

# Methodological Support for Service-oriented Design with ISDL

Dick Quartel  
University of Twente  
PO Box 217  
7500 AE Enschede  
+31 53 4893765

d.a.c.quartel@utwente.nl

Remco Dijkman  
University of Twente  
PO Box 217  
7500 AE Enschede  
+31 53 4894454

r.m.dijkman@utwente.nl

Marten van Sinderen  
University of Twente  
PO Box 217  
7500 AE Enschede  
+31 53 4893677

m.j.vansinderen@utwente.nl

## ABSTRACT

Currently, service-oriented computing is mainly technology-driven. Most developments focus on the technology that enables enterprises to describe, publish and compose application services, and to communicate with applications of other enterprises according to their service descriptions. In this paper, we argue that this technology should be complemented with modelling languages, design methods and techniques supporting *service-oriented design*. We consider service-oriented design as the process of designing application support for business processes, using the service-oriented paradigm. We assume that service-oriented computing technology is used to implement application support. The paper presents two main contributions to the area of service-oriented design. First, a systematic service-oriented design approach is presented, identifying generic design milestones and a method for assessing the conformance between application designs at related abstraction levels. Second, a conceptual model for service-oriented design is presented that provides a common and precise understanding of the terminology used in service-oriented design. The ISDL modelling language is introduced to express service-oriented designs, based on this conceptual model. The paper includes an elaborate example to illustrate our ideas.