MICROSAR MEM

AUTOSAR Basic Software Modules for Memory Management

The Vector AUTOSAR solution for Memory Management supports managing, checking and recovering data from nonvolatile memories. MICROSAR MEM is the core of a memory stack and is well suited for accessing both flash and EEPROMs. Memory data may also be protected based on its importance by different methods, such as CRC checking.

Properties and Advantages

The Basic Software Modules of MICROSAR MEM are intended for production use. Together with the products MICROSAR CAL, MICROSAR SYS and MICROSAR EXT, they constitute a complete memory stack. Each of these MICROSAR products contains several Basic Software Modules, which you can integrate - either individually or as a full package - into your memory stack.

All MICROSAR Basic Software Modules conform to AUTOSAR Release 3.0. When they were implemented, special emphasis was placed on efficient memory utilization and short execution times, so they are an ideal foundation for your ECU software.

You can combine the MICROSAR MEM Basic Software Modules with the remaining MICROSAR Basic Software Modules of the seamless Vector AUTOSAR solution. This provides a reliable foundation for your ECU software so that you can focus on developing your application.

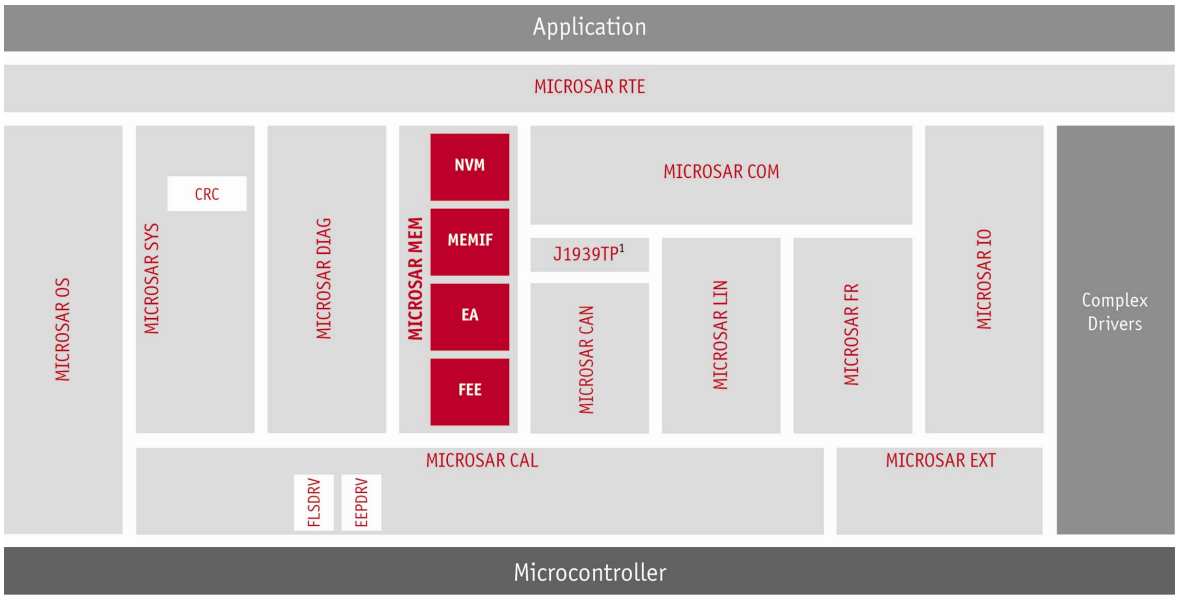
Application Areas

MICROSAR MEM contains all of the memory-specific Basic Software Modules that a memory stack needs for simple and optimized reading, writing and erasure of application data in flash and EEPROM.

Functions

MICROSAR MEM

- NVM - The nonvolatile RAM Manager is a central platform-independent manager. Read and write accesses to all nonvolatile memory areas are made in blocks. They are technology-independent for the application and do not require any further knowledge of memory attributes.
- MEMIF - The Memory Abstraction Interface provides uniform access to the services of the technology-dependent modules EA and FEE.
- FEE – The Flash EEPROM Emulation handles access to flash data via a suitable flash driver from MICROSAR CAL. The FEE is independent of special properties of the specific flash chip, such as the size of the elementary writable pages or erasable sectors.
- EA – The EEPROM Abstraction module offers an interface for accessing EEPROM data via a suitable EEPROM driver from MICROSAR CAL. The EA is independent of special properties of the specific EEPROM.



MICROSAR MEM modules

[1] Availalbe extensions for AUTOSAR 3.0

V2.1 2009-03

Training Courses

We offer various training courses and workshops for AUTOSAR in our classrooms or at your business site.
For further information on individual training events and dates on the Internet go to: www.vector-academy.com.

Contact and Availability

Our Basic Software Modules for automotive ECUs are available for a wide variety of currently used microcontrollers. You can obtain additional information at www.microsar.com or by inquiry
E-mail: embedded@vector-informatik.com
Telephone: +49 711 80670 400.

The FEE and EA modules control distribution of write accesses. Data blocks are written to alternating addresses, which optimizes and conserves the use of memory cells.

Other relevant MICROSAR Products

> MICROSAR EXT (EEPDRV EXT and FLSDRV EXT) – These drivers connect external EEPROM and flash chips via other hardware interfaces such as SPI or address/data bus.
> MICROSAR CAL (EEPDRV and FLSDRV) - The EEPROM and flash drivers enable uniform access to internal EEPROM or flash memory.
> MICROSAR SYS (CRC) – The Cyclic Redundancy Check module provides a service function for computing CRC checksums.

Configuration

The MICROSAR MEM modules are configured with DaVinci Configurator Pro. Built-in consistency checks detect errors in the module configuration early in the configuration phase. This means that invalid configurations are detected early.

Scope of Delivery

> DaVinci Configurator Base as a Generic ECU Configuration Editor (GCE) as well as a command line-based generator
> Libraries, C header files, optionally with source code
> BSW Module Description, makefiles and sample programs
> Documentation/operating instructions/Readme file

Maintenance

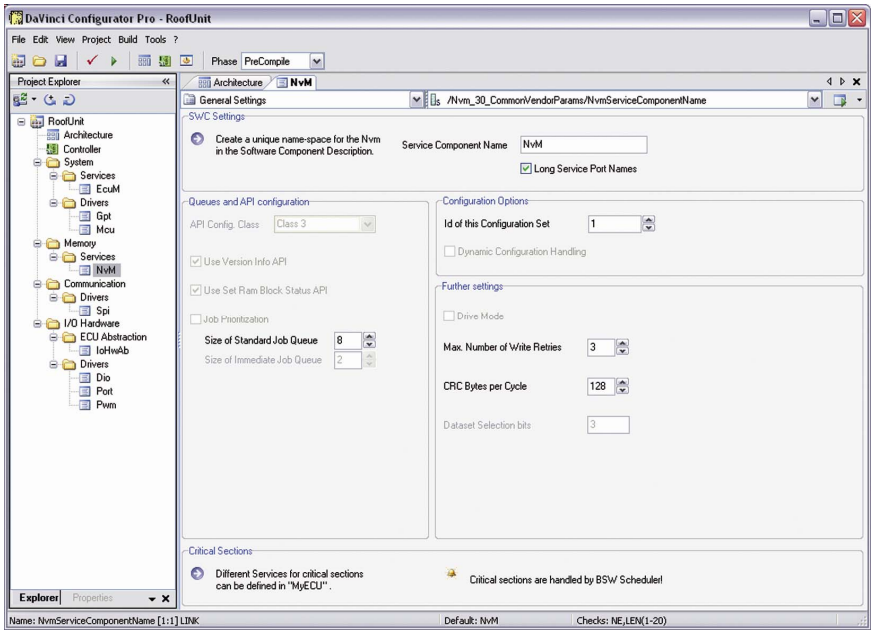
We offer supplemental maintenance contracts for all MICROSAR products. They cover adapting the software to updated specifications, which guarantees long-term protection of your investments.

License

Vector offers flexible licensing customized to your individual requirements.

Optional Services

> Consultation in system design
> Integrating the Basic Software into existing ECUs
> Extending standard modules according to your needs
> Developing customer-specific AUTOSAR Software Components (SWC)
> Hotline, special workshops and training courses on the topic of embedded software and AUTOSAR



Configuration dialog for the Non volatile RAM Manager