

ConneXSoft
BACnet Device Integration
Workflow
for the
Wonderware System Platform



V 5

1 Overview

The **CXS BACnet Device Integration Components V5** provide a rapid application-building environment. This document describes the general workflow of building BACnet applications using the Wonderware System Platform.

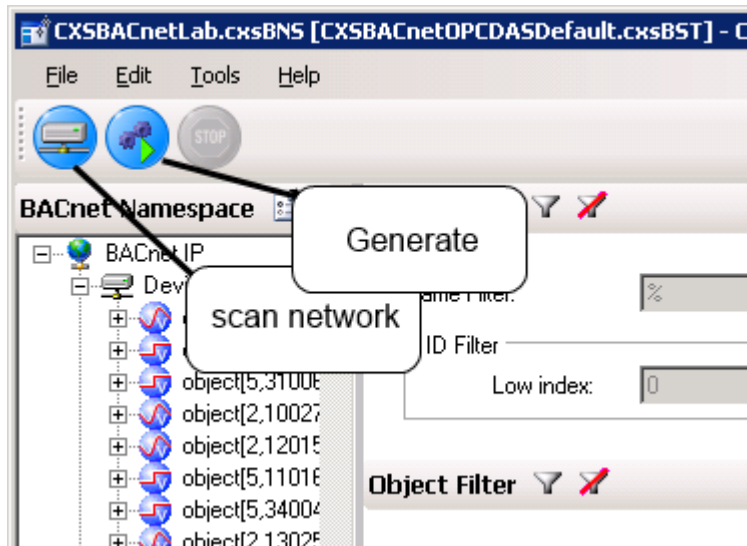
Pre-requisites:

- CXS DASBACnet DI objects setup V5
- CXS BACnet Application Generator setup V5 (for automatic application generation)

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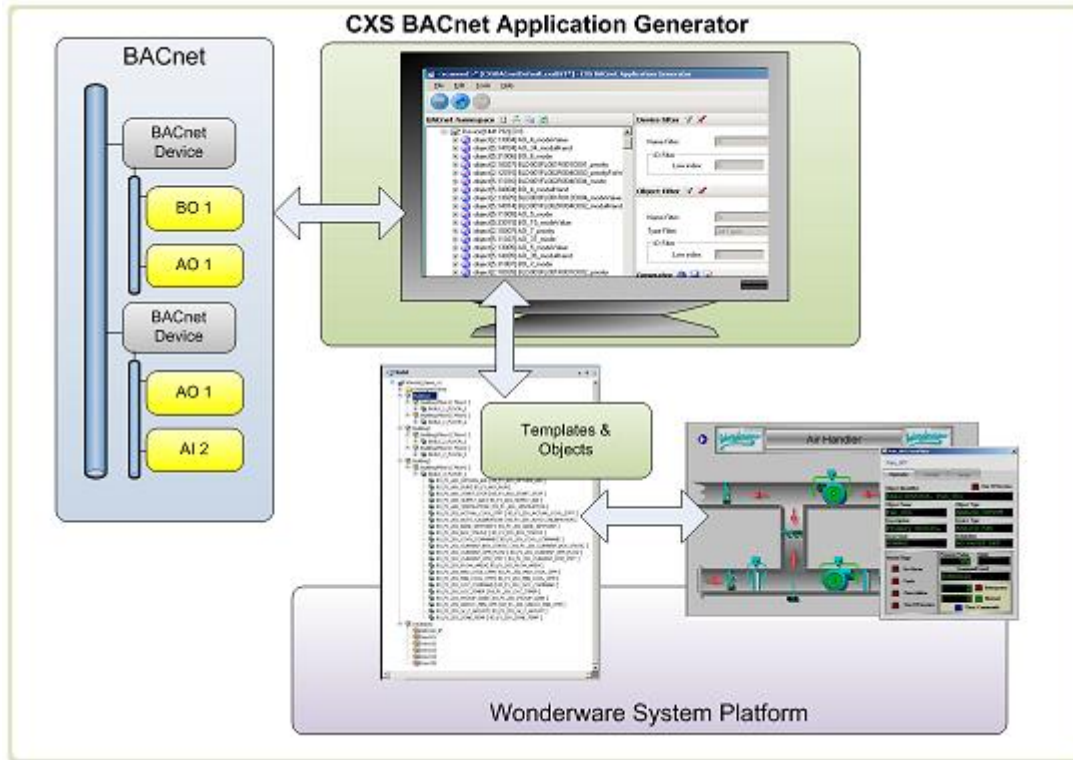
1.1 General Concept

The steps to automate significant parts of the engineering process are these:



1. Scan the BACnet network, devices and objects
2. Generate the application (optionally customize the application)
3. Deploy and run the application

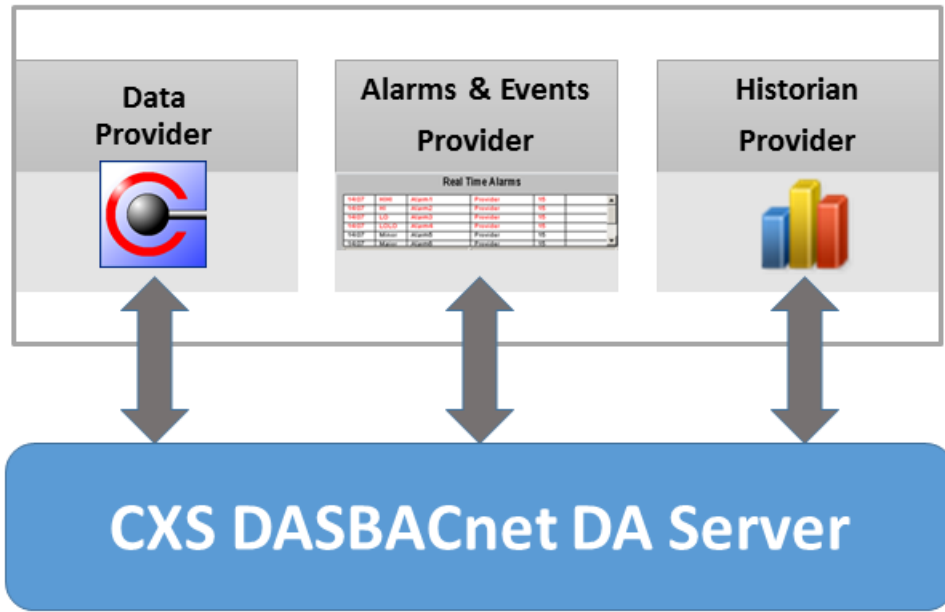
as displayed in this image:



1.2 Application Features

The generated application provides these features:

1. Standard visualization, alarming and historization via attributes acquired by the CXS DASBACnet DA Server / DI Objects
 - a. Read / write access to attributes
 - b. Support for BACnet specific types
 - c. Support for BACnet complex attributes
 - d. Support for BACnet COV (change of value – subscription)
2. Native integration of BACnet alarms & events
 - a. Alarms and events managed by BACnet devices can be integrated into the Wonderware distributed alarm system
 - b. Alarm acknowledgement is sent back to the device
3. Native integration of BACnet TrendLog Log-Buffers
 - a. Trend data stored in BACnet device log buffers can be sent as streamed data directly into the Wonderware Historian with the original time-stamp
 - b. Using the BACnet device store and forward data the CXS BACnet DA Server can automatically reconstruct historical data after network failures providing gap free trends.



2 Installation

- The CXS BACnet Application Generator should be installed on a PC with access to the BACnet network. If the node is a Wonderware IDE node applications can be generated directly from this instance.
- Start the CXS BACnet Application Generator and Import the license
- The CXS BACnet DI objects setup needs to be installed on an IDE node.
- Import the CXS BACnet DI objects package into the target Galaxy
- Open a port derived template (BACnet IP oder Ethernet) and import the license (if uncertain about the network use BACnet IP)

3 Steps in detail

3.1 Scanning the BACnet network

- Set the CXS BACnet Application Generator to the System Platform / ArchestrA mode if you have several modes licensed. If you only have a license for the System Platform mode this mode is active by default.
- Optionally configure the BACnet settings or use the default settings (refer to the CXS BACnet Application Generator online help for details)
- Start the scan operation (if uncertain use provided default values):
 - Select a unique device id for the BACnet scanner
 - Select the network type
 - Configure the network IP address / card
 - Configure BBMD routers if required
 - Start the scan
- The tree view populates with device and objects
- After the scan completes save the namespace and settings

3.2 Generating the application

- Select the target Galaxy in the CXS BACnet Application Generator with the loaded namespace (the target Galaxy must contain the CXS BACnet DI object templates, optionally it can contain the CXS BACnet object library or user defined BACnet templates)
- Start the generation process:
 - Select the import mode
 - Select Historian options
 - Start the import
- After the completing the import save the log for documentation purposes.

3.3 Completing and customizing the application

- Add a WinPlatform, Engines and deploy the object model
- Optionally add graphics and view engines
- Optionally add scripts and custom objects
- Synchronize the application if network objects were changed or added