Chapter XIII

Requirements on Cross-Agency Processes in E-Government:
The Need for a Reference Model

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ABSTRACT
A big challenge for governments all over the world is to deliver secure, reliable, transparent, and accountable services to their citizens and businesses. Effective and efficient service delivery requires the orchestration of business processes going beyond the border of single agencies. Little is known about how to orchestrate these cross-agency service-delivery processes, and consequently governmental decision-makers are looking for support in designing such processes. This chapter investigates the applicability of two existing reference models, the workflow reference model, and the extended SOA reference model, to guide the development of cross-agency process orchestration. Although these reference models contain important elements, we found that these models do not provide support for issues like ensuring correct and in-time service-delivery processes, secure information sharing, and transparent and accountable processes.
INTRODUCTION

A big challenge for governments all over the world is to improve the service provisioning to their clients, citizens, and businesses, and to reduce the administrative burdens for citizens and businesses (Dutch Government, 2003, 2004). Citizens and business’ expectations regarding service delivery is likely to rise as they get more and more accustomed to online trading and communicating at any time of the day (McIvor, McHugh, & Cadden, 2002).

A first step to satisfy this demand is offering access to governmental information and services online via the Internet. A next step is the provisioning of services using a “one-stop-shop” concept (Wimmer, 2002), where services of different governmental agencies are combined or integrated. An example is a virtual business counter that functions as a single point of contact for interaction with different kinds of governmental agencies.

Both steps in improving the governmental service-delivery processes have to deal with the fragmentation of governments (Wimmer, 2002), as roles and functions are distributed over many agencies. Service-delivery processes often include activities or sub-processes performed by different public agencies (Castellano, Pastore, Arcieri, & Summo, 2004; Contenti, Termini, Mecella, & Baldoni, 2003; Gortmaker & Janssen, 2004). Consequently, effective governmental service delivery requires the coordination of (parts of) service-delivery processes that involve multiple agencies. In this chapter, we will call this process orchestration.

Due to the fact that these processes span multiple governmental agencies, requirements for orchestrating cross-agency service-delivery processes differ from single-agency service-delivery processes. This becomes clear when realizing that information is passed from one system to another system using a communication network. Mechanisms to enable inter-agency communication and information-exchange are necessary, but also the coordination of the different process-steps becomes more difficult.

This problem of coordinating cross-agency service-delivery processes is not specific to the public sector; also in the private sector, businesses are looking for ways on how to coordinate their inter-organizational processes. Specific for the public sector is, however, the strong emphasis on transparency, consistency, reliability, security, and non-discrimination of the service-delivery processes. As many public service-delivery processes are largely determined by law, these aspects are of vital importance. Ensuring and maintaining secure and transparent processes is particularly important when service-delivery processes run across multiple, semi-autonomous agencies. The involvement of a large number of more or less autonomous agencies in service-delivery processes is a typical public sector characteristic.

Web service orchestration is a relatively new technology that can be applied to the problem of coordinating sub-processes that run across different agencies. Within governments, little is known about how to coordinate cross-agency service-delivery processes, the advantages of Web service orchestration-technology (Gortmaker,
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