

UniSim Operations Suite

Training Solutions for Emerson DeltaV Systems



The Challenge: Preparing Operators for Operations

To take responsibility for the operation of a complex, modern industrial facility, operators must gain familiarity with process, control systems and operating procedures, and demonstrate their abilities to operate the plant in a manner that does not place risk on the safety of other personnel, plant equipment or the environment.

The Opportunity: Reproducing the Operator Environment

The control room operator's window to plant operations is the operator station. From this workstation, operator commands will be entered and interpreted by the control system that initiates action in process devices and equipment. The workstation provides information that the operator must interpret to help operating objectives and ensure safe operation.

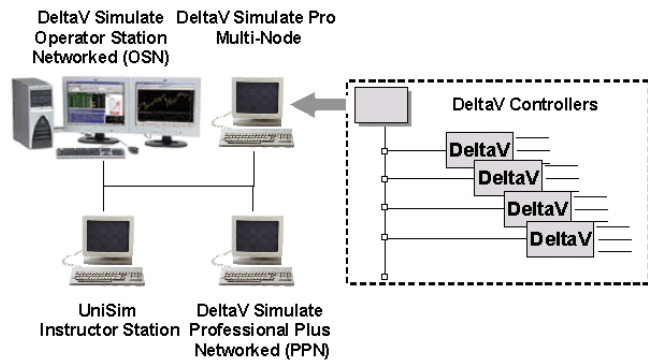
Another critical component in the interface between the operator and the process are the controls that regulate field devices and safety logic that protects the operations. Reproducing these systems accurately is critical in establishing familiarity with the sequences of operation so that the operator is prepared for action in unsuspected scenarios.

Since the automation system configuration is never static, the simulation solution must be frequently maintained. Consequently, system software and configurations must be easy to update.

The Solution: UniSim Operations Suite for DeltaV

UniSim® Operations Suite is founded on current releases of actual Emerson hardware and software. Consequently, graphics and control databases built with Emerson's development tools load directly into the DeltaV Simulate applications. This makes it easy in the initial simulator development and for system updates on a periodic schedule.

Emerson Operator Station Networks (OSN) provide all the tools for operator interaction and support alarm displays, operating graphics and dynamic trends. The Simulate Professional Plus Networked (PPN) station serves data between the operator station and the dynamic simulation. Emerson DeltaV controllers load directly into the Simulate PRO and support DeltaV's control equations, device parameters and connections between devices. The simulated controllers are integrated with the process I/O provided by the UniSim process model.



UniSim Operations Suite/Emerson DeltaV Simulate Architecture

The process and controls are hosted on dedicated single workstations. The model execution is self-contained, deployable in many locations for different uses and simplifies simulator execution.

Administration of a common snapshot for process and control variables simplifies the instructor's job in managing the training program. All simulator time-based functions (freeze, step, fast time) are synchronously coordinated by the UniSim user interface.

DeltaV Simulate controllers also integrate with various safety system and PLC emulations hosted by UniSim Operations Suite.

UniSim's control environment supports DeltaV and safety system control algorithms, device parameters and connections between devices.

Engineering toolkits help manage database changes by detecting differences between versions. Deletions, additions and parameter modifications can be reported to guide the simulation engineer in upgrading the simulation. Integration of I/O connections are automatically satisfied with devices in the process model (valves, switches, motors and transmitters) based upon evaluating tag naming conventions.

System Requirements

The recommended system configuration for UniSim Operations Suite is a Pentium III/1.0 GHz or higher processor with 512 MB of RAM operating under the Microsoft® Windows 2000 operating system or Microsoft Windows XP Professional operating system (Service Pack 1). Consult Emerson for hardware recommendations for the DeltaV Simulate product line.

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For More Information

To learn more about how UniSim Operations Suite can help improve operator effectiveness, visit www.honeywell.com/ps or contact your Honeywell account manager.

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Benefits of UniSim Operations Suite

UniSim's training solutions for Emerson DeltaV systems offer significant benefits to the instructor, operator trainee and engineer performing system maintenance.

- Prepares operators for operation by accurately reproducing the DeltaV Simulate control environment
- Provides tools to help the instructor manage the training curriculum
- Take the simulator anywhere you will benefit from visualizing plant execution
- Provides tools that improve control system development and checkout
- Easy to integrate and maintain controls and logic
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- Easy to integrate and maintain controls and logic

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