

## Chapter 94

# The Challenges of Implementing e–Government Interoperability in Thailand: Case of Official Electronic Correspondence Letters Exchange across Government Departments

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### **ABSTRACT**

*In November 2006, Thai Government announced Thailand electronic government interoperability framework (TH e-GIF) as a collection of technical standards, methodologies, guidelines and policies to enable electronic data exchange across government agencies. The first challenging project was to implement the semantic interoperability for exchanging official electronic letters across 29 government agencies using 15 heterogeneous software systems developed by different vendors. To achieve the project goal, a holistic approach was designed in which many policy-makers and practitioners had to involve in collaborative activities. This chapter explores the approach in details. It includes the process of data harmonization, modeling and standardizations using a number of UN/CEFACT specifications, UMM, CCTS and XML NDR, and other international standards. From this project the first national XML schema standard was produced. This chapter also introduces a methodology of extending the interoperability to legacy systems based on web services technology. Finally, it describes risk managements with the key success factors for the electronic interoperability development in Thailand.*

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## INTRODUCTION

During the last few years, e-Government interoperability has become a vivid and fascinating research and development in order to facilitate the seamless exchange of information across governmental departments (Saekow & Boonmee, 2008). To this direction, several approaches have been proposed through the adoption of frameworks or through architectures to each other and to the environment, and the principles guiding, its design and activity (UNDP, 2007). As an interoperability framework, Electronic Government Interoperability Framework or e-GIF has been developed (Archmann, 2003). In general, the e-GIF is defined as a set of standards and guidelines that set out a common language to ensure coherent flow of information across systems (UNDP, 2007). In many countries, governments have developed their own e-GIF like UK e-GIF (UK, 2005), NZ e-GIF (NZ, 2008), European Interoperability Framework (EIF) (IDABC, 2006) and Australian Government Technical Interoperability Framework (AGTIF) (AGTIF, 2007). In addition to achieving interoperability through e-GIF, architectures have an important role in ensuring e-government interoperability successes. The relevant architecture to Electronic Government Interoperability is an Enterprise Architecture (EA) (Bellman & Rausch, 2004), specifically a National Enterprise Architecture (NEA). The EA stresses the planning and management of all IS assets and their architecture together with organizational structures and processes (Zachman, 1987).

In Thailand, the first Thailand e-Government Interoperability Framework—the *THE-GIF*—came into being in November 2006. It is defined as a collection of technical standards, methodologies, guidelines and policies used in the Internet and World Wide Web across the public sector to improve the interoperability of systems (Thailand, 2006). The main objective is to facilitate government in adapting to the digital era with the introduction of technical policies and specifications for achieving Information and Commu-

nication Technology (ICT) systems coherence across the public sector (G2G – Government-to-Government) and between the State and citizens (G2C – Government-to-Citizens) or businesses (G2B – Government-to-Business).

In order to challenge the implementation of e-Government interoperability with the TH e-GIF, in 2007, the first project was proposed. It aimed to develop an interoperable system to send/receive official correspondence letters electronically across ministerial departments following the framework. In Thailand, the Government officers use an Electronic Correspondence Letter Management System (e-CMS) to send/receive the letters in their departments. The system of each ministerial sector was developed by a different vendor in a different platform. Therefore, it could not be interoperated electronically. To achieve the project goal, we developed the interoperability approach that includes the process of data harmonization, modeling and standardizations using a number of UN/CEFACT specifications such as UMM (UMM, 2003), CCTS (UN/CEFACT, 2006) and XML NDR (UN/CEFACT, 2006), and other international standards (Hartmann, 1990). Another challenging matter is that the project involved 29 Government units, 15 software vendors and over 200 participants in which high management skill was required to succeed in the project.

In this chapter, the first section introduces the related research reviews. The second section describes background of Thailand e-Government and the project. In third section, we describe fundamental concepts of the project. The next section illustrates the methodology following by the implementation and its possible risk factors and managements. Finally, we describe our future works and conclusions.

## LITERATURE REVIEWS

Regards to the related research on e-Government Interoperability, the main findings show that the

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