

REDUCED THE OPERATIONAL TIME AND TIME TO MARKET WHILE ENSURING FDT STANDARD COMPLIANCE

Device Driver for Digital Valve Controllers for a Leading OEM

Summary:

One leading industrial automation giant, specialized in Manufacturing, Production, and Lifecycle Services for Valves, Actuators & Regulators, and other plant assets faced practical difficulty in configuration and maintenance of their various field devices. Utthunga developed a single Device DTM, which reduced the operational time and time to market while ensuring compliance with FDT 1.2 standard.

Challenge:

Client is the manufacturer of a wide variety of industrial products including smart valve positioners, ball and sliding stem valves, steam conditioning equipment, and actuators.

They needed to develop a Device Driver/Device Type Manager (DTM) that allows the user to:

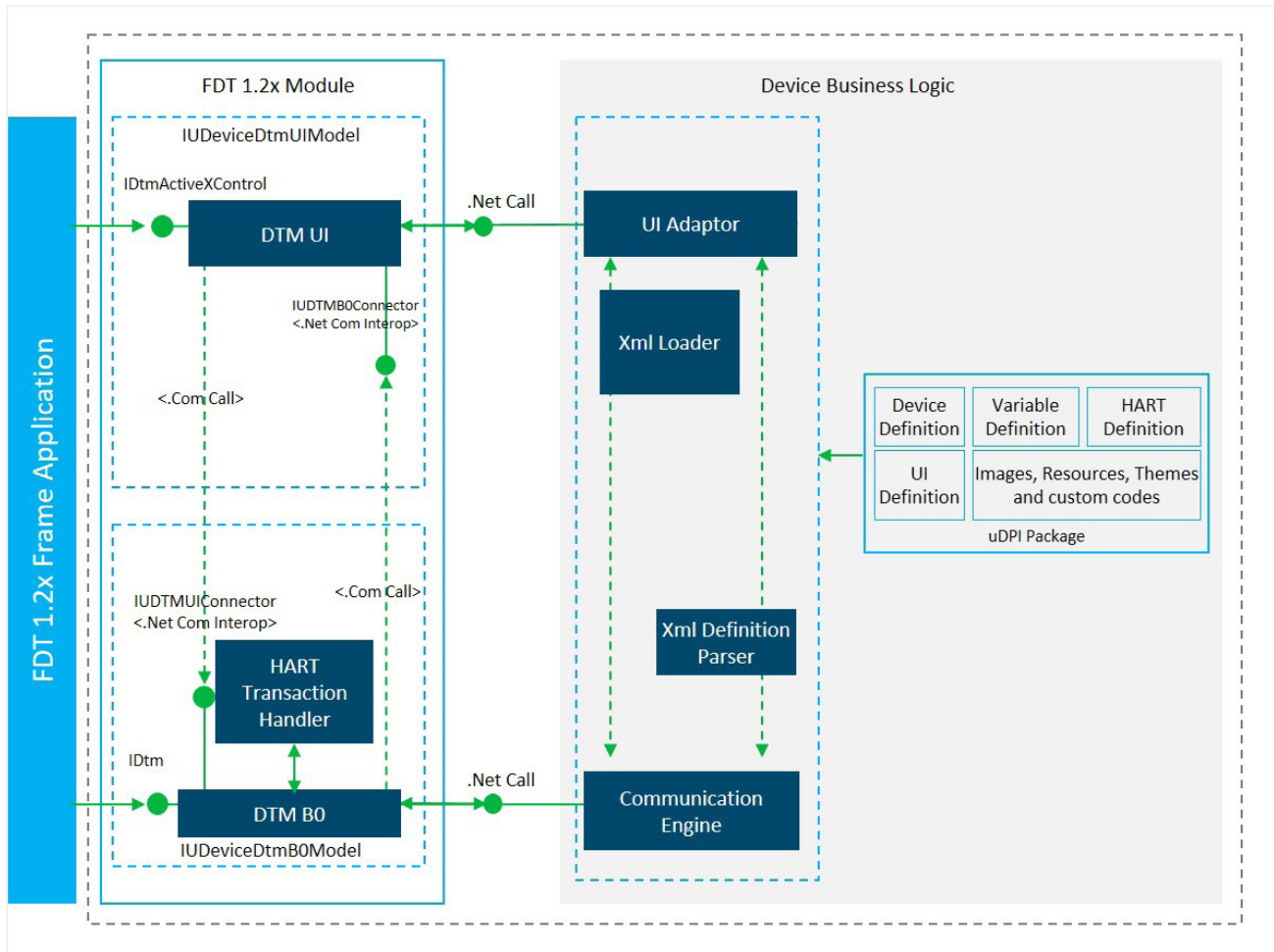
- Perform Device Setup for 150+ Actuator types, Partial & Full Stroke methods
- Monitor the health check of the instruments
- Configure the input/output configuration parameters
- Extend the instrument's monitoring and diagnostic capabilities

They wanted their device driver to be compliant with the FDT 1.2 standards to operate in various FDT/FDME applications including DCS. It was a crucial time for them to deliver the device driver to the market with very limited duration.

Solution:

Based on the requirement analysis, the end user environment, and needs, Utthunga proposed below solutions for the client's challenges.

- Create mock-ups for complex methods like Device Setup, Auto Tuning, Stroke Value, Linearization, and Calibration. The actual Device Setup method flow had 100+ screens, which had been simplified into 20+ screens without changing any algorithm or the flow of the method logic.
- Develop the Device DTM to meet FDT 1.2 standard and PROFIBUS PA Profile with 3.02 compliance and related attributes shall be added in the Device DTM for identification purpose.
- Perform pre-compliance testing to reduce time spent for fixing the issues during the FDT certification process.
- Provide a better user experience and usability by following Human Centred Design to reduce the duplicate screens and methods.
- Set up the test environment to work with the existing Device Description and to have complete understanding of the device functionality.
- Provide multiple language support with very minimal development efforts by only providing the resource strings in XML.



Internals of uDTMsdk, Utthunga's proprietary DTM development framework

Result:

The client was able to achieve tangible benefits in various aspects:

- The single Device DTM shall be used to work with 150+ Actuator types and Actuator sizes.
- Quick and on-time demonstration/deployment of the device DTM resulted in gaining the trust of new customers and actively engaging them.
- Reduced the development efforts for this project from 12 months to 7 months while providing high quality deliverables using Utthunga's proprietary framework, uDTMsdk.
- Reduced the time spent for executing the complex methods flow, which in turn saved time during commissioning.
- Same device configuration can be loaded to N number of device by using upload & download operations.

For more details on our FDT solution visit utthunga.com or email us contact@utthunga.com.

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