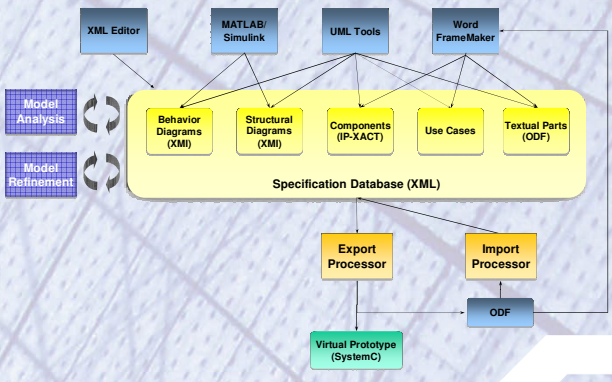
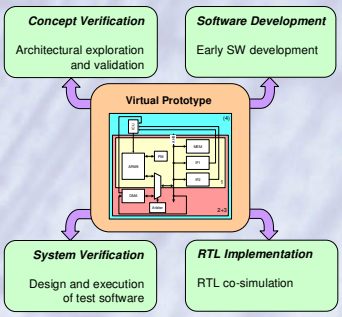
Distributed Systems and Communication in Automotive, Mobile, and Multi-Computing

WP1: Topologies and Architectures for Distributed Systems



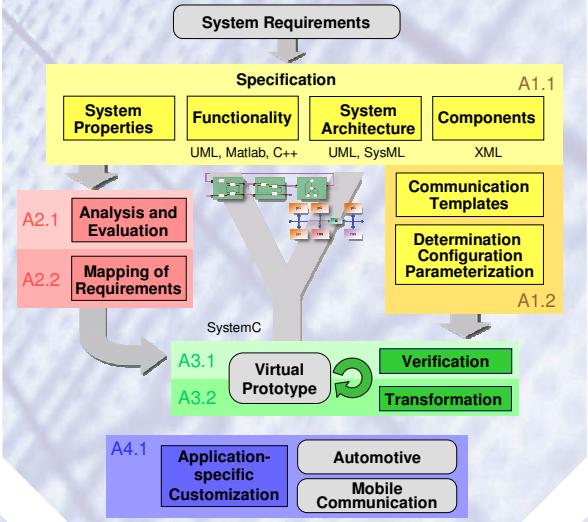
- Modeling techniques that provide a holistic view of an interconnected system and its embedding environment
- Derivation of an optimized communication topology and network architecture
- Generation of abstract executable models ("virtual prototypes") of the interconnected system scenario

WP3: Verification-Driven System Integration

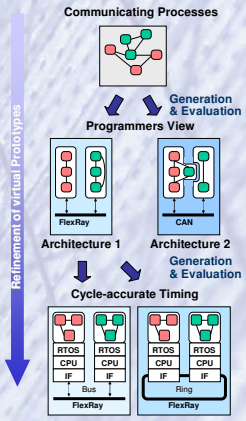


- Flexible and consistent derivation of virtual prototypes for different design activities
- Verification across abstraction level and domain boundaries targeting on verified system integration
- Model transformations for a manipulation of system module and network characteristics
- Interfacing to hardware and software design flows

VISION Flow

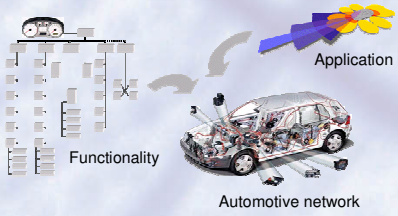


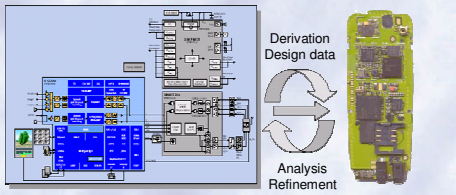
WP2: Analysis and Evaluation



- Assessment processes to validate design steps in terms of performance, quality and consistency
- Virtual prototype based system verification and communication and performance analysis
- Capturing and processing of complex system requirements like reliability, fault tolerance and real-time behavior on a high level of abstraction
- Verification of system requirements against the system model

WP4: Applications and Flow Integration





- Customization step for an adaptation of the interconnected system design methodology to application domain specific requirements
- Smooth integration of existing hardware and software implementation processes
- Derivation of highly applicable strategies for interconnected system design in automotive electronics and mobile communication

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