

John Yingst
Fieldbus Systems Product Manager

Honeywell Fieldbus Capabilities



Honeywell

Agenda

- Sales Marketing Overview
- Systems Product Overview
- Detailed Product Features
- Interoperability Testing
- Future Directions



Sales and Marketing Overview



Honeywell in Fieldbus -- Positions

- Foundation Fieldbus is **integral to Honeywell's control systems and products offerings**
- HW supports FF through **technology, field devices, systems, projects and participation** in Foundation activities and promotions
- Honeywell has **leading systems and field instruments products** as well as **project services**
- Honeywell has a **significant number of customers** enjoying benefits of Fieldbus
- Honeywell has **best-in-class FF technology and solutions**, and continues to invest in and support Fieldbus
- Honeywell **works with third parties** to improve the Fieldbus experience

HW Supports Fieldbus Foundation

- Platinum Sponsor Member
- Board of Directors
- Secretary
- Executive Committee
- Marketing Committees (Americas, Europe, Asia-Pacific)
- Participate in Training Seminars
- Participate in Trade Show Exhibits
- On Technical Steering Committee
- Architectural Control Team (chair)
- Function Block Definition
- Physical Layer Committee
- Transducer Block Committee
- High Speed Ethernet Project
- Safety-Critical Protocol Team



HW is a Leader in the Technology

- HW invented the smart transmitter
- First with full digital integration
- Designed first interface and protocol chips
- First FF devices with PID
- Pioneered FF Backup LAS
- Donated patent for Code Download
- Continuing to provide new innovations, such as Link Schedule Optimization



Experion PKS System Integration

- Field-proven FF integration with Experion PKS CIOM-A* and new Series C FIMs
- Fully HIST-tested by FF (Host Interoperability Systems Test)
- Full support for robust FF control on the wire
- Optional FIM redundancy for additional robustness
- Single, integrated database with easy-to-use builder
- High-performance design that smokes!
- Ability to add devices via DD files in seconds!
- Support for Code Download, a Honeywell innovation
- Integration of device help info into Knowledge Builder, the Experion PKS on-line documentation
- Transparent mix and match FF functions with rest of control system
- Controller-independent design

* **CIOM-A** = Chassis I/O Modules, Series A



Experion PKS System Integration (cont'd)

- ★ • Link Schedule Optimization for best use of link bandwidth
- Support for advanced features, like Methods and Block Instantiation
- ★ • Embedded forms for getting all info to the operator
- Easy device replacement
- ★ • Graphical link schedule for effective resource use
- Support for ALL FF function blocks
- ★ • Full, transparent support for alarms and events
- ★ • Full support for multiple BLAS devices
- ★ • Fast, efficient, incremental loading
 - Loops always on-line



Series C and CIOM-A FIMs

HW is Leader in Device Testing

- HW maintains a Fieldbus Interoperability Test Lab in Bangalore, India
- Best-in-class facility with extensive test program
- We test devices to validate our system and the devices
- We post DD files so customers know what works
- We test any device for free
- We have established relationships with device vendors
- We are a responsive resource for customer help



Best-in-Class Field Instruments

■ ST 3000 Pressure Transmitters

- DE, HART and Foundation Fieldbus
- Differential Pressure
- Absolute Pressure
- Gauge Pressure
- Remote Seals
- Flange Units
- Multivariable



■ XYR 5000 Wireless Devices

- Differential Pressure
- Absolute or Gauge Pressure
- Temperature



Best-in-Class Field Instruments

■ New Configuration Tools

- Intrinsically-safe hand-held versions
- I.S. Zones 1 and 2
- Supports DE and HART configuration
- FM-C and ATEX approvals



■ STT 3000 Temperature Transmitters

- High performance, advanced features
- Performance-priced to meet your exact needs
- Integrated Thermowell and Probes
- Delta T and redundant sensor capabilities are standard



STT170



STT250



STT350

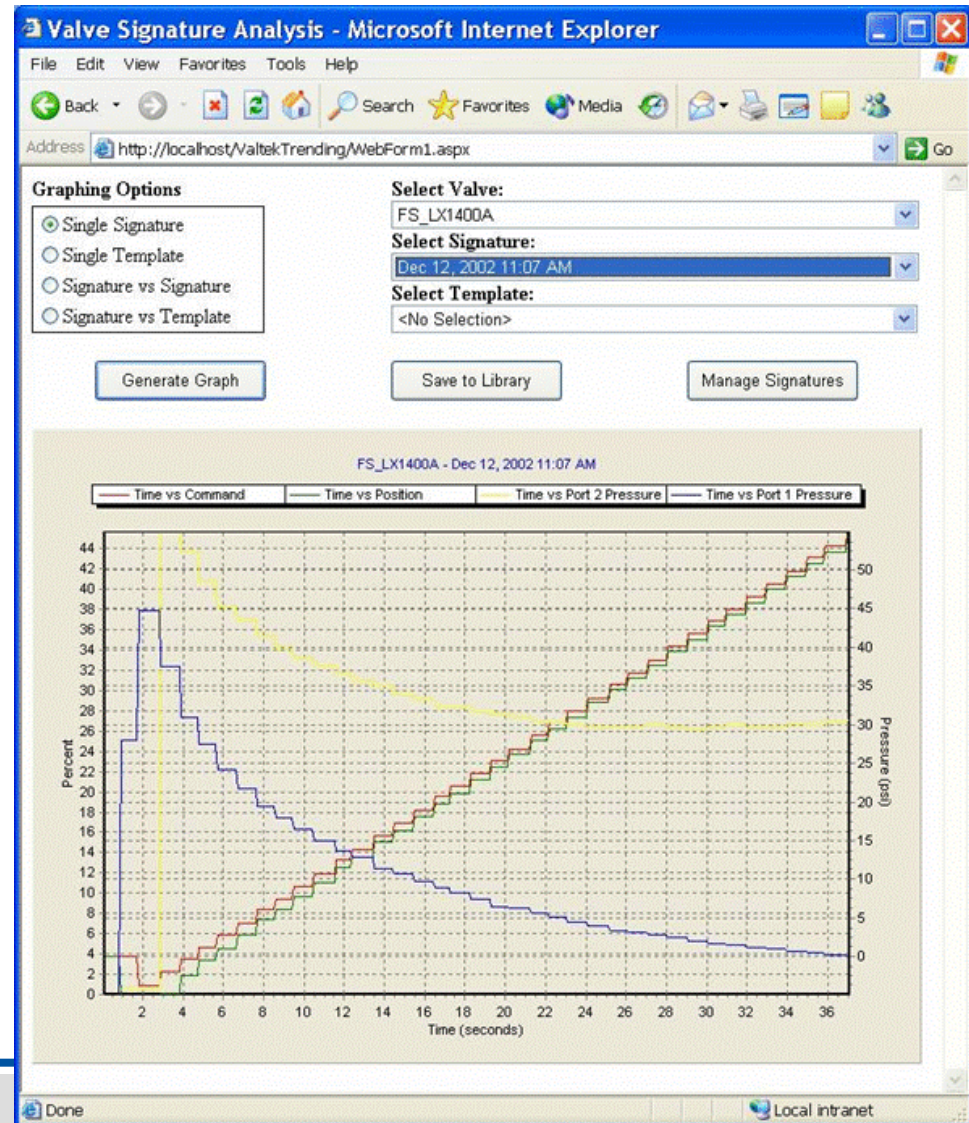
Flowserve's Valtek Logix 1400

- Honeywell controls all the way to the valve
- Flowserve's Valtek Logix 1400 Fieldbus valve positioners share Honeywell's implementation of FOUNDATION Fieldbus
- Integrated into Experion and Asset Manager



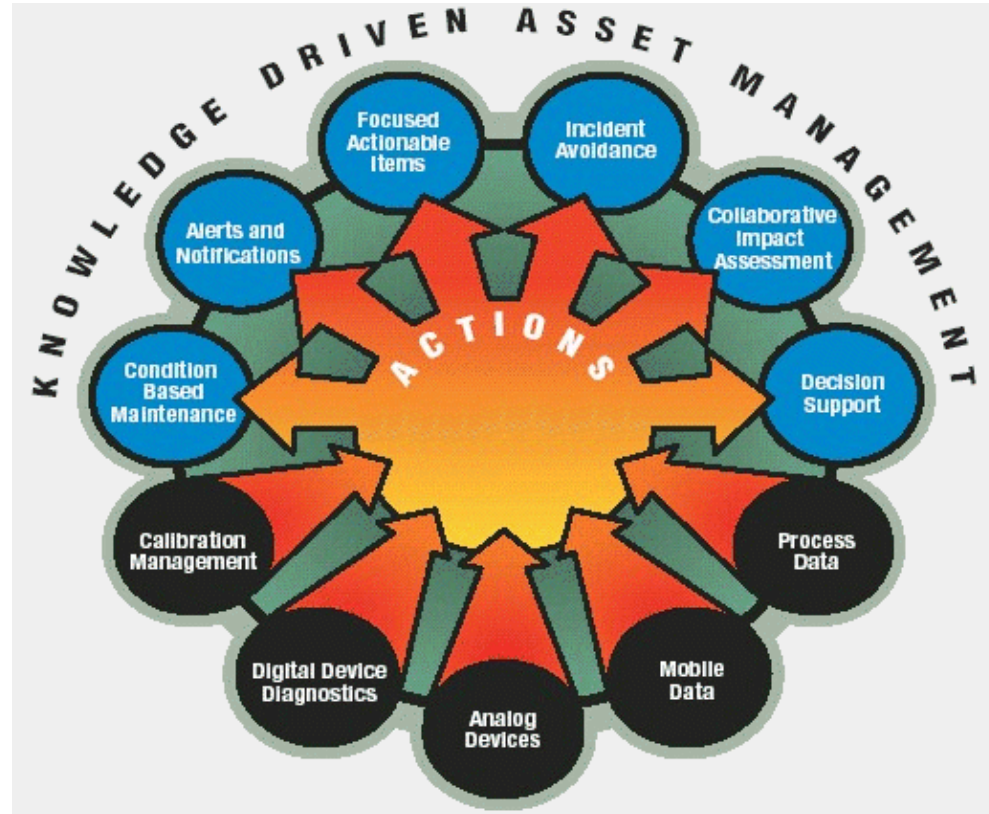
Flowserve Valve Signature

- Reproducible test performed in the control valve
- Integrated through Asset Manager
- Run and view current signature or view past signatures
- Valuable for troubleshooting and general device health



Asset Effectiveness

- Asset Manager integrates into Experion PKS
- Continually monitors status, events and operating conditions around field devices and process equipment
- Asset Manager open decision-support software system enables improved asset management and utilization



Project Engineering and Consulting Services

- Best-in-class global project execution and delivery
- Globally integrated engineering & project management
- Talented people, committed to training and certification
- Proven processes for project management, engineering and project controls
- Productivity tools designed specifically for engineering & design of process control solutions
- > 2700 engineers & designers globally
- > 6 million man-hours of design annually
- Executing > 2000 projects globally worth \$2 Billion



Delivering the full potential of your process automation hardware and software systems

Honeywell Fieldbus Experience...

- Support a broad range of applications...
 - Chemical Plants
 - Boilers
 - Pilot Plants
 - Off-Shore and On-Shore Oil & Gas
 - Refining
 - Pharmaceuticals
- ...and range of sizes
 - From small systems and pilot plants...
 - ...to over 5000 devices
 - Many projects 100-200 devices
 - General trend toward bigger systems



...and Customers

- BASF
- BP
- Bristol Myers Squibb
- ChevronTexaco
- ConocoPhillips
- CPC
- Distileria Serralles
- Gaz de France
- Irving Oil
- NGT
- Petroquímica União
- Polioles S.A.
- Pride Chemical
- Putra Jaya



- Qatar Petroleum Corporation
- SASOL
- Shell
- Shin-Etsu
- SINOPEC
- Skandinaviska Raffinaderi
- Sokolovska Uhelna
- Solvay
- Statoil Kvitebjoern
- Sunoco
- Unocal
- Wintershall



Foundation Fieldbus Value Messages

- FF benefits are available TODAY!
 - Wiring and cabinet savings
 - Asset management for lower maintenance and fewer incidents
 - Faster startup, commissioning, maintenance
 - Control on the wire (the only protocol that has it)
- Rich capabilities, e.g., deterministic control
- More customer-driven features coming
- Ideal for multi-variable transmitters – 4-20 mA can't compete and HART is weak here

Foundation Fieldbus is Proven

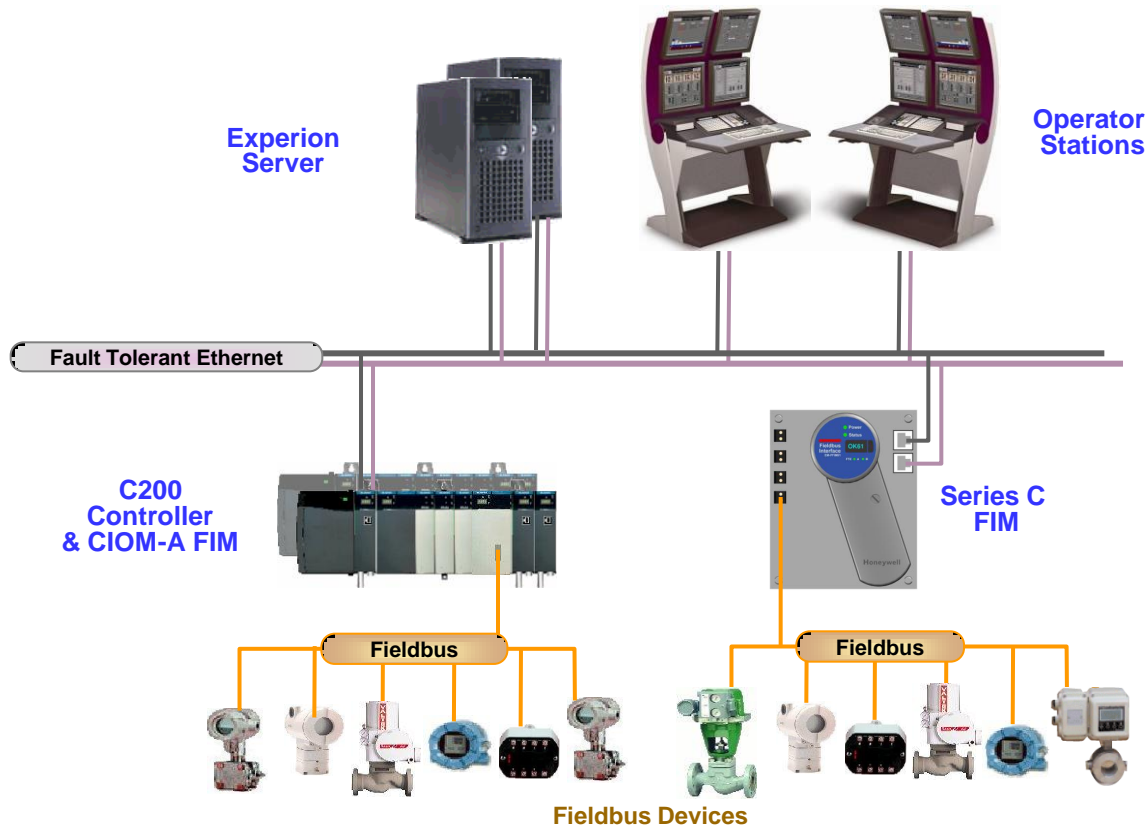
- Momentum of many companies working on FF!
- Many types of devices – over 250 registered from 44 vendors
- Many host systems – 12 have completed HIST
- 4000 FF systems, ~500,000 FF devices worldwide
- Training available around the world
- FF now outpacing Profibus and HART

The PKS Advantage Program

- Non-exclusive, collaborative environment
- Industry's best automation solutions suppliers come together to develop and deliver truly open solutions
- Supports asset solutions from a variety of suppliers-- allowing you to choose the best device for your application.
- Integrates advanced digital communication capabilities with the power of Honeywell Process Knowledge Solutions -- giving you a deeper view into each asset and each process.



Systems Product Overview



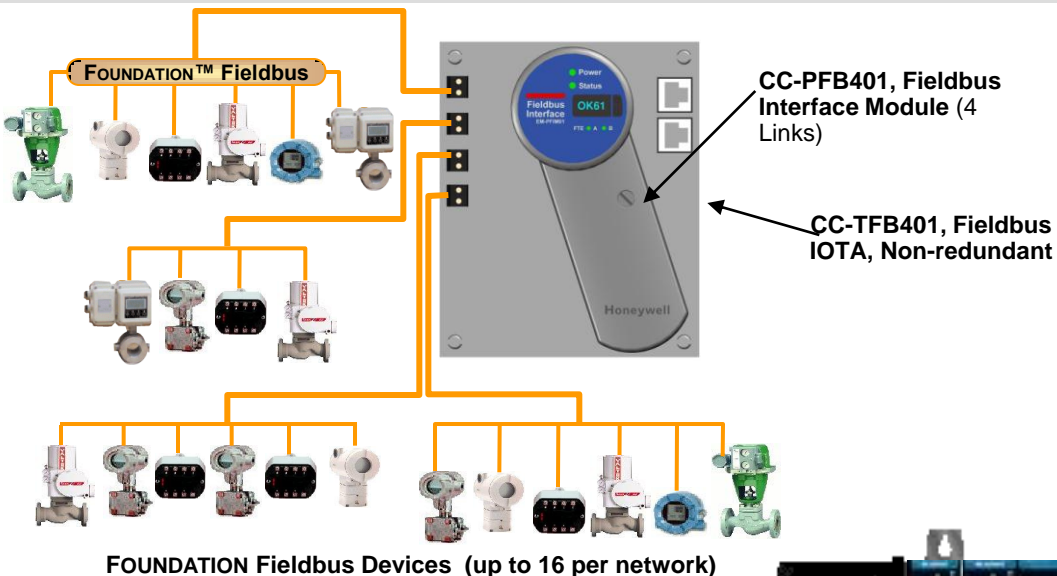
Fieldbus Integration Solutions

- **Series C FIM**
 - Latest offering – part of R300 Series C
 - Integrates transparently with the C300 Controller
 - Supports four (4) H1 Fieldbus links
 - Redundant or non-redundant
 - Uses Series C I/O Termination Assembly
 - Very high-capacity design
- **CIOM-A FIM**
 - Field-proven, double-width chassis-based module
 - Supports two (2) H1 Fieldbus links
 - Uses 3rd-party RTPs
 - Installs in Experion C200 Controller rack or remote I/O
- Both feature high-performance designs
- Deliver benefits of a world-class Fieldbus integration

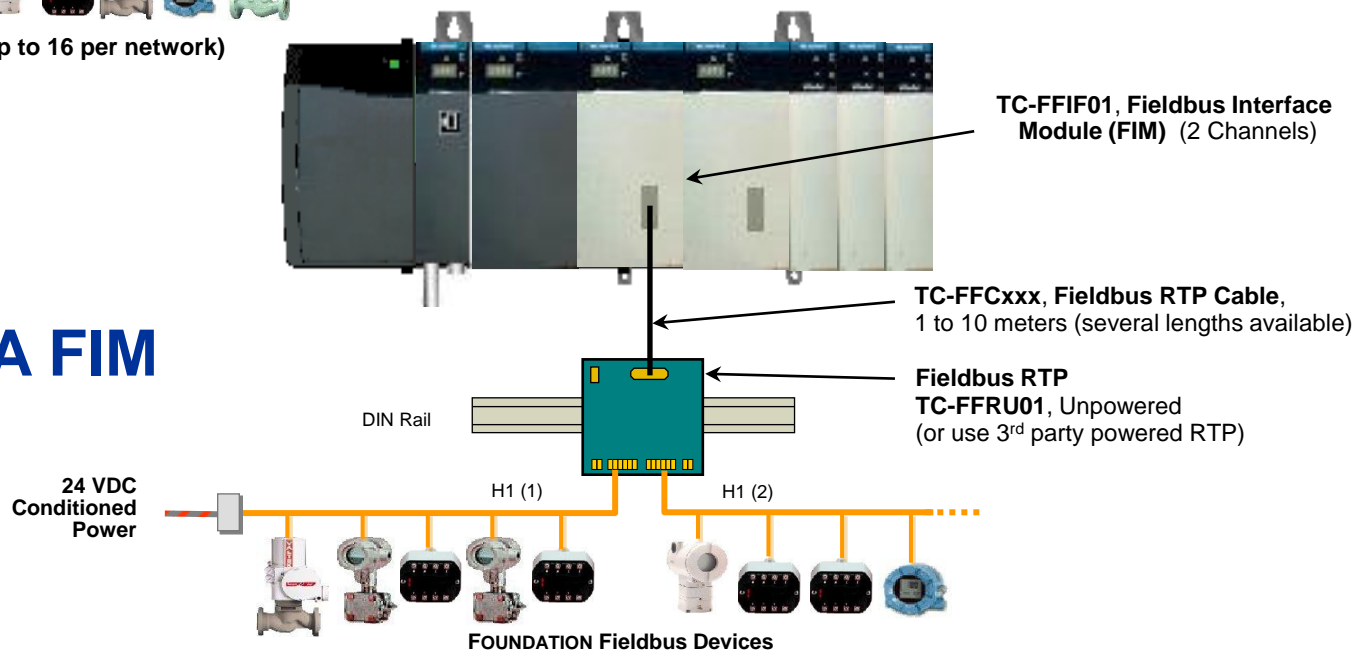


Basic Architecture

Series C FIM

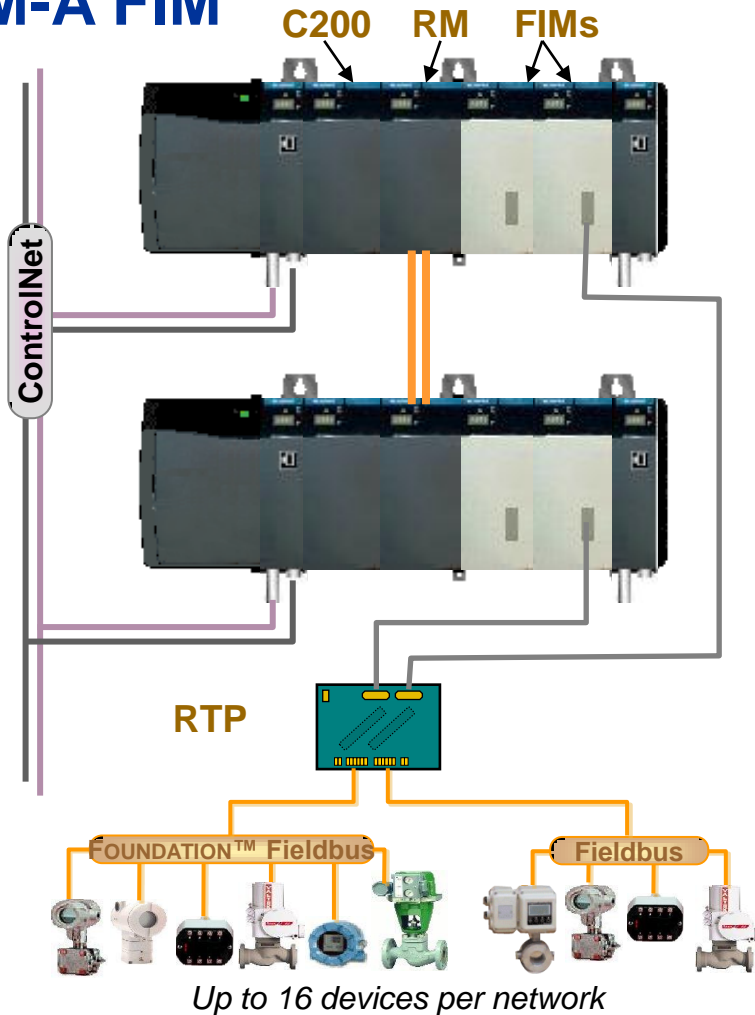


CIOM-A FIM

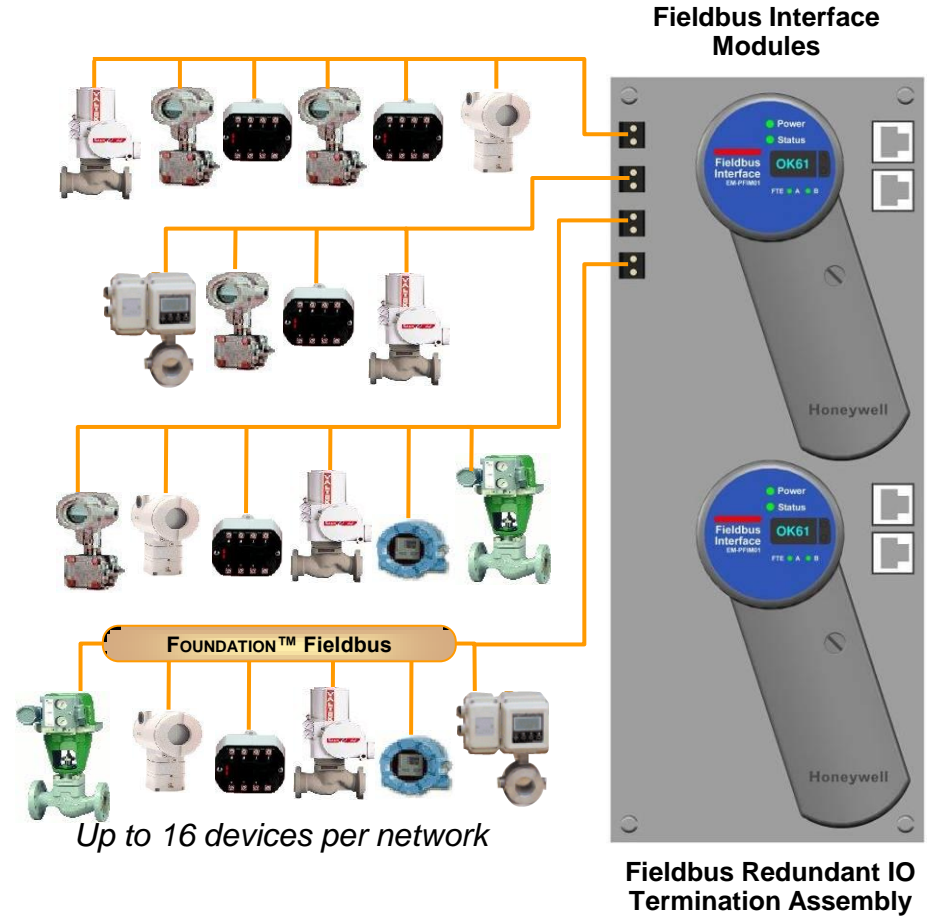


Redundant Architecture

CIOM-A FIM



Series C FIM

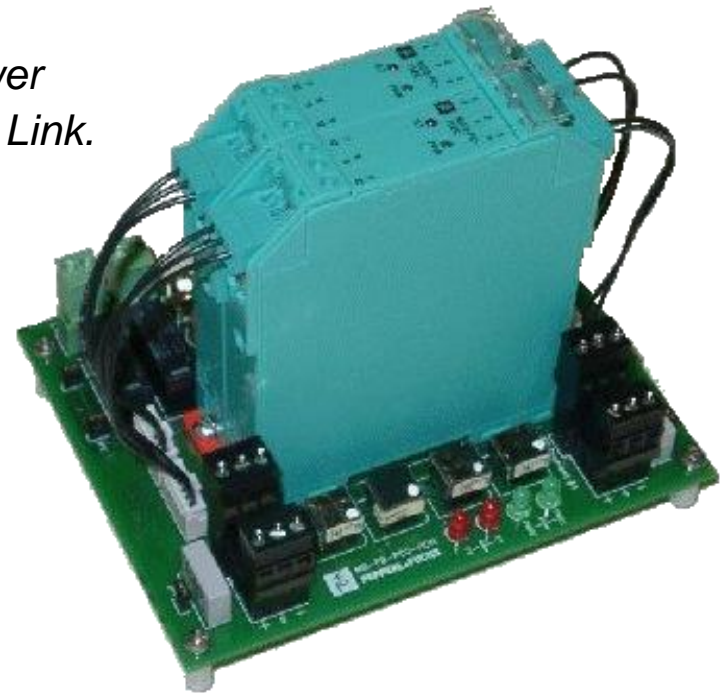


CIOM-A Powered RTPs from MTL and P+F



FIM alarms if power problems on RTP or Link.

MTL-Relcom F650A Redundant Fieldbus Power System (DIN-rails included but not shown)

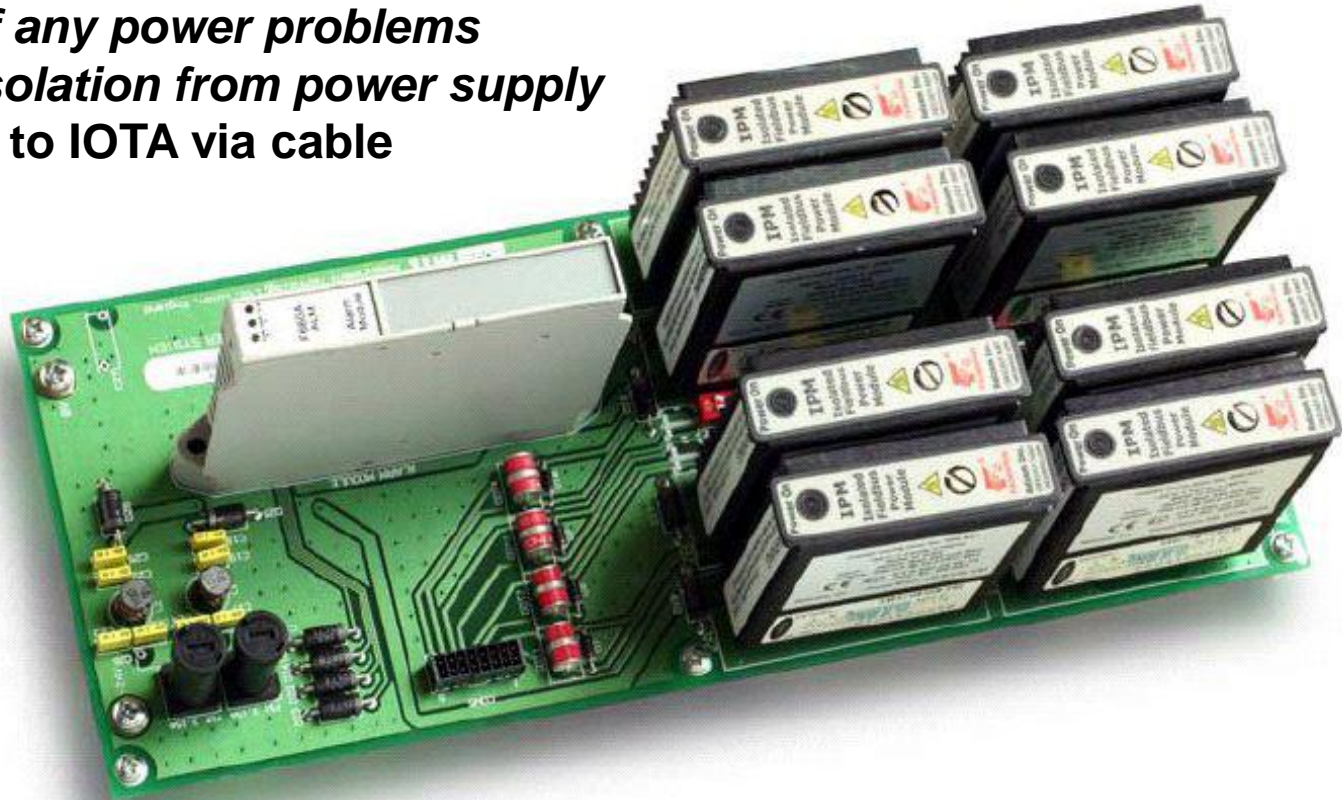


Pepperl+Fuchs RTP FieldConnex MB-FB-PC2-HON Power Conditioner System (DIN-rails included but not shown)

Order directly from MTL or P+F. Details in price book and spec & tech.

Series C Power Condition IOTA from MTL

- *Redundant power for 4 links*
- *Alarming if any power problems*
- *Galvanic isolation from power supply*
- *Connected to IOTA via cable*



Relcom F660A Redundant Fieldbus Power IOTA

Similar product coming from P+F

Series C Power Condition IOTA from MTL

- **Redundant power for 8 links**
- **Alarming if any power problems**
- **Galvanic isolation from power supply**
- **Connected to 2 IOTAs via cables**
- **More cost effective and efficient!**



Relcom F860A Redundant Fieldbus Power IOTA

Series C Power Condition IOTA from P+F

- Supplies four H1 segments
- Redundant power supply modules
- Fault monitoring via diagnostic module
- Fault indication to Series C FIM alarm
- Diagnostic bus for several modules
- DC power from Series C power supply or external
- Integrated, fixed fieldbus terminator

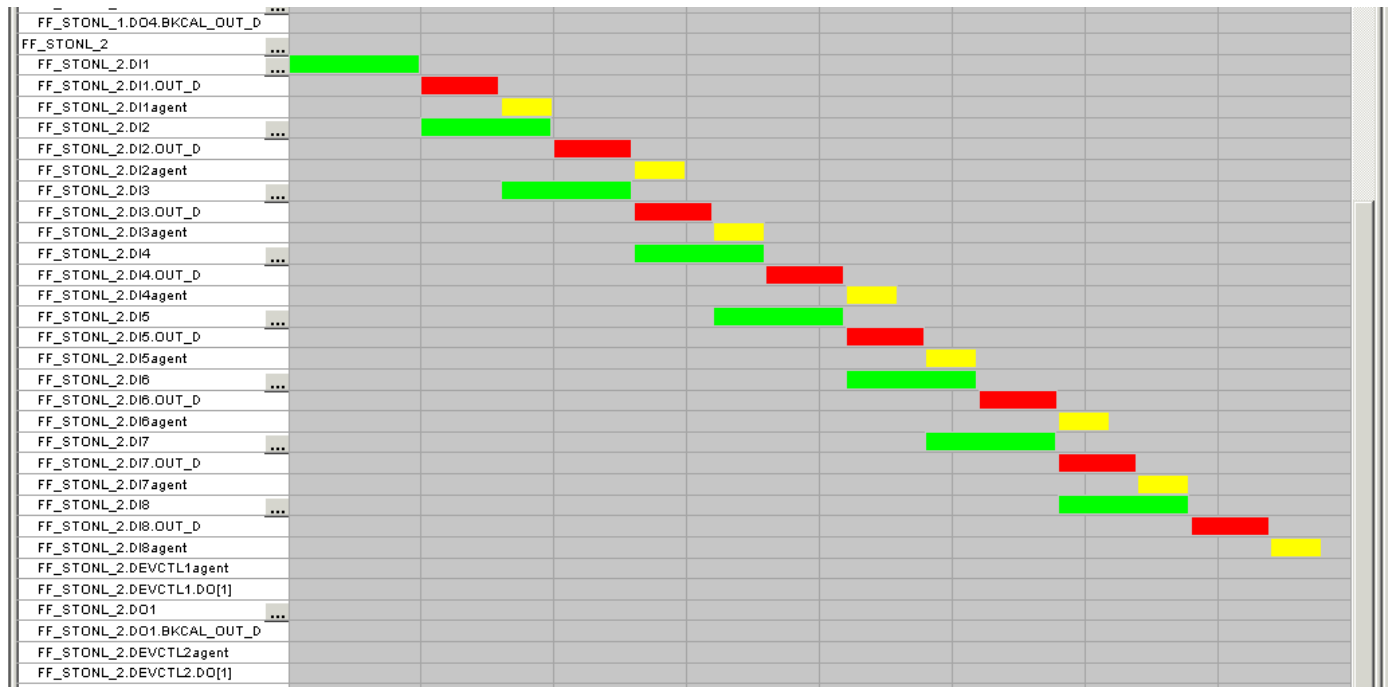


**Pepperl+Fuchs
FieldConnex Fieldbus Power IOTA
with Redundant Power Supply Modules**

Specifications

Parameter	CIOM-A	Series C
FIM's (Links) per Controller	12 (24 links) (red) 21 (42 links) (non-red)	15 (60 links) (red or non-red)
FIM's (Links) per Server	50 (100 links) (red) 100 (200 links) (n-r)	125 (500 links) (red or non-red)
H1 Segments / FIM	2	4
Max. Devices / Segment	16	16
Max. Devices / Server	3,000	8,000
Max. VCR's / Segment	64	128
Max. Blocks per FIM	250	800
Max. Agents per Link	50	100
Max. Schedules / Segment	4	4
Available macrocycle periods	250, 500 ms; 1, 2, 4, 8, 16, and 32 sec	

Detailed Product Features



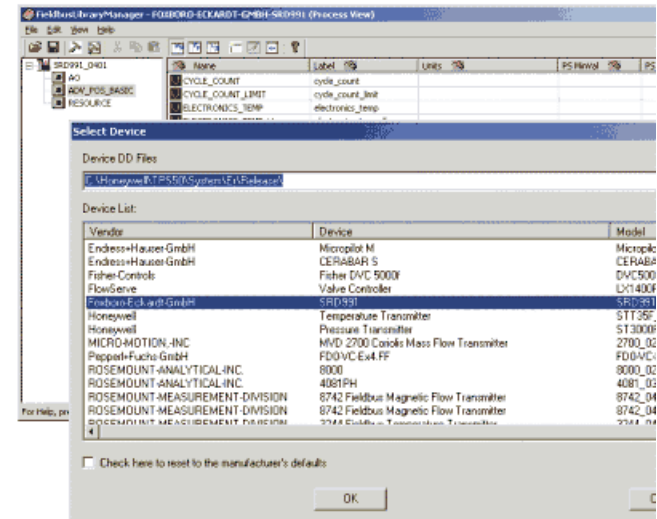
Optimized Link Schedule

A Unified Integration

- Transparent and Unified Integration into Experion via Control Builder (CB) and Station
 - Drag. Drop. Use!
 - Completely unified database
 - Fieldbus and Controller points seamlessly mix and match
 - Full advantage taken of FF capabilities
 - Consistent operator view in graphics and group displays
 - Off-Line Database Configuration for Project Work
 - On-Line Configuration for Commissioning and Operations
 - On-Line detection of new devices
 - Completely flexible FB pin connections – even unpublished params!
 - Supports both Download and Upload from devices
 - Efficient Loading -- Load only desired blocks
 - Link stays on-line during loading!

Easy DD File Add

- Ability to Add DD Files Integrated into Control Builder (CB)
 - Easy tool for adding DD files
 - Parameter Data Entry (PDE) tool to edit
 - Both “tools” fully integrated into CB
 - Handy flexible features
 - Rearrange parameters in tabs
 - Add new tabs (e.g., Diagnostics, not defined by manufacturer)
 - Change defaults
 - Change descriptors (VERY useful!!)
 - Change access level
 - Used for other applications (e.g., CAB and CDB)
 - Template export saves all changes made via PDE



Easy DD File Add

Basic Fieldbus Features

- **Support for ALL FF Function Blocks**
 - Includes Digital Inputs and Outputs!
 - Includes all current available FF blocks
 - Includes Multiple Input and Output blocks
- **FIM Non-volatile Database & Replacement**
 - Maintains database and LAS through power cycle
 - Replacement of FIM supported
- **Controller Independence**
 - FIM can be used with or without Controller
 - Results in better system performance and capacity
 - Most direct and secure path to valve
 - Each FIM is independent
 - Others depend on controllers in the path

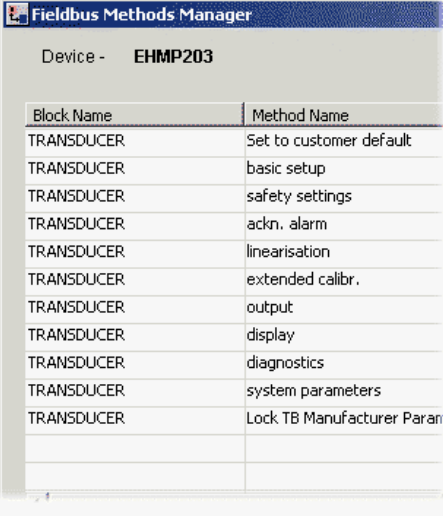
Methods & Block Instantiation

- **Methods**

- Automate work humans do on field devices
- “Macros” -- Perform routine tasks like calibration
- Work in Control Builder and Station
- Free user from having to know parameter names

- **Block Instantiation**

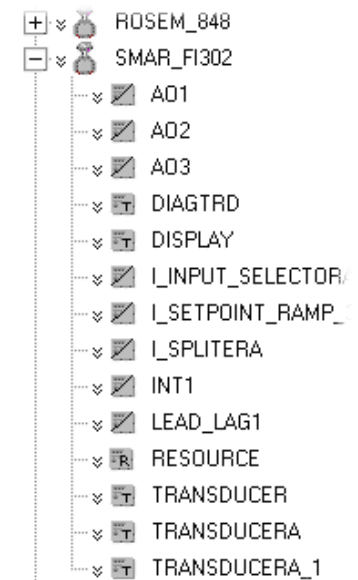
- More flexibility for the user
- Can choose FBs that execute in a given field device
- Used primarily in SMAR and F-R devices



Fieldbus Methods Manager

Device - EHMP203

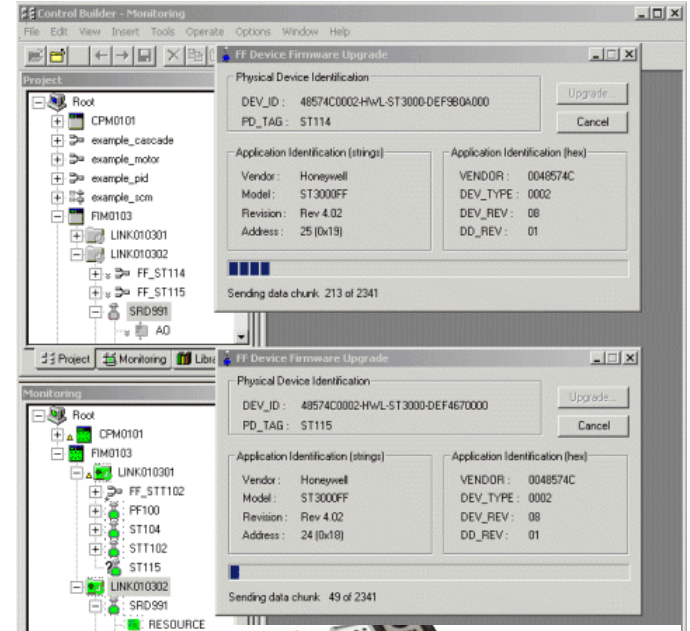
Block Name	Method Name
TRANSDUCER	Set to customer default
TRANSDUCER	basic setup
TRANSDUCER	safety settings
TRANSDUCER	ackn. alarm
TRANSDUCER	linearisation
TRANSDUCER	extended calibr.
TRANSDUCER	output
TRANSDUCER	display
TRANSDUCER	diagnostics
TRANSDUCER	system parameters
TRANSDUCER	Lock TB Manufacturer Param



Code Download & Diagnostics

- Code Download
 - Honeywell invention (donated to FF)
 - Now complies with full FF spec
 - Allows upgrading devices on-line
 - Includes enhancements to current capability and file management

- Diagnostics
 - FIM alarms if power problems on RTP, IOTA, or Link
 - RM notification to event journal indicating cause of fail-over (Series A only)
 - MTL and P+F redundant powered RTPs and IOTAs support diagnostics



Device Replacement

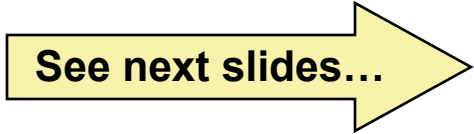
- Device Replacement by Operator
 - “2 AM” operator scenario (“auto” replacement)
 - Will work from Station or Control Builder
 - Initial support for:
 - like device, and,
 - like devices with revisions
 - *Unlike device replacement is future development*

The screenshot displays the Honeywell control system interface. On the left, the 'Fieldbus Device Detail' window shows the device 'STT40FA' in a blue header, with a large black box containing the word 'ONLINE' in red. Below this, a 'Resource' dropdown menu is set to 'AUTO'. At the bottom of this window are two buttons: 'Launch Methods Manager' and 'Replace Device'. On the right, the 'FF Device Replacement Wizard' is open, showing a 'Welcome to the Device Replacement Wizard' message. The wizard's title bar is blue and contains the text 'FF Device Replacement Wizard'. The main content area is white and contains the following text: 'This wizard will assist you in replacing a currently commissioned FOUNDATION Fieldbus device with a new FOUNDATION Fieldbus device. The new physical device need to be identical in manufacturer, model, and revision. The old device may still be on-line at the start (to retrieve its parameters) but must be removed before completion of the procedure. The new device must appear on the bus as an uncommissioned device in order to successfully complete this wizard.' Above the wizard, a navigation pane shows 'Server History', 'Server Displays', and 'Control Confirmation' tabs. Below these, a 'Tag Name' field contains 'STT40FA'. The top right corner of the interface shows the location path: 'Location : /System Components/PRODMKTG/Control'.

Safety and Optimization

- Automatic safe handling of new devices
 - Prevent new device from using an “old” schedule
 - Will “examine” devices that “leave and come back”
 - Clears the device if it does not recognize it
 - Ensure safe link behavior

- Graphical Link Schedule and Optimization
 - Makes efficient use of fieldbus bandwidth
 - Important for “control on the wire”
 - Completely automatic – easy for the user!
 - Honeywell patented!!



See next slides...

Project - Assignment

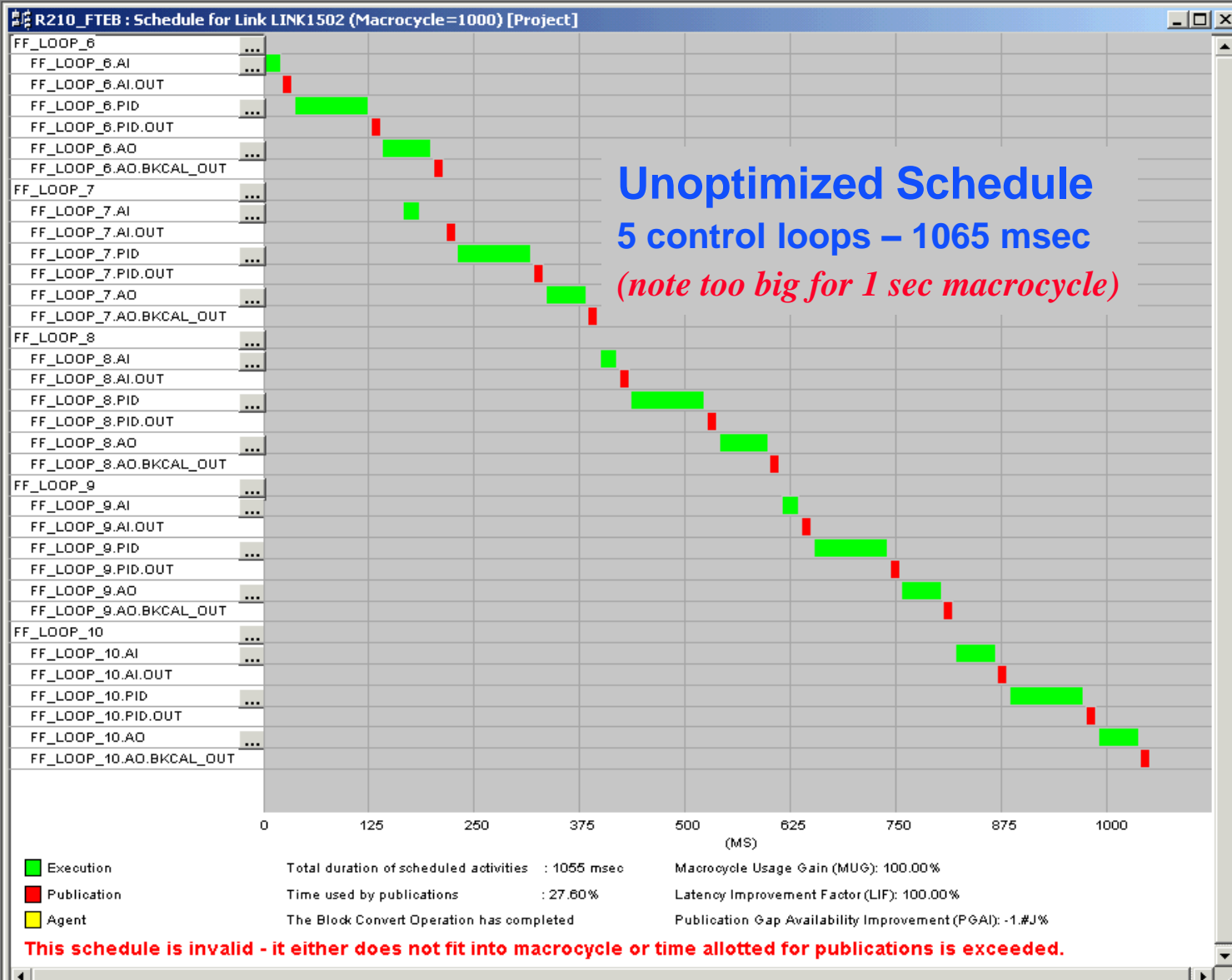
- Root
 - ACE_R210
 - R210_FTEB
 - R210_C200
 - R210_FIM
 - LINK0301
 - LINK0302
 - R210_FIM_DEMO
 - LINK1501
 - LINK1502
 - SIMC200_R210
 - Unassigned

Project Monitoring

Library - Containment

- FISHER-CONTROLS
- SMAR
- STONEL-CORPORATION
- HIWAY
- HIWAYIF
- PREFERENCES
- CHECKPOINT
- HONEYWELL
- FLOWSERVE
- USER
- SYSTEM
- AUXILIARY
- DEVCTL
- DATAACQ
- IOMODULE
- IOCHANNEL

Library



Control Builder - R210_FTEB : Schedule for Link LINK1501 (Macrocycle=1000) [Project]

File Edit View Tools Chart Templates Field Devices Controller Window Help

100%

Project - Assignment

- Root
 - ACE_R210
 - R210_FTEB
 - R210_C200
 - R210_FIM
 - LINK0301
 - LINK0302
 - R210_FIM_DEMO
 - LINK1501
 - LINK1502
 - SIMC200_R210
 - Unassigned

Library - Containment

- FISHER-CONTROLS
- SMAR
- STONEL-CORPORATION
- HIWAY
- HIWAYIF
- PREFERENCES
- CHECKPOINT
- HONEYWELL
- FLOWSERVE
- USER
- SYSTEM
- AUXILIARY
- DEVCTL
- DATAACQ
- IOMODULE
- IOCHANNEL

R210_FTEB : Schedule for Link LINK1501 (Macrocycle=1000) [Project]

Optimized Schedule
5 control loops -- <365 msec
(now fits with room to spare!)

Execution (Green)
Publication (Red)
Agent (Yellow)

Total duration of scheduled activities : 1138 msec
Time used by publications : 27.60%
The Block Convert Operation has completed

Macrocycle Usage Gain (MUG): 68.19%
Latency Improvement Factor (LIF): -38.63%
Publication Gap Availability Improvement (PGA): 83.96%

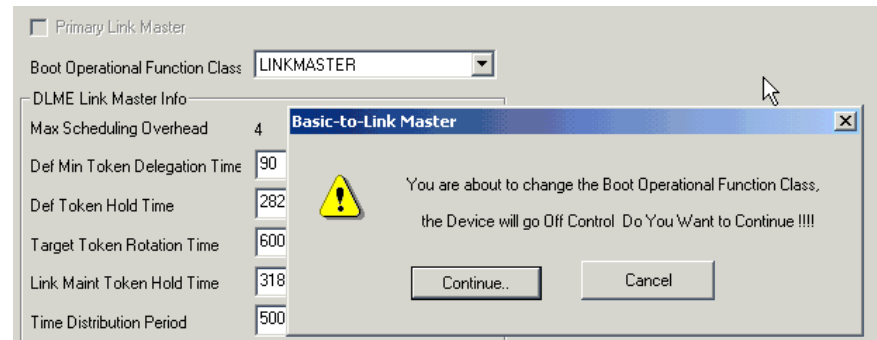
0 125 250 375 500 625 750 875 1000 (MS)

For Help, press F1

PRIMARY ascr210serv MNGR

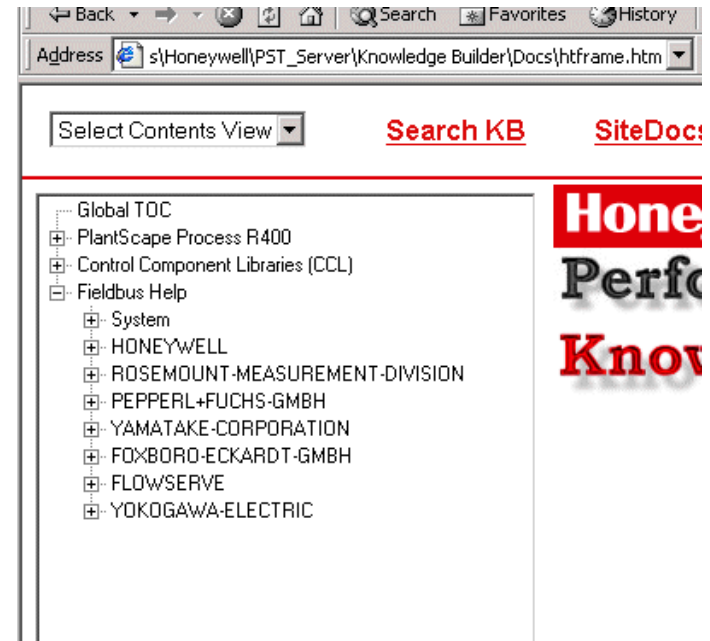
Backup Link Schedule Support

- Complete support for Link Active Schedule (LAS) and Backup Link Schedule
 - Honeywell pioneered this capability!
 - Any LAS-capable devices can be Backup Link Active Scheduler
 - We support multiple LAS devices
 - Devices get LAS without FIM publications
 - Most devices support limited connections
 - FIM connections not needed if it fails
- FF Basic-to-LM device wizard
 - “Safe” way to enable/disable Backup LAS
 - Provides wizard to step through sequence
 - Insures BLAS will work when needed



Easy Commissioning and Help

- Commission device without pre-configuration
 - Easy way to add a device in an existing installation
 - From Uncommissioned Device tab
 - Builds and loads device
- Knowledge Builder Integrated Help
 - Dynamic and comprehensive
 - As you add devices, help information from the manufacturer is transparently added to KB
 - From any parameter in a device, hit F1, and presto -- you're looking at help information!



Alarms, Events and Third-Party Access

- Alarms & Events
 - FIM support all alarms and events
 - FF priorities intelligently mapped into Experion
 - Seamless and transparent to operator
- Third-Party Access to Data
 - Key to access by other system and applications
 - OPC Server -- for inter-system read/write communication
 - ODBC Driver -- for SQL queries
 - Network Server -- Microsoft Excel Data Exchange, Network Node Interface and Network API

Interoperability Testing



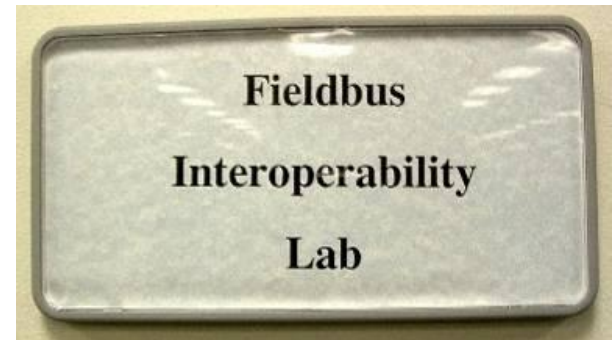
Interoperability Testing – Status

- THINGS WORK!
 - Issues found tend to be minor – very few are serious
 - Most common problem is minor CFF file errors
- Approximately 250 devices out there
 - Many with several revs!
 - More vendors and variety than ever!
- We've tested over 150 devices
 - Our testing is customer driven
- Testing will continue indefinitely
 - Requests from customers and HW projects
 - A lot of vendor requests in past year
- Devices getting better, but new features/
functions will mean new tests
 - Some new functions from FF coming, like EDDL
 - We want to test these too



Interoperability Testing – Policy

- Testing is NOT mandatory, but it is a good idea
- Testing is FREE
- We only ask
 - You arrange to get us a device
 - You arrange for a contact and DD files
 - You arrange shipment to Bangalore
- We do NOT publish test reports (but we post DDs)
- We do NOT tell everyone about problems!
- We have a test plan and policy (internal web)





Fieldbus Testing – Ft Washington Testing

- Large system testing and performance
- Full H1 loading
- Heavy alarm load



DD Files on the HW Web Site

- Go to <http://hpsweb.honeywell.com/>
- Select Products, then FOUNDATION Fieldbus
- Find Fieldbus Interoperability Support



Honeywell

HOME INDUSTRY SOLUTIONS **PRODUCTS** SERVICES

Overview Asset Applications Control Applications Op App

Honeywell Process Solutions



PRODUCTS

Better technology turns resource the best-in-class technology Hon have always been an automation Honeywell patented 4-20 mA sig Control System (TDC 2000®), bu the first hybrid control system (P Process Knowledge System (Ex entire spectrum of Process Solu customer results.

Overview

Overview of the systems, pro

- > FOUNDATION Fieldbus Integration
- > Fieldbus Interoperability Support
 - Devices Tested by Honeywell
 - Devices Tested by Others
 - Honeywell Firmware Files
- > Unified Safety Platform
- > Fault Tolerant Ethernet
- > Unified Simulation Environment
- > Icon Series Console

Feel free to download any of the files for your convenience. (All files are ZIP format.)

Devices Tested by Honeywell

The DD/CFF files in this section are for Fieldbus devices which have been tested with Experion PKS Fieldbus by the Honeywell Interoperability Test Lab.

Devices Tested by Others

The DD/CFF files in this section are for Fieldbus devices which have been shown to work with Experion PKS Fieldbus (trade shows, demos, project work, beta testing, etc.). They have not yet been tested by the Honeywell Interoperability Test Lab. They are made available for your convenience. If you need help using any of them, your support may be required to help complete Interoperability Lab Testing and problem resolution.

Honeywell Firmware Files

Quick Links

- Products A-Z
- **FOUNDATION Fieldbus**
- HART Integration

Documents - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media Print Copy Paste

Address <http://hpsweb.honeywell.com/HPSWebUI/UITemplates/DocumentChannelFeed.aspx?NRMODE=Published&NRORIGINALURL=%2fCultures%2fen-US%2fProducts%2fSystems%2fExperion%2fFieldbus%2fInteroperability%2fSupport%2fDevices%2fTested%2fby%2fHoneywell.aspx> Go

Honeywell

→ Honeywell.com → Automation and Control Solutions

HOME | INDUSTRY SOLUTIONS | **PRODUCTS** | SERVICES | CONTACTS & SUPPORT | NEWS & EVENTS | ABOUT US | MY ACCOUNT

Overview | Asset Applications | Control Applications | Operations Applications | Business Applications | **Systems** | Instrumentation | Products A-Z

Honeywell Process Solutions

<< Back

Fieldbus Interoperability Support - Devices Tested by Honeywell

Page 1 of 7 Go

< Previous | Next >

Title (Active Link)	Description	Document Type	Date Created	File Size	File Type
ABB_TF02_0101	ABB TF02 (Temperature Transmitter) Rev 1.00 DEV/DD 0101.	Software Download	9/7/2004	45KB	.zip
Dresser-Valve-Division_FVP_0301	Masonellan Dresser-Valve-Division FVPALC1 (Valve Positioner) Rev. 2.01 DEV/DD 0301	Software Download	1/1/2004	77KB	.zip
Dresser-Valve-Division_FVP_0304	Masonellan Dresser-Valve-Division FVPALC1 (Valve Positioner) Rev. 2.01 DEV/DD 0304	Software Download	1/1/2004	80KB	.zip
Dresser-Valve-Division_FVP_0305	Masonellan Dresser-Valve-Division FVPALC1 (Valve Positioner) Rev. 2.01 DEV/DD 0305 [Note: Fixes Methods problem in 0304 files.]	Software Download	9/2/2004	83KB	.zip
E+H_Promass83_0201	Endress+Hauser Promass 83 (Coriolis) Rev 1.01.XX DEV/DD 0201	Software Download	1/1/2004	87KB	.zip
EI-O-Matic_2100_0101	Emerson EI-O-Matic D3A0 FieldQ (Pneumatic Valve Actuator) Rev 1.3 DEV/DD 0101 (HW modified CFF)	Software Download	1/1/2004	140KB	.zip
Fisher_DVC5000f_0803	Fisher Controls DVC5000 (Valve Positioner) Rev ACT9FF14 NI 2.3CTS DEV/DD 0803 (HW modified)	Software Download	1/1/2004	117KB	.zip
Fisher_DVC5000f_0903	Fisher Controls DVC5000 (Valve Positioner) Rev ACTAF14P NI 2.3CTS DEV/DD 0903 (See readme file)	Software Download	1/1/2004	130KB	.zip
Fisher_DVC6000f_0102	Fisher Controls DVC 6000 (Valve Positioner) Rev 1.2 DEV/DD 0102. Note these files are modified by Fisher for Experion R201.	Software Download	9/7/2004	270KB	.zip
FlowServe_LX1400FF_0502	FlowServe Logix 1400 (Valve Positioner) Rev 2.02 DEV/DD 0502. Use with Flowserve_LX1400FW_2.02.02 firmware files.	Software Download	1/1/2004	62KB	.zip

Local intranet

2:07 PM

Start

Inbox - Microsoft O... D:\JYFiles\Fieldbus\... Microsoft PowerPoi... Paint Shop Pro - [I... Documents - Micr...

Fieldbus Future Directions



Future Developments

Experion PKS is already the best Fieldbus solution today, but we plan to make it even better:

- **Device Replacement Enhancements**
 - Unlike devices and template replacement
- **EDDL – Electronic DDLs, supporting new features**
 - Extension to the DDL spec by FF
- **Support for unmodified CFF files and DD enhancements**
 - (FF spec extensions)
- **Multi-Variable Container (MBC) Support**
 - (FF spec extensions)
- **Fieldbus Simulation (funded)**
 - Needed for project work
- **Field Device Manager**
- **FDT/DTM**
- **Extensions for Discrete Device Support**
- **Support for safety system (SIS) requirements**
- **Bridging and Synchronization**
 - Tighter coupling/integration of DCS and FF control



Thanks!

Honeywell

www.honeywell.com/ps