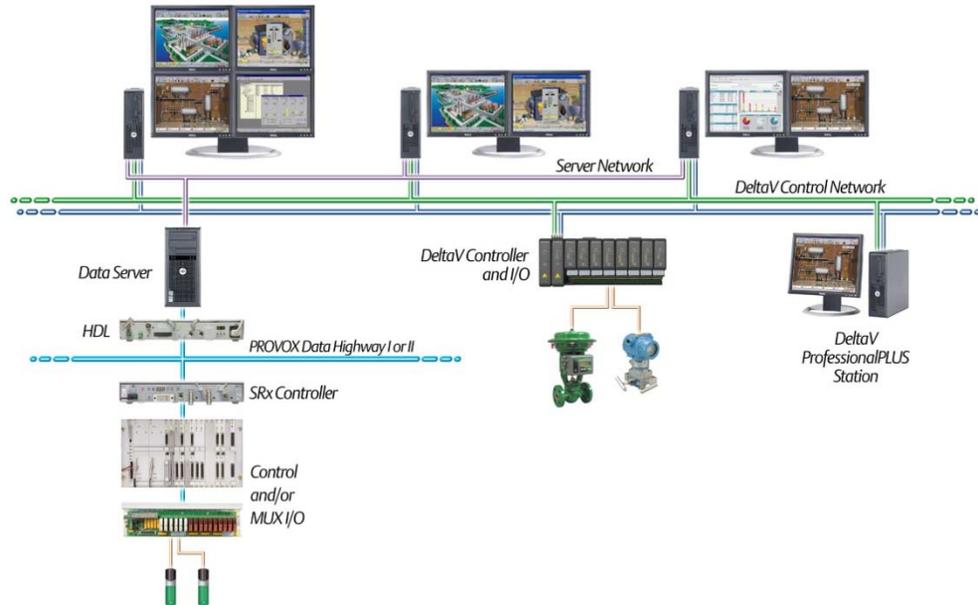# DeltaV™ Operate for PROVOX™

DeltaV™ Operate for PROVOX™ Architecture

- Robust, scalable and secure operating desktop

- Redundant console data servers

- Alarms prioritized by user

- Powerful operator interface

Introduction

Today's evolving technologies and economic demands stand still for no one and inertia is an enemy to your productivity. The good news is: DeltaV™ Operate for PROVOX™ makes your migration to the DeltaV system easier—by reducing your cost with off-the-shelf components, with reduced operator learning curve, and with reduced engineering and configuration costs.

Interoperability and Console Replacement

Emerson Process Management's long-standing excellence in providing operator interface solutions continues with DeltaV Operate for PROVOX Systems. The PROVOX Operator Console Data Server and DeltaV Operate can interoperate to replace PROVUE™ and OWP consoles. DeltaV Operate for PROVOX can also provide a *single operator interface* for both PROVOX and DeltaV systems.

The PROVOX Operator Console Data Server and DeltaV Operate work together to bring an industry-leading operator interface to your plant, providing new ease to the operators using robust Windows® functionality. The global standard for office management is setting global standards for operations control of both PROVOX and DeltaV systems. That means your operators can quickly learn to operate the world's most powerful, dependable process management systems in a compact, intuitive PC environment.

Benefits

Robust, scalable and secure operating desktop.
Robust. Automatic startup saves valuable time after a shutdown. A robust set of client/server

communication services helps maintain high system integrity. If communication between server and workstation is lost, the system will automatically try to reconnect.

Scalable. The PROVOX Operator Console Data Server is scalable from 1,000 to 10,000 points in 1,000 point increments. Standard initial offerings are 1000, 2000, and 10000 points.

Secure. Protect processes and investments with safe, effective tools that support an open environment. Process security is critical to any control system. The DeltaV and PROVOX systems provide built-in security based on user and plant areas. Password security and user authorization protect the process from inappropriate changes. By setting user privileges, the engineer defines the plant area, group, and applications for specific operators to use. Predefined groups are *operate*, *tune*, *access*, *lock* and *download*.

Redundant console data servers. PROVOX Operator Console Data Server has excellent server redundancy, which allows all the workstations of a failed server to switchover to the backup server.

Server redundancy provides connections to both primary and secondary Console Data Servers. If a problem occurs on the primary Console Data Server the Console Workstation can switch manually or automatically to the secondary server. Server redundancy provides console-resident point redundancy for DCD, accumulation, and integrity points, with a warm standby for activity points.

Alarms prioritized by user. Prioritization, presentation and management make it easy for operators to respond to high priority alarms. PROVOX and DeltaV *alarm banners* provide constant visibility and access to highest-priority alarms. To provide a safe and effective process, DeltaV Operate for PROVOX shows the most critical plant alarms in the alarm banner at the bottom of the screen. This alarm banner is always on top of other windows. When alarm schemes for PROVOX and DeltaV systems are configured similarly, DeltaV Operate for PROVOX provide a single alarm banner showing alarms from both systems.
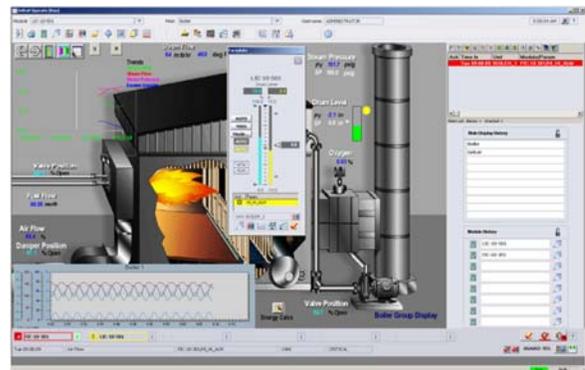
Alarm annunciation can be visual, audible or both. The alarm banner provides direct access to this dynamic alarm listing. Selecting a specific alarm event calls up a point-specific Instrument Area for operator action.

DeltaV and PROVOX systems provide *built-in alarm summaries* with complete alarm information, organized by priority. Operators can view all alarms or only those for a specific unit or area.

Advanced alarm management includes PROVOX standard Plant Management Area (PMA) and Plant Process Area (PPA) functionality. These set operator span of control and automatically filter lower priority process alarms.

Powerful operator interface. DeltaV Operate for PROVOX provides a powerful environment for process operation, with built-in features for easy information access. Whether you are viewing the highest-priority alarm, the next display, or detailed module information, common operator navigation is consistent and intuitive. Standard faceplates and detail displays provide a consistent operating philosophy for all modules.

High-resolution graphics allow extensive flexibility in presenting process control information.

Easily manage your process with PROVOX™ Operator Console Data Server and DeltaV™ Operate.

Activity Processing Add-in (Optional). This feature provides batch processing capability to the Console Data Server as a console-resident point. This point processes up to 32 Activities downloaded

from the configuration software. These are compatible with activities that run on Operator Workplace and PROVUE consoles. Activity redundancy is accomplished using warm standby.

Easy retrofit. DeltaV Operate for PROVOX is compatible with PROVOX highway devices and DeltaV devices for easy retrofit to existing systems. Operators can use additional compatible products without losing critical views of process control graphics through a multiple-window environment.

Open. *Improve process consistency and availability by enabling exceptional information integration from the field to the boardroom.* By opening the process to a wide variety of users, you promote process improvements. By examining trend, alarm or event data, a manager can consider ways to improve the process. Or track problems and find solutions with easy access to historical events information.

PROVOX Operator Console Data Server saves PROVOX events and alarms in files on the server. With event logs in simple text files, you can analyze the information using off-the-shelf applications like Excel or Access. Or use the Event Journal software on the console workstation—for quick, easy and effective analysis.

Easy engineering. *Increase productivity by using powerful tools in a flexible graphical process control environment.* Online display editing lets you modify graphics and faceplates - no ENVOX™ downloads required! Modified graphics are immediately available for use.

Menu-driven applications—all with a common look and feel—simplify configuration. DeltaV Operate for PROVOX menus, forms, and dialogs guide you through display-building, trend setup, and operation. You're just a few clicks from where you need to be in the process. For example, one click lets you view and address alarms. A few clicks will adjust the fill rate of a tank. And smart alarm navigation allows operators to view and resolve active alarms immediately.

On-line help provides relevant information when you need it. A combination of context-sensitive and menu-driven help guides you through tasks such as configuration, building graphics, and addressing alarm issues. Context- and menu- driven help can guide operators as they learn console navigation and manipulation. Since these are written in standard Windows help format, you can easily add plant and process-specific information. Then, with a single button click and a quick search, an operator can find on-line details on how to operate consoles or how the process works.

The PROVOX Instrument Area (IA) application enhances efficiency. The standardized IA window contains all controls an operator needs to change setpoints, close valves, or tune loops. Bring up familiar Detailed Display Parameters (DDP) with just one click on the IA toolbar. With the proper security, you can modify the DDP values from this screen. An easy toggle moves between remote and local DDP lists.

Real-time trending. The PROVOX Operator Console trend application can collect trend data for up to 1,200 different point tag attributes from any point in the database. Data collection rates range from two seconds to eight minutes and can store 72 hours of data for trended variables. Existing trend sets from ENVOX can be imported into this new database. The new trend viewer window can show up to six traces on one screen. You can pan across the 72 hour data collection period and easily add trend traces for new operations.

Operator Console Highlights

- Uses common, commercial hardware based on Windows 7 operating system.

- Accepts existing OWP database downloads from ENVOX databases.

- Uses new graphics editor with PROVOX-specific commands and functions for viewing and editing process graphic displays.

- Has browser-based, point-and-click placement of dynamic data into graphics.

- Supports all remote, targeted OWP/PROVUE point types.

- Console-resident points, including Activity, DCD,

Single-bit Discrete, Accumulation, and EPCI points.

- Supports process graphic displays with trend windows, instrument areas, and Event Journal windows.

- Provides span-of-control for operators to fit typical PROVOX applications. The console workstations allow multiple operators to control the process from a single set of console electronics.

- Compatible with all existing PROVOX highway devices (at LCON reporting or greater) for easy retrofit to existing systems.

- Allows operators to run additional applications without losing critical views of process control graphics through a multiple-window environment.

- Is completely compatible with your existing PROVOX database configurations.

Product Description and Specification

DeltaV Operate for PROVOX features client-server architecture. The PROVOX Operator Console Data Server communicates with the controllers, and serves the controller point data to the DeltaV Operate workstations. The workstations provide a complete set of high performance tools: operator graphics, sophisticated alarm management and presentation, real-time trending and online context-sensitive help. User-specific security ensures that only authorized operators can make process changes or access designated information.

DeltaV Operate for PROVOX

- Utilizes the same software as DeltaV Operate for its workstations. This allows an operator to monitor and control plant areas controlled by PROVOX and DeltaV controllers from the same console, and even on the same display!

- Incorporates ActiveX® technology and Visual Basic® for Applications (VBA) as its display scripting language.

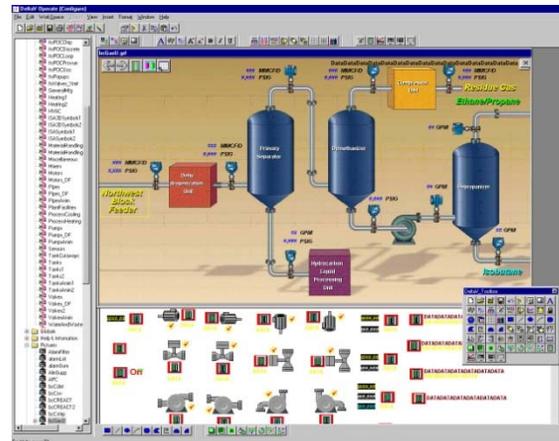- High performance tools include operator graphics, sophisticated alarm management and

presentation, real-time trending and online context-sensitive help.

- Includes pre-defined operating desktops and alarm, graphic and faceplate navigation for *single-, dual-and quad-monitor* workstations.

Operator Graphics

Powerful graphics make control system information readily available. Based on process conditions, any graphic element can have dynamic characteristics, including color, size, and movement. You configure graphics within DeltaV Operate for PROVOX and can *use scanned plant images* which help operators easily identify with the process. Then add dynamic information—*easy!*

Display configuration. DeltaV Operate for PROVOX is used for both operation and display configuration. Display configuration is intuitive, with *predefined* faceplates, trends, alarm summaries, display directories, and detail displays. Use 'as is' or customize. DeltaV Operate software has been designed to allow you to "break apart" the standard displays and easily build displays for your plant.

Graphics Studio configures Operator Interface displays.

All PROVOX information is available for viewing on any process graphics. No database mapping is necessary. You need only the point name—or part of it. Simply browse for the point like you'd search for a file on your workstation.

You can fully integrate sound with graphics to make them more intuitive to operators. You can record a
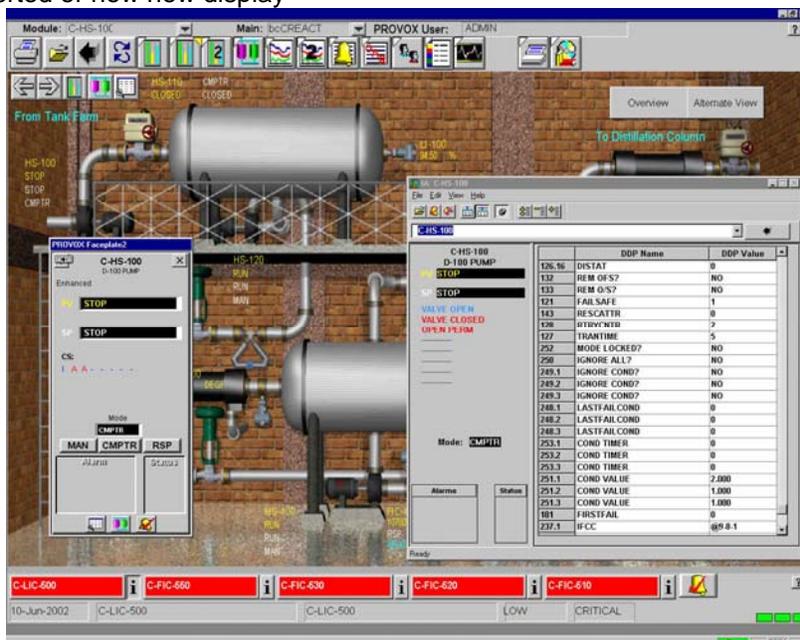
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message describing display features and play it when the graphic is first accessed.

Maximize your display engineering efficiency. Emerson offers services for generating your new DeltaV displays. Learn how PROVOX displays can be automatically converted or how new display designs can optimize effectiveness of your new DeltaV Operate for PROVOX console. For more information, see "PROVOX™ to DeltaV™ Display Transition Services" data sheet SDS_PROVOX_Display.pdf.
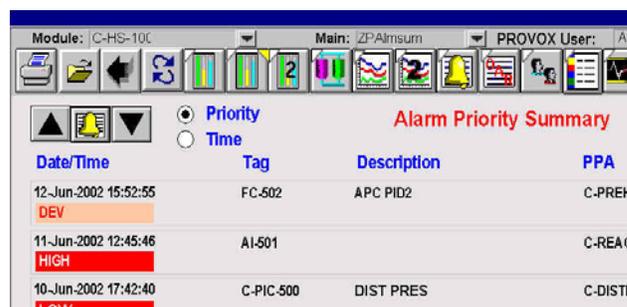

Predefined faceplates and detail displays provide a consistent, powerful operator interface.

Alarms

Alarm presentation is consistent across all Operator Stations. You define alarm priority characteristics (such as color, blinking, sounding a horn) globally for the system using DeltaV Explorer or ENVOX Server. You can dynamically change alarm priorities or enable or disable alarms. DeltaV Operate for PROVOX has built in smart alarm configuration, allowing the user to create smart alarms based on combinations of other alarms and process conditions.

PROVOX and DeltaV alarm banners display the *five highest-priority alarms* in the respective systems. One click to select an alarm brings up a process graphic associated with the point in alarm. You can configure one alarm banner for both systems.

Alarms indications appear on faceplates, process graphics and alarm summaries. Alarm summaries show all active alarms by operator, area or unit in order of priority or by time of occurrence.

Instant access to high-priority alarms by area.

Alarms are time-stamped where the alarm is detected, e.g., in a DeltaV or PROVOX controller or the Operator Console Data Server for PROVOX.

Horn acknowledgement at one workstation silences the horn at all workstations sounding the horn for the same reason.
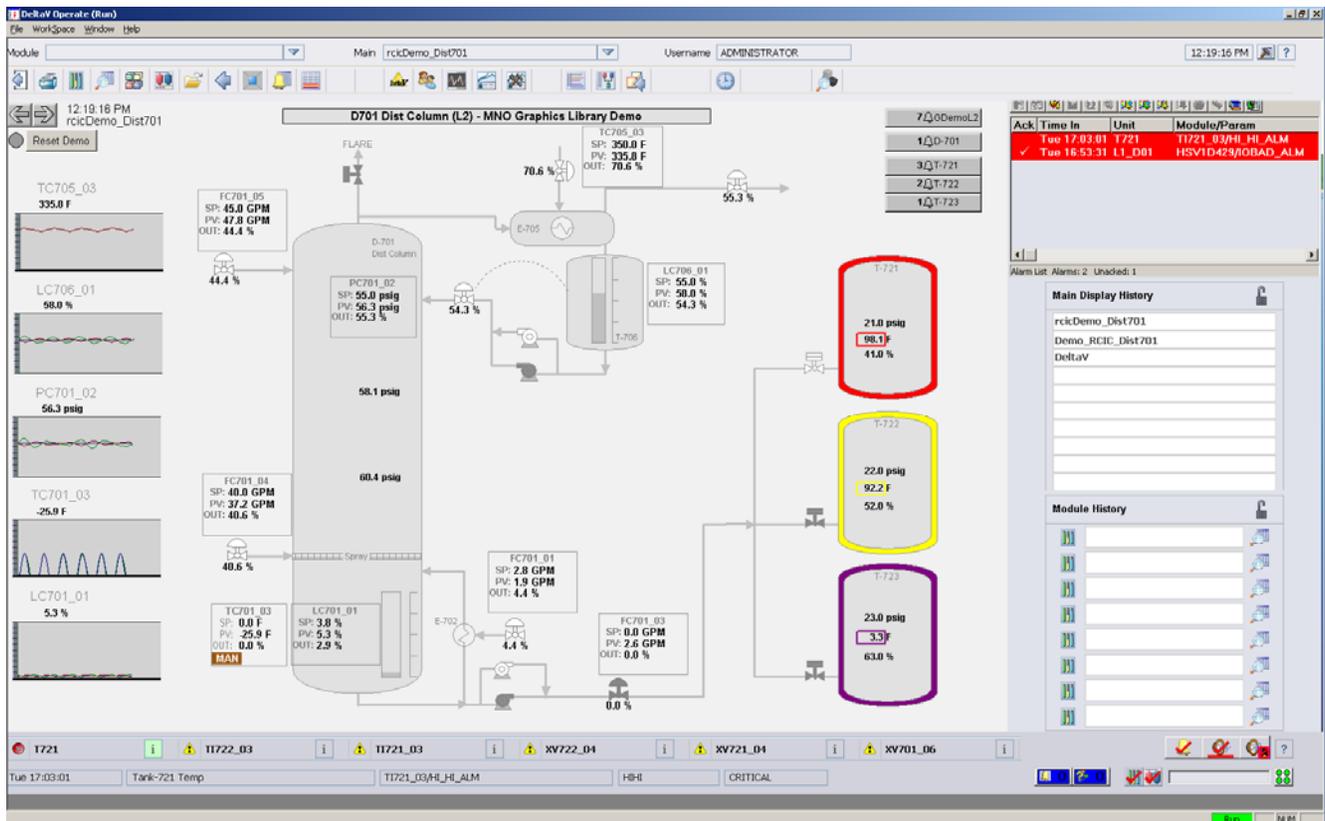
Standard Operating Desktop

The operating desktop is specifically designed to serve critical needs of process automation operators. The operating desktop is divided into three pre-designed sections:

1. Button Toolbar. Screen upper edge provides single-click access to important graphic displays, directories, and other designated applications. You can modify predefined buttons and layout.

2. Main Display. Screen center features process graphics.

3. Alarm Banner. Screen lower edge is dedicated to alarms.

Standard operating desktop allows you to focus on the operator displays.

Trending. Real-time trends can be embedded in process graphics. The trend button on a faceplate displays a historical trend for the control module you selected.
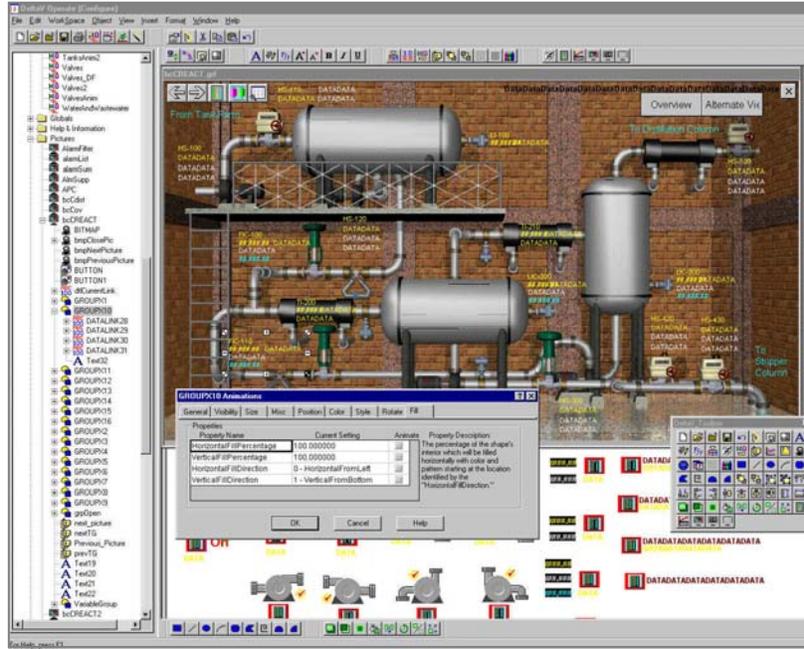
Security and Span of Control. Individual users can have designated privileges to enable or prohibit functions such as operate, debug and parameter value entry.

You can assign specific plant areas to each DeltaV Operate for PROVOX station and to each user. Emerson's exclusive Flexlock restricts access and makes it easy for operators to adhere to plant operating philosophies.

Browse inside a display group and edit its properties

Configure DeltaV™ Operate using intuitive dialogs and tree structure.

Products Included

✓ **DeltaV Operate** can run on a DeltaV operator station or a DeltaV ProfessionalPLUS station connected to the PROVOX Operator Console Data Server, or *connected directly[1]* to the DeltaV system. DeltaV Operate for PROVOX also includes full display configuration capability.

Third-party Application Options

✓ **PI Data Link.** From OSI, accesses historical data and brings it into your copy of Excel.

Related Products

The following related products enhance your system

✓ **OPC Server.** Allows you to serve data from your process to OPC Clients on your Ethernet network.

Prerequisites

• One ProfessionalPLUS Station is required for each system (can be used with multiple data servers).

• The DeltaV Operator Workstation product must be loaded onto a workstation. A variety of hardware is available to meet your specific requirements. Call local sales office for details

• DeltaV software v7.1 or greater is required <u>and</u> must match the revision of the DeltaV Operate for PROVOX software.

• For quad monitor support, DeltaV Operate for PROVOX v8.4 or greater is required.

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- DeltaV v10.3 or greater is required for 16:10 aspect ratio widescreen monitors.

- DeltaV software media kit is ordered separately.

- ENVOX™ software is required for configuration of DeltaV Operate for PROVOX.

Ordering Information

DeltaV Operate for PROVOX consists of the PROVOX Operator Console Data Server and DeltaV Operator Workstation software with an appropriate workstation hardware selection. Model numbers for data server software and PROVOX hardware are shown in the following table:

Description			Model Number
DeltaV Operate for PROVOX Data Server Software	DeltaV v11.3	-Windows 7 (32 –bit PE) operating system for operator stations	FSDVP301-9%
		-Windows Server 2008 SP2 (32 bit SE) operating system on data servers	
		-Documentation Set	FSDVP301-DOCS9
	DeltaV v12.3.1	-Windows 7 SP1 (32 and 64-Bit PE) operating systems for operator stations	FSDVP301-10%
		-Windows Server 2008 SP2 (32 bit SE) and Windows Server 2008 R2 (64-bit SE) operating systems on data servers	
		-Documentation Set	FSDVP301-DOCS10
Highway Data Link (HDL) and switch	Data Highway I or II HDL options		FSDH6047NCE-1
			FSDH6032CE-2 or -4
DeltaV Operator Station License (Full or Zero Span of Control options)			VE2104 or VE2104S0000
Computer Hardware (server and workstation)	Call your local sales office for server and workstation options. All workstations must have three network cards.		

Note: 1 - Contact Emerson Process Management when licensing redundant DeltaV Operate for PROVOX data servers.

Training

Training is available from Emerson Process Management, please see the details under the catalog section for DeltaV course #7060; Educational Services.

Note: 1- Remote Operator Station is not a supported or tested option.

Easier control for increased productivity starts today. For more information on how DeltaV Operate for PROVOX can help you manage your process better, contact your local Emerson representative or sales office today. View our web site at Emerson Sales Office Locations for the office nearest you.

To locate a sales office near you, visit our website at: www.EmersonProcess.com/DeltaV

…**or call us at:**	Asia Pacific:	65.777.8211
Europe, Middle East:	41.41.768.6111
North America, Latin America:	+1 800.833.8314 or
	+1 512.832.3774

For large power, water, and wastewater applications contact Power and Water Solutions at:
www.EmersonProcess-powerwater.com

…**or call us at:**	Asia Pacific:	65.777.8211
Europe, Middle East, Africa:	48.22.630.2443
North America, Latin America:	+1 412.963.4000

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