ASAM MDF

Measurement Data Format

Programmers Guide

Version 4.2.0

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Base Standard

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Foreword

MDF stands for Measurement Data Format. It is a binary file format to store measured or calculated data for post-measurement processing or long-term conservation. Common sources of the data to be stored are sensors, ECUs or bus monitoring systems. In addition to the plain measurement data, MDF also contains descriptive and customizable meta data within the same file.

The format is organized in loosely coupled binary blocks to ensure high performance reading and writing. The measurement data is stored channel-oriented and organized in records. MDF supports non-equidistant sampling rates and multiple rates per file. Master channels are used for synchronization which can be time, angle, distance or simply index related.

MDF allows storage of raw measurement values and corresponding conversion formulas. It supports special data types and information particularly required in the automotive area, and is closely related to other ASAM standards, e.g. ASAM MCD-2 MC (ASAP2) [1].

The format definition is published in the base standard which describes the following content:

- Version history
- Version handling and compatibility rules
- MDF block structure
- General rules
- List of all binary block types and their contents
- MDF meta data format (XML)

The description how to store information for certain use cases is published in different associated standards. Such use cases are:

- **Naming of Channels and Channel Groups [10]**
  This associated standard describes how to set the different names for channels and channel groups for common use cases in order to provide important information to the user and to achieve a unique identification of the channels.
- **Bus Logging [7]**
  This associated standard describes how to store the traffic of common bus systems.
- **Measurement Environment [9]**
  This associated standard describes how to store information about the measurement environment.
- **Classification Results [8]**
  This associated standard describes how to store classification results.

Binary example MDF files are contained in the deliverable of the respective standard or may be requested from the ASAM MDF working group (mdfproject@asam.net).