

# PlusEditors

**Interface for Easier Database Importing, Generation and Editing**



**Automation & Supervisory Control for Electric, Transit & Water Utilities since 1960**

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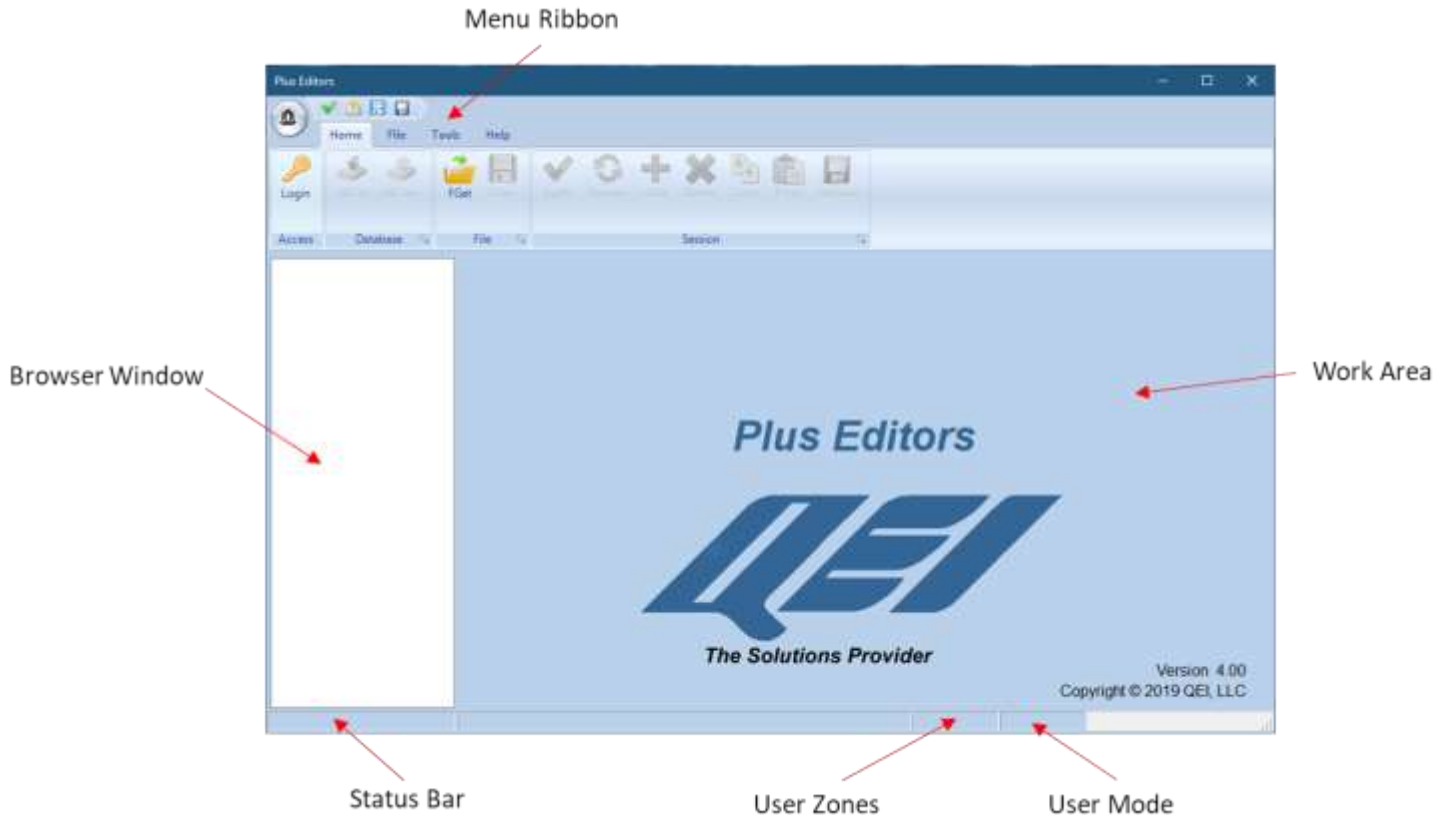
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## 1. INTRODUCTION

**PlusEditors**© provides one uniform set of editors in a familiar Windows Explorer presentation to create and edit QEI's Master Station database directly from a PC running on the SCADA network. Database can be created/edited in multiple ways:

- From scratch, a virgin database can be created by using PlusEditors and of WorldView's library of IEDs. In addition, an existing one can be edited.
- By using IED Wizard, in just a few simple steps, the IED Wizard creates the required points in the Master Station database. All of the telemetry and control addresses are generated automatically which eliminates the tedious error-prone data entry of telemetry addresses
- Auto-Import ConfigWiz RTU files into Master Stations Database and automatically creates points in Master database.
- Import industry standard .DXF file format from CAD, maps can be edited allowing the user to and/or modify the drawings that were imported. JIF and JPG files can be imported.

**PlusEditors**© incorporates all of the graphical and user interface capabilities inherent in Microsoft Windows, and also supports import and export from a database of SCADA system points and associated parameters maintained in Excel spread sheets.



**PlusEditors**© eases the complex task of creating a SCADA Master Station database:

- Secure Login/logout Access Control, with password groups to make changing access rights easier by changing a group vs each person individually.
- Idle timeout for increased security if a user walks away from their computer
- New wizards and help menus to aid in entering some of the more complicated data
- Point-and-click User Interface with pull-down Toolbars and easy Navigation Tools
- Excel interface Imports and Exports data to and from common PC applications
- Auto-Import the substation IED point database from QEI remote stations
- Interactive editors request data and present it in a meaningful format
- Modeling tools quickly duplicate and modify existing items in the database.
- Automatic error checking prompts for missing information, locates duplicate addresses, prevents deletion of active points, and a restore key undoes changes.

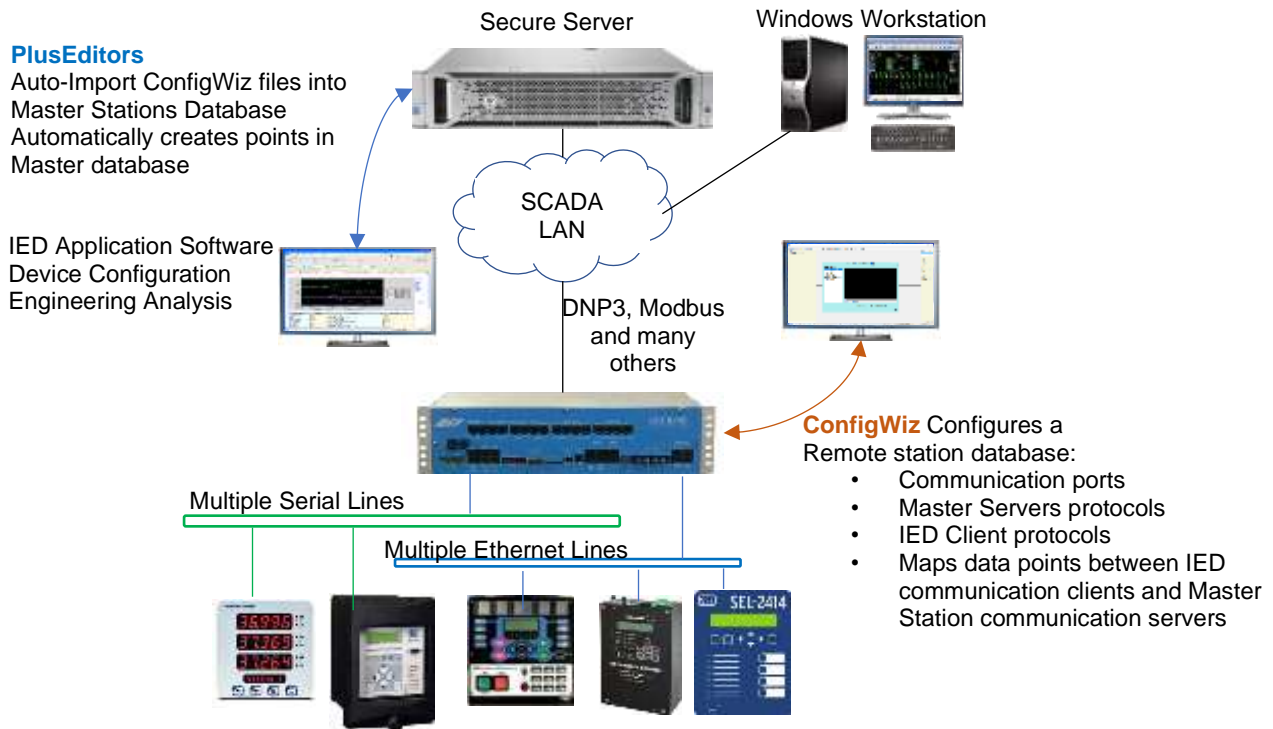
Information Tools create many useful lists:

- All points in a station & all places a point is used
- Communication Line - RTU combinations
- Codifications not yet downloaded to the Master

## **2. SUBSTATION TO MASTER AUTO DATABASE IMPORT**

QEI's ConfigWiz software is a drag & drop, Windows-based program that eases the creation of a source substation database of an IED and discrete I/O points in any of QEI's Remote station product processors. QEI's PlusEditors automates importing of the substation point database in the Remote station processor into the SCADA Master Station database. This logical process cuts database configuration time in half, eliminates human error, and significantly eases the task of adding new substations and IEDs to the SCADA system.

1. ConfigWiz: configure IED & I/O points in the Remote station Processor
2. ConfigWiz: map data points from IED Clients to Master Station Server
3. PlusEditors: auto-import Remote station ConfigWiz files into the Master Station database

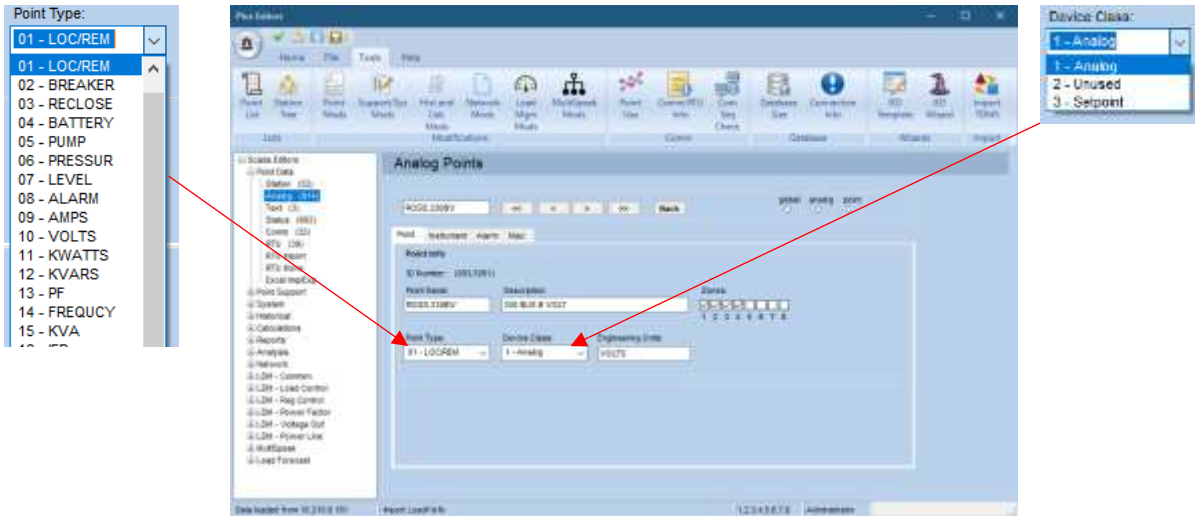


### 3 POINT EDITORS

#### 3.1 Analog Point Editor

The Analog Point Editor creates analog points which can be any of the following: values polled from RTU's, values polled from IEDs, set point controls, and pulse accumulator values, or internally calculated analog values. The editor's fields and pull-downs define each point's source or destination and all the required point attributes.

- Point name & point description
- Telemetry address: communication line, RTU, point address
- Point type & device class
- Scaling & engineering units
- Zones of responsibility
- Deadbands, alarm severities & alarm limit levels
- Alarm message format associated with the point



### 3.2 Status Point Editor

The **Status Point Editor** creates status points which can be points polled from RTU's or IEDs, controlled devices, or internally calculated points. The editor's fields and pull-downs define each point's source or destination and all the required point attributes.

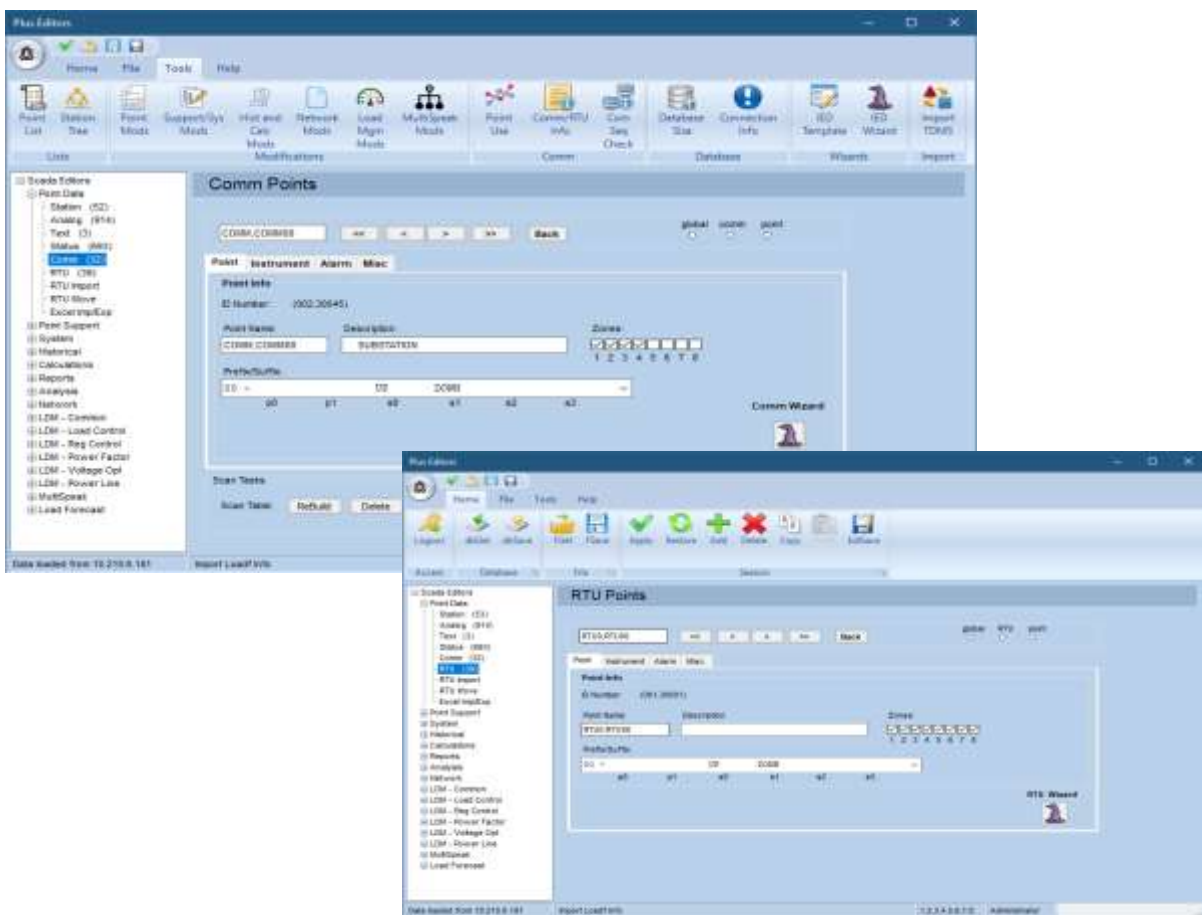
- Point name & point description
- Telemetry address: commline, RTU, point address
- Point type & device class
- Control interval, response timeout
- Zones of responsibility
- Alarm severities
- Alarm message format associated with the point



### 3.3 Communication Line & RTU Editors

The **Communication Line and RTU Point Editor** create points for each RTU and for each physical communication line or LAN/WAN link between the Master Station and one or more RTUs.

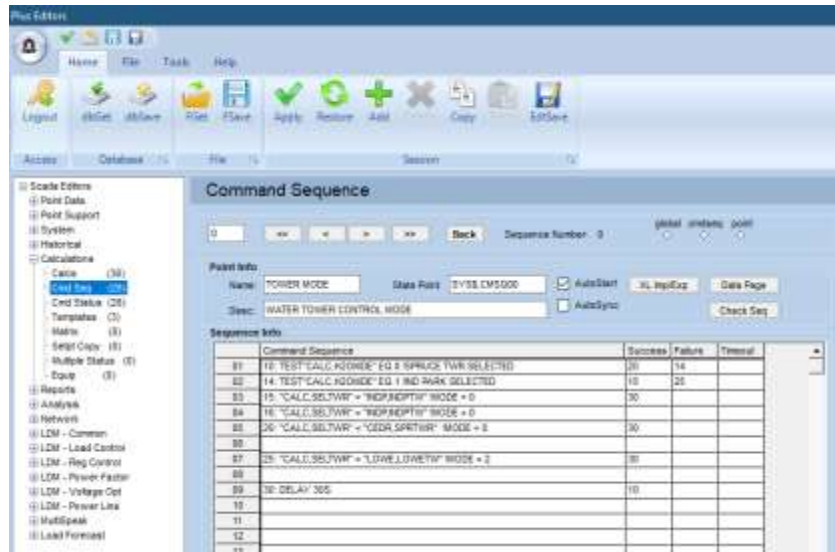
Fields and pull-downs in the editors define each communication link's port or LAN/WAN IP address, communication protocol and each RTU address. Other fields define communication parameters and protocols associated with the RTU's and communication lines. Each communication line and RTU have associated status points that are assigned point names, descriptions, and other attributes defined for normal status points.



## 4. COMMAND SEQUENCE EDITOR



The Command Sequencing language is an easy-to-use high-level programming language that is specifically designed to be used with systems. Command Sequence allows the user to define and execute programs that use database points as variables. These programs can be used for calculations, open-loop control sequences or for closed-loop control.



Functions supported by Command Sequence include:

- Arithmetic, Boolean, Circular, exponential and logarithmic **functions**
- Minimum, maximum, absolute value, modulus functions
- Current time function
- **Comparison** and test
- **Branch** forward or backward to labels
- **Delay**
- **Issue** Controls, Setpoints and Load Shed **commands**
- **Raise** alarms
- 52 temporary **variables** per program
- **Data arrays** of numbers or point names
- **Comments** fields
- **Call** other **command sequences & Template** subroutines
- **Execute** user-written programs
- Built-in AGA-8 **super compressibility function** for gas pipeline applications
- Two-dimensional **table lookup**
- **Tag** command
- **Report** request
- **Set** analog **alarm limits**
- **Event triggering** (on status change)

## 5. EXCEL IMPORT/EXPORT EDITOR



The **Excel Import/Export Editor** supports importing and exporting data to and from Excel spreadsheets, allowing customers to maintain their database of SCADA system points, and associated parameters in Excel spread sheets.

