Electronic Bidding Core System

Electronic Bidding Core System Development Consortium

Electronic Bidding Core System

Objective

Our objective is the development of a highly flexible electronic bidding system that can be used by multiple public purchasers and therefore smoothly introduced to these purchases in accordance with the aims of the "CALS/EC Local Promotion Action Program (nationwide)" established by the Ministry of Land, Infrastructure, Transport and Tourism.

◆Avoidance of Confusion for Bid Participants

When various electronic bidding systems co-exist, the bid participants must be able to handle each system. This results in an increase in labor and cost. Using a common tool called the "core system" greatly lightens the burden on bid participants.

◆Reduction of System Development Cost

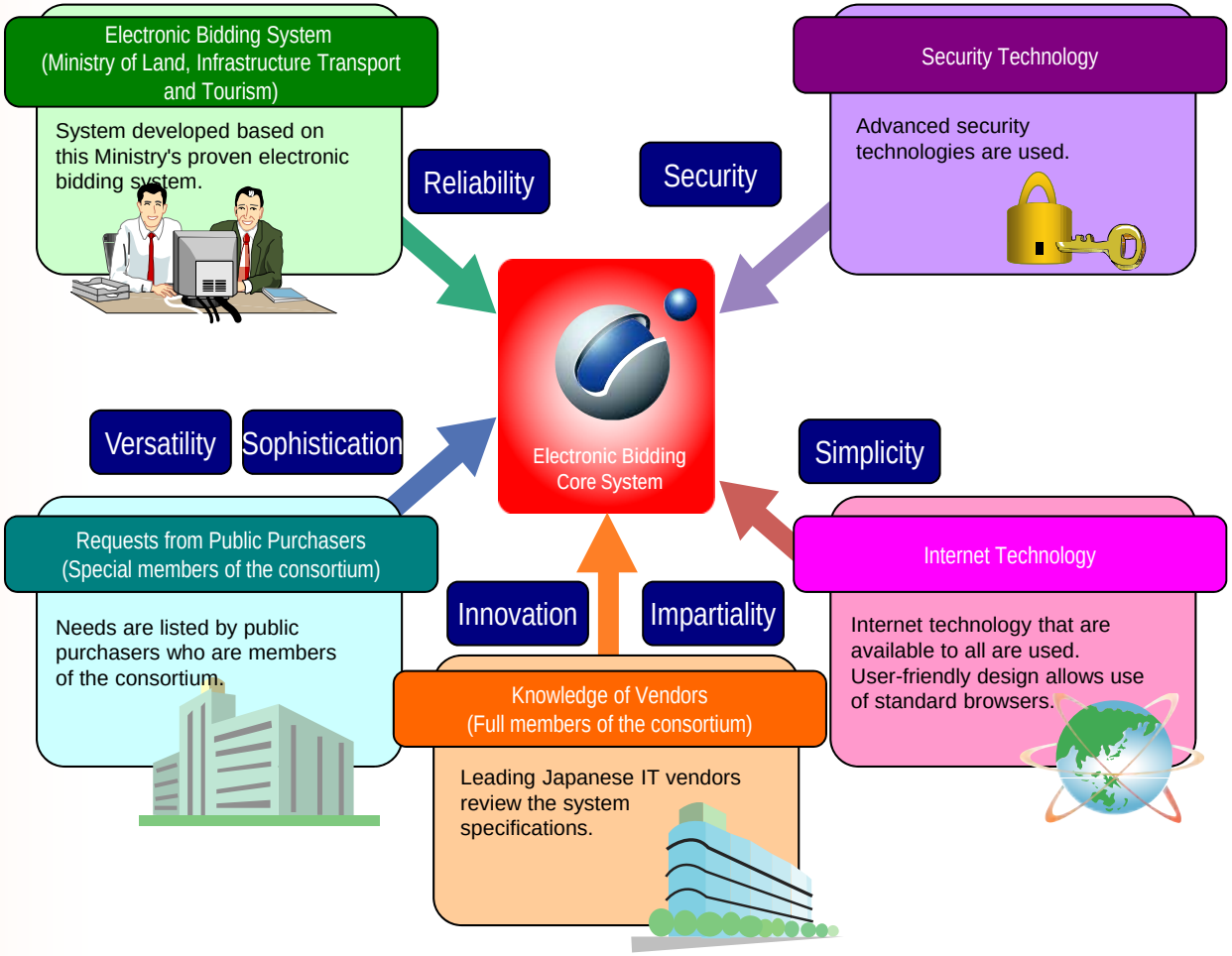
If each public purchaser developed its own electronic bidding system, the total development cost would be an extraordinary amount. By using the core system, public purchasers will be able to avoid redundant investments in system development.

Core System
This system is called the "core system" because it provides the "core" for the highly flexible electronic bidding system that can be used by multiple public purchasers. Although it is called the "core system," all functions necessary for bidding-related work such as procedural flows of bidding methods and management functions have been implemented in this system. The Core System is an electronic bidding system with advanced information security functions such as public key cryptography technology.

Electronic Bidding Core System

System Features

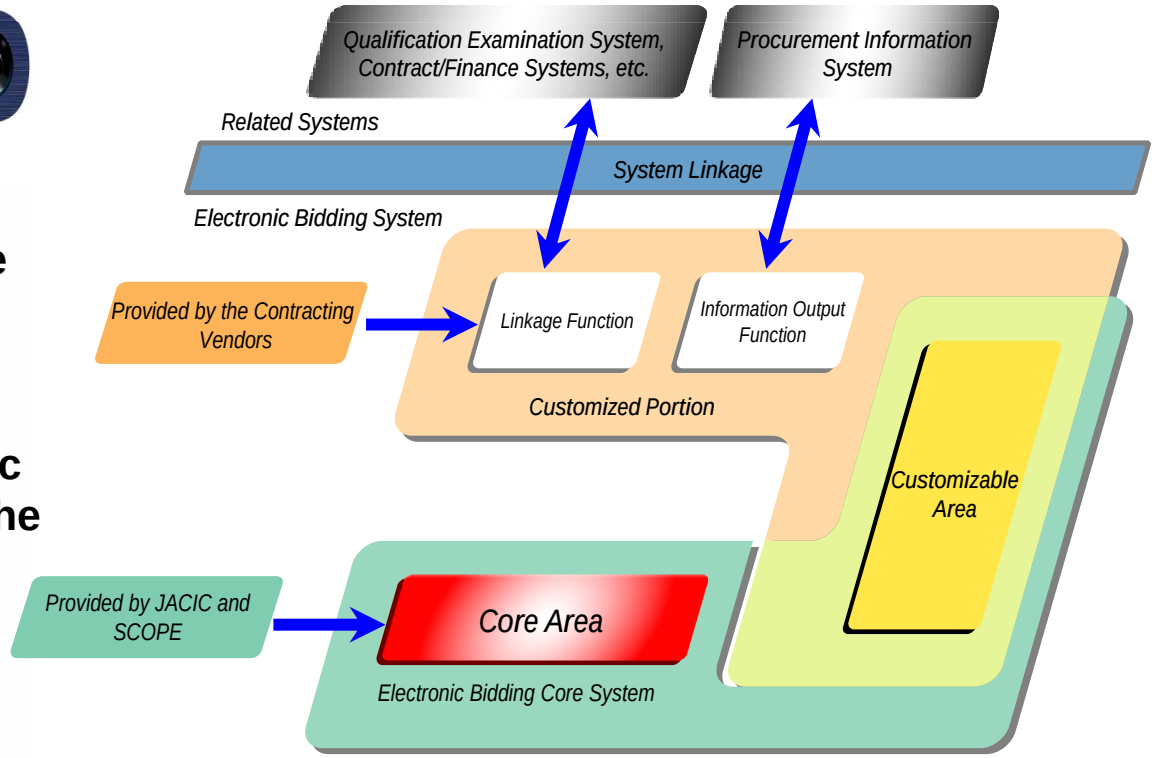
The Core System is a highly reliable system since it has been developed based on the proven electronic bidding system of the Ministry of Land, Infrastructure, Transport and Tourism. The electronic bidding system is also highly flexible. This is because the results of a survey on bidding-related business and opinions (business needs) from special members of the consortium were reflected when the system specifications were established.



Electronic Bidding Core System

Configuration

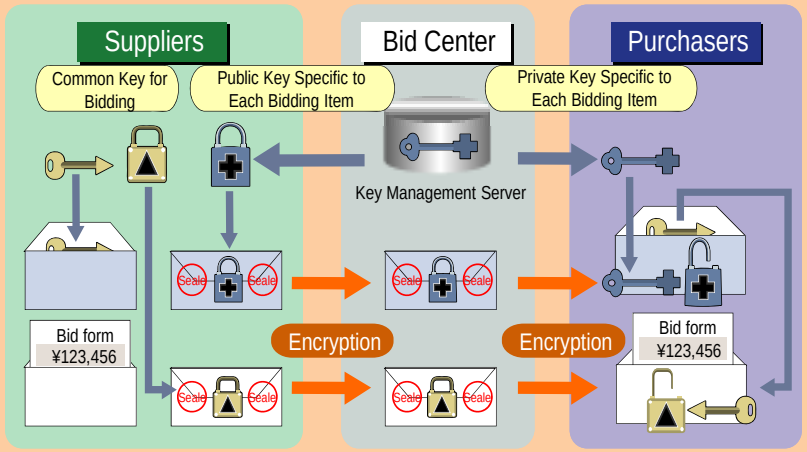
Public purchasers are provided with the core area, center of the Core System, and a customizable area, for public purchasers to customize.
Public purchasers can easily construct a work-linked electronic bidding system by customizing the customizable area as necessary and adding linkage functions to related systems.



Bid form management

The electronic bidding system requires highly advanced security measures due to the importance and anonymity of information the system handles. The Electronic Bidding Core System is developed based on CALSE/EC verification test results and the performance of the electronic bidding system used by the Ministry of Land, Infrastructure, Transport and Tourism; this ensures that a well-tested system is provided.

The Electronic Bidding Core System resembles a system in which sealed bid forms are kept in a safe. The key to the safe is strictly managed with a public key and a private key that are specific to each bid (see the figure on the right). Suppliers take out the private key from the key management server when it is time to open bidding and sequentially remove the seals on the bid forms.



Electronic Bidding Core System

Promotion Policies

Promotion of Domestic Standardization

A large number of local government agencies including the central government offices, 47 prefectures, and 12 government-designated cities participate in the Core System Development Consortium. This Consortium has been reviewing system specifications while taking into consideration the needs of public purchasers. The Ministry of Land, Infrastructure, Transport and Tourism and numerous public purchasers (central government offices, public corporations, and local governments) already have plans to establish an electronic bidding system using the Core System.

Conformity with the International Standardized Specifications

The project of UN/CEFACT※1 was started from 2002. Japan will be responsible for the Core System and JACIC played the leading role in promotion of the project. This system will conform to the international standardized specifications of electronic bidding to be established by the UN/CEFACT.

Expansion of Core System Functions

Including support for new public key infrastructures such as LGPKI and computerization of the contracting process between a successful bidder and a public purchaser, functions of the Core System will continued to expand.

※1 UN/CEFACT: United Nations Center for Facilitation of Procedures and Practices for Administration, Commerce and Transport.

Applicable works

Bidding method

This system supports various bidding systems, from public works to material procurement.

Related Construction Work	Related Operation Work	Related Goods
Open competitive bidding ※2	Designated competitive bidding ※2	Open competitive bidding
Publicly-invited, designated competitive bidding ※2	Publicly-invited competitive bidding ※2	
Designated competitive bidding ※2	Publicly-invited proposal	Designated competitive bidding
Work-specified designated competitive bidding ※2	Standard proposal	
Optional contract	Optional contract	Optional contract

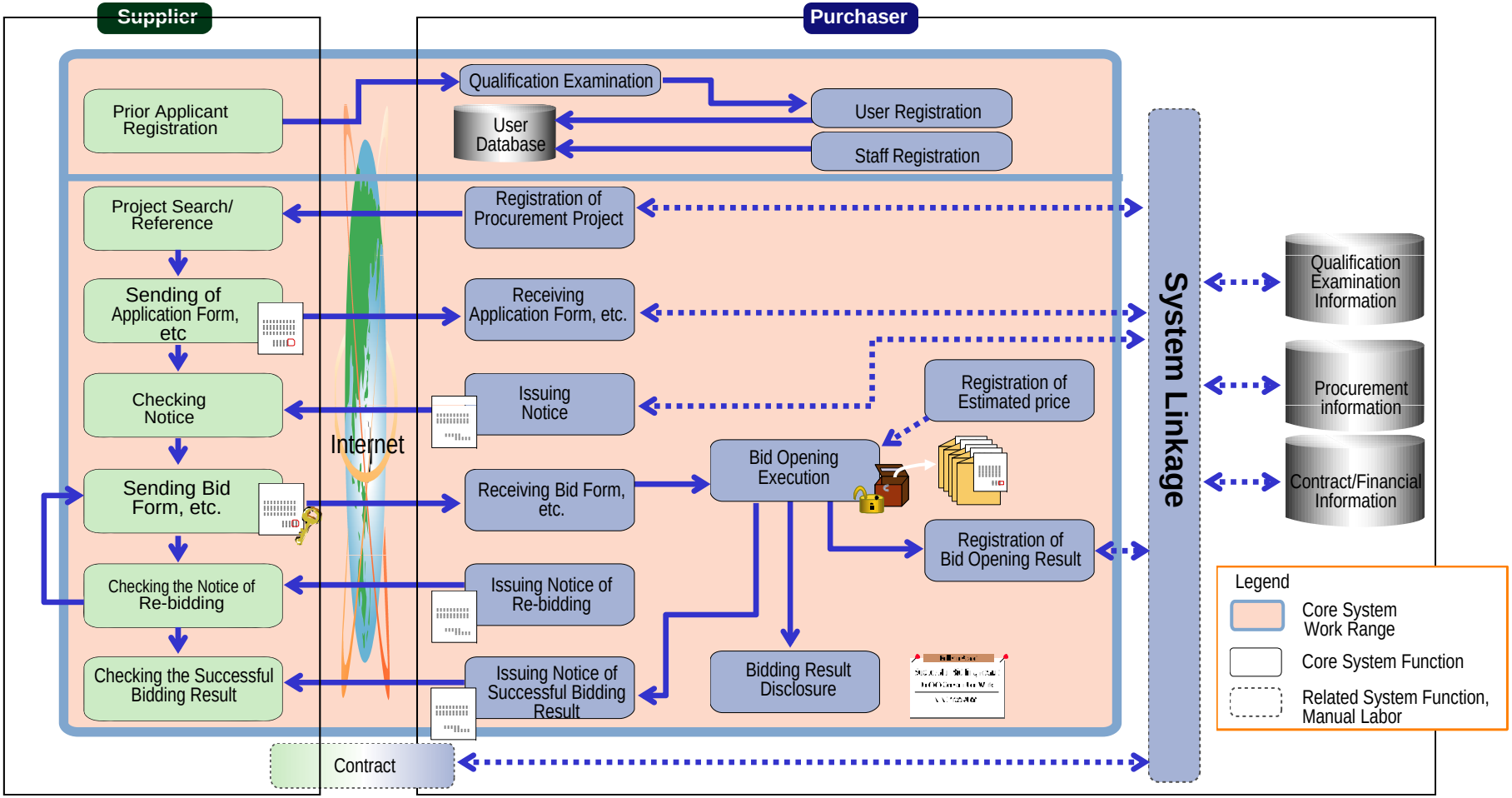
(Related goods conform to the standard specification of the Material Procurement System established by Ministry of Public Management, Home Affairs, Post and Telecommunications.)

※2 comprehensive evaluation successful bid

Applicable works

Work range

The Core System supports a series of procedures from registration of bidding projects to disclosure of bidding results.



Schematic Diagram for Open Competitive Bidding Process

Screen Examples

Screen for Purchasers

◆Easy-to-understand Screen

An easy-to-understand screen layout allows purchasers to understand bidding progress at a glance.

Example of a Purchaser's Screen

The menu display is easy to understand.

Bidding progress can be understood at a glance and traced from left to right.

Example of a Purchaser's Customized Screen

◆Customizable Screens

In addition to being able to make the obvious changes to symbols and designs, public purchasers can customize screen layouts through linking with related systems and changing or adding item names and making other modifications.

Screen Examples

Screen for Suppliers

◆Easy-to-use Design

Mistaken bid prices cause serious consequences. To avoid such problems, the amount inputted will be displayed in Chinese characters so that it can be understood intuitively.

◆Standardized Screen Layout

The basic screen layout for suppliers is standardized in accordance with GUI Guidelines. This allows bid participants to use any public purchaser's electronic bidding systems without confusion.

In GUI Guidelines, a system layout is divided into a part that would cause confusion if designs are changed and a part that would not cause any confusion (symbols, colors, etc.). The latter part can be customized freely.

Example of a Screen for Suppliers

Screens now under development. The actual screens may vary.

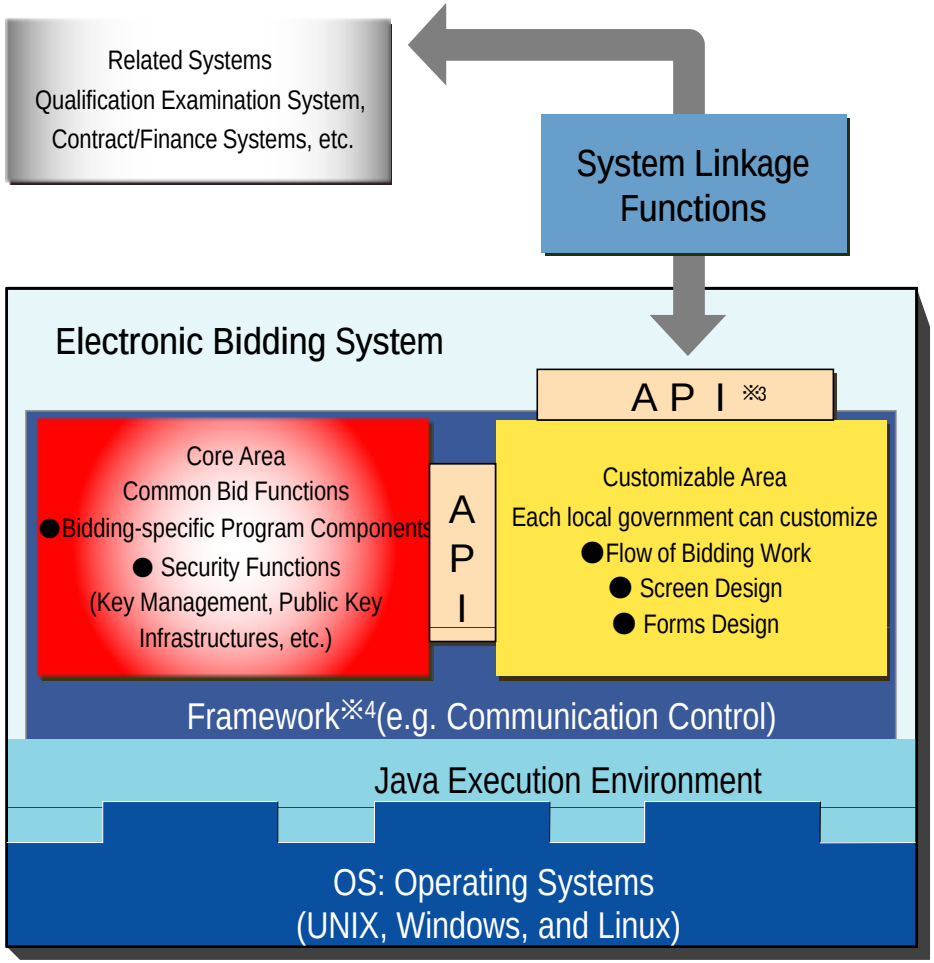
Innovation

Support for Multiplatform

Customization and expansion of core system functions are simple. This is because the system is layered into two parts: a customizable area and a core area. In the customizable area, screen and account book designs can be customized. In the core area, bidding-specific program components and a public key infrastructure are included. And since the system is developed with Java, program codes can be unified and efficiency in development and maintenance management can be improved. By operating the system in a Java execution environment which is implemented on a number of OSs such as UNIX, Windows, and Linux, it is possible to construct a system that is independent of configurations. This system also supports a variety of DBMSs such as Oracle.

Linkage to Related Systems

By using the API system, the Core System can obtain or pass on shared information that is related to bidding. Systems can work together seamlessly by editing each other's information. If there are not enough information items to pass on to a related system, it is possible to use a separate user database and link this database to the system.



Multiplatform Support

※3 API (Application Program Interface): API refers to software resources already provided to platforms such as the OS to facilitate development of applications.
※4 Framework: A framework refers to a software system or architecture that constitutes the base of particular services.

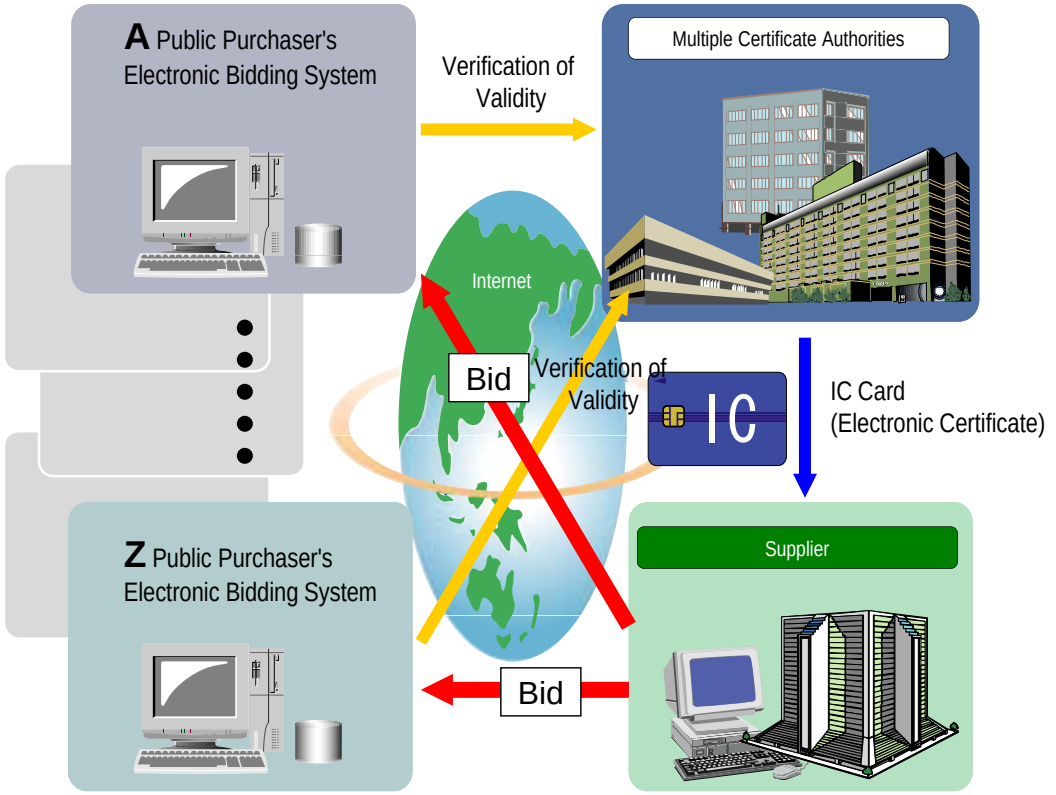
InnovationI

Support for Multiple Certification Authorities

A certificate authority can be selected among multiple certificate authorities to authenticate the supplier. One IC card can be used for multiple public purchasers. The system will support the commercial registration electronic authentication of the Ministry of Justice.

Support for GPKI/LGPKI

Authentication of purchaser is handled by GPKI*5 promoted by the Administrative Management Bureau of the Ministry of Public Management, Home Affairs, Post and Telecommunications, and by LGPKI*6 promoted by the Local Government Wide Area Network Council.



Support for Multiple Certificate Authorities

※5 GPKI (Government Public Key Infrastructure): GPKI refers to a public key infrastructure in the central government to use authentication technologies in electronic information exchanges between the government and private sector.

※6 LGPKI (Local Government Public Key Infrastructure): LGPKI refers to a public key infrastructure for organizations such as local government agencies.

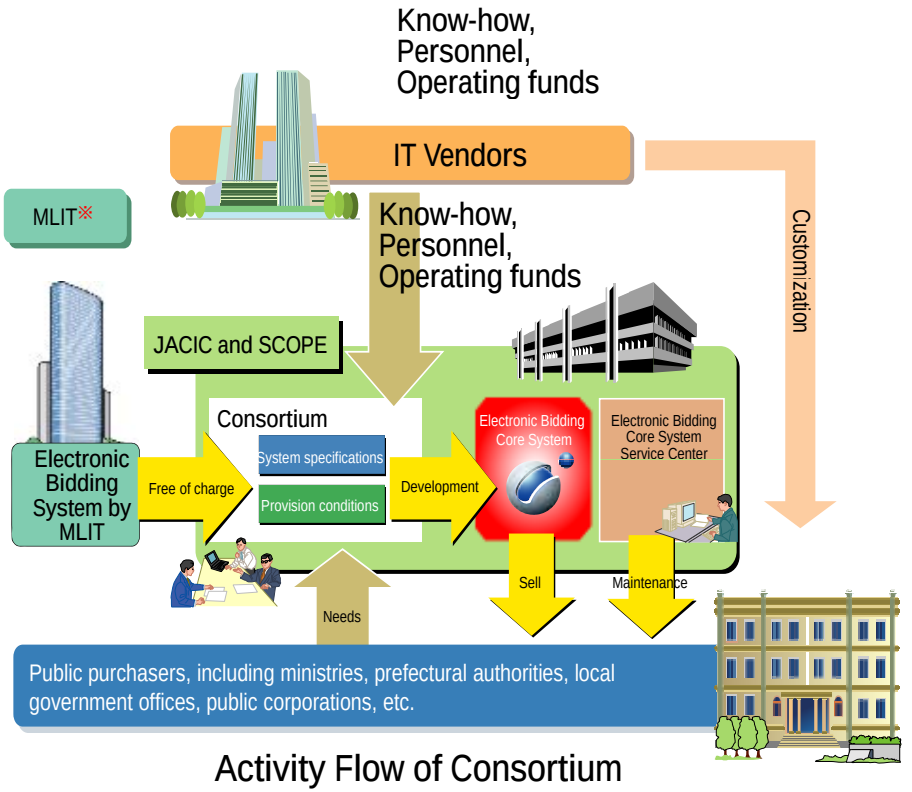
Electronic Bidding Core System Development Consortium

◆ Development System

■The Japan Construction Information Center (JACIC) and the Service Center of Port Engineering (SCOPE) established the Consortium in order to support the smooth introduction of the electronic bidding system to a wide range of public purchasers including local government agencies.

■Through the Consortium, specifications and provision conditions for a flexible electronic bidding system will be considered based on the electronic bidding system of the Ministry of Land, Infrastructure, Transport and Tourism according to the needs of public purchasers and know-how of IT vendors.

■Based on this specification, JACIC and SCOPE will develop and provide the Electronic Bidding Core System.



Activity Flow of Consortium

※ MLIT: Ministry of Land, Infrastructure, Transport and Tourism

Electronic Bidding Core System Development Consortium

◆ Maintenance System

JACIC and SCOPE have set up the "Electronic Bidding Core System Service Center" to support public purchasers that install the Electronic Bidding Core System and the development vendors that are contracted to construct systems using the Electronic Bidding Core System.

Inquiry Service	This service is for answering inquiries about installation, functions and operation of the Core System, and how to avoid problems.
Information Service	This service allows the user to freely view questions and answers about the Core System at any time.

◆ Members of the Consortium

Full Members	Companies that are willing to use the Core System either to develop the ability to create electronic bidding systems or to develop electronic bidding systems for public purchasers.
Supporting Members	Companies that require information regarding development of the Electronic Bidding Core System.
Special Members	Public purchasers of public works that are willing to install the electronic bidding system.

Electronic Bidding Core System Development Consortium

For Further Information, Contact:

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As of March. 2013