

DaVinci System Architect

Design of distributed systems according to the AUTOSAR standard

DaVinci System Architect is a tool for definition of distributed systems according to the AUTOSAR standard. From the design of the software functionality of vehicles to the deployment of ECUs a complete AUTOSAR compliant system design process may be performed.

Properties/Advantages

DaVinci System Architect allows you to benefit from the component oriented system development process of AUTOSAR. Convenient graphical editors support specification of vehicle functionality via AUTOSAR software components. By distributing the components to the ECUs you may define the concrete system configuration of various vehicle projects and integrate the components with the communication data of the networks. As a result you may generate AUTOSAR compliant system descriptions, which serve as precise specification for the ECU development.

Functionality

- > Definition of the network topology of a vehicle
- > Graphical definition of atomic software components and compositions
- > Definition of port interfaces and data types
- > Definition of runnable entities with activation events and port access
- > Distribution of software components to ECUs
- > Data mapping of port data to the network signals

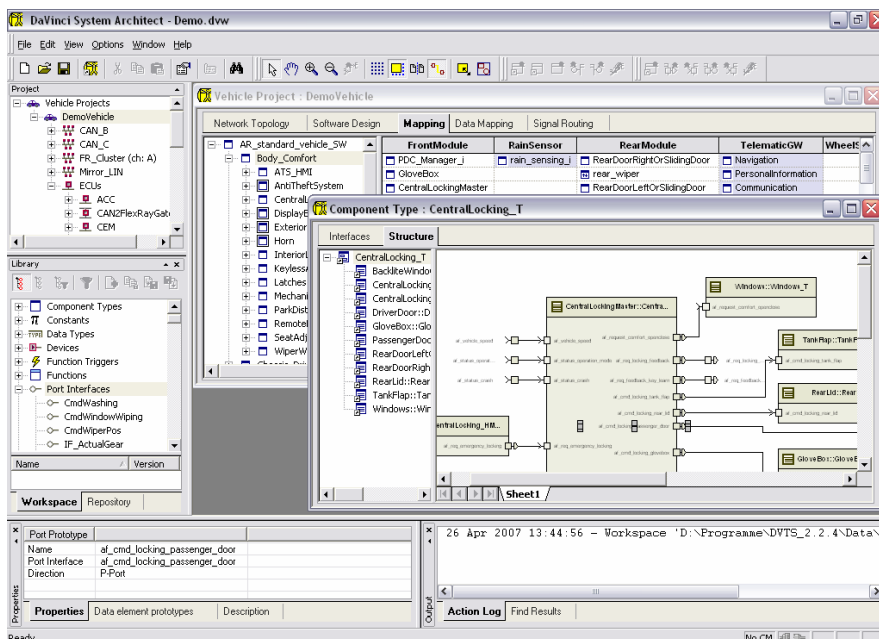
- > Definition of Tx and Rx signals based on the software interfaces of the ECUs
- > Definition of the signal routing via gateway ECUs
- > Import and export of AUTOSAR XML (System Template, Software Component Template)

Application Areas

DaVinci System Architect is an ideal AUTOSAR tool for vehicle manufacturers to define the distributed functionality of vehicles and to generate formal specifications for ECU suppliers. DaVinci System Architect is also appropriate for system suppliers developing a subsystem, which might be distributed among several ECUs.

The DaVinci Tool Suite

DaVinci System Architect is perfectly complemented by DaVinci Network Designer to define communication relevant data of the networks like message layout and transmission behavior. AUTOSAR system descriptions created with DaVinci System Architect serve as input for the ECU development with DaVinci Developer and the MICROSAR Configuration Suite.



Design of a distributed AUTOSAR system architecture with DaVinci System Architect

Reuse of Design Data

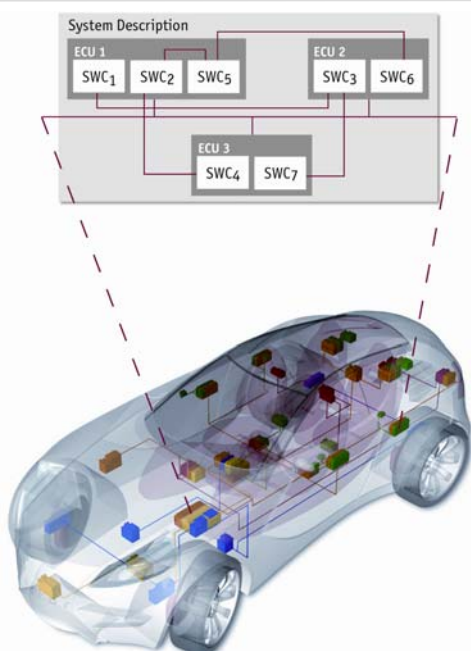
The library concept of DaVinci System Architect offers a perfect support for managing and reusing design data like software components, interfaces or signals. Objects you create remain in the library and may be integrated into various vehicle architectures.

Process Integration

Via the XML import/export interface for AUTOSAR conformant data DaVinci System Architect integrates itself seamlessly into your development process. Sophisticated mechanisms such as the merge functionality during data import or automatic data consistency support an iterative development process.

Simplified System Design via Function Networks

As an alternative to directly designing the system via AUTOSAR software components you may use a simplified notation of functions with signal interfaces. An AUTOSAR compliant system description is automatically derived based upon this function network. The AUTOSAR system description is automatically kept consistent, even with later modification of the function network.



Definition of the overall system architecture with DaVinci System Architect