

Group

FDT

# FDT – 解决方案

Group

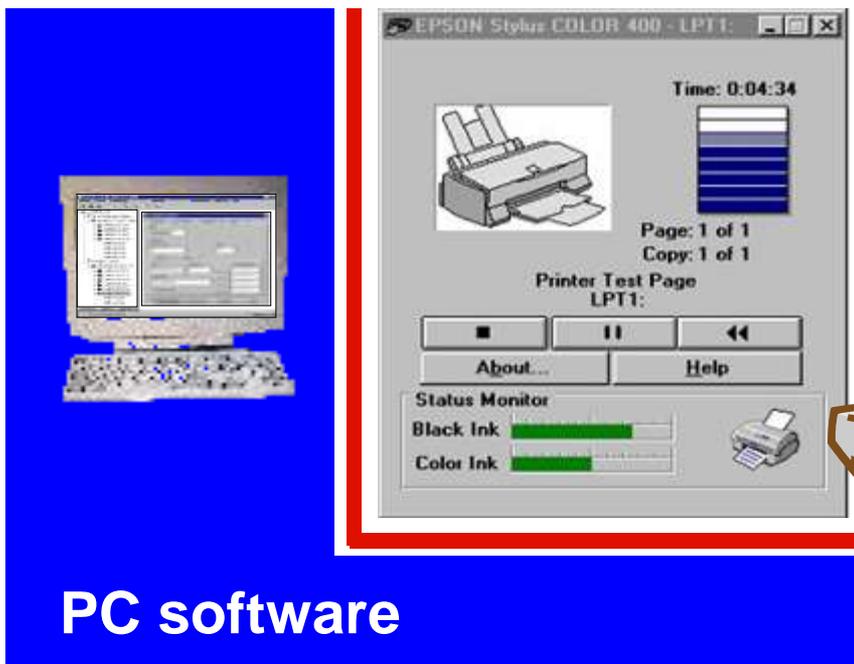
FDT

季伟 - 苏州美名软件

FDT 中国路演 – 深圳  
2010年12月07日

用电脑/打印机的接口作例子

- 不同的电脑软件(例如, 办公软件)通过相同的方式调用打印机驱动程序
- 打印机驱动程序包括配置、诊断和其它功能
- 打印机驱动程序由打印机生产商负责开发并提供



框架应用程序 = 操作系统 (DCS, 工程工具, ...)

FDT 接口 = 集成标准

DTM = 设备驱动



框架应用程序类似于电脑软件。  
它提供以下功能：



- 一般环境
- 网络配置
- 导航
- 用户管理
- 设备管理
- 资料库存储

框架应用程序

- ...是实际设备的**驱动程序**
- ...由**设备生产商**提供
- ...需要**安装**在PC上
- ...可以在**任意的**框架应用程序中使用
- ...提供**图形化**的用户界面
- ...允许获取所有设备**参数**



- 可以从大量不同的供应商那里得到框架应用程序和DTM
  - 市场上有超过**2000**款设备的DTM和**15**种FDT框架应用程序
- 质量保证
  - 众多不同的供应商所提供的DTM和框架应用程序之间经常进行互操作性项目合作
  - 建立了DTM认证流程
  - 筹划建立框架认证流程
- 已认证的DTM列表可以通过FDT官网获取[www.fdtgroup.org](http://www.fdtgroup.org)
  - 提供链接到供应商的公司网站来下载DTM
- 在实际的演示和Table Tops已经出现了多种框架应用程序和DTM

- FDT 支持工厂和过程自动化的所有通信协议
- FDT 适用于所有物理网络



## 通信DTM

通信设备的驱动程序，例如PC中的通讯网卡，分接器，网关，连接设备

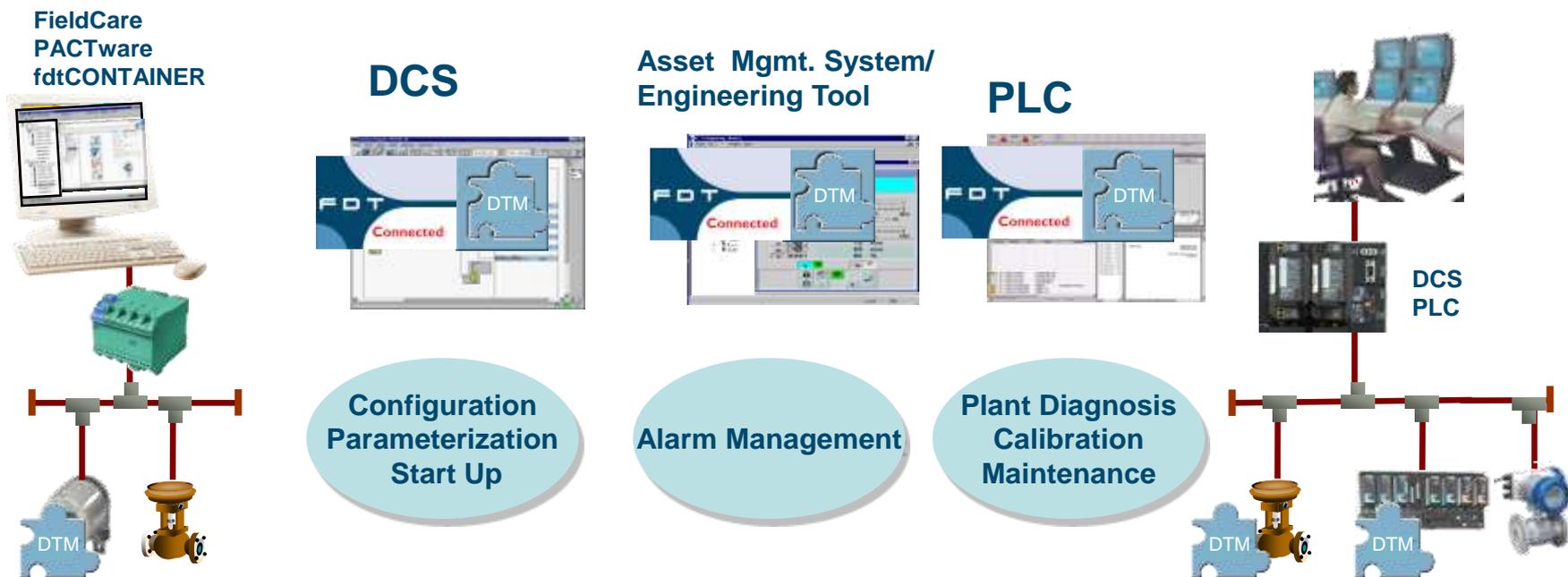


## 设备DTM

现场设备的驱动程序，类似于阀门，传感器，执行机构，传送器，马达和泵



- 框架应用程序(DCS, PLC, 资产管理, 工程工具) 与DTM之间**统一**的**FDT**接口
- 适用于所有框架应用程序的**统一DTM**
- 能管理所有DTM的**统一框架应用程序**



获取更多现有设备的数据和信息！



FieldCare - [ND820 (Offline Parameterize)]

File Edit View Device Operation DTM\_Catalog Tools Window Extras Help

Select in Network.

**ND800** metso

DTM Status: **Offline** Device Type: **ND820** Rev. **5.02** Communication: UL DL M C T  Device Status: **Not monitored**

00/00/0000 12:00:00 AM

- [-] Device Identification
  - + Operation Unit
  - + Positional Information
- [-] Configuration
  - Position Control
  - Assembly Related
- [-] Diagnostics
  - Actuator and Valve Meters
  - Travel Deviation Trend
  - Load Factor Trend
  - Travel Histogram
  - Event Log
  - **Online Alerts**
  - + Alert Settings
- [-] Testing
  - Step Test
  - Hysteresis Test
- [-] Advanced
  - Flow Modification
  - + HART Configuration
  - Device HART Address

	Count	First Time Activated	Last Time Activated	Cumulative Time
Pneumatics Problem				
Friction Problem				
Deviation Problem				
Load Factor Problem				

**FieldCare -- [LI2000 (Online-Parametrierung)]**

Menü: Datei Bearbeiten Ansicht Gerätebedienung DTM-Katalog Werkzeuge Einsteiger Extras Hilfe

**Sprache**

DeviceType: Microplot M Software-Revision: 01.01.02 Messwert: 87,50 %  
 Device Name: FMR 201 Messzelle: LI2000 gemessene Dst.: 2,749 m  
 aktueller Fehler: system ok

**Bezeichner**

Bezeichner	Wert	Einheit
Messwert	87,50318	%

**FieldCare -- [LI2000 (Müllkurve)]**

**Parameter**

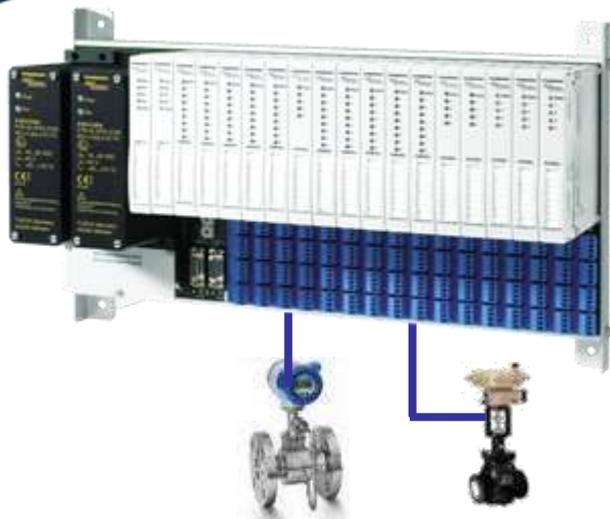
Parameter	Wert
Range	87,43 m
Messwert	87,43 %
gemessene Dst.	2,753 m
Länge gemessene	0,4 legend
Maximaler Eigenwert	unbekannt
Standard	Standard
Antenna-Type	non-axial
ant. statistics	3
Echoqualität	12 dB
FAC-Wert	5 dB
Abgleich-Wert	22,000 m
Abgleich-Wert	22,000 m
maximaler FLP	13,952 dB
für echo last	20 dB
unrl. distance	2749,20 mm
rdg. parameter	4 dB
aktueller Fehler	

**Graph:** Radar return signal plot showing range (0-5m) vs. signal strength (dB). A peak is labeled at 2.75 m, 70.00 dB.

**Customer Data:** Kunden-Nr.: 1/1, Datum: 20.06.2007 11:59:37, Projekt: --

**Network:** Host PC, PROFIdm, LI2000, Channel

**Taskbar:** LI2000 (Online-Parametrierung), Microplot M / FMR 201 / PA / V1.Dx Endress+Hauser 1.5.102.167, FieldCare -- [LI2000 ...]



- 系统诊断总览
- 单模块的详细诊断
- 单通道的详细诊断

→ 诊断已连接的 HART 设备

The screenshot displays the PACTware software interface. On the left, a project tree shows a PROFIBUS Master DP-V1 connected to several modules, including a VEGAPULS 52 HART sensor and an AOH40Ex 4H module. The central window shows a rack diagram with 12 slots. Slot 2 is highlighted in yellow, and slots 3 through 6 are highlighted in red. The 'Station Diagnosis' window for Slot 2 shows a 'Channel related error'. The right window shows the 'AOR40Ex 4H' module configuration, including a 'Steckplatz 08: AOR40Ex 4H' and a 'Moduldiagnose Diagnose' section with four channels (Kanal 1-4) listed as 'HART Feltle'.

- 记录和分析原始信号数据，显示错误

The screenshot displays the FieldConnex software interface. At the top left, the logo "FieldConnex" is visible. The main header area contains the following information:

- Device Name: HD2-DM-A
- Device Tag:
- Fieldbus Type: PROFIBUS PA
- Segment Focus: 1 2 3 4
- Segment 1 Status:
- Segment 2 Status:
- System Status:
- Segment 3 Status:
- Segment 4 Status:

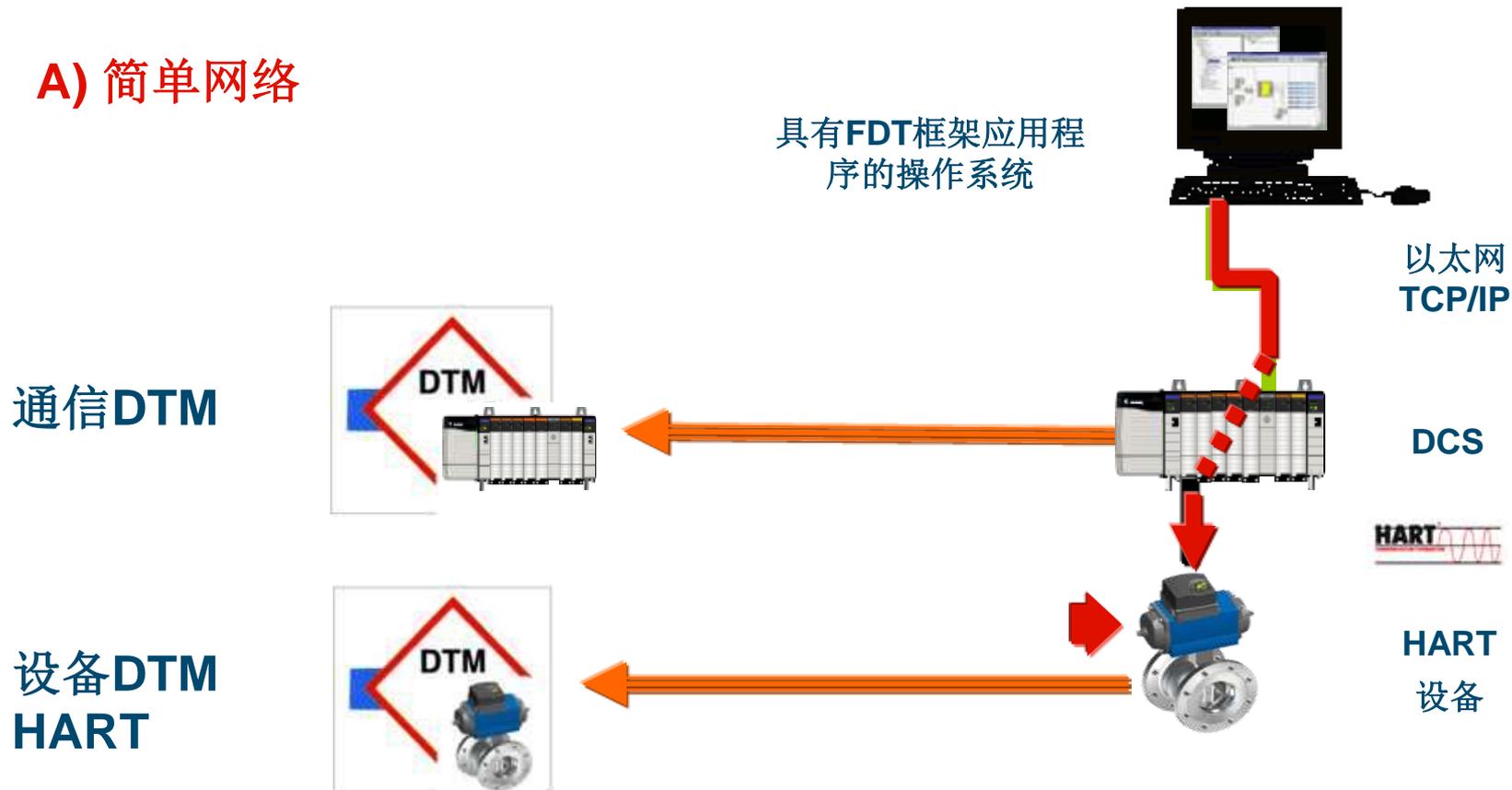
Below the header, there are buttons for "Save as Image..." and "Export to XML...". The central part of the interface features a large waveform display with the following parameters:  $U = 100\text{mV/div}$ ,  $t = 50\mu\text{s/div}$ . The waveform shows a series of pulses, with a red arrow pointing to a specific point where a framing error occurred. Below the main waveform, a smaller waveform shows a similar signal with a red arrow pointing to a framing error, labeled "Framing Error".

On the right side, there are recording settings:

- Start Recording (button)
- Cancel (button)
- Recording Length: 32,768 ms
- Amplitude: +/- 0,625 V
- Trigger Events:
  - Request from Address
  - Response from Address
  - Missing Response from A
  - Pass Token to Address
  - Missing Pass Token Resp
  - CRC Error
  - Framing Error
- Trigger Address:  All
- Pretrigger Time:  Automatic ms
- Trigger Level:  Ignore V
- Trigger Timeout:  240 s

## FDT能够映射已有网络结构

### A) 简单网络



## FDT能够映射已有网络结构

### B) 复杂网络

通信DTM

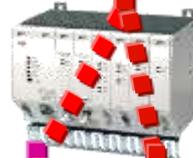


具有框架应用程序的操作系统



以太网  
TCP/IP

网关DTM



DCS

DTM设备  
PROFIBUS



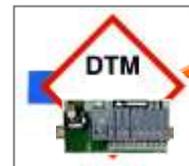
PROFIBUS

设备



远程 I/O

网关DTM



HART

DTM设备  
HART



HART  
设备

- ...自由选择... 选用最适合您需求的产品
- ...投资保护... 维护并改善您已有的设备
- ...透明的数据获取... 所有设备和功能使用统一界面
- ...使用简便... 所有设备使用相同操作方法



**FDT 满足您的需要!**

实现对智能设备的开放访问

