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Pattern-Based Enterprise Systems:
Models, Tools and Practices

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Abstract

Building enterprise software is a dramatic challenge due to data size, complexity and rapid growth of the both in time. The issue becomes even more dramatic when it gets to integrating heterogeneous applications. Therewith, a uniform approach is required, which combines formal models and CASE tools. The suggested methodology is based on extracting common ERP module level patterns and applying them to series of heterogeneous implementations. The approach includes an innovative lifecycle model, which extends conventional models by: formal data representation/management models and DSL-based CASE tools supporting the formalisms. The approach has been implemented as a series of portal-based ERP systems in ITERA International Oil and Gas Corporation, and in a number of trading/banking enterprise applications elsewhere. The works in progress include semantic network-based airline dispatch system, and a 6D-model-driven nuclear power plant construction methodology.

Keywords: Pattern-Based Enterprise Systems, enterprise software

Biography

Sergey V. Zykov is an Associate Professor at the National Research University – Higher School of Economics, Moscow, Russia. He has completed his Ph.D. thesis on ERP software systems implementation methodology in 2000. Sergey is also an Associate Professor at the National Research University – Moscow Engineering Physics Institute. He has eleven years with ITERA Oil and Gas Group of Companies, including Vice-CIO and Enterprise Portal Manager positions. Sergey is the author of five books on enterprise software development, he has also published over 50 papers in proceedings.

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