Government of India
Ministry of Communications & Information Technology
Department of Information Technology

Title of Policy : Policy on Open Standards for E-Governance

Effective Date : This Policy will be effective from July 2008

1. Purpose Statement

The **Government of India (GoI)** has taken major initiatives to accelerate the development and implementation of e-Governance and to create right environments for introducing G2G, G2B, G2E and G2C services within the country. The National Policy on Open Standards for e-Governance provides a set of guidelines for the uniform and reliable implementation of e-Governance solutions. It has been designed to ensure seamless interoperability of various solutions developed by multiple agencies. It also aims to improve the technology choices available and avoid vendor lock-in.

2. Applicability of Policy

The Policy will be applicable to all systems used for e-Governance. All new e-Government infrastructure systems (including all inter-department and intra department systems) and Government to public (including businesses) systems must conform to the Standards based on the Open Standards Policy given in this document. Even for legacy systems , it must be ensured that data archival and interface with other systems must conform to the Standards based on the Open Standards policy.

3. Specific Objectives

The Policy will ensure appropriate Information Technology adoption that will promote the interests of the nation with level playing field to all. In particular, it will aim at the following:

3.1) Ensure availability of multi-lingual ICT applications for citizens of the country.
3.2) Ensure reliable long term accessibility to public documents and information
3.3) Provide users larger spectrum of choice of solutions and flexibility by avoiding lock-in to specific vendor or proprietary solutions for both hardware and software
3.4) Promote ICT based innovation and entrepreneurship at grass root level of the society spread across the geographical limits of the country.
3.5) Provide better and fairer opportunities for multiple vendors in the application space by enhancing ease of interoperability.
3.6) Provide the ability to combine the best technology from the best providers to do the best job.

4. Guiding Principles for Selection of Standards

Any new Technology standard to be adopted/evolved as per the Open Standards policy should:

4.1) **Be Freely implementable**- Every agency should have the freedom to implement the specification without royalty and without any patent related encumbrances till the life time of the standard .Complete description of the standard must be available in publicly accessible form.

4.2) **Be Developed in a transparent and collaborative manner** - The standard must be developed and owned by a body where all stakeholders can opt to participate in a transparent collaborative consensus driven process. This will ensure that the Standard will be supported by the Standardisation bodies until the end user interest ceases rather than when implementer business interest declines.

4.3) **Have Ability to create Open Extensions and subset in Standards**: Any extensions of Standards shall require the publication of reference information for extensions, and a free license for all others to create, distribute and sell software that shall be compatible with the extensions. The extensions to the original standard should follow the same ratification process that was followed in the case of the original standard.

4.4) **Be Inter operable** – This condition ensures that the data created by the users in an electronic format is accessible (interpretable) not only in the application in which it is created, but in all future versions of the same application, as well as in all other applications that implement the standard. The Standard should ensure backward compatibility to the maximum extent while upgrading to a new version.

4.5) **Be superior to any standard adopted earlier:** Standards should not duplicate already existing standards. GoI should not migrate from an existing Standard unless the rationale for change is clearly spelt out and transparent metrics used to demonstrate superiority. For any domain, where multiple standards exist, the ones introduced later should only be considered if there is a clear rationale given for change and transparent benchmarks are provided to demonstrate the technical superiority.

4.6) **Conform to Domestic Laws:** Any new Standard that is proposed to be adopted should not violate domestic laws.

4.7) **Support Localisation:** The Standard should ensure support for all Indian Languages. Application should not be restricted by the Standards to use any particular language.

4.8) **Be a Single Standard:** For each domain, among the Standards meeting the above criteria**, GoI will choose a single standard for a specific purpose within a domain for seamless interoperability and data preservation.**

4.8.1) However, where there is a sufficient technical justification in the National interest for considering additional standard in the same domain meeting the requirements of the policy, this standard shall be examined for its complete compatibility and complete bidirectional interoperability with the existing selected single standard, without any loss of information during the exchange.

4.8.2) The additional standard must at all times ensure complete compliance as mentioned above to retain its status as an additional standard.

5. Policy Statement on Open Standards Adoption in e-Governance

It is imperative that India as a Nation makes use of Open Standards for e-Governance. Open Standards used by India shall have the following characteristics:

5.1) Mandatory Characteristics:

5.1.1) Selected Standard should be Royalty Free for life time of the standard.

5.1.2) Selected Standard should be developed in a collaborative and consensus manner and not led by a single agency or a small closed group of interested parties

5.1.3) Selected Standard should be recursively open; They shall not use unpublished extensions

5.1.4) Selected Standard should not duplicate already existing standard unless proven superior for replacement.

5.1.5) Selected Standard should make the specification documents available without any restrictions.

5.1.6) Selected Standard should not violate domestic laws.

5.1.7) Selected Standard should be made available with the same capability world wide without any discrimination such as sub-set or super-set for different regions / countries.

5.2) The Desirable Characteristics of Open Standards are as follows:

The following are characteristics of Open Standards that are desirable and hence while deciding between two standards, if one of the standards has any of the following characteristics in addition to the ones mentioned above then that standard should be preferable:

5.2.1) Open Standards developed in India or having official participation from India.

5.2.2) Open Standards having multiple implementations which may include reference implementation from the core developer of the Standard and preferably having an Open Source reference implementation.

5.2.3) Open Standard with its specification and licensing, technology neutral.

5.2.4) Open Standard having freely available compliance test suites with or without additional nominal fee for enhanced certification services.

5.2.5) Open standards already in use somewhere and its adoption having no barrier(s) for local entrepreneurs.

6. Policy Implementation Mechanism

6.1) GOI would notify the priority areas to be considered for standardization from time to time. The designated body/ agencies responsible for standardization would apply the principles of this policy while adopting/evolving standards in the identified priority areas.

6.2) While the internal representation of the data for a domain may vary from implementation to implementation, the standard (selected single standard) at the data storage and data interchange level need to be enforced.

6.3) On release of such standards, Industry shall be given a definite time for progressive compliance with the standards, be it for interface or for the entire system.

6.4) Request for Proposals (RFPs) for future implementations would include the guidelines for ensuring compliance to Open Standards evolved in compliance with this Policy. GOI would establish a monitoring body and an Open Standards Solutions Laboratory (OSSL) to carry out various activities like monitoring, testing compliance and comparison of technical merits of competing standards and other related activities. Existing bodies/agencies would be preferred to the extent possible

7. **Standards Selection criteria**

Multiple standards that are available within a domain will need to be validated against the mandatory & desirable characteristics of the policy. The designated body would follow a transparent process of elimination as follows in order to arrive at a recommended single standard:

7.1) Firstly check the Standard against the Guiding Principles and Mandatory Characteristics as laid down in the policy;

7.2) If the competing standard(s) meet all conditions at 1 above, then check the competing standard(s) against the desirable characteristics of the policy.

7.3) If (1) and (2) are met, the competing standards must be provided to OSSL for comparing with the existing standard (Specific technology area/domain/scope).The economic factors must also be looked into.

7.4) If the competing standard(s) meets all (3) above, then the Apex Body on Standards will take the final decision.

8. **Review of the Policy:** Review of the Policy could be at regular intervals or based on triggers. Government of India has the right to review the policy as and when required.

9. **Point of Contact**
All queries or comments related to this Policy should be directed to Director General, NIC dg@nic.in and egov.standards@nic.in

Appendix A

A.1) Backward Compatibility

In technology, especially computing (irrespective of platform), a product is said to be backward compatible (or downward compatible) when it is able to take the place of an older product, by interoperating with other products that were designed for the older product.

A.2) Domain

A domain is a sub-category under an Information area. Here the domain is restricted to Technology specific domains. Like, "Document type for Web publishing content" is one domain under the "Presentation" area of the Interoperability Framework document

A.3) e-Government

(from electronic government, also known as **e-gov**, digital government, online government or in a certain context transformational government) refers to government's use of information technology to exchange information and services with citizens, businesses, and other arms of government. e-Government may be applied by the legislature, judiciary, or administration, in order to improve internal efficiency, the delivery of public services, or processes of democratic governance

A.4) Extensions

The term extension in a computing context most commonly refers to a computer program that although not useful or functional in its own right, is designed to be incorporated into another piece of software in order to enhance, or extend, the functionality.

A.5) G2C
Government-to-Citizen or Government-to-Customer

A.6) G2B
Government-to-Business

A.7) G2G
Government-to-Government

A.8) G2E
Government-to-Employees

A.9) Vendor lock-in

In economics, vendor lock-in, also known as proprietary lock-in, customer lock-in, lock-in is where a customer is dependent on a vendor for products and services and cannot move to

another vendor without substantial switching costs, real and/or perceived. Frequently, the term connotes some level of intention on the vendor's part to create a lock-in situation, but often a client may be said to be "locked in" in situations that arose unintentionally.

A.10) Interoperable

Able to exchange and use information

A.11) Open Source

Open source is a set of principles and practices that promote access to the design and production of goods and knowledge. The term is most commonly applied to the source code of software that is available to the general public with relaxed or non-existent intellectual property restrictions. This allows users to create software content through incremental individual effort or through collaboration.

A.12) Patents

The term "patent" usually refers to a right granted to anyone who invents or discovers any new and useful process, machine, article of manufacture, or composition of matter, or any new and useful improvement thereof. The additional qualification "utility patents" is used in countries such as the United States to distinguish them from other types of patents but should not be confused with utility models granted by other countries. Examples of particular species of patents for inventions include biological patents, business method patents, chemical patents and software patents.

A.13) Royalty

A royalty is a stream of payments for use of a certain type of asset, most typically an intellectual property (IP) right. A royalty interest is an ownership of a stream of future royalty payments.

A.14) Standardisation

A.14.1) Standardization or standardisation, in the context related to technologies and industries, is the process of establishing a technical specification, called a standard, among competing entities in a market, where this will bring benefits without hurting competition.

A.14.2) Standardization means: "the development and implementation of concepts doctrines, produces and designs to achieve and maintain the required levels of compatibility interchangeability or commonality in the operational, procedural material, technical and administrative fields to attain interoperability." Common use of the word standard implies that it is a universally agreed upon set of guidelines for interoperability.