Chapter IV

Value and Intention Based Information Systems Engineering

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Abstract

In order to cope with increasingly complex business and IT environments, organisations need effective instruments for managing their knowledge about these environments. Essential among these instruments are models, i.e. representations of aspects of reality including the domain of work, the processes, and their context. Models come in a variety of forms, formal or informal; describing static or dynamic aspects; representing agents, data, goals, processes, or resources; focusing on business or IT aspects. A major question is how to organise and relate the different models that are needed for representing and visualising enterprises and their environments, and this issue has been

addressed within the area of enterprise architecture. In this chapter, we propose a light-weight enterprise architecture framework based on linguistic theories and organizational metaphors. The concepts and entities of an organization are categorized into three groups concerning resources and resource exchanges, contracts and commitments, and authorities and roles. The activities and processes in organizations are divided into three levels based on how they affect physical, communicative and social aspects of organizations.

Introduction

A number of current trends, including globalisation, specialisation, and customisation, require enterprises and their IT systems to become ever more adaptive in order to handle changes in a complex environment. Enterprises need to be able to quickly set up networks to cope with tasks they cannot handle alone. They need to manage an environment that is constantly changing and where lead times, product life cycles, and partner relationships are shortening. In order to cope with such increasingly complex business and IT environments, organisations need effective instruments for managing their knowledge about these environments. Essential among these instruments are enterprise models, i.e. representations of aspects of reality including the domain of work, the processes, and their context. Models come in a variety of forms, formal or informal; describing static or dynamic aspects; representing agents, data, goals, processes, or resources; focusing on business or IT aspects. Models have been around for a long time in business and systems design, but they have not been put to their full potential. Typically, they have been used only for limited tasks in systems design and then discarded. To realise the full potential of models, there is a need for a business and technology architecture that place the models firmly in the centre and let them be the driving force in analysis, design, implementation, deployment and use of systems and services.

A major question is how to organise the different models that are needed for representing and visualising enterprises and their environments. This question has been addressed within the area of enterprise architecture. Enterprise architecture can be defined as "the practice of applying a comprehensive and rigorous method for describing a current and/or future structure and behavior for an organization's processes, information systems, personnel and organizational sub-units, so that they align with the organization's core goals and strategic direction", see (Enterprise

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