Development of Platform for Electronic Submission of Application Documents to Government Ministries and Agencies

New Media Development Association

Summary and Distinctive Features

Government action on electronic submission of application and report has progressed with introduction of concrete action indicators since announcement of the "Basic Plan for Promoting Administrative Informatization" (approved by the cabinet in December 1994).

However, computerization of more than 7,000 procedures involved for application, report, etc., with national government ministries and agencies alone is expected to become a huge task both in terms of time and budget. Under such circumstances, development of a generic electronic submission system of applications and reports that delivers the common requirements in administrative processing for all national government organizations is believed to contribute to development and ground of the foundation for electronic administrative processing.
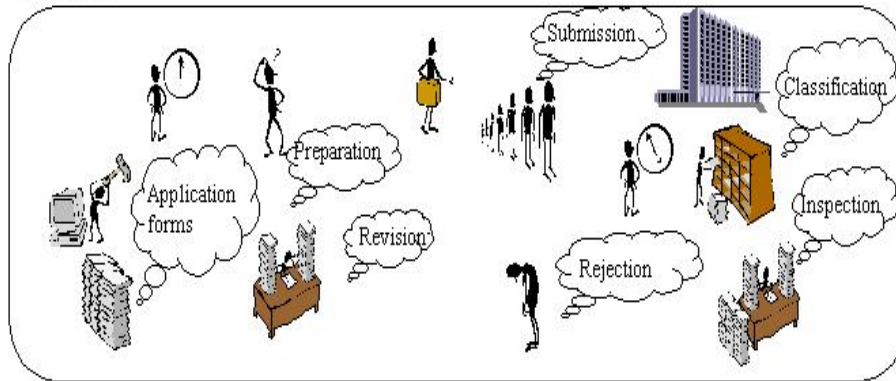
The New Media Development Association has developed Japan's first "Internet-based electronic submission system for XML documents" under the 1996 supplementary budget program managed by the Information-technology Promotion Agency with financial support of the Ministry of International Trade and Industry. In the project, the basic common necessities in Internet-based electronic submission have been identified. Testbed operation of the system for application procedures at MITI confirmed its viability.

In the current project, the goals have been set on development of necessary components shared in common in electronic submission (corresponding to the various functions necessary in electronic submission) based on the Internet-based electronic application system for XML and development of a generic electronic submission system comprised of such components.
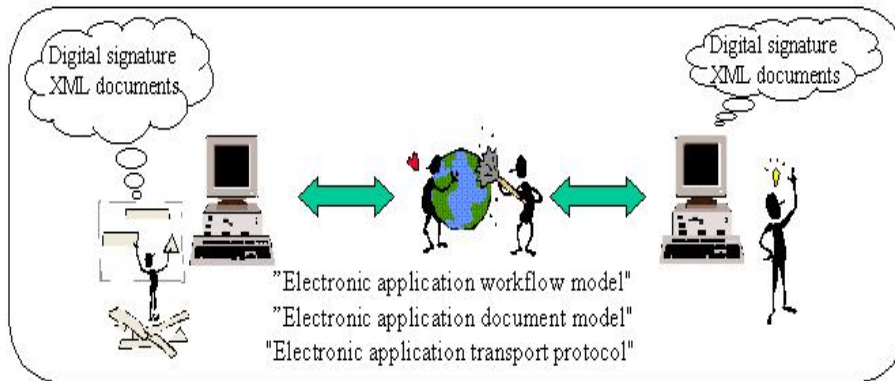
In addition, a generic system with high level of user-friendliness adopting the existing methods of submission, including floppy-disk, fax, and dial-up network, will be developed. The efficacy, operability of the generic system will be examined in a testbed coordinated with actual inspection administration system, etc., at MITI, etc.

The key to wider acceptance of electronic submission to government offices is assurance of interoperability with electronic submission system adopted in various administrative services in national government organizations. Assurance of interoperability is expected to bring dramatic reduction of economic and manpower resources consumed in system setup, management, and use.

Present

Future

"Electronic application workflow model"
"Electronic application document model"
"Electronic application transport protocol"

Outline and Scale of Development & Testbed

Summary of system

Documents used in electronic submission are electronic documents consisting of various data, including formats stipulated by law, etc., and accompanying documents. In Internet-based submission, "digital signature" corresponding to "corporate stamp" is necessary to assure authenticity and substantiation of application content.

In this project, a generic electronic submission system is to be developed for application as a generic electronic application procedure that is customizable for various administrative procedures.

For this purpose, the "electronic application workflow model" and "electronic application document model" will first be defined as framework in administrative application. In order to ensure transmission of application documents via the Internet, an implementation specification for "electronic application transport protocol" suited for this purpose will defined.

Next, components corresponding to the various necessary functions will be developed with the specifications established.

XML (eXtensible Markup Language) has been adopted as data format for electronic submission. Hence, function will be developed for production of the application template for application forms to be distributed by various administrative organizations.

In addition, functions for supporting application form production to applicants, for handling charge payment certification with "electronic revenue stamps," and for inspecting format to confirm excess or shortfall in accompanying document are scheduled to be developed.

Furthermore, development will also be implemented for functions executed on data after format inspection, namely, data coordination with data content inspection system, tag-based notice to applicant for issuing comments on application content, notification of application on completion of inspection, and electronic storage to assure authenticity of application document.

With XML, reduction on workload for the application and greater efficiency and speed in application acceptance are made realized. It also realizes data coordination between application data and the administrative inspection system and communication between the applicant and the administrators in the course of inspection.

Besides such functions, management functions for key and certificates necessary in encryption and signature processing employing encryption library and public key infrastructure (PKI) will be provided as components to support management of the electronic application system. These functions are expected to reduce the work load for developers and managers of each submission system.

With the combination of these components and subsystems supporting existing electronic submission methods, a versatile system adapted to generic application procedure can be developed. Depending on conditions surrounding the application process, a versatile system can be developed with selection of functions needed and use of standardized interface that is highly convenient and easily customizable.

Outline of the testbed

Testbed operation will be executed in electronic application environment of MITI and the Ministry of Labor in order to evaluated its efficacy. The testbed expects involvement of roughly 10 prospective applicants (agents) for each application type.

Policy on Practical Application/Commercialization

The system is expected to be introduced as a standard system for in-house electronic application administration in the year 2000 or later. As for other ministries and agencies, use of this system will be urged to assure interoperability. At the same time, a liaison council consisting of administrative authorities and various developers and vendors will be formed in the New Media Development Association to support greater dissemination.

Moreover, the specifications for the "electronic application workflow model," the "electronic application document model," and the "electronic application transport protocol" will be disclosed widely, and the components and system developed to be made available as free software in the future.

Disclosure will entail conclusion of free-of-charge licensing agreements with users in order to gain user feedback on function improvement and reinforcement and hence to achieve greater safety and user-friendliness.