

# VTScada®

Software for Monitoring & Control



## Instantly Intuitive.

VTScada removes frustration at every stage of the SCADA/HMI software life cycle; from pricing and licensing, to development and support. Our unique architecture integrates all core SCADA components into one easy-to-use package so you can start creating advanced monitoring and control systems in minutes.

31 years of innovation, one outstanding product.

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VTScada's unique architecture allows you to easily scale an application from a few hundred tags on a single laptop all the way up to a multi-million tag system spanning distributed synchronized servers. Below are three common application configurations.

## SINGLE SERVER



## REDUNDANT SERVER (SEE OUR BUNDLE SHEET)



## ENTERPRISE / MULTI-PLANT



# TRANSPARENT LICENSING

Full installations of VTScada (i.e., Runtime or Development Runtime) are licensed per operating system instance.

Add optional components as needed.

VTScada Thin Clients are licensed by the number of concurrent users. Both full installations and Thin Clients are sized by the number of I/O tags the license will support.

1. CHOOSE A LICENSE AND TAG COUNT			
	Integrated Components Included (single installation)	Runtime	Development Runtime
		<input type="checkbox"/>	<input type="checkbox"/>
RUN AND OPERATE	Application Server (primary or redundant)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Runtime Client	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Widgets and Graphics Library	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Historian	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Security	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Network and Computer Resource Monitoring with SNMP Agent	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Alarms and Events Database	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Trending and Reporting	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Slippy Maps Integration	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Electronic Operator Logbooks	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
I/O DRIVERS	Common (e.g., Modbus, DF1, OPC Client, Omron, GE, Siemens)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Advanced (e.g., DNP3, SNMP, Enron Modbus, BSAP)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Proprietary (e.g., DataFlow Systems, Dexter Fortson, Aquatrol)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	DataLogger (e.g., Campbell Scientific, DF1, SCADAPack)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
DEVELOP	Automatic Version Control (system-wide disaster recovery, audit tools)		<input checked="" type="checkbox"/>
	Idea Studio Efficient Development Environment (online, offline, multi-developer)		<input checked="" type="checkbox"/>
	Change Deployment		<input checked="" type="checkbox"/>
	Scripting and Debugging Tools		<input checked="" type="checkbox"/>
	ODBC Server, OPC Server, Web Services		<input checked="" type="checkbox"/>

2. SELECT AN I/O TAG COUNT	Only tags that read and write data to external equipment and software are counted against your license tag count. Tag counts include those in all applications running concurrently on the licensed computer.	1,000	<input type="checkbox"/>
		5,000	<input type="checkbox"/>
		10,000	<input type="checkbox"/>
		25,000	<input type="checkbox"/>
		To 2,500,000	<input type="checkbox"/>

3. SELECT OPTIONAL COMPONENTS - PRICED BY TAG COUNT			
	VTScada Alarm Notification System		<input type="checkbox"/>
	OPC, ODBC, Web Services for Runtime Licenses		<input type="checkbox"/>

4. ADD THIN CLIENTS - PRICED BY TAG COUNT	Select how many users can concurrently connect to your application via networked smartphones, tablets, PCs, and Macs.	Single	<input type="checkbox"/>
		5-Pack	<input type="checkbox"/>
		Unlimited	<input type="checkbox"/>



The Auto-generated Tiled Page Menu.

## GRAPHIC DISPLAY PAGES STANDARD

Every application includes standard pages for alarms, trends, reports, maps, and Thin Client monitoring.

- Open pages in full screen or windowed.
- 24-bit / 32-bit 'true color' support.
- Dual / quad monitor support.
- Supports consistent display on all screen resolutions.

## INTUITIVE PAGE NAVIGATION

- The auto-generated **Page Menu** lets you move easily through your application.
- Monitor multiple live pages at once using the standard **Tiled Page Menu** (left).
- Change pages with custom hotboxes and buttons.
- Users can pin their favorite pages along the bottom.

## VTScada REPORT GENERATION STANDARD

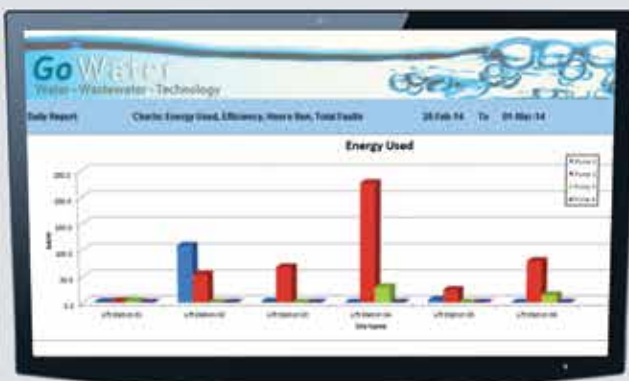
Intuitive reporting tools are part of every application.

**SCHEDULED AND AD-HOC REPORTS** - The standard Reports Page generates ad-hoc reports while the time-zone aware Report Tag can be triggered on schedule or on event.

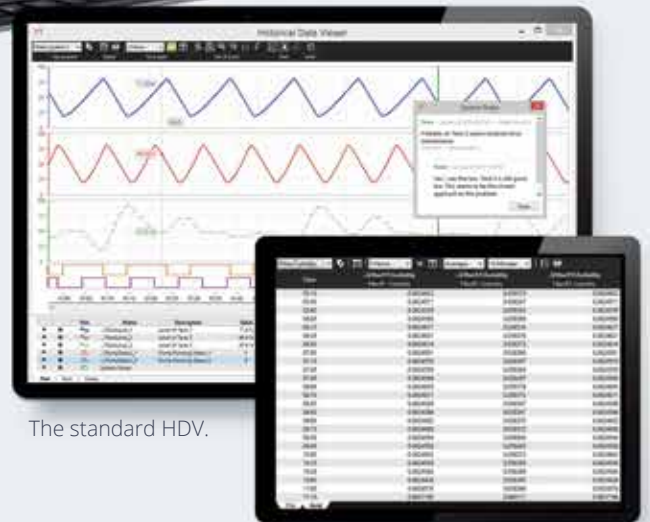
**PRE-DEFINED REPORTS** - The Reports Page includes a suite of standard reports for the water/wastewater industry. The Alarm Page (P. 5) includes new reports for managing nuisance alarms.

**OUTPUT OPTIONS** - Output to a screen, spreadsheet, database, or email attachment. Add custom script reports and Excel<sup>®</sup> templates as needed (below).

**THIRD-PARTY REPORTING** - Reporting products XLReporter<sup>®</sup> and Dream Report<sup>®</sup> both have integrated VTScada interfaces.



An Excel template report.



The standard HDV.

## HISTORICAL DATA VIEWER (HDV) STANDARD

The HDV gives operators the power to create and save their own customized trend groups without the help of a developer. Included in every application, the HDV combines historical and real-time data to provide a continuous picture of any number of I/O values.

### OPERATORS CAN EASILY...

- See analog and digital data displayed simultaneously.
- Add unlimited pens representing individual I/O values.
- Adjust each pen's appearance and save as a group.
- Add encrypted notes to explain atypical readings.
- Export any range of data to a file or database.
- Select overlapping, stacked, or tabular views.

## ALARM AND EVENT MANAGEMENT STANDARD

In the event of an alarm, simply click the blinking icon in the top right corner of every page to jump to the VTScada Alarm Page.

### THE RE-IMAGINED ALARM PAGE

- See current, active, unacknowledged, disabled, and shelved alarms.
- Sort by date/time and filter by functional area or priority.
- Acknowledge, silence, or mute alarms even while configuring.
- Shelf alarms to stop alerts during maintenance or alarm floods.
- Use daytime and nighttime views to reduce eyestrain.
- Print any range of the alarm or event history.
- Adjust text and row size for optimal viewing.
- Access time-stamped system events (e.g., logons, setpoint changes).



The re-imagined VTScada Alarm Page.

### — ADVANCED SITUATIONAL AWARENESS —

**ISA 18.2 COMPLIANT** - The enhanced Alarm Page and augmented tools help you enact the best practices of the ISA 18.2-2009 Alarm Management Standard.

- Combine text, symbols, color, and sound to easily convey alarm status and priority for each listed alarm.
- Easily plot an alarm's tag data or open related displays.
- Add encrypted operator notes to alarms.

**MULTI-PLANT ARCHITECTURE** - Create separate Alarm and Event databases for individual plants and processes for targeted alarm processing.

- New applications include Alarm and Event databases.
- Add more Alarm Database Tags as required.
- Sync distributed databases to protect history.
- Manage alarms even when disconnected from alarm servers.

### EASY ALARM CONFIGURATION

- Easily create alarm tags in the VTScada Tag Browser.
- Built-in alarms for Analog Status and Digital Status Tags.
- Embed customized alarm lists into display pages.



New alarm reporting tools in VTScada 11.2.



## VTScada ALARM NOTIFICATION SYSTEM OPTIONAL

### TIGHTLY INTEGRATED FOR THE LIFE OF YOUR SYSTEM

**ALARMS FIND YOU** - View and acknowledge alarms via SMS text message, email, pager, and text-to-voice phone call.

**PHONE ACCESS** - Logon from any phone to check levels, manage alarms, change setpoints, or control equipment.

**ROSTERS** - Lists of up to 30 users to contact in sequence until an alarm is acknowledged. Create any number of rosters for the whole application or functional areas. Change rosters by events or on schedule (recorded in alarm history).

**TWILIO INTERFACE** - This web-based platform provides better text-to-voice performance and fewer compatibility issues than traditional modems. (Twilio licensed separately)

**MANAGE ALARMS WITH MOBILE THIN CLIENTS** - (P. 7)



Auto-generated Slippy Maps for PCs and mobile devices.



## ENCRYPTED OPERATOR NOTES STANDARD

**NO MORE PAPER LOGBOOKS** - Are you required to keep a log of users' actions? VTScada includes a searchable electronic operator's notebook.

**DISTRIBUTED** - Create any number of notebooks. Embed a notebook on multiple pages. Add notes to points on a trend.

**SOCIAL** - Users can comment on each other's notes providing a useful dialog across shifts and departments.

**TAMPER-PROOF** - Notes include time-stamps and user names. Once created, they cannot be edited or deleted. Encrypted files cannot be read or altered outside VTScada.

**ACCESSIBLE** - Authorized users can access notes from any workstation or web client. Search by date. Print any range.

## VTScada SLIPPY MAPS STANDARD

### PUT YOUR SCADA SYSTEM ON THE MAP

**A SIMPLE INTERFACE** - Navigate remote sites with a click, toss, or scroll, the same way you use online tools like OpenStreetMap®. Embed dynamic maps into any page or use the standard map page (left).

**PICK A PIN TO SEE A SITE** - Pins change color based on polling status. Click to open each site. Drag pins into place or position them with lat and long coordinates.

**CACHED MAP TILES** - Online applications pull map tiles from providers like OpenStreetMap® \*. Pre-load tiles for offline applications or load your own custom made tiles. Once displayed, tiles are cached indefinitely.

**CONNECT YOUR DOTS** - Configure site-to-site connectors that simulate pipes, power lines, or other infrastructure. Appearance can change based on system variables. Add arrows, labels, or customized icons.

**MOBILE MAPPING** - VTScada Thin Clients (P. 7) support Slippy Maps on mobile devices.

\* Map tiles from commercial and open source websites may be subject to terms of license or user agreements, compliance with which is the user's responsibility.

## STICKY PAGE NOTES STANDARD

- Leave co-workers temporary messages and reminders.
- Add to any page or every page.
- Cover control elements to discourage use.
- Easy to create, format, and edit.
- Hide/show all notes with one click.



Posting and editing notes is a snap.

# SECURE MOBILE ACCESS

## VTScada THIN CLIENTS OPTIONAL

Monitor and control your process from any networked Windows PC or any modern mobile device.

**SIMPLE LICENSING** - Clients are licensed by concurrent users and require one or more Runtime or Development Runtime licenses. Individual and bundled pricing available.

**FULLY INTEGRATED INTERNET SERVER** - Eliminates the need for third-party products like Apache® or Microsoft IIS®.

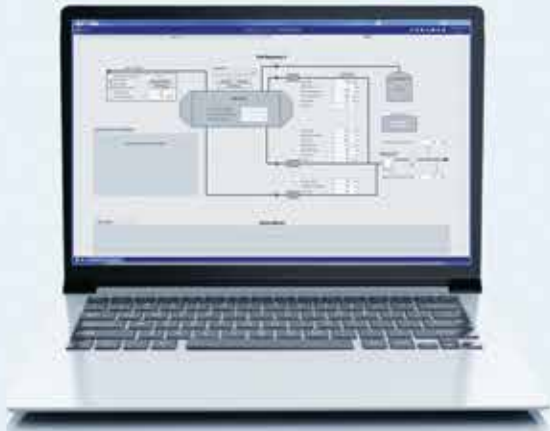
**CONFIGURE IN SECONDS** - No need to rebuild displays.

**MILITARY-GRADE ENCRYPTION** - Support for Transport Layer Security (TLS) protects application security data.

**THIN CLIENT MONITOR** - Displays and logs Thin Client activity. Send messages to clients or force disconnection. Logs user IP, computer name, screens viewed, session length.



See page 15 for OS and hardware requirements.



Choose the display format  
that best suits your  
device or data plan.



## ACCESS CLIENTS IN ONE OF THREE WAYS

### VTScada ANYWHERE CLIENT SMARTPHONES, TABLETS, PCS, MACS

A consistent workstation experience across any modern computer, smartphone, and tablet. Monitor and control your process and manage alarms in any HTML5 browser.

**EASY ON DATA** - 'Push' technology provides real-time data without overloading your mobile data plan.

**ZERO-FOOTPRINT** - Nothing to install. No Java either.

NOTE: You can run reports and view trends but not export their data to a file. Logged off sessions are not supported.

### VTScada INTERNET CLIENT (VIC) PCS AND LAPTOPS

An operational interface identical to an installed VTScada Runtime license. This includes monitoring, control, security, reports, trends, and alarm acknowledgment. Easily open connections from a desktop icon or a web link. Uses include:

**SECURE REMOTE PORTAL** - Log in from any on-line Windows PC.

**FLEXIBLE WORKSTATION** - A simple alternative to installed licenses.

### MOBILE INTERNET CLIENT (MIC) SMARTPHONES, TABLETS, PCS, MACS

Perfect for even the smallest screens and data plans, the MIC allows you to control your process and manage alarms with a touch or pinch from any HTML5-compliant browser. Refresh data manually or set a refresh rate that suits your cellular plan.

Easily switch between:

**TEXT-BASED** - This tactile easy-to-read text-and-trend interface makes the best use of smaller screens and data plans.

**FULL GRAPHICS** - See full resolution displays on demand. Pinch to zoom in. Tap to set values, view tool tips, or plot trends.



Example of High Performance Graphics.

**HIGH PERFORMANCE OR HIGH IMPACT GRAPHICS**

Create muted or dynamic looking displays depending on your design philosophy. Dynamically color grey-scale graphics based on process values.

**FAMILIAR RIBBON INTERFACE** - Easily customize the context-sensitive toolbar.

**OVER 200 GRAPHIC 'WIDGETS'** - Recreate your process with photo-realistic meters, switches, and animations.

**EXTENSIVE GRAPHIC LIBRARY** - Includes over 4,500 industry-specific images, symbols, and polygons. Import JPG, BMP, PNG, WMF, and EMF files right from your desktop.

**AUTO ALIGNMENT** - Snap points effortlessly align and space your graphics for you.

**FLEXIBLE TAG DEVELOPMENT** - Lay out graphics first and create tags later or vice-versa. Search and replace any tag referenced by a page.

## THE VTScada IDEA STUDIO STANDARD

**START CREATING GREAT DISPLAYS IN MINUTES**

Many projects lack the budget to create outstanding looking SCADA displays. Often, developers barely have time to get all the data on the screen.

The results can leave end users disappointed.

We designed VTScada to be instantly intuitive with a huge library of built-in drag-and-drop elements that are easily selected and aligned. Zoom in to focus on the fine details.

No more messy screens.



Drag-and-drop lighting effects.

**LIGHTING OVERLAY TILES** - Add depth to pages and direct the focus of operators.

**PHOTO REALISTIC BACKGROUND TILES** - Create a consistent look and divide pages into functional areas. Drag-and-drop over 100 patterns.

**STYLE SETTINGS TAGS** - Create consistent display conventions for groups of Widgets (e.g., red for "off" and green for "on"; or vice-versa).

**SIMPLE PIPE DRAWING** - Draw 3D pipes with just a few clicks. Use tag values or calculations to change appearance based on calculations or tag values.

**BUILD ONCE, VIEW ANYWHERE** - Design for multiple monitor resolutions. Choose from full screen or pop-up displays. Configure dual or quad monitors in compatible computers. VTScada Thin Clients (P. 7) support full graphics on mobile devices.

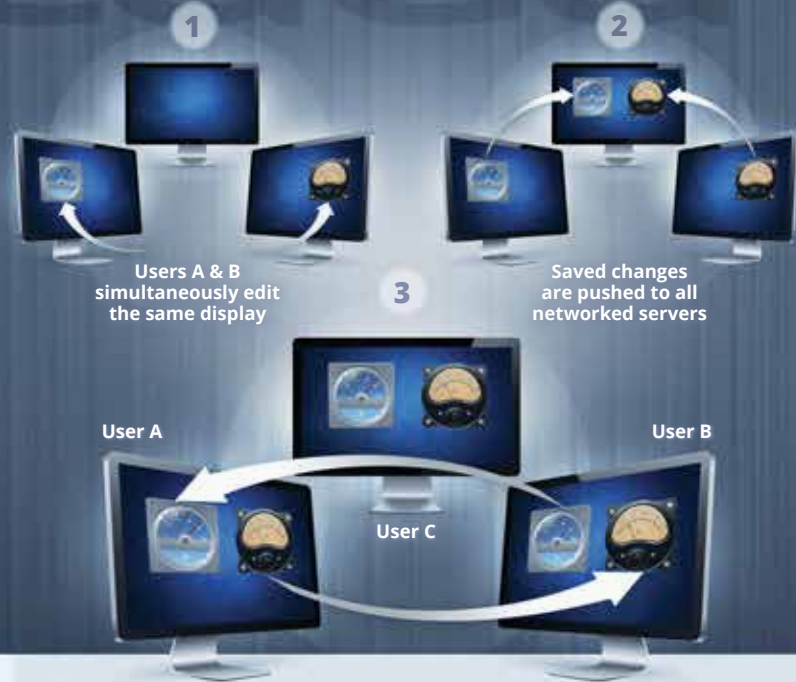




## REAL-TIME CONFIGURATION STANDARD

Edit tags, displays, and application properties without interrupting your monitoring and control process.

- Work with live I/O.
- Apply changes without restarting.
- Multiple users can develop simultaneously.
- No configuration server required.
- Conflicts are resolved automatically.
- Push validated changes to all networked computers.
- Edit tags via VTScada Thin Clients.
- Edit server lists using VTScada Runtime licenses.



## APPLICATION VERSION CONTROL (AVC) STANDARD IN DEVELOPMENT RUNTIME LICENSES

Unique to VTScada, AVC provides change traceability, enhances application management in networked environments, and greatly improves recovery from unexpected effects of configuration.

- See a history of all changes by all users on all servers.
- See side-by-side incremental changes in each version.
- Instantly switch to any previous good version.
- Merge changes in multi-developer environments.
- Undo specific changes without universal rollback.
- Change history automatically stored on each synced server.

Version	Time Applied
LAPTOP1-D74	Mon May 30, 2017 19:44:56.895
LAPTOP1-D73	Mon May 29, 2017 19:44:56.274
LAPTOP2-D72	2
LAPTOP2-D71	2
LAPTOP1-D70	9
LAPTOP1-D69	5
LAPTOP1-D68	3
LAPTOP1-D67	4
LAPTOP1-D66	Thu Jan 12, 2017 14:05:04.720
LAPTOP1-D65	Thu Jan 12, 2017 16:25:04.134
LAPTOP1-D64	Wed Jan 11, 2017 10:11:06.938

VTScada Application Version Control.

## SIMPLE OFF-LINE DEPLOYMENT STANDARD

**VTScada ChangeSets** - Easily distribute new or updated applications to multiple computers with one file. Easily generate ChangeSet files to share with your support team via email, FTP, or memory stick. Create and apply ChangeSets without system restart.

- Reuse work by cloning existing applications.
- Backup/restore applications with version history.
- Update OEM layers without affecting end user applications.

## ADVANCED CUSTOMIZATION

**SCRIPTING LANGUAGE** - In addition to drag-and-drop tools, VTScada provides a powerful object-oriented scripting language (similar to C++) that allows unlimited customization. Saved code changes are recorded in the Application Version Control system and can only be imported by authorized developers.

Examples include custom services (e.g., to start tasks or watch for events), custom tag types, custom drivers, and custom API calls to third-party software products.

### SCRIPTING DEBUGGING TOOLS

- Million thread history with dead thread identification.
- Tracing of all VTScada activities.
- View device driver error stats and sent/received.
- Source Debugger highlights what code has been run/tested.

### SOFT LOGIC CONTROL

Alternative data sources for output controls:

- Deadband tags with delay and hysteresis (deadbanding).
- Calculation tags with mathematical and logical functions.
- Expression tags with complex scripting logic.

The VTScada Tag Browser.



## GET MORE FROM YOUR TAGS

VTScada uses tags to manage application resources such as I/O, calculations, alarms, and menus. Since version 11, only I/O count towards your tag count. This frees you to include any number of menu items, fonts, alarms, and other configuration tag types. Right-click individual tags to plot data or view pages that reference that value.

**NEW TRANSACTION LOGGER** - Records a collection of summary values representing a transaction, such as batch data, material-handling operations, or bulk gas and liquid transfers.

## HIGH-EFFICIENCY TAG DEVELOPMENT

- **TAG EXPORT** - Create and edit tags outside of VTScada via Access<sup>®</sup>, Excel<sup>®</sup>, SQL Server<sup>®</sup>.
- **MULTI-WRITE TAG** - Writes up to 50 outputs with one action. Useful for starting HMIs or replacing PLCs.
- **HISTORY STATISTICS TAG** - Displays calculated values.
- **TRIGGER TAG** - Initiates actions based on time or changes.
- **MANUAL TAG VALUES** - Test systems without live I/O.
- **RATE-OF-CHANGE TAG** - Detects rapid value changes (e.g., leaks) or lack of changes (e.g., failed pumps or valves).
- **INTEGRATED ALARMS AND LOGGING** - Built into certain analog and digital tag types.
- **ADVANCED PUMP STATUS TAGS** - Built-in high/low alarms. Delays reduce alarms for minor changes.
- **LOG ON CHANGE** - Only save meaningful data to the database.
- **'QUESTIONABLE' FLAGS** - Flag new I/O while commissioning.

## HIERARCHICAL TAG STRUCTURES

**VTScada TAG BROWSER** (above) - Create and edit tags in this intuitive interface. Configure reusable tag structures that model how real-world elements relate. For example, a pump tag can be an assembly of I/O and communication drivers or a lift station can have multiple pumps.

**CLONE WHOLE SUBSYSTEMS** - Simply copy the parent tag. Copied tags automatically reference their new scope.

**MULTI-TAG SELECTION** - Saves time when copying, enabling, disabling, or deleting tags. Rename and reorganize tags without losing their history, page references, or alarms.

## REUSABLE TEMPLATES - TAGS AND GRAPHICS

**REUSABLE PAGE TAG TEMPLATES** - Combinations of tag structures and graphics that simplify configuration of applications with similar assets.

**BUILT-IN TEMPLATES** - Use pre-defined Page templates for these two Remote Telemetry Units (RTU) which have consistent configurations from device to device:

- Xylem MultiSmart<sup>®</sup>
- MPE Pump Controllers<sup>®</sup>

Also useful for similar devices or as examples.

**TEMPLATES INCLUDE:** Alarms, analog and digital inputs, digital controls, analog setpoints, counters and runtime totalizers, data age, communication link status, latitude/longitude with slippy maps support, summary starts/stops.



A Pre-made Lift Station Template.

## REDUNDANCY AND AUTOMATIC FAILOVER

Protect your process with the most reliable, comprehensive, and user-friendly approach to SCADA redundancy.

### SCADA SERVERS

In seconds, configure any computer running a Runtime or Development Runtime license to be a redundant hot backup server that can take over polling and data logging should the primary server go offline.

### INTERNET SERVERS

If a Thin Client server goes offline, client connections seamlessly switch to the next designated server.

### HISTORICAL AND CONFIGURATION HISTORY

Each server maintains a synchronized copy of the application's tags, displays, security settings, scripts, networked variables, configuration history, and historical database.

### ALARM MANAGEMENT

Applications now support any number of distributed synchronized Alarm and Event databases.

### I/O CONNECTIONS

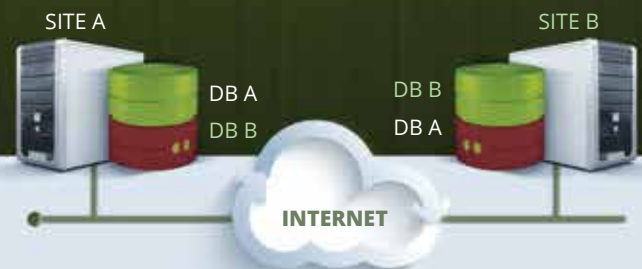
If a communications network or I/O device fails, VTScada's Driver Multiplexer can automatically fail over to a backup.



Automatic Server Failover (Application and Thin Client Servers)



Failover to redundant networks or devices.



Redundant geographically separated Historians.

## REAL-TIME SYSTEM BACKUP

### HISTORY AND CONFIGURATION

Integrated architecture and fast networking allows every SCADA server to be a real-time copy of the whole application including:

- The latest configuration history.
- Up-to-the-second historical data.
- Alarm, Event, and Tag databases.

Each distributed server is an off-site disaster backup. Requires multiple VTScada Licenses.



## SCADA SOFTWARE AS A SERVICE

### RUN VTScada WITHOUT A LOGGED-ON WINDOWS USER

- Useful when IT policy forbids unattended logged-on Windows users.
- VTScada service automatically starts with Windows®.
- No logged-on user required.

## SERVER AND NETWORK HEALTH MONITORING

Monitor and alarm critical computer resources (e.g., CPU usage, virtual memory used, hard drive space) and network status.



An example of a custom Workstation Health Dashboard.



## BUILT-IN DATA LOGGING STANDARD

The VTScada Historian is part of every application. Tags receiving data begin logging automatically.

**BUILT FOR SPEED** - The Historian can log up to 4,000 values/sec. Remote Historians sync across a WAN at up to 160,000 values/sec.

**PROTECTING HISTORICAL DATA** - Create multiple synchronized historians at multiple sites.

**THIRD-PARTY DATABASE SUPPORT** - In addition to the native Historian, VTScada also supports other industry standard database formats (left).

**EFFICIENT LOGGING** - Log on time of day or changes in value. Use deadbands and delays to avoid recording irrelevant changes in values.

## ENTERPRISE CONNECTIVITY PACKAGE STANDARD IN DEVELOPMENT RUNTIME LICENSES

**OPC SERVER** - Allows OPC-compliant programs (including other VTScada applications with OPC clients) to exchange live data to and from a standard VTScada application.

**OPC CLIENT** - Allows VTScada applications to exchange live data with an OPC-compliant server (including VTScada applications with configured OPC servers).

**ODBC SERVER** - Use popular software like XLReporter®, Dream Report®, SAP Crystal Reports®, Microsoft Access®, or Excel® to extract system data from your application. VTScada acts as a database where each logged tag represents a table of timestamps and values that reporting software can query to retrieve logged values. XLReporter® and Dream Report® both feature integrated interfaces to VTScada.

**VTScada WEB SERVICES** - This SOAP (XML) interface allows business systems to request real-time and historical data from VTScada. Supports time/date ranges, min, max, time of min, time of max, average, total, and SQL that include SELECT commands and WHERE clauses.

## MODEM MANAGEMENT

- Pool modems across servers for improved efficiency.
- Includes a custom Unimodem driver.
- Supports logging of modem activities.
- Configure dedicated modems for functional areas.
- Data and alarm notification routed to appropriate voice/data modem(s) or email servers. No configuration necessary.
- Display modem events, usage stats, and modem status.

## NON-PROPRIETARY CONNECTIVITY DEVICE DRIVER LIBRARY STANDARD

### CONNECT TO ANY COMBINATION OF HARDWARE

Out-of-the-box, VTScada supports over 100 industry standard and proprietary I/O protocols, each with built-in communications alarms. Use OPC by choice, not necessity. We can also create new drivers to meet specific needs.

- **COMMON PROTOCOLS** - DNP3, IEC, DF1, OPC, DDE, Modbus (serial, TCP/IP, RTU), SNMP
- **DATA LOGGER PROTOCOLS** - Enron Modbus, Stevens, Campbell Scientific Pakbus
- **PROPRIETARY DEVICES** - Motorola, GE, Siemens, BSAP, Omron, DFS, Dexter Fortson
- **RADIO DIAGNOSTICS DRIVERS** - MDS, DataRadios®
- **JSON Driver** - For IOT and IIOT

## NATIVE POLLING DRIVER STANDARD

Integrated polling eliminates the need for a master PLC device reducing hardware costs, integration time, and points of failure. VTScada simplifies device communications by automatically organizing scheduled polling cycles and communications channels. Reduce the number of required radios by transmitting multiple protocols on a single communications link.

- Configure any number of polling groups.
- Select 'Fast Polling' rate for specific RTUs.
- Poll by external triggers, on schedule, or on command.
- Enable or disable polling in any polling driver.
- Display min, max, and average values.

## MORE CONTROL, LESS COMPLEXITY STANDARD

VTScada makes security management simple, scalable, and infinitely configurable. Authorized users can manage security within the standard operator interface, then instantly deploy their changes across the entire system without restarting.

### WINDOWS® SECURITY INTEGRATION (OPTIONAL)

- Configure VTScada to use your Windows log-in account.
- No need to manage Windows and VTScada accounts.

### PROXIMITY CARD READERS

- Log on the same way you enter a secured building.
- Configure Operator Notes to require authentication.



## A SMARTER APPROACH TO ACCOUNT MANAGEMENT

Each application includes security accounts and settings that control system-wide access to workstations, Thin Clients, and alarm notification. Rather than choosing from an ever-growing list of privileges, VTScada uses 'Rules' and 'Roles' to allow you to quickly generate and manage highly-specialized user accounts.

**RULES** - A combination of tags, privileges, and locations that allows you to finely tune what users can do and from where. Grant different users access to different areas without creating new privileges.

**ROLES** - Combinations of Rules and other Roles that match the duties of specific jobs (e.g., Plant 1 Operator).

## UNPARALLELED TRACEABILITY

**OPERATIONS** - Operator activity such as setpoint changes, log on/off, and security modifications are recorded as events in the Alarm Manager (P. 5). This includes actions performed via servers, Thin Clients, and the Alarm Notification System.

**CONFIGURATION** - Integrated Application Version Control (P. 9) automatically tracks all changes on all workstations. It detects manual changes to configuration files made by unauthorized users or malware, and automatically restores them. Repository includes hash codes to detect attempts to modify it.

**REMOTE ACCESS** - Thin Client Monitor (P. 7) displays and logs remote activity and allows you to message or disconnect clients. Logs user IP, computer name, screens viewed, and session length.

## ADVANCED ENCRYPTION AND NETWORK PROTECTION

- **INDUSTRY-STANDARD SECURITY** - Security Manager complies with industry-standard RFCs for security.
- **MILITARY-GRADE ENCRYPTION** - For the Security Database and security credentials passed between clients and servers.
- **IPV4 AND IPV6 ADDRESSING** - IPv4 addresses are running out. IPv6 provides improved performance and security.
- **ENCRYPTED NOTES** - Time-stamped operator and trend notes cannot be deleted or modified.
- **HASHED USER PASSWORDS** - Login credentials are never held in a form that anyone can decrypt and recover.
- **TLS/VPN SUPPORT** - Thin Clients support Transport Layer Security (TLS), firewalls, and VPN access.
- **TLS EMAIL SUPPORT** - The Alarm Notification System (P. 5) supports SMTP email servers requiring TLS (e.g., Gmail®).
- **BLOCK/ALLOW IP ADDRESSES** - Optionally control which IPs may or may not connect to your application.
- **CODE TAMPERING DETECTION** - On startup, VTScada automatically detects unauthorized changes to source files, and restores the currently approved files from the tamper-proof repository.
- **SERVER AND PORT FAILOVER** - Easily configure automatic failover for SCADA servers and communication ports.
- **SINGLE LOGIN** - OpenID Connect lets Thin Client users login with the same credentials across all Enterprise applications.



The VTScada Support Team

## THE VTScada SUPPORT TEAM

If you have ever been frustrated while trying to access help from a major supplier, you will find our approach to be a refreshing change.

Our team of developers, programmers, and engineers provide the most accessible, reliable, and comprehensive support in the industry.

This is why our customers keep coming back for upgrades, enhancements, and consulting services as their facilities grow and their needs evolve.

Note: Support packages do not include hardware troubleshooting, training, or system design.

## CHOOSE THE LEVEL OF SUPPORT YOU NEED

TYPE	COVERAGE	PRICE	INCLUDES
<b>SupportPlus Service</b>	First 90-days Monday to Friday 8 to 4 PM EST	Included with software purchase.	<ul style="list-style-type: none"> <li>VTScada software specific (Non-application specific)</li> <li>Phone, email, and fax support</li> <li>Seamless version compatibility</li> <li>Product upgrades and value protection</li> </ul>
<b>SupportPlus Service Renewals</b>	Annual Monday to Friday 8 to 4 PM EST	15% of original purchase price so long as support never lapses.	<ul style="list-style-type: none"> <li>VTScada software specific (Non-application specific)</li> <li>Phone, email, and fax support</li> <li>Seamless version compatibility</li> <li>Product upgrades and value protection</li> </ul>
<b>SupportPlus Service Re-instatement</b>	Annual Monday to Friday 8 to 4 PM EST	15% per lapsed year, cumulative up to 75% on current license value. Recalculated license value carries forward.	<ul style="list-style-type: none"> <li>VTScada software specific (Non-application specific)</li> <li>Phone, email, and fax support</li> <li>Seamless version compatibility</li> <li>Product upgrades and value protection</li> </ul>
<b>SupportPlus 24/7 Emergency Support</b>	Annual 24/7	5% of license value (min \$1,200).	<ul style="list-style-type: none"> <li>VTScada software specific (Non-application specific)</li> <li>Phone, email, and fax support</li> <li>Requires active SupportPlus contract</li> <li>Nights, weekends, holidays</li> </ul>
<b>SupportPlus Premium Options</b>	Monday to Friday 8 to 4 PM EST or 24/7	Based on desired coverage and size of application. Contact Trihedral.	<ul style="list-style-type: none"> <li>Dedicated representative trained on your application</li> <li>Phone, email, and fax support</li> <li>Guaranteed response times</li> <li>Remote application access for hands-on diagnostics</li> </ul>
<b>Ad-hoc Engineering</b>	Hourly As contracted Contact Trihedral	Standard hourly rate plus expenses.	<ul style="list-style-type: none"> <li>Application-specific engineering</li> <li>On-site, email, phone</li> </ul>

## SOFTWARE TRAINING COURSES

Courses are available at our Bedford and Orlando training facilities or on-site anywhere in North America upon request.

**OPERATION AND CONFIGURATION** - An introduction to VTScada for SIs, OEMs, consultants, operators, maintenance, and IT staff.

**INTRODUCTION TO SCRIPTING** - Customization and configuration using VTScada Script for advanced developers.

**ADVANCED CONFIGURATION AND SCRIPTING** - For advanced system integrators and OEMs. Custom courses can be created based on specific requirements.

**See available courses: [Trihedral.com/training](http://Trihedral.com/training)**

# HARDWARE AND OS REQUIREMENTS

## FOR INSTALLED RUNTIME OR DEVELOPMENT RUNTIME LICENSES

Actual requirements depend upon your specific application. Visit [www.trihedral.com](http://www.trihedral.com) for the latest requirements.

### MINIMUM REQUIREMENTS

#### Servers or Workstation PCs

- 32-bit or 64-bit Windows Operating System
- 2GHz dual-core processor
- 20GB free hard drive space
- 8GB RAM

#### Laptops, Tablet PCs, and Panel PCs

- 32-bit or 64-bit Windows Operating System
- 2GHz dual-core processor
- 20GB free hard drive space
- 4GB RAM

## RECOMMENDATIONS

- 64-bit versions of Windows OS for all systems.
- 3GHz dual or quad core processors (higher clock speeds help, more cores don't).
- 16GB or more of RAM for systems over 100,000 tags.
- Use Solid State Drives (SSD) for the highest performance.
- Keep VTScada Historian on a separate hard drive from VTScada and the OS.
- Windows-compatible printer to print VTScada pages or reports.
- 100MB/1GB Ethernet is required for networking.
- Alarm Notification System needs a voice modem for voice phone notifications.
- Sound card and speakers are required for alarm annunciation.
- RS-232 port if needed for communications with serial I/O devices.
- VTScada supports virtual servers. However, avoid more than one VS per computer if one of them (i.e., VTScada) is mission critical.
- Do not clone a virtual server with VTScada installed.

## COMPATIBLE OPERATING SYSTEMS BY VERSION

VTScada Version	Win 10 32 & 64-Bit	Server 2016	Win 8.1 32 & 64-Bit	Win 8.0 32 & 64-Bit	Win 7 64-Bit	Win 7 32-Bit	Vista 64-Bit	Vista 32-Bit	Server 2012 (+R2)	Server 2008 (+R2)	Server 2003 2.	XP 2.
8.X						✓		✓		✓		
9.X					✓	✓	✓	✓		✓		
10.X			✓	✓	✓	✓	✓	✓	✓	✓ <sup>1.</sup>		
11.X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓ <sup>1.</sup>	Thin Client Only	Thin Client Only

### PLEASE NOTE

- No NetDDE for Windows Vista and higher (removed in XP SP2).
- VTScada 10 uses IANA registered TCP/IP port 5780 (not 1160). Configure your firewall to route RPC traffic accordingly.
- When reusing internal devices like modems or sound cards, ensure the new computer has the correct motherboard slots.
- Make sure the third-party software you use with VTScada (e.g., accounting or reporting) is compatible with the new OS.
- Ensure new operating systems have drivers for your modems.
- Visit [www.trihedral.com](http://www.trihedral.com) for recommended modems.

1. Server 2008® computers can require speakers or audio cards for Alarm Notification functionality. Manual modem configuration may be required.

2. Windows has discontinued support for XP® and Server 2003®.  
<https://support.microsoft.com/en-us/help/14223/windows-xp-end-of-support>

## FOR THIN CLIENTS ON SMART PHONES, TABLETS, DESKTOPS, AND LAPTOPS

Requires network access to one or more installed VTScada licenses with Thin Client access enabled and configured.

### WINDOWS DESKTOP/LAPTOP SYSTEMS

#### The VTScada Internet Client (VIC)

Access clients from networked computers running Windows Server 2003 or newer (no VTScada installation required).

- Launch from desktop icon - On first connection, download a small program from the VTScada server.
- Launch using a URL in Internet Explorer - Ensure ActiveX is enabled.

### OTHER OPERATING SYSTEMS

VTScada Anywhere Client and Mobile Internet Client (MIC)

**HTML5-compliant browsers.** We recommend the latest versions of:

- Safari® (OS X, iOS)
- Chrome® (Windows®, iOS®, Android®)

#### Other HTML5-compliant browsers

- Microsoft Edge® (Windows®)
- Opera® (Windows®, iOS®, Android®)
- Firefox® (Windows®, iOS®, Android®)
- Internet Explorer Mobile® (Windows Mobile®)

# EASY TO TRY

FREE 50 I/O LICENSE

## VTScadaLIGHT

Software for Monitoring & Control

A new free version of VTScada for up to 50 I/O.

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- No expiration or runtime limits.
- Perfect for small industrial and personal applications.
- Easily configure redundant VTScadaLIGHT servers.
- When you're ready to grow, we make that easy too.

Download your first 10 copies for free!  
[www.trihedral.com/light](http://www.trihedral.com/light)



## 90-DAY TRIAL - UNLIMITED I/O

In just minutes, download a full version of VTScada to install on your Windows PC. One installation provides you with all core SCADA components. Use the instantly intuitive Idea Studio to create professional-looking custom screens.

[www.trihedral.com/trial](http://www.trihedral.com/trial)



## IN-BROWSER DEMOS

Instantly explore working SCADA applications without installing VTScada. This fully functional Thin Client operator interface includes alarms, trends, maps, and industry-specific displays from real-world applications.

[www.trihedral.com/demo](http://www.trihedral.com/demo)



## CONTACT US

Visit [www.trihedral.com](http://www.trihedral.com)

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