# **VTS**cada by Trihedral

## **Alarm and Event Management**

**Standard Component** 

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System Alarm DB  System Alarm DB Alarm Actions	🚺 🚺 📂 🖻 🎭 🔲 7 30 Reports & Analysis History	ط ▼ ۲٫۰ ۲⊚ ۲٫ ▲ Ξ۱ Ⅲ ★ Filter View	∎× 💋 Sounds			
History Active Unacked Cur	rrent Shelved Disabled	Configured			Alarm Page	
Time Ack	Status Area	Name		History Active Unacked C	Area Name	_
2 2016-05-03 13:40:32 Ack	Alarm Zone1	WaterDistributionSystem\Zone_1\\/	1 Flor		LM Clarifiers WaterTreatmentPlant)ControlTag1Alm	Carifer #2 Carifer #2
(1) 2016-05-03 13:37:01 Ack	Alarm System	WaterTreatmentPlant\Clarifiers\Settle	Help I Set	2016-03-07 13-45-04 Trip	LPI Clambers Water TreatmentPlantControl lag2Alm LPI Low Lift Pump Stock Water TreatmentPlantIControl Tag I Alm	Low Lift Put
(1) 2016-05-03 13:30:15 Ack	Alarm LM Pre-Mix	WaterTreatmentPlant\Pre-Mix\MixTan	Acknowledge Pre	2016-03-07 13:45:04 (1) * Trip 2016-03-07 13:09:44 Event	UM Low Lift Pump Stock Water Treatment/Plant//ControlTag2Alm System Application	Low Life Pur Application
(1) 2016-05-03 13:33:39 Ack	Alarm LM Pre-Mix	WaterTreatmentPlant\.\RawWater\Tur	Shelve Pre	2016-03-07 09:1451 Event 2016-03-07 15:40:27 Event	System Application System Application	Application
1) 2016-05-03 13:33:17 Ack	Alarm I M Pre-Mix	WaterTreatmentPlant\Pre-Mix\RawWa	Add Note Pre	2016-02-29 12:14:20 Event	System SetDefaults	Changed
2 2016-05-03 13:36:39 Ack	Alarm LM Pre-Mix	WaterTreatmentPlant\Pre-Mix\InletBo	Show Details	2016-02-29 11:13:31 Event 2016-02-29 11:13:31 Bisable	System Application LM Pre-Mix WaterTreatmentPlant\_\H/Warning	Application Pre-Mix Raw
			Dist	2016-02-29 11:13:31 🔶 🛞 Disable	NetworkInformation NetworkInformation\PrimaryAlmDialer	Primary Al
(1) 2016-05-03 13:35:54 Ack	Alarm LM Pre-Mix	WaterTreatmentPlant\Pre-Mix\MixTan	Piot Pre-	2016-02-29 11:13:31 8 Disable 2016-02-29 11:13:31 8 Disable	LM Low Lift Pump Static SurgeValveOpen1451 LM Low Lift Pump Static SurgeValveOpen1453	Low Lift Pur Low Lift Pur
(1) 2016-05-03 13:32:52 Ack 4	Alarm LM Pre-Mix	WaterTreatmentPlant\Pre-Mix\MixTan	Go to Page Pre	2016-02-29 11:13:31 S Disable	LM Pre-Mix WaterTreatmentPlanti\RawWater\Turbidity	Pre-Mix Raw
2016-05-03 13:37:11 Ack	Alarm NetworkInform	a NetworkInformation\PrimarvAlmDiale	Properties Prin	2016-02-29 11:13:31 🔶 🗵 Disable 2016-02-29 11:13:31 🗾 🗵 Disable	LM Pre-Mix WaterTreatmentPlant\\MixTank\Level LM Pre-Mix\aH HishSPFeedback	Pre-Mix Mix Pre-Mix Inle
A de la construction de la const	Hethoritanion			2016-02-29 11:13:31 0 Disable 2016-02-29 11:13:31 0 Disable	System WaterTreatmentPlant\.\Level	Settled Was

## **Out-of-the-Box Alarm and Event Management**

Thanks to VTScada's integrated design, every new application includes pre-configured databases that support an unlimited number of process alarms and events. Additionally, the standard VTScada Alarm Page provides an instantly intuitive alarm management interface. This approach reduces integration time and ensures that your mission-critical alarm features remain tightly integrated over the life of your system no matter how many times you expand your application or update VTScada.

ISA 18.2 Compliant - The re-imagined alarm page and augmented tools help you enact the best practices outlined in the ISA 18.2-2009 Alarm Management Standard.

VTScada Anywhere Client - This new Thin Client display option provides a consistent alarm interface across computers, phones, and tablets.

## **Intuitive Operator Interface**

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.

- ×. See current, active, unacknowledged, and disabled alarms.
- . Easily sort by date/time and filter by functional area or priority.
- Acknowledge, silence, or mute alarms even while configuring.
- Shelve alarms to stop alerts during maintenance and alarm floods. н.
- Print any range of the alarm or event history.
- Reduce eyestrain by choosing daytime and nighttime views.
- н. Adjust text and row size for optimal viewing on different screens.
- Access a time-stamped list of system events (e.g., logons or setpoint changes).

## **Advanced Situational Awareness**

- Instantly identify the status and priority of each alarm in the list.
- Plot the associated tag's data or open related displays.
- Use a combination of text, symbols, color, and sound to best meet the visual needs of your team (e.g., color vision deficiency).
- Provide context by adding encrypted operator notes to alarms. Require notes when acknowledging, shelving, or un-shelving alarms.
- 'Alarm Details' dialog provides an overview of each alarm's configuration, history, and notes.
- Secure remote Thin Client access allows operators to manage alarms from anywhere using their own mobile devices.
- New VTScada Anywhere Client provides access to all advanced alarm analysis tools.



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<ul> <li>for</li> </ul>	5 minutes 🛛 🗸	
$\bigcirc$ until	31 2016-05-04 12:00 ~	
🔾 indefi	nitely	
	OK Cancel	

Alarm Shelving Expiration

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### **Alarm Diagnostics and Nuisance Alarm Reduction**

Four new alarm reports help you to easily identify trouble spots in your physical system or the application's configuration.

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2	•	Zone 2	2	Local TC	Port\PL	CSim\1	Fank 2∖Tank L	evel Mor	nitor tank level HI	IGH	5		23.8 %
3	2	Zone 3	3	Local TC	Port\PL	CSim\1	Fank 3∖Tank L	evel Moi	nitor tank level HI	IGH	2		9.5 %

**Bad Actors Report** – A 'bad actor' is an alarm that is tripped excessively indicating problems with equipment, processes, or alarm configuration. Easily spot bad actors by scanning alarm events within a specific period, sorted by the number of activations.

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All	Database	-	i 🗾 🗗 Analysis	* 7	10d ▼ ▼	
Ba	ad Actors	Ala	rm Flood	History	Distribution of Priorities	×
	Date 🔻		Event	Area	Name Description	User
2	2016-04-07 12:03:29	•	Active	Zone 1	Local TCP Port\PLCSim\Tank 1\Tank Level Monitor tank level HIGH	
2	2016-04-07 11:00:50	<u>۾</u>	Active	Zone 1	Local TCP Port\PLCSim\Tank 1\Tank Level Monitor tank level HIGH	
$\langle 1 \rangle$	2016-04-07 10:55:36	<u>۾</u>	Active	Zone 2	Local TCP Port\PLCSim\Tank 2\Tank Level Monitor tank level HIGH	
2	2016-04-07 10:54:05	<b>A</b>	Active	Zone 1	Local TCP Port\PLCSim\Tank 1\Tank Level Monitor tank level HIGH	



Alarm Flood Report – An 'alarm flood' occurs when there are more alarm events in a specific period than operators can reasonably handle.

Quickly identify floods by moving your mouse over the blue bars to see the number of alarms tripped within periods of time. Click a bar to zoom into that period.

**History Report -** This pre-filtered list shows only Active and Trip alarm events. Select an alarm then use the tools in the Analysis Toolbar to gather more information about it.



- Alarm Details
- Historical Data Viewer
- Open Associated Pages
- Alarm Properties

**Distribution of Priorities** – Easily compare your application's alarm priority distribution with the ISA 18.2-2009 Alarms Management Standard.

Compare the priority distribution for both your reported history and current configuration with the distribution recommended in the ISA 18.2-2009 standard.

## Multi Plant Architecture - Centralized Management, Autonomous Operations

Configure multiple alarm databases to separate operational alarms (e.g., plants and processes) for targeted alarm processing.

	Scada					
System Alarm DB 🔻	🔹 🖌 🕲 🗄	. li	) 🎽 🖻 🗞	: II 💆 30d	- <b>▼</b> ₹,- ₹®	• ™+   <b>A</b> ≣‡
All	Alarm Actions	Repo	rts & Analysis	History	Filter	View
System Alarm DB System Event DB	e Unacked	Current	Shelved	Disabled	Configured	
Time	e Ack		Status	Area		

**VTScada**<sup>®</sup>

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New VTScada applications include separate alarm and event databases. Existing applications are automatically converted.

- The Alarm Database Tag allows you to add more databases as required and synchronize them across a network.
- Filter the Alarm Page on any networked workstation to display lists from one or all of them.
- Locally stored databases allow operators to manage and modify alarms even when disconnected from alarm servers.
- Synchronized distributed databases keep your priceless alarm and event history safe and up-to-date.

### Areas of Responsibility

Define what information users can see in large applications. For example, if an application monitors two plants, operators may see and respond to alarms from their respective plants, while the management team can see alarms from both plants.

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## **Efficient Alarm Configuration**

In seconds, authorized developers can create alarms in the Alarm Tag Properties Dialog in the VTScada Tag Browser. To simplify the process further, Alarm Tags are built right into the Analog Status and Digital Status Tags.

Developers can also embed customized alarm lists into any custom display using the VTScada Idea Studio.

Configure pop-up dialogs to ensure that operators are aware of high priority alarms.

#### **Uninterrupted Alarm Management**

VTScada's online configuration allows you to view and acknowledge alarms even while editing application tags, screens, and properties.

### **SCADA Alarm Security**

Tightly control access to the Alarm Page and Alarm properties using application-level privileges assigned to specific user accounts in their areas of responsibility.

Users must log in with their own credentials to access alarm information via workstations, Thin Clients, and alarm notifications. Alarm privileges can be revoked instantly across the whole system.

	Embedded C	ustom Alarm Lists		
arm (WaterDistr	ibutionSystem\Zone_	2\Tank_2\TankHigh	_2) Properties	
ID	Trigger	Actions	Di	splay
friggered by [TankLevel_2]	Level of Tank 2		×	°:
🔾 Constant	⊖ Ex	pression	⊙ Tag	
unction				
Greater Than >				~
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[TankHiAlmSp	FeedB_2] Tank 2 hig	h alarm setpoint fee	edback 🗙	°:
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The Alarm Tag Configuration Dialog

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### Mobile Alarm Management

#### **Optional Component**

VTScada Thin Clients allow authorized users to view and acknowledge alarms from anywhere. Authorized Thin Client users can easily select the display format that best suits their screen size and data plan.

- The VTScada Anywhere Client State-of-the-art Thin Client provides a consistent operator experience on any HTML5 device. Event-driven execution provides realtime data without overloading your data plan. Zero-footprint means nothing to download and install. No Java either.
- . VTScada Internet Client (VIC) - Windows PCs - Identical to a VTScada Thick Client operator workstation.
- Mobile Internet Client (MIC) HTML5 browsers on smartphones, tablets, PCs, and Macs - Text-based alarm interface optimized for smaller screens and data plans.

Note: WAP is discontinued as of 11.2.

## **Alarm Notification System**

#### **Optional Component**

When alarms happen, your SCADA system needs to alert the right people as soon as possible no matter where they might be.

- Automatic Alarm Callout The VTScada Alarm Notification System (ANS) transmits alarm information anywhere via text-to-voice phone calls, SMS text messages, emails, and pagers.
- Built-In is Better - VTScada's unique integrated approach vastly reduces integration time and ensures tight compatibility over the life of your system no matter what version you are running. The ANS shares the same tag and alarm databases as the VTScada application.
- VoIP-Based Voice Alarms - In addition to physical modems, VTScada now supports three additional ways to send text-to-speech alarm notifications.
  - с. VoIP to phone lines via analog telephone adapter (ATA).
  - VoIP to PBX via internal digital phone service.
  - VoIP to online VoIP Service (Voice only).

New in Version 12.1.35 - Use the above as well as Twilio Programmable Voice® a allows encrypted call setup and encrypted audio.

Dial-in Phone Access - Dial into your application using your application security a commands to equipment.

M Roste

C End of roster

- Licensing Add ANS to any VTScada Runtime or Development Runtime license by
- Easily Configured Rosters (Updated in Version 12.1) - Rosters are lists of up to 39 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 history).
  - Easily reorder Roster Contacts via arrow buttons. .
  - Set wait times for each contact or notify multiple contacts in one "burst".
  - Repeat contacts without adding them multiple times.
  - Allow users to configure Rosters without the ability to modify tags.

## **TRY IT FOR YOURSELF**

Download the 90-day Trial VTScada.com/trial

e® and voice r	nodems a	is redundant backups	for voice	alarm calls.	VoIP	no۱
ity account to	check le	vels, acknowledge alaı	ms, chan	ige setpoints	s, or s	en
e hv simply ur	ndatina vo	ur software key.				
Roster (Rosters\Roster 2	0,7	ar software key.				)
	ID	Contacts		Settings		
Method	Name	Phone Number / Email Address	Username	Time Zone	Enabled	
<ul> <li>Start of roster</li> </ul>						
🖂 Email	Bob	bob@mycompany.com	bob	Server Time Zone	-	×
💟 Email	Sue	sue@mycompany.com	sue	Server Time Zone	•	×
🖂 Compact Email	Max	max@mycompany.com	max	Server Time Zone	-	×
Delay for 1 minute						×
💭 Text Message	Bob	902-555-0000	bob	Server Time Zone	-	×
Delay for 5 minutes						×
A 141						
r 📞 Voice	Bob	902-555-0000		Server Time Zone	-	×

OK Cancel Apply

#### Intuitive Roster Configuration.

+ Add contact + Add delay/repeat

Updated May 8, 2024

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The New VTScada 'Anywhere' Client

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