An Integrative and Practical Approach for Software Architectures

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For modeling Software Architectures there exist many, nearly disjoint approaches in the literature: OO and UML, dataflow architectures in the embedded community, different architecture styles, architectures in data base systems / information management systems, and architectures in the modularity community.

The talk gives arguments and ideas for an integrative approach which tries to incorporate all above and different approaches.

Especially, an architecture modeling approach has to be applicable for practical problems as reverse engineering, reengineering, and maintenance in general, where the latter often means extension, distribution, and integration of existing systems.

The architecture approach unifies good ideas, all coming from programming languages: functional and data abstraction, object and type units, locality, layers within architectures, classification and similarities, subsystems, and genericity.

It, especially, points out that there is not only one but a series of architectures, from an abstract form to a concrete one, the latter describing the delivered system to a customer.

Literature

M. Nagl: Software Engineering – Methodological Programming-in-the-Large (in German), Springer-Verlag, 1990, a new edition being under work