

Integration Objects'

Solution for retrieving and archiving OPC alarms and events

OPC Alarms & Events Archiver Version 1.5 Rev.2

USER GUIDE

OPC Compatibility OPC A&E 1.02 OPC A&E 1.10



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About this User Guide

This guide:

- Describes the OPC AE Archiver, its features and functionalities,
- Lists the system requirements for installing and running this OPC Client,
- Explains how to configure and use the OPC AE Archiver,
- And includes chapters for troubleshooting and frequently asked questions.

Target Audience

This document is intended for Integration Objects' OPC AE Archiver users. Basic knowledge of OPC AE (Alarms and Events) is assumed.

Document Conventions

Convention	Description				
Bold	Click/selection action required.				
	Information to be noted.				

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INTRODUCTION

1. Overview

Today's process systems produce streams of OPC data. The data needs to be collected and converted into information for process analysis in databases. In many cases, the retrieval and accumulation of this information is a cumbersome and time-consuming process. The **Alarms and Events Archiver** optimizes the process of retrieving this valuable information. The user gets information about alarms and events relating to his processes without being required to deal within the OPC Server environment. This capability greatly increases the efficiency of analysis and reduces the time it takes to respond appropriately.

Moreover, the **Alarms and Events Archiver** enables alarms and events archiving in either an ADO or ODBC database of the user's choice. In many cases, this negates the need for additional costly real-time databases servers, thus reducing costs and the redundancy of operations.

2. Architecture

The following diagram illustrates a typical architecture for the **Alarms and Events Archiver**. The **Alarms and Events Archiver** communicates with the available OPC alarms and events servers, retrieves alarms and stores them in any ODBC or ADOcompliant database such as Oracle, and SQL Server.





Figure 1: System Architecture

3. OPC AE Archiver Features

Integration Objects' Alarms and Events Archiver plays two main roles:

- It acts as an **explorer** by allowing the user to view all triggered OPC alarms and events across the network in a user-friendly format and combines reliable data from different OPC alarms and events servers into a convenient and practical environment. The user can also control the alarm characteristic updates stored in the OPC AE servers more efficiently and accurately.
- Additionally, it acts as an **ADO and ODBC OPC-database Archiver**, as it provides facilities to configure, access a historian database according to the ADO or ODBC connection mode, and store the alarm characteristics retrieved from the OPC AE servers inside this database.

4. OPC Compatibility

Integration Objects' OPC AE Archiver supports OPC Alarms and Events (AE) version 1.02 and 1.10.



5. System Requirements

Integration Objects' OPC Alarms and Events Archiver installation requires the

following minimum runtime system specifications:

- Pentium 100MHz processor or higher recommended.
- 1 GB memory. Higher is recommended.
- 100 MB hard disk space for full installation.
- Operating Systems:
 - Microsoft Windows NT Workstation or Server 4.0 (Service Pack 3) or Windows 2000 professional or Server.
 - Microsoft Windows XP
 - Microsoft Windows Seven
 - Microsoft Windows Server 2003
 - Microsoft Windows Server 2008
 - Microsoft Windows 8
 - Microsoft Windows Server 2012
 - Microsoft Windows 10
 - Microsoft Windows Server 2016
- Databases:
 - Any compliant MS SQL Server 2005 or later
 - Oracle version 8i or later
 - Microsoft Access 2003 or later
 - MySQL version 5.0 or later
 - CSV files
 - Any database using OLEDB or ODBC connection providers

6. OPC Alarms & Events Archiver Functionalities

1.Connection to all available OPC Alarms and Events servers (local and remote)

The user can connect to one or more alarms and events servers at the same time.

2. Browsing of all data sources available in OPC Alarms and Events servers

The AE Archiver provides the ability to browse all alarms and events sources (the classification is done according to plant areas and sub-areas as shown below).







Server Area Space	
Root System_Event Tracking_EVENT Boiler1 Boiler1:makeup1 FIC1001 FVLEVEL HI LO Boiler1:makeup2 FIC1002 Vater1 Water1 Water1:makeup3 Hi FIC1003 Hi Hi	
OK Save Help	

Figure 2: Browse Alarm and Event Sources

3. Filtering of retrieved alarms and events according to several criteria

With the AE Archiver, the user can set filters on any event subscription in order to limit the events that he will be notified of.

To setup a filter for an event subscription, the user can use the following criteria:

- Filtering by Event Type: only events satisfying the criterion "Event Type" will be returned.
- Filtering by Event Categories: only events satisfying the criterion "Event Categories" will be returned.
- **Filtering by Areas and Sources**: only events satisfying the criterion "Existing in these areas or having these sources" will be returned.
- **Filtering by Severity**: only events satisfying the criterion "Events that have a severity between the min and the max severity" will be returned.

The user can select multiple criteria; they will be logically related together using the AND operator. All events satisfying all these selected criteria will be returned.



Subscription Filter Set	tting	×
Event Type All Tracking	☐ Simple ☐ Condition	Severity Low Severity : 1 High Severity : 1000
Event Categories	Add	<<<< Level1 Level2 Level3 Level4
Areas	Add	Add
	Remove	ncel Help
Apply	Ca	Incel Help

Figure 3: Set Filters

4. Real-time capturing of alarms and events fired by the OPC AE servers

The alarms and events fired by OPC AE servers are displayed in a screen view in real-time so users can monitor the alarm characteristic changes over time.



🔏 Integration Obje	ects' OPC Alarms a	nd Events Archiver	C	Current Open Configura	tion Name :: (Configuration1								X
File View OPC	Servers <u>C</u> onfigur	ation Management <u>T</u> ransfer	<u>H</u> elp											
L 🖻 👫 🕺	<u>© © d d</u>	🔁 🥙 🗞 🕨 =	8						1			1	1	
Server Name	Host Name	Subscription Name	Source	Event Time	Severity	Message	Quality	Condition	SubCondition	Mask	NewState	Event Type	Event Category	AckR
IntegrationObjec	DEV/4	Event_1	FIC1001	21/05/2018 13:19	100	LOLO AI	Good,No	PVLEVEL	LOLO	OP	3	OPC_CONDITIO	Level	TRU
IntegrationObjec	DEV74	Event 3	FIC1001	21/05/2018 13:19	100		Good No	PVLEVEL	1010	OP	3	OPC_CONDITIO	Level	TRU
														Image: Constraint of the sector of
۱ ا	"													
💭 DEV74				TimeStamp	0	Description								
B → B DteV74 → S IntegrationObjects.OPCAEServer.Simulator.1 → Event.1 → Event.2 Event.3			21/05/2018 13:19 21/05/2018 13:19	b:26 A b:26 [*] b:26 [*] b:19 A b:19 [*] b:18 [*] b:12 A b:12 [*] b:12 [*] b:12 [*] b:12 [*] b:12 [*] b:156 [*]	Adding new Evi ServerProgID: I ServerProgID: I	ent Subscriptii integrationObj ent Subscriptii integrationObj integrationObj ent Subscriptii integrationObj integrationObj integrationObj Configuration	on operation com jects.OPCAEServe jects.OPCAEServe on operation com jects.OPCAEServe jects.OPCAEServe jects.OPCAEServe jects.OPCAEServe jects.OPCAEServe jects.OPCAEServe jects.OPCAEServe jects.OPCAEServe jects.OPCAEServe 1 closed properly	npleted correctly. r.Simulator.1, ServerA r.Simulator.1, ServerA npleted correctly. r.Simulator.1, ServerA npleted correctly. r.Simulator.1, ServerA r.Simulator.1, ServerA r.Simulator.1, ServerA r.Simulator.1, ServerA	ddress: Di ddress: Di ddress: Di ddress: Di ddress: Di ddress: Di ddress: Di	EV74, EventSubs EV74, EventSubs EV74, EventSubs EV74, EventSubs EV74, EventSubs EV74, EventSubs EV74, EventSubs EV74] Connecti EV74] was remo	cription Name: Event j cription Name: Event j cription Name: Event j cription Name: Event j cription Name: Event j on to server succeeded ved successfully.	8) Event Subscription cal 3) Event Subscription adu 2) Event Subscription cal 2) Event Subscription adu 1) Event Subscription cal 1) Event Subscription adu	llback laun ded propei llback laun ded propei llback laun ded propei	
				<)





5. The graphical browsing of alarm characteristics from any OPC AE server

Dptions Settings	x
_ Authentication	
O With authentication	
Login Name	
Password	
Confirm Password	
= Saceen fields	
Select the list of alarm characteristics to control :	
🗹 Event Time 🗹 Message 🗹 Condition Name 🔽 Event Type 🔍 Ack Required 🔽 Mask 🔽 Cookie 🖳 Attribute	
🗹 Severity 🔽 Quality 🔽 SubCondition Name 🗹 Event Category 🗹 Active Time 🔽 New State 🗹 Actor ID	
Historian rields	
Select the list of alarm characteristics to control :	
🗹 Event Time 🗹 Message 🔽 Condition Name 🔽 Event Type 🔽 Ack Required 🗹 Mask 🔽 Actor ID	
Sevenity Uuality SubLondition Name Event Lategory Active Time New State Attribute	
Check OPC Servers even	
An OPC Server connection may be lost after 3 exposes ive issues	
Automatically reconnect (and re-initialization) to OPC Server when the connection may be lost Try to reconnect OPC Servers every	mn
Automatically reconnect to database server when the connection may be lost Try to reconnect database server every 1	mn
🗹 Check lost OPC Server connection on startup 🛛 🗹 Check lost database connection on startup 🔽 Use Redundancy Feature	
Save NewState value in: O string format 💿 non-string format (integer)	
Save Change Mask value in: 💿 string format 🛛 O non-string format (integer)	
Save Quality value in: 💿 string format 🔘 non-string format (integer)	
An alarm is auto-inhibited if it goes active / inactive at least 3 times in a 5000 ms interval	
Apply Cancel Help	

Figure 5: Browse Alarm Characteristics

A screen view shows all information relating to alarms and events:

- Source of the event
- Alarms and events' server name
- Alarms and events' server address
- Event subscription name
- Timestamp
- Message
- Category
- Severity
- Attributes
- Condition
- Sub-condition
- Change mask
- New State
- Quality
- Ack Required
- Active Time



- Cookie
- Actor ID

Users can hide one or more of these characteristics according to their needs.

6. Data transfer from OPC AE servers to any compliant ODBC or ADO database

The storage of alarms and events fired by an OPC AE server is the main functionality for the OPC AE Archiver. The Archiver provides facilities to transfer data from AE servers to any compliant ODBC or ADO database. Below, you can find some details related to the database transfer:

- Users can setup an ODBC or ADO connection to the historian database directly from the AE Archiver.
- The AE Archiver helps the user create and configure the database tables that will contain all information about alarms and events:
 - Source of the event
 - Alarms and events' server name
 - Alarms and events' server address
 - Event subscription name
 - Timestamp (with a separate field to store the event time milliseconds)
 - Message
 - Category
 - Severity
 - Attributes
 - Condition
 - Sub-condition
 - Change Mask
 - New State
 - Quality
 - Ack Required
 - Active time (with a separate field to store the active time milliseconds)
 - Cookie
 - Actor ID

Some of these information can be hidden on user request.



ptions Settings
-Authentication
O Without authentication
O With authentication
Login Name
Password
Confirm Password
Screen fields
Select the list of alarm characteristics to control :
🗹 Event Time 🔽 Message 🔽 Condition Name 🗹 Event Type 🔽 Ack Required 🗹 Mask 🔽 Cookie 🔽 Attribute
🗹 Severity 🗹 Quality 🗹 SubCondition Name 🗹 Event Category 🗹 Active Time 🗹 New State 🗹 Actor ID
Historian fields
Select the list of alarm characteristics to control :
🗹 Event Time 🗹 Message 🗹 Condition Name 🗹 Event Type 🗹 Ack Required 🗹 Mask 🗹 Actor ID
🗹 Severity 🔽 Quality 🗹 SubCondition Name 🗹 Event Category 🗹 Active Time 🔽 New State 🗹 Attribute
An UPU Server connection may be lost after 3 successive issues
A database connection may be lost after 3 successive issues
Automatically reconnect (and re-initialization) to OPC Server when the connection may be lost Try to reconnect OPC Servers every 1 m
Automatically reconnect to database server when the connection may be lost Try to reconnect database server every 1 m
Check lost OPC Server connection on startup 🔽 Check lost database connection on startup 🔽 Use Redundancy Feature
Save NewState value in: O string format 💿 non-string format (integer)
Save Change Mask value in: 💿 string format 🛛 O non-string format (integer)
Save Quality value in: 💿 string format 🔘 non-string format (integer)
An alarm is auto-inhibited if it goes active / inactive at least 3 times in a 5000 ms interval
Apply Cancel Help

Figure 6: Database Fields

The AE Archiver assists the user when creating his database by offering a wizard. All introduced parameters are user-defined.

7. Point click configuration

In the AE Archiver, the user can set more than one configuration. There is also a default configuration that is started automatically when launching the Archiver. This configuration will save all connected AE servers, added event subscriptions, related filters, and configured database.

8. Log event display and file

The user can follow the operations handled by the Archiver by using:

- Log view
- Log file

The Archiver logs all OPC calls even when successful and handles OPC system and network errors.

9. Start as a Service

With the OPC AE Archiver, you have the ability to configure the OPC Archiver so it can be launched automatically as a service. (**For more information**



about how to install and configure the OPC AE Archiver to start as a service, you can see the OPC Alarms and Events Archiver Service Management user guide).

Other supported features:

- Continuous monitoring of the connection with the database server: when a connection to the database fails, the Archiver notifies the user and starts an SQL backup. All event notifications are stored in an SQL file for further processing.
- Continuous monitoring of the AE servers' connections: when an error occurs with the server connection, the Archiver automatically removes this server and cleans all related resources.
- Display and save static server information on demand (supported filters, available conditions, sub-conditions, categories, attributes).
- Enabling and disabling conditions by area or source.
- Activating and deactivating event subscriptions.
- Displaying and changing a subscription's state.
- Displaying condition event properties.
- Security functionality options: The user can setup credentials (password, login) to protect a specific user configuration.
- Run as NT Service (v.1.0.4)
- Automatic reconnection to the database server when the connection is lost. (v.1.0.5)
- Automatic reconnection (and re-initialization) to OPC Server when the connection is lost. (v.1.0.5)
- Support of OPC Server Redundancy (v.1.0.6)
 - Integration Objects' OPC Alarms and Events Archiver provides OPC Server redundancy using OPC servers through the network. This means that users can designate alternative machines as backup servers in case a designated Primary server goes offline.
 - OPC Alarms and Events Archiver scans the OPC server status and switches to the backup node in case a primary one fails.
 - The OPC Alarms and Events Archiver scans the primary OPC server status periodically and redirects the connection to it once it returns online.
- Import/Export functionalities (v.1.0.8)
- NewState flag codification (v.1.0.8)
- The possibility to store alarms in one or more tables (v.1.0.9)
- The management of the table Primary Keys (v.1.0.9)
- Storing vendor specific A&E attributes into separate fields (v.1.1.0)



GETTING STARTED

1. Installing and Running

This section explains how to install and run the OPC AE Archiver.

1.1. Installing

The installation program for the **Archiver** is downloadable from Integration Objects' website. Run the installation program following these steps:

1. Double-click on the Integration Objects' OPC AE Archiver installation package. <u>Make sure to run the installation program using an administrator account.</u>

The installation welcome dialog box will appear.



Figure 7: Installation Welcome Dialog

2. Click the Next button. The license agreement will be displayed





Figure 8: License Agreement Dialog

3. After reading the license agreement, select the first option and click on the **Next** button. By proceeding, you are accepting all of the license agreement terms. Otherwise, you can cancel the installation. The customer information dialog will then appear.



Integration Objects' OPC Alarms a	nd Events Archiver - InstallShield Wizard
Customer Information Please enter your information.	
	Please enter your name and the name of the company for which you work.
	User Name:
	Lompany Name:
InstallShield	< Back Next > Cancel

Figure 9: Customer Information Dialog

4. Enter the user name and the company name, and then click the **Next** button. The dialog where you can choose the destination folder will be displayed.



Integration Objects' OPC Alarms Choose Destination Locatio Select folder where setup will in	and Events Archiver - InstallShield Wizard n stall files. Setup will install Integration Objects' OPC Alarms and Events Archiver in the following folder. To install to this folder, click Next. To install to a different folder, click Browse and select another folder. Destination Folder- C:\\Integration Objects' OPC Alarms and Events Archiver Browse
InstallShield	< Back Next> Cancel

Figure 10: Choose Destination Folder Dialog

5. Click the **Next** button to continue the installation, or the **Browse** button to choose a different destination folder. The Installation dialog will be prompted.





Figure 11: Installation Dialog

6. Click the Install button to start installation.





Figure 12: Install the OPC AE Archiver as Service Dialog

7. Check the **Install as NT service** checkbox to install the OPC AE archiver as a service, then click the **Next** button to continue the installation





Figure 13: Install the OPC Core Components Dialog

8. Check the **Install OPC Core Components** checkbox to install the OPC Core components, then click the **Next** button to continue the installation.





Figure 14: Installation Completed Dialog

9. Click the **finish** button.

The installation copies all necessary files to the target computer, creates a short-cut icon in the Start menu and makes an un-installation entry in the Add/Remove Programs Window in the Control Panel.

During installation, files are copied as follows:

- **AEArchiver.exe** (the executable file) in the **Alarms and Events Archiver** directory under the Program Files folder.
- AEAService.exe: the OPC Alarms and Event Archiver Service.
- **AEASMg.exe:** Utility to control the OPC Alarms and Event Archiver Service.
- OPC AE Archiver User Guide.pdf (User's Guide) by default in the Alarms and Events Archiver directory under the Program Files folder.
- **OPC AE Archiver Service Management User Guide.pdf:** OPC Alarms and Events Archiver Service Management user guide.
- OPC AE Archiver Quick User Guide.pdf: OPC Alarms and Events Archiver quick user guide.



1.2. Starting-Up

You can start manually the OPC AE Archiver from the start menu shortcut. To do so, click on Start \rightarrow Programs \rightarrow Integration Objects \rightarrow OPC Archiver \rightarrow OPC Alarms and Events Archiver

🅼 OPC Archiver
OPC Alarms and Events Archiver
Integration Objects' Web Site
📋 OPC AE Archiver License Authorizati
OPC AE Archiver Quick User Guide
🚮 OPC AE Archiver Service Manageme
OPC AE Archiver User Guide
🧭 OPC AE Archiver
强 Uninstall OPC AE Archiver

Figure 15: Starting the OPC AE Archiver

Main Window

When launching the Alarms and Events Archiver, there are two possible cases:

1. First use of the Alarms and Events Archiver

In this case, there is no default configuration that is read at startup. The first time the user wants to use the Archiver, he has to create a new configuration and save it as a default one.



In this case, all other functionalities are disabled. The main window related to this case is shown in the figure below.



ile View OP	C Servers <u>C</u> onfigura	tion Management <u>T</u> ransfer	Help											
D 📽 🍕 🐰	◎ @ 古古	bosis @ X ► =	8											
ierver Name	Host Name	Subscription Name	Source	Event Time	Severity	Message	Quality	Condition	SubCondition	Mask	NewState	Event Type	Event Category	AckRe
	m													•
				TimeStamp	D	escription								

Figure 16: Functions Disabled

2. One or more configurations already exist

In this case, the **Alarms and Events Archiver** automatically loads the default configuration.

The main window related to this special case is shown in the figure below.



🕺 Integration Obje	ects' OPC Alarms a	nd Events Archiver	C	urrent Open Configura	tion Name :: C	onfiguration1								X
File View OPC	Servers <u>C</u> onfigur	ation Management <u>T</u> ransfer	Help											
⊔ 🖙 ₦, »	8 9 ðð		• ¥			1		0 m		1		[]		
Server Name	Host Name	Subscription Name	Source	Event Time	Severity	Message	Quality	Condition	SubCondition	Mask	NewState	Event Type	Event Category	AckKe
IntegrationObjec	DEV/4	Event_1	FIC1001	21/05/2018 13:19	100	LOLO AL	Good,No	PVLEVEL	LOLO	OP	3	OPC_CONDITIO	Level1	TRUE
IntegrationObjec	DEV74	Event_2	FIC1001	21/05/2018 13:19	100	LOLO AL	Good No	PVLEVEL DVLEVEL	1010	OP	3	OPC_CONDITIO	Level	TRUE
۰ ا	"													Þ
				Transformer	[0					_				_
E Billingati E Billingati Even Even Even	ionObjects.OPCAE t_1 t_2 t_3	Server.Simulator.1		21/05/2018 13:15 21/05/2018 13:15	26 A 26 (5 26 (5))))))))))))))))))))))))))))))))))))	escription deling new Evi ServerProgID: 1 ServerProgID: 2 ServerProgID: 2 ServerProgID: 1 dding new Evi ServerProgID: 1 ServerProgID: 1 ServerProgID: 1 ServerProgID: 1 ServerProgID: 1 ServerProgID: 1	ent Subscription IntegrationOb IntegrationOb ent Subscription IntegrationOb ent Subscription IntegrationOb IntegrationOb IntegrationOb IntegrationOb Configuration	on operation con ects.OPCAEServi ects.OPCAEServi ects.OPCAEServi ects.OPCAEServi ects.OPCAEServi ects.OPCAEServi ects.OPCAEServi ects.OPCAEServi ects.OPCAEServi ects.OPCAEServi ects.OPCAEServi 1 closed properly	npleted correctly. er.Simulator.1, ServerA er.Simulator.1, ServerA er.Simulator.1, ServerA er.Simulator.1, ServerA er.Simulator.1, ServerA er.Simulator.1, ServerA er.Simulator.1, ServerA f.	ddress: DE ddress: DE ddress: DE ddress: DE ddress: DE ddress: DE ddress: DE ddress: DE	V74,EventSubs: V74,EventSubs: V74,EventSubs: V74,EventSubs: V74,EventSubs: V74,EventSubs: V74,EventSubs: V74] Connecti: V74] was remo	cription Name: Event_3 cription Name: Event_2 cription Name: Event_2 cription Name: Event_1 cription Name: Event_1 cription Name: Event_1 vent severe succeeded. ved successfully.] Event Subscription cal J Event Subscription adu J Event Subscription cal Event Subscription adu J Event Subscription cal J Event Subscription adu	llback laund ded properl llback laund ded properl llback laund ded properl
				<										Þ

Figure 17: Default Configuration

The main window consists of a menu bar, a toolbar and three Sub-views:



Figure 19: OPC AE Archiver Toolbar

Sub-Views Presentation

The top List View: It contains the information related to alarm characteristics reported by the different connected OPC alarms and events servers.

In this view, the user can view alarm characteristic updates (like event time, severity, condition name, event type, etc.).

Users can activate or deactivate the posting of these updates.



OPC Alarms and Events Archiver User Manual

Server Name	Host Name	Subscription Name	Source	Event Time	Severity	Message	Quality	Condition	SubCondition	Mask	NewState	Event Type	Event Category	AckRed
IntegrationObjec	DEV74	Event_1	FIC1002	21/05/2018 13:23	500	Conditio	Good,No	DEVIATION	DEVIATION	0P	5	OPC_CONDITIO	Level2	TRUE
IntegrationObjec	DEV74	Event_1	FIC1003	21/05/2018 13:24	300	LOLO AI	Good,No	PVLEVEL	LOLO	OP	3	OPC_CONDITIO	Level1	FALSE
IntegrationObjec	DEV74	Event_1	FIC1004	21/05/2018 13:24	500	Conditio	Good,No	DEVIATION	DEVIATION	OP	5	OPC_CONDITIO	Level2	TRUE
IntegrationObjec	DEV74	Event_1	System_Event	21/05/2018 13:24	200	Simple E	Good,No				5	OPC_SIMPLE_EV	Level3	TRUE
IntegrationObjec	DEV74	Event_1	Tracking_EVENT	21/05/2018 13:24	500	Setpoint	Good,No				5	OPC_TRACKING	Level4	TRUE
IntegrationObjec	DEV74	Event_1	FIC1001	21/05/2018 13:24	900	Conditio	Good,No	PVLEVEL	H	OP	5	OPC_CONDITIO	Level1	FALSE

Figure 20: Alarm Characteristic Updates

The Tree View: It contains the information related to the list of OPC alarms and events servers configured by the user.



Figure 21: Tree View

The List View: The user can monitor the actions processed by the Archiver by using this log view.

TimeStamp	Description
21/05/2018 13:25:41	Adding new Event Subscription operation completed correctly.
21/05/2018 13:25:41	[ServerProgID: IntegrationObjects.OPCAEServer.Simulator.1, ServerAddress: DEV74, EventSubscription Name: Event_3] Event Subscription callback launc
21/05/2018 13:25:41	[ServerProgID: IntegrationObjects.OPCAEServer.Simulator.1, ServerAddress: DEV74, EventSubscription Name: Event_3] Event Subscription added properl
21/05/2018 13:25:33	EventSubscription name already used.
21/05/2018 13:25:22	Adding new Event Subscription operation completed correctly.
21/05/2018 13:25:22	[ServerProgID: IntegrationObjects.OPCAEServer.Simulator.1,ServerAddress: DEV74,EventSubscription Name: Event_2] Event Subscription callback launc
21/05/2018 13:25:22	[ServerProgID: IntegrationObjects.OPCAEServer.Simulator.1, ServerAddress: DEV74, EventSubscription Name: Event_2] Event Subscription added properl
21/05/2018 13:23:53	[ServerProgID: IntegrationObjects.OPCAEServer.Simulator.1, ServerAddress: DEV74] the server is running normally <opc_status_running>.</opc_status_running>
21/05/2018 13:22:53	CSV Historian created successfully.
21/05/2018 13:22:53	[ServerProgID: IntegrationObjects.OPCAEServer.Simulator.1,ServerAddress: DEV74,EventSubscription Name: Event 1] Event Subscription callback launce
21/05/2018 13:22:53	[ServerProgID: IntegrationObjects.OPCAEServer.Simulator.1, ServerAddress: DEV74, EventSubscription Name: Event_1] Event Subscription added properl
21/05/2018 13:22:53	[ServerProgID: IntegrationObjects.OPCAEServer.Simulator.1, ServerAddress: DEV74] Query available filters operation started correctly
21/05/2018 13:22:53	[ServerProgID: IntegrationObjects.OPCAEServer.Simulator.1, ServerAddress: DEV74] Connection to server succeeded.
21/05/2018 13:22:53	Configuration: Configuration1 closed properly.
21/05/2018 13:22:52	ODBC historian connection closed properly.
4	N N N N N N N N N N N N N N N N N N N



2. Removing OPC Archiver

To remove the Alarms and Events Archiver:

- If you have set one or more configurations, start the Alarms and Events Archiver and delete all these settings. When you finish, close the Alarms and Events Archiver.
- 2. Click Start.
- 3. Click Settings.
- 4. Click Control Panel.
- 5. Click Add/Remove Programs.



- 6. In Add/Remove Programs dialog screen select the Alarms and Events Archiver.
- 7. Click Change/Remove then OK.
- 8. The software will be removed.

You can remove the OPC AE Archiver from your machine by selecting the "**Uninstall OPC AE Archiver**" shortcut from the start menu.



Figure 23: Start Menu – Uninstaller Shortcut

If you are using Windows 10, Windows Server 2012 or Windows Server 2016 operating systems, the uninstaller needs to be run from the start menu as illustrated below.



Figure 24: Windows 10 Startup Menu - Uninstall Shortcut



CONFIGURATION

1. Configuration Management

1.1. Creating a New Configuration

To create a new configuration, the user can select:

- File then New Configuration in the menu bar.
- Or click the New Configuration icon in the toolbar.

A similar dialog screen appears:

Add new configuration dialog screen
Configuration Name : Configuration_Name
Authentication
Without authentication
O With authentication
Login Name :
Password :
Apply Cancel Help

Figure 25: New Configuration

To create a new configuration, the user should:

- 1. Enter in the **Configuration Name** text box, a valid unique name for the configuration.
- 2. Select "with" or "without" authentication.
- 3. If the user chooses the "authentication" option, he must enter a Login Name (in **Login Name** text box) and a password (in **Password** text box).
- 4. Press the **Apply** button.

A new configuration is then created.



1.2. Opening an Existing Configuration

To open an existing configuration, the user can select:

- File then Open Configuration in the Menu bar.
- Or click the Open Configuration icon in the Toolbar.

A similar dialog screen appears:

0	pen Configuration
	List of available configurations Configuration1 Configuration2 Configuration3
	<u>Apply</u> <u>Cancel</u> <u>H</u> elp

Figure 26: Open Existing Configuration

To open an existing configuration, the user should:

- 1. Select the wanted **configuration name**.
- 2. Click the Apply button.

The selected configuration is then loaded.



To gain additional information about the selected configuration, the user should click on it twice. A configuration dialog screen will appear:





Configuration Information
Configuration Name : Configuration1
Configuration Alarm characteristics Default Historian Historian ADD_Historian_1 ADD_Historian_1 Access Mode History Updates Onnection String Static Info Levents Table Name DDBC_Historian_1 ODBC_Historian Screen Servers List
ОК Неір

Figure 27: Configuration Information

1.3. Closing an Open Configuration

To close the currently open configuration, the user should select:

- File then Close Configuration in the Menu bar
- Or click the Close Configuration icon in the Toolbar.

1.4. Setting the Default Configuration

To set the default configuration, the user should select:

- File then Set Default Configuration in the Menu bar.
- Or click the Set Default Configuration icon in the Toolbar.

A similar dialog screen appears:


Se	et a default configuration :
	List of available configurations Configuration1 Configuration3 Start without default configuration
	Apply Cancel Help

Figure 28: Set Default Configuration

To select the default configuration:

- 1. Select the suitable **Configuration Name**.
- 2. Click the Apply button.

The selected configuration will be considered as the default one.



For detailed information concerning the configuration, click twice on the desired configuration.



When the user chooses "Start without default configuration", the AE Archiver will start without an empty configuration.

1.5. Deleting a Configuration

To delete an existing configuration, the user should select:

- File then Delete Configuration in the Menu bar.
- Or click Delete Configuration in the Toolbar.



Delete Configuration				
List of available configurations Configuration1 Configuration2 Configuration3				
Apply Cancel Help				

Figure 29: Delete Configuration

- To delete an existing configuration, the user should:
- 1. Select the **configuration** to delete.
- 2. Click the Apply button.

The selected configuration is then deleted.



To access additional information about the selected configuration, click twice on the configuration name.

1.6. Configuration Screen Settings

Alarms and Events Archiver can be used like an explorer. To enable this option, the user should select:

Configuration Management -> Screen Configuration -> Screen Display

When **Screen Display** is checked, the **Alarms and Events Archiver** will work as an explorer and alarms information are displayed in the screen.

Configuration Management Transfer	Help		
Screen Configuration	•	✓ Screen	Display
Default Historian Configuration Options	► S	ource	Event Time
Clear log screen			

Figure 30: Working as an Explorer



The user can disable the exploration capability by selecting:

Configuration Management -> Screen Configuration

Then, unchecking Screen Display.

Consequently, events and alarms notifications are canceled.

Configuration Management	Transfer	Help		
Screen Configuration		•	Screen	Display
Default Historian Configuration Options		•	Source	Event Time
Clear log screen				

Figure 31: Cancel Explorer Mode

1.7. Option Setting

To change options related to the current configuration:

Configuration Management -> Options

ptions Settings
Authentication
O With authentication
Login Name
Password
Confirm Password
Screen fields
Select the list of alarm characteristics to control :
🗹 Event Time 🗹 Message 🗹 Condition Name 🗹 Event Type 🖤 Ack Required 🗹 Mask 🖤 Cookie 🖤 Attribute
🗹 Severity 🔽 Quality 🔽 SubCondition Name 🗹 Event Category 🔽 Active Time 🖉 New State 🗹 Actor ID
Historian fields
Select the list of alarm characteristics to control :
🔲 Event Time 🔲 Message 🔲 Condition Name 🔄 Event Type 🔄 Ack Required 🔲 Mask 🔄 Actor ID
Severity Quality SubCondition Name Event Category Active Time New State Attribute
Uther Settings
Check OPC Servers every 1 mn
An OPC Server connection may be lost after 3 successive issues
A database connection may be lost after 3 successive issues
Automatically reconnect (and re-initialization) to OPC Server when the connection may be lost Try to reconnect OPC Servers every
Automatically reconnect to database server when the connection may be lost Try to reconnect database server every 1 mn
Check lost OPC Server connection on startup 🔽 Check lost database connection on startup 🗹 Use Redundancy Feature
Save NewState value in: O string format (integer)
Save Change Mask value in: 💿 string format 💫 O non-string format (integer)
Save Quality value in: O string format O non-string format (integer)
An alarm is auto-inhibited if it goes active / inactive at least 3 times in a 5000 ms interval
Apply Cancel Help

Figure 32: Option Settings



This dialog screen allows users to:

- Change the authentication option.
- Change the filter characteristics of the OPC alarms and events to retrieve and display on the screen.
- Change the filter characteristics of the OPC alarms and events to store in the historian database.
- Other settings: Checking OPC Servers, OPC Server reconnection, redundancy, flag saving mode (NewState, Quality, Mask), Auto-Inhabited state configuration.

Once selecting the appropriate characteristics, the user has to press:

- Apply to validate his choices.
- Cancel to close this dialog screen without any changes.

1.8. NewState Codification

OPC Standard: New State Values

New State	Value	Description
OPC_CONDITION_ENABLED	1	The condition has been enabled.
OPC_CONDITION_ACTIVE	2	The condition has become active.
OPC_CONDITION_ACKED	4	The condition has been acknowledged.

Table 1: Possible New State Values

- ACK: for acknowledged
- UNACK: for not acknowledged
- ACT: for active
- INACT: for inactive
- ENA: for enable
- **DIS**: for disable

In order to use the same codes that you mentioned, we suggest these codes:

- 0: for all disabled states.
- 1: for enabled state when the alarm is not acknowledged and inactive
 - ENA -UNACK-INACT
- 3: for enabled state when the alarm is not acknowledged and inactive
 - ENA- UNACK -ACT
- 5: for enabled state when the alarm is acknowledged and inactive
 - ENA- ACK –INACT
- 7: for enabled state when the alarm is acknowledged and active



- ENA- ACK -ACT
- 8: when the alarm goes active / inactive many times in a short interval, this state is not defined in the AE Specification. It should be implemented
 - AUTO-INHIBITED

Options Settings						
Authentication						
Without authentication With authentication Login Name Password Confirm Password						
Screen fields						
Select the list of alarm characteristics to control :						
V Event Time V Message V Condition Name V Event Type V Ack Required V Mask V Cookie V Attribute V Severity V Quality V SubCondition Name V Event Category V Active Time V New State V Actor ID						
Historian fields						
Select the list of alarm characteristics to control:						
📗 Event Time 🔲 Message 🔲 Condition Name 🔛 Event Type 🔛 Ack Required 🛄 Mask 🔛 Actor ID						
Sevency Quality Subcondition Name Covencicategory Active Time New State Attribute						
Check OPC Servers every 1 mn						
An OPC Server connection may be lost after 3 successive issues						
A database connection may be lost after 3 successive issues						
Automatically reconnect (and re initialization) to OPC Server when the connection may be least. Truto reconnect OPC Servers every						
Automatically reconnect (and reminalization) to one server when the connection may be lost Try to reconnect database server every 1 minutes of the server ev						
Save Newskae value in: Saving format Onon-string format (integer)						
Save Quality value in: O string format O non-string format (integer)						
An alarm is auto-inhibited if it goes active / inactive at least 3 times in a 5000 ms interval						
Apply Cancel Help						

Figure 33: New State Values

• The user should have the possibility to configure the AE Archiver to store the NewState value as a string or non-string format (integer).

Save NewState value in:	O string format	 non-string format (integer) 				
Figure	Figure 34: NewState Format					

• The user should have the possibility to configure the interval and the number of times to check if the alarm state is AUTO-INHIBITED.

An alarm is auto-inhibited if it goes active / inactive at least $\ $	3	times in a	5000	ms interval

Figure 35: NewState Configuration



1.9. Viewing Configuration Information

To view the information relating to the current configuration, select:

- File then Open Configuration Info in the Menu bar.
- Or click the Open Configuration Info icon in the Toolbar.

A similar dialog screen appears:

Cor	nfiguration Information	x
	Configuration Name : Configuration1	
	Configuration Alarm characteristics Default Historian Historian Historian ADO_Historian_1 Access Mode History Updates Connection String Static Info Events Table Name Events Table Fields ODBC_Historian_1 Screen Servers List	
	OK Help	

Figure 36: View Configuration Information

1.10. Import Configuration

To *import* an AE Archiver configuration:

1. On the AE Archiver menu, click **Import Configuration**, a dialog screen will appear:



🛃 Open	×	
Look in: 🚺 AE 💌	← 🗈 📸 🖛	
Name	Date modified	т
📄 Cond.01.02.07.conf	18/05/2018 15:04	N
📄 Cond.01.02.06.conf	18/05/2018 15:04	vi
📄 Cond.01.02.05.conf	18/05/2018 15:04	vi
📄 Cond.01.02.04.conf	18/05/2018 15:04	vi
•		
File <u>n</u> ame:	Open	
Files of type: Config Files (*.conf)	▼ Cancel	

Figure 37: Import configuration

2. Find the file you want to import, click the file to select, and then click Open. After the configuration has been imported, the user can start to work with the configuration.

1.11. Export Configuration

To *export* an AE Archiver configuration:

1. On the AE Archiver menu, click **Export Configuration**, a dialog screen will appear:

🛃 Save As	×
Save in: 🌗 AE 🔹	• 🗭 🖆 📰 •
Name	Date modified Ty
Cond.01.02.07.conf	18/05/2018 15:04 VI
📄 Cond.01.02.06.conf	18/05/2018 15:04 VI
📄 Cond.01.02.05.conf	18/05/2018 15:04 VI
📄 Cond.01.02.04.conf	18/05/2018 15:04 VI
<	•
File name: Cond.01.02.07.conf	Save
Save as type: Config Files (*.conf)	Cancel

Figure 38: Export Configuration

- 2. In File name field, enter a name for the configuration file.
- 3. Click Save.



2. OPC Alarms and Events Management

2.1. OPC A&E Server Management

2.1.1. Adding an OPC Server Connection

To add an OPC server connection, the user should select:

- OPC Servers then Connect To Server in the Menu bar
- Or click the Connect to an OPC AE Server icon in the Toolbar.

OPC Alarms and Events Servers' list :
DEV74 IntegrationObjects.DAHDASimulatorC#2012Service.1 IntegrationObjects.OPCAE.SimulationCSNET IntegrationObjects.OPCAE.SimulationCSNETTest IntegrationObjects.OPCAE.ServerSimulator.1 IntegrationObjects.OPCAE.ServerSimulator.1 IntegrationObjects.OPCAE.ServerSimulator.1 IntegrationObjects.OPCAE.ServerSimulator.1 Network Neighborhood
Connect to remote server
OPC server name:
OPC server IP address \ host name:
Connect to server Close Help

Figure 39: Add OPC Server Connection





OPC Alarms and Events Servers' list :				
DEV74 D				
Confirm				
You chose these information : Server ProgID : IntegrationObjects.OPCAEServer.Simulator.1. Server Address : DEV74. Click Yes to confirm, No to cancel.				
<u>O</u> ui <u>N</u> on				
Connect to remote server				
OPC server name:				
OPC server IP address \ host name:				
Connect to server Close Help				

Figure 40: Confirm Message Box

There are two options for adding a new OPC server connection. First Option:

1. Double-Click on the OPC server you wish to connect to.

Second Option:

- 1. Check the **Connect to remote server** option.
- 2. Type the name of your OPC AE server (called also ProgID) in the **OPC server name** text box.
- 3. Type the IP address or the node name of the machine hosting your server in the **OPC server IP address \ host name** text box.
- 4. Click Connect to server.

At this step and if the redundancy option is activated, a dialog screen will appear:



OPC Alar	ms and Events Servers' list :
	DEV74 IntegrationObjects.DAHDASimulatorC#2012Service.1 IntegrationObjects.OPCAEServer.Simulator.1 IntegrationObjects.KNet.OPCAE IntegrationObjects.OPCAE.SimulationCSNETTest IntegrationObjects.AdvancedOPCSimulator.2 Edundancy Server Setting
•••••	Server Name: https://www.itegrationObjects.OPCAEServer.Simulator.1 Primary Node: DEV74 Backup Nodes: Add Del Up Down
	Connect to server Close Help

Figure 41: Redundancy Server Setting





OPC Alarm	s and Events Servers' list :	×
E Red	DEV74 IntegrationObjects.DAHDASimulatorC#2012Service.1 IntegrationObjects.OPCAEServer.Simulator.1 IntegrationObjects.KNet.OPCAE IntegrationObjects.OPCAE.SimulationCSNETTest IntegrationObjects.AdvancedOPCSimulator.2 undancy Server Setting	
€ F	erver Name: https://www.operationObjects.OPCAEServer.Simulator.1 Primary Node: DEV74	
E	Cackup Nodes:	
	Network Browsing	
	Node Name Test	
	E- 🚰 Network Neighborhood	Help
	OK Cancel	

Figure 42: Network Browsing

Users may designate one or more OPC Servers as the Backup Server (Number of backup servers not restricted by the AE Archiver).



OPC Alarms and Events Servers' list :	×
DEV74 D	III III
Server Name: itegrationObjects.OPCAEServer.Simulator.1 Primary Node: DEV74	
192.168.0.203 [1] Add Up Up	Ŧ
OK Cancel	
Connect to server Close Help	

Figure 43: Redundancy Server Setting

- The OPC Alarms and Events Archiver normally uses the Primary OPC Server. If a Primary Server failure occurs for any reason, an automatic switch to the Backup OPC Server occurs.
- If a Backup Server failure occurs and the Primary Server is not restarted, Integration Objects' OPC Alarms and Events Archiver automatically switches to the next Backup Server.

The new connection is active and the underlying server is added to the server list.

2.1.2. Deleting an OPC Server Connection

To delete an existing OPC server connection, select the appropriate OPC server then the **Delete OPC Server Connection** menu item.



2.1.3. Deleting All OPC Servers' Connections

To delete all OPC server connections, the user should select:

- OPC Servers then Disconnect All Servers in the Menu bar.
- Or click the **Disconnect All Servers** icon in the Toolbar.

2.1.4. Viewing the Properties of an OPC AE Server

To view the properties of an OPC AE server, the user should right-click on the wanted OPC server then select the **Server Status** menu item.

Properties		Values								
Server Name		IntegrationObjects.OPCAEServer.Simulator.1								
Server Address Server Start Time Server Current Time Server Last Update Time Server Current State		DEV74 21/05/2018 12:40:48 21/05/2018 14:08:19								
						21/05/2018 14:08:19	21/05/2018 14:08:19			
						OPC_STATUS_RUN	NING			
		Server Major Ver	sion	2						
		Server Minor Ver	sion	0	0					
Server Build Num	iber	4								
Object	Interfac	ce	Available	Version 1.0						
Object)PCE ventServer	Interfac	ce	Available	Version 1.0						
Object DPCE ventServer	Interfac	ce	Available	Version 1.0 Required						
Object DPCE ventServer	Interfac	ce wn wn ventServer	Available Yes Yes	Version 1.0 Required Required						
Object DPCE ventServer	Interfact IUnkno IOPCC	ce wn wn ventServer ommon	Available Yes Yes Yes Yes	Version 1.0 Required Required Required						
Object DPCE ventServer	Interfact IUnkno IOPCE IOPCCo IConne	ce own ventServer ommon cotionPointContainer	Available Yes Yes Yes Yes Yes	Version 1.0 Required Required Required Required Required						
Object DPCE ventServer	Interfact IUnkno IOPCC IOPCC IConne IOPCC	ce wh ventServer ommon ctionPointContainer ventAreaBrowser	Available Yes Yes Yes Yes Yes Yes	Version 1.0 Required Required Required Required Optional						
Object DPCE ventServer	Interfact IUnkno IOPCC IOPCC IConne IOPCE	ce wn ventServer ommon cctionPointContainer ventAreaBrowser	Available Yes Yes Yes Yes Yes Yes	Version 1.0 Required Required Required Required Optional						
Dbject)PCE ventServer	Interfac	ce wn ventServer ommon ctionPointContainer ventAreaBrowser	Available Yes Yes Yes Yes Yes Yes	Version 1.0 Required Required Required Required Optional						
Dbject)PCE ventServer	Interfac	ce wwn ventServer ommon ctionPointContainer ventAreaBrowser	Available Yes Yes Yes Yes Yes	Version 1.0 Required Required Required Required Optional						
Object DPCE ventServer	Interfac	ce wwn ventServer ommon ctionPointContainer ventAreaBrowser	Available Yes Yes Yes Yes Yes	Version 1.0 Required Required Required Required Optional						
Object)PCE ventServer	Interfac IUnkno IOPCE IOPCCo IConne IOPCE	ce own ventServer ommon octionPointContainer ventAreaBrowser	Available Yes Yes Yes Yes Yes	Version 1.0 Required Required Required Required Optional						

A similar dialog screen appears:

Figure 44: View Server Properties

The user can save this information in an XML file.



2.1.5. Viewing the Available Filters in an OPC AE Server

To view the filters of an OPC AE server, the user should right-click on the wanted OPC server then select the *Display Available Filters* menu item.

	A similar dialog screen appears:				
IntegrationObjects.OPCAEServer.Simulator.1 : Available Filters					
]	
	Filter Mask	Value	Available	Description	
	OPC_FILTER_BY_EVENT	1	Yes	The server supports filtering by event type	
	OPC_FILTER_BY_CATEGORY	2	Yes	The server supports filtering by event category	
	OPC_FILTER_BY_SEVERITY	4	Yes	The server supports filtering by severity level	
	OPC_FILTER_BY_AREA	8	Yes	The server supports filtering by process area	
	OPC_FILTER_BY_SOURCE	16	Yes	The server supports filtering by event source	
			Save	Нер	

Figure 45: View Filters

This provides a way to find out which filter criteria are supported by a given OPC AE server.

2.1.6. Viewing the Available Categories of an OPC AE Server

To view the available categories of an OPC AE server, the user should right-click on the wanted OPC server then select the **Display Available Categories** menu item.

A similar dialog screen appears:

Available Event Categories
Select an Event Type OPC_ALL_EVENTS OPC_ALL_EVENTS OPC_CONDITION_EVENT Categories ID Cate OPC_SIMPLE_EVENT 4 Level 3 Level3 2 Level3 2 Level2 1 Level1
OK Save Help

Figure 46: Available Event Categories



This provides a way to find out the categories of events supported by a given OPC AE server.

2.1.7. Browsing an OPC AE Server

To view the structure of an OPC AE server, the user should right-click on the wanted OPC server then select the *Display Area and Source Browser* menu item.

A similar dialog screen appears:

Server Area Space
Root System_Event Tracking_EVENT Boiler1 Boiler1:makeup1 Boiler1:makeup1 HI HIHI LO FIC1002 FIC1002 Water1 Water1:makeup3 FIC1003 Hill FIC1004
OK Save Help

Figure 47: Server Area Space

This dialog provides a view of the OPC server structure in the form of a tree view. It allows the user to navigate the structure interactively and discover the different existing areas and sources.

2.1.8. Viewing the Available Condition Names of an OPC AE Server

To view the available condition names of an OPC AE server, the user should rightclick on the wanted OPC server then select the *Display Available Condition Name: Event Category --> Condition Names* menu item.



Available Condition	ons Names	X	
Select an Event Type OPC_ALL_EVENTS			
Select an Event Category :			
Code	Description		
4	Level4		
3	Level3		
2	Level2		
	Leven		
I			
List of available C	Conditions Names :		
	Condition Name		
Condition Name PVLEVEL			
ок	Save Help	,	

Figure 48: Available Condition Names

This provides a way to determine the condition names associated with a specific event category inside an OPC AE server.

To view the available condition names:

1. Select an "Event Type" from the combo box. The condition names related to this event type appear in the event categories

list.

2. Double-click on one of the listed event categories. The list of available condition names appears in the bottom list.

2.1.9. Viewing the Available Source Condition Names in an OPC AE Server

To view the available source condition names in an OPC AE server, the user should right-click on the wanted OPC server then select the **Display Available SourceConditionName: Source** \rightarrow **ConditionNames** menu item.



A similar dialog screen appears:

Available Source Conditions Names
Select a Source Name
Root System_Event Tracking_EVENT Boiler1 Boiler1:makeup1 Boiler1:makeup2 Water1
List of available Conditions Names :
Condition Name
PVLEVEL
OK Save Help

Figure 49: Available Source Condition Names

This provides the condition names associated with the specified source.

To find out the available source condition names:

- 1. Select a source name from the area and source tree structure.
- 2. Double-click on the desired source. The list of condition names associated with this source name will appear in the bottom list.

2.1.10. Viewing the Available Sub-Condition Names in an OPC AE Server To view the available sub-condition names in an OPC AE server, the user should right-click on the wanted OPC then select the *Display Available SubConditionName: ConditionName --> SubCondition Names* menu item.



Available Sub-Con	ditions Names					
Select an Event	Select an Event Type OPC_ALL_EVENTS					
Select an Event	Select an Event Category :					
Code	Description					
4	Level4					
2	Level2					
	Level1					
Select a Condition	n Name :					
EVI EVEL	Condition Name					
List of Sub-Cond	litions Names :					
	SubCondition Name					
НН						
HI						
ΠΚ	Save					

Figure 50: Available Sub-condition Names

This provides a way to find out the sub-condition names associated with the specified condition name.

The user has to:

1. Select an Event Type from the combo box.

The list of event categories related to this selected Event Type will appear in the event categories list.



- 2. Double-click on one of the listed event categories. The list of condition names related to the selected event category will appear.
- 3. Double-click on one of the listed condition names. The list of sub-condition names appears in the bottom List.

2.1.11. Configure Attributes Mapping

Using this menu, the **Configure Attributes Mapping** window will be prompted and lists all OPC AE Server attributes.

The user can through this window:

- 1. Edit the column name or keep the default OPC AE Server attribute name. To edit the column name in the database:
 - a. Double click on the text available in the first column: **Column Name**.
 - b. Enter the new name
 - c. Hit the Enter key.
- 2. Select the attributes to be added to the historian table.
- 3. Click Save button to save the configured attributes.

Column Name	Attribute Name	Event Subscription	Attribute ID	Category ID	Category Name	
Tag priority level	Tag priority level	Subscription1	115	1	Level1	
The number of Event Attributes	The number of Event Attributes		116	1	Level1	
Threshold value when Load Sheddi	. Threshold value when Load Shedding is		117	1	Level1	
Title of Maintenance Alarm	Title of Maintenance Alarm		118	1	Level1	
 Unit recipe number 	Unit recipe number	Subscription1	119	1	Level1	
 User 	User	Subscription1	120	1	Level1	
User account	User account		121	1	Level1	
Value of Sub Condition	Value of Sub Condition		122	1	Level1	
Version	Version		123	1	Level1	
Active Shelf name or Filter name	Active Shelf name or Filter name		1	2	Level2	
 Active time(UNIXTIME) 	Active time(UNIXTIME)	Subscription2	2	2	Level2	
Actor ID	Actor ID		3	2	Level2	
Alarm blink	Alarm blink		4	2	Level2	
Alarm Detection	Alarm Detection		5	2	Level2	
 Alarm filter 	Alarm filter	Subscription2	6	2	Level2	
Alarm group that the A&E message b.	Alarm group that the A&E message belon		7	2	Level2	
Alarm level	Alarm level	Subscription2	8	2	Level2	

Figure 51: Configure Attributes Mapping

The configure Attributes Mapping can also be used to identify the attributes of each subscription.



2.1.12. Getting a Condition State

To view a condition state, the user should right-click on the desired OPC server then select the *Get Condition State* menu item.

Condition Name -			⊢ List	of Event	t Attribute	s:			
Select a Source I	Name :		Sel	lect an E	vent Typ	e OPC_AL	_L_E'	VENTS 👻	
🖃 🏟 Root	Brees Root				Select an Event Category :				
System_Event				Code Descrip		otion			
- 👸 Trac	king_EVENT	=	4				Leve	el 4	
📄 🖗 Boile	er1		3				Leve	el3	
🖻 😵 E	Boiler1:makeup1		2				Leve	el2	
	🧝 FIC1001	-					Leve		
Select a Condition	n Name :		Lis	t of availa	able Ever	nt Attributes :			
Cor	ndition Name)	De	scription		Туре	
PVLEVEL				400	А	ttr400		VT_14	
				300	A	ttr300		VT_14	
				200	A	ttr200		VT_14	
				100	A	ttr100		VT_14	
General State Inf	formation : State	ActiveSu	ıbС	ASCDe	finition	ASCSeverit	y /	ASCDescrip	
General State Inf	formation : State OPC CONDI	ActiveSu	ıbС	ASCDe	finition	ASCSeverit 900	y /	ASCDescrip test	
General State Inf Name PVLEVEL < Vendor specific a	formation : State OPC CONDI III attributes associa	ActiveSu HI ated with the	ıbC	ASCDe H event no	finition	ASCSeverit 900 for this cond	y /	ASCDescrip	
General State Inf	formation : State OPC CONDI III attributes associa	ActiveSu HI ated with the	ıbC	ASCDe H event no	finition I otification Att.Valu	ASCSeverit 900 for this cond	y /	ASCDescrip	
General State Inf Name PVLEVEL Cendor specific a Att.Description Sub-Condition Inf Name LOLO LO HI	formation : OPC CONDI m attributes associa	ActiveSu HI ated with the	ıbC	ASCDe H event no Defir L0 L0 L0	finition	ASCSeverit 900 for this cond	y /	ASCDescrip test Severity 100 1 900	
General State Inf Name PVLEVEL Condor specific a Att.Description Sub-Condition Inf Name LOLO LO HI HIHI	formation : OPC CONDI m attributes associa	ActiveSu HI	ıbC	ASCDe H event no Defir LO LO H HII	finition I otification Att.Valu hition LO D I HI	ASCSeverit 900 for this cond le	y /	ASCDescrip test Severity 100 1 900 900	
General State Inf Name PVLEVEL Condition Specific a Att.Description Sub-Condition Inf Name LOLO LO HI HIHI Kame	formation : OPC CONDI m attributes associa	ActiveSu HI ated with the	ıbC	ASCDe H event no Defir LO LO H HII	finition I otification Att.Valu hition LO D I HI	ASCSeverit 900 for this cond le	y /	ASCDescrip test Severity 100 1 900 900	

Figure 52: View Condition State



This displays the current state information of a condition instance for a given source name and condition name.

The user has to:

- 1. Select a source name from the area and source tree structure.
- 2. Double-click on the selected source. The list of available condition names related to this source name will appear in the bottom list.
- 3. Select a condition name from the previously generated list.
- 4. Select an event type from the combo box.

The related event categories list is generated.

- 5. Double-click on an event category. The list of available event attributes will be displayed.
- 6. Select an event attribute from the previously generated list.
- 7. Click on Show Condition State.

Result:

The general condition information list displays the characteristics related to the condition. The sub-conditions list provides information related to the sub-condition of the selected condition.

2.1.13. Enabling a Condition by Area

To enable a condition by area, the user should right-click on the desired OPC server then select the **Enable Condition By Area** menu item.



Enable Condition By Area Dialog Screen
Apply Cancel Help

Figure 53: Enable Condition by Area

This allows the user to place all conditions for all sources within the specified process areas into the enabled state. Therefore, the server will generate condition-related events for these conditions.

To achieve this, the user has to:

- 1. Select the list of areas to enable from the tree structure (the user can select just a parent item, the children items will be added automatically).
- 2. Press the Apply button.

2.1.14. Enabling a Condition by Source

To enable a condition by source, the user should right-click on the desired OPC server then select the **Enable Condition By Source** menu item.



Enable Condition By Source Dialog Scre						
Boiler1 Boiler1 <td< td=""></td<>						
Apply Cancel Help						

Figure 54: Enable Condition by Source

This allows the user to place all conditions for the specified event sources into the enabled state. Then, the server will generate condition-related events for these conditions.

To achieve this, the user has to:

- 1. Select the list of source name to enable from the tree structure (the user can select just a parent item, the children items will be added automatically).
- 2. Press the Apply button.

2.1.15. Disabling a Condition by Area

To disable a condition by area, the user should right-click on the desired OPC server then select the **Disable Condition By Area** menu item.



Disable Condition By Area Dialog Screen
Image: Second
Apply Cancel Help

Figure 55: Disable Condition by Area

This allows the user to place all conditions for all sources within the specified process areas into the disabled state. The server will now stop generating condition-related events for these conditions.

To achieve this, the user has to:

- 1. Select the list of areas to disable from the tree structure (the user can select just a parent item, the children items will be added automatically).
- 2. Press the Apply button.

2.1.16. Disabling a Condition by Source

To disable a condition by source, the user should right-click on the desired OPC server then select the **Disable Condition By Source** menu item.



Disable Condition By Source Dialog Scr				
Boiler1 Boiler1 Boiler1:makeup1 Boiler1:makeup2 Water1 Water1:makeup3 FIC1004				
Apply Cancel Help				

Figure 56: Disable Condition by Source

This allows the user to place all conditions for the specified event sources into the disabled state. The server will no longer generate condition-related events for these conditions.

To achieve this, the user has to:

- 1. Select the list of source names to disable from the tree structure (the user can select just a parent item, the children items will be added automatically).
- 2. Press the Apply button.

2.1.17. Ack Condition

To acknowledge one or more conditions in the OPC AE server, the user has to apply the AckCondition method.

This AckCondition method specifically acknowledges the conditions that are becoming active or transitioning into a different sub-condition.

The Alarms and Events Archiver provides the user with the possibility to acknowledge automatically one or more conditions. To do this, the user can:

1. Double-click on the specified source name from the screen browser (The AE Archiver will acknowledge the related condition with the "**AEArchiver**" ActorID).



Condition	SubCondition	Mask	NewState	Event Type	Event Category	AckReq	Active Time	Cookie	Actor ID
PVLEVEL	LOLO	OP	2	OPC_CONDITIO	Level1	FALSE	21/05/2018 15:41	138709	AEArchiver
DEVIATION	DEVIATION	OP	2	OPC_CONDITIO	Level2	FALSE	21/05/2018 15:41	138714	AEArchiver

Figure 57: Event Acknowledgment

2. Right-click on the specified source name from the screen browser, a menu will appear:



Figure 58: Acknowledgment Strip Menu

Choose Ack Condition, a dialog screen will appear:

Automatic condition acknowledgement settings						
AcknowledgedID: Comment:						
Source:	F/IC%£d?1003/!					
Related ConditionName:	PVLEVEL					
Related ActiveTime:	21/05/2018 14:44:53.171					
Always acknowledge.						
Apply	Close Remove					

Figure 59: Automatic Condition Acknowledgment Settings

AcknowledgedID: A string passed in by the client, identifying who is acknowledging the conditions.

Comment: Comment string passed in by the client associated with acknowledging the conditions.

Source: Identifies the source of each condition that is being acknowledged. **Related ConditionName**: Identifies each condition that is being acknowledged. **Related ActiveTime**: This parameter uniquely identifies a specific transition of the condition to the active state or into a different sub-condition and is the same as the SubCondLastActive condition attribute.



Always acknowledge: If this option is checked, the AE Archiver will automatically acknowledge the related condition name when it is necessary.

2.1.18. Add Static Info to Historian

To add static information (areas, sources, available filters, available event categories, etc.) related to an OPC server, the user could right-click on the desired OPC server then select the **Add Static Info to Historian** menu item.

2.1.19. Server Redundancy Settings

To view the properties of an OPC AE server, the user should right-click on the desired OPC server then select the **Server Redundancy Setting** menu item. A similar dialog screen appears:

Redundancy Server Setting						
Server Name: itegrationObjects.OPCAEServer.Simulator.1 Primary Node: DEV74						
Backup Nodes: [192.168.0.203 [1] Del Up						
OK Cancel						

Figure 60: Server Redundancy Setting

The user may designate one or more OPC Servers as the Backup Server (the number of backup servers not restricted by the AE Archiver).

1. Add button: used to add a new backup node.



Redu	ndancy Server Setting
Se Pr	erver Name: tegrationObjects.OPCAEServer.Simulator.1 imary Node: DEV74
Ba	ackup Nodes:
	Network Browsing
	Node Name Test
	E Setwork Neighborhood
	OK Cancel

Figure 61: Add New Backup Node

- 2. Del button: used to remove an existing backup node.
- 3. Up/Down button: used to change the order of the backup nodes.

2.1.20. Creating a New event Subscription

To view the properties of an OPC AE server, right-click on the desired OPC server then select the **Create Event Subscription** menu item.



0	Create Event Subscription
	Active 🔽
	Event Subscription Name EventSubs_1
	Buffer Time 1000 (ms) Max Size 0
	OK Cancel Help



This allows the user to create a new Event Subscription in the OPC AE server. The user has to fill out the different properties of the subscription:

- Active: Checked if the Event Subscription is to be created active. Unchecked if the Event Subscription is to be created as inactive. If the subscription is inactive, then the server will not send event notifications to the client based on the subscription, and has no responsibility to buffer or maintain the event notifications. Thus, event notifications may be lost.
- *EventSubscription Name*: The name to be associated with the event subscription.
- **Buffer Time**: The requested buffer time. The buffer time is in milliseconds and tells the server how often to send event notifications.
- *Max Size*: The requested maximum number of events that will be sent in a single callback. A value of 0 means that there is no limit to the number of events that will be sent in a single callback.

2.2. OPC Alarms and Events Subscription Management

2.2.1. Activate an Event Subscription

To activate an existing Event Subscription, the user should right-click on the desired OPC Event Subscription then select the **Activate Subscription** menu item.

This way, the user can activate the selected Event Subscription and thus receive the event notifications fired by the related OPC server.

2.2.2. Deactivate an Event Subscription

To deactivate an existing Event Subscription, the user should right-click on the target OPC Event Subscription then select the **Deactivate Subscription** menu item.

If the user deactivates the Event Subscription, then the server will stop sending the event notifications related to this subscription.



2.2.3. Viewing an Event Subscription State

To set the state of an existing Event Subscription, the user must right-click on the target OPC Event Subscription then select the **Subscription State** menu item. A similar dialog screen appears:

Subscription State							
Server Name	IntegrationObjects.OPCAEServer.Sim						
Server Address	DEV74						
Event Subscription name	EventSubs_1						
Event Subscript	Event Subscription Properties						
Active	▽						
Buffer Time	1000	(ms)					
Max Size	0						
Apply OK Help							

Figure 63: Subscription State

This screen plays two roles. During the initialization, this screen posts the current information related to the selected Event Subscription.

OPC AE Server Name: The name of the OPC Server that contains the Event Subscription.

OPC AE Server Address: The address of the machine hosting the underlying OPC Server.

Event Subscription Name: The name of the current Event Subscription.

Event Subscription properties:

- Active: Unchecked if the Event Subscription is to be created inactive. Checked if the Event Subscriptions are to be created as active. If the subscription is inactive, then the server will not send event notifications to the client based on the subscription.
- **Buffer Time:** The requested buffer time. The buffer time is in milliseconds and tells the server how often to send event notifications.
- Max Size: The requested maximum number of events that will be sent in a single callback. A value of 0 means that there is no limit to the number of events that will be sent in a single callback.

The second role of this screen is that it provides the user with the possibility of modifying this state. The user can modify the state of the Event Subscription



(Active or Inactive), the buffer Time or the Max Size, and press the **Apply** button to validate these changes.

2.2.4. Setting an Event Subscription Filter

To set a filter for an existing Event Subscription, the user should right-click on the target OPC Event Subscription then select the **Subscription Filter** menu item.

A similar dialog screen appears:

Subscription Filter Set	ting	×
Event Type All Tracking	Simple	Severity Low Severity : 1 High Severity : 1000
Event Categories	Add	<
- Areas	Add	Add
	Remove	Remove

Figure 64: Subscription Filter Setting

This allows the user to set the filtering criteria to be applied to the event subscription. The following are the possible applicable criteria:

- Type of event (simple, condition, or tracking): the user must check the corresponding Check Box.
- Event categories: Using the Add/Remove button the user can add/remove event categories from the filter. The right list box contains the event categories supported by the current related OPC AE server. The left list box contains the event categories added to this filter.
- Lowest severity (i.e. all events with a severity greater than or equal to the specified severity): The user must type a value for the Low Severity in the Low Severity text box.



- Highest severity (i.e. all events with a severity less than or equal to the specified severity): The user must type a value for the Height Severity in the Height Severity text box.
- Process areas: to add an area to the current filter, the user must press the left Add button, a similar dialog screen appears:

Subscription Filter				
Event Type All Trackin	Area Name : Boiler1			
- Event Categorie:	Enterna Enterna Boiler1:makeup1 Boiler1:makeup2 ⊕			
-Areas		Add		
Apply	Apply Cancel Help	Help		

Figure 65: Add Process Area

After selecting an **area name**, press the **Apply** button to validate this operation: the selected **area name** is added to the **left list box**. This area is then added to the **filter**. If you want to remove it, select the **area name** and press the left **Remove** button.

• Event Sources: to add a source to the current filter, the user must press the right **Add** button. A similar dialog screen appears:









After selecting a **source name**, press the **Apply** button to validate this operation: the selected **source name** is added to the **right list box.** This **source** is then added to the **filter**. If you want to remove it, select the **source name** and press the right **Remove** button.

A list of values for a single criterion are logically related together with the OR operator (e.g. if two event categories are specified, event notifications for both categories will be received). If multiple criteria are specified, they will be logically related using the AND operator, i.e. only events satisfying all criteria will be selected. For example, specifying both lowest severity and highest severity will result in the selection of events with severities lying between the two values.

2.2.5. Selecting Returned Attributes

To retrieve the attributes of an existing Event Subscription, the user should rightclick on the target OPC Event Subscription then select the **Select Returned Attributes** menu item.





Before selecting the returned Attributes, the user should select the OPC AE Server attributes from Configure Attributes Mapping window.

For each event category, SelectReturnedAttributes picks out the attributes to return with event notifications. This method can be called many times in order to specify the attributes to return for each unique event type and event category pair. If this is called multiple times for the same event type and event category pair, then it is the latest call that will be taken into account.

Select Returned Attributes Dialog Screen					
Select an E	Select an Event Type OPC_ALL_EVENTS				
Select an E	Select an Event Category :				
Code	Description				
1	Level1				
2	Level2				
3	Level3				
4	Level4				
List of ava	List of available Event Attributes :				
ID	Description	Туре			
10	Attr10	VT_14			
20	Attr20	VT_14			
30	Attr3U VT_14				
40	A(()40	V1_14			
	Apply OK Help				

Figure 67: Select Returned Attributes

2.2.6. Getting Returned Attributes

To get the attributes of an existing Event Subscription, the user should right-click on the target OPC Event Subscription then select the **Get Returned Attributes** menu item.

For each event category, GetReturnedAttributes retrieves the attributes previously specified by the user on the SelectReturnedAttributes dialog.



Get Selected At	tributes Dialog Screen	×			
Select an Event Type OPC_ALL_EVENTS					
Select an Eve	Select an Event Category :				
Code	Description				
4	Level4				
3	Level3				
2	Level2				
1	Levell				
List of availab	ple Eivent Attributes :				
ID	Description	Туре			
40	Attr40	VT_14			
30	Attr30	VT_14			
20	Attr20	VT_14			
10	Attr10	VT_14			
L					
	OK Help				

Figure 68: Get Selected Attributes

2.2.7. Refreshing an Event Subscription

To refresh an existing Event Subscription, the user should right-click on the target OPC Event Subscription then select the **Refresh Subscription** menu item.

This operation forces the refresh of all active and inactive conditions related to the selected Event Subscription.

2.2.8. Canceling Refresh for an Event Subscription

To cancel the refresh for an existing Event Subscription, the user should right-click on the target OPC Event Subscription then select the **Cancel Refresh Subscription** menu item.



2.2.9. Configure Subscription Historian Table

In the historian configuration step, the user can store alarms in one table per event subscription. The existence of this historian table is marked by the "red" color ("black" for non-configured subscription) as follows:

A red color for configured subscription



• A **black** color for non-configured subscription





If the user chooses the option to store all alarms in the same historian table, this option will be hidden.

To configure a subscription historian table:

- Right-click on the target OPC Event Subscription.
- Select the Settings → Configure Subscription Historian Table menu item. A dialog screen appears as follows:


AE Historian Building : Step 1			×
O Use separate table for each Event Subscription.			
Use Primary Key			
• Use default table and field	ds nam	es.	
O Setting table and fileIds na	ames :	C New table. C Existing table.	
Table name		IOOPCEventSubs_1Table	
Machine field name		MachineName	
Server progID field name		ServerProgID	
Server Address field name		ServerNodeName	
Subscription field name		SubscriptionName	
Source field name		SourceName	
Event Time field name	(d/h)	EventTime	
	(ms)	EventTime_MS	
Severity field name		Severity	
Message field name		Message	
Quality field name		Quality	
Condition field name		Conditions	
Sub-Condition field name		SubCondition	
Event Mask field name		Mask	
New State field name		NewState	
Event Type field name		EventType	
Event Category field name		EventCategory	
ACK required field name		AckReq	
Active Time field name	(d/h)	ActiveTime	
	(ms)	ActiveTime_MS	
Cookie field name		Cookie	
ActorID field name		ActorID	
Attributes field name		Attributes	
Use separate attributes columns			
Арр	oly	Cancel	

Figure 69: Configure Subscription Historian Table

• If you want to use the primary key when the table is created, you check the "Use Primary Key" button (uncheck this button to deactivate this option).



- If you choose to use the "Use Primary Key" option, you have to select the list of fields that compose the primary key.
- To configure the subscription table, you can:
 - Configure a new table: In this case, you can set table and field names using one of the following methods:
 - Use the default table and field names. ("**Use default table and fields names**" option should be checked).
 - Set your own table and field names. ("Setting table and fields names" and "New table" options should be checked).
 - Use an existing table. ("Setting table and fields names" and "Existing table" options should be checked).



When mapping your fields, if you check "Use separate attributes columns" check button, the AE Archiver will create separate columns in the designated historian table to store the vendor specific attributes.



When mapping the AE Archiver fields with the existing table fields, you should respect the following table:

Field Name	Required SQL Type
Machine name	Varchar
Server name	Varchar
Server address	Varchar
Event Subscription name	Varchar
Source name	Varchar
EventTime	Date/ time
EventTime millisecond	Integer
Severity	Integer
Message	Varchar
Quality	Varchar
Condition	Varchar
SubCondition	Varchar
Mask	Varchar



New state	Varchar
EventType	Varchar
Event Category	Varchar
Ack required	Varchar
ActiveTime	Date/ time
ActiveTime_MS	Integer
Cookie	Varchar
ActorID	Varchar
Attributes	Varchar

Table 2: Table Fields



AE Historian Building : Step 1			×
O Use separate table for eac	ch Eve	nt Subscription.	
🗹 Use Primary Key			
O Use default table and field	ds name	98.	
 Setting table and filelds na 	ames :	O New table . • Existing table	
Table name		IOOPCEventSubs 1Table	
Machine field name		MachineName 💌	
Server progID held name			
Server Address field name		MachineName	
Subscription field name		ServerProgID ServerNodeName	
Source neid name		SubscriptionName	
Event Time rield name	(d/h)	EventTime	
	(ms)	Sevenity	
Severity field name		Message	
Message field name		Conditions	
Quality field name		Mask	
Condition field name		NewState	
Sub-Condition field name			
Event Mask field name		<u> </u>	
New State field name			
Event Type field name			
Event Category field name		<u> </u>	
ACK required field name		<u> </u>	
Active Time field name	(d/h)	_	
	(ms)	▼	
Cookie field name			
ActorID field name		•	
Attributes field name			
Use separate attributes columns			
	oly	Cancel	

Figure 70: Fields Setting



If the user checks the "Use Primary Key" option, the list of fields to be used as primary key must define a unique row for each alarm.

Example: If the user uses just a "SourceName" as Primary Key, he will get a database error that mentions that a duplicate value in Primary Key is detected.

2.2.10. View Subscription Historian Table

This functionality is active if the subscription already has a configured historian table. It's used to view the table settings related to the selected subscription from the historian.

So, to view the configured subscription table settings, the user should right-click on the target OPC Event Subscription then select the **Settings** \rightarrow **View Subscription Historian Table** menu item. A similar dialog screen appears:

integration objects	
------------------------	--

AE Historian Building : Step 1		
O Use separate table for each Event Subscription.		
🗹 Use Primary Key		
 Use default table and fields nar 	nes	
O Setting table and filelds names	: 💿 New table, 🔿 Existing table.	
Table name	IOOPCEventSubs_1Table	
Machine field name	MachineName	
Server progID field name	ServerProgID	
Server Address field name	ServerNodeName	
Subscription field name	SubscriptionName	
Source field name	SourceName	
Event Time field name (d/h)	EventTime	
(ms)	EventTime_MS	
Severity field name	Severity	
Message field name	Message	
Quality field name	Quality	
Condition field name Conditions		
Sub-Condition field name	Sub-Condition field name	
Event Mask field name	Mask	
New State field name NewState		
Event Type field name	EventType	
Event Category field name	EventCategory	
ACK required field name	AckReq	
Active Time field name (d/h)	ActiveTime	
(ms)	ActiveTime_MS	
Cookie field name	Cookie	
ActorID field name	ActorID	
Attributes field name	Attributes	
Use separate attributes columns		
Apply	Cancel	

Figure 71: View Table Settings



2.2.11. Removing an Event Subscription

To remove an existing Event Subscription, the user should right-click on the target OPC Event Subscription then select the **Remove Subscription** menu item.

This operation removes the selected Event Subscription from the context of the related OPC AE server and from the current configuration setting.

3. Historian Management

3.1. Adding ADO Historian

To add a new ADO Historian, the user can select:

- Transfer, Config New Historian, then ADO in Menu bar.
- Create ADO Historian button in Toolbar.

A dialog screen appears: (OLE DB Data Link)

Data Link Properties			
Provider Connection Advanced All			
Select the data you want to connect to:			
OLE DB Provider(s)			
Microsoft Jet 3.51 OLE DB Provider Microsoft Jet 4.0 OLE DB Provider Microsoft Office 12.0 Access Database Engine OLE DB Pro Microsoft Office 15.0 Access Database Engine OLE DB Pro Microsoft OLE DB Provider for Analysis Services 11.0 Microsoft OLE DB Provider for Indexing Service Microsoft OLE DB Provider for ODBC Drivers Microsoft OLE DB Provider for Oracle Microsoft OLE DB Provider for Search Microsoft OLE DB Provider for SQL Server Microsoft OLE DB Simple Provider			
MSDataShape OLE DB Provider for Microsoft Directory Services			
Next >>			
OK Cancel Help			

Figure 72: Add New Historian

To add a new ADO Historian, the user must start by choosing the provider to use, and then pressing the **Next** button. A dialog screen appears:



Data Link Properties			
Provider Connection Advanced All			
Specify the following to connect to SQL Server data: 1. Select or enter a server name:			
SQLServerMachineName\SQLServerName - Refresh			
 Enter information to log on to the server: Use <u>Windows NT Integrated security</u> 			
Use a specific user name and password:			
User <u>n</u> ame: User			
Password:			
3. Microsoft Data Link			
Test connection succeeded.			
ОК			
OK Cancel Help			

Figure 73: Testing New Historian

After selecting the type of provider to use, the user must configure the connection string to be used by entering the necessary information. (The user can press the **Test Connection** button to test this connection string). After this, press the **OK** button and a dialog screen will appear:





New ADO Historian
Historian Connection String : Provider=SQLOLEDB.1;Persist Security Info=
Default Historian Authorization Login Name : Login_Name Password : *****
Historian Name: Historian_OLE
Apply Cancel Help

Figure 74: New Historian

At this stage, this dialog screen allows users to:

- 1. View the connection string already configured at the **Connection String Text Box.**
- 2. Type the login name and password to be used with this Ado Database.
- 3. A name to identify this new Ado Database. This name must be unique.

When the user presses the **OK** Button, a dialog screen will appear:

io in	tegration bjects
-------	---------------------

AE Historian Building : Step 1			
O Use separate table for each Event Subscription.			
🗹 Use Primary Key			
O Use default table and fields name	88.		
• Setting table and fileIds names :	New table. C Existing table.		
Table name	IOOPCEventSubs_1Table		
Machine field name	MachineName		
Server progID field name	ServerProgID		
Server Address field name	ServerNodeName		
Subscription field name	SubscriptionName		
Source field name	SourceName		
Event Time field name (d/h)	EventTime		
(ms)	EventTime_MS		
Severity field name	Severity		
Message field name	Message		
Quality field name	Quality		
Condition field name	Conditions		
Sub-Condition field name	SubCondition		
Event Mask field name	Mask		
New State field name	NewState		
Event Type field name	EventType		
Event Category field name	EventCategory		
ACK required field name	AckReq		
Active Time field name (d/h)	ActiveTime		
(ms)	ActiveTime_MS		
Cookie field name	Cookie		
ActorID field name	ActorID		
Attributes field name	Attributes		
Use separate attributes columns			
Applu	Cancel		

Figure 75: Configuring New Historian



This dialog screen provides the user with the ability to manage the table and field names for the newly created ADO connection.

At this step, the user has to choose the storage mode to be used by the Archiver:

- Use one historian table for each event subscription: To use this option, the user has to select the "Use separate table for each Event Subscription" option. Then, click the Apply button.
- Store all alarms in the same historian table: In this case, the user can choose one of the following methods-
 - Configure a new table: To configure the new table to be created, the user can-
 - Use the default table and field names. ("Use default table and field names" option should be checked).
 - Set its own table and field names. ("Setting table and fields names" and "New table" options should be checked).
 - Use an existing table. ("Setting table and fields names" and "Existing table" options should be checked).



When mapping your fields, if you check "Use separate attributes columns" check button, the AE Archiver will create separate columns in the designated historian table to store the vendor specific attributes.



When mapping the AE Archiver fields with the existing table fields, you should respect the following table:

Field Name	Required SQL Type
Machine name	Varchar
Server name	Varchar
Server address	Varchar
Event Subscription name	Varchar
Source name	Varchar
EventTime	Date/ time
EventTime millisecond	Integer
Severity	Integer
Message	Varchar



Quality	Varchar
Condition	Varchar
SubCondition	Varchar
Mask	Varchar
New state	Varchar
EventType	Varchar
Event Category	Varchar
Ack required	Varchar
ActiveTime	Date/ time
ActiveTime_MS	Integer
Cookie	Varchar
ActorID	Varchar
Attributes	Varchar

Table 3: Table Fields and Types





AE Historian Building : Step 1				
O Use separate table for each Event Subscription.				
Use Primary Key				
O Use default table and fields nam	es.			
• Setting table and filelds names :	O New table.			
Table name	IOOPCEventSubs 1Table			
Machine field name				
Server progID field name				
Server progro neid name	· · · ·			
Server Address rield name	MachineName			
Source field name	ServerNodeName			
Fuent Time Geld manne	SubscriptionName			
Event i me neio name (d/h)	EventTime			
(ms)	Sevenity			
Severity field name	Message			
Message field name	Conditions			
Quality field name	Mask			
Condition field name NewState				
Sub-Condition field name				
Event Mask field name	▼			
New State field name	_			
Event Type field name	_			
Event Category field name	▼			
ACK required field name	_			
Active Time field name (d/h)	_			
(ms)	_			
Cookie field name				
ActorID field name	,			
Attributes field name				
Use separate attributes columns				
Andu	Cancel			
Appy				

Figure 76: Setting Table and Field Names- Step 1

 If you want to use the primary key when the table is created, check the Use Primary Key button (uncheck this button to deactivate this option).



 If you choose to use the "Use Primary Key" option, you have to select the list of fields that compose the primary key.



If the user checks the "Use Primary Key" option, the list of fields to be used as the primary key must define a unique row for each alarm.

Example: If the user uses just a SourceName as a Primary Key, he will get a database error that mentions that a duplicate value in Primary Key is detected.

• Finally, click the **Apply** button.

At this stage, the new Ado Archiver is created and the Storage table will be installed.

The second step consists of the set-up of the AE Server static information tables:

A	AE Historian Building : Step 2			
	– Server Table – – Table Name	ServerInfoTable		
	Server ID	ServerID		
	Server Address	ServerNodeName		
	Server ProgID	ServerProgID		
	Cancel	Next ==>		

Figure 77: Setting Up Tables- Step 2

This table will contain all connected AE Servers.





AE Historian Building : Step 3		
Server Table		
Server ID	ServerID	
Server Address	ServerNodeName	
Server ProgID	ServerProgID	
Server Structures Table		
Area Table		
Table Name	AreaTable	
Server ID	ServerID	
Area Name	AreaName	
Table Name	SubAreaTable	
Server ID	ServerID	
Area Name	AreaName	
SubArea Name	SubAreaName	
Event Source Table		
Table Name	SourceTable	
Server ID	ServerID	
Area Name	AreaName	
Source Name	SourceName	
<== Back	Cancel Next ==>	

Figure 78: Setting Up Tables- Step 3

These tables will contain the server structure (area, sub area and sources) for each connected AE Server.





AE Historian Building : Step 4				
Server Table				
Server ID	ServerID			
Server Address	ServerNodeName			
Server ProgID	ServerProgID			
	,			
C Server Conditions Nar	mes Table			
Table Name	CatCondSubCondTable			
Server ID	ServerID			
Event Type	EventTypeName			
Category Name	CategoryName			
Condition Name	ConditionName			
SubCondition Name	SubConditionName			
<== Back	Cancel Next ==>			

Figure 79: Setting Up Tables- Step 4

This table will contain the list of available categories, condition names and SubCondition names for each connected AE Server.

AE Historian Building : Step 5		
Server Table	ServerID	
Server Address	ServerNodeName	
Server ProgID	ServerProgID	
Server Conditions Names Table		
Table Name	EventAttributeTable	
Server ID	ServerID	
Event Type	EventTypeName	
Category Name	CategoryName	
Event Attribute Name EventAttribute		
<== Back	Cancel Next ==>	

Figure 80: Setting Up Tables- Step 5

This table will contain the list of available event attributes.



AE Historian Building : Step 6		
Server Table		
Server ID	ServerID	
Server Address	ServerNodeName	
Server ProgID	ServerProgID	
Event Source Table		
Server ID	ServerID	
Area Name	AreaName	
Source Name	SourceName	
Event Source Table		
Table Name	SourceConditionTable	
Server ID	ServerID	
Area Name	AreaName	
Source Name	SourceName	
Condition Name	Condition Name	
<== Back	Cancel Apply	

Figure 81: Setting Up Tables- Step 6

This table will contain the list of available Source condition names for each connected AE Server.

3.2. Adding ODBC Historian

To add a new ODBC Historian, the user can select:

- Transfer, Config New Historian and ODBC in the Menu bar.
- Create ODBC Historian button in the Toolbar.

A dialog screen will appear:



Data Source Name aearchiver	Type System	Description	
aefile Base de données Xtreme 20. Crate ODBC Driver 32-bit	System System System	Crate 32-bit DSN	Ξ
CSVArchiver EAS Demo DB V126	System System		
EAS Demo DB V126 Unicode Exasol	e System User		
Const Diss			P.
		1	<u>l</u> ew
A Machine Data Source is sp "User" data sources are spe sources can be used by all u	pecific to thi cific to a us isers on this	s machine, and cannot be shared er on this machine. "System" dat machine, or by a system-wide ser	l. a vice.

Figure 82: Select Data Source

To add a new ODBC Archiver, the user must start by choosing the Data Source Name to use with this new database, and then the user must press the **Next** button. A dialog screen appears:

New ODBC Historian		
Historian Connection String : ODBC;DSN=CSVArchiver;DefaultDir=C:\PRI		
Default Historian Authorization Login Name : Login_Name Password : ***********		
Historian Name: ODBC_Historian_1		
Apply Cancel Help		

Figure 83: Logging into New ODBC Historian



At this stage, this dialog screen allows the user to:

- 1. View the connection string already configured at the **Connection String Text Box.**
- 2. Type the login name and password to be used with this ODBC Database.
- 3. Create a name to identify this new ODBC Database. The name must be unique.



The connection to Cassandra DB can be successfully established via ODBC using the "ODBC;DSN=Cassandra;" connection string.

New ODBC Historian		
Historian Connection String : ODBC;DSN=Cassandra;		
Default Historian Authorization Login Name : Password :		
Historian Name: Historian_1		
Apply Cancel Help		

Figure 84: Logging into Cassandra Historian

When the user presses the **OK** Button, a dialog screen will appear:



AE Historian Building : Step 1				
O Use separate table for each Event Subscription.				
Use Primary Key	Use Primary Key			
 Use default table and fie 	O Use default table and fields names.			
O Setting table and fileIds names : C New table. C Existing table.				
Table name		IOOPCE ventUpdate		
Machine field name		MachineName		
Server progID field name		ServerProgID		
Server Address field name		ServerNodeName		
Subscription field name		SubscriptionName		
Source field name		SourceName		
Event Time field name	(d/h)	EventTime		
	(ms)	EventTime_MS		
Severity field name		Severity		
Message field name		Message		
Quality field name		Quality		
Condition field name		Conditions		
Sub-Condition field name		SubCondition		
Event Mask field name		Mask		
New State field name		NewState		
Event Type field name		EventType		
Event Category field name		EventCategory		
ACK required field name		AckReq		
Active Time field name	(d/h)	ActiveTime		
	(ms)	ActiveTime_MS		
Cookie field name		Cookie		
ActorID field name		ActorID		
Attributes field name		Attributes		
Use separate attributes columns				
A	oply	Cancel		

Figure 85: Manage Table and Field Names

This dialog screen provides the user with the ability to manage the table and field names for the newly created ODBC Connection.



In this step, the user has to choose the storage mode to be used by the Archiver:

- Use one historian table for each event subscription: To use this option, the user has to select the "Use separate table for each Event Subscription" option. Then, click the Apply button.
- Store all alarms in the same historian table: To use this option, the user can choose one of the following methods-
 - Configure a new table: the user can-
 - Use the default table and field names. ("Use default table and fields names" option should be checked).
 - Or set its own table and field names. ("Setting table and fields names" and "New table" options should be checked).
 - Use an existing table. ("Setting table and fields names" and "Existing table" options should be checked).



When mapping your fields, if you check "Use separate attributes columns" check button, the AE Archiver will create separate columns in the designated historian table to store the vendor specific attributes.



When mapping the AE Archiver fields with the existing table fields, respect the following table:

Field Name	Required SQL Type
Machine name	Varchar
Server name	Varchar
Server address	Varchar
Event Subscription name	Varchar
Source name	Varchar
EventTime	Date/ time
EventTime millisecond	Integer
Severity	Integer
Message	Varchar
Quality	Varchar
Condition	Varchar
SubCondition	Varchar



Mask	Varchar
New state	Varchar
EventType	Varchar
Event Category	Varchar
Ack required	Varchar
ActiveTime	Date/ time
ActiveTime_MS	Integer
Cookie	Varchar
ActorID	Varchar
Attributes	Varchar

Table 4: Fields Names and Types



AE Historian Building : Step 1		×		
O Use separate table for each Eve	ent Subscription.			
Use Primary Key				
O Use default table and fields names.				
• Setting table and filelds names :	O New table. 💿 Existing table.			
Table name	IOOPCEventUpdate			
Machine field name	MachineName			
Server progID field name		✓		
Server Address field name				
Subscription field name	ServerProgID			
Source field name	ServerNodeName SubscriptionName			
Event Time field name (d/h)	SourceName =			
(ms)	EventTime_MS			
Severity field name	Message			
Message field name	Quality			
Quality field name	SubCondition			
Condition field name	NewState			
Sub-Condition field name				
Event Mask field name				
New State field name				
Event Type field name				
Event Category field name				
ACK required field name				
Active Time field name (d/h)	_			
(ms)	_			
Cookie field name				
ActorID field name				
Attributes field name				
Use separate attributes columns				
Apply	Cancel			

Figure 86: Setting Table Fields

 If you want to use the primary key when the table is created, check the Use Primary Key button (uncheck this button to deactivate this option).



 If you choose to use the "Use Primary Key" option, select the list of fields that compose the primary key.



If the user chooses to use the Primary Key option, the list of fields to be used as the primary key must define a unique row for each alarm.

Example: If the user uses just a SourceName as the Primary Key, he will get a database error that mentions that a duplicate value in the Primary Key is detected.

Finally, click the **Apply** button.

At this stage, the new ODBC Archiver is created and the Storage table will be installed. The second step, like with the Ado Archiver, consists of setting the server static information's tables.

3.3. Adding CSV Historians

To add a new CSV Historian, the user should follow these steps:

Select CSV from (Transfer-> Config New Historian) Menu.

Transfer Help		
Config New Historian	•	ADO
Available Historians		ODBC
Set Default Historian		CSV
Delete Historian		



 Select Machine Data Source from Select Data Source window then click New button.



Data Source Name	Туре	Description	
aearchiver	System	· · ·	
aefile	System		=
Base de données Xtreme 20	System		
Crate ODBC Driver 32-bit	System	Crate 32-bit DSN	
EAS Demo DB V126	System		
EAS Demo DB V126 Unicode	System		
Exasol Exast Flag	User		
EXCELFIES	User Curtan		-
٠ [III		- F
			<u>N</u> ew
		_	
A Machine Data Source is spe-	ecific to thi	s machine, and cannot be sha	red.
sources can be used by all use	ers on this	machine or by a system-wide	service
SUBJES COLLUE USED UV OF USE		machine, or by a system-wide.	SELVICE.

Figure 88: Create New Data Source

 Create a new System Data Source using Microsoft Access Text Driver (*.txt, *.csv).



Figure 89: Select System Data Source



Create New Data Source	Select a driver for which you want to set up a data source. Name _^ Microsoft Access dBASE Driver (*.dbf, *.ndx, *.mdx) 1 Microsoft Access Driver (*.mdb) 6 Microsoft Access Driver (*.mdb, *.accdb) 1 Microsoft Access Paradox Driver (*.db) 1 Microsoft Access Text Driver (*.db) 1 Microsoft Access Treiber (*.mdb) 6 Microsoft Access Vergen (*.mdb) 6 Microsoft Access Treiber (*.mdb) 6 Microsoft Access VFP Driver (*.dbf) 6
	Microsoft dBase-Treiber (*.dbf) E

Figure 90: Select the CSV Data Source

- Click **Next** then **Finish** button.
- Enter the Data Source name and uncheck the "User Current Directory" checkbox to specify the CSV file directory in ODBC Text Setup window then click OK to save the changes.

ODBC Text Setup	8 ×
Data Source Name: CSVArchiver	ОК
Description:	Cancel
Database	Help
Directory: C:\r	
Select Directory	
	Options>>

Figure 91: Data Source Parameters

Select the CSV file directory





File <u>n</u> ame: *.asc;*.csv;*.tab;*.txt AEArchiver.csv	Eolders: c:\\aearchiver	OK Cancel
Save file as type:	Drives:	Network

Figure 92: Select the CSV File Directory

 Once the Data Source is configured, the user needs to select it and click OK button.

Data Source Name	Туре	Description	*
aearchiver	System		
aefile	System		E
Base de données Xtreme 20	System		
Crate ODBC Driver 32-bit	System	Crate 32-bit DSN	
CSVArchiver	System		
EAS Demo DB V126	System		
EAS Demo DB V126 Unicode	System		
Exasul Event Elen	User H		*
•			•
			<u>N</u> ew
A Machine Data Source is spe	ecific to thi	s machine, and cannot b	e shared.
sources can be used by all us	ers on this	machine or by a system	wide service

Figure 93: Select the Data Source

Select the CSV file from the displayed window



🧭 Open		x
Look in: 🚺 AEArchiver 💌	← 🗈 📸 🕶	
Name	Date modified	Ту
AEArchiver.csv	27/12/2017 17:10	М
<		
File <u>n</u> ame: AEArchiver.csv	<u>O</u> pen	
Files of type: CSV files (*.csv)	▼ Cancel	

Figure 94: Select the CSV File

After specifying the CSV file, the user should in this case configure the archive process from the displayed **CSV Archiver Configuration** window:

CSV Archiver Config	guration	×
CSV File C:\CS	VFile.csv	_
🗌 Archive in sep	parate files	
C Daily	Each 🗾 days	
C Hourly	Each 🗾 hours	
C Minutely	Each 📃 minutes	
	Cancel	

Figure 95: CSV Archiver Configuration



Parameter	Description	Default Value
CSV File	The CSV file full path	
Archive in separate files	Checked: Archive OPC alarms in separate CSV files according to the defined periodicity(Daily or Hourly or Minutely)	Unchecked
	Unchecked: the OPC alarms are stored in the specified CSV file.	
	Once the size limit is reached the old CSV file is copied to an intermediate CSV file with incremental extension, before being overwritten.	
Daily	A new CSV file is created for each defined day period.	0 (day)
Hourly	A new CSV file is created for each defined hour period.	0 (Hour)
Minutely	A new CSV file is created for each defined minute period.	0 (Minute)

Table 5: CSV Archiver Configuration Parameters

- Once the CSV Configuration is done, the user should click OK to proceed.
- Uncheck Use Primary Key from AE Historian Building: Step 1 window then click Apply button then proceed with the configuration steps.



AE Historian Building : Step 1				
O Use separate table for each Event Subscription.				
Use Primary Key				
O Use default table and fields names.				
O Setting table and fileIds nam	nes :	O New table O Evicting table		
Table name		INOPCE vent Indate		
Machine field name		MachineName		
Server progID field name		ServerProgID	\checkmark	
Server Address field name		ServerNodeName		
Subscription field name		SubscriptionName		
Source field name		SourceName		
Event Time field name (i	d/h)	EventTime		
(ms)	EventTime_MS		
Severity field name		Severity		
Message field name		Message		
Quality field name		Quality		
Condition field name		Conditions		
Sub-Condition field name		SubCondition		
Event Mask field name		Mask		
New State field name		NewState		
Event Type field name		EventType		
Event Category field name		EventCategory		
ACK required field name		AckReq		
Active Time field name (d/h)	ActiveTime		
(ms)	ActiveTime_MS		
Cookie field name		Cookie		
ActorID field name		ActorID		
Attributes field name		Attributes		
🗖 Use separate attributes col	umns	,		
Apply Cancel				

Figure 96: Uncheck the User Primary Key Check Box



The OPC AE Archiver incorporates a configuration file "ConfigCSVFile.ini" which includes several parameters. These parameters have default settings and can be changed at start-up by editing the configuration file.

To change this file:

- 1. Open ConfigCSVFile.ini in a text editor.
- 2. Edit any of the parameters listed in the following tables:

File Setting	Description	Default Value
CSVFileMaxSize	The maximum CSV file size, in bytes. Once this size is reached during run-time, the CSV file is overwritten.	1048576*2 ~ 2 Mb (MegaByte)
ArchiveLast	TRUE: Old file is copied to an intermediate file with incremental extension, before being overwritten.	FALSE
	FALSE: Any pre-existing CSV file is erased and overwritten at start-up.	
CSVListMaxSize	The maximum number of alarms to be collected before archiving them in the csv file	10

Table 6: INI CSV Configuration File Parameters

3.4. Available Historians

To view the list of available Historians, the user can select:

- Transfer, then Available Historians in Menu bar
- View Available Historians button in Toolbar.

A dialog screen will appear:



Available Historians		x
Available Historian Nam	es ODBC_Historian_1	•
Property	Value	<u> </u>
Configuration name Historian name Events table name Access mode	Configuration1 ODBC_Historian_1 IOOPCEventUpdate ODBC	Ш
Connection string History updates	ODBC;DSN=CSV;DefaultDir=C:\AE;DriverId Enabled	Ŧ
	Пер	

Figure 97: Available ODBC Historians

This screen gives the user the possibility of consulting the different available historians in the context of the currently open configuration. So, the user can select one historian name from The Combo Box (This Combo Box contains all available historian names for the currently opened configuration) to view the properties related to this historian.

3.5. Set Default Historian

To set the default Historian, the user can select:

- Transfer, Set Default Historian in Menu bar
- Set Default Historian button in Toolbar.

A dialog screen will appear:

Set Default Historian	J
List of available Historians	
ADO_Historian_1 ODBC_Historian_1 Start without default historian	
Apply Cancel Help	

Figure 98: Set Default Historian



This screen gives you the ability to change the default historian related to the current configuration (the default configuration is the configuration, which launches automatically after the initialization of the software). To change the default, you must choose a historian name from the list mentioned.



When the user chooses "Start without default historian", the related configuration will start without the archiving process.

3.6. Remove Historian

To remove an existing Historian, the user can select:

- Transfer, then Delete Historian in the Menu bar.
- Then the **Delete Historian** button in the Toolbar.

A dialog screen will appear:

A	vailable Historians		x
	Available Historian Name:	S ADO_Historian_1	•
	Property	Value	A
	Configuration name Historian name Events table name Access mode Connection string History updates	Configuration1 ADO_Historian_1 IOOPCE ventUpdate ODBC ODBC;DSN=CSV;DefaultDir=C:\Program Fi Enabled	E Ie
	III	4	
	OK	Help	

Figure 99: Delete Historian

This screen gives you the possibility to delete an existing historian "*ADO or ODBC*".

Historian Name: In the Combo Box, you find all historian names existing in the current open configuration. You must choose a name and press **Delete** in order to delete the historian.

3.7. Start Historian

To start the Historian, the user can click the **Start Historian** button in the Toolbar.

3.8. Stop Historian

To stop the Historian, the user can click the **Stop Historian** button in the Toolbar.



3.9. History Updates

Similar to the idea of Historical Data Access, the *Alarms and Events Archiver* can be used to store the history of variations in alarm characteristics. This enables clients to use this historic information in other applications like static applications.

To configure this option, the user must select:

Configuration Management, Default Historian Configuration, History Updates.

The **History Updates item** will be **checked**: The AE Archiver will work like an archiver for the Alarm characteristic changes.

Con	figuration Management Transfer	Help		
	Screen Configuration		1	
	Default Historian Configuration	×	\checkmark	History Updates
	Options			Max Row Setting
	Clear log screen	l		

Figure 100: Enable History Updates

The user can remove the Explorer option by selecting: Configuration Management, Default Historian Configuration, History Updates.

The **History Updates item** will be **unchecked**: *The Alarms and Events Archiver* option will be removed and the event notification recovered from the OPC Alarms and Events Server will not be stored in the Database.

Config	guration Management Transfer	Help	
S	creen Configuration		
D	Pefault Historian Configuration	•	History Updates
C	Options		Max Row Setting
C	Clear log screen	L	

Figure 101: Disable History Updates



When the *History Updates* item is checked, the user can set the max row to use during the historic archiving. When the number of storage rows reaches the max row value specified by the user, a new Archiver will be created and will store the list of old alarm characteristics. If the max row is equal to 0, this option will be ignored.



4. DCOM Configuration

In order to retrieve data from OPC Servers in real time, the AE Archiver can be used in different configurations, including local and distributed configurations.

In local configurations, the *AE Archiver* and OPC Server(s) all run on the same computer. In that case, the installation process does not need any specific settings. In distributed configurations, these components are executed on two or more computers cooperatively: the AE Archiver initially resides on a remote computer (Client Computer) and uses the DCOM mechanism to directly access servers.

To enable this functionality, some settings are needed on both the remote server and the local client computer.

This section is intended to provide general guidance on proper DCOM Config Utility settings for computers on which the *AE Archiver* and OPC server(s) are running.

4.1. Client Side DCOM Configuration

Step 1: Setup Client machine with these instructions

- 1. Login as Administrator.
- Choose the Run option from the Windows Start menu and type DCOMCNFG then click OK to run it.

♀ See more results		
dcomcnfg	×	Shut down 🕨

Figure 102: Initial DCOM Config

- 3. DCOM Configuration Properties- Default Properties tab:
 - a. The **Enable Distributed COM on this computer** MUST be checked.
 - b. The **Default Authentication Level** should be set to **Connect**.
 - c. The **Default Impersonation Level** should be set to **Identify**.





My Computer Properties			8	X			
Default Protocols	COM Sec	COM Security		;			
General	Options	Def	ault Properties				
☑ Enable Distributed CON ☑ Enable COM Internet S	Enable Distributed COM on this computer Enable COM Internet Services on this computer						
Default Distributed COM The Authentication Leve	Communication Pr I specifies security	operties r at the pac	ket level.				
Default Authentication	Level:						
Connect		-					
Default Impersonation	Level:						
Identify		•					
Security for reference tra and that the default impe	cking can be prov rsonation level is r	rided if auth not anonym	entication is us ous.	ed			
Provide additional s	Provide additional security for reference tracking						
Leam more about <u>setting th</u>	nese properties.						
	ОК	Cance		ply			

Figure 103: Default Properties Tab

4. DCOM Configuration Properties- Default Security Tab:

It is on this tab that you tell the operating system who you will allow to access the **AE Archiver** from remote OPC servers. **Default Access Permissions** is the only setting we are concerned with on the client side of this tab. On the Default Access Permissions Dialog, you set who (users whose remote OPC servers are running here) will have access to make callbacks to this machine when subscription based reads are being done.

No changes are normally required on the **Default Launch Permissions** and **Default Configuration Permissions** dialogs.


General	Ontions	Default Properties
Default Protocols	COM Security	MSDTC
Access Permissions -	s allowed default access to	applications You may
also set limits on ap	plications that determine th	eir own permissions.
Caution: N of applicat securely.	Modifying access permission tions to start, connect, func	is can affect the ability tion and/or run
	Edit Limits	Edit Default
Launch and Activatio	n Permissions	
You may edit who i activate objects. Yo determine their own	s allowed by default to laun ou may also set limits on ap n permissions.	ch applications or plications that
Caution: N affect the and/or rur	Nodifying launch and activa ability of applications to sta n securely.	tion permissions can rt, connect, function
	Edit Limits	Edit <u>D</u> efault
eam more about <u>settin</u>	<u>q these properties</u> .	

Figure 104: Default Security Tab

5. DCOM Configuration Properties- Default Protocols Tab:

In this tab, you set which of the installed network protocols on the client computer to use for DCOM. You should use **Connection-oriented TCP/IP**.





Convert	Ortions	Defectly Descention
Default Protocola	Options	Default Properties
Default Flotocois	COM Securty	MSDIC
COM Protocols		
Connection-oriented	TCP/IP	
Add Remove	e Move <u>U</u> p Mov	ve Down Properties
Description		
The set of network pro	tocols available to DCOI	M on this machine. The
ordering of the protoco	Is reflects the priority in v	which they will be used,
	aving first phoney.	
eam more about setting	these properties.	
eam more about <u>setting</u>	these properties.	

Figure 105: Default Protocols Tab

<u>Step 2</u>: You need to register your OPC Server on the client computer by indicating its location on the named remote machine.

There are two ways of registering your OPC server on your client machine, depending on the client environment. Here are two methods:

1. Prepare and apply a customized **.reg** file on the client computer (See Microsoft registry documentation for details). We recommend this method only for users experienced with Windows Registry.

You have to *export* the entries of your OPC server from the server machine registry to the client machine registry.



4.2. Server Side DCOM Configuration

There are 2 areas you will need to setup:

<u>Step 1</u>: Follow these instructions to make a default DCOM Configuration for your OPC Server Computer.

- 1. Launch the DCOM Config Utility on the computer where your target OPC Server is running.
- 2. Configure the Default Properties Tab as you did on the Client side.
- 3. DCOM Configuration Properties- Default Security Tab:
- 4. This tab has the most settings to make. It is on this tab that you tell the operating system who you will allow to access OPC servers on this machine (Default Access Permissions), who you will allow to launch OPC Servers on this machine (Default Launch Permissions), and who you will allow to configure OPC Servers on this machine (Default Configuration Permissions).
- 5. DCOM Configuration Properties- Default Security Tab- Default Access Permissions Dialog:
- 6. In the dialog on the right, when you click **Add**, you will be presented with a dialog that lets you browse the local machine and domain (if applicable and logged into a domain) for users and groups to grant permission to.
- 7. DCOM Configuration Properties- Default Security Tab- Default Launch Permissions Dialog:
- 8. It is here where you define who can actually start your OPC server on this computer. Adding of users/groups is done the same way as was done for Access Permissions.
- 9. DCOM Configuration Properties- Default Security Tab- Default Configuration Permissions Dialog: If you are setting up DCOM for the first time, it is not recommended to change the settings.
- 10. Configure the Default Protocols Tab as you did on the Client side.

<u>Step 2</u>: To make DCOM settings that are specific to your OPC Server, go to the Application Tab in DCOM Config and browse until you find the OPC Server of your choice. Highlight it and either double click on it or click **Properties** to enter the server specific settings.

1. On the General Tab, we recommend that you leave the **Authentication Level** to **Default**.





Integration Objects OPC AE CSNET Server Simulator Prope 2						
	General Location Security Endpoints Identity					
	General properties of this DCOM application					
	Application Name: Integration Objects OPC AE CSNET Server Simu					
	Application ID: {20260278-2008-1112-1982-111219829100}					
	Application Type: Local Server					
	Authentication Level: Default					
	Local Path: C:\Users\Admin\Desktop\OPC AE Sim\Integrati					
		İ				
	Learn more about setting these properties.					
	OK Cancel Apply					

Figure 106: Server Side General Tab

2. On the Location Tab, make sure that **Run application on this computer** is the ONLY check box checked.





Integration Objects OPC AE CSNET Server Simulator Prope 💡 🗾 🗙					
General Location Security Endpoints Identity					
The following settings allow DCOM to locate the correct computer for this application. If you make more than one selection, then DCOM uses the first applicable one. Client applications may overide your selections.					
Run application on the computer where the data is located					
Run application on this computer.					
Run application on the <u>following</u> computer: Browse					
Leam more about <u>setting these properties</u> .					
OK Cancel Apply					

Figure 107: Server Side Location Tab

3. On the Security Tab, we suggest you select "Use Default access permissions" which means users/groups shown under the Default Security Tab in the DCOM Config utility will have access to connect to this specific OPC server. If you choose to use the custom permissions to override the defaults, specify which users/groups you wish to grant permission to.

We also suggest that you use the Default Launch permissions. The same rules apply about using custom launch permissions here as they do for custom access permissions.



Integration Objects OPC AE CSNET Server Simulator	Prope	8	x
General Location Security Endpoints Identity			
Launch and Activation Permissions			- II
Que Default			
Customize	<u>E</u> d	it)
Access Permissions			
Ose Default			
© Custo <u>m</u> ize	Ed	it	
Configuration Permissions			
─ Use Default			
Customize	Ed	<u>i</u> t	
Learn more about <u>setting these properties</u> .			
OK Can	cel	Ap	ply

Figure 108: Server Side Security Tab

4. On the Identity Tab, specify under what user account you want the OPC server to run. This is probably one of the most important settings for the OPC server. The answer is very dependent on how you will be using your system.

No changes are required on the Endpoints Tab.



USING OPC AE ARCHIVER

1. Overview

The installation program for the **Archiver** is downloadable from the Integration Objects website. Run the installation program following these steps:

- Open Windows Explorer,
- Double-click on the program setup.exe,
- Follow the instructions presented by the installer.

To start the OPC AE Archiver: Click Start \rightarrow Programs \rightarrow Integration Objects \rightarrow OPC Archiver \rightarrow OPC Alarms and Events Archiver



Figure 109: Launching OPC AE Archiver

2. Required Steps

In this section, we are going to provide a global view of the OPC Alarms and Events Archiver usage.

2.1. Step N°1: Create a New Configuration.

In order to create a new configuration, as it is mentioned in the section "Create New Configuration", the user must start by creating the configuration, by attributing a unique name to it and by choosing the mode of authentication to use with this configuration.

2.2. Step N°2: Adding Servers to Control

After the configuration is installed, the user must add the servers to supervise. These servers will be stored in the context of the current open configuration.



2.3. Step N°3: Subscription Installation

After adding the servers to be controlled, the user can move to subscription installation and the setting of filters to be associated with these. At this stage, the user can see the event notifications returned by all added servers in the screen.

2.4. Step N°4: Historian Configuration

The storage of the event notifications are possible if the user configures the Historian to be used for the storage of this information. This configuration can be performed in two modes ADO or ODBC.



TROUBLESHOOTING

Case 1: Cannot launch the OPC AE Archiver

If you are using an evaluation license, you should check the license validity by launching the "LicenseAuthorization.exe" existing under the OPC AE Archiver installation folder.

You can also start it directly from the startup menu:



Figure 110: OPC AE Archiver Startup menu

If the License Authorization tool shows that, the demo has expired and you want to activate it using your full activation license, you should in this case follow these steps:

• Click on the Activation Codes button from the LicenseAuthorization.exe form



Welcome to OPC Alarms and Events Archiver
io integration objects Your partner for operational excellence
www.integrationobjects.com
General Information
Product Name : OPC Alarms and Events Archiver
Company Name : io
User Name : Admin
Demo expired
License Activation
To register OPC Alarms and Events Archiver, buy and activate the
license with our activation process based on user ID and activation code.
Click the Register button to proceed.
Please contact our customer service at:
customerservice@integrationobjects.com Register
ОК

Figure 111: License Authorization (Demo Expiration Case)

• Copy and send the User ID to the sales team so they can generate the dedicated activation code.



Reg	ister	Andrew Presentation	×
	Product :	OPC Alarms and Events Archiver Version : 1.5.2	
	Tags Number :	Generate User ID	
	User ID :	D9A817BE1C683E6FE86C7A20261ABEF26BEF73C17977F8C5EDB2C6B92E773AF5	ì
	Activation Code :		
		(Register) Cancel	

Figure 112: License Registration

Case 2: Cannot connect to a local OPC Server

Connection to server failed. < OPCAEServer: OPCServerLocalConnect: CoCreateInstance:Server execution failed.

Figure 113: Connection to OPC AE Server error

You should check if the OPC Core Components are installed in your machine. If they are already installed you should use the regsvr32 command as shown below to register them again:

Example (Windows XP) /regsvr32 "C:\WINDOWS\system32\opcproxy.dll" (if your system drive is "C:") /regsvr32 "C:\WINDOWS\system32\opccomn_ps.dll" /regsvr32 "C:\WINDOWS\system32\ opc_aeps.dll".

You can also repair the installation OPC Core Components by running the setup for the second time.

Case 3: Cannot identify the OPC AE alarm status (ON or OFF)

The OPC AE alarm is considered ON when the New State value is equal to 1, 3, 5 or 7. For more details, refer to the OPC A&E specification.

Case 4: Unable to retrieve alarm attributes

To retrieve the attributes of an existing Event Subscription, you should right-click on the target OPC Event Subscription then select the **Select Returned Attributes** menu item.



	Activate Subscription
	Activate subscription
	Deactivate Subscription
	Subscription State
	Subscription Filter
	Select returned attributes
	Get returned attributes
	Refresh Subscription
<	Cancel Refresh Subscription
	Settings >
🗄 🖓 Integration(Remove Subscription
📖 🐺 EventSubs_	· · · · · · · · · · · · · · · · · · ·

Figure 114: Select Returned Attributes

A dialog screen similar to the figure below appears:

ect Returned Attributes Dialog Screen							
Select a	Select an Event Type						
Select a	in Event Categ	jory :					
Code		[escription				
Listof	ausilable Event	t Attribute	• ·				
List of a	available Event Descripti	t Attribute	s: Type				
List of a	available Event Descripti	t Attribute	s: Type				
List of a	available Event Descripti	t Attribute	s: Type				
List of a	available Event Descripti	t Attribute	s: Type				
List of a	available Event Descripti	t Attribute	s: Туре				
List of a	available Event Descripti	t Attribute	s: Туре				
	ovailable E vent Descripti	t Attribute ion	s: Type				

Figure 115: Select Returned Attributes Dialog (1/3)



Select an Event type from the drop down list. The list of related Event Categories will be displayed.

	ttributes Dialog Screen
Select an Event 1	Type OPC_ALL_EVENTS
Select an Event (Category :
Code	Description
4	Level4
3	Level3
1	Level1
List of available E	Event Attributes :
ID Des	scription Type
Applu	

Figure 116: Select Returned Attributes Dialog (2/3)

When you select an Event category and double click on it, the list of available event attributes will be displayed.



Figure 117: Select Returned Attributes Dialog (3/3)

You can select one or more attributes by pressing the "ctrl" or "shift" key from the keyboard and select your attributes. Then, click the Apply button.

Case 5: Unable to create an archiver

If you are not able to create an archiver, check that you:

- Installed the required client and SGBD driver,
 For example, in order to connect to the Oracle database, you need to install oracle client in the client machine where you installed the OPC AE archiver.
- Entered the correct connection string,
- Entered a historian name that is not already in use,
- Entered a table name that does not already exist in the database.

Case 6: You need to archive vendor specific alarm attributes under the same attributes column

Starting from the 1.1.0 version, we included a new feature for vendor specific attributes.



This feature allows archiving the retrieved OPC AE Server attributes in different attributes columns.

When you uncheck "Use separate attributes columns" in the AE Historian configuration step, all the AE attributes will be archived in the same "Attributes" column separated with ";" character.

AE Historian Building : Step 1						
O Use separate table for each Event Subscription.						
Use Primary Key						
O Use default table and fields names.						
Setting table and fileIds names : New table C Existing table.						
Table name	100PCE ventUpdate					
Machine field name	MachineName					
Server progID field name	ServerProgID					
Server Address field name	ServerNodeName					
Subscription field name	SubscriptionName					
Source field name	SourceName					
Event Time field name (d/h) EventTime					
(ms)	EventTime_MS					
Severity field name	Severity					
Message field name	Message					
Quality field name	Quality					
Condition field name	Conditions					
Sub-Condition field name	SubCondition					
Event Mask field name	Mask					
New State field name	NewState					
Event Type field name	EventType					
Event Category field name	EventCategory					
ACK required field name	AckReq					
Active Time field name (d/h) ActiveTime					
(ms)	ActiveTime_MS					
Cookie field name	Cookie					
ActorID field name	ActorID					
Attributes field name	Attributes					
Use separate attributes columns						
Apply Cancel						

Figure 118: Configure AE Historian



When check the highlighted check button, the OPC AE Archiver will create in this case n separate columns.



n represents the selected returned attributes number.

Case 7: The OPC AE Archiver is not archiving AE alarms data after log off or machine restart

Check the following:

- 1. Make sure that the OPC AE Archiver service is installed and running
- 2. Configure the default configuration. To do this you should follow these steps:
 - Select File then Set Default Configuration in the Menu bar.
 - Or click the Set Default Configuration icon in the Toolbar.

Set a default configuration :
List of available configurations Configuration1 Configuration2 Configuration3 Start without default configuration
Apply Cancel Help

Figure 119: Set Default Configuration

- 3. Select the configuration to be set as default and click the **Apply** button.
- 4. Select the suitable **Configuration Name** from the "Set a default configuration" window.
- 5. Restart the OPC AE Archiver service.

Case 8: Data are not archived in the new configured historian table.

You need to set the new configured historian as default in order to archive data. To do so, follow these steps:

1. Go to the Transfer menu and select set default historian





Figure 120: Set Default Historian Menu Item

2. Select the historian from the displayed window and click the apply button to save your changes.

Set Default Historian	
List of available Historians]
Historian_1	
Historian_2	
Start without default historian	
]
Apply <u>C</u> ancel <u>H</u> elp	
	1

Figure 121: Set Default Historian Dialog



FREQUENTLY ASKED QUESTIONS

1. How can I acknowledge an event?

You can acknowledge automatically one or more conditions. To do this, you should proceed as following:

 Double-click on the specified source name from the screen browser (The AE Archiver will acknowledge the related condition with the "AEArchiver" ActorID).

Condition	SubCondition	Mask	NewState	Event Type	Event Category	AckReq	Active Time	Cookie	Actor ID
PVLEVEL	LOLO	OP	2	OPC_CONDITIO	Level1	FALSE	21/05/2018 15:41	138709	AEArchiver
DEVIATION	DEVIATION	OP	2	OPC_CONDITIO	Level2	FALSE	21/05/2018 15:41	138714	AEArchiver

Figure 122: Event Acknowledgment

Right-click on the specified source name from the screen browser, a menu will appear:



Figure 123: Acknowledgment Strip Menu

• Choose Ack Condition, a dialog screen will appear:



Automatic condition ackno	owledgement settings
AcknowledgedID: Comment:	
Source:	F/IC%£d?1003/!
Related ConditionName:	PVLEVEL
Related ActiveTime:	21/05/2018 14:44:53.171
Always acknowledge.	
Apply	Close Remove

Figure 124: Automatic Condition Acknowledgment Settings

AcknowledgedID: A string passed in by the client, identifying who is acknowledging the conditions.

Comment: Comment string passed in by the client associated with acknowledging the conditions.

Source: Identifies the source of each condition that is being acknowledged.

Related ConditionName: Identifies each condition that is being acknowledged. **Related ActiveTime**: This parameter uniquely identifies a specific transition of the condition to the active state or into a different sub-condition and is the same as the SubCondLastActive condition attribute.

Always acknowledge: If this option is checked, the AE Archiver will automatically acknowledge the related condition name when it is necessary.

2. Do I lose my history if I stop or uninstall the AE archiver?

No, your Alarms and Events history will not be lost, when you stop or uninstall the AE archiver.

3. Can I connect to multiple servers using OPC AE archiver?

Yes, the OPC AE archiver gives you the opportunity to connect to multiple servers.



Figure 125: Connect to Multiple Servers



4. Can I archive real-time data using this archiver? If not, how can I do it?

The OPC AE archiver is designed to archive Alarms and Events. If you want to archive real-time data using an OPC DA interface, you can use the OPC DA Archiver or OPC EasyArchiver.

You can find more details about our archivers under the following URL: <u>https://integrationobjects.com/opc-products/opc-data-archiving/</u>

5. Does the AE archiver support ODBC?

Yes, the OPC AE archiver supports ODBC. To connect to a database using ODBC, follow these steps:

- Select Transfer, Config New Historian and ODBC in the menu bar.
- Create ODBC Historian button in the toolbar.

6. How can I setup filters on the received events?

To setup a filter for an event subscription, right-click to the subscription and select "Subscription Filter" menu item.

A similar dialog screen appears:

Subscription Filter Set	tting		x
Event Type All Tracking	✓ Simple Condition	Severity Low Severity : 1 High Severity : 1000	
Event Categories Level1 Level2	Add	<	
Areas	Add	Sources	١dd
	Remove	ncel Help	move

Figure 126: Subscription Filter Setting Dialog Screen

In the Subscription Filter Setting window, you can select multiple criteria to setup the filter.



To add an event Category, select it and click the Add button in the Event Categories section.

To add an area, click the Add button in the Areas section, a dialog similar to the below appears:

Ir	ntegrationObjects.OPCAESimulato	J
	Area Name :	
	Boot Boiler1 Boiler1:makeup1 Boiler1:makeup2 Water1 Water1:makeup3 Water1:makeup4	
	Apply Cancel Help	

Figure 127: Area Browser

You can add an area manually by entering the area name or by selecting one from the areas tree.

To add a source, click the Add button in the Sources section, a dialog similar to the below appears:



Ir	ntegrationObjects.OPCAESimulator	J
	Source Name :	
	⊡ System_Event Tracking_EVENT ⊡ W Boiler1 ⊡ W Boiler1:makeup1 ⊡ W Boiler1:makeup1 ⊡ W Boiler1:makeup1 W Boiler1:makeup2 ⊡ W ater1	
	Apply Cancel Help	

Figure 128: Sources Browser

You can add a source manually by entering the source name or by selecting one from the sources tree.

Finally, click the Apply button to save the changes. All events satisfying all the configured criteria will be returned.

7. What filtering criteria does the OPC AE Archiver support?

The OPC AE archiver supports filtering on the following criteria:

- Event Type
- Event Categories
- Areas
- Sources
- Severity

8. How can I delete a historian without losing archived data?

If you want to delete a configuration without losing the archived data, follow these steps:

• From the menu bar, select Transfer then Delete historian. A dialog similar to the below appears:



Select a Historian Name	e Historian_1
Propertie	Value
Configuration name	Configuration1
Historian name	Historian_1
Events table name	100PCEventUpdate
Access mode	ADO
Connection string	Provider=SQLOLEDB;Integrated Security=SS
History updates	Enabled
٠ III	Þ

Figure 129: Delete Historian Dialog

• Select the historian to be deleted then click the Delete button. A dialog screen will appear to confirm the removal of the historian.



Figure 130: Confirm Delete Historian Message Box

• Click the Yes button to proceed. The message box below will be prompted.



Figure 131: Confirm Delete Archived Data Message Box

If you want to keep the archived data, click the No button.



APPENDIX A: LOGGING

The AE Archiver produces a log file named "LogEvent.LOG" that records errors and debugging information. If difficulties occur with the AE Archiver, the log file can be extremely valuable for troubleshooting. Under normal operations, the client logs very little information.

This log file is generated at start-up under the setup folder, where AE Archiver.exe is located.

The AE Archiver incorporates a configuration file "ConfigFile.ini" which includes several logging parameters. These parameters have default settings and can be changed at start-up by editing the configuration file.

To change this file:

- 1. Open ConfigFile.ini in a text editor.
- 2. Edit any of the parameters listed in the following tables:

Log Setting	Description	Default Value
LogFileMaxSize	The maximum log file size, in bytes. Once this	1048576*2
	size is reached during run-time, the log file is	~ 2 Mb
		(MegaByte)
ArchiveLastLog	TRUE: Old file is copied to an intermediate file with incremental extension, before being overwritten.	FALSE
	FALSE: Any pre-existing log file is erased and overwritten at start-up.	
LogLevel	Level related to the LogFile.	0

Table 7: INI Configuration File Log Parameters



3. Save the file for the log settings and performance parameters to take effect. Sample Configuration File:

[LogSetting] LogLevel=0 LogFileMaxSize=2097152 ArchiveLastLog=False Investigate=1 Reconnection-TimeOut=30 Maximum Subscription Failure=5 Query Execution Timeout=30 Query Execution Timeout Number=10 [ArchiverSetting] CheckAlarmListSize=5000 AttributesValueSize=200000 DateTimeArchiverSeparator= -

The config ini file also includes the following parameters :

Parameter	Description	Default Value
Investigate	Set investigate to 0 to disable the reconnection in the OPC AE Archiver.	1
Reconnection-TimeOut	If Reconnection TimeOut is set to 0, OPC AE Archiver will not initiate the reconnect if there are no new alarms received from the OPC server. It will reconnect only if there is connection problem with the OPC AE server. If Reconnection TimeOut value is higher than 0, the OPC AE Archiver will reconnect if there are no new alarms during the configured period	30 (minutes)
Maximum Subscription Failure	The maximum number of the get subscription state before reconnection to the server	5
Query Execution Timeout	The command timeout when executing the query in the ADO database	30 (seconds)
Query Execution Timeout Number	The maximum number of the timeouts returned when executing a query before reconnecting to the database	10
CheckAlarmListSize	This parameter allows to configure the size of the alarm buffer used to detect	5000



	duplicated alarm messages. Its value is set to 5000 messages by default and should not exceed the maximum size which is 10000 messages.	
AttributesValueSize	This parameter allows to configure the size of the attributes values.	200000
DateTimeArchiverSeparator	The DateTime archiver separator	-

 Table 8: INI Configuration File Parameters



APPENDIX B: SQL BACKUP

The AE Archiver produces a backup file named "SqlBackup.Sql" that records Sql queries. If an error occurs with the storage process, (Network problems, Database Server problems, etc.) the backup file can be used to store data that should be archived. When the user successfully repairs the database server problem, he can store the backup data in the database.

This file is generated at start-up under the Setup folder, where the AE Archiver.exe is located.

The AE Archiver incorporates a configuration file "SqlBackupConfigFile.ini" which includes several parameters. These parameters have default settings and can be changed at start-up by editing the configuration file.

To change this file:

- 1. Open SqlBackupConfigFile.ini in a text editor.
- 2. Edit any of the parameters listed in the following tables:

Backup Setting	Description	Default Value
BackupFileMaxSize	The maximum backup file size, in bytes. Once this size is reached during run-time, the backup file is overwritten.	1048576*2 ~ 2 Mb (MegaByte)
ArchiveLastBackup	TRUE: Old file is copied to an intermediate file with incremental extension, before being overwritten.	FALSE
	and overwritten at start-up.	
IgnoreDuplication	TRUE: The duplicated SQL queries will be not kept in the SQL backup file	TRUE
	FALSE: The duplicated SQL queries will be recorded in the SQL backup file.	

Table 9: SQLBackup Configuration File Parameters



3. Save the file.

Sample Sql Backup Configuration File:

[BackupSetting] BackupFileMaxSize =2097152 ArchiveLastBackup =False IgnoreDuplication=True



APPENDIX C: TIPS FOR CONFIGURING DCOM SERVERS

Here are four tips for configuring DCOM Servers.

 Users on Trusted Domains need to have an account created for them with matching usernames and passwords on the DCOM server's domain. The purpose of this is to set up a matching SID (Security ID). Trusted Domain group members need to have remote DCOM servers initiated for them by a Primary Domain member.



A Trusted Domain is a setup that allows resources from one domain to access resources on another domain. Trusted Domains typically go in one direction, although they can be bi-directional. The process of one domain trusting another domain and passing user authentication to another domain is called pass-through authentication.

- 2. Workgroup machines are individual domains, so you must set up matching SIDs (usernames and passwords) to establish connections between the machines.
- 3. Always create a Global Group through NT Server's User Manager and add the members for whom you want to provide access to specific DCOM servers. Then, use DCOMCnfg to set the launch permissions to that group. This makes administration easy to manage, even if you have a group that contains everyone.
- 4. If the client application implements a sink (callback), the server must be able to call back to the client. You must configure the client to accept calls from the server. Just because the client can connect to the server doesn't mean the server can call back to the client.



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