

## **INTELLECTUAL PROPERTY AND ICT STANDARDS IN INDIA**

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*The opinion(s) expressed by the authors in this research paper is in their personal capacity as an individual and does not represent the opinion of the employers of the authors.*

## **INTELLECTUAL PROPERTY AND ICT STANDARDS IN INDIA**

### **Abstract**

*The 2010 “Policy on Open Standards for e-Governance” launched India into the global debate over the definition of open standards. However, the story of standards in India is richer and broader than only the e-Governance policy. Bureau of Indian Standards (BIS) is a standards development organization (SDO), which came into existence through an Act of the Indian parliament. Another important government SDO functioning, in the telecommunications domain, is the telecommunication engineering center (TEC), which was formed under the Department of Telecommunications (DoT) in India. In addition, there has been an increased effort in setting up public-private partnership organizations for formulating standards focused on information and communications (ICT) standardization. Further, the Indian government has made important contributions on the topic of technical standards in connection with the World Trade Organization’s Committee on Technical Barriers to Trade (TBT). These SDOs appear to be closely associated with one or the other International standards development organizations such as W3C, IEEE, ISO, ITU, IEC, and ETSI. This Paper will identify the institutions and processes that have historically been used to develop standards in India, and explore how these are evolving to address standardization issues raised by the explosion of information and communications technology. This Paper will also summarize the new developments described above, with a focus on the intellectual property aspects related to ICT. The ultimate goal of the paper will be to provide the reader with a thorough overview of ICT standardization in India, with a special focus on intellectual property considerations.*

## **1.0 Introduction**

Standards scenario in India has evolved over a period of time. The Government of India (hereafter 'GOI') has set-up a Bureau of Indian Standards (hereafter 'BIS') in 1987, which is a national Standards body. BIS is engaged in preparation and implementation of Standards, certification, organization and management of testing laboratories, creating consumer awareness, and creation of a liaison with the international Standards bodies. GOI has played an important role in setting up Standards Development Organizations (SDOs) in India, encouraging public-private participation in the area of Standards in India. GOI has also contributed to development of Standards in the International arena. For example, with a view to developing national capacity among the South East Asian least developed countries, the United Nations Industrial Development Organization (UNIDO) has implemented a project entitled "Market access and trade facilitation support for South Asian least developed countries, through strengthening institutional and national capacities related to Standards, metrology, testing, and quality" a project financed by GOI and the Norwegian Agency for Development Cooperation"<sup>1</sup>. In the recent years there has been an added emphasis on Standards in India and some of the developments are interesting. They are, for example, the adaptation of Open Standards for e-Governance, official approval and recognition of Global ICT Standardization Forum for India (GISFI), and an increased presence of some Standards Settings Organizations (SSO) are substantial indications of the importance that GOI has for Standards. Also, it may be interesting to note that the Indian IP regime dates back to 1856 in which patent protection was provided to inventions. Post Indian independence, a report<sup>2</sup> by Justice Rajagopal Ayyangar committee had the purpose of granting patents for inventions thereby encouraging the innovation culture in India and it lead finally to enactment of Patent Act 1970. The India Patent Act 1970 requires that patented inventions are worked in India on a commercial scale and to the fullest extent that is reasonably practicable without undue delay;

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<sup>1</sup> A working paper on "Role of Standards – A guide for small and medium –sized enterprises" available from [http://www.unido.org/fileadmin/media/documents/pdf/tcb\\_role\\_standards.pdf](http://www.unido.org/fileadmin/media/documents/pdf/tcb_role_standards.pdf), last visited on 20th June, 2012.

<sup>2</sup> N. RAJAGOPALA AYYANGAR, REPORT ON THE REVISION OF THE PATENTS LAW, Government of India (1959). [Available at the Library of National Law School of India University, Bangalore, India ]

and that they not granted merely to enable patentees to enjoy a monopoly for the importation of the patented article<sup>3</sup>. The development of Standards and the interplay with Intellectual property Rights is a phenomena occurring in India as well. This Paper briefly discusses the factual developments in each of the above area.

## **1.1 National Standards Body – Bureau of Indian Standards (BIS)**

### **1.1.1: Introduction**

The Indian Standards Institution (ISI) was set-up in 1947, as a registered society under the GOI resolution. To further strengthen the Standards regime in India and to keep-up with the changing socio-economic needs, the GOI set-up Bureau of Indian Standards (BIS) in 1987 and gave it a statutory status. The Bureau of Indian Standards (BIS)<sup>4</sup> took over the assets, liabilities and functions of the erstwhile ISI and has been serving as the national standards development organization (SDO) from thereon. BIS was set-up with an objective to – (a) promote harmonious development of standardization, marking and quality certification; (b) provide new thrust to standardization and quality control; and (c) evolve a national strategy for according recognition to standards and integrating them with growth and development of production and exports. To meet these objectives, BIS is engaged in preparation and implementation of Standards in India covering several technical areas and BIS is a certification agency as well. Further, BIS is responsible for management of testing laboratories, creating consumer awareness, and creation of a liaison with the international Standards bodies.

As on 31<sup>st</sup> March 2011, the total number of Indian standards, formed by the BIS, that are in force was 18610<sup>5</sup>. Out of the 18610, BIS has harmonized 4787 Indian standards with the international standards, majorly with that of ISO/IEC. In the year 2010-2011, BIS has formulated 338 standards of which 137 are new and 207 are revised standards to keep-up with the requirements of the emerging technologies. BIS has a the necessary organizational

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<sup>3</sup> Patent Act 1970, Section. 83.

<sup>4</sup> <http://www.bis.org.in/> last visited 27<sup>th</sup> July, 2012

<sup>5</sup> Annual report 2010 – 2011, available from <http://www.bis.org.in/org/ANNUALREPORT1011.pdf>, last visited 27<sup>th</sup> July, 2012

structure to form the Indian Standards in 14 sectors<sup>6</sup>, which include – production and general engineering, chemicals, civil engineering, electronics and information technology, electro-technical, food and agriculture, mechanical engineering, management and systems, medical equipment and hospital planning, metallurgical engineering, petroleum coal and related products, transport engineering, textile and water resources. Each of these sectors is managed by a *division council* and a detailed work program for each of these sectors is published on 1<sup>st</sup> April of each year. The work program includes a committee-wise position of published Standards and draft Standards at different stages of preparation. Further, special attention is given to multi-disciplinary areas such energy conservation, environmental protection, and rural development and safety.

### **1.1.2: ICT related Division Councils**

The work program and activities of at least some of the division councils are relevant from the perspective of this paper. The work program and activities of the electro-technical division council (ETDC) and electronics and information technology division council (LITD) are discussed in detail here in this paper. The ETDC is focused on bringing about standardization in the field of electrical power generation, transmission, distribution and utilization equipment, insulating materials, winding wires, measuring and process control instruments and primary and secondary batteries. The Electronics and Information Technology Division Council (LITD) is focused on bringing about Standardization in the field of electronics and telecommunications including the information technology.

#### **1.1.2.1: Electro-Technical Division Council [ETDC]**

*ETDC* was formed in 1957 and it includes 37 sectional committees. Initially, while forming Indian standards, assistance was drawn from British Standards, VDE<sup>7</sup>, American National Standards Institute (ANSI), Underwriters Laboratory (UL), and Japan Industrial Standards (JIS). However, from early 1980's many of the Indian standards have adopted ISO/IEC standards. India is a signatory to General Agreement on Trade and Tariffs (GATT)

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<sup>6</sup> <http://www.bis.org.in/sf/sfp1.htm>, last visited 27<sup>th</sup> July, 2012

<sup>7</sup> VDE standards - <http://www.vde.com/en/Pages/Homepage.aspx>, last visited on 27<sup>th</sup> July, 2012

and is obligated, at least in some sectors, to adopt ISO/IEC standards. ETDC has formed 2817 Indian standards in the area of electro-technology and 667 Indian standards are identical to ISO/IEC standards and 1010 Indian standards are technically equivalents of ISO/IEC standards.

ETDC formulates standards in various categories to provide a well-balanced standards system in India. For example, the major categories in which standards are formed include products and method of test. The products and method of test categories account for more than 60% of the standards developed by ETDC. Further, the category of major focus is standards for products, which accounts for 45% of the standards formed by ETDC. A summary of the aspect-wise breakup of Indian standards formulated by ETDC is provided in Table.1<sup>8</sup> below.

<b>ASPECT</b>	<b>NO. of Standards</b>	<b>Percentage</b>
Product	1246	44.24
Method of Test	483	17.15
Codes of Practices	276	9.79
Terminology	145	5.15
Dimensions	165	5.85
Symbols	31	1.10
Others	471	16.72

**Table.1: Indian Standards formulated by ETDC**

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<sup>8</sup> A presentation from BSI, titled "Standardization activities in Electrical, Electronics, and Information Technology", available from [publicaa.ansi.org](http://publicaa.ansi.org)

### **1.1.2.3: Electronics and Information Technology Division Council [LITD]**

LITD<sup>9</sup> was formed in 1977 and it includes 21 sectional committees. LITDC has formulated 1471 Indian standards of which 409 Indian standards are adopted from the ISO/IEC and 578 Indian standards are technical equivalent to ISO/IEC standards. The 21 sectional committees include, for example, committees on – (a) Semiconductor and other electronic components (LITD 5); (b) Audio, Video, Multimedia systems and equipment (LITD 7); (c) Transmitting equipment for Radio communication (LITD 12); (d) Information and Communication Technologies (LITD 13); (e) Software and System Engineering (LITD 14); (f) Data management System (LITD 15); (g) Computer Hardware peripherals and Identification cards (LITD 16); (h) Information systems Security and Biometrics (LITD 17); (i) e-Governance (LITD 18); (j) e-Learning (LITD 19); (k) Indian Language Technologies (LITD 20); and (l) e-Business Infrastructure (LITD 21). These sectional committees have developed standards in their focus areas. For example, the Semiconductor and other electronic components (LITD 5) sectional committee has developed 497 standards, Audio, Video, Multimedia systems and equipments (LITD 7) has developed 86 standards such as (**IS 15244, IS 15245 and IS 15377**), Software and System Engineering (LITD 14) has developed 66 standards all harmonized with ISO/IEC, Computer Hardware peripherals and Identification cards (LITD 16) has developed 74 standards such as (**IS 13252:2003/IEC 60950:2000 and IS 14202**), and Information systems Security and Biometrics (LITD 17) has developed 10 standards such as (**IS/ISO/IEC 27001**).

**Information and Communication Technologies (LITD 13)** prepares Indian Standards relating to computer communication networks and interfaces to these computers including microprocessor system, interfaces, protocols, and associated interconnecting media for information technology equipments generally for commercial and residential environments as well as routers, transmitting switches equipment etc. For developing many ICT<sup>10</sup> related Indian standards, BIS liaisons with (a) the ISO/IEC/JTC1/SC 6 – Telecommunications and Information exchange between systems; (b) the ISO/IEC/JTC1/SC25-Interconnection of

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<sup>9</sup> A presentation titled "**National and International IT Standardization**, available at [www.bis.org.in/other/ppt6.ppt](http://www.bis.org.in/other/ppt6.ppt), last visited on 27<sup>th</sup> July 2012.

<sup>10</sup> Page 95 of the "Programme of work" (as on 1<sup>st</sup> April, 2012), Electronics and Information Technology Department (LITD), available at <http://www.bis.org.in/sf/pow/powlitd.pdf>, last visited 29<sup>th</sup> July 2012.

information technology equipment; and (c) ISO/IEC/JTC1/SC35 - User Interfaces. LITD 13 has published 3 Indian standards on Terminology and 13 Indian standards on other ICT related standards.

The Table – 2 below provides a list of all the ICT related Indian standards. The Indian standards (IS) that are relevant from the interoperability point of view are 3, 4, 5, and 16. While the IS in Sl. No’s 3, 4, and 5 provides a physical pin interconnect standard for interface connectors with different number of pins and IS in Sl.No.16 provides a protocol standard for interconnection, which may facilitate interoperability. An observation as far the IS’s formed by LITD-13 is that the ISs are mostly based on the International Standards developed by the ISO/IEC. Each IS (in col. 2) is a combination of alphanumeric tag starting with alphabets IS (Indian Standards) followed by a number (for example, IS 13919:1994) and is further associated with ISO/IEC tag (for example, ISO/IEC 8073:1992), which implies that the Indian Standard IS 13919:1994 is developed based on the ISO/IEC 8073:1992. In ICT, the ISs are either technically equivalent or same as ISO/IEC standards.

<b>Sl. No.</b>	<b>IS Number/ DOC No</b>	<b>Title</b>	<b>Reaffirm Date</b>
1	IS1885(Part26):1968	Electrotechnical vocabulary: Part 26 Telecommunication relays	Jan 2012
2	IS 1885(Part 58):1984/ IEC 60050(701)	Electrotechnical vocabulary: Part 58 Telecommunication channels and networks	Jan 2012
3	IS 10735:1983/ISO 2110:1980	25 Pin DTE/DCE interface connectors and pin assignments for data communication	Jan 2012
4	IS 10736:1983/ISO 4902:1980	37 Pin and 9 Pin DTE/DCE interface connectors and pin assignments for data communication	Jan 2012
5	IS 10737:1983/ISO :4903:1980	15 Pin DTE/DCE interface connectors and pin assignments for data communication	Jan 2012
6	IS 11413:1986/ISO 1177-1985	Character structure for start/stop and synchronous transmission for information processing	Jan 2012



7	IS 11414:1986/ISO 1745:1975	Basic mode control procedures for data communication systems	Jan 2012
8	IS 11416:1986/ISO 2628 :1973	Basic mode control procedure complements	Jan 2012
9	IS 11418(Part 1): 1986/ ISO 3309:1984[E]	High level data link control procedures: Part 1 Frame structure	Jan 2012
10	IS 11418(Part 2):1986/ ISO 4335:1984/	High Level data link control procedures: Part 2 Consolidation of elements of procedures	Jan 2012
11	IS 12032(Part 9):1993/ IEC 60617-9(1983)	Graphical symbols for diagrams in the field of electro technology: Part 9 Telecommunications,/ IEC 60617-9(1983) switching and peripheral equipment	Jan 2012
12	IS 12285:1987/ISO 7480-1984[E]	Start-stop transmission signal quality at DTE/DCE interfaces	Jan 2012
13	IS 13589:1993/ISO 8072:1986	Transport service definition in open systems interconnection for information processing systems	Jan 2012
14	IS 13611:1993/ISO 8473-1988	Protocol for providing the connectionless - Mode network service in data communications for information processing systems	Jan 2012
15	IS 13868:1993/ ISO8348:1987{E}	Network service definition in data communications for information processing systems	Jan 2012
16	IS 13919:1994/ ISO/IEC 8073:1997	Information technology - Telecommunications and information exchange between systems – Open systems interconnection - Protocol for providing the connection - Mode transport service	Jan 2012

**TABLE-2: Indian Standards formulated by (LITD-13) in the year 2012**

Also, another interesting fact is that the BIS formulate standards in all the areas except the telecommunications area. The following section discusses the standards development body in the telecommunication area.

### **1.1.3: Process of Setting Standards in BIS<sup>11</sup>**

BIS formulates Indian Standards in a transparent manner through a consensus process. The technical committees of BIS comprise experts from concerned areas such as consumers, producers/manufacturers, R&D Centers, NGOs, and Regulatory Bodies etc. Further, the adoption of Indian Standards is generally voluntary in nature and their implementation depends on adoption by concerned parties. An Indian Standard becomes binding if it is stipulated in a contract executed between the BIS and the manufacturer, who intends to manufacture products based on a specific BIS standard. However, there are certain BIS standards under mandatory certification<sup>12</sup> and any person (or a company) who intend to manufacture products based on these mandatory standards are to obtain a license and comply with the BIS standards.

Generally, the development of an Indian Standard by BIS includes the following steps: (a) Receipt of Proposal; (b) Acceptance of Proposal; (c) Preparation of Proposed Draft; (d) Development & Acceptance of Proposed Draft; (e) Approval of Wide Circulation Draft; (f) Consideration of comments; (g) Finalization of Draft; and (h) Publication of Standard. However, based on the discussions with a BIS officer, who has been involved in the Standards development process, there appears to no discussion on dealing with patented technology while setting standards. An interesting input provided by the BIS officer clearly indicates that they do want to avoid inventions protected by IPRs becoming a part of the BIS Standards. Table-3 below depicts a project approach to development of Standards by BIS.

Requests for new Indian Standards or revisions of or amendments to existing standards may come from Ministries of Central and State governments, Union territory

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<sup>11</sup> [http://www.aaac.org/SPIFAN/Standards\\_Development-India.pdf](http://www.aaac.org/SPIFAN/Standards_Development-India.pdf)

<sup>12</sup> List of Standards under mandatory Certification, available at <http://www.bis.org.in/cert/man.pdf>, last visited on 12<sup>th</sup> Sept, 2012

administrations, Consumer Organizations, Industrial units, Industry Associations, professional bodies, Members of Bureau and Members of BIS technical committees. Sources wishing to submit a proposal to BIS for new standardization work are first requested to furnish information explaining its significance, justification etc. in a prescribed format. The first P-draft is circulated to members of the Sectional Committee and concerned Sub-committee(s) and Panel(s) for comments, with a clear indication of the latest date for sending comments. Comments received are discussed in the meeting of the Committee. The decision to approve the P-draft as Wide Circulation draft is taken on the basis of the consensus principle. "Consensus" means general agreement, characterized by the absence of sustained opposition to substantial issues by any important part of the concerned interests and by a process that involves seeking to take into account the views of all parties concerned and to reconcile any conflicting agreements". As noted above, the inventions/technologies protected by IPR is generally avoided from becoming a part of the Standards and thus the consensus arrived at is independent of the IPRs.

<i>SI No</i>	<i>Project Stage</i>	<i>Associated Doc</i>	<i>Stages at the ISO</i>	<i>Remarks</i>
1	<i>Proposal</i>	<i>New work item proposal (NWIP)</i>	<i>New work item proposal (NWIP)</i>	<i>Request for a new Standard, constitute a proposal</i>
2	<i>Preparatory</i>	<i>Working Draft (WD)</i>	<i>Working Draft (WD)</i>	<i>Proposal is usually accompanied by a WD</i>
3	<i>Committee</i>	<i>Preliminary Draft (P-draft)</i>	<i>Committee Draft (CD)</i>	<i>WD modified by the member Secretary is the P-Draft</i>
4	<i>Approval</i>	<i>Wide circulation draft (WC)</i>	<i>Draft International Standards (DIS)</i>	<i>P-draft modified by the committees is the WC</i>
5	<i>Publication</i>	<i>National Standard</i>	<i>International Standard</i>	<i>WC draft is finalized by the committee based on the comments received.</i>

**Table 3 – A project approach to Standards development process by BIS.**

#### **1.1.4: IP Policy for Standards formulated by BIS**

BIS has no clear, certain, and separate IP policy framework relating to the Standards that it formulates. In case of Indian Standards, which are technically equivalent or same as the International Standards, the IP Policy of respective International Standards organization governs. The author contacted officials of the BIS to get direct information on the issues. A senior officer of BIS (who did not want his identity to be disclosed) very candidly said that they use technology that is already being commonly used (i.e., without any IP ownership in it). Moreover, the officer mentioned that BIS does not fix any design (or technology) in the Standards and they merely, at a very high level, lay down principles. However, if a licensee manufactures a product covered by BIS standards and if the manufacturer intends to use a technology protected by IPRs, then the manufacturer is obligated to contact the IP holder directly and get a license to use to IP protected technology or the manufacturer may purchase the components directly from the IP owner. BIS will not interfere in a transaction between the parties.

The officer recited an example (quoted here): Example: if BIS sets a standard for pencil, all BIS would say is a paint that may cause health hazards should not be used or a wood that is soft enough to easily sharpen the pencil should be used. BIS does not specify the paint and the standard for the paint, which should be used. However, if the manufacturer of the pencil wants to get a license for making paint, which is protected by IPRs then the manufacturer will have to go to the IPR holder directly to obtain a license for making paint. On the other hand, if the IPR holder is a manufacturer of the paint, the manufacturer of the pencil may buy the paint from the IPR holder (and manufacturer) of the paint.

It is an interesting fact that the BIS formulate standards in all the areas except the telecommunications area. Since telecommunication sector is a one of major thrust in this paper, the following section discusses the standards development body in the telecommunication area.

## **1.2 National Standards Body–Telecommunication Engineering Center (TEC)**

### **1.2.1: Introduction**

In India, the Telecommunication Engineering Center (TEC)<sup>13</sup> is a body under telecom commission and a nodal agency of the Department of Telecommunications, Ministry of Communications and Information Technology, GOI. Some of the major functions of the TEC include: (a) developing **specification of common standards** with regard to **Telecom network equipment, services and interoperability**; (b) **Formulation of Standards** and Fundamental Technical Plans; (c) Interact with multilateral agencies like **APT, ETSI and ITU etc. for standardization**. TEC has an agenda to participate in professional bodies such as ITU - T, WiMax Forum, TM Forum, Enum Working Group, IETF, IEEE etc. and partner with multilateral organization like APT , CTO etc. to protect country`s interests. TEC is also setting up Asia Telecom Standards Institute (ATSI) in New Delhi and Telecom consultancy to S.E. Asia and SAARC countries.

TEC has developed various specifications and has classified such specifications into GRs, interface requirements (IRs), and Standards. TEC has developed a score of Indian Standards in important technical areas such as “Standard for IPV6 conformance and Interoperability” (SD/IPV6-001/01 MARCH.2011), National Standards for H.248 (SD/GCP-01/02 AUG.2008), National Standards for SIP (SD/SIP-01/01 SEP.2008), and National Standard for V5.2 Interface (TEC/SD/SW/VAN-SIG/03/ MAR.2010). A list of Indian Standards developed by TEC<sup>14</sup> is provided in the Table-4 below:

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<sup>13</sup> <http://www.tec.gov.in/index.php>

<sup>14</sup> <http://www.tec.gov.in/List/GRIR/List%20of%20SDs%20as%20on%20April-12.pdf>

<b>SL.NO</b>	<b>Name of the Product</b>	<b>Standard Number</b>
1	Standard for Data Dictionary	SD/SDD-01/01MAR 02
2	Technical Requirements for International Gateway Connectivity	S/IGW-01/01. JAN01
3	ISP Traffic Legal Intercept and Monitoring System	SD/IMC-01/01. MAR 04
4	Standard on NMS	SD/NMS-002/01 FEB 05
5	<b>Standard for IPv6 Conformance and interoperability</b>	<b>SD/IPV6-001/01 MARCH.2011</b>
6	New Standard on Radio Devices in unlicensed band 2.4 GHZ	SD/RAD-01/01.SEP 2005
7	Alphabets on Keypad	SD/AKP-01/01.AUG 2003
8	Blue tooth enabled terminal (Note: Certificate of Approval will be issued for Blue tooth Enabled Wireless Terminal against applicant's specification)	S/BET-01/01.MAY 2001
9	Requirements of Subscribers End Equipment (SEE) Connected To 2-W Cable Plant	S/INT-2W/02.MAY 2001
10	National Common Channel Signaling Plan	SD/NSP-01/01.SEP92
11	National CCS7 Standards for MTP and ISUP (Amendment No.1 dated 14/08/2000, Amendment No.2 Dated 22/03/2001) (Addendum No. 1 dated 30/07/2002)	SD/CCS-02/03.JAN2000
12	National Q3 Interface Standards	SD/NQS-01/01.MAR2000
13	National TCAP Standards	SD/CCS-05/01.MAY03
14	ISDN User-Network Interface (S/T) National Standards	SD/ISN-01/03.OCT2003
15	Nationals Standards for ISDN Basic Rate Access U-Interface	SD/ISN-02/02.SEP2003
16	Standard on Network Management System for Telecommunication Networks	SD/NMS-02/01.FEB2005
17	National SCCP Standards	SD/CCS-03/03.MAR 06
18	National Standard for V5.1 Interface	SD/VAN-01/02.FEB2006
19	Intelligent Network Application Protocol (INAP) National Standards	SD/INP-01/02.MAY2007
20	<b>National Standards for H.248</b>	<b>SD/GCP-01/02 AUG.2008</b>
21	<b>National Standards for SIP</b>	<b>SD/SIP-01/01 SEP.2008</b>
22	<b>National Standard for V5.2 Interface</b>	<b>TEC/SD/SW/VAN-SIG/03/ MAR.2010</b>
23	Electromagnetic Compatibility Standard for Telecommunication Equipment	TEC/EMI/TEL-001/01/FEB-09 (Supersedes SD/EMI-02/03 MAY.2006
24	STANDARD FOR ENVIRONMENTAL TESTING OF TELECOM EQUIPMENT	SD: QM-333 ISSUE MARCH 2010

**TABLE-4: List of Standards of TEC**

Some of the Indian Standards developed by TEC are briefly discussed here with an intention to understand the extent to which these Indian Standards are close to or deviate from the International Standards. For instance, section 5 of the **“Standard for IPV6 conformance and Interoperability” (SD/IPV6-001/01 MARCH.2011)**<sup>15</sup>, provides the scope of the document. The scope of the document almost unambiguously indicates that the Indian Standard (for IPV6 conformance and Interoperability) is based on the International Standards rather than deviating from the International Standards. The highlighted portion below (provided here for ready reference) indicates that the current Indian Standard is primarily based on requirements specified by the IPV6 Forum. However, it is also interesting to note that some additional requirements are incorporated based on Indian conditions.

#### **5. Scope of the Document.**

- a. The document specifies the standards requirements of networking equipments for their IPV6 conformance and interoperability with other similar networking equipments running the IPV6 protocol in a network.*
- b. Due to the universality of IPV6 and the fact that some parts of the specifications are still in a grey area as these have not been adequately addressed by the Internet Engineering Task Force (IETF), a large number of implementations are possible due to variations in interpretation. Therefore, interoperability will be a critical feature of IPV6 based networking equipments.*
- c. This document is primarily based on the requirements specified by the IPV6 Forum, and in particular the “IPV6 Ready Logo Programme” for Phase-I and Phase-II for IPV6 conformance and Interoperability of networking equipments. Additional requirements based on Indian conditions have also been incorporated to some extent.***

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<sup>15</sup> <http://www.bsnl.co.in:9080/openems/export/sites/default/BSNL/services/IPV6/pdf/IPV6-Standards-Mar-2011.pdf>

*d. Government agencies, network providers and organizations are expected to procure and deploy IPv6 ready equipments based on these minimum specifications and amendments released from time to time.*

*e. This document does not give details on transition strategies for moving from IPv4 based networks to IPv6 based networks. These are covered in specific IETF RFCs not within the scope of this document. These IETF specifications are given below which address issues in specific deployment and transition scenarios for Enterprise and ISPs.*

Like-wise, the **National Standards for H.248<sup>16</sup> (SD/GCP-01/02 AUG.2008)** is based on the International standards. The Chapter-1 titled as “Scope” (relevant sub-sections are reproduced and highlighted here for ready reference) indicates that the Indian Standard (for **H.248<sup>17</sup> (SD/GCP-01/02 AUG.2008)** is based on ITU-T recommendations:

#### *CHAPTER-1: Scope*

**1.1** *This document defines the protocol to be used between elements of a physically decomposed multimedia gateway i.e. Media Gateway Controller (Softswitch) and Media Gateways (MGs) like Trunk Media Gateway (TMGW)/Line Media Gateway (LMG).*

**1.2** *Packet network interface shall be IP for this protocol.*

**1.3** *The national standards for H.248 described herein are based on ITU-T recommendation H.248.1 version 2 and support for packages as per ITU-T recommendations ITU-T-H.248.2-4, 6-24, 26-27, 30-42, 44-47. Appropriate comments are provided where necessary for the clauses in above recommendations. In all other cases, the relevant ITU-T recommendations are part of national standards.*

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<sup>16</sup> <http://www.tec.gov.in/Meeting/NATIONAL%20STANDARDS%20FOR%20H248%2013.03.07%20ver4.pdf>

<sup>17</sup> <http://www.tec.gov.in/Meeting/NATIONAL%20STANDARDS%20FOR%20H248%2013.03.07%20ver4.pdf>



**1.4** *The document covers the functional requirements and architecture of Gateway Control Protocol.*

**1.5** *For all ITU-T Recommendations and IETF standard/RFC referred in this document, the latest release shall be applicable.*

### **1.2.2: Process of Setting Standards in TEC**

TEC *engages with stakeholders (R&D centres, manufacturers, service providers, academia, users, etc.) to collaborate and channelize R&D activities for development of standards/IPRs for new products and services.* TEC emphasizes participation from academia and R&D centers to develop standards for telecom products and services. TEC actively encourages its stakeholders to participate in developmental process of standards in national and international forums and participate in National Working Group (NWG) meetings to agree upon national stance on a particular standard.

It may be also interesting to note that TEC (or the parent body- Department of Telecommunications, DOT) has proposed to establish *a national telecom Standards Development Organisation, to focus especially on the country-specific requirements* by drawing synergy *from all the stakeholders, viz., R&D centers, manufacturers, service providers, academia, users, etc.* Further, TEC has been evolving methodologies for transfer-of-technology, manufacture and commercialization of new products and services, for generation of revenue for survival of the entire process. Also, *TEC is focusing on evolving suitable mechanism for handling IPRs, without stifling the growth.*

### **1.2.3: IP Policy for Standards formulated by TEC**

A very senior official (who did not want his identity to be disclosed) at TEC in Delhi office told that TEC has not been developing standards for technology but, it only develops specifications for equipments for Indian condition and any technology used in these equipments need to conform to the International Standards (ITU). Thus, the

telecommunication Standards developed by TEC comply with the IPR policy of ITU<sup>18</sup>, which has a disclosure requirement and the patent holder participating in the ITU standards setting process is to provide a “patent statement and licensing declaration”, which spells out whether the patentee is providing the license on royalty free (RF) or FRAND or RAND terms. Such negotiations are left to the parties and are outside the scope of ITU. However, if the patentee is unwilling to license the patent rights, such technology or inventions covered by the patent may not be used in the Standards.

#### **1.2.4: Reference to Standards in License Agreements**

Department of Telecommunications (DoT) uses license agreements to provide licenses to a licensee to provide various services. The license agreements include a part on Technical conditions, which explicitly mandates the licensee to use a technology conforming to Standards. Few license agreements have been examined to understand the requirements, which have to be met by the licensee. The license agreement titled: “License Agreement for Provision of Cellular Mobile Telephone Service (CMTS)”<sup>19</sup> under Part IV: Technical Conditions, mandate the licensee to use a technology, mostly, based on International Standards and the portions of the Part 1V are reproduced here.

##### **Part-IV TECHNICAL CONDITIONS**

##### **24. TECHNICAL CONDITIONS:**

24.1 *The Bidders shall specify the details of the technology (which shall always be digital), quality of service and other performance parameters of the system proposed to be deployed for operation of the service. **The technology should be based on standards issued by ITU/TEC or any other International Standards Organization/ bodies and the licensee shall seek the approval of the licensor before deployment of such technologies.** Any digital technology having been used for a customer base of one lakh or more for a continuous period of one year anywhere in the world, shall be permissible for use regardless of its changed versions. A*

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<sup>18</sup> Common Patent Policy for ITU-T/ITU-R/ISO/IEC, available at <http://www.itu.int/en/ITU-T/ipr/Pages/policy.aspx>, last visited on 11<sup>th</sup> Sept, 2012.

<sup>19</sup> [www.dot.gov.in/cmts/AGREEMENT.PDF](http://www.dot.gov.in/cmts/AGREEMENT.PDF)

*certificate from the manufacturers about satisfactory working for a customer base of one lakh or more over the period of one year, shall be treated as established technology.*

**24.2 Number Plan:***The **Numbering Plan at the PSTN Interface shall be as per ITU-T recommendations.***

**24.3 Signalling Schemes:** *The Signalling between the MSC of the Service Provider and Interconnected Network shall be CCS No.7 or as otherwise mutually agreed between the Operators of the two networks, subject to orders/regulations issued by the licensor/TRAI from time to time.*

**24.4 Minimum Facilities:** *Calling Line Identification (CLI) shall be provided. The network should also support Malicious Call identification and CAMA.*

**24.5 Quality of Service:** *The system **should meet the Quality of Service standards/requirements as specified by TRAI from time to time.***

Another license agreement titled: “License Agreement for International Long Distance Service (ILD)”<sup>20</sup> under several clauses of the agreement mandate the licensee to conform to International Standards. Also, it may interesting to note that the licensee is mandated to conform to Indian Standards (developed by TEC) while interfacing between the two networks within India. The following sections in the license agreement refer to Standards (International and Indian):

#### **DEFINITIONS AND INTERPRETATIONS**

**2. “APPLICABLE SYSTEMS” means all the necessary equipment, systems / sub-systems and components of the network engineered to meet relevant ITU standards, ITU-T, ITU-R recommendations, TEC specifications and Industry Standards for provision of SERVICE in accordance with operational, technical and quality requirements and other terms and conditions of the Licence Agreement.**

#### **16. NETWORK STANDARDS**

**16.1** *The LICENSEE shall ensure adherence to the National FUNDAMENTAL PLAN (describing numbering and routing plan as well as transmission plan) issued by Department of Telecom and technical standards as prescribed by LICENSOR or TRAI, from time to time. For providing choice of International Long Distance Operator, the equipment shall support the selection facilities such as*

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<sup>20</sup> [www.dot.gov.in/cmts/AGREEMENT.PDF](http://www.dot.gov.in/cmts/AGREEMENT.PDF)

*dynamic selection or pre-selection as per prevailing regulation, direction, order or determination issued by LICENSOR or TRAI on the subject.*

**16.2 LICENSEE shall use any type of network equipment, including circuit and/or packet switches, that meet the relevant International Telecommunication Union (ITU)/ Telecommunication Engineering Centre (TEC) standards/ Industry standards in the absence of these (ITU/TEC) standards.**

***Explanation: In the cases where both ITU and industry standards exist, ITU standards will prevail over the industry standards.***

**16.3 In case of new technologies, where no standards have been determined, the LICENSEE will seek the approval of the LICENSOR before deploying them and such technologies which are successfully in use internationally for at least one year continuously for a SUBSCRIBER base of one lakh, shall be preferred for adoption**

The license agreement clarifies under Explanation that ***“In the cases where both ITU and industry standards exist, ITU standards will prevail over the industry standards”***. This clarification particularly suggests that the International Standards are given due importance and Telecommunication services and products would be conformance with the International Standards. According to the authors, one or two reasons for preferring international Standards over Indian Standards may be due to sustained availability of telecommunication devices conforming to International Standards and it may also be due to absence of Standards development organizations (SDO) in which local telecommunication players can participate and come up with their own standards. Until a large number of local telecommunication players emerge and they have a need to formulate different Standards, the GOI may continue to prefer International Standards such as ITU.

### **1.3 Role of Indian Standards Bodies in International Standards Bodies**

#### **1.3.1: Role of BIS<sup>21</sup>**

BIS is active in the field of International Standardization by participating in the various activities of the ISO and IEC. Also, BIS is active in the field of regional and bilateral

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<sup>21</sup> Bureau of Indian Standards- Annual Report 2010-2011, available at: <http://www.bis.org.in/org/AnnualReport1011.pdf>, last visited on 12<sup>th</sup> Sept, 2012

cooperation with other countries. The details of some of the important activities are highlighted below:

***International Organization for Standardization (ISO):*** BIS is a founder member of the ISO and a member on the policy making bodies of ISO such as the Committee on Developing Country Matters (DEVCO), Committee on Conformity Assessment (CASCO), and Committee on Consumer Policy (COPOLCO). BIS is a P (participating) member in 90 technical committees and O-member in 98 technical committees and a P-member in 198 sub-committees and O-member in 220 sub-committees. Further, BIS holds secretarial responsibilities for 2 Technical Committees (ISO/TC 113 Hydrometry and ISO/TC 120 Leather) and 6 Subcommittees. BIS has also been successfully utilizing the ISO Global Directory for managing the database with regard to participation in ISO Technical Committees (TCs)/ Sub-committees (SCs)/ Working Groups (WGs) work. BIS is active in ISO general assembly (GA) and technical management board (TMB). ISO GA 2011 was hosted by BIS in New Delhi and BIS was an elected member of the TMB between 2009 and 2011.

***International Electro-technical Commission (IEC):*** BIS participated actively in the various activities of IEC and is a member of IECEE, IECQ, IECEx related to certification of electrical and electronic products/components. BIS, actively, participates in the IEC Committees/Sub-committees where India is P member. IEC has accepted the Indian invitation to hold IEC GM in 2013 in India.

***Regional Co-operation Programme:*** BIS is active in Regional Cooperation Programmes such as SAARC and PASC in the areas related to Standards and Conformity Assessment. **PASC:** BIS participated in the 34th meeting of PASC held at Bangkok, Thailand from 30 March to 3 April 2011. BIS has also become a member on PASC EC in March 2011. **SAARC:** BIS participated actively in the meetings of the SAARC Standards Coordination Board (SSCB) held in Nepal in November 2010. The meetings emphasized the importance of the role of the standards and conformity assessment in the context of strengthening of trade facilitation. Further, BIS was leading the SAARC meeting of Inter-Governmental Expert Group held from 13-14 March 2011 at Dhaka, Bangladesh and a draft on Multilateral Arrangement on Recognition of

Conformity Assessment and draft on Implementation of Regional Standards agreements were finalized.

**WTO/TBT enquiry point:** BIS acts as the WTO/TBT Enquiry Point. BIS works closely with Ministry of Commerce on issues related to WTO and help the GOI in formulating India's view points on various documents and consultations being held at WTO. Necessary inputs were provided to Ministry of Commerce on various issues relating to TBT Agreement. All queries pertaining to Standards and Conformity Assessment Systems, both national and of other countries, from concerned interests were suitably replied. A total of 1665 TBT Notifications were disseminated during the period. BIS officers participated in NAMA negotiations at WTO Geneva.

### **1.3.2 Role of TEC<sup>22</sup>**

Under the aegis of TEC, the following presentations were made in International Meetings. (a) Preparation and presentation of following Proposals, in meetings of APT, and WTDC-10 meeting of ITU, at Hyderabad, (b) Creation of Common Database of Information and sharing-mechanism of Radio Equipment for Emergency Communications; (c) ii. Interoperability in Next Generation Networks. (d) iii. ITU-D Assistance in Digital Broadcasting; Formulation of the 'Hyderabad Declaration' in WTDC-10 meeting of ITU. TEC has provided additional contributions given in various sessions of ITU and APT Meetings, to safeguard the interests of India; presentation on 'NGN Regulation and Migration Strategies' and 'Security Issues in IPv6' in workshop of ITU at New Delhi; Presentation on 'Creating IPR through supporting R&D to enable Indigenous Manufacturing' in seminar on India Telecom 2010 of CII, at New Delhi.

TEC participates in the following International meetings, to keep abreast with latest developments in new technologies, and to protect interests of India. (i) ITU-T Study Group-13 meeting at Geneva (ii) ITU-T meeting of Focus Group on Future networks at Geneva (iii) WTDC-10 Meeting of ITU at Hyderabad (iv) ITU-R Working Party 4B meeting at Geneva (v)

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<sup>22</sup> DOT - Annual Report 2010-2011, available at: <http://www.dot.gov.in/annualreport/2011/English%20AR%202010-11.pdf>, last visited on 12<sup>th</sup> Sept, 2012

ITU-T NGN-GSI meeting at Geneva (vi) ITU-T meeting of Focus Group on Future networks at Geneva (vii) ITU Plenipotentiary Conference-2010 at Guadalajara, Mexico (viii) ITU-R Working Party 5D meeting in China; ITU-T SG-5 meeting at Geneva (ix) ITU-R Working Party 5A meeting at Geneva (x) ITU-T meeting of Focus Group on Future networks at Ljubljana (xi) APT preparatory meeting for WRC, at Hong Kong.

## **2.0 Other Standards Bodies in India**

### **2.1: Global ICT Standardization Forum for India (GISFI)<sup>23</sup>**

The Global ICT Standardization Forum for India (GISFI) is an Indian standardization body active in the area of Information and Communication Technologies (ICT) and related application areas, such as energy, telemedicine, wireless robotics, biotechnology. GISFI is making an effort to create a new coherence and strengthen the role of India in the world standardization process by mapping the achievements in ICT in India to the global standardization trends. Further, GISFI is focused on strengthening the ties among leading and emerging scholars and institutions in India and the world; to develop and cultivate a research and development agenda for the field. GISFI addresses the research and product development of ICT in India and provides a bridge towards the globalization of the Indian achievements; the issues of technology, governance, and development; and a platform for raising an awareness of the importance and the internationalization of the higher education in the field are supported by the joint partnership with the Government of India. The working groups organized in GISFI will draw knowledge from academia, business, civil society, and Government/policy-making circles.

In a nutshell, GISFI encompasses the following activities: Drawing up provisions and requirements for the ICT standardization process to support the establishment of agreements that: Give one or more solutions for a given problem and ensure a repeated use; Provision for a basis for future research and product developments that can reach the global market; Weigh equally the interests of all involved parties. Not reinventing the wheel, but

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<sup>23</sup> <http://www.gisfi.org/index.php>

using existing solutions (set down in standards), which have already been well thought out. Bringing India's own procedure into line with what is normal elsewhere, so that cooperation is simpler and purchasing cheaper. GISFI has various work groups (WG): (a) Security and Privacy; (b) Future Radio Networks; (c) Special Interest Group; (d) Internet of Things (IoT); (e) Cloud and Service Oriented Network; (f) Green ICT; (g) Spectrum.

## **2.2: GISFI's IPR Policy:**

GISFI's adopted IPR Policy is based on ETSI's IPR<sup>24</sup> Policy which is stable and matured by contribution from 700 strong memberships without any changes/modifications. However, GISFI has an IPR policy of its own and the salient features of the GISFI's IPR policy<sup>25</sup> is provided below:

### **2.2.1: Policy Objectives**

GISFI's objective is to create Standards and Technical specifications that are based on solutions, *which best meet the technical objectives of the European telecommunications sector*, as defined by the General Assembly. In order to further this objective the GISFI IPR policy is aimed at reducing the risk to GISFI, members, and others applying GISFI Standards and Technical Specifications, that investment in the preparation, adoption and application of Standards could be wasted as a result of an essential IPR for a Standard or Technical Specifications, being unavailable. In achieving this objective, the GISFI IPR policy intends to seek a balance between the needs of standardization for public use in the field of telecommunications and the rights of the owners of IPRs.

IPR holders whether members of GISFI and their affiliates or third parties, will be adequately and fairly rewarded for the use of their IPRs in the implementation of Standards and Technical Specifications,. Also, GISFI's intent is to enable Standards and Technical

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<sup>24</sup> ETSI Guide on Intellectual Property Right, Version adapted by Board #70 on 27 November, 2008, available from [www.etsi.org](http://www.etsi.org)

<sup>25</sup> Bye-Laws and Rules of procedure, available at: [http://gisfi.org/rules\\_regulations/Bye-Laws%20Rules%20of%20Procedure%2021%20June%202010.pdf](http://gisfi.org/rules_regulations/Bye-Laws%20Rules%20of%20Procedure%2021%20June%202010.pdf)



Specifications, to be available to potential users in accordance with the general principles of standardization.

### **2.2.2: Disclosure of IPRs**

Each GISFI member involved in development of a Standards or Technical Specifications *is to inform GISFI of essential IPRs in a timely fashion*. GISFI expects that a member submitting a technical proposal for a Standard or Technical Specification, shall, on a bona fide basis; draw the attention of GISFI to any of that member's IPR which might be essential if that proposal is adopted. However, the Member *does not have any obligation to conduct IPR searches*. A member's disclosure obligations are deemed to be fulfilled in respect of all existing and future members of a patent family if GISFI is informed of a member of this patent family in a timely fashion. Information on other members of this patent family, if any, may be voluntarily provided.

### **2.2.3: Availability of Licenses**

When an essential IPR relating to a particular Standard or Technical Specification, is brought to the attention of GISFI, the Director-General of GISFI shall immediately request the owner to give within three months an irrevocable undertaking in writing that it is prepared to grant irrevocable licenses on **fair, reasonable and non-discriminatory (FRAND) terms** and conditions under such IPR to at least the following extent:

- manufacture, including the right to make or have made customized components and sub-systems to the licensee's own design for use in manufacture;
- sell, lease, or otherwise dispose of equipment so manufactured;
- repair, use, or operate equipment; and
- use methods.

Further, in the event a member assigns or transfers ownership of an essential IPR that it disclosed to GISFI, the member shall exercise reasonable efforts to notify the assignee or transferee of any undertaking it has made to GISFI with regard to that essential IPR. An

undertaking with regard to a specified member of a patent family shall apply to all existing and future essential IPRs of that patent family unless there is an explicit written exclusion of specified IPRs at the time the undertaking is made. The extent of any such exclusion shall be limited to those explicitly specified IPRs. If the requested undertaking of the IPR owner is not granted, the committee Chairmen may use their judgment as to whether or not the committee should suspend work on the relevant parts of the Standard or Technical Specification until the matter has been resolved and/or submit for approval any relevant Standard or Technical specification.

At the request of the European Commission and/or EFTA, initially for a specific Standard and Technical Specification, or a class of Standards/Technical Specifications, GISFI may arrange an investigation including an IPR search, with the objective of ascertaining whether IPRs exist or are likely to exist which may be or may become essential to a proposed Standard and Technical Specification, and the possible terms and conditions of licenses for such IPRs. The members can use one of the GISFI IPR Licensing Declaration forms to make their IPR licensing declarations. GISFI intends to include a statement on essential IPRs in any published Standard or Technical Specification.

#### **2.2.4: Non-availability of Licenses (Prior to publication of a Standard or Technical Specification)**

***If a viable alternative technology exists*** prior to the publication of a Standard and Technical Specification, and if an IPR owner informs GISFI that it is not prepared to license an IPR in respect of the Standard or Technical Specification, the General Assembly shall review the requirement for that Standard or Technical Specification and satisfy itself that a viable alternative technology is available for the Standard or Technical Specification which:

- is not blocked by that IPR; and
- Satisfies GISFI's requirements.

***If a viable alternative technology does not exist:*** where, in the opinion of the General Assembly, no such viable alternative technology exists, work on the Standard or

Technical Specification shall cease, and the Director-General of GISFI shall observe the following procedure:

***a) If the IPR owner is a MEMBER,***

- i) The Director-General of GISFI shall request that MEMBER to reconsider its position.
- ii) If that MEMBER however decides not to withdraw its refusal to license the IPR, it shall then inform the Director-General of GISFI of its decision and provide a written explanation of its reasons for refusing to license that IPR, within three months of its receipt of the Director-General's request.
- iii) The Director-General of GISFI shall then send the MEMBER's explanation together with relevant extracts from the minutes of the General Assembly to the GISFI Counselors for their consideration.

***b) If the IPR owner is a third party,***

- i) the Director-General of GISFI shall, wherever appropriate, request full supporting details from any MEMBER who has complained that licenses are not available and/or request appropriate MEMBERS to use their good offices to find a solution to the problem.
- ii) Where this does not lead to a solution the Director-General of GISFI shall write to the IPR owner concerned for an explanation and request ultimately that licenses be granted.
- iii) Where the IPR owner refuses the Director-General's request and decides not to withdraw its refusal to license the IPR or does not answer the letter within three months after the receipt of the Director-General's request, the Director-General shall then send the IPR owner's explanation, if any, together with relevant extracts from the minutes of the General Assembly to the GISFI Counselors for their consideration.

Prior to any decision by the General Assembly, the committee should in consultation with the GISFI Secretariat use their judgment as to whether or not the committee should pursue development of the concerned parts of the Standard or Technical Specification based on the non-available technology and should look for alternative solutions.

**2.2.5: Non-availability of licenses (after the publication of a Standard or Technical Specification)**

Where, in respect of a published Standard or Technical Specification, GISFI becomes aware that licenses are not available from an IPR owner that Standard or Technical Specification shall be referred to the Director-General of GISFI for further consideration in accordance with the following procedure:

- i) The Director-General shall request full supporting details from any member or third party who has complained that licenses are not available.
- ii) The Director-General shall write to the IPR owner concerned for an explanation and request that licenses be granted. Where the concerned IPR owner is a member, it shall inform the Director-General of GISFI of its decision and provide a written explanation of its reasons in case of continuing refusal to license that IPR.
- iii) Where the IPR owner refuses the Director-General's request or does not answer the letter within three months, the Director-General shall inform the General Assembly and, if available, provide the General Assembly with the IPR owner's explanation for consideration. A vote shall be taken in the General Assembly on an individual weighted basis to immediately refer the Standard or Technical Specification to the relevant committee to modify it so that the IPR is no longer essential.
- iv) Where the vote in the General Assembly does not succeed, then the General Assembly shall, where appropriate, consult the GISFI Counselors with a view to finding a solution to the problem. In parallel, the General Assembly

may request appropriate members to use their good offices to find a solution to the problem.

v) Where (iv) does not lead to a solution, then the General Assembly shall request the European Commission to see what further action may be appropriate, including non-recognition of the Standard or Technical Specification in question.

### **2.3: Development Organization of Standards for Telecommunications In India (DOSTI)**<sup>26</sup>

DOSTI “Development Organization of Standards for Telecommunications in India” is a private SDO that aims at developing and promoting India-specific requirements, standardizing solutions for meeting these requirements and contributing these to international standards, contributing to global standardization in the field of telecommunications, maintaining the technical standards and other deliverables of the organization, safe-guarding the related IPR, helping create manufacturing expertise in the country, providing leadership to the developing countries (such as in South Asia, South East Asia, Africa, Middle East, etc.) in terms of their telecommunications-related standardization needs. ***A consensus based approach is followed towards standards development by involving all stake holders - Government, Academia and Industry.*** DOSTI follows the principles of Openness, Transparency, Fairness, Consensus and Due Process in conducting its activities. ***It maintains technology neutrality and provide a uniform playing field for all of its members.*** DOSTI is not for profit legal entity in Public-Private Partnership (PPP) mode with participation from all ***stake holders including Government, service providers, equipment vendors, equipment manufacturers, academic institutes and research labs.***

DOSTI has goals to - Develop and promote India-specific requirements; Standardize solutions for meeting these requirements and contribute these to international standards;

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<sup>26</sup> <http://dosti.org.in/goal.php>

Contribute to global standardization in the field of telecommunications; Maintain the technical standards and other deliverables of the organization; Safe-guard the related IPR; Help create manufacturing expertise in the country; Provide leadership to the developing countries (such as in South Asia, South East Asia, Africa, Middle East, etc.) in terms of their telecommunications-related standardization needs. Further, DOSTI is setting up work groups in the following areas: (a) RAN and Core Network; (b) Energy Efficient Technology and Energy Related Issues; (c) Optical Transport; (d) Customer Premises Equipment Devices Terminal; (e) Telecom Security; (f) M-2-M Communication; and (g) Future Technologies.

It is interesting to note that DOSTI has a very detailed IP Policy, which discloses policy on (a) Disclosure of Essential Patents; and (2) licensing based on FRAND principles. A detailed review of DOSTI's IP policy is provided below:

### **2.3.1: Policy Objectives**

- (a) DOSTI's objective to create Standards and Technical Specifications that are based on solutions which best meet the technical objectives of the Indian telecommunications sector. In order to further this objective the DOSTI's IPR Policy seeks to reduce the risk to DOSTI, Member, and others applying DOSTI Standards and Technical Specifications, that investment in the preparation, adoption and application of Standards could be wasted as a result of an Essential IPR for a Standard or Technical Specification being unavailable. In achieving this objective, the DOSTI IPR Policy seeks a balance between the needs of standardization for public use in the field of telecommunications and the rights of the owners of IPRs.
- (b) IPR holders whether Members of DOSTI and their affiliates or third parties, should be adequately and fairly rewarded for the use of their IPRs in the implementation of Standards and Technical Specifications.
- (c) DOSTI shall take reasonable measures to ensure, as far as possible, that its activities which relate to the preparation, adoption and application of Standards and Technical Specifications, enable Standards and Technical Specifications to be available to potential users in accordance with the general principles of standardization

### **2.3.2: Disclosure of IPRs**

- (a) Subject to Clause 2 below, each Member shall use its reasonable endeavours, in particular during the development of a Standard or Technical Specification where it participates, **to inform DOSTI of Essential IPRs in a timely fashion**. In particular, a Member submitting a technical proposal for a Standard or Technical Specification shall, on a bona fide basis, shall draw the attention of DOSTI to any of that Member's IPR which might be Essential if that proposal is adopted.
- (b) The obligations pursuant to Clause 1 above do however not imply any obligation on Members to conduct IPR searches.
- (c) The obligations pursuant to Clause 1 above are **deemed to be fulfilled in respect of all existing and future members of a Patent family if DOSTI has been informed of a member of this Patent family in a timely fashion. Information on other members of this Patent family, if any, may be voluntarily provided**.

### **2.3.3: Availability of Licenses**

Clause (11.4.1) When an Essential IPR relating to a particular Standard or Technical Specification is brought to the attention of DOSTI, the Director General of DOSTI shall immediately request the owner to give within three months an irrevocable undertaking in writing that it is prepared to **grant irrevocable licenses on fair, reasonable and non-discriminatory terms and conditions under such IPR to at least the following extent:**

- (a) Manufacture, including the right to make or have made customized components and sub-systems to the licensee's own design for use in Manufacture;
- (b) Sell, lease, or otherwise dispose of equipment so manufactured;
- (c) Repair, use, or operate equipment; and
- (d) Use methods.

The above undertaking may be made subject to the condition that those who seek licenses agree to reciprocate. In the event **a Member assigns or transfers ownership of an**

***Essential IPR that it disclosed to DOSTI, the Member shall exercise reasonable efforts to notify the assignee or transferee of any undertaking it has made to DOSTI pursuant to Clause (11.4.1) above with regard to that Essential IPR.***

- (a) An undertaking pursuant to Clause 11.4.1 with regard to a specified member of a Patent family shall apply to all existing and future Essential IPRs of that Patent family unless there is an explicit written exclusion of specified IPRs at the time the undertaking is made. The extent of any such exclusion shall be limited to those explicitly specified IPRs.
- (b) As long as the requested undertaking of the IPR owner is not granted, the WG Chairperson should, if appropriate, in consultation with the DOSTI Secretariat use their judgment as to whether or not the WG should suspend work on the relevant parts of the Standard or Technical Specification until the matter has been resolved and/or submit for approval any relevant Standard or Technical Specification.
- (c) At the request of the DoT, initially for a specific Standard or Technical Specification or a class of Standards/Technical Specifications, DOSTI arranges to have carried out in a competent and timely manner an investigation including an IPR search, with the objective of ascertaining whether IPRs exist or are likely to exist which may be or may become Essential to a proposed Standard or Technical Specifications and the possible terms and conditions of licenses for such IPRs.

#### **2.3.4: Non-availability of Licenses**

*Clause (11.7.1) - Non-availability of licenses prior to the publication of a Standard or a Technical Specification - Existence of a viable alternative technology.* Where prior to the publication of a Standard or a Technical Specification an IPR owner informs DOSTI that it is not prepared to license an IPR in respect of a Standard or Technical Specification in accordance with Clause (11.4.1) above, the Executive Council shall review the requirement for that Standard or Technical Specification and satisfy itself that a viable alternative technology is available for the Standard or Technical Specification which: (a) is not blocked by that IPR; and (b) satisfies DOSTI's requirements.



*Clause (11.7.2): Non-availability of licenses prior to the publication of a Standard or a Technical Specification - Non-existence of a viable alternative technology.* Where, in the opinion of the Executive Council, no such viable alternative technology exists, work on the Standard or Technical Specification shall cease, and the Director General of DOSTI shall observe the following procedure:

***If the IPR owner is a Member,***

- The Director General of DOSTI shall request that Member to reconsider its position.
- If that Member however decides not to withdraw its refusal to license the IPR, it shall then inform the Director General of DOSTI of its decision and provide a written explanation of its reasons for refusing to license that IPR, within three months of its receipt of the Director General's request.
- The Director General of DOSTI shall then send the Member's explanation together with relevant extracts from the minutes to the DOSTI Executive Council for their consideration.

***If the IPR owner is a third party,***

- The Director General of DOSTI shall, wherever appropriate, request full supporting details from any Member who has complained that licenses are not available in accordance with Clause (11.4.1) above and/or request appropriate Members to use their good offices to find a solution to the problem.
- Where this does not lead to a solution the Director General of DOSTI shall write to the IPR owner concerned for an explanation and request ultimately that licenses be granted according to Clause
- Where the IPR owner refuses the Director General's request and decides not to withdraw its refusal to license the IPR or does not answer the letter within three months after the receipt of the Director General's request, the Director General shall

then send the IPR owner's explanation, if any, together with relevant extracts from the minutes for the Executive Council's consideration.

*Clause (11.7.3)* Prior to any decision by the Executive Council, the WG should in consultation with the DOSTI Secretariat use their judgment as to whether or not the WG should pursue development of the concerned parts of the Standard or a Technical Specification based on the non-available technology and should look for alternative solutions. 11.7.4 Non-availability of licenses after the publication of a Standard or a Technical Specification Where, in respect of a published Standard or Technical Specification, DOSTI becomes aware that licenses are not available from an IPR owner in accordance with Clause 11.7.1 above, that Standard or Technical Specification shall be referred to the Director General of DOSTI for further consideration in accordance with the following procedure:

1. The Director General shall request full supporting details from any Member or third party who has complained that licenses are not available in accordance with Clause 11.7.1 above.
2. The Director General shall write to the IPR owner concerned for an explanation and request that licenses be granted according to Clause 11.7.1 above. Where the concerned IPR owner is a Member, it shall inform the Director General of DOSTI of its decision and provide a written explanation of its reasons in case of continuing refusal to license that IPR.
3. Where the IPR owner refuses the Director General's request or does not answer the letter within three months, the Director General shall inform the Executive Council and, if available, provide the Executive Council with the IPR owner's explanation for consideration. A vote shall be taken in the Executive Council to immediately refer the Standard or Technical Specification to the relevant WG to modify it so that the IPR is no longer essential.
4. Where the vote does not succeed, the Executive Council may request appropriate Members to use their good offices to find a solution to the problem.

5. Where (iv) does not lead to a solution then the Executive Council shall request the DoT to see what further action may be appropriate, including non-recognition of the Standard or Technical Specification in question.

In carrying out the foregoing procedure due account shall be taken of the interest of the enterprises that have invested in the implementation of the Standard or Technical Specification in question.

### **2.3.5: DOSTI's ownership of IPRs**

*Clause 11.8.1* The ownership of the copyright in Standards and Technical Specifications documentation and reports created by DOSTI or any of its WGs shall vest in DOSTI but due acknowledgement shall be given to copyrights owned by third parties that are identifiable in DOSTI copyrighted works.

*Clause 11.8.2* In respect of IPRs other than copyright in Standards and Technical Specifications documentation and reports, DOSTI shall only seek ownership of IPRs generated either by its employees (direct or indirect) to DOSTI from organizations who are not Members.

*Clause 11.8.3* DOSTI shall, on request by a non-Member, grant licenses to that non-Member on fair and reasonable terms and conditions in respect of any IPRs, other than those referred to in Clause 11.8.1 above, owned by DOSTI. Members shall be allowed to use IPRs owned by DOSTI free of charge.

## **3.0 Policy on Open Standards for e-Governance**

GOI<sup>27</sup> aims to make all Government services accessible to even a common man in his locality to ensure efficiency, transparency, and reliability of such services at affordable costs. The major challenges as articulated by the GOI are that Government systems are

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<sup>27</sup> A paper on "Policy on Open Standards and e-Governance" published by Ministry of Communications and Information Technology, Department of Information Technology, available from <http://eqovstandards.gov.in/policy/policy-on-open-standards-for-e-governance/Policy%20on%20Open%20Standards%20for%20e-Governance.pdf/view>, last visited on 20<sup>th</sup> June 2012.

characterized by islands of legacy systems using heterogeneous platforms and technologies and spread across various diverse geographical locations in varying state of automation. To overcome the challenges, the GOI has provided a policy framework for selection of Standards to facilitate interoperability between the systems developed by multiple agencies. It is believed that such an approach allows the organizations the flexibility to select hardware and software (technology choices) for implementing e-governance solutions, cost effectively while avoiding vendor lock-in.

The applicability of Open Standards for e-governance is based on availability of Open Standards (a) at *interface* and *data archival* level of all systems used for e-governance; (b) to all prospective e-governance systems including businesses (G2G, G2B, G2E, and G2C) from the date they come into effect; (c) at the *interfaces of present and new versions of legacy and existing systems* while interacting with other systems. It appears that GOI is emphasizing on *the interfaces* (i.e. to *facilitate interoperability*) between the e-governance systems.

Interestingly, ***GOI has adapted a Royalty Free (RF) approach to Open Standards*** and has articulated the characteristics of the Open Standards. The characteristics of the Open Standards are classified as (a) mandatory characteristics; and (b) desirable characteristics. Among others, important points under the mandatory characteristics are that (i) the ***patent claims necessary to implement the identified Standard*** shall be made available ***on a RF basis*** for the ***life time of the Standards***; (ii) identified Standard shall be ***adapted and maintained by a not-for-profit organization***; and (iii) the identified Standard shall have ***a technology neutral specification***.

Also, the policy on Open ***Standards provides for adapting an Interim Standard in case where a standard, which satisfies the mandatory characteristics are not available***. The basis for selection of such Interim Standards is the functional and technical requirements and the maturity of the Standard. However, ***for the Interim Standards, the royalty requirement is relaxed and a FRAND (Fair, Reasonable, and Non-discriminatory) or a RAND (Reasonable, and Non-discriminatory) terms are adapted. Further, the requirement of a***

***not-for –profit organization adapting and maintaining the Standard is relaxed.*** This may allow the IP owners (or licensors of the IP) to adapt and maintain the Interim Standards. The policy also provides for adaptation of mature Open Source reference implementations, or published proprietary specifications, or development of a New Standard by a designated body if a Standard, which meets the essential functional requirements are not available.

To facilitate adaptation of e-governance in India, GOI has come-out with e-Governance Security Standards and Guidelines to provide “trusted” services by safeguarding the “information assets” in terms of confidentiality, integrity, and availability. The e-Governance Security Assurance Framework (eSAFE) is based on ISO27001: The International standard for an Information Security Management System (ISMS). Further e-SAFE approach is in line with the Information Security Program for Federal Information Systems in the USA – Federal Information Security Management Act (FISMA 2002).

#### **4.0. Indian National Policies – Procurement, IP, and Standards development**

##### **4.1 Public Procurement Policy in India**

This section deals with an overview of public procurement policy in India. Presently, there is no specific law in India dealing with public procurement. India is yet to enact Public Procurement law, which is at present is pending before the Parliament for its nod in the form of a bill<sup>28</sup>. Public Procurement Bill, 2012 was introduced before the Parliament sometime in the first half of 2012<sup>29</sup>. The Bill seeks to regulate procurement by Ministries/ Departments of the Central Government and its attached/subordinate offices, Central Public Sector Enterprises (CPSEs), autonomous and statutory bodies controlled by the Central Government and other procuring entities with the objectives of ensuring transparency, accountability and probity in the procurement process, fair and equitable treatment of bidders, promoting competition, enhancing efficiency and economy, safeguarding integrity in the procurement process and enhancing public confidence in public procurement. The Bill is based on broad principles and envisages a set of detailed rules, guidelines and model documents. The Bill

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<sup>28</sup> ref: <http://pib.nic.in/newsite/erelease.aspx?relid=82204>

<sup>29</sup> ref: copy of the Public Procurement Bill, 2012 is available at [http://164.100.24.219/BillsTexts/LSBillTexts/asintroduced/58\\_2012\\_LS\\_EN.pdf](http://164.100.24.219/BillsTexts/LSBillTexts/asintroduced/58_2012_LS_EN.pdf)

builds on national and international experience and best practices, as appropriate for the needs of the Government of India.

The Bill would create a statutory framework for public procurement which will provide greater accountability, transparency and enforceability of the regulatory framework. The Bill provides for the following<sup>30</sup>:

a. Codifying the fundamental principles governing procurement, essential for achieving economy, efficiency and quality as well as combating corruption and legally obligates procuring entities and their officials to comply with these principles. In this context, the draft Bill provides mandatory provisions regarding key aspects of the procurement process and requires establishment of time frames for decision making.

b. Ensuring that competition will be maximised in procurement in the interests of economy, efficiency, integrity.

c. Providing for adequate flexibility to take into account diversity of needs and types of procuring entities, types of procurement needs and methods of procurement.

d. Providing for a strong framework of transparency and accountability through a public procurement portal and a grievance redressal system in which an independent mechanism, chaired by a retired High Court Judge, would review grievances.

At present, the policy of public procurement can be inferred from the following elements, namely; (a) concepts enshrined under the Contract law and specific performance; (b) Judge made law in Judicial pronouncements on tenders; (c) The Constitution of India which enjoins the State to act fairly even in commercial dealings; (d) Certain guidelines/clarifications (including Manuals) issued by the Central Vigilance Commission<sup>31</sup> and Directorate General of Supplies and Disposal ('DGS&D')<sup>32</sup>; (e) General Financial Rules

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<sup>30</sup>ref: <http://pib.nic.in/newsite/erelease.aspx?relid=82204>

<sup>31</sup>ref: [http://en.wikipedia.org/wiki/Central\\_Vigilance\\_Commission](http://en.wikipedia.org/wiki/Central_Vigilance_Commission); [http://cvc.gov.in/proc\\_works.htm](http://cvc.gov.in/proc_works.htm); [http://eprocare.gov.in/cppp/sites/default/files/gos/CVC\\_Compedium\\_0.pdf](http://eprocare.gov.in/cppp/sites/default/files/gos/CVC_Compedium_0.pdf)

<sup>32</sup>ref: <http://www.dgsnd.gov.in/>

2005<sup>33</sup>; (f) Few states in India have specific laws dealing with the transparency in tenders, for example, Karnataka and Tamil Nadu<sup>34</sup>; (g) Department of Electronics & Information Technology ('DIT') under Ministry of Communication & Information Technology, while procuring e-governance related project involving computers, recommends -vendor and brand neutral specifications usage of Sysmark 2007 or SPEC CPU as qualifying benchmarks<sup>35</sup>.

In summary, the guidelines governing tenders by government departments prohibit a system which provides scope for mal-practices, favoritism and corruption. The pre-qualifications in turn should ensure free and fair competition. However, the departments have been given a "play in the joints" and can deviate from the guidelines provided:-

- (a) there are reasons for doing so which are duly recorded; and
- (b) the deviation is approved by the competent authority

## **5.0 Technical Barriers to Trade (TBT) – India's approach:**

The principle of WTO Agreement on Technical Barriers to Trade is to regulate the right of member country to adopt and implement standard setting measures in such a manner as not to interfere with the International Trade. In compliance with the Article 10.1 of the Agreement<sup>36</sup>, India has notified Bureau of Indian Standards as the 'enquiry point' [International Relations & Technical Information Services Department of BIS]. BIS as an enquiry point has been responding to the information on market access, mandatory Certification<sup>37</sup>, equivalence of standards, acceptance of CE marketing and harmonization of

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<sup>33</sup> ref: [http://finmin.nic.in/the\\_ministry/dept\\_expenditure/qfrs/GFR2005.pdf](http://finmin.nic.in/the_ministry/dept_expenditure/qfrs/GFR2005.pdf)

<sup>34</sup> ref: <http://www.tn.gov.in/acts-rules/tender-act-a5-corrected.pdf>

<sup>35</sup> Guidance Notes issued by the Department of Information Technology (DIT\*) on 'Preparation of Model request Toolkit and Guidance Notes for preparation of RFPs for e-Governance Projects' are available at <http://www.mit.gov.in/content/rfp-standardization-model-rfps-and-guidance-notes>. Since computers are standardized products the Ministries/Departments of the Central Government may make procurements under Rate Contract System of the DGS&D in terms of Ministry of Finance (Department of Expenditure) Circular No.8(4) – EII(A)/98 dated 17.12.98 and the CVC Circular No.98/ORD/1 dtd 05.05.2003.

<sup>36</sup> Article 10.1: " Each member shall ensure that an enquiry point exists which is able to answer all reasonable enquiries from other members and interested parties in other member countries as well as to provide the relevant documents

<sup>37</sup> Some members have drawn attention of the Government of India to the 'non-availability of sufficient grace period for foreign producers to meet the requirement in the mandatory certification schemes'. [http://www.wto.org/english/tratop\\_e/tp\\_e/tp349\\_e.htm](http://www.wto.org/english/tratop_e/tp_e/tp349_e.htm) visited on 15th September 2012.

Indian standards with International standards<sup>38</sup>. The technical standards that are equivalent to International standards are around 84%.<sup>39</sup> Likewise, in conformity with Agreement, Department of Commerce, Ministry of Industries and Commerce of the Government of India has been declared as the National Notifying Authority<sup>40</sup>. In accordance with the provisions, Indian has submitted 66 notifications since 2002 in the prescribed format<sup>41</sup>. Indian has accepted the WTO TBT Code of Good Practice. In India, the draft Technical Regulation will be sent out for comments before it is adopted by the respective Ministry or Department or Organisation. The draft Technical Regulation will be notified to the WTO members for their comments. The respective Ministry or the Department will review the comments, get it examined by the expert groups and finally incorporates the changes, if any, in the regulation. The notification of the regulation will be made in the official Gazette and simultaneously notified to the WTO. Certification and conformity assessment are regulated by the BIS through its testing [by the respective testing and calibration laboratories] licensing, surveillance practices. The guidelines for security of telecommunications equipment and software have been appreciated by the Japanese representative in the WTO Trade Policy Review meeting.

## **6.0 Intellectual Property Rights (IPRs), Competition Law, and Standards**

Prior to 2002, India didn't have a competition law regime. The earlier regime was called Monopolies and Restrictive Trade Practices Act ("MRTP") enacted in 1969. MRTP was, however, sought to be replaced by the Competition Act, enacted in 2002 and amended in 2007. After the enactment of the Competition Act, the connection between IP Rights and competition has been a subject of constant discussion among experts. Due to global developments, including the obligations in the TRIPS and the subsequent amendments in the Patent Act in India, the ability of the competition law & policy in India to be able to deal with market power created by IP became very relevant. The statement of objects and reasons

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<sup>38</sup> *supra* Note 6

<sup>39</sup> Annual Review of Indian Trade Policy: [http://www.wto.org/english/tratop\\_e/tpr\\_e/tp349\\_e.htm](http://www.wto.org/english/tratop_e/tpr_e/tp349_e.htm) visited on 15th September 2012.

<sup>40</sup> [http://commerce.nic.in/wto\\_sub/TBT%20Notifications%20by%20INDIA/TBT\\_index.htm](http://commerce.nic.in/wto_sub/TBT%20Notifications%20by%20INDIA/TBT_index.htm) visited on 15th September 2012 . The Report of Indian Trade Policy refers to 41 notification until March 2011.

<sup>41</sup> [http://commerce.nic.in/tbt\\_matters.pdf](http://commerce.nic.in/tbt_matters.pdf) visited on 15th September 2012



states clearly that the Competition Act is being enacted inter alia, to prevent practices which have an adverse effect on competition and to promote and sustain competition in the markets<sup>42</sup>.

Section 3 of the Competition Act, deals with anti-competitive agreements, has made an exception for IPRs. It preserves the rights of the IPR holder to prevent infringement and protect these rights, as long as the restrictions imposed are reasonable.

The Competition Act contains exceptions in favor of the exercise of intellectual property rights. Section 3(5) of the Act states as following<sup>43</sup>:

*“Section 3 (5): Nothing contained in this section shall restrict –*

*(i) the right of any person to restrain any infringement of, or to impose reasonable conditions, as may be necessary for protecting any of his rights which have been or may be conferred upon him under –*

*(a) the Copyright Act, 1957*

*(b) the Patents Act, 1970*

*(c) the Trade and Merchandise Marks Act, 1958 or the Trade Marks Act, 1999*

*(d) the Geographic Indications of Goods (Registration and Protection) Act, 1999*

*(e) the Designs Act, 2000*

*(f) the Semi-conductor Integrated Circuits Layout-Design Act, 2000*

*(ii) the right of any person to export goods from India to the extent to which the agreement relates exclusively to the production, supply, distribution or control of goods or provision of services for such export.”*

Section 3 of the Indian Competition Act prohibits anti-competitive agreements between enterprises and *lists out the conduct which is deemed to have an ‘appreciable adverse effect on competition within India’*. Such conduct includes – (a) determining

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<sup>42</sup> Copy of the Competition Act, 2002: [http://cci.gov.in/images/media/competition\\_act/act2002.pdf?phpMyAdmin=QuqXb-8V2yTtoq617iR6-k2VA8d](http://cci.gov.in/images/media/competition_act/act2002.pdf?phpMyAdmin=QuqXb-8V2yTtoq617iR6-k2VA8d)

<sup>43</sup> Copy of the Competition Act, 2002: [http://cci.gov.in/images/media/competition\\_act/act2002.pdf?phpMyAdmin=QuqXb-8V2yTtoq617iR6-k2VA8d](http://cci.gov.in/images/media/competition_act/act2002.pdf?phpMyAdmin=QuqXb-8V2yTtoq617iR6-k2VA8d)

purchase or sale prices, (b) limiting production or supply, (c) allocating geographic markets or product market, bid rigging or collusive bidding etc.

However, the exception provided in clause (5) of the section 3, reflects the striking a balance between the rightful interests of IPR holders and competition in the market. The developed countries have taken recourse to provisions like compulsory licensing in order to lessen the adverse effects of abusive conduct of dominant enterprises. The applicability of such a provision in India cannot be precluded since the Indian Patent Act makes a specific provision for compulsory licensing<sup>44</sup>.

This would be more relevant in the realm of pharmaceuticals where competition in the generic drugs may be foreclosed by dominant undertakings<sup>45</sup>. As per the Article 31(k) of the TRIPS Agreement, it provides for granting of such licenses in the case of patents<sup>46</sup>. It is pertinent to note that the power to enact laws on compulsory licensing arises from several international agreements such as: the World Intellectual Property Organization (WIPO) Paris Convention for the Protection of Industrial Property, the relevant provisions of which were incorporated into the World Trade Organization (WTO) Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS)<sup>47</sup>.

TRIPS provide a right to the Member States to smoothen the provisions to avoid potential conflict between competition policy and IP law. Articles 8, 31 and 40 deserve a special mention. Members may “adopt measures necessary to protect public health and nutrition and to promote the public interest in sectors of vital importance to their socio-economic and technological development.” Further, TRIPS deals with compulsory licenses as an exception to the TRIPS agreement's minimum requirement that all Member States to provide patentee a right of exclusivity during the complete patent term. TRIPS suggests a set of circumstances wherein any Member State is allowed to issue compulsory license. The

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<sup>44</sup> ref. Section 84, India Patent Act, 1970 - <http://ipindia.nic.in/ipr/patent/patact1970-3-99.html>

<sup>45</sup> <http://www.livemint.com/Companies/fWcUdihmEP66hZZoXgxctO/Big-pharma-firms-may-learn-to-live-with-compulsory-licensing.html>

<sup>46</sup> [http://www.wto.org/english/tratop\\_e/trips\\_e/t\\_agm3c\\_e.htm#5](http://www.wto.org/english/tratop_e/trips_e/t_agm3c_e.htm#5)

<sup>47</sup> [http://www.wto.org/english/tratop\\_e/trips\\_e/t\\_agm0\\_e.htm](http://www.wto.org/english/tratop_e/trips_e/t_agm0_e.htm)

compulsory licenses that are allowed fall into two categories—where there is an overriding public interest or where the patent rights are being used in an anticompetitive manner.

Section 4 of the Competition Act deals with abuse of dominant position. It is clear that it is the abuse and not the existence of a dominant position, which is prohibited by law. It explains what is meant by abuse of dominant position by enumerating the practices which can be considered as abusive. What is noteworthy and relevant to the current discussion, is that no exception has been called out for IPRs under Section 4 of the Competition Act.

## **7.0 Conclusion**

In India, there are SDOs set-up by the Government of India and there are also private SDOs, which have participation from the industry, academia, individuals, and the Government. The SDOs set-up by the Government appears to be inclined to set a standard without including a technology protected by IP and it is left to the manufactures of standards based product to get a license from the IP holder if required. However, the open source policy on e-governance is a landmark policy in which the Government has made its intent clear by opting for royalty free (RF) model on IP involved in the standard. On the other hand, the private SDOs, though few in number, have well developed IP policies to handle IP rights covering the technologies involved in Standards. The Indian competition Act recognizes and acknowledges that rights provided under various IP laws in India and it does not restrict the right of any person to restrain any infringement of, or to impose reasonable conditions, as may be necessary for protecting any of his rights which have been or may be conferred upon him under the various IP Acts enacted in India.

## **About the Authors**

**Dr. Ramakrishna** is a Professor of Law at the National Law School of India University (NLSIU). He was a Lecturer from 1979-1988, Reader in Law from 1988-1994, Professor of Law from 1995-2002, and Principal of Vidyavardhaka Law College, Mysore during 1992-2002. He was Visiting Faculty at the Department of Post-graduate Studies & Research in Law, Mysore University, and Karnataka Police Academy between 1990 and 2002. He joined the NLSIU as an Additional Professor of Law in 2002 and was promoted as Professor of Law in 2006. Presently he holds the Intellectual Property Rights Chair [IPR Chair] of the Ministry of Human Resources and Development at the NLSIU and he is the Coordinator of the Centre of Intellectual Property Rights Research and Advocacy [CIPRA] at the NLSIU. Currently he is the Chairman of Post-Graduate Council. His areas of specialization include Intellectual Property Rights Law, International Law, Criminal Law and Law of Evidence. He visited University of Sussex, UK, under the DFID Project, WTO and WIPO in Geneva, Switzerland to participate in the Colloquium on IPR, USA at the invitation of the US Department of Justice for studying the IPR enforcement models in US, Germany to participate in the Indo-German Colloquium on IP and the meeting of the Conference of Parties (CoP) of CBD. He has participated in the IPR workshop organized by Ministry of Economy, Trade and Industry (METI), Japan and delivered lecture on IPR issues at Japan, Kyoto and Osaka. He participated as part of Indian delegation in the Meeting of the 'STANDING COMMITTEE ON COPYRIGHT AND RELATED RIGHTS' at Geneva. He also participated in the "Global Meeting on Emerging Copyright Licensing Modalities—Facilitating Access to Culture in the Digital Age" organized in Geneva and spoke on 'Making orphan works: A Licensing Solution?'. He participated in the International Workshop on 'STANDARDS, INTELLECTUAL PROPERTY AND COMPETITION LAW" in Phoenix, Arizona State, USA, organized by Sandra D'Oconnor Law College, Arizona State University, USA and made presentation on the Indian position.

**Dr. S K Murthy (SK)** is a patent attorney at Intel Technology India Pvt. Ltd in India and he has exposure to Indian and US patent laws. His primary areas of focus are IP and antitrust interface in Standards, patent preparation and prosecution; training to enhance IP awareness such other patent related issues. His interests also include developing strategies for inculcating, developing, and sustaining IP culture and patent management. He is a qualified Indian patent agent with an engineering and legal background. He has about 10 years of experience in practicing patent law and has a total of 18 years of experience. He is an invited speaker on Intellectual Property (IP). He is also a co-author on a title: "Bio-medical Engineering" used as a reference material in undergraduate engineering program. He is a co-founder of In-house IP professionals (I-HIPP) Forum, which has provided a platform for in-house IP professionals of more than 20 Indian and multi-national companies to share ideas, best-known methods and to act as a think tank for IP policy advocacy in India. He has been instrumental in preparing submissions on draft patent manual prepared by the Indian patent office and draft national competition policy prepared by the Ministry of Corporate Affairs, Union Government of India. He has a Bachelors degree in instrumentation engineering, masters degree in electronics and communication engineering, a doctoral degree in computer science, a post graduate diploma in IPRs, a law degree and he is presently pursuing PhD studies at the NLSIU.

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