Quick Start Guide

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Flowserve ValveSight DTM installation instructions for the D3 HART Digital Positioner

1 Introduction

The Flowserve ValveSight package for the D3 HART Digital Positioner offers functionality for configuring, calibrating, maintaining and diagnosing your control valve's health and operation. The package consists of two main parts – an advanced diagnostics engine inside the D3 HART Digital Positioner, and an associated DTM to run under an FDT frame on a PC or in a DCS or PLC system.

This Quick Start Guide focuses on the DTM and the environment it requires to operate.

2 Pre-requisites

- D3 HART Digital Positioner, firmware revision 10.0 or higher (D3 HART ValveSight). A D3 with pressure sensors is recommended to make full use of the diagnostics functionality.
- HART communication hardware (i.e. HART modem).
- A HART communication DTM certified by the FDT group, suitable for the HART communication hardware. A certified HART communication DTM working with most HART modems on the market can be obtained through Flowserve.

- An FDT compliant frame such as Endress + Hauser Fieldcare, M&M fdtContainer, Yokogawa FieldMate or Pactware. Or use a DCS or PLC FDT frame such as the ABB DIC, Yokagawa PRM, Foxboro FDM, Honeywell FDM Smar FDM, Allen Bradley FDM, or the Metso Automation FDM,.
    - **Note**: Pactware is a free download at http://www.pactware.com) or fdtCONTAINER is also a free download at http://www.fdtcontainer.com)
- ValveSight D3 HART DTM installer package "**ValveSight D3 HART DTM Setup.exe**".

NOTE: To start the ValveSight D3 DTM it is required that the D3 is Online, i.e. communication with the D3 is established.

3 Installing the D3 HART DTM

The latest version of the ValveSight D3 HART DTM can be downloaded from the web page: http://www.pmv.nu/downloads.aspx?pathlocator=8.1

To install the DTM, please run the "ValveSight D3 HART DTM Setup.exe". It will automatically start the installer and guide you through the process.

Figure 1: Installation dialog

You are required to read through and accept the License Agreement before continuing the installation.
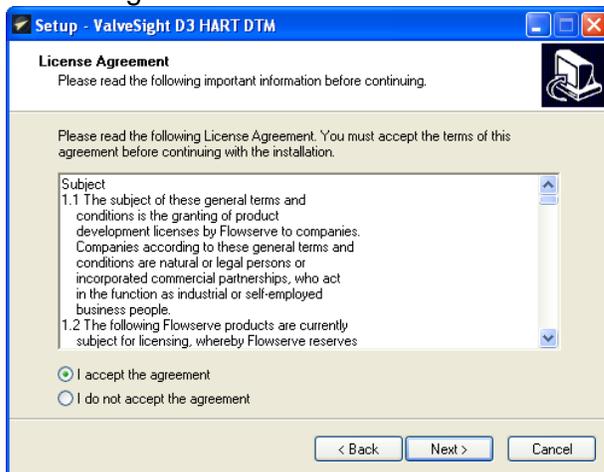
Figure 2: License agreement

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Pressing the Next button after accepting the License Agreement will allow you decide where you wish to install the DTM on your computer.
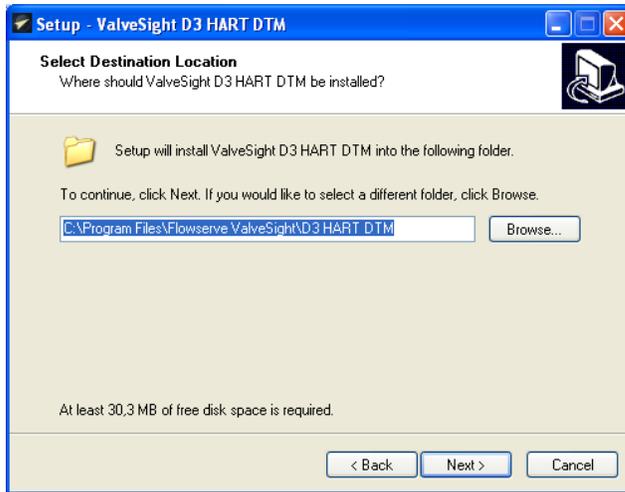
Figure 3: DTM install location

Short cuts are then placed in the Start Menu.
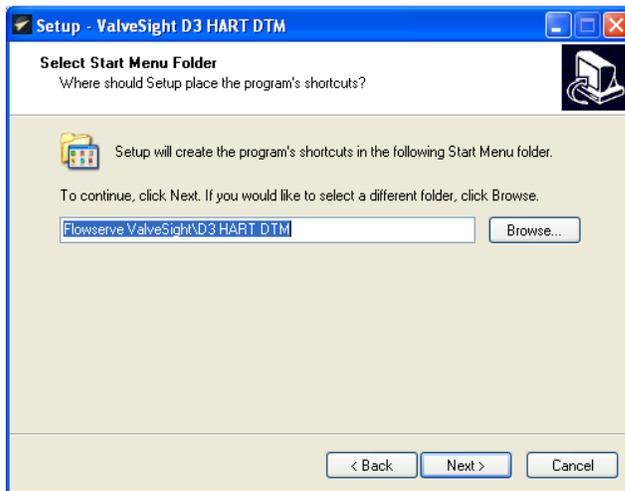
Figure 4: Selecting the Start Menu Folder

Before finishing the installation, review your choices.

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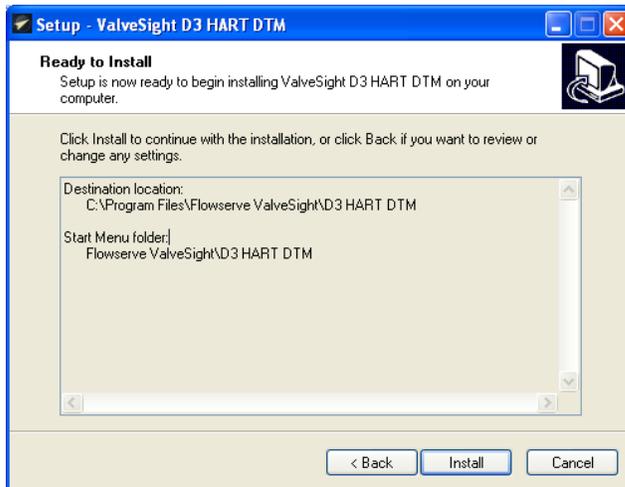
Figure 5: Ready to install

Select Install and the DTM will extract the required files, register the components and create the Start Menu Folder for the DTM.
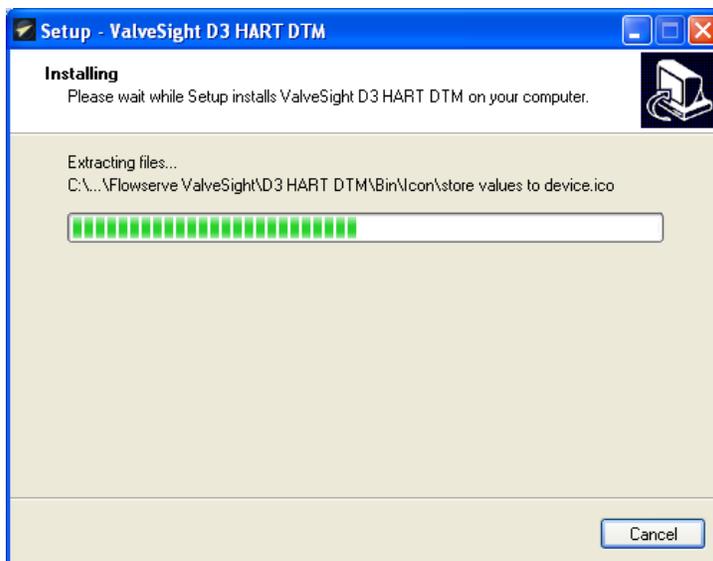
Figure 6: Installation progress

To finish the installation, select Finish at the closing screen.

Figure 7: Finishing installation

You need a suitable FDT frame, HART modem and Communication DTM installed on your computer to be able to run the ValveSight DTM. Next chapter will cover briefly the installation of a third party HART modem and communication DTM.

4 Installation recommendations for HART modems and communication DTM's

When running the HART version of the ValveSight DTM a HART communication hardware is required, e.g. a HART modem. This section will cover briefly the installation of two third party HART modems; the Microlink USB HART modem and the ifak USB HART modem (ifak isHRT USB). For more detailed information on the third party HART modems or communication DTMs, please refer to the installation guide for those products.

A communication DTM, CommDTM, is required to connect to the software communication components. With the Microlink USB HART modem, there is an accompanying HART communication DTM from Codewrights. The ifak USB HART modem can be purchased with a certified communication DTM: (http://www.ifak-system.com/products/communication-adapter/hart-interfaces/ishrt-usb.html). M&M has a universal HART communication DTM which works with most HART modems. (http://www.mm-software.com)

The universal HART communication DTM from M&M and a basic MicroLink HART modem can also be obtained through Flowserve.

4.1 Installing HART modem, including HART driver

1. Start by installing the HART modem, following the manufacturer's instructions.
2. The USB HART modems require the installation of a driver that should accompany the modem from the manufacturer. Please install this driver. For some setups, if you move the USB modem from one USB port to another, you will have to install the driver for the new port as well or the USB HART modem will not work.
3. Verify which COM port the modem is attached by the following procedure:
   a. Open the **Control Panel** and select **System**
   b. In the **System Properties**, select the **Hardware** tab and click on the **Device Manager** button
   c. In the **Device Manager** select **Ports (COM & LPT)**
   d. Check which port the modem is installed on (see Figure 8: Finding the HART modem port). You will need this port number when starting the DTM in the FDT frame.

NOTE: For the ifak HART modem and Communications DTM, you will instead have to run the ifak Driver configuration utility called isHRT Driver Configuration. This software is located in the installed ifak systems folder.
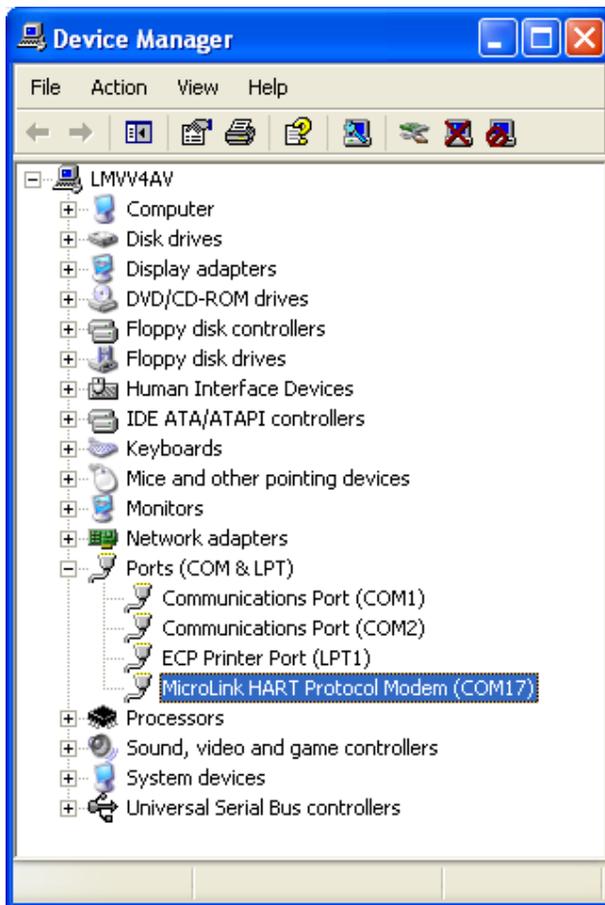
Figure 8: Finding the HART modem port

4.2 Installing Communication DTM

1. Install a suitable communication DTM, for example the M&M universal HART communication DTM which works with most HART modems, by following the installation instructions provided by the manufacturer.

5 An example of how to setup and run the ValveSight DTM

This section describes an example of how to get started when using a stand-alone FDT frame and a HART modem. The instructions and pictures below are using the PACTware frame. However, for example fdtCONTAINER start-up is very similar

1. If not done already, install the FDT frame software you have selected to use, following that frame's installation instructions.
2. Open the FDT frame. If you are using PACTware, log in using either the default password, or the password your organization has decided to use for PACTware. For information on the default PACTware password, please see the PACTware manual.
3. After a new installation of the ValveSight DTM, an update of the device catalog is required. To reach the device catalog, you can select the menu item View / Device catalog, or press F3. In PACTware the device catalog is updated by pressing the **Update device catalog** button.
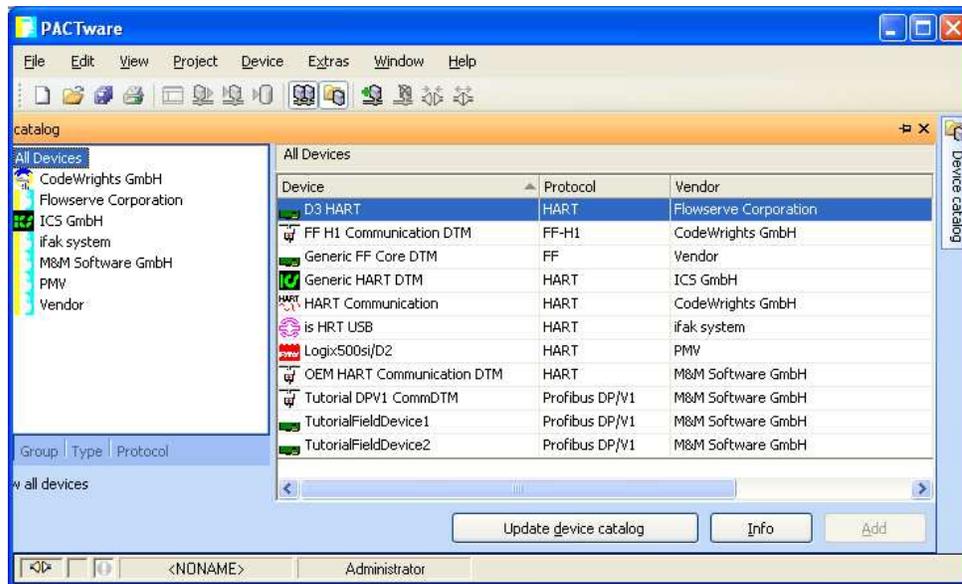
Figure 9: The Device Catalog

4. Close the device catalog window by pressing the X at the top right corner of the catalog view.
5. Add the COM DTM
    a. Right Click on the **Host PC** line on the left side of the window and select Add device.

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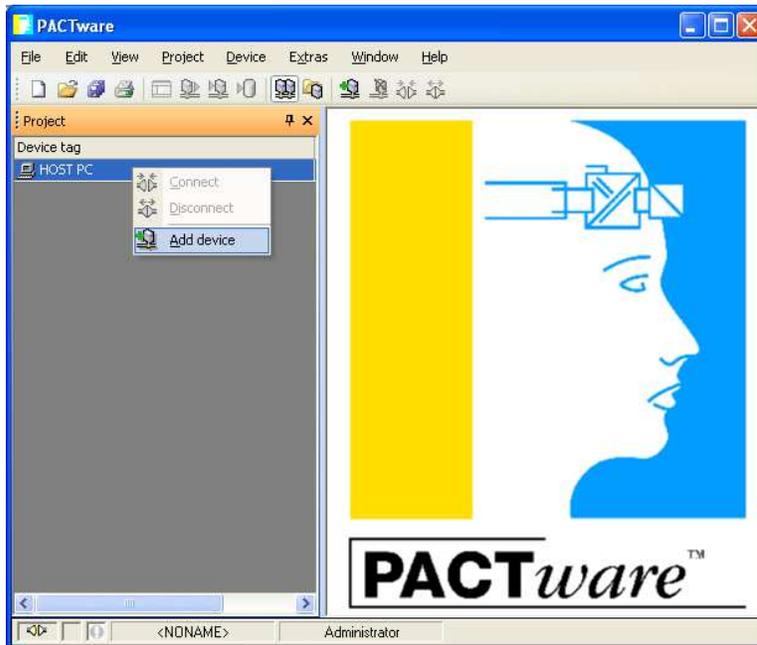
Figure 10: Adding a communication DTM

  b. Select **OEM HART Communication DTM** if you are using the M&M generic communication DTM. Or select the Communication DTM that accompanied your HART communications hardware and press the Ok button.
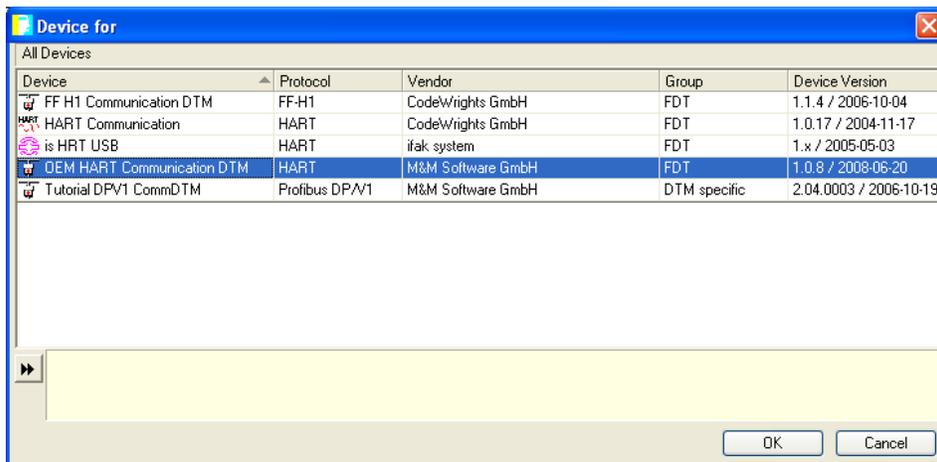
Figure 11: Selecting a communications DTM

6. After the communications DTM has been selected, it needs to be configured before use. How the communication DTM is configured is brand dependant.

   For instance the ifak communication DTM for HART requires you to run a specific piece of configuration software that comes with the ifak HART modem

and Communication DTM. The M&M Communications DTM requires you to do the configuration from the FDT frame by following these steps:

  a. Double click on the Communications DTM line to open its configuration.

  b. If using a USB HART modem, you need to make sure that the COM port the Communication DTM is the same as it is connected to on your computer. Often this is by default set to port 1. However, port 1 is for serial communication (serial HART modems), and if you are using a USB modem you will have to investigate which port it is connected to and then select this port. Please see *Figure 8: Finding the HART modem port* for this procedure.

  c. In the M&M OEM HART Communication DTM there is a self test available. If you are using this Communication DTM it is a good idea to run the self test before closing the configuration. USB hart modems must be set to Emulated access mode. The configuration view for the Communication DTM may differ depending on which Communication DTM you are running.
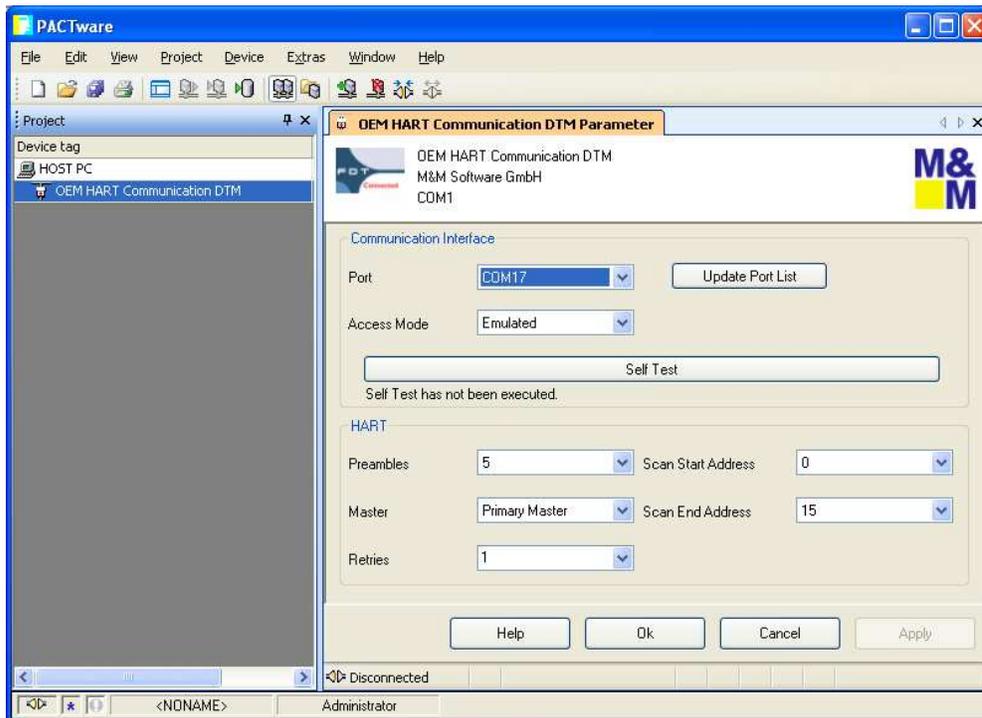
Figure 12: Communication DTM parameters

7. Adding the D3 DTM
   a. Right click on the communications DTM to access its menu selection and select Add device.
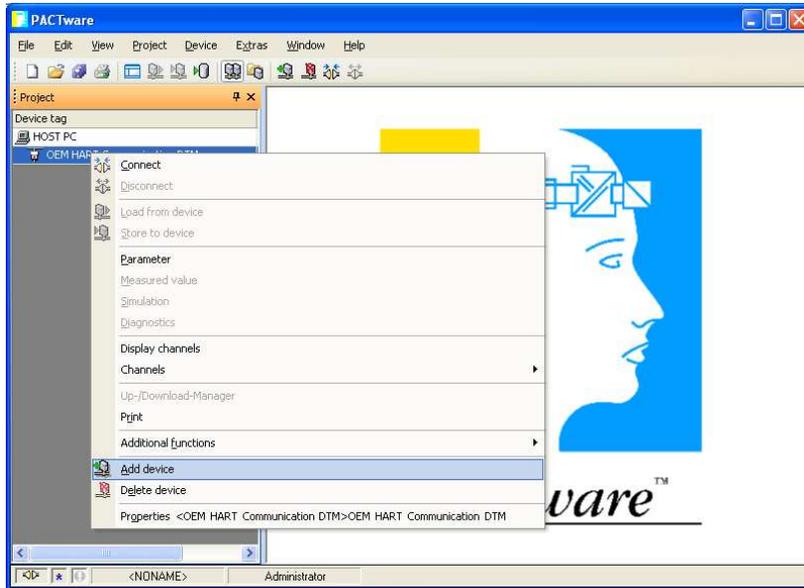
Figure 13: Adding a device DTM

   b. Select D3 HART from the list of devices and press the OK button.
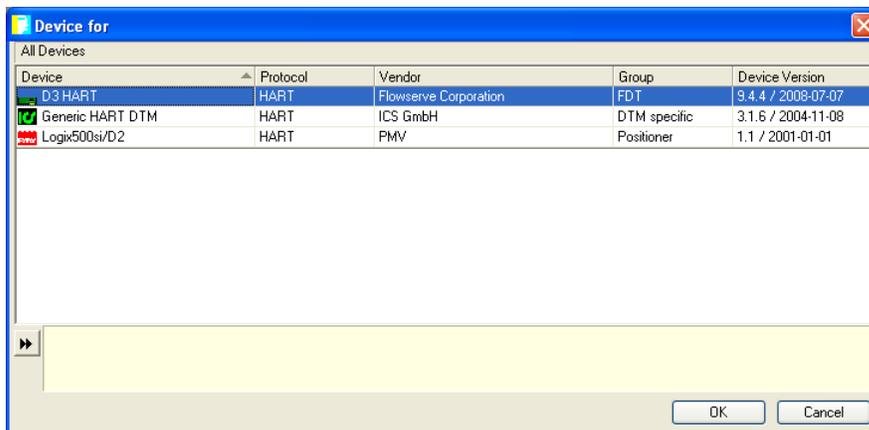
Figure 14: Selecting the D3 ValveSight HART DTM

c. Verify that the device DTM information is correct.
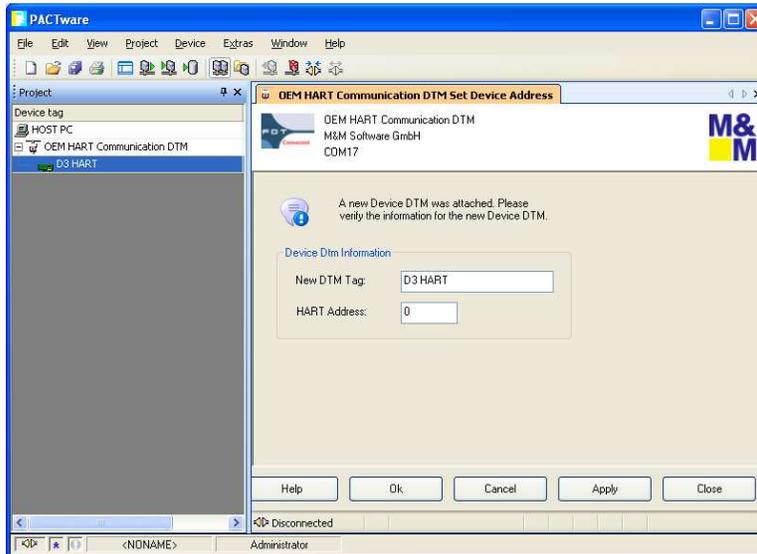
Figure 15: Device DTM information

8. Save the project to your desktop or someplace you can easily remember. This step will remove the need for you repeatedly having to go through the above steps when starting the FDT frame.
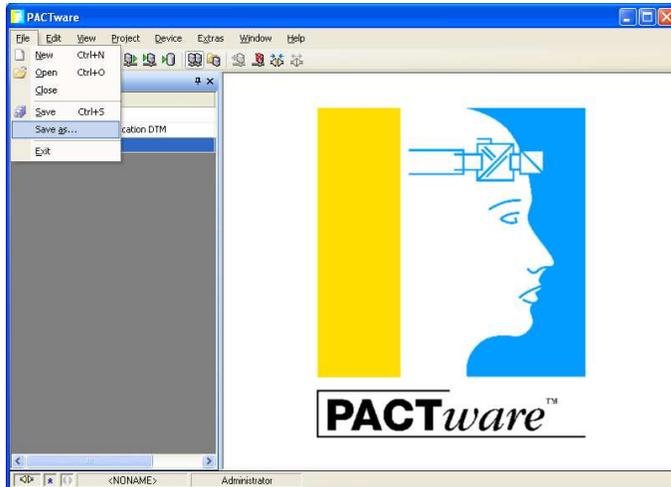
Figure 16: Saving the project setup

9. Connect the DTM to the D3 positioner (called "Go online" on some FDT frames). This is done by right clicking on the device DTM and selecting **Connect**. Both the HART DTM and D3 DTM need to be bold font which indicates the devices are connected and ready to launch.
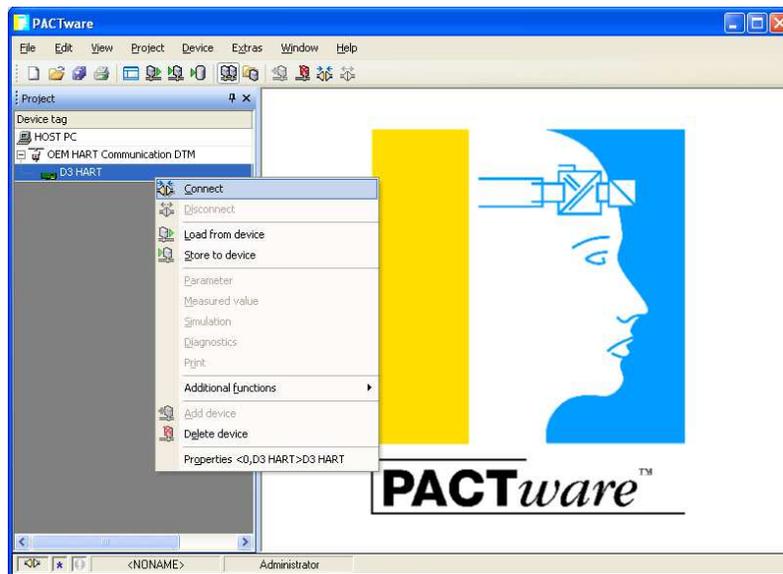
Figure 17: Connecting to the device

10. Launch the D3 DTM
   a. Double click on the D3 HART DTM. This will launch the DTM.
   b. If this is the first time you are running a D3 ValveSight DTM, or if the D3 ValveSight positioner is unlicensed, the DTM will start in basic mode. This is identified at startup. The basic version has limited functionality and lacks the advanced diagnostics available in the advanced version.
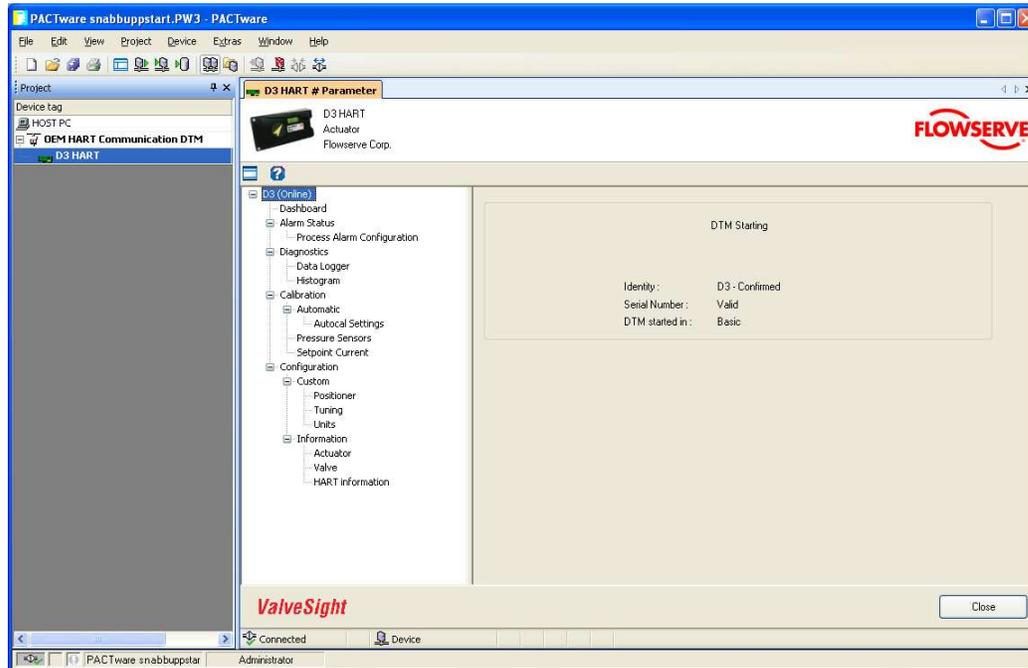
Figure 18: DTM starting in basic

11. To upgrade the DTM to the Advanced version, please follow the instructions in the next chapter.

6 Upgrading from Basic to Advanced version

To upgrade the DTM from Basic to Advanced version you need to go through the following steps

1. Contact your Flowserve representative to obtain information on how to purchase a full ValveSight license or how to obtain a time limited evaluation license.

2. Retrieve the Machine ID. You can get it from the License Registration view on the DTM. You will find a short cut button to the License Registration view on the Dashboard view (see picture below). You can also navigate to the License Registration view via the Configuration view and then the Information view.
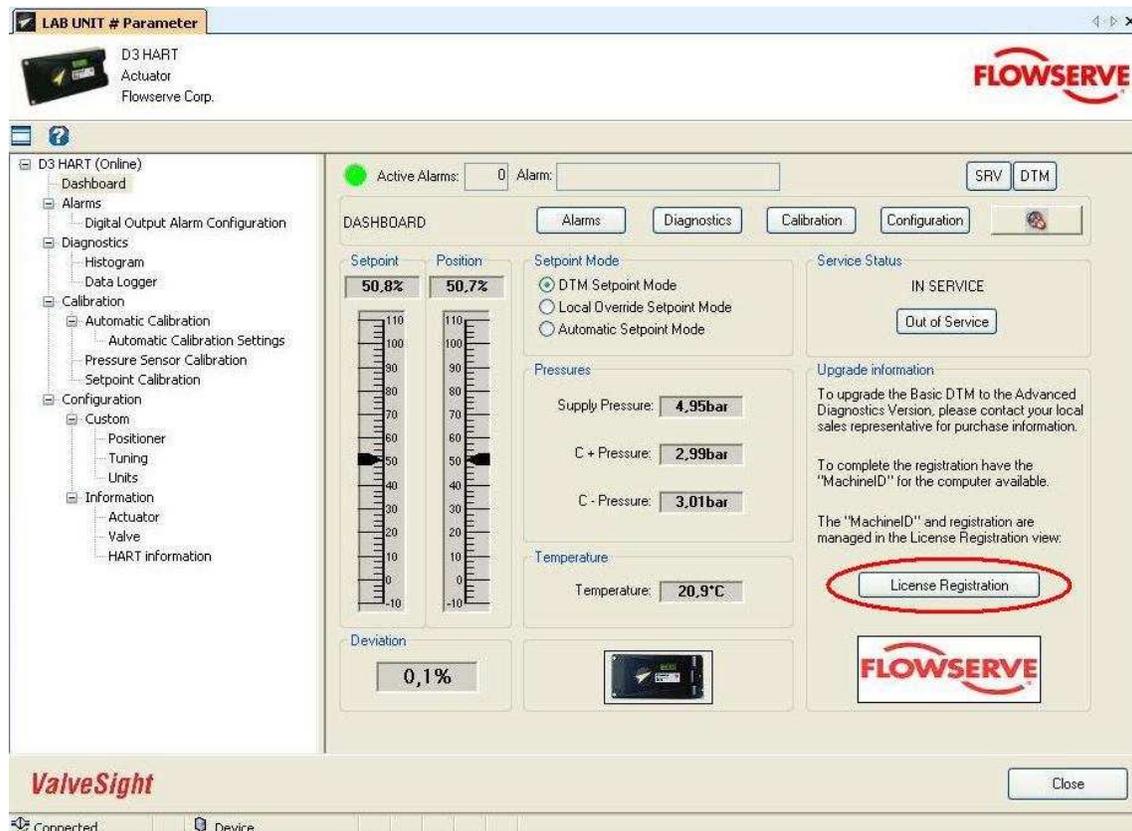
Figure 19: Short cut to the License Registration view.
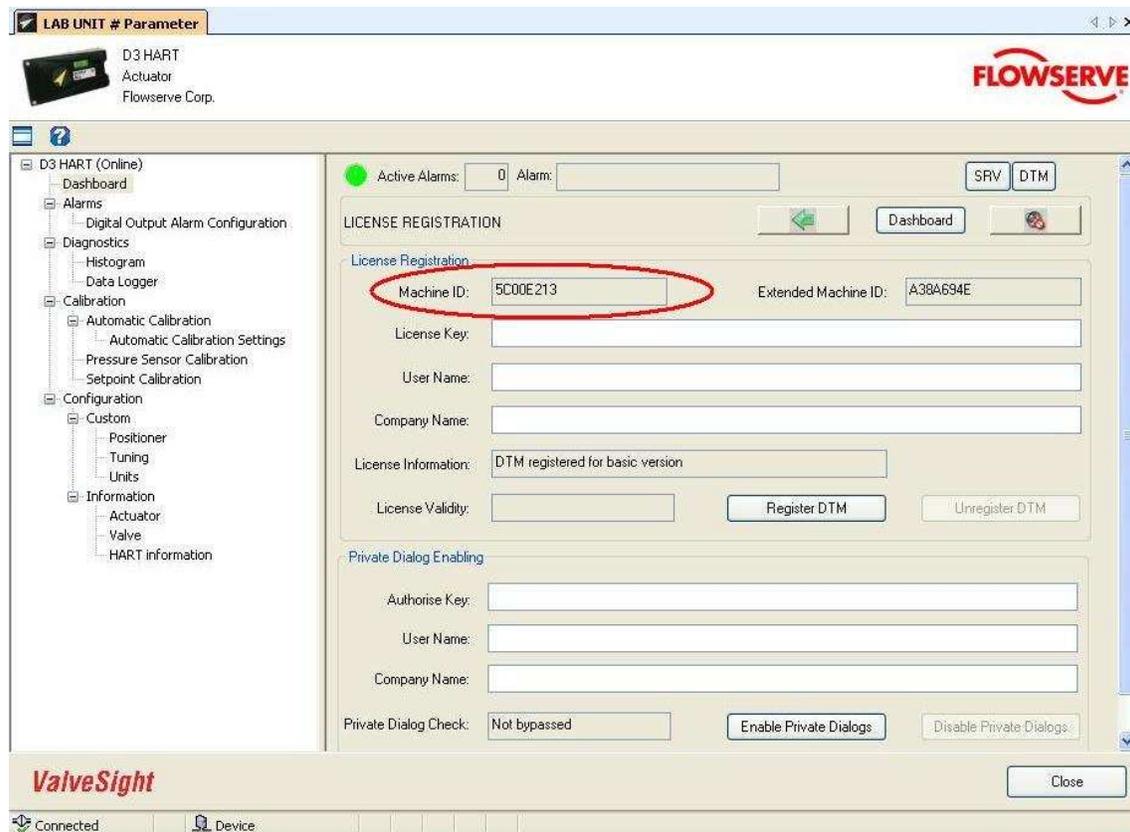
Figure 20: The License Registration view.

You can also retrieve your Machine ID with a program installed along with the D3 ValveSight DTM package; Go to the Windows **Start** menu, select **All Programs** / **Flowserve** / **ValveSight D3 HART DTM** and run the **Get Machine ID** program.

3. Send an email to ValveSightD3support@flowserve.com with the following information:

   Your PMV Customer Number (see invoice):
   Your PMV Order Number (see invoice):
   Your User Name:
   Your Company Name:
   Your Standard Machine ID:
   Communication protocol (HART, Profibus or Foundation Fieldbus):

4. When your purchase of the licenses has been verified you will receive an email back with a license number.

5. Go to the License Registration view and enter the License Number, User Name and Company Name and finish the registration by pressing the 'Register DTM' button. If the registration was successful you will be directed to the Advanced version of the Dashboard view.

The license can also be registered by going to the **Start** menu, selecting **All Programs** / **Flowserve** / **Valvesight D3 HART DTM** / **License registration**.
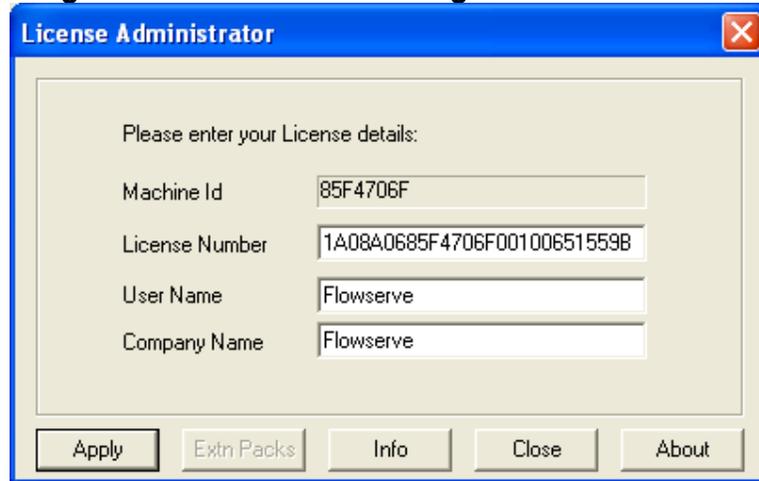
License Administrator

Please enter your License details:

Machine Id	85F4706F
License Number	1A08A0685F4706F00100651559B
User Name	Flowserve
Company Name	Flowserve

Apply   Extn Packs   Info   Close   About

Figure 21: The License Administrator

If you encounter any problems during installation of the DTM, please contact the D3 support team at ValveSightD3support@flowserve.com.

7 Troubleshooting

1. There are known software types that will allocate Com ports on their own. For example Palm Pilot software and AT&T virtual modem software are both known to do this. Make sure the software is disabled when using ValveSight.
2. Older XP version with either service pack 1 or service pack 2 could be missing Microsoft .NET Framework.
   - .NET Framework 1.1 and 2.0 should **both** be installed. This can be checked in the add/remove programs section in the Control Panel
3. If the installer presents a pop-up containing a warning that the existing file is newer than the one the Setup is trying to install, please make sure to use the newest version.
4. If the DTM is started while the D3 is in burst mode, communication will not be able to keep up and the DTM may lose contact with the D3 repeatedly, or not be able to start at all. Please ensure that the D3 is not in burst mode before trying to use the D3 HART ValveSight DTM.