posted every two weeks to Usenet newsgroups comp.graphics.misc, news.answers, and other groups. It is available on the World Wide Web at

http://www.faqs.org/faqs/jpeg-faq/ and other news.answers archive sites, including the official news.answersarchive at rtfm.mit.edu:

ftp://rtfm.mit.edu/pub/usenet/news.answers/jpeg-faq/. If you don't have Web or FTP access, send e-mail to mail-server@rtfm.mit.edu with body

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

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

RELATED SOFTWARE

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

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

ftp://wuarchive.wustl.edu/graphics/graphics/packages/NetPBM/.



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

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

FILE FORMAT WARS

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

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

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

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

TO DO

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

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

As always, speeding things up is of great interest.



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

23.3.5 Libpng Library

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

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



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Glenn Randers-Pehrson

glennrp at users.sourceforge.net

December 14, 2007

23.3.6 Math.NET Numerics Library

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

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23.3.7 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).

23.3.8 PCap Library

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23.3.9 SQLite Library

2001 September 15

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

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

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

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

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

23.3.10 Tiff Library

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23.3.11Tinyxml Library

www.sourceforge.net/projects/tinyxml

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23.3.12 Zlib Library

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

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