Emerson's Newest DeltaV

Control's editors get a sneak peak at DeltaV version 10.3's incremental upgrades and XP SP3 and Vista readiness.

"A step change in value may be achieved if it is readily recognizable, it is easily shared, there is no extra work to get the value, behavioral changes to get the value are trivial, there is little risk, and the price point is right."

With those words, Duncan Schleiss, vice president for systems at Emerson Process Management introduced *Control*'s Walt Boyes and Keith Larson to a sneak peek at the new DeltaV version 10.3…and beyond.

Schleiss and his team of presenters began by introducing Boyes and Larson to "Homer," "Gunther" and "Ian." These fictional users are the results of a detailed study Emerson has done to define who the users of DeltaV are, what they do and what they want DeltaV to become. Homer, for example, is an operator, who keeps the plant running, manages upsets and is not very motivated to change anything. His buddy Gunther, also an operator, is very motivated to improve production. Ian, an instrument technician, operates under direction, installs, configures, troubleshoots and replaces devices and is familiar with the plant and specific devices. Emerson's "stakeholder map" includes 19 or 20 such composite characters, including one sort of yellow, baldheaded guy also named Homer.

Make It Easy, DeltaV

Emerson believes that this research will enable the company to improve the structure and features of DeltaV for future generations. Developers have begun to apply some of the results of this research in the design of new features for DeltaV. "We are big proponents making it easy for the instrument technicians," Schleiss said.

DeltaV version 10.3 is not the huge makeover of DeltaV that industry pundits have been calling "DeltaX." That, whatever form it takes, is still some distance away. But with past versions of DeltaV, version 10.3 contains some major new features and advances over previous versions. DeltaV version 10.3 is designed to take advantage of both WindowsXP SP3 (just released) and Windows Vista SP1.

Keith Bellville and Randy Balentine, product marketing managers, described the ways DeltaV 10.3 has been improved with easy configuration tools.

The first steps are a simple, intuitive DeltaV-to-Intergraph SmartPlant Instrumentation (SPI) database interface, new ease-of-use in DeltaV Foundation fieldbus (FF) tools and a wholesale transition of DeltaV engineering tools to a fluent, task-based, human-centered design.

"This will increase engineering efficiency and performance," says Balentine. Data exchange between SPI and DeltaV is bidirectional, and data published from SPI creates and configures all these items inside the DeltaV system. Data created and published in DeltaV populates the SPI database automatically.
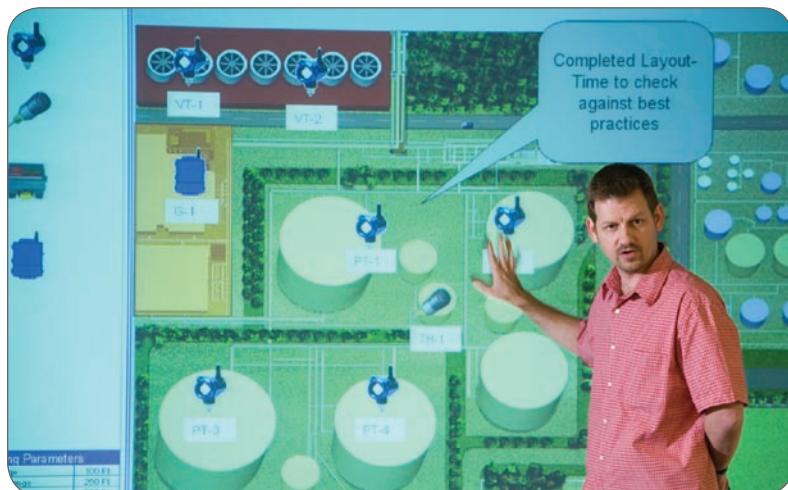
DeltaV Plant Explorer has been redesigned with a new user interface and for speed. DeltaV Control Studio, Recipe Studio, Expression Editor and Graphics Studio have also been redesigned with the same kind of "ribbon toolbar" made popular by Microsoft Office 2007. DeltaV Diagnostics provides new automated processes for FF device commissioning and replacement.

"FF-specific knowledge is not required," Bellville said. "This is device replacement with a wrench!"

"We are leading the way in easy-to-use software," Balentine said. "We're not focused on adding more features. We're focused on delivering ease-of-use and value with less effort and on operations and delivering optimal results quicker, with less risk and maximum security."

Emerson's Terry Blevins shows Control's Walt Boyes (center) and Keith Larson some of the ins and outs of DeltaV version 10.3.

Emerson's AMS now includes a snap-on that helps users design WirelessHART networks and provides operating health information information in real time.

DeltaV Cybersecurity in Version 10.3

Bob Huba, Emerson's cybersecurity guru and DeltaV product manager, introduced what he referred to as "security in the age of COTS (commercial off-the-shelf) devices." According to Huba, security has been integrated into this version of DeltaV. "Network and security devices become DeltaV devices," he said. There is also is easy configuration by DeltaV administrators. Security alerts and diagnostics are integrated into DeltaV and appear as would any other process alarms and alerts.

"We've also provided a controller firewall," Huba said, referring to the device Emerson private-labels from Innominate. The major challenge, he noted, was maintaining the traditional DCS openness in the age of enterprise integration. DeltaV has a new SOA (services-oriented architecture) based on the ISA95 data model, with secure Web services. "Every service has its own port," Huba said, cracking, "We're not just opening up Port 80."

Emerson is producing its own line of network switches with patented features only available from Emerson, including "one-click port lockdown." These smart switches are purpose-built for process control, Huba said. Emerson is also doing security testing with its own Achilles box in its own internal test lab.

DeltaV version 10.3 includes hardened workstations with more secure user access, and two-factor authentication.

Emerson's SureService program manager, Kim Van Camp, introduced the new "Guardian support service." This subscription-based service is essential for cybersecurity with DeltaV. Guardian sends patches to the server in the plant DMZ, and files are pulled down by the DeltaV node. DeltaV distributes updates using WSUS and systematic application.

DeltaV Safety in Version 10.3

"With over 11.5 million hours in operation," says Mike Boudreaux, Emerson's DeltaV SIS product manager, "there have been no incidents to report." Boudreaux went on to say that the largest installed DeltaV SIS system has 2,000 points, and the largest system in progress of installation has 3,000.

Version 10.3 extends the PlantWeb architecture to SIS and enables advanced function blocks for both SIS and non-SIS controllers. In keeping with the new emphasis on security in version 10.3, secure communications have been provided between logic solvers and the new version doubles the bandwidth between logic solvers.

Boudreaux also announced the availability for DeltaV SIS in version 10.3 of DeltaV Simulate.

DeltaV Batch

Dawn Marruchella, batch product marketing manager, claimed "batch leadership" for DeltaV and noted that the new version of Batch Product Manager should really be called Agile Manufacturing Product Manager. She noted that ever since version 8.0, DeltaV has had a robust batch executive, and that in version 10, Emerson introduced a single environment for batch operations.

New features in version 10.3 include a bigger, faster "MX" batch controller, with 2.5 to 3 times the performance and twice the memory. There's a new historian, too, but Marruchella firmly proclaimed support for Emerson's version of the embedded PI historian and noted that with version 10.3 Enterprise PI can be installed on a DeltaV application station. The new historian, she noted, "is designed for non-DeltaV users."

Batch campaign management and recipe exchange are also enabled, as well as support for OPC XML-DA.

Emerson's acquisition of DMI last year has borne fruit in version 10.3 as well. Product manager Bob Lenich showed *Control*'s editors DeltaV Compliance Suite, which, he says, "closes the loop in batch manufacturing." Compliance Suite is an SOA- and .NET-compliant application designed to work in ISA95 levels 1, 2 and 3.

All This and Wireless Too

DeltaV version 10.3 includes native support for WirelessHART instrumentation and gateways. Emerson's AMS asset management system will include a new wireless snap-on that allows users to design their networks graphically, and then monitor network health directly in AMS. DeltaV 10.3 includes full support for Cisco/Smart Wireless applications as well, including a nifty implementation of the new Panasonic U1 wireless palm-held computer as a complete DeltaV workstation.

DeltaV version 10.3 was introduced at Emerson Exchange 2008 last month.