

Business Process Modeling with EPC and UML: Transformation or Integration?

In contemporary business management, analysis and modeling processes are indispensable. The Architecture of Integrated Information Systems (ARIS) and the Unified Modeling Language (UML) are the standard frameworks for process (re)engineering, which includes the design, management, workflow and implementation of processes, each supported by integrated meta-models and modeling tools.

A basic EPC representation, or Event-Condition-Action Process Map, describes a flow of regulation of varying importance, indicating the decisions to be taken according to the company's activity. This diagram can be enhanced with existing process description components. For example, the illustration of data flows, the assignment of responsibilities to different organizational units and the integration of IT systems are possible extensions.

In addition to this, efforts are being made to develop analysis and simulation concepts based on the formal descriptions of the EPC method, using appropriate tools. The Langner-Schneider/Wehler approach aims to translate EPC models into Petri nets, thus facilitating process modeling and simulation. This approach relies on algorithmic verification of the resulting networks. In contrast, the Rump and Keller-Teufel approaches rely on a formal description of the EPC to achieve similar goals.

The EPC (Event-driven Process Chains) method, developed as part of ARIS, models business processes as sequences of events triggering functions, extendable with Boolean operators to represent complex decision flows, further enhanced by extensions for data flows, structural competencies and an IT integration system; alongside ongoing advances in tool-supported analysis and simulation, with approaches ranging from Petri net translation for algorithmic verification to clean formal descriptions.