Chapter XX
The Journey to Business Process Compliance

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ABSTRACT

It is a typical scenario that many organisations have their business processes specified independently of their business obligations (which includes contractual obligations to business partners, as well as obligations a business has to fulfil against regulations and industry standards). This is because of the lack of guidelines and tools that facilitate derivation of processes from contracts but also because of the traditional mindset of treating contracts separately from business processes. This chapter will provide a solution to one specific problem that arises from this situation, namely the lack of mechanisms to check whether business processes are compliant with business contracts. The chapter begins by defining the space for business process compliance and the eco-system for ensuring that process are compliant. The key point is that compliance is a relationship between two sets of specifications: the specifications for executing a business process and the specifications regulating a business. The central part of the chapter focuses on a logic based formalism for describing both the semantics of normative specifications and the semantics of compliance checking procedures.

1. INTRODUCTION

The term compliance is applied in many disciplines such as management, standards development, regulations, medical practice and so on. It is often used to denote and demonstrate adherence of one set of rules (we refer to them as 'source rules' hereafter) against other set of rules (we refer to them as 'target rules' hereafter). Typically, target rules represent an established or agreed set of guidelines, norms, laws, regulations, recommendations or qualities which, if obeyed, will deliver certain effect or value to those to whom they can apply, or to those with whom they interact. In some way, the target rules are intended for a global or broad community of participants in a specific universe of discourse. On the other hand, source rules are developed to apply to participants and their behaviours in certain local contexts, and adherence of source rules to the target rules then ensures that both local and global expectations or requirements can be met.

In management for example, target rules represent policies that need to be obeyed by companies, their staff or executives, while undertaking their normal course of actions to meet their goals. Examples of such rules are the US regulations such as Sarbanes-Oxley Act[1] or Health Insurance Privacy Act (HIPPA)[2]. In standards development, compliance requirements are stated to ensure necessary consistency of one set of requirements with some broader set of requirements, e.g., a compliance of the ODP Enterprise Language with ODP-RM[3]. Note that in standards communities, the term conformance has a different meaning: it is used to relate an implementation to a standard specification. Finally, in health sector, compliance is referred to a patient's (or doctor's) adherence to a recommended course of treatment.

Similarly, we apply this interpretation of compliance as a metaphor to discuss adherence or consistence of a set of rules in business processes against a set of rules regulating a particular business. This set of rules can stem from different sources, legislation, standards, best practices, internal guidelines and policies, contracts between the parties involved in the process and so on. We will refer to the source of these as normative documents, and to the rules themselves as norms or normative specifications. So, ensuring compliance of business processes with a normative document means ensuring consistency of norms stated in normative documents and rules covering the execution of business processes. In other words, to check that the specification of a business process complies with a normative document regulating the domain of the process, one has to verify that all execution paths of the process, possible according to the specification of the business process, comply with the normative specification. This means that no execution path is in breach of the regulation. This consistency, for example, is necessary to satisfy commitments that parties typically state in their agreements or business contracts while carrying out their mutually related internal business activities. Such compliance also leads to benefits to both parties, e.g., minimisation of costs or damages to either party whether these are associated with potentially inadvertent behaviour or deliberate violations while seeking more opportunistic engagements.

1.1 Compliance Space

Compliance of business processes with normative documents is thus important to ensure establishing better links between these two traditionally separate universes of discourse, i.e., legal and business process spaces (see Figure 1).

Firstly, the source of the normative specifications and the business specifications (i.e., the design of the process to meet the objectives of a business) will be distinct both from an ownership and governance perspective, as well as from a timeline perspective. Where as businesses can be expected to have some form of business objectives, normative specifications will be dictated by mostly external sources and often the various

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