

# Investigating the Landscape in National Interoperability Frameworks

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## ABSTRACT

*Openness, accountability, and transparency have attracted researchers' and practitioners' interest as open data and citizen engagement initiatives try to capitalize the wisdom of crowds for better governance, policy making, or even service provision. In this context, interoperability between public organizations, citizens, and enterprises seems to remain the center of interest in the public sector and national interoperability frameworks are continually revised and expanded across the globe in an effort to support the increasing need for seamless exchange of information. This paper outlines the current landscape in eGovernment interoperability, analyzing and comparing frameworks that have reached a certain degree of maturity. Their strengths and weaknesses at conceptual and implementation level are discussed together with directions for reaching consensus and aligning interoperability guidelines at a country and cross-country level.*

**Keywords:** *Comparative eGovernment, e-Government Interoperability Framework, eGIF, Guidelines on e-Government Interoperability, NIF Contents*

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## INTRODUCTION

Today, public administrations are striving to leverage modern information and communications technologies to improve the quality of their services to citizens and businesses (Scholl & Klischewski, 2007; Osimo, 2007), to provide multiple communication channels and to make their internal and cross-organization operations more efficient, even if this requires changing their modus operandi (Janssen, 2005; Niehaves,

2007). Since late 90s, most countries have released their eGovernment strategies defining their milestones and action plans and have thereafter made significant progress on eGovernment at all levels of public administration (Capgemini, 2009). However, it soon became apparent that absence of common technological standards and interoperability guidelines yielded considerable leeway to governmental authorities and let them be focused on their own requirements and define inflexible information systems according to their own assumptions and interpretations (Hovy, 2008).

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Interoperability has thus become the key issue in the agenda of the public sector (CEC, 2006b) since providing one-stop services calls for collaboration within and across public authorities, while i2010 (CEC, 2006a, 2006b) explicitly addresses interoperability as a prerequisite for “devices and platforms that ‘talk to one another’ and services that are portable from platform to platform” and identified it as one of the main building blocks for the single European information space of eservices (SEIS). In fact, the achievement of pan-European, cross-border interoperability is a key element and prerequisite of all the EU’s ambitious e-government initiatives while new challenges (such as the EU services directive 2006/123/EC) appear that need novel approaches in solving long-standing cross-country interoperability issues. E-government interoperability is also becoming an increasingly crucial issue, especially for developing countries that have committed to the achievement of the millennium development goals by 2015 (UNDP, 2007).

Today, with 2010 targets nearing, many countries are revisiting their e-Government strategies. The political priorities that determine the way forward beyond 2010 as regards e-Government have been further outlined in preparatory orientation papers (eGovernment Sub-group, 2009): Support to the Single Market, Empowerment of businesses and citizens, Administrative efficiency and effectiveness, and Provision of key enablers, with interoperability being characterized as a core precondition.

Achieving interoperability requires resolution at various distinct interoperability levels: political context, legal, organizational, semantic and technical, as argued by (IDABC, 2004, 2008; Gottschalk, 2008; Panetto, 2007; Papazoglou & Ribbers, 2006; Modinis, 2007; Scholl & Klischewski, 2007). In this context, e-government interoperability frameworks (e-gifs) pose today as the cornerstone for the resolution of interoperability issues in the public sector and the provision of one-stop, fully electronic services to businesses and citizens. Such interoperability frameworks aim at outlining the essential prerequisites

for joined-up and web-enabled pan-European e-government services (pegs), covering their definition and deployment over thousands of front-office and back-office systems in an ever extending set of public administration organizations (Charalabidis et al., 2007b). They further provide the necessary methodological support to an increasing number of projects related to the interoperability of information systems in order to better manage their complexity and risk and ensure that they deliver the promised added value (Ralyte et al., 2008).

In this direction, the present paper presents the baseline of the national e-government interoperability frameworks (nifs) that Australia, Belgium, Denmark, Estonia, Germany, Greece, New Zealand, United Kingdom and United States of America have released and conducts a comparative analysis among their findings in compliance with the guidelines of the European interoperability framework (EIF). The scope of the analysis is to indicate the similarities and differences in the nifs philosophy and implementation and to produce a set of recommendations for countries that either have already published or currently develop such guidelines.

## Comparative Analysis Framework

According to the EIF (IDABC, 2008), an interoperability framework describes the way in which organizations have agreed, or should agree, to interact with each other, and how standards should be used. In other words, it provides policies and guidelines that form the basis for selection of standards and may be contextualized (i.e., Adapted) according to the socio-economic, political, cultural, linguistic, historical and geographical situation of its scope of applicability in a specific circumstance/situation (a constituency, a country, a set of countries, etc). Typically, an e-gif includes the context, the technical content, the management processes and the tools (UNDP, 2007).

Extending the EIF in terms of providing a comparative analysis framework for nifs that remains in compliance with its underlying principles, the levels of analysis upon which

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