

EcoStruxure™

Geo SCADA Expert 2020

Software for Telemetry and Remote SCADA

Release Notes

October 2021 Update

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Welcome

Welcome to EcoStruxure Geo SCADA Expert 2020.

Licenses

All users upgrading to this release will require a new license file available from customer support. This is required for both server and client upgrades.

Support

Please refer to this page for support information:

<https://tprojects.schneider-electric.com/telemetry/display/CS/ClearSCADA+Support>

New Features

For further information on new features please consult the in-product F1 help and the SCADA and Telemetry Resource Center web site, available at:

<https://tprojects.schneider-electric.com/telemetry/dashboard.action>

Ethernet/IP Driver

The newest driver added to Geo SCADA is for Allen-Bradley devices using the Ethernet/IP protocol.

Device Types

The EtherNet/IP driver is designed to support the following ranges of Allen-Bradley hardware:

- Micro800
- CompactLogix
- ControlLogix

Installation and Licensing

The license for this driver is included with newly issued licenses and it will also run in demonstration mode.

The driver is installed by default using the Demo and Server installation choices.

Getting Started

To start using the Ethernet/IP Driver we recommend that you use the Quick Start Tutorial in the product Help. You can find this by searching for the page "EtherNet/IP Driver Guide - Quick Start Tutorial".

Driver Features

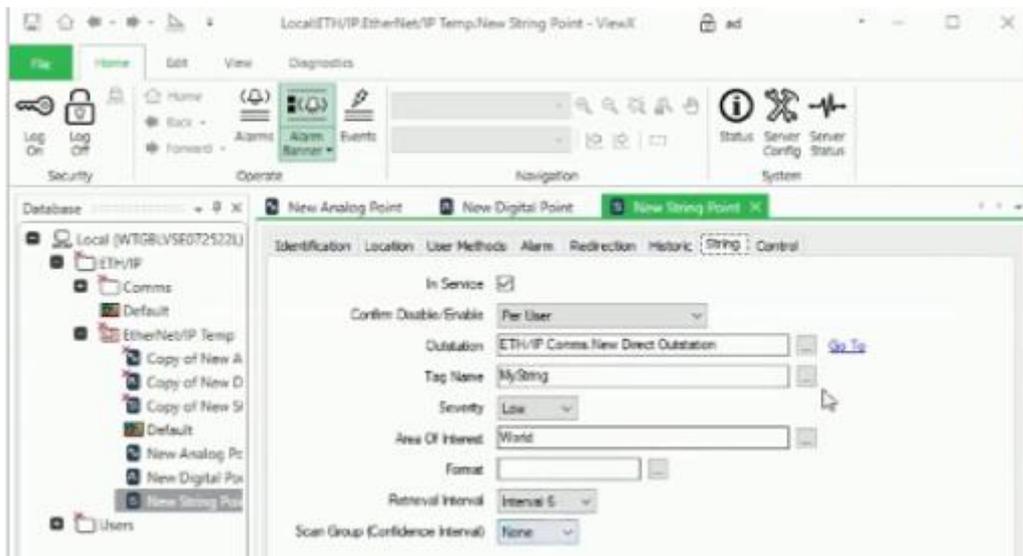
The driver supports the following point types in Geo SCADA Expert:

- Analog Point
- Digital Point (1 bit)
- String Point

Device Tags for the source of these points can be array, structured or atomic types – see the help's guide to Common Point Properties within the Ethernet/IP section.

Browsing of the PLC's address space for tag names is supported, where each tag name is listed within a dialog box for selection. Click the browse button (three dots) box adjacent to the

Tag name field. The Channel, Set and Outstation for the PLC must be In Service for this feature to work.



Both Analog and Digital points support Persistence (delayed alarm state) which is calculated within the driver.

The driver supports setting of the PLC device clock.

A Protocol Translation feature is included within the driver. This operates in the same way as for other Geo SCADA Expert drivers. You can find a guide for this on the web page:

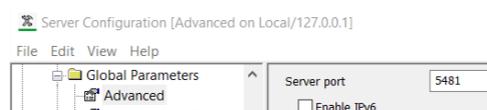
<https://tprojects.schneider-electric.com/telemetry/display/CS/Driver+Log+Translation>

Server-Server and Server-Client Connections

There are three significant changes which have been made to the way that servers and client PCs connect to each other. These increase the reliability, security and compatibility of connections. These are:

IPv6

IPv6 is the next version of internet protocol designed to overcome limits to the address space within the current IPv4. Clients and servers can communicate using IPv6. By default: they are set to communicate only with IPv4. To enable IPv6 there are check boxes on the Client Connection configuration tool on the system dialog box and on the Server Configuration form on the 'Global Parameters' | 'Advanced' page.

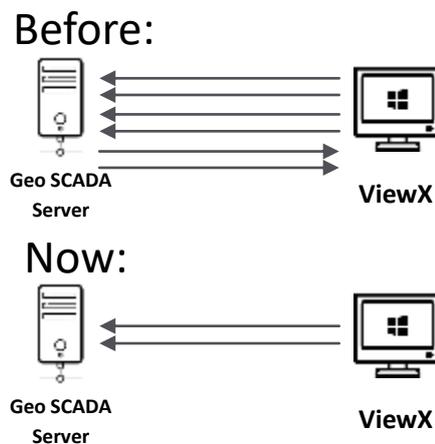


When selected you can enter IPv6 addresses within each server address field.

Coalesced Connections

This change is largely invisible, but it will have a positive impact on network configuration. Prior to this version the Geo SCADA server and client connections required multiple TCP links from client to server and vice-versa. This required the server to have its port open (default 5481) and the client to have a range of ports open (default 5500-5509). This made firewall configuration more complex and increased difficulty when deploying ViewX over VPN or cloud.

With a single connection from a ViewX client to the server, not only is there no need to have a port open at the client, but also this reduces the number of connections from client to server.



No configuration is required to use this feature. Legacy client or server connections will continue to work, although with multiple connections in each direction. Therefore, the firewall and/or VPN configuration supporting this must remain in place until all servers and clients have been upgraded to this version of Geo SCADA Expert.

To aid monitoring of the status of server/client connections, we have made updates to some of the categories that appear in the 'Server' branch of the Server Status Tool. This includes the addition of three new categories: Comms Child Links, Comms Parent Links, and Comms Threads.

Authentication and Security

The change to coalesced connections has also required a change to the encryption of the communications links. These links now use TLS security provided by the operating system. Additionally, it is now possible to specify the certificates to be used and checked by the client and server before connections are permitted. These are configured using:

- The 'System Configuration' | 'Connection Security' page of the Server Configuration Tool (for defining the server's connection security settings that apply for server-client connections).
- The 'System Configuration' | 'Partners' | 'Connection Security' tab of the Server Configuration Tool (for defining the connection security settings that apply for outgoing server-to-server connections on a multi-server system).

- The Connection Security window, accessed by selecting the 'Security' button when using the Client applet to edit the properties of a client connection (for defining the client's connection security settings that apply for client-server connections).

For information about how to use the certificate validation features, see the Help section "Certificates for Geo SCADA Expert Server and Client Connections".

Device Protocol Support

SCADAPack 470 Series

These devices are now supported to the same level as the SCADAPack 570 device series. This includes configuration and protocol items, configuration download features and the ability to convert item types from one series to the other. You use the SCADAPack x70 driver to configure these series of devices.



To get started with the driver, see Understand the SCADAPack x70 Driver, and see Quick Start Tutorial.

Realflo 7 and Realflo 6.96 Firmware Support

Enhanced Realflo Gas, Water and Liquids functionality available in Realflo 6.96 is supported in Geo SCADA Expert to provide continued interoperability.

We have also added support for additional features that are available in Realflo 7, including the support of SCADAPack x70 devices.



SCADAPack E Firmware Support

Enhanced functionality available in SCADAPack E 8.14 is supported in Geo SCADA Expert to provide continued interoperability.

Automatic Database Backup on Upgrade

When Geo SCADA Expert 2020 starts following an upgrade, by default it will automatically make a copy of the Configuration and Real-time parts of the database. These two parts of the database are version-dependent, which means that after an upgrade it will not be possible to uninstall Geo SCADA Expert, install an earlier version and restart without restoring a backup created by the user. With this new version, the database is copied to a separate folder during start-up, and that copy can be restored in order to run with an older version. It is still recommended to take a full backup before any upgrade, but this measure provides an additional partial backup (which does not include historic data).

Upgrade database backups are stored by default in this location:

```
C:\ProgramData\Schneider Electric\ClearSCADA\UpgradeDatabaseBackup
```

The location can be changed using the Server Configuration tool. There is a registry setting available to deactivate this feature, and the location of this is stated in the product documentation.

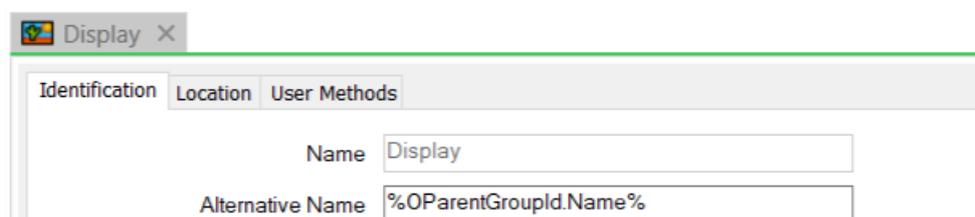
ViewX Tab Names

The tab name of a ViewX display is usually the Name field of the database item. In some cases, the Name might not be sufficiently descriptive. This could be because the item is configured within a Group Template, and therefore the Name property is fixed. For example, if the same named mimic from two different Group Instances is displayed, then the tab name cannot be used to distinguish between them unless hovering the mouse over the tab.

A new database field has been introduced to enable an alternative name to be displayed on tabs. This field has been added to all objects, so is available for use on Mimics, queries or other interfaces. The ViewX tab name will use this new field when not empty and the item is displayed.

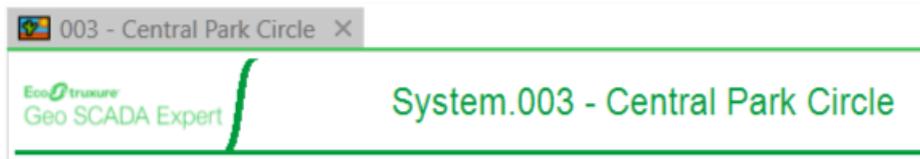
The text entered in this new field will set the new name of tabs. Also, the field supports the use of trip characters, similar to those elsewhere in Geo SCADA Expert such as alarm redirection text. By supporting trip characters, the same alternative name can be evaluated differently for the database object and can therefore be used within Templates to set a common alternative name strategy.

For example, the alternative name for a Mimic could be configured as follows:



The screenshot shows a window titled 'Display' with a close button. It has three tabs: 'Identification', 'Location', and 'User Methods'. The 'Identification' tab is active. There are two text input fields: 'Name' with the value 'Display' and 'Alternative Name' with the value '%OParentGroupId.Name%'.

When the Mimic is displayed, the tab name shown will be the parent group name of the Mimic.



Virtual ViewX File Download

Virtual ViewX users may now download files from their browsers. This action is initiated from hyperlinks in mimics from scripts. If such links are to compatible files, then the file is downloaded to the user's computer. Example file types include Excel sheets and PDF documents. There is a registry setting on the Virtual ViewX server that controls the document types available with this feature.

Security settings for Standby-Only servers

With this and previous versions of Geo SCADA Expert, each Geo SCADA Expert server has a set of configurable Permission Restrictions that you can use to disable specific user permissions even if the user has those permissions enabled on their User Account (they are configured using the Server Configuration tool). These server-wide Permission Restrictions are commonly used to restrict privileged operations on Permanent Standby servers, which might be placed in a separate network security zone from the Main/Standby servers. These settings have now been moved for Permanent Standby servers and they are to be configured on Main/Standby servers, also with the Server Configuration tool.

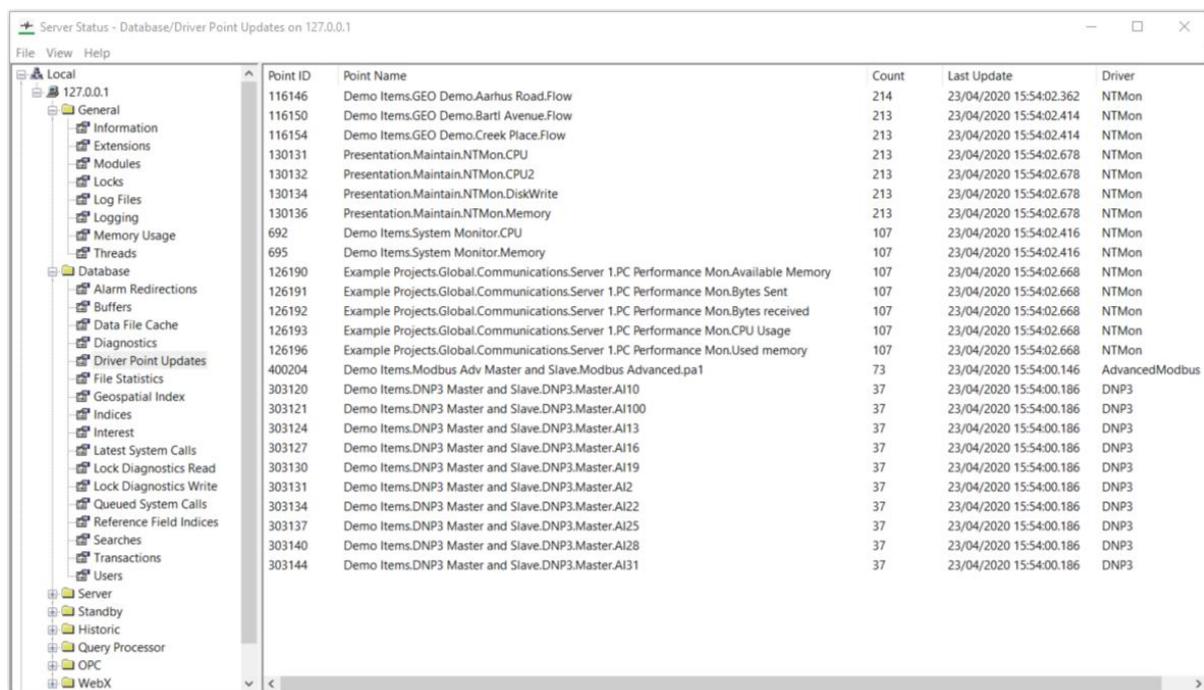
Logging and Diagnostics

Performance Reporting

When managing a Geo SCADA Expert system, one of the challenges is to make sure that overall point data processing activity levels are under control. This is important because the level of activity directly affects database locking, which can be limited by performance issues if points are being updated too frequently.

The new feature to help administrators dive into the point processing load is a live table of top point update counts in the Server Status tool. This table immediately gives a potential action list of points that might be 'noisy' – those which may be configured to report data too often, or points connected to equipment that has electrical noise which is not being filtered by persistence settings of the RTU.

This is a sample screen showing the page:



Point ID	Point Name	Count	Last Update	Driver
116146	Demo Items.GEO Demo.Aarhus Road.Flow	214	23/04/2020 15:54:02.362	NTMon
116150	Demo Items.GEO Demo.Bartl Avenue.Flow	213	23/04/2020 15:54:02.414	NTMon
116154	Demo Items.GEO Demo.Creek Place.Flow	213	23/04/2020 15:54:02.414	NTMon
130131	Presentation.Maintain.NTMon.CPU	213	23/04/2020 15:54:02.678	NTMon
130132	Presentation.Maintain.NTMon.CPU2	213	23/04/2020 15:54:02.678	NTMon
130134	Presentation.Maintain.NTMon.DiskWrite	213	23/04/2020 15:54:02.678	NTMon
130136	Presentation.Maintain.NTMon.Memory	213	23/04/2020 15:54:02.678	NTMon
692	Demo Items.System Monitor.CPU	107	23/04/2020 15:54:02.416	NTMon
695	Demo Items.System Monitor.Memory	107	23/04/2020 15:54:02.416	NTMon
126190	Example Projects.Global.Communications.Server 1.PC Performance Mon.Available Memory	107	23/04/2020 15:54:02.668	NTMon
126191	Example Projects.Global.Communications.Server 1.PC Performance Mon.Bytes Sent	107	23/04/2020 15:54:02.668	NTMon
126192	Example Projects.Global.Communications.Server 1.PC Performance Mon.Bytes received	107	23/04/2020 15:54:02.668	NTMon
126193	Example Projects.Global.Communications.Server 1.PC Performance Mon.CPU Usage	107	23/04/2020 15:54:02.668	NTMon
126196	Example Projects.Global.Communications.Server 1.PC Performance Mon.Used memory	107	23/04/2020 15:54:02.668	NTMon
400204	Demo Items.Modbus Adv Master and Slave.Modbus Advanced.pa1	73	23/04/2020 15:54:00.146	AdvancedModbus
303120	Demo Items.DNP3 Master and Slave.DNP3.Master.AI10	37	23/04/2020 15:54:00.186	DNP3
303121	Demo Items.DNP3 Master and Slave.DNP3.Master.AI100	37	23/04/2020 15:54:00.186	DNP3
303124	Demo Items.DNP3 Master and Slave.DNP3.Master.AI13	37	23/04/2020 15:54:00.186	DNP3
303127	Demo Items.DNP3 Master and Slave.DNP3.Master.AI16	37	23/04/2020 15:54:00.186	DNP3
303130	Demo Items.DNP3 Master and Slave.DNP3.Master.AI19	37	23/04/2020 15:54:00.186	DNP3
303131	Demo Items.DNP3 Master and Slave.DNP3.Master.AI2	37	23/04/2020 15:54:00.186	DNP3
303134	Demo Items.DNP3 Master and Slave.DNP3.Master.AI22	37	23/04/2020 15:54:00.186	DNP3
303137	Demo Items.DNP3 Master and Slave.DNP3.Master.AI25	37	23/04/2020 15:54:00.186	DNP3
303140	Demo Items.DNP3 Master and Slave.DNP3.Master.AI28	37	23/04/2020 15:54:00.186	DNP3
303144	Demo Items.DNP3 Master and Slave.DNP3.Master.AI31	37	23/04/2020 15:54:00.186	DNP3

Recent Updates

Resolved Customer Issues – October 2021 Update

- [CSUP-12577] Advanced Modbus driver: Fixed the reading of a string from a Modbus Holding Register.
- [CSUP-12582] Advanced EWS driver: A correction to prevent a server crash when Advanced EWS points have updated point values with Invalid IDs.
- [CSUP-12546] Server Status: Improved the accuracy of the historian memory usage diagnostics by taking into account the overhead of the C++ STL containers that are used internally by the historians to store the data.
- [CSUP-12453] Server correction to handle the case when a Database Backup fails because the Backup user doesn't have permission to read the System Database files. An alarm showing that the Backup has failed will be raised in this case.
- SCADAPack x70 driver: Fixed the conversion of SCADAPack 47x device to/from SCADAPack 57x device, to avoid losing IP Whitelist, IP Routing table, DNP3 Routing table and Modbus Store & Forward table. Fixed a server crash when validating the SCADAPack x70 Modbus Store and Forward table and first octet of forward IP address is zero.
- SCADAPack x70 driver: Fixed a server crash that occurs when validating the IP address of an IP whitelist entry, in a SCADAPack x70 device, when the first octet of the IP address is zero. This may occur when converting a SCADAPack x70 between device types.
- [CSUP-11429,CSUP-12235] Made changes to core WITS driver to support the T4 extension driver.
- [CSUP-12331] Fixed a server crash which could occur if a user has the results of a query on display in ViewX showing Shared outstations and one of those outstations is then converted to a standard direct outstation.
- [CSUP-12527] ViewX correction to ensure that all the controls on an object properties form are disabled when the form is opened in read-only mode.
- [CSUP-12524] Virtual ViewX: Ensure the App.Head and Head() method calls always return 0 within the context of Virtual ViewX.
- [CSUP-12513] ViewX: Correction to ensure that command arguments are included when executing a ViewX System Command.
- IEC 60870 driver: Stop continuous set clock commands when IEC6070 client is configured to set clock in local time with DST and the host machine is set to UTC time.

Resolved Customer Issues – September 2021 Update

- ViewX forward compatibility fixed, so that ViewX can correctly update a user profile when communicating with a Geo SCADA Expert 2021 or newer server.
- Coalesced Connection functionality fixed to avoid an occasional crash related to parent link diagnostic logging during link closure.
- [CSUP-12452] Fixed PSTN channel time zone validation when using 'Fixed Offset from UTC' time zone.

- [CSUP-12482] Fix to ensure that digital points that utilize persistence do not produce unnecessary historical records during the persistence period. This will prevent a problem of excessive historical logging of polled values.
- [CSUP-12411] Fixed Virtual ViewX login to remote authentication. This fix allows the use of an email address as the username when the user is configured for LDAP authentication. The user will no longer need to specify a '<SystemName>@' prefix to the email username.
- [CSUP-12491] .NET API extended. Changed the method GetNamedUserRegistry to return an IDictionary. This allows a user with admin privileges to extract the entire registry for a specific user.
- [CSUP-12496] Fixed the Server Configuration tool to help prevent a crash from occurring when toggling the HTTPS setting in the 'Server Configuration | WebX' section.
- OPC driver fix, to ensure that when converting from a Simple OPC Point to an Advanced OPC Point, the Tag Name is appropriately assigned to the Item ID of the Advanced OPC Point.
- [CSUP-12485] ViewX fixed to handle the 'System Configuration | WebX | ViewX Script Certificate Checks' setting correctly. This ensures that ViewX's script use of HTTPS requests will handle server certificate checking correctly.
- [CSUP-12463] Improved splitting of plain text emails that are over 1000 characters long.

Resolved Customer Issues – August 2021 Update

- [CSUP-12318] Improved Geo SCADA server's initialization of objects in the database when an advanced driver (e.g. DNP3) starts, to ensure the database write lock is not held for an excessive time. This can be a problem with complicated configuration between the outstations and their points (e.g. linked to value maps). Additionally, modified the updating the quality of objects for a driver should a driver terminate unexpectedly.
- Geo SCADA Web Server's handling of SOAP requests improved, to be more robust.
- Fixed Crystal Reports runtime upgrade on Virtual ViewX.
- [CSUP-12429] Added missing serialization for Advanced OPC analog point 'TunedTime' and 'TunedUser' database fields.
- ViewX: Fixed an exception scenario that could occur when attempting to open a Crystal Reports document.
- [CSUP-12464] ViewX: Fixed an exception scenario that could occur when using a script to display the Help documentation.
- ViewX: Simplified and improved the alarm sounder and redrawing of flashing content within ViewX.
- [CSUP-12418] ViewX: Fixed an exception scenario that could occur when exporting a mimic with an embedded list, which specifies a value for the 'Register For Interest' field.
- Geo SCADA Server: Fixed a bug that allowed alarm redirections to get stuck in a loop.
- [CSUP-12437] Fixed the x70 mechanism of copying of configuration in templates. Templated, Non-Property Overrides configuration changes to template instances now only occurs through the configuration objects, not through the protocol points (which are merely read-only properties that must be updated by a specific instance's configuration object).

- [PDEV-2171] A Pager Driver improvement to allow a user sent SMS Alias Command to include trailing spaces, and still be recognized.
- [CSUP-12450] Geo SCADA server and standby server configurations corrected so that the handling of Standby server's with unresolvable names does not crash the Main server.
- Installer: Changed BouncyCastle Merge Module.
- [CSUP-12440] Updated MailKit and dependencies.
- [CSUP-12403] Updated Modbus RTU Slave address validation from DNP3 SCADAPACK E Direct Outstation.
- Upgraded SAP Crystal Reports runtime to SP30. (Note: Microsoft Visual C++ 2005 runtime is no longer required and so can be uninstalled if not required by any other applications.)

Resolved Customer Issues – July 2021 Update

- [CSUP-12330] ViewX traces corrected, to ensure a new line style of 'dashed line' is correctly used to update a trace.
- SCADAPack x70: Corrected the validation of the SCADAPack x70 analog event deviation deadband and the validation of all event deviation types.
- SCADAPack x70: Added missing validation to SCADAPack x70 Terminal Server serial port 'TCP Port Number' and 'TCP Listen Port Number' fields. Port zero is not valid.
- SCADAPack x70: Fixed download/export of SCADAPack x70 configuration for DNP3 file event class, when set to 'Class 3'.
 - Changed the default DNP3 file event class for new SCADAPack x70 Devices to 'Class 3' (to match RemoteConnect).
 - Unused I/O channels on SCADAPack x70 570, 574 and 575 I/O modules are now omitted from the downloaded/exported configuration to ensure backwards compatibility with older firmware which do not have the extra I/O channels added in R2.4.
- SCADAPack x70: Implemented database validation for 'Unsolicited (DNP3 Only)' for SCADAPack x70 Digital, Analog and Counter configuration objects.
- [CSUP-12391] Added header file, 'TestServices.h' to OEM-SDK.
- MQTT: Fixed error in creation of a MQTT JSON Device. Ensure that the distinction between a modified device configuration and a created device configuration is correct.
- MQTT: Fixed race condition in MQTT driver, when a failed connection from Geo SCADA to the MQTT broker is re-established.
- [CSUP-12362] Corrected the display of system status information in ViewX.
- [CSUP-12321] Fixed issues with Alarm Redirection Method Action.

Resolved Customer Issues – June 2021 Update 2

- [CSUP-12075] EthernetIP Driver enhanced to read Program and Scope tags.

Resolved Customer Issues – June 2021 Update

- [CSUP-12309] Improved the .NET DBClient handling of localhost re-use of local port by source and end points' TCP Socket. The client no longer crashes and the advise action is now included in ViewX Session logging.
- [CSUP-12259] NTMon scanning fixed to recover from remote Windows host restarts.
- [CSUP-12255] Legacy WebX Link timeout corrected to allow 30-second timeouts.
- [CSUP-12310] Improved the handling of the system listeners within ViewX.
- [CSUP-11876] Changed App.WorkstationName to use the default system if called from global script.
- [CSUP-12272] Improved the logging of critical errors and exceptions. Changed the LogFileBase registry key to be used 'as is' and not process it as a filename.
- [CSUP-12326] Fixed crash when 'Template Instance' integrity check is active when a Template Instance has a Variable that is not in its corresponding Group Template. A specific integrity check error is now raised.
- [CSUP-12320] Fixed quick filter edit and quick filter. Removed menu options that were doing nothing in ViewX.
- [CSUP-12278] Correction to ensure that GeoRegion handles long GeoJSON strings correctly. The maximum limit is now a 33,554,432-character string.
- [CSUP-11876] Added a client-side scripting property to get the Workstation Name of the client, or an empty string if not configured. (Accessible via animations as WorkstationName() and in scripts as App.WorkstationName.)
- [CSUP-12162] Fixed ViewX client connections that specify a system with a space in the name. These connections are now handled correctly when parsing Startup Documents from the StartupConfiguration.xml
- SCADAPack x70: Changed the 'Initialization String', 'APN String' and 'Dial Prefix' maximum length validation for SCADAPack x70 device PPP\TCPIP serial port with PPP modem to match RemoteConnect.

Resolved Customer Issues – May 2021 Update

- [CSUP-12307] Prevented ViewX crash when attempting to perform a Quick Filter on an event list that is already filtered by ID.
- SCADAPack x70: Changed the 'PAP/CHAP Username' and 'PAP/CHAP Password' maximum length validation for SCADAPack x70 device serial port to match RemoteConnect.
- [CSUP-12285] Moved layers menu options on a mimic to the top of the context menu.
- [CSUP-12236] Updated the embedded mimic cache such that mimics that contain embedded historic trends (either directly, or indirectly via nested embedded mimics) are purged automatically once they are no longer referenced.
- SCADAPack x70: Corrected IP Whitelist checking for overlapping IP Addresses and ranges of IP Addresses.
- SCADAPack x70: Validation of IP Whitelist entries corrected. False-positive duplication no longer detected in ViewX Document Content validation nor database validation of device.
- Fixed a bug that caused an integrity check failure when converting an instance of a template which contains Simple OPC objects.

- [CSUP-12277] Corrected resources for Map Set validation errors which were causing a server crash when there was a duplicated Map Source or User Query associated with the Map Set.
- [CSUP-12291] Fixed Advanced Driver crash, when driver receives a request for a point/pulse action which is not synced with the database.
- SCADAPack x70: Fixed validation of DNP3 static group for SCADAPack x70 counter objects where object's source is a Modbus scanner with operation mode 'read/write'.
- [CSUP-12268] Fixed server crash when deleting a group containing SCADAPack x70 configuration and protocol objects and point's alarm limits are tuned.
- [CSUP-11873] Added error logging when preloading a data table's data file and it fails to load the data file.
- SCADAPack x70: Corrected SCADAPack x70 DNP3 Channel Receive Timeout database field to be 16-bit integer (not 32-bit integer).
- SCADAPack x70: Removed incorrect validation error when SCADAPack x70 IP whitelist is empty and IP whilstlist is enabled. This is valid configuration as there is always an entry in the IP whitelist for USB IP interface.
- Virtual ViewX Fix: Unable to login to Virtual ViewX if the first system is offline corrected.
- [SUP-11793] Virtual ViewX improvement: Allow login to a specific system via Virtual ViewX web page.
- [CSUP-12223] Fixed ViewX crash when copying to clipboard.
- [CSUP-12218] Updated DNP3 WITS Counter Point property form to correctly display discontinuity drop-down.
- [CSUP-12263] Added necessary files for Test Services into OEM-SDK kit.
- SCADAPack x70: Removed validation error on SCADAPack x70 device when Modbus Store and Forward is enabled but table is empty.
- [CSUP-12226] ViewX Log off correction: Prevented the 'No user is logged on to the system ...' message from appearing in the Log Off dialog whilst a log off operation is in progress. Additionally, improved the reliability of VVX closing the client application once all systems are logged out.

Resolved Customer Issues – April 2021 Update

- Replaced internal password hashing mechanism. Login may now take approximately 500 milliseconds longer depending on CPU speed. This is necessary to improve security and does not contribute to increased database lock time.
- [CSUP-12219] Corrected ViewX scripting problem with the App.Head function sometimes returning the wrong value.
- [CSUP-12254] Improved the reliability of the house-keeping operations within ViewX. Operations that are intended to be run in the foreground are no longer run asynchronously.
- [CSUP-12243] Minor correction to high event count warnings.
- SCADAPack x70 'Modbus Store and Forward' field validation corrected, it is only validated if the field is enabled.
- Geo SCADA Documentation updates deployed into product.

- [CSUP-12188] Fixed advanced driver synchronized timers handling of clock changes. Previously timer could be missed when clock jumps forward. This affected SNMP driver polling, causing polls to be missed.
- SCADAPack x70: Changed the enable 'Modbus Store and Forward' to match RemoteConnect.
- [CSUP-12194] Fixed crash in DNP3 Driver in the case when it was using incorrect Database Object IDs. Improved DNP3 Driver database object management to avoid incorrect Database Object IDs.
- SCADAPack x70 'Device Listen Port' default corrected for Modbus slave device to match RemoteConnect. Changed the 'Device Listen Port' and 'Default Scan Rate' and 'Timeout' validation for SCADAPack x70 Modbus slave device to match RemoteConnect.
- [CSUP-12239] Prevented ViewX crash when opening logic programs which have invalid breakpoints.
- [CSUP-12148] Fixed IEC 60870 Slave Driver so that timestamps reported in an interrogation response now obey the time zone setting of the channel instead of always being in UTC.
- SCADAPack x70 DNP3 Tune Alarm Limits documentation links added.
- [CSUP-12187] DB Lock Usage Alarm improvement: implemented 'into alarm' deadband, alarm averaging period.
- [CSUP-12045] Improved LUS, Lock Usage Stats, diagnostic logging. Delayed LUS highlighted instead of NaN usage reported.
- [CSUP-12214] Modified Advanced Modbus driver to correctly skip digital points referencing bits within a register when the register is invalid and the Modbus device returns an error.
- Modified Query Processor (SQL) processing logic when updating object properties from an SQL query to consider whether configuration, data or dynamic properties have changed before marking configuration, data or dynamic as changed. Previously it was marking them as changed if they were included in the SELECT statement regardless of whether they had changed.
- [CSUP-12192] Fixed ViewX crash which happened while setting a filter in an embedded list showing events.

Resolved Customer Issues – March 2021 Update

- [CSUP-12182] Reverted change of Geo SCADA's Permission Restriction handling of data client requests. If a data client reports as ViewX it will obey the ViewX Permission Restrictions.
- [CSUP-12206] Corrected Search Database feature make sure it copes correctly with objects being deleted while the search is being run. Fixed a small memory leak if the search is searching the full database name. Improved database lock usage so lock is given up when needed.
- [CSUP-1204] Prevented SCADAPack x70 configuration download unless an RTZ file has been uploaded or imported.
- [CSUP-12036] Fixed Trace on Trend displaying wrong value when Trace Style is StepLast and a line is being drawn between a point above or below the trace viewing area and a point inside the trace viewing area.

- [CSUP-11748] Fixed problem with broken embedded mimics not updating unless ViewX is restarted.
- [CSUP-12168] Corrected checking of Server Configuration's Partner settings, to avoid crashes for invalid DN/FQDN which do not resolve to an actual address.
- [CSUP-12174] Simatic S7: Ensure Reconnect ISO-over-TCP connections correctly attempted. New connections are either fully created, ready for the next poll, or cleanly fail. Reconnection will succeed when the device finally becomes available.
- [CSUP-12055] Removed pending file rename check in installer when checking if reboot is required due to being too 'noisy'.
- Fixed Advanced EWS Driver crash when browsing Current Data Id for an EWS Point. Corrected EWS Browsing of System Status.
- Automatic Database Backup: Restored original automatic upgrade behaviour - archive index is not backed up.
- [CSUP-12176] Changed SCADAPack x70 Create Protocol Point method to allow it to run inside templates.
- Fixed SCADAPack 47x serial port aggregate for serial ports 3 and 4 with DNP3 port function.

Resolved Customer Issues – February 2021 Update

- [CSUP-12011] Corrected point lookup in RealFlo to prevent crash when performing CFX export of a flow run.
- [CSUP-12152] Fix Advanced OPC driver crash when group/item request fails with 'server in wrong state' or 'group in wrong state' errors
- [CSUP-11798] Fixed problem with the 'Max Windows' warning dialog not showing the details of already open documents.
- [CSUP-11963] Added logging of the monitor configuration to ViewX. This supersedes the existing 'MonitorOrigin' tool.
- [CSUP-12141] Corrected ViewX Head() function problem. could be incorrect following a Mimic.Navigate / Hyperlink operation.
- [CSUP-12118] Fixed ViewX crash when there is an attempt to access the User Registry with a null or empty name.
- [CSUP-12104] Prevented ViewX crash when confirming a database method with an out of range index.
- Fixed problem with Query lists display in Web Favorites.
- Changed the default 'Set Time' and 'Poll Type' for SCADAPack x70 DNP3 slave device to match RemoteConnect.
- Changes to support later updates to the Messages Window
- [SUP-11463] Fixed problem with versioning and dynamic data in eDNA Historic Export.
- [CSUP-11463] Added reporting of bad Geo SCADA Standby-to-eDNA connections. Removed some unapplicable fields from the eDNA form.
- Corrected the handling of logon/connected/disconnected events within the Messages Window.
- [CSUP-12100] Fixed Trace on Trend displaying wrong value.
- Improved the reliability of displaying the message indicator adjacent to a user object in Database Explorer

- [CSUP-11999, CSUP-12024, CSUP-12068] - Ensured that the Mimic_Load and Mimic_Navigate events occur when a mimic is opened within a secondary window in ViewX.
- [CSUP-11999, CSUP-12024, CSUP-12068]- Fixed problem where a hyperlink on a mimic would not work as expected if the mimic was opened via a favorite into a secondary window.
- [CSUP-11999, CSUP-12024, CSUP-12068]- Fixed problem where the back and next pick actions would not work as expected if the mimic was opened via a favorite into a secondary window.
- Improved WebFavourite handling of invalid input more robust.
- Fixed 'Input Filter' when the wrong options for SCADAPack x70 5414 Digital In I/O module.
- Changed the 'OutstationIdUpdateTime' description for SCADAPack x70 I/O modules, SCADAPack x70 configuration objects.
- [CSUP-12078] Prevented ViewX crashing when closing a mimic that is running a script.
- [SUP-11463] Added facility to Flush eDNA cache when server goes Standby.
- Updated eDNA library API to version 19.02.0100.
- [CSUP-9377] Removed Filter and Quick Filter from list context menu if the column is an aggregate.
- Changed the 'Alert Set Time Deadband" and 'Alert Clear Time Deadband' validation for SCADAPack x70 configuration objects.

Resolved Customer Issues – January 2021 Update

- [CSUP-12093] Fixed issues with the size of EtherNet/IP polling messages and the handling of Encapsulation Headers without payload.
- New Feature: Added support for setting the Alarm Banner filter via Global Script.
- [SUP-12098] Prevent exception in DNP3 driver on a busy system when attempting to download configuration to a SCADAPack X70 device.
- [SUP-11368] Improvements to Database Integrity checks. Full Integrity check now utilises a Database Read Lock for the actual checks and
- relinquishes the lock for write access. Incremental, background checks now occur under a Database Read Lock and using a separate background thread, to avoid blocking other background activities.
- [SUP-12065] Corrected handling of unicode characters in map queries.
- [SUP-12067] Ensured that Trend X-axis doesn't disappear.
- SCADAPack x70: Device documentation of 'Outputs on Logic Stop' added.
- [SUP-11797] Allowed payload with no timestamp for MQTT JSON Schema A message. Allowed fractional seconds in timestamp for MQTT JSON Schema A message.
- SCADAPack x70: Validate conflicting IP Addresses
- Updated Virtual ViewX to hide the alarm banner by default.
- SUP-11701 Fixed Advanced OPC driver crash when an asynchronous read/write completes in the middle of cancelling the asynchronous operation.
- Implemented SCADAPack x70 Modbus Store and Forward.
- [SUP-11952] Fixed Crystal reports not downloading from Virtual ViewX on export.

- Fixed issue with Modbus Store and Forward table, add and edit dialogue width for SCADAPack x70.
- [SUP-11882] Updated automatic Y-axis scaling for displayed trends.

Resolved Customer Issues – December 2020 Update 2

- [SUP-12040] Fixed problems with EtherNet/IP polling.
- [SUP-12056] Correct processing of registers for SCADAPack Modbus Extension.

Resolved Customer Issues – December 2020 Update

- [SUP-11971] Fixed potential ViewX crash when using SetRegistry while displaying a mimic that uses a registry reference in an animation expression.
- [SUP-11446] Corrected Last Modified User and Version details for an object in a template instance which has been converted between two templates both containing the object.
- [SUP-11844] Corrected database browsing activities to detect underlying changes to parent browsing object, to avoid server crashes.
- Fixed ViewX crash when cancelling adding a trace to a trend.
- Fixed ViewX crash when navigating away from a Crystal Report.
- [SUP-10552] Main-standby initial synchronisation logging on Main improved. Spamming, per Historic point objects' QueryHistoric logging removed and replaced with a single, per Main-Standby 'Query Historic Life' phase of the initial sync, and will summarise the result for all historic streams.
- Geo SCADA Mobile Configurator client app improvement: Management of DeviceIds improved, so that Unauthorised DeviceId access attempts are visible in the Configurator and useable to create new Authorised DeviceId configuration. Improved access to Authorised DeviceId configuration, actions now available from Device lists. Ensure Unauthorised Device record is always removed however an authorised device is added, and that it is not if the authorisation process is cancelled.
- [SUP-11636] Fixed exception when dragging a document window that doesn't support the script Head() method (e.g. a map source) between containers in ViewX.
- Extended backup during upgrade to save the Archive Index file.
- [SUP-11940] Prevented ViewX from disconnecting from a DMZ server when updating a users registry settings.
- [SUP-11957] Added verbose logging option to Backup.
- [SUP-12008] For Virtual ViewX, disallowed resultset copying over a certain (configurable) size.
- [SUP-12006] Fixed problem with Logic Programs consuming memory unnecessarily.
- [SUP-12013] Added missing Din counter and pulse channels to SCADAPack x70 574 I/O module.
- Fixed problem with spurious menu separator line in Mimic context menu.
- Added Zoom and other sundry menu items to ViewX Mimics, matching right click menu on WebX.
- [SUP-12000] Removed incorrect IIS restart warning when changing / disabling WebX ports in Server Configuration.

- [SUP-11990] Added command line option to ViewX to allow users to force software rendering.
- [SUP-11976] Fixed Quality tags triggering logic input change detection.
- [SUP-11536] Added more information to the Integrity Check Reporting of Alarm Source Map errors.
- [SUP-11802] Added checks for duplicated Severity Priority at startup of Geo SCADA main server, DBServer.
- Added command line option to allow projects teams extra Virtual ViewX configuration options.
- Improved the Virtual ViewX web portal login form, to be resizeable for smaller screens. Resized ViewX security dialog.
- Changed the DNP3 slave 'Unsolicited Allowed' validation for SCADAPack x70 to verify the DNP3 routing table contains a corresponding route includes the 'DNP3 Slave Address' and 'DNP3 Master Address' in the source address ranges.
- [SUP-10883] Registered 64bit DBClient on install. Facilitates other 64bit client's ODBC database connections etc.
- [SUP-11636] Improved the ViewX scripting performance, by improving the 'Head()' function. The cached value is now calculated when the document is first displayed and when moved between containers. At all other times, the cached value is returned.
- [SUP-11773] Fixed server crash when the Server\SSL_MinimumSupportedProtocol registry setting exists and contains an invalid protocol.

Resolved Customer Issues – October 2020 Update

- [SUP-11563] Fixed QP crash observed during Data Table query execution while the table is synchronising to a Standby server.
- SCADAPack x70, Changed the 'Gateway IP Address" validation to match RemoteConnect.
- Updated ViewX menu ribbon to minimize on startup and on user login when virtualized.
- [SUP-11859] Fixed intermittent problem where ViewX would leave the 'access denied' icon adjacent to the system node in Database Explorer after performing a changeover.
- SCADAPack x70 570 Digital I/O module, Added 'Type' header to the Channel Configuration
- Fixed a problem when converting a simple EWS scanner to an advanced EWS group and it automatically converts the points attached to the scanner. It shouldn't do this if the point is in an instance that is controlled by a template.
- [SUP-11051] Fixed a problem when converting a simple OPC scanner to an advanced OPC group and it automatically converts the points attached to the scanner. It shouldn't do this if the point is in an instance that is controlled by a template.
- Fixed determination of an object's metadata boolean field 'MobileControlsAllowed', to allow GS 2020 Mobile support of mobile control to work.
- [SUP-11883] Fixed Server ignoring the independent enable alarm registry setting on startup.

- Security issue addressed.
- [SUP-10736] Correct importing of template instance. Group conversion to template instance, once template becomes available and subsequent import actioned, has been corrected to ensure SearchMap updates occur.
- Changed the DNP3 Routing table validation for SCADAPack x70 to match RemoteConnect, including the default value for 'Source End' and 'Destination End' to 65519.
- Updated the Mobile Web Server's request for App client credentials to specify Server Type as 'Geo SCADA' and default Alarm Acknowledgement for Geo SCADA branding.
- [SUP-11133] Updated OEM SDK with client-side libraries (including 'Telerik' utility library)
- [SUP-11899] Included archive index file in backup of database.
- [SUP-11900] Added security patch for Virtual ViewX to installation.
- [SUP-11698] Fixed server crashing when processing transactions that contain property overrides for objects in instances inside templates.

Resolved Customer Issues – September 2020 Update

- [SUP-11593] Security improvement to QueryPad.
- [SUP-11751] Fixed the display of floats in ViewX dialog box.
- Extended the repair functionality for Template-Instance to fix up usage of invalid database references.
- [SUP-11659] Restored PIC 190 to the list of PICs offered for a Q series Trio radio.
- Fixed problem with invalid database references in a Template parameter expression.
- Added an integrity check to catch invalid DBRef usage in template expressions.
- Improvements to ViewX logging.
- Improvement to prevent a possible server crash when Realflo Gas Run is configured for AGA11 calculations.

Resolved Issues not included in ClearSCADA 2019

- [SUP-11617] Removed the logging of registry calls when reading from the local cache in ViewX
- [SUP-10948] Modified read lock use in HistorianThread(Stats) so that it gives up the lock when a write lock is pending. Also applied similar change to GetHistoricStbyStats read lock so that it also gives up the lock if a write lock is pending. Added lock descriptions for GetHistoricStbyStats so that they include the historian area the lock relates to
- [SUP-11600] Extended 'Display Objects' so that it is available on Templates and Groups inside Templates. This will show a list of all objects in the Template or Group. This does not change the behaviour of 'Display Objects' on a Group or Template Instance which will not include template items in the results
- [SUP-10590] Removed "Exclusive Control" icon from database and query explorers in ViewX
- [SUP-11202] Set default Update Rate to Normal for Tags added to a Mimic

- [SUP-11503] Added additional logging during file copy and registry export phases of database backups
- [SUP-11544] Updated product name branding in the error message displayed in ViewX when Crystal Reports isn't installed
- [SUP-11261] Fixed a bug whereby SCADAPack E historic profile traces can disappear if the limit in the profile does not change
- [SUP-11438] Modified DNP3 driver so that it reads the outstation's clock used to timestamp static data as the first object of an integrity poll request. This is to ensure the timestamp returned is as close as possible to when the static data is snapshotted, otherwise if the integrity poll response spans multiple application fragments there might be a significant deviation between the two. For WITS outstations this could result in a point having the wrong state if a WITS state change event has an earlier time than the static data from the previous response
- [SUP-11513] Fixed SCADAPack x70 outstation that is in a template not copying IP whitelist, IP routing table and DNP3 routing table to matching object in template instances when creating a new instance
- [SUP-11231] Ensure that template expression are re-evaluated when the name and fullname of the Template or Template Instance change
- [SUP-11491] Fixed SCADAPack x70 Outstation 'Background' does not reflect 'DownloadRequired' after server restart
- [SUP-11318] Fixed preloaded data tables so that they remain loaded on standby server after the entire data file is synchronised from the main server
- [SUP-9969, SUP-10804] Fixed problem with trends sometimes plotting data outside the visible area
- [SUP-10692] Deleted partial file from disk when configuration upload failed due to communication error during the file transfer
- [SUP-11259] Added validation for mapped Modbus Point Scanners Operation with the DNP3 Static Group and Variation for SCADAPack x70
- [SUP-10459] Implemented SCADAPack E Modbus slave serial port-specific addressing
- [SUP-10936] Added note to all analog and counter points next to the Tune Limits option to highlight any active tuning will continue after tuning is disabled and must be manually removed
- [SUP-9306] Fixed issue which could result in a server crash on a standby if certain server configuration parameters are changed. These include 'Allow channels on a driver to share the same listen port' on Global Parameters/Channels, 'Validate Unique Flow Computer ID' in Global Parameters/RealFlo and 'Disable Alarms Is Independent' on Alarms configuration
- [SUP-10843] Implemented the ability to configure 'LED Power Always On', 'Vision Power Pin Enabled', 'VLOOP Output Select' and '24V DC/DC Converter' settings in SCADAPack E
- [SUP-11143] Clear current value and other state information related to alarms to ensure that alarms will be re-raised following a template instance conversion