

RSView32



Ever make homemade candy? You carefully measure out the ingredients—mostly sugar—and heat them together in a pot on the stove until your candy thermometer tells you it's just the right temperature, whereupon you pour it into a pan or mold to cool. The sugar itself is made through a somewhat similar process, only on a much larger scale. The difference is that the sugar is cooked in a slightly larger pot—one that's about the size of your living room. And, at least in some sugar refineries, the process of measuring and cooking is controlled and monitored not by some guy with a wooden spoon, but by a Windows NT-based computer running Rockwell Software's RSView32 ActiveX controls and custom VBA scripts.

Honiron Corp. is a Louisiana-based company that builds process-vessel control systems primarily used in sugar refining, but also in oil-seed processing, petroleum refining, and other industrial applications. In sugar refining, a "process vessel" is a huge pan where ingredients are mixed, cooked, and monitored for content and quality, all in a vacuum. A single vessel might have as many as 150 parameters or settings that carry out sugar production from a particular recipe. Each task in the refining process, such as adding an ingredient at a certain rate or heating the sugar solution with steam, is carried out by a programmable logic controller (PLC) that operates the appropriate machinery or instruments. Honiron mostly uses PLCs from Allen-Bradley, a Rockwell company.

PLCs have been used for years to control a wide variety of manufacturing processes. The PLCs themselves are usually programmed with proprietary languages developed by the various PLC makers. Early PLCs had crude user interfaces, with screens that showed only a few lines of output. Developers made changes to processing program variables using small keypads. These screens and keypads were eventually replaced by DOS-based PCs and, more recently, Windows interfaces, allowing increasing levels of operator intervention. To manipulate a PLC, however, programmers still had to code in the PLC directly, rather than through the interface.

ENTER ACTIVE X AND VBA

Adam Barrilleaux, a Honiron automation engineer, says the introduction of RSView32 about a year ago changed all that. RSView32 is a 32-bit man-machine interface (MMI) product family that provides ActiveX con-

trols for process control, monitoring, security, and other purposes. It also lets programmers write scripts in VBA.

"RSView32 opened up a lot of new doors," he says. "[Rockwell] made it an ActiveX container, which meant that we could take controls from other vendors and do things that you couldn't have done before. And the addition of VBA was the best thing for operator interfaces since sliced bread."

In fact, the advent of an ActiveX-enabled RSView—and especially the ability to use VBA for scripting—was valuable enough to make Honiron abandon an otherwise powerful MMI product from another vendor they had been happily using for years.

"There are many third-party ActiveX controls that we can pick up and use in RSView, that do things we just couldn't do with other interface products," says Barrilleaux. "Some of the other interfaces have scripting languages, but they're proprietary languages. If they make their products ActiveX containers, then that lets you work with ActiveX controls, but you still can't use the power that VBA gives you. If you can write it in VBA, you can put it into the RSView32 interface."

Barrilleaux cites a recent example of how his company used third-party controls and VBA: Honiron needed to create a complex reporting system for one of its clients. Honiron's system tracks large amounts of data—as many as 320 values at 10-second intervals. When Barrilleaux and his associates found it impossible to create a particular report from the PLC through the available Rockwell data-logging controls, they added a Seagate Crystal Reports control to the system. Operators run reports by clicking on a calendar control button for the day they need, and VBA scripts get the data using RSView functions.

Barrilleaux says that not having access to the full range of RSView functions is the only weakness in the product—one that Rockwell is reportedly working to remedy. "Once you have a little bit," says Barrilleaux, "then you want a lot. Eventually, Rockwell will have to expose every function to VBA."

Aside from the benefits of ActiveX and VBA, RSView32 provides a variety of MMI features—more than can be listed here. Examples are drawing tools for creating graphic objects; a library of common graphics; and the ability to import graphics from AutoCAD, CorelDraw, and other sources. RSView also has animation controls that let graphic objects display

changes in a process. It includes event-detection facilities and tools for setting, prioritizing, and reporting on alarms triggered by process events. RSView stores data in the dated but still useful DBF format, which you can import into a wide range of spreadsheets, databases, report writers, and other products.

CONFIGURATION RECIPE

Rockwell recommends using at least a 133 MHz Pentium with 22 MB of RAM, a configuration Barrilleaux says is adequate. Honiron prefers to use 266 MHz machines with 64 MB of RAM or more, however, because such power is now available at a relatively low price.

Developers build applications in the RSView32 development environment, officially known as RSView32 Works; uncompiled RSView32 applications are distributed to customers who can run—but cannot modify—the programs in RSView 32 Runtime. Both RSView32 Works and RSView32 Runtime are available from Rockwell separately with various licensing options.

A companion product to RSView32, called RSLinx, allows for remote monitoring and administration of RSView applications. "RSLinx Gateway allows me to run my programming packages here in Louisiana and change code on remote systems. We're actually doing this today on systems in Belize," says Barrilleaux. "We're working on another one that I like even more: two RSView32 stations that are fiber-optically tied back to a server that has a microwave link to a sugar company's main office in Guatemala City. From Guatemala City, we're going to get data and change programs over the Internet. This is unbelievable for PLC stuff."

For Honiron, the bottom line is scalability, both in terms of reaching distant customers and in RSView32 functionality. Says Barrilleaux: "We can see that as Visual Basic and ActiveX grows, our interface product is going to participate in that growth." —*Steve Wilent*

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Price: Contact vendor or distributors

Quick Facts: A 32-bit, ActiveX-component-based man-machine interface system.

Pros: Lets you use VBA to write process-control scripts.

Cons: Needs to expose more functions to VBA.