

ASAP2 Tool-Set 5.2

Creating, updating and merging ASAP2 files

The ASAP2 Tool-Set consists of three different programs, the ASAP2 Creator, ASAP2 Updater and ASAP2 Merger for creating, updating and merging ASAP2 files.

Features and Advantages

The ASAP2 Creator automatically creates ASAP2 files based on C-code comments. The ASAP2 Updater updates the address and data type information of an ASAP2 file using a linker map file. The ASAP2 Merger merges several ASAP2 files to a common ASAP2 file.

ASAP2 Database: Contents

An ASAP2 description file contains all information about relevant data objects in the ECU, e.g. characteristic values (parameters, curves, maps), real and virtual measurement values, and variant dependencies.

Each data object is described by information, such as memory address, storage structure, data type, and conversion rules for converting to physical units. The objects are hierarchically assigned to function groups.

Functions

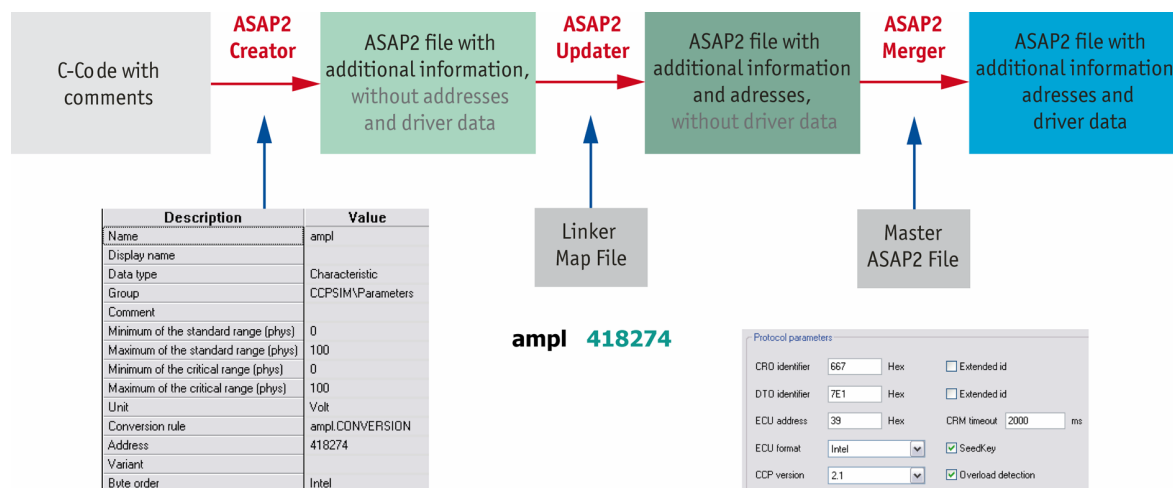
All programs are configured with the command line and with an initialization file. No interactive user input is expected so that the programs also can be integrated in a Makefile process. Warnings and error messages can be stored in a log file. The result can be determined by the exit code.

ASAP2 files of all released versions including the current version 1.60 can be read. The generated output file conforms to ASAP2 version 1.60.

The interface-specific parts of the ASAP2 file are interpreted and rewritten to the output file based on the given meta language. All IF_DATA types are supported.

ASAP2 Creator

A prerequisite for use of the ASAP2 Creator is that comments must be inserted in the C-code. ASAP2-specific information such as data type, conversion rules, min-max conditions, structures, arrays, etc. is defined in these comments. Information values can be stored centrally by the use of macros. The ASAP2 Creator reads in this supplemental information and uses it to automatically generate ASAP2 files. A key advantage of this solution lies in the single source principle, since the supplemental information is stored together in the parameter definition section of the code. The Merge function lets you conveniently merge any changes to the ASAP2 file made manually after generation with the automatically generated ASAP2 fragments



Automatic ASAP2 generation process with ASAP2 Creator, Updater and Merger

ASAP2 Updater

The ASAP2 Updater reads an ASAP2 source file and updates the address and data type information using the entries of the linker map file. You can automatically generate ASAP2 objects from configurable address ranges of the linker-map file. The most current linker map file formats are supported, for example IEEE, COFF, ELF/DWARF, and the ASCII Map formats of many compilers. Furthermore, the ASAP2 Updater contains a filter function for removing certain objects or object groups.

ASAP2 Merger

The ASAP2 Merger merges several ASAP2 files to a common ASAP2 file. One of the source files must be determined as master, the other source files are slaves. From the master, all information is used for the result ASAP2 file, from the slaves only the measurement and calibration objects, conversion rules, functions, groups, and record layouts are taken into account.

For each slave it must be defined which modules have to be attached to which master module. There is an option for the objects in the resulting ASAP2 file to receive a suffix, which indicates from which source file these objects originated.

Application Areas

The ASAP2 Tool Set is used to create ASAP2 description files, which in turn are needed by CANape to perform its tasks as a measurement and calibration tool.

Supported Operating Systems

- > Windows XP
- > Windows Vista

Included with Delivery

The delivery of the ASAP2 Tool-Set contains CD-ROM and manual.

Maintenance Contract

With the purchase of the ASAP2 Tool-Set a maintenance contract can also be obtained. Updated versions of the ASAP2 Tool-Set can be covered free of charge within the one year duration of the maintenance contract. An existing maintenance contract can be renewed each year.

Each revision of the ASAP2 standard leads to an update of the ASAP2 Tool-Set by Vector. Updates will be downward compatible to previous versions of the ASAP2 standard, if the modified ASAP2 standard makes this possible.

The maintenance contract includes all the extensions of the existing data file format released by ASAM. An update to the future SGML/XML-based version of ASAP2 (Version 2.0) is not covered by this maintenance contract.

New Functions of Version 5.2:

- > Support of ASAP2 Version 1.60

ASAP2 Creator

- > Generate INT64 objects
- > Generate functions for grouping
- > External type definitions for describing substructures

ASAP2 Updater

- > Generate ASAP2 arrays from the MAP file
- > New "Save" mode for preserving the include structure of the input file
- > Filter mode for filtering out measurement or calibration variables
- > Improved MAP Reader with more configuration options
- > Data type updating for characteristic curves and maps

ASAP2 Merger

- > Merge contents of functions