

Conference and Exhibition in China Highlights EDDL Enhancements

The new enhancements to IEC 61804-3 [ANSI/ISA-61804-3 (104.00.01)-2007 Part 3] Electronic Device Description Language (EDDL) were showcased in the Fieldbus Foundation booth 17-19 July at the CIMA (Chinese Instrument Manufacturers Association) Fieldbus/IA exhibition and conference in Beijing, China. A technical paper on EDDL was also included as part of the conference proceedings.

Show Floor

Devices using HART, FF, PROFIBUS-DP, and PROFIBUS-PA were shown demonstrating interoperability between software and devices from different manufacturers using different protocols. Device types shown included everything from simple temperature and pressure transmitters to sophisticated devices such as valve positioners, variable speed drives, machinery health monitors, and radar level transmitters. Device vendors included Emerson, Siemens, Endress+Hauser, SMAR, Samson, M-system, and Mettler-Toledo. Four different hosts using enhanced EDDL were used: intelligent device management software from Emerson Process Management and Siemens, laptop tool from HART, and field communicator from Emerson.



Technicians visiting the booth had the opportunity to see how this great variety of devices using different protocols, from different manufactures, of different kinds, are displayed in the same tool. They particularly appreciated the consistency of display making the tools easy to use, such as graphs and charts being identical and working the same way for all devices regardless of protocol, manufacturer, or model. Technicians were shown various kinds of diagnostics from

simple over-range in temperature transmitters to failures in centrifugal pumps and the actionable information and help that are provided as user guidance. The rugged field communicator was welcomed as a handy tool for field work.



The visitors were impressed with the setup wizard for variable speed drives which takes an unskilled user step-by-step through the configuration of a complex device and also the wizard for calibration trim. Some engineers wanted to know more about device management functionality and were shown audit trail (change log), reconciliation (comparison), printing, access to device documents such as manuals and procedures as well as plant location documents such as installation photos and drawings plus the ability for the technician to enter notes for the tag. The impressive Device Library with EDDL files for a large number of manufacturers, devices, and their different versions was displayed on different hosts.

Technical Conference

The technical conference paper was presented in English with translation and slides in Chinese. This material is available at <http://www.eddl.org/chinese.htm>



The presentation started with the history of EDDL and how it produces results for plant owners and relief for technicians using it.

An important aspect of the presentation is how the enhancements to EDDL provide full support for the breadth of devices encountered in a modern plant including sophisticated devices and how EDDL with enhancements make it easier for the technician to work with devices than ever before. For example, the display of captured waveforms such as the echo curve in radar level transmitters, motor vibration spectrum, the ability to filter false echoes, and tables for tank strapping data.

The universal applicability of EDDL technology was explained, that is, how EDDL is used in digital process automation systems to automatically build the I/O database and program the function block control strategy, in field communicators to commission devices, in laptop software for advanced diagnostics, and in intelligent device management software as part of asset management systems to provide predictive maintenance, thus single-handedly covering the entire lifecycle of the devices.

The presentation drew the parallel between how HTML technology made the existing Internet easy to use by building the World Wide Web on top of it, and how EDDL technology are making existing fieldbus protocols easy to use by building device management on top of it. It was explained how EDDL works on declarative text rather than executable software and how this improves system security and integrity by not allowing direct access to critical system resources.

Continuing on the parallel with HTML, it was made clear how EDDL maintains system robustness by eliminating tightly coupled software code between applications from different vendors, instead relying on a textual description.

Details were given on how EDDL technology, because of its HTML-like characteristics, provides peace of mind for compatibility with new device revisions and software revisions. Just like a web browser can look at old and new web pages, so can device management software see old and new devices, and just like old and new web browsers can see new web pages, so can both old and new device management software see new devices. A new device type or revision simply means a new EDDL file is added, existing files which are working remain in use as-is. Several different versions of the same device can coexist in the system.

How EDDL is used to automatically populate OPC servers in device management software with information about the data in the device to thereby easily make all information available to external applications was also clarified.

Because plant owners are concerned with protecting the investment in their control systems, this topic was addressed in greater detail. That is, in addition to the ease with which technicians

can setup, calibrate, and diagnose devices, it must also be easy to keep the system up to date as new device types and new device versions keep being introduced to the plant during its long life. EDDL-based device management software and field communicators excel in the area of administration of the software itself being able to deal with version management without having to install software on running systems.

But the parallel with HTML in the seminar did not stop there. It went on with the analogy of how HTML is platform independent and also an international standard. That is, just like HTML works for different operating systems such as Windows, Mac OS, Solaris, and Linux etc. and with different browsers like Internet Explorer, Opera, and FireFox etc. so does EDDL work for different operating systems and device management software. It was explained how this makes EDDL technology a better long-term solution since it is not affected by upgrade or service packs for the operating systems which are inevitable during the system's long service life.

Right in the beginning it was explained how EDDL actually works. That is, focus on how files are simply copied and pasted onto the hard disk when a new device is integrated. Since no software installation is done there is no need for 'Administrator' privileges, and there will be no tricky questions about overwriting components etc. By the same token, it was also explained that since EDDL is not software there is no license to manage or activate to enable functionality.

Plant engineers attending the seminar asked several questions on these aspects during the Q&A session and afterwards in the hallways.



Although the paper was addressing end-user benefits, several local device manufacturers in the audience were attracted by the richness with which devices can be displayed and that device developers themselves now determine display contents and therefore are in control how technicians see their device. Lots of interest was raised during the Q&A session, and several came down to the booth after the presentation. The ability for the device manufacturer to neatly organize the information in the device on tabs and in frames according to their use as well as including images illustrating wiring, block diagrams, or the device itself well as gauges and bar-graphs for process variables and strip-charts for trending was seen as a very significant improvement.

Device developers were keen to adopt the enhanced EDDL technology and to learn about the tools that make editing, verifying, and tokenizing EDDL files easy. Developers also wanted to know about the Fieldbus Foundation's rigorous registration process were devices and their EDDL files are tested together.

For more information contact info@eddl.org or visit www.eddl.org