

FDT Is Not a Fieldbus Panacea

In “Smart and Smarter” [CONTROL—Sept. ’02, p60], we told you that the Field Device Tool (FDT) was coming to the ISA Show. At the time, we thought the software held promise as a way to integrate various fieldbuses into a single system. In a press conference at the ISA show, it was billed as the “world’s first universal field device interface solution.”

Alas, after hearing the details, I can say: FDT is hardly universal, will be a genuine pain for device OEMs, could be made obsolete by Microsoft in a New York minute, and is



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impossible to understand unless someone leads you by the hand through the murky documentation.

Even 40 minutes into the press conference, some editors were still confused. “What hardware changes does a vendor have to make to put a device onto the FDT fieldbus?” one editor asked. The FDT presenters looked stunned. Some editors did not understand that FDT was an asset management software package. They thought it was a new fieldbus.

Essentially, FDT is a software package that can interface to Profibus and HART devices. It requires that equipment manufacturers supply executable device driver software (called Device Type Manager or DTM) for every device that runs with FDT. Each DTM is an ActiveX component that runs in an FDT container or frame application under Windows.

This means that manufacturers that want to participate in FDT must write ActiveX code for a specific software package for a specific Windows platform, for every single fieldbus device the OEM sells. This is hardly universal; instead, it tends to lock everybody into a certain point in time.

HART is somewhat similar. However, HART just requires each device manufacturer to write a text-based Device Description that is application-independent and platform-independent. You can use a DD anywhere, from a handheld to a web server, and it will never be obsolete.

The risk to device manufacturers and end users is simple: If an FDT user migrates to the next Microsoft platform, all that device driver code might not work, so all the drivers may have to be rewritten. As we’ve seen, when devices get to be more than five years old, manufacturers tend to lose interest in writing new drivers for old equipment. We’ve also seen Microsoft suddenly abandon its older technology. Remember Windows 95, DOS, 5¼-in. floppy disks, and

Microsoft DNA for Manufacturing? Some people say ActiveX is next.

Twenty years from now, you could be in the same position as PLC users are today: PLCs are so rugged and live so long, some users have to keep old 286 computers around to run old DOS-based programming software.

Since FDT works only with Profibus and HART, the software has a limited appeal here in North America, where Foundation fieldbus (FF) and DeviceNet rule the process control roost. Although FF and DeviceNet interfaces to

FDT are in the works, we didn’t see any FF device manufacturers clamoring to write DTMs for all their hardware.

In fact, there’s so much working against FDT, one wonders where the idea came from in the first place. Here’s one possible scenario: BASF’s polymer dispersion plant in Ludwigshafen, Germany, was installing a new Profibus system. They wanted an configuration tool for Profibus and HART that would link to their 15,000 I/O points. Somebody suggested FDT, and 10 equipment vendors wrote the necessary DTMs to make the software work and keep BASF, a huge customer, happy. Now, all 10 of these vendors are supporting the adoption of FDT as a universal tool so they will be able to recoup their software development work in later projects worldwide.

The official press release suggests the opposite, saying that ABB, Siemens, Endress+Hauser, and ZVEI, an organization of automation suppliers in Germany, worked together “to find a solution for configuring the field instruments and setting their parameters from the engineering station of a control system, irrespective of the communication protocol.”

That is certainly a worthy goal, but FDT is not the solution—not as long as it relies on executable code, specific software, and specific Windows platforms. Perhaps if FDT was based on OPC or text DDs or XML or some other more universal solution it would be a palatable panacea.

Field instruments and control systems tend to outlive computer hardware and software by a long shot. Porsche 928s are still on the road, long after production was discontinued. The last thing we need is a “universal solution” that will be out of date next year when Microsoft announces Windows 2003, or whatever is next in line. 

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