

Chapter 37

Technical Perspective of Authentication Policy Extension for the Adaptive Social Services and e-Health Care Management

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ABSTRACT

The substantive study of private information box project of Japanese e-Government proved the effectiveness of the New Authentication Extension Technology to combine different social infrastructures to create new Secure services between Public Sector and Private Sector (Citizen). However, there are still issues to cope with outside of the realm of technology including accountability of each participants and the level of the service, OpenID and SAML are key federated identity protocols. Both SAML and OpenID define mechanisms in support of expressing assurance information on protocol messages, Authentication Context and the Provider Authentication Policy Extension (PAPE), respectively. In deployment scenarios that require proxying from one of the protocols to the other, it becomes necessary to map to and from the corresponding assurance mechanisms. This chapter provides theoretical study of Social and e-Health Data secure exchange methodology on this mapping and related issues.

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INTRODUCTION

In ubiquitous network society, various Internet services are being provided now. Moreover, it has come to be created innovative services in Internet service fields which will be user-focused by being connected with the existing infrastructure and these diversified services suitable for the user needs. However, in the current environment, these services cannot allow a useful connection to other services on original specification and different specification between public sector and private sector. With the rapid development of authentication services, the system which makes existing each service and infrastructure connect to keep providing the trusted information services are necessary. It is suitable for user's needs in the future. This issue is especially important in the recent condition of rapid increase of mobile Internets because of increasing the need of e-commerce for improvement and a great concern for security. In the e-commerce market, a considerable volume of information and transactions are exchanged online.

As cloud computing has become increasingly popular since 2006, various types of distributed systems have emerged on the network. In the field of authentication, there was a departure from the traditional centralized-authentication system to the distributed authentication system. Accordingly, many cases have been reported especially in Europe and the United States that utilized the Security Assertion Markup Language (SAML) developed by Liberty Alliance as well as the OpenID by OpenID Foundation. In the sector of e-Health, many systems with one-to-one correspondence, or specific organizations operating as an intermediary have been employed for authentication and information exchange. This paper introduces and demonstrates the validity of Contract eXchange (CX) as a protocol that enables simultaneous authentication and data exchange based on contracts.

TECHNICAL METHOD OF THE ADAPTIVE E-HEALTH CARE MANAGEMENT BASED ON AUTHENTICATION POLICY EXTENSION

The extended authentication functions are developed in a way that health data retained by healthcare organizations and the public sector are safely obtained by citizens (private sector), and can be further transferred to doctors and healthcare providers. With this technology, a system is developed in which various medical data become available, and they are safely exchanged among healthcare organizations (doctors and the public sector) and citizens through an electronic private information box advocated by the government.

For authentication, the authors had developed the concept of "Reliable Social Infrastructure Network" for the government regulatory reform in 2005. This is based on the ideas of distributed social systems that foresaw the emergence of cloud computing which is currently in progress. In order to realize a safe information society based on a reliable network infrastructure, the following three infrastructures need to be established: security, identity, and services. Especially for the purpose of appropriate use of information, the identity infrastructure is essential along with digital information and the time stamp that proves its originality.

Appropriate Use of Information

The following are critical for appropriate use of information:

1. Integrated management and operation of all identities utilizing the information system in the distributed environment (Identity Infrastructure).

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