Association for Standardization of
Automation and Measuring Systems

ASAM TDF

ASAM Trace Data Format

Part 1 of 1

Specification

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Base Standard

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Foreword

ASAM e.V. (Association for Standardization of Automation and Measuring Systems) is a non-profit organization that promotes standardization of tool chains in automotive development and testing. Our members are international car manufacturers, suppliers, tool vendors, engineering service providers, and research institutes. ASAM standards are developed by experts from our member companies and are based on real use cases. ASAM is the legal owner of these standards and is responsible for their distribution and marketing.

ASAM standards span a wide range of use cases in automotive development, test, and validation. They define file formats, data models, protocols, and interfaces. The standards enable easy exchange of data and tools within and across tool chains. They are applied worldwide.

TDF stands for Trace Data Format. The TDF file format is defined as a flexible and extensible file interchange format for storing embedded operating system trace data along with derived timing and performance metrics. It is based on the ASAM MDF file format and enables efficient integration with tools for analysis, visualization, and validation.

Originally developed with a focus on compatibility with the AUTOSAR Run-Time Interface standard, the scope of TDF has since been broadened to make it suitable for use in both AUTOSAR and non-AUTOSAR contexts. The TDF file format supports the recording of system events and execution traces in a generic, system-agnostic way, enabling broad applicability across different embedded operating systems. To enhance the semantic understanding of the trace data, external descriptions — such as ARXML files — can be referenced and linked to the TDF file.

In addition to raw trace data, the format allows for the representation of derived timing and performance metrics. These metrics may be provided as detailed time series or as aggregated statistics. For scenarios where only summarized performance information is required, metrics can also be stored independently of trace data.

Example TDF MDF files are included in the deliverables of this standard to support implementation and validation.