



## *EDDL success at CIA 2007*

Electronic Device Description Language (EDDL) also known as the IEC 61804-3 standard was demonstrated at the CIA 2007 show in Singapore, 27-30 November 2007.

EDDL is a device integration technology that can save system engineers considerable amounts of time by keeping system integration and system update simple since EDDL meets the needs of device management as a single technology. That is, there is no longer any need to work with two technologies to cover all phases of the plant life cycle.

Working with two technologies would be more time consuming and therefore costlier. Therefore the original EDDL was enhanced with graphics to cover the full life cycle from configuration, commissioning, operations, and maintenance phases - for simple as well as advanced devices.

EDDL reduces the need for license keys to support devices management. EDDL files are small compared to software updates and can be downloaded faster and even emailed saving time. EDDL files are copied rather than installed saving lots of time, particularly for multiple workstations. Since EDDL files are text they do not cause DLL conflicts thus avoiding time consuming software problems. One technology requires less training than two. The simplicity of EDDL reduces dependence on maintenance contracts to keep DCSs current with new device versions. EDDL has a 15 year track record of investment protection thanks to operating system independence and therefore trusted to ride out future operating system transitions as well.

## *EDDL Booth Demo*

The multi-vendor interoperability demo included software and devices from many manufacturers connected up together using HART, FOUNDATION fieldbus, and PROFIBUS protocols. Visitors to the booth had a chance to see the dazzling graphics and structured menu system enabled by new additions to the IEC 61804-3 standard. Using the new EDDL graphics, advanced devices are shown with all their functionality. For example, visitors to the booth got to see waveform graphs such as the echo curve when setting up a radar level transmitter and the vibration spectrum used to diagnose centrifugal pumps. The enhanced graphics are not only pleasant to look at, but also easier to use making device commissioning and troubleshooting faster.

When visitors were asked if they have heard of EDDL the answer was invariably "no". But almost all recognized at least one of the four different EDDL-based software applications and handheld field communicators on display and soon realized that their plant relies on EDDL since many years ago, they just did not realize it was there making software and devices interoperate. When these users got to see the demonstration of the new versions of these applications showcasing the new EDDL enhancements, they were very keen to upgrade their DCSs to get the rich graphics and structured menus while retaining all the important characteristics of original DD technology.

Visitors to the booth were also impressed with how device manufacturers have combined the new graphics with EDDL method scripts to create 'wizards' making the technician's work faster, easier, and less error prone. For example, visitors could see a calibration wizard for a pressure transmitter and setup wizards for a radar level transmitter that takes the technician through each process step-by-step.

One person stopping by the booth was impressed with how audit trail as well as configuration compare/reconcile can be done by any DCS for any device, not just some.



### ***Alert Monitoring***

The live demonstration included the ability to simulate failures in several of the devices. This in turn causes an alarm to sound in the device management software, just like in a real plant. That is, in a real plant environment the technicians are not sitting in front of computers constantly watching the screens waiting for the status to change - that method would require many computers and many technicians, which would be very inefficient. In a real plant a fault is detected by the DCS alert monitor, a horn is sounded, and the device appears in the alert list. Visitors to the EDDL demo were impressed to see how the technician can simply click on the device in the list to open the diagnostics page rendered based on EDDL. The alert monitor in conjunction with EDDL eliminates the need to keep a constant eye on a status bar. The technician is freed up to perform other duties.

### ***Device Developers***

Manufacturer's developers visited the EDDL booth and had a chance to learn how the device manufacturer now controls the content and structure of the information displayed. That is, it is the device manufacturer who determines what diagnostics and other information is displayed, and what settings can be made - not the DCS manufacturer. This ensures that the same content is displayed for the device in any DCS, no DCS shows more or less information. This is the key to interoperability. Only the look and feel for the display comes from the DCS, that is, the size and color of buttons etc. This ensures that within one DCS (technicians work on one kind of DCS) all devices are displayed consistently regardless of type, manufacturer, or protocol. This saves technicians a lot of time because it is quicker to get familiar with the software when all devices work the same way. That is, because plants have one DCS but mixed devices, it is important that the mix of devices look consistent in that one DCS, while it does not matter if one device looks exactly the same in different DCSs because plants do not mix many DCSs. The distinction between content and structure and look and feel became clear. Device developers that want to add graphics to their existing DD are encouraged to visit the developer page:

<http://www.eddl.org/developer-corner.htm>

To many 'propeller heads' HTML is a good analogy for EDDL (in fact they have a common heritage in SGML and all render graphics based on text files). An HTML web page displays the same content in any web browser (Internet Explorer, Netscape Navigator, Opera, Mozilla Firefox, or Safari etc.) on different operating systems (Windows, Mac, or Linux etc.) giving author full control. While buttons and scroll bars look a little different in each web browser, this does not matter because you only have one browser. What really matters is that buttons and scroll bars look the same regardless of which HTML page is visited and that all the content is available. Java script is a good analogy to EDDL methods.

## *Conference EDDL Papers*

Two papers on EDDL were presented as part of the conference program

### *First day*

The paper "***EDDL the key to interoperability***" presented use cases for EDDL including how EDDL is a requirement for the DCS engineering tool to enable the engineer to build a control strategy involving FOUNDATION fieldbus devices and how EDDL information is used to automatically configure OPC server address space. Further the presentation gave examples how EDDL makes setup, calibration, and diagnostics faster and easier for simple and advanced devices alike. Other use cases included device commissioning using handheld communicator. The device setup and diagnostics portions highlighted the EDDL graphics and wizards facilitating work with advanced devices, plus how software provides help and access to relevant drawings and documents. The portion on device calibration also stressed on wizards assisting the technicians. Last but not least, attendants got to learn system management aspects such as easy system update avoiding version conflicts at device replacement. That is, EDDL technology simplifies work and saves time in every phase of the plant and device life cycles.

### *Second day*

The paper "***EDDL (Electronic Device Description Language) - with Enhancements Overview of the IEC 61804-3 device integration solution***" explained how EDDL technology enhancements were designed to tackle problems found with earlier approaches to provide graphics for device display. These problems included; some new devices only providing support files for latest operating systems, conflicts between DLL files for different devices, software installation not easy and not permitted on running DCS, different vendors having different look and feel, license key required to unlock features, old device support files not working when operating system is upgraded, and not tested for FOUNDATION fieldbus. It then went on to explain how the new EDDL enhancements provides graphics and wizards without using Windows executables thus avoiding all problems related to operating system versions, DLL-hell, software installation, and license keys. This translates into a DCS for which it is easier to manage device versions in the long run thus reducing support time and cost. Other benefits of this approach includes less opportunity for security breach as EDDL files have no direct access to file system, database, registry, or memory. Yet, the declarative nature of EDDL enables device data export to Excel, saving, and printing etc.

For more information go to [www.eddl.org](http://www.eddl.org)