Chapter X

Dynamic Contract Generation for Dynamic Business Relationships

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ABSTRACT

A dynamic virtual enterprise needs to be able to create, customize, and dismantle commercial relationships among partners quickly. The need to establish legal contracts before enactment begins can undermine the benefits gained by using advanced technology to form dynamic virtual enterprises, if it cannot be done quickly when needed, efficiently, in an up-to-date manner and result in a correct contract. There is, therefore, a need for the dynamic creation of contracts to reflect these constraints. An electronic representation of the contract can be constructed rapidly and brings the added advantage of being available to other software components. The chapter presents a novel method for generating a legal contract from the description of a business agreement. This is done by breaking up the constituent parts of the contract into clauses and using matchmaking technology to determine whether a clause is relevant for a given business agreement or not. A brief overview of the matchmaking technology that is used to do the transformations of a business agreement into a contract is given. We then show one specific detailed example of this approach — the translation of a business projection agreement into the relevant agreement in the legal projection, namely, a contract.
THE IMPORTANCE OF CONTRACTS

A dynamic virtual enterprise needs to be able to create, customize, and dismantle commercial relationships among partners quickly. The need to establish legal contracts before enactment begins can undermine the benefits gained by using advanced technology to form dynamic virtual enterprises, if it cannot be done quickly when needed, efficiently, in an up-to-date manner and result in a correct contract. There is, therefore, a need for the dynamic creation of contracts to reflect these constraints. An electronic representation of the contract can be constructed rapidly and brings the added advantage of being available to other software components.

The chapter presents a novel method for generating a legal contract from the description of a business agreement. This is done by breaking up the constituent parts of the contract into clauses and using matchmaking technology to determine whether a clause is relevant for a given business agreement or not. A brief overview of the matchmaking technology (Facciorusso, Field, Hauser, Hoffner, Humbel, Pawlitzek, Rjaibi, & Siminitz, 2003; Field & Dazler, 2004; Field & Hoffner, 2002) that is used to do the transformations of a business agreement into a contract is given. We then show one specific detailed example of this approach—the translation of a business projection agreement into the relevant agreement in the legal projection, namely, a contract.

The manner in which the terms agreement and contract are used in the e-business-related literature is presented and discussed. A number of conclusions drawn from this discussion lead us to look for a new information model for describing relationships between organisations. This, together with the process of transforming the agreement into a contract, leads us to develop a new model that consists of a typed domain with projections that describe the entire relationship between two organisations, each from a different perspective. The typed domain describes all the possible relationships that can be established within the domain between two organisations. Each potential relationship in a typed domain is fully described by the four projections, ensuring that the principle of “no surprise” can be enforced within the domain.

The idea of agreement transformation shown earlier is then generalized and exploited in showing how agreement and other information in one projection can be translated into their counterparts in other projections. For example, the business description can be used to generate a blueprint for the configuration and instantiation of the client and service-side infrastructure and components that are needed to enact the agreement between them.

The chapter draws upon the experience gained in a number of activities conducted in the e-business group at the IBM Zurich Research Laboratory (ZRL):

- The CrossFlow project (2000)—dealt with business processes crossing organizational boundaries (Grefen, Aberer, Hoffner, & Ludwig, 2000; Hoffner, Ludwig, Grefen, & Aberer, 2001b), was led by ZRL, and included seven university, research, and industrial organisations.
- The ViMP, WME, and WSME projects—covered extensive work on advanced forms of matchmaking (Field & Hoffner, 2002; Hoffner, Field, Grefen, & Ludwig, 2001a).
- The SilkRoad project—focused on e-Negotiations (Ströbel, 2002).