

DEVICE INTEGRATION STRATEGIES

» Simplifying device-level networking with FDT

2014 - 2 Issue

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Updated Wastewater SCADA System Cuts Failures, Adds Security

FDT Technology simplifies network configurations, improves efficiency for Colorado water treatment plant.

The U.S. continues to see significant infrastructure investments, and the water and wastewater industry is no different. Automation expenditures in this industry will increase by a compound annual growth rate (CAGR) of almost 8 percent over the next five years, according to a 2013 report released by ARC Advisory Group.

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Chairman's Corner

FDT: An Important Element for Building the Internet of Things



For veterans of the factory and process automation markets, it's no surprise that most machines, devices, and sensors do not offer direct internet connectivity needed for IoT solutions. There must be intermediate layers that transition the plethora of network standards to a more suitable TCP/IP transport protocol.

Most of the machine and device busses offer some type of Ethernet backbone, which might seem to come tantalizing close to meeting the needs of IoT. Unfortunately, there is almost no compatibility at the Ethernet level between the various lower level bus protocol standards. Since most organizations deploy more than one automation bus standard within their facilities, this diversity presents a technical connectivity hurdle that is difficult to overcome without a standard like FDT.

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Chairman's Corner *continued*

FDT is the only international standard that provides the critical missing communications link for an IoT architecture. It not only provides the complete integration of all industrial and process automation standards, it natively and transparently provides aggregation of all of these networks at the TCP/IP level.

The FDT standard transparently tunnels the traffic through all of the intermediate network layers, so an IoT application can communicate with systems or devices that are on a lower level network without concerning itself with the layers of networks that exist between the Internet and the target device or system. The IoT application does not need any awareness of the intervening gateways, routers, and bridges - it only needs to request communications with the end system or device. The internal mechanisms of FDT will do the heavy lifting.

IoT isn't just about the internet and device communications. Aspects such as the architecture of the plant, process, skid or machine are also required. FDT assists in this area by defining layered logical and physical plant structures that aid in the representation and navigation required in typical IoT applications. Multiple structures can be stored and recalled to facilitate broad enterprise aggregation. Additional features in FDT such as distributed applications, role based security, and comprehensive network extensibility further contributes to the IoT technology pool.

All IoT architects, product managers, and technologists should take a close look at FDT, which provides free, off the shelf, critical functionality to enable IoT applications and architectures. FDT has been standardized as IEC 62453, ISA/ANSI 103, and China GB/T 29618. More than 100 companies and universities support the advancement, adoption, certification, and development of the FDT standard thereby providing a rich ecosystem to ensure its continued leadership position in the industry.

FDT's developers are always looking for ways to improve the capabilities and scope of the standard. Users with suggestions for additional enabling capabilities or features can visit <http://TechSurvey.FDTGroup.org>. This provides you direct access to our Technology Roadmap process that guides all of our future developments in the FDT standard, which can help the Internet of Things continue to evolve in scale and definition.

To preview a FDT Integrated Brewery Application Demonstration, click here.

Hartmut Wallraf

PlantPAX™ Tools and Collateral Help You Plan and Perform Projects

PlantPAX
Process Automation System

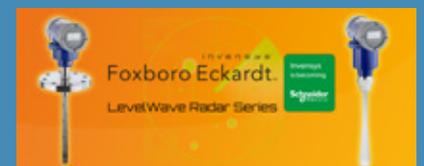
The PlantPAX process automation system from Rockwell Automation gives you the ability to work with multiple vendors' instruments in one common platform, including any of the more than ninety vendors that support FDT Technology.

Get started implementing your PlantPAX system using:

- PlantPAX System Estimator
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Rockwell Automation

LevelWave Radar Series Transmitter DTMs Now Available from Foxboro



The latest LevelWave Radar Series transmitters from Foxboro Eckardt provide one universal radar measurement solution for all liquids including corrosive, viscous, sticky and other difficult media such as foam and turbulent surfaces.

Invensys

Updated Wastewater SCADA System Cuts Failures, Adds Security *continued*

The Littleton/Englewood Wastewater Treatment Plant (L/E WWTP), the third largest publicly owned treatment works (POTW) in the state of Colorado, operates a state-of-the-art process automation system. However, constant intermittent network problems with its supervisory control and data acquisition (SCADA) created workforce inefficiencies and safety issues.

The wastewater plant serves the cities of Englewood and Littleton, Colo., plus 17 other connector districts, processing 23 million gallons of wastewater each day. The plant's SCADA technician, Joe Morrissette, is responsible for the management of the entire process control system, including all associated instruments and process networks.

Intermittent network gateway failures

L/E WWTP counts on about 35 network gateway access points to monitor and troubleshoot all the instruments and processes within its industrial networks. "All of our process instruments communicate via Profibus so that we can have remote access to the instruments," Morrissette says. "We use Profibus-enabled instruments in several critical areas, including our influent channels."

These industrial network gateways collect and aggregate a wide variety of in-depth, real-time data, but growing communication issues with existing network management put some process control at risk. "The gateway unit was routinely inaccessible," Morrissette says. "Sometimes, it would take four or five attempts before I could connect at all." Even when he was able to connect to the network, Morrissette sometimes experienced a dropped connection.

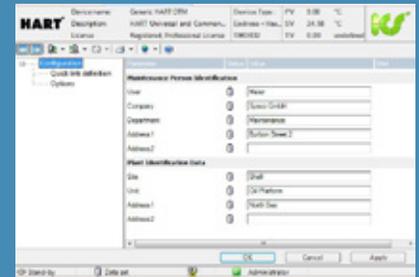
Flow meter communication is vital. "We have a small wet well to hold influent flow in the event that our raw sewage pumping system failed, so it is absolutely critical that we can depend on the instruments that measure level and flow in these channels," Morrissette says. "In the event that a flow meter fails, we have immediate remote access through the gateways that allow us to do an in-depth evaluation of the instrument without going into the field and make a quick decision on a solution. These flow meters also determine the revenue that is generated by our influent flow, another critical element." Ultimately, these problems caused inconvenient interruptions to a variety of critical tasks and posed a real risk to plant operations.

Side-by-side test

With an eye to finding something to replace the units that were currently putting the plant at risk, Morrissette began researching competitive products and settled on TH Link gateways from Trebing + Himstedt. During this research phase, the supplier of the existing gateway units announced that it was discontinuing the model that had been in use, and invited Morrissette to test drive the new version. He agreed, and the single-product pilot became a side-by-side road test.

"The installed base of process instruments at our plant is 99 percent Endress+Hauser," Morrissette says. "Endress + Hauser has such a

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The new release of Generic HART DTM 6 from ICS GmbH puts every calibration and parameter document as well as additional plant data on display for maintenance personnel. This supports the documentation of maintenance work in an excellent way.

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Codewrights

Updated Wastewater SCADA System Cuts Failures, Adds Security *continued*

large product line that offers Profibus as a communication option, and thus works very well with FieldCare, because of the certified DTMs. The Trebing + Himstedt's TH Link gateway was chosen to streamline the communications from the Profibus network back to the Endress+Hauser's Fieldcare software interface."



TH Link provides a simple and efficient setup.

Fieldcare is device configuration and asset management software that is based on the field device tool (FDT) standard and delivers robust configuration and diagnostics application at the device level through smart device type managers (DTMs).

"It's all about the DTMs. We provide a certified CommDTM for our gateway hardware—TH Link Gateways—and device vendors offer Device DTM for their field devices and they operate together in an FDT Frame Application, which is Fieldcare from Endress+Hauser in this case," says Bernd Kremer, general manager at Trebing + Himstedt. "So our TH Link plus the reliable CommDTM software is a sort of enabler for a very efficient device management and device diagnosis down in the field from the maintenance room."

"One example of how important a certified DTM is can be seen with our chemical metering pumps for our disinfection system," Morrissette adds. "The manufacturer of the pump does offer a Profibus option, but their DTM—not FDT-certified—is horrible and has no functionality through a gateway, so without the benefits of remote accessibility, we do not use their Profibus version in critical areas."

With the ultimate goal of remote monitoring for critical applications, the wastewater plant was encouraged with the pilot project and what Fieldcare software could offer in the control room. Fieldcare's robust functionality serves a wide range of process applications, such as the ability to choose from a list of standard fluids or import custom data from an Excel spreadsheet to calculate the required coefficients. From the control room, then, the correct coefficients can be downloaded directly into the flow meter.

Quick integration

The TH Link gateway impressed both Morrissette and his network integrator with its simple and efficient implementation. "We really liked the self-diag-

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Presentation is designed for:

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- End Users
- EPC/Integrators

Updated Wastewater SCADA System Cuts Failures, Adds Security *continued*

nostic features of the setup,” Morrissette says. “Usually, if one of your setup parameters is wrong, the system just says, ‘Failed to go online with bus.’”

This new gateway highlights the exact parameter that needs to be adjusted and how. For instance, it might tell you, ‘You need to adjust your target rotation time to be between x and y.’

This level of detail makes the setup process go much more quickly and efficiently, even if the technician doing the setup is less advanced.”

Morrissette also appreciated the compact design of the TH Link unit. “The space limitations of our control cabinets can become a problem with larger units, but the streamlined design and smaller physical footprint of the TH Link model made that a non-issue,” he says.

Safety ramifications

The L/E WWTP systems that Morrissette manages are process-critical systems that require close monitoring and quick resolutions if anything goes wrong. “The consequences of an issue going undetected or undiagnosed are not just financial, but have serious safety and environmental repercussions as well,” he says. “In the same way that you don’t want to wonder if the fire truck is going to start when the alarm goes off, I don’t want to have to wonder if my gateway is going to connect when I need to check an issue.”

In one example during the pilot project, Morrissette was able to address and resolve a network issue while away on vacation. The mobile accessibility provided by TH Link made it possible for him to remotely access the Profibus network through the gateway and go online to the instrument having problems, all from his hotel room.

L/E WWTP has been using TH Link for a year, and has continued to receive consistent, reliable performance. “I wasn’t expecting either product to outperform the other, but I’m glad I opted to test them both,” Morrissette says. “The test made it clear which product was the best fit for my needs, and now we have a system that is more secure, more responsive, and easier to manage.”

For more information about the THLINK PROFIBUS gateway [click here](#).

Authored By: *Grant Gerke, Automation World Contributing Writer*

FDT Technology Enables Enterprise Wide Integration Across Multiple Communication Networks

Streamline and improve resource planning with an enhanced view of network and device health.

Industrial automation equipment for both the process and factory industries continue to get smarter while networks carrying this smart device data are also becoming more complex. This increasing complexity is making it more difficult realize the benefits of improved productivity and efficiency. In many plants, the task of integrating many sophisticated machines on high-speed-networks is made more difficult by the presence of multiple communication networks.

Ethernet has taken over the high end of network communications in many industrial facilities, but many of these plants still use one or more of conventional lower level bus protocols to link industrial equipment. It's not uncommon for an Ethernet backbone to be linked to a hierarchy of networks that can include real time networks, DeviceNet, Modbus and lower-level networks like AS-i. This variety creates technical challenges for continuous device access across all levels.

Ease of integration

Smart device information and network integration are big buzz words these days. End users and the manufacturing community need an enabling technology that can help facilitate network integration for greater accessibility to bottom-line assets.

FDT Technology is an enabling software application that handles the complex task of incorporating equipment from disparate suppliers on multiple networks. With FDT, an application can vertically communicate with systems or devices regardless of the layers of networks that exist between the host and the target device. For example, Ethernet can be converted to an open communication network (fieldbus) then to a HART device(s) (see figure 1). FDT Technology transparently facilitates data information flow through all of the intermediate networks, including gateways, routers, and bridges. When the host requests communications with the end system or device, the internal mechanisms of the FDT standard handle the connections.

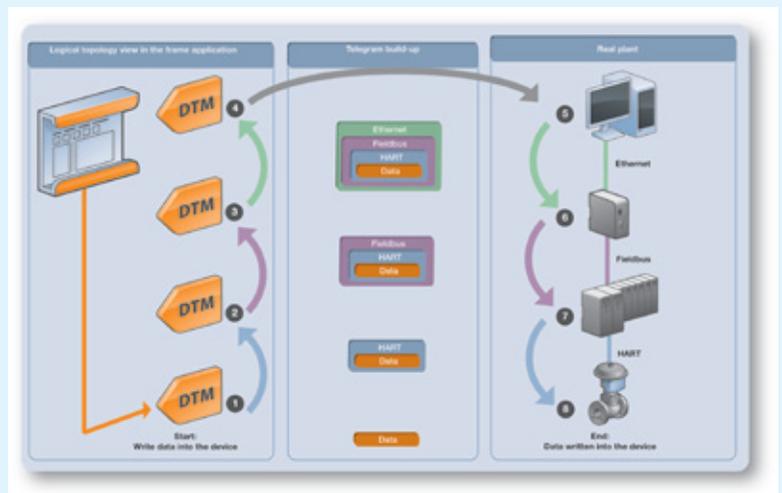


Figure 1: Vertical communication over multiple levels.

FDT Technology comprises of two central components that provide integration assistance. A Device Type Manager (DTM) is a device driver for smart instrumentation provided by the device supplier. Much like a driver used to hook up a printer, it contains the parameters of the intelligent device, communicating through networks, wireless links, USB peripherals and other connections to provide diagnostics feedback to the Frame Application/host system. An FDT Frame Application is an interface module developed by the system provider that resides in a host system and natively communicates with devices by opening the channel to allow information to pass through the networks, via DTMs. The Frame Application can be enabled to scan connected devices (with DTMs) across protocols when a communication path is open. To ensure device information flow, all DTMs should be uploaded and registered in the device catalog of the Frame Application/host system.

FDT is an international standard that's gained widespread usage in the industrial world. Standardized as IEC 62453, ISA103 and GB-T China, FDT is the only open standard for plant integration across multi-

FDT Technology Enables Enterprise Wide Integration Across Multiple Communication Networks *continued*

ple networks for process and factory applications. Currently FDT supports device and network integration for; PROFIBUS DP, PROFIBUS PA, HART, FOUNDATION Fieldbus H1/HSE, Interbus, PROFINET, Modbus TCP/RTU/ASCII, Ethernet/IP, EtherCAT, DeviceNet, ControlNet, IO-Link, ASInterface, CANopen, SERCOS III, CC-Link and ISA100 (see Figure 2). Support for this broad range of protocols gives network managers an array of options for both wired and wireless connectivity.

With more than 100 member companies as device and system/host suppliers, and end users in support of development of FDT enabled equipment, a wide range of products are allowing end users the freedom to choose best in class products for installation. There are presently over 7,500 devices supported by certified device DTMs (see the FDT Certified Product Catalog) <http://www.fdtgroup.org/product-catalog/certified-dtms>.

Enabling visibility

Without integration across networks, vital device information is lost, ultimately making your plant tougher to maintain, resulting in down time and lost production. Frame Applications are now available in most DCS, control systems, and asset management systems with associated DTMs being offered for smart devices. Manufacturing facilities can have continuous device access across all levels of the control system so maintenance teams and operators can view data from any node on the network from the control room or remotely from maintenance or other secure workstation.

With better device diagnostics, the maintenance team can quickly capture a snapshot of the health of networks and individual device assets. When problems occur, maintenance engineers can diagnose the problem from a host system and often fix the problem remotely. This facilitates a proactive maintenance strategy, decreasing plant shutdowns, increasing productivity and reliability. "On-line diagnostics provided by these instruments does something more than preventive maintenance, ensuring stable operation of the system and increases the precision of control," says József Bartók, automation engineer at MOL Danube Refinery. That contributes directly to bottom-line profitability.

For example, when the head pressure control was slow on one unit, it led to the assumption that a valve was stuck and in need of repair. Technicians, using on-line diagnostic tools interrogated the valve and found the intelligent positioner current-to-pneumatic converter was damaged rather than a problem with the valve itself. This fix took a half hour of instrumentation work, saving at least two days of unscheduled downtime, or at least \$834,400. (see figure 3)

Versatile and scalable solution

Today many existing plants don't have the budget to rip out equipment and start over, so they need to make better use of what's already installed or update equipment. FDT Technology provides versatility so upgrades can improve the plant life cycle. FDT Frame Applications and DTMs let users quickly reap the benefits from a



Figure 2: Illustrates the communication protocols supported by FDT Technology.

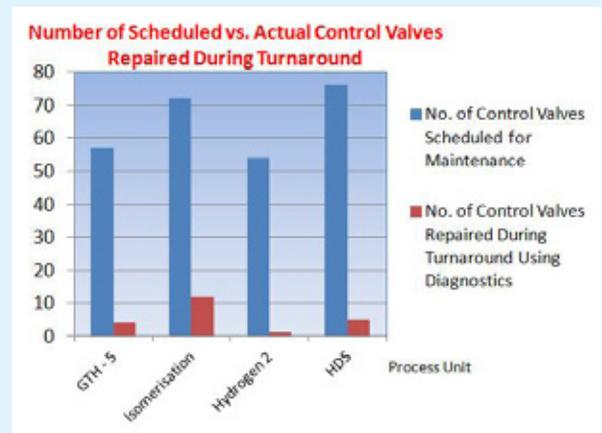


Figure 3: Number of scheduled vs actual control valves repaired during turnaround.

FDT Technology Enables Enterprise Wide Integration Across Multiple Communication Networks *continued*

point-to-point or single device approach by simply connecting directly to a device from a PC (see figure 4). The Frame handles device configuration, maintenance and diagnostics.

FDT provides the ability to start out small with a low start-up cost and migrate to larger applications (network wide information access) without a significant change during the scale-up. Regardless of whether a facility is old or brand new, FDT Technology can deliver benefits 24/7 during commissioning, maintenance, diagnostic and repair operations.



Figure 4: Point to Point Example.

Enhancements focus on customer feedback

In all technologies, updates are a necessity. In 2013, FDT responded to customer demands with an upgrade, FDT2. The ARC Advisory Group predicts that most equipment suppliers will unveil compatible product DTMs and Frame Applications in 2014. FDT2 will bring additional benefits of the new version while maintaining backwards compatibility with existing FDT implementations. Benefits of the newer standard include a combination of increased speed, improved security, broader connectivity and ease of use, making it an even more compelling technology expanding capabilities.

With so many industrial technology advancements available – digital networks, smart instrumentation, wireless, and a bunch more - complexity will not go away. FDT can compensate for this complexity and simplify your enterprise integration strategy while providing greater understanding and knowledge of your network and device assets. With flexibility being a key benefit, every upgrade or new installation can migrate with ease when FDT is specified as one of the infrastructure elements in an industrial facility. FDT Technology is your tool to help align data information flow for resource management allowing an enhanced view of network and device health across communication networks.

Improve your pathway to the future and make FDT a central component to gain enterprise-wide data information access in your industrial strategy.

For more information, visit: www.fdtgroup.org

To preview a FDT Integrated Brewery Application Demonstration, [click here](#).

Easy-to-Use Field Device Parameterization and Diagnostics

FDT simplifies field device configuration.

FOUNDATION fieldbus (FF) has become a leading fieldbus technology for petrochemical applications and other process industries that typically control complex processes with several thousand measurement points. Its advantages include increased data accuracy and enhanced system reliability through digital technology, as well as diagnostics that improve plant availability. Easy expandability, reduced costs over the product life cycle, improved reproducibility of individual processes, and reduced installation and cabling are additional benefits. The sheer number of controllers and field devices as well as the installation and commissioning efforts often add up to a large investment amount, so these systems usually run for years. That means users will need to replace outdated components or to expand one part of the processing plant while the rest of the facility continues to work.

Softing's FG-110 FF Linking Device and Gateway is designed to enable plant operators to do exactly that. Any legacy control system that supports the Modbus protocol can be integrated with modern field devices. On the fieldbus side, four FF H1 segments can connect up to 64 field devices.

At the same time, the FG-110 FF may act as a FOUNDATION fieldbus Linking Device that "links" H1 networks with applications utilizing the High Speed Ethernet (HSE) protocol. The Linking Device functionality allows the easy integration of modern applications for device configuration, monitoring, and diagnostics of FF H1 segments. The FG-110 FF is also used within the Softing FIM-110 FF interface module. A sample FG-110 FF architecture is shown in Figure 1.

Commissioning and maintaining a FOUNDATION fieldbus network is performed in several steps. In a step, the network and device configuration is defined using a configuration software tool. This includes the assignment of network addresses as well as Function Block linking and scheduling. Next, users must parameterize individual field devices and finally to access diagnostic information provided by the field devices. These tasks are performed by using a manufacturer specific tool or an Asset Management system.

FDT Technology provides an elegant solution for Asset Management Systems. FDT offers a fieldbus-independent, open, and standardized interface to access field device information for configuration, parameterization, and diagnostic purposes. FDT provides an interface tool, a Frame Application that performs the data exchange with the individual devices in the network for parameterization or fault diagnostics in a uniform way using the standardized FDT Technology.

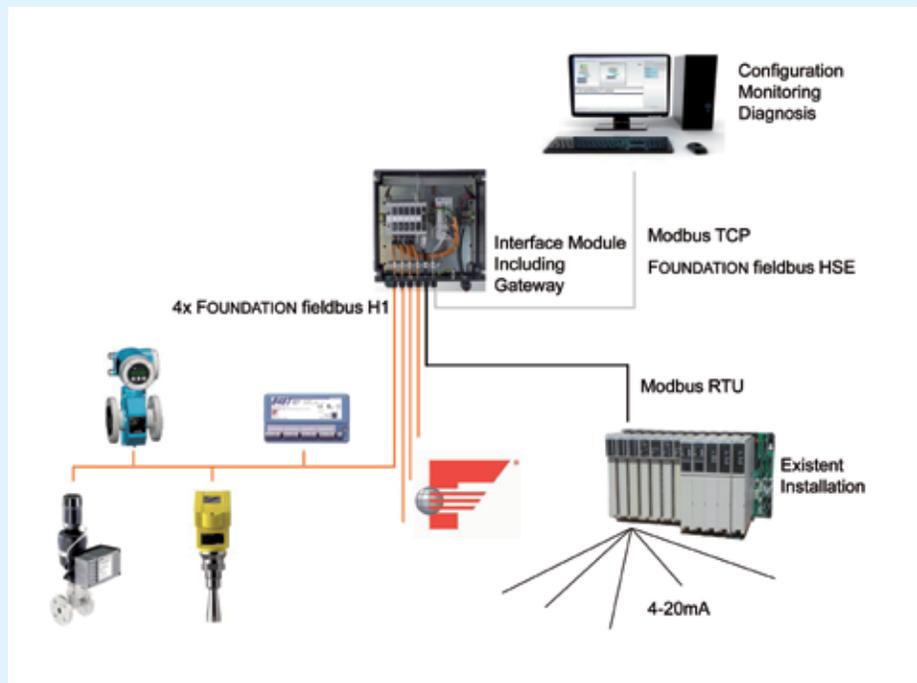


Figure 1: Integration of a legacy control systems with modern FOUNDATION fieldbus components using a Gateway.

Easy-to-Use Field Device Parameterization and Diagnostics *continued*

FDT Frame Applications are available from different manufacturers such as SMART VISION, FieldMate, Field Device Manager, PACTware, etc. A combination of appropriate drivers are loaded into the FDT Application and linked as needed according to the specific network components. Each driver (Device Type Manager, DTM) is a software module that supports all device-specific data, functions and graphical controls. The FDT standard defines three different types of drivers: While the Device DTM represents the specific field device in the network, the CommDTMs (communication DTM) represents a communication device, which acts as a master on a fieldbus network. In addition, a GatewayDTM is the software representation of a physical gateway between two fieldbus segments of typically different protocols and/or physical properties. Figure 2 presents an overview of an FDT Frame Application.

In order to integrate Softing's Linking Device and Gateway with a standard FDT Frame Application two DTMs are required: The first DTM is the FF HSE CommDTM. It permits accessing a FOUNDATION fieldbus HSE network by the FDT Frame Application, acting just like any other FF HSE device in the FF HSE network. The second DTM is the Linking Device Gateway DTM. This DTM supports the complete protocol-specific and device-specific management that is required to communicate with field devices on any of the supported four FF H1 segments and includes FF H1 host functionality.

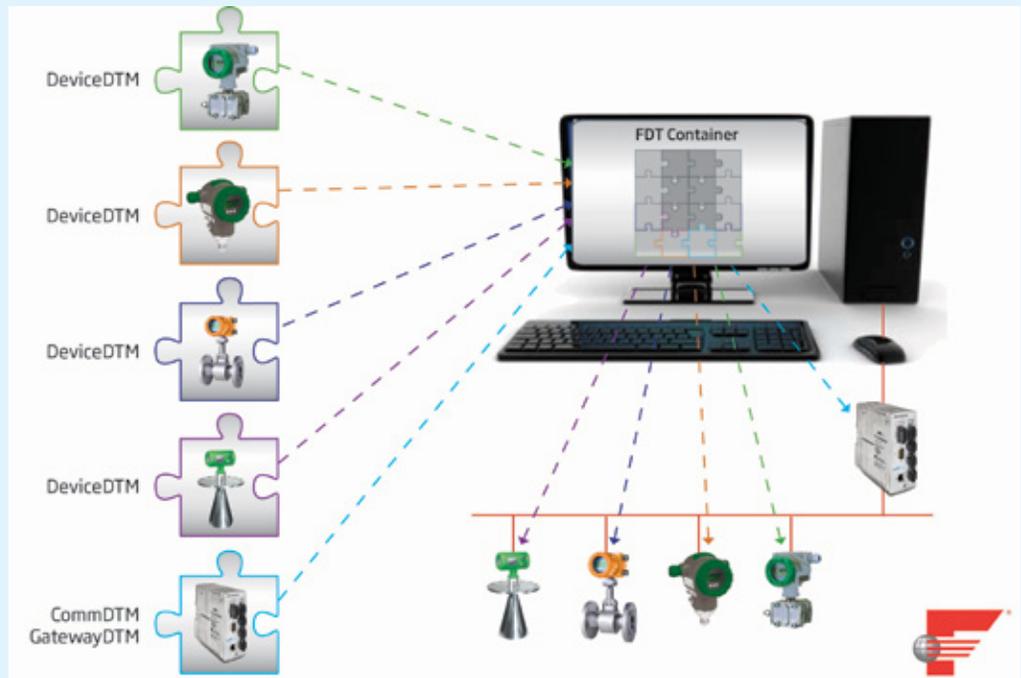


Figure 2: The FDT Frame Application is built up by individual DTMs and Diagnostics, which control the data exchange with the individual devices.

The two FG-110 FF specific DTMs ensure a seamless integration of standard FDT Frame Applications like SMART VISION, FieldMate, Field Device Manager, PACTware, etc, with Softing's FG-110 FF or Softing's FOUNDATION fieldbus Interface Module FIM-110 FF. For example, the connected FF H1 field devices are automatically detected and identified and the according device and manufacturer information is displayed in the generated live list.

Softing has released the version V1.30 of the FG-110 FF DTMs. These DTMs can be downloaded from the Softing website free-of-charge and can be used without a license key.

For more information on Softing's Linking Device Gateway, and DTMs, click here.

Ethernet has Become the DNA of Industrial Environment

FDT helps extend networking links from highest to lowest levels.

Most networking scenarios for the automation industry is built around linking all devices/systems using Ethernet and IP protocols. Beyond direct integration into the control processor, Ethernet is also the backplane of the Ethernet Programmable Automation Controller (ePAC), in parallel to the previous system bus, the X-Bus.



This architecture ensures backward compatibility for existing I/O families. Existing applications can be migrated to the new system without changing any wiring. Also, software consistency is ensured with the programming tool Unity Pro. The automation platform Modicon M580 represents a controller which is built on Ethernet.

The use of fast Ethernet with 100 Mbit/s within the CPU and the backplane allows flexible architectures for different applications and industry sectors. By default, this platform supports EtherNet/IP and Modbus TCP allowing a standardized integration of modules directly into the backplane also for cooperation partners.

The controller offers a service port enabling comprehensive diagnosis possibilities. For example, port mirroring permits recording the data/communication of both Ethernet ports, the backplane, or all elements.

The controller offers a service port enabling comprehensive diagnosis possibilities. For example, port mirroring permits recording the data/communication of both Ethernet ports, the backplane, or all elements.

Depending on the plant topology, flat and/or hierarchical structures can be managed including gateways to different fieldbus systems. The necessary device management for such topologies is provided by FDT Technology, allowing managing different devices in various network/fieldbus systems using one engineering tool.

FDT Technology as standard method for device management

FDT is an integral part of Unity Pro, an engineering tool that includes an embedded FDT Frame Application component. It provides all the necessary interfaces for a consistent device management for devices from Schneider Electric as well as for modules from cooperation partners and third party devices. Users therefore have a consistent method independent from the device vendor and the connected network/fieldbus systems.

Additional features ease the workload of users: when a Device Type Manager (DTM) is created in the topology, the tool automatically generates the data structures for direct use by the PLC programmer. If the Device DTM supports process data the appropriate PLC variables are created independent of the network/fieldbus type to which the device is connected. For such cases, the FDT2 specification now contains definitions introduced to be used in factory automation applications ("PLC Tool Interface").

A network/fieldbus independent interface is defined to obtain the data from the bus master creating the PLC variables automatically.

Ethernet has Become the DNA of Industrial Environment

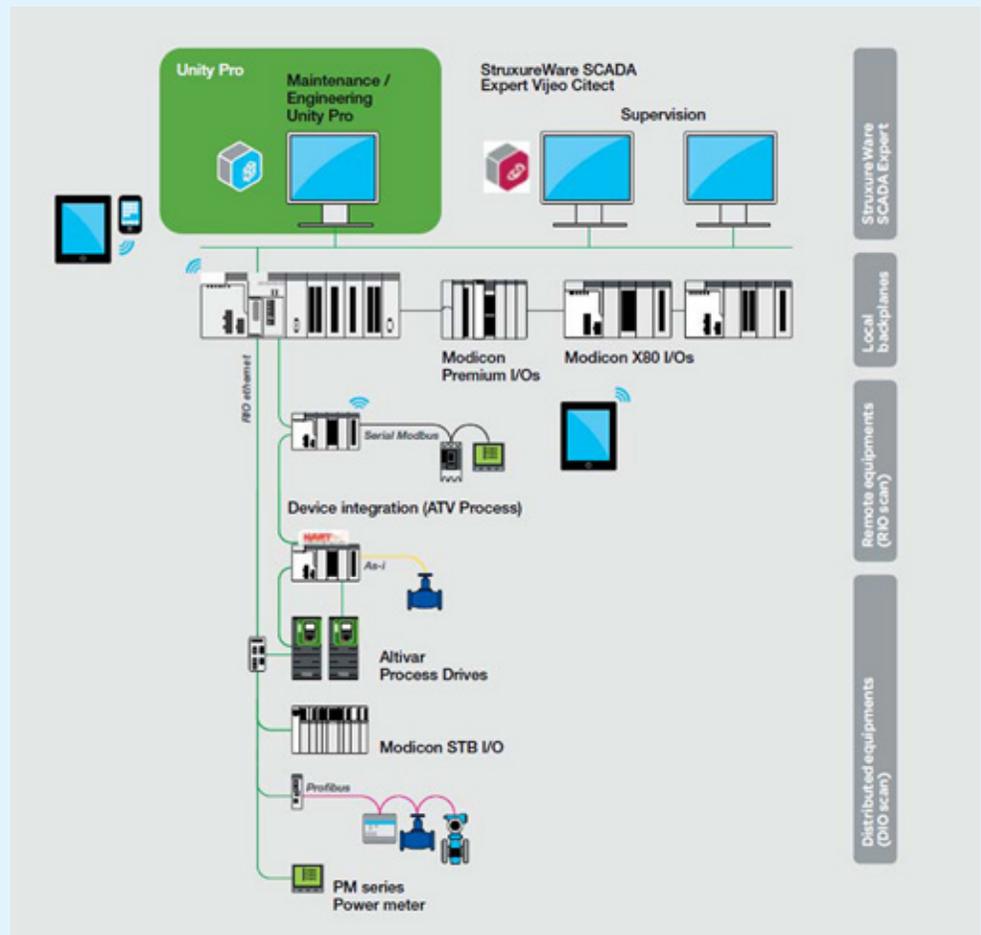
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Toolkit for partner modules

To ease the work of partners who are integrating application module into the Ethernet backplane, the PME toolkit is offered (Partner Module for Ethernet backplane). It comprises an Ethernet and base PCB for the partner application. A generic DTM is provided for integration into the engineering tool.

This DTM interprets the device description (written in DDXML: Description eXtensible Markup Language). To create this description, the partner gets an Excel template where he fills in the device parameters. Out of this Excel sheet the DDXML file is generated. The first partner module developed with the toolkit was a weighing module from our partner Scaimé.

For more information about the Modicon M580, please click here.



Author: Manfred Brill is responsible for the harmonization of software tools at Schneider Electric and a member of the Executive Committee in the FDT Group since 2005.

iDTM-FDI. Simply Integrated

Finally, a seamless connection between FDI and FDT.

The world premiere of “a seamless connection between FDI and FDT” was presented at the Field Communication Lounge at this year’s Hanover Fair in the FDT Group booth showcased in a brewery application.

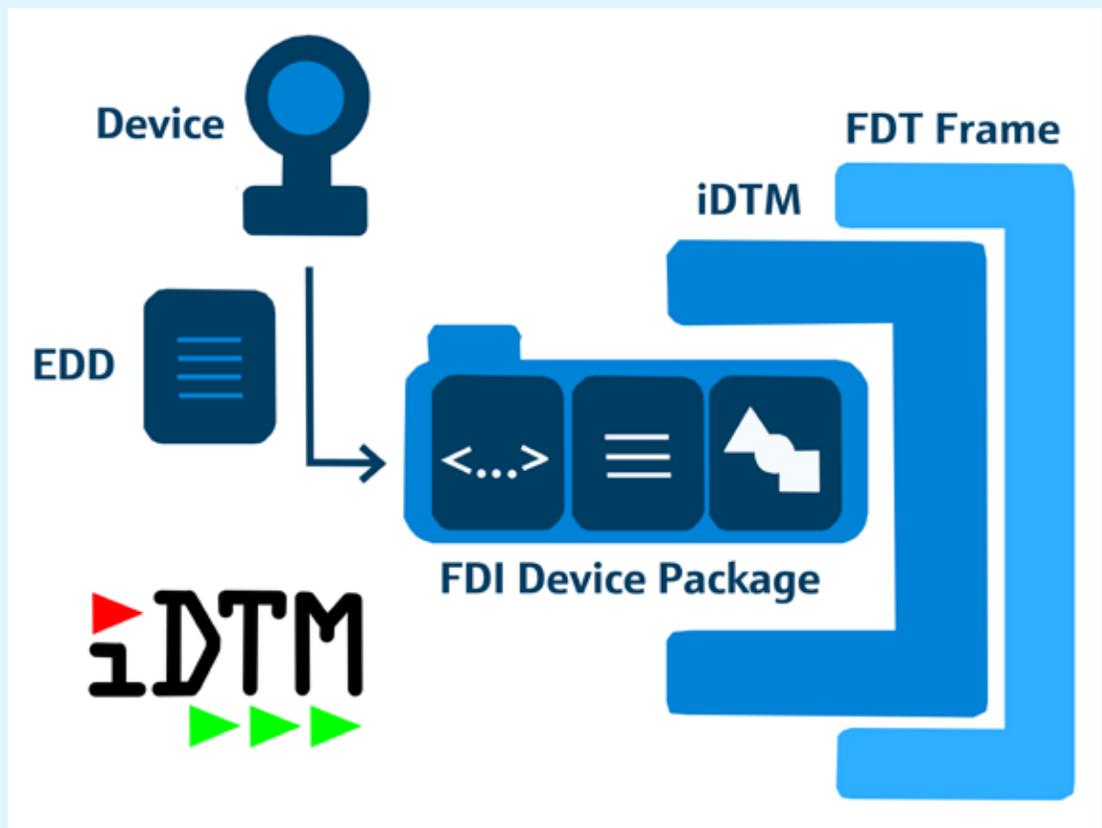
Visitors from the fields of process and factory automation saw, for the first time, the interaction of two key integration technologies, FDT and FDI software components working together within a new product called iDTM-FDI.

During the press conference, Dr. Rolf Birkhofer, Managing Director of Karlsruhe-based integration specialist CodeWrights, and Mr. Glenn Schulz, Managing Director of FDT Group, detailed the benefits of using iDTM to integrate FDI into FDT hosts.

Though much has been said about the link between FDI and FDT, many visitors were excited to discover that a running product combines the two technologies smoothly. This means also that end users no longer have to choose between the two technologies.

The iDTM-FDI continues the iDTM (interpreterDTM) principle, first introduced for HART and FOUNDATION fieldbus devices a few years ago. A brewery demo in the FDT Group booth showcased how FDI Device Packages can be used by any FDT2 Frame Application. Plant operators can fast and easily communicate with different field devices using FDI Device Packages inside the iDTM-FDI over the well-known FDT communication mechanisms.

The iDTM-FDI is useful for both end users and FDT system vendors. Because FDI Device Packages contain EDD files that are the controlling elements for the iDTM-FDI, device manufacturers can also utilize this software for their dedicated DTM development. The benefits are manifold:



iDTM-FDI. Simply Integrated *continued*

#1: Reduced Development Time

iDTM-FDI helps to minimize driver development and testing. With now three technologies, EDD, FDT and FDI, device manufacturers are expected to provide an additional artifact, the FDI Device Package. By using iDTM-FDI, the FDI Device Package can be used for FDI host applications and FDT based host systems without changing the FDI artifacts in anyway.

#2: Low Life-Cycle Cost

FDI Device Packages, the tool set and the common software components offer backward compatibility with regard to the interpreter and the EDD files. The iDTM-FDI software also allows device manufacturers to update FDI Device Packages by themselves.

#3: Harmonized Functions and User Interfaces

Device manufacturers are expected to provide common functions and user interfaces for all major integration technologies (FDT, EDDL, FDI). iDTM-FDI lets them bring up the complete FDI Device Package function set and user interface without altering a single line of code.

This is what you can expect from the CodeWrights iDTM-FDI product:

- iDTM-FDI is the simple path into FDI: no dedicated FDI Host is required, look and feel stays the same, devices with no FDI Device Packages available can still be managed via DTMs or iDTM.
- FDI Device Packages can be used without changes.
- iDTM is a proven technology as iDTMs for HART and FF have been certified.
- iDTM-FDI is a perfect migration path for FDT2 system vendors in process and factory automation.

Want to know more about how CodeWrights and iDTM-FDI are simplifying device integration? Just contact sales@codewrights.biz. More information regarding the iDTM-FDI, iDTM-EDDL, FDI, EDDL and FDT development and advisory services can also be found on www.codewrights.biz/idtm-fdi or follow CodeWrights on Facebook and YouTube to see the live demonstration.

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DTM Library for FDT 2.0, 1.2 and 1.2.1 Accelerates Device Development

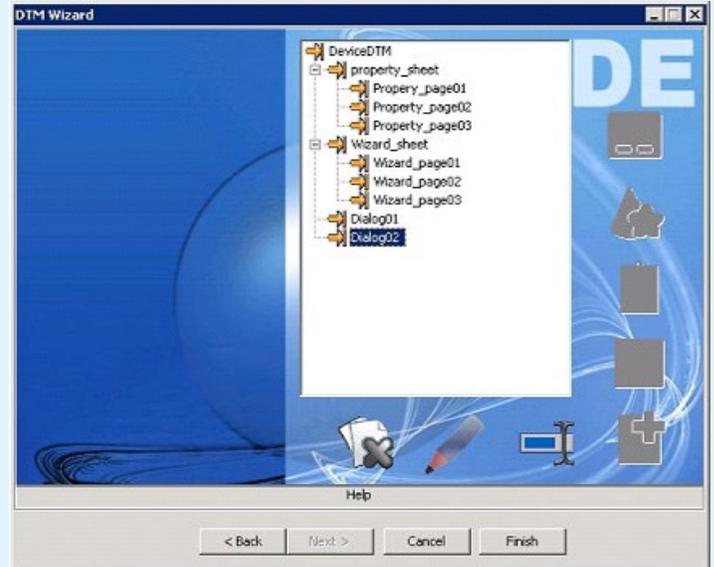
Dearborn Electronics' (DE) DTM library provides a set of reusable components that accelerates the development of device DTMs, Communication DTM and Gateway DTMs. Presently the DTM library supports HART, Profibus PA and Foundation Fieldbus, with forthcoming support for more of the major Fieldbus communication protocols. The library has already been deployed by high profile customers that used the DTM library to create DTMs for their products.

This DTM library implements the FDT DTM interfaces for FDT 1.2/1.2.1 and 2.0. The DTM library for FDT2 comes with a Wizard Manager (WM) with features such as User Controls, DTM Layout, Protocol Support and Logger Helper Functions that can be used with the official FDT 2.0 core component provided by FDT group. The DTM Library for FDT 1.2 and 1.2.1 comes with the FDT 1.2/1.2.1 core components along with the Wizard Manager.

The Wizard Manager provides the interface, business logic etc. and helps create DTMs in an interactive fashion. These DTM library components are delivered in the form of binaries which support inputs in custom XML file format and EDD formats. The DTM library's pricing format is tuned to customer needs. The DTM library supports all Windows OS and also is compatible with any standard FDT Frame/Container applications.

DE's DTM library capabilities continue to grow with upgrades that will include support for FDI DTMs.

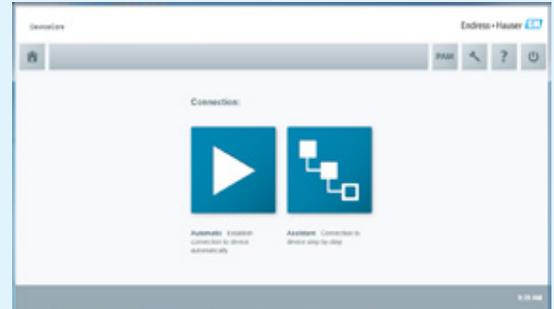
For further information please contact us at ratneshk@deindia.com



Endress+Hauser DeviceCare Simplifies Configuration

The new DeviceCare unit utilizes FDT2 technology to simplify the configuration of Endress+Hauser field devices. DTMs are automatically added to the catalog and connection hardware is automatically discovered, letting users access devices using one mouse click. Field devices using HART, PROFIBUS, FOUNDATION field-bus communication protocols as well as Endress+Hauser service protocols are supported.

DeviceCare follows a user-centered design philosophy that focuses on ease of use. Intuitive menu design and guided step-by-step approach with indication of status allows excellent visibility. Accessibility is made easy due to automated procedures. Integrated help, feedback messages and event logging support the user, providing precise information to user in 19 different languages. Icons complement the written information and make DeviceCare ideal for tablet use.



For more information, please visit: www.endress.com

Endress+Hauser 
People for Process Automation

FDT Accredited Test Site to Begin Testing FDT2 DTMs in the U.S.

The Sensor Integration & Technology Testing (SITT) Center celebrated four years as America's only FDT-accredited test lab for testing DTMs (device type managers) for the industrial automation industry. The Center plans to begin testing DTMs to the updated FDT2 standard soon. Testing the FDT2 standard will augment SITT's current programs - currently testing DTMs for compliance to the FDT 1.2 specifications. Testing procedures and the new dtmINSPECTOR testing tool are being finalized so test sites can begin testing FDT2 DTMs to meet industry demands for certified DTMs.



FDT2 carries many new user-friendly features and simplifies the development process by utilizing a set of Common Components (source code). Benefits to DTM users include improved interoperability, as well as Style Guide testing which unifies the look and feel of DTMs no matter what Frame Application used. Developers will appreciate using Common Components to reduce time-to-market, mitigate repeat testing, and lessen maintenance. Testing at SITT is generally completed within 10 days.

DTM testing for FDT2 certification is expected to be available by June, 2014 at the SITT Center, located at Lorain County Community College (LCCC) in Northeastern Ohio. DTM testing to the FDT 1.2 standard will continue until further notice.

Please contact Rita Mazzola (rmazzola@lorainccc.edu) for information or a quotation for DTM testing at the SITT Center.

For more information about DTM Certification at SITT,
please visit: <http://www.lorainccc.edu/business+and+industry/fdt>


Sensor Integration &
Technology Testing

Foxboro Conductivity Transmitter Leverages FDT for Easy Configuration

The Foxboro 876EC is a loop powered transmitter for conductivity measurement. It is used with Foxboro 871EC and 871FT electrodeless conductivity sensors, which offer the broadest range of materials, sizes and geometries in the industry along with unparalleled ease of use.

These sensors are the heart of the measurement solution. They are used for a host of applications, including concentrated acids, bases and salts. For hazardous chemicals, the 876EC can be paired with the innovative 871FT sensor, which allows for calibration without removing the sensor from the process.

The DTM for the 876EC greatly simplifies the configuration of the transmitter for the specific application. With the large number of sensor types, together with selections for range, temperature compensation and percent concentration, the drop-down menus in the DTM make configuration easy. A custom curve can be programmed for temperature compensation or concentration. With the DTM, programming is simple, as the data fields are presented in a table format.

Another advantage of the DTM is the ability to copy the configuration from one transmitter to another. Additionally, the DTM lets users perform a firmware update when new features are added.

For more information, please visit: <http://www.fielddevices.foxboro.com/en-gb/products/analytical-echem/electrodeless-conductivity/876ec-transmitter/>



i n v e n s i s

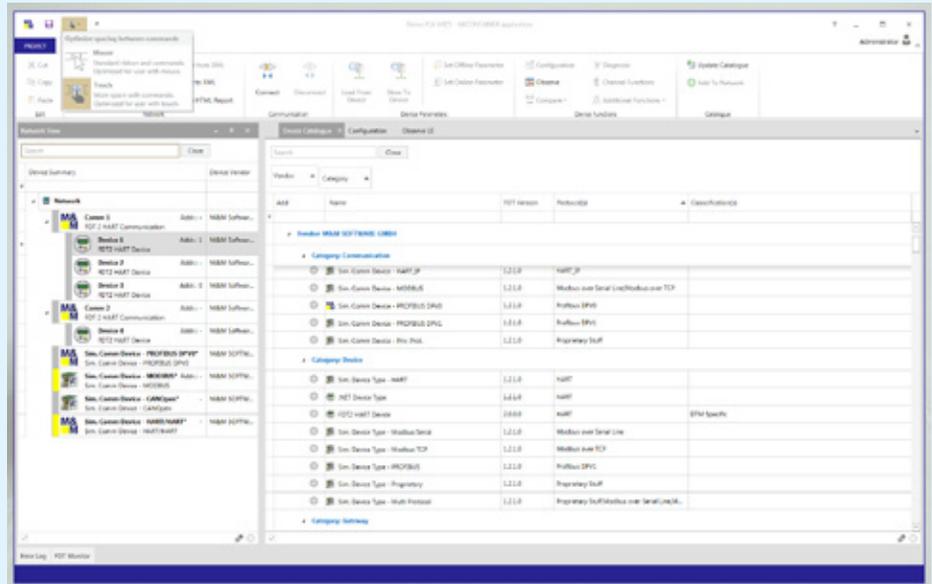
FDT2 Helps Bring Mobile Devices to Industrial Facilities

M&M Software's free fdtCONTAINER FDT Frame Application provides touch mode to work with tablets.

The modern interface of fdtCONTAINER application V4 from M&M Software meets high usability standards and replaces the outdated Windows XP style appearance. It can be downloaded for free.

The integrated touch mode makes it easy to run fdtCONTAINER application on any Windows 8 tablet. That makes it well-suited for maintenance and service tasks that require mobility.

Users can easily access important features through the 'Ribbon Interface' multi-function-toolbar. The network view and DTM catalog have been enhanced with helpful features for searching and filtering information, so it's easy to work with many field devices and their DTMs.



Like earlier offerings, version 4 is based on M&M Software's fdtCONTAINER component – the only certified 'common component' for FDT Frame Applications. This ensures the highest level of conformity to the FDT specification and allows FDT® 1.2x and FDT2™ DTMs to run in parallel in the same project.

Many system and device vendors already take advantage of the OEM version of fdtCONTAINER application. With WPF technology, it is now possible to customize this software tool even more. Find out how we can create your own individual FDT Frame Application today.

For more information, please contact:

Link: http://www.mm-software.com/fdtCONTAINER_Application

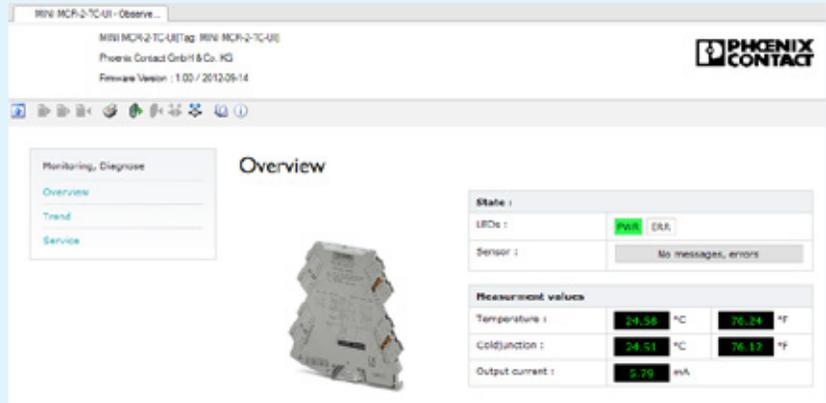
Kenan Senguen

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MINI Analog Pro Signal Conditioners – Configuration with New DTM Technology

The most important task of a signal conditioner is the electrical isolation of signals between sensors in the field and PLC / DCS systems in the control room. Other tasks are signal filtering, amplification as well as signal conversion. Multifunctional signal conditioners offer a variety of signal combinations and have to be configured. The new MINI Analog Pro signal conditioners offer a variety of configuration options. Besides the easy DIP-switch configuration for standard settings or the wireless configuration option via smartphone this also includes a PC configuration for extra functionality.



One approach for PC configuration that is already known from the MACX and MINI Analog series is based on the manufacturer independent FDT Technology standard, which allows the configuration of devices from different vendors with the same software. In MINI Analog Pro Phoenix Contact introduces a whole new type of DTM. Fully compatible with all standard FDT applications, the benefits for the user are obvious: the same software solution for programming different types of devices as well as a modern user interface, clearly structured menus, and advanced functionalities.

MINI Analog Pro – easier than ever, but slim as before

For More Information, visit: www.phoenixcontact.net/qr/2902026

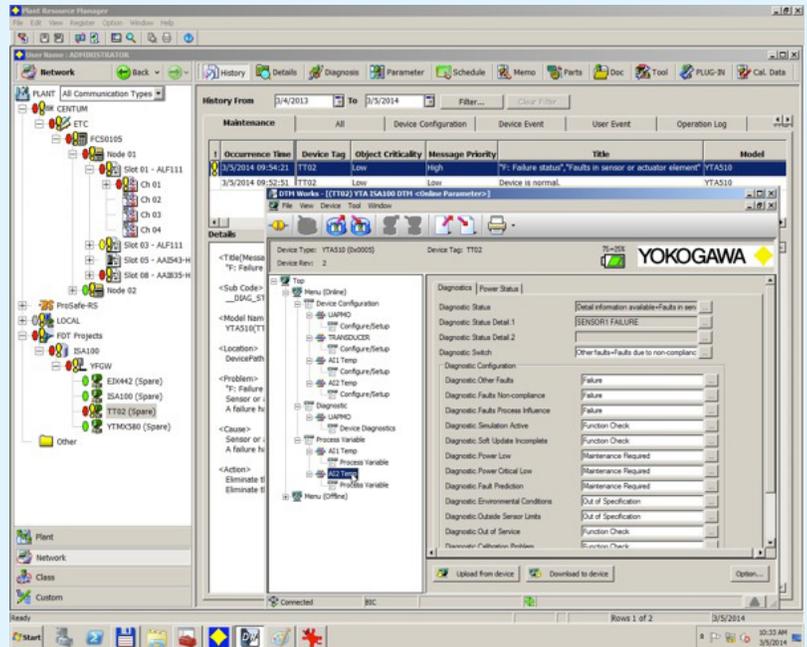


PRM® Plant Resource Manager Efficiently Manages ISA100 Field Wireless Devices

Yokogawa's Plant Asset Management solution PRM® (Plant Resource Manager) supports EDDL and FDT device integration concepts and features integrated communication paths for Process Automation protocols such as HART, FOUNDATION™ fieldbus, PROFIBUS and ISA100.11a wireless. Operators and maintenance personnel can use PRM and intelligent field devices to remotely monitor the condition of plant assets and detect early signs of performance deterioration such as valve sticking and impulse line blocking of d/p based flow meters.

PRM features functions such as a device master function for maintaining an asset database and multiple views to visualize asset hierarchies according to IEC 61512 through Plant, Network or Class views. The Device Patrol function uses a scheduler to periodically acquire device status information and features a status decision engine to display color coded information on all hierarchy levels. In case of a diagnostic message, the device DTM is launched to obtain detailed information and/or access device parameters.

PRM Plant Resource Manager delivers on the promise of FDT Technology; a single, protocol independent, platform for device integration and management.



For more information on PRM visit: <http://www.yokogawa.com/prm/prm-index-en.htm>

YOKOGAWA 



FDT Events

>> All About Automation
May 13 -15, 2014
Friedrichshafen, Germany

>> FDT Webinar
May 20, 2014
Register Online Today

>> MEORGA MSR Messe
June 04, 2014
Leverkusen, Germany

>> Industrial Open-Network
Exhibition
July 2, 2014
Nagoya, Japan

>> Industrial Open-Network
Exhibition
July 4, 2014
Tokyo, Japan

>> MEORGA MSR Messe
September 17, 2014
Ludwigshafen, Germany

>> Factory Automation Forum
Sept 30 - Oct 1, 2014
Stuttgart, Germany

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October 22 - 23, 2014
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Solid Technology, Strong Membership



For further information please visit www.fdtgroup.org or contact the FDT Group Business Office:

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