The Role of WIPONET in the Development and Transfer of Technology and its Contribution to the Modernization of Intellectual Property Services*

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The World Intellectual Property Organization (WIPO) is working on a project called WIPONET to exploit the potential of information technology for addressing the problems faced in intellectual property rights administration by member States and intellectual property community. This paper elaborates the framework of WIPONET and its components; the goals of WIPONET, both immediate and long-term; WIPONET services; strategies and plans of WIPONET and its current status; and role of this network in the development and transfer of technology.

The effectiveness of Intellectual Property Rights (IPR) as a tool for global competitive advantage is engaging increasingly greater attention since the early 80s. Issues on generation, valuation, protection and exploitation of intellectual property are being increasingly discussed and deliberated all over the world. With increasing global dominance of knowledge-based economy and the growth of knowledge-based products, several challenges are appearing in the administration and management of IPR, as well as in the dissemination of information to IP community and members of public. The development of skills and competence to manage IPR, with a view to leverage its influence and gain competitive advantage, needs increasing focus, in particular, among the developing countries.

Keeping this in view, the World Intellectual Property Organization took the decision to initiate information technology (IT) projects

in the Budget Committee meeting held on 23 and 24 March 1998. It may be useful to recall the visionary remarks made by Dr Kamil Idris, Director General, WIPO, during the informal consultations with regional group coordinators and members of the Budget Committee on 21 January 1998. He said, "The first issue concerns information technology. It is clear that member States are resolved to make greater use of the potential that information technology offers in promoting international cooperation in the field of intellectual property. Our consultations are demonstrating an emerging consensus on the establishment of a global information network, centred on WIPO and serving the interests of all the member States, especially developing countries, with the necessary technical support to ensure that all countries can derive immediate practical benefits from this project." It is fair to say that the foundation of WIPONET was truly laid on 21 January 1998, with this landmark policy statement.

The focus of WIPONET will be on exploiting the potential of information technology, so as to address the problems being faced in IPR administration by the member States and by the IP community. The objectives of WIPONET are to derive the practical benefits from the project, especially for the developing countries, so that the gap between the developing and the developed countries can be reduced substantially. For a better understanding of this project and its likely impact in the near future, we will elaborate the framework of WIPONET, the direct and associated components, the goals of WIPONET both immediate and long-term, WIPONET services, both basic and IPR related, strategies and plans of WIPONET and the current status of WIPONET. We will then reflect on the role of WIPONET in the development and transfer of technology.

We wish to emphasize that it is not appropriate to view WIPONET as an IT project alone, but it is to be seen as a vehicle for modernization and as a medium for achieving international cooperation among the member States and the global IP community.

**Framework**

For WIPONET to fulfil its expectations, four aspects are crucially important. First, we must have a driving force and a collaborative mechanism, where policies and procedures are evolved and updated in a collaborative manner. We must have also a body of experts to provide technical advice, to evolve cost-effective implementable solutions and also finally a project team to implement the agreed solutions within a defined framework.

**Driving Force and Collaborative Mechanism**

International Bureau (IB) of WIPO is the driving force behind WIPONET. For providing them with a collaborative mechanism, the assemblies of the member States in March 1998, established the Standing Committee on Information Technologies (SCIT) to serve as a forum to discuss the issues, facilitate coordination and provide guidance concerning the implementation of the WIPO Global Information Network and the provision of intellectual property information services on the network. SCIT is responsible for addressing the issues pertinent to the process of providing intellectual property information in a digital network environment.

**Expert Body**

Three working groups were established in June 1998, during the first session of SCIT
Plenary. The first is the Information Infrastructure Working Group. Its main responsibility is to formulate the policies related to the establishment and operation of the WIPO Global Information Network, review the network deployment progress and make relevant recommendations, and propose projects concerning information systems useful to IP offices, particularly, those in the developing countries.

The second is the Standards and Documentation Working Group. Its responsibilities are to adopt new standards, where necessary, and promote the use of existing standards regarding intellectual property data and documentation, and coordinate policies for access to and dissemination of intellectual property information.

The third is the Information Security Working Group. Its responsibility is to evaluate and address specific information security requirements regarding intellectual property information services on the network.

The project team to implement the WIPONET and other related IT projects have also been constituted in the newly-formed IT division at WIPO.

**WIPONET's Components**

The Assemblies of the Member States in March 1998 approved the projects on information technology, viz. (i) establishment and operation of a global information network; (ii) provision of intellectual property information services and the establishment of Intellectual Property Digital Library (IPDL); (iii) Automation of WIPO's internal activities relating to Patent Cooperation Treaty (PCT); (iv) WIPO's internal network and automation of Madrid System for the International Registration of Marks. All the above projects are directly related to the WIPONET as a concept and are integral to it. Similarly, the distance learning programmes being pursued under the aegis of WIPO Worldwide Academy (WWA) and the modernization of developing countries under Nationally Focused Action Plans (NFAPs) have direct linkages with WIPONET.

**Goals of WIPONET**

SCIT in its Third Plenary, after extensive deliberations, was able to provide direction for realizing the goals of WIPONET. These are to:

(i) narrow the information access gap that exists between the developed countries and developing countries;

(ii) improve the flow of information concerning IPR among WIPO member States, regional IP offices and IB;

(iii) improve access to and exchange of intellectual property information in terms of costs and access time in accordance with the agreed upon principles;

(iv) improve intellectual property information dissemination;

(v) consider the information needs and filing requirements of applicants and develop electronic services, keeping in mind the need to provide benefits to applicants and IP offices, and to other interested circles;

(vi) help guide IB to leverage information technologies; and

(vii) improve the retrieval of intellectual property information through further development of international classifications of patents, trademarks and industrial designs as efficient search tools.
These goals will benefit the global IP community. Considering the resource constraints, we need to do priority setting on these goals. This is being done by IB in consultation with the member States.

WIPONET Services and Deliverables of Phase-I

WIPONET will have primarily two type of services, i.e. basic services and IP related services. Basic services relate to providing dedicated Internet connectivity to IP offices, with secure end-to-end services (220 IP offices in 171 member States). National IP offices will be connected via a dedicated higher bandwidth backbone between IB and ten technically appropriate locations. National IP offices will have minimum 32 KBPS or higher bandwidth. WIPONET will also have extension to Trilateral (US Patents and Trademark Office, Japanese and European Patent Offices) frame relay and Secure Virtual Private Network (TSVPN) for exchange of priority documents between IB and Trilateral in a secured manner. TSVNP provides the facility for creating single exchange file for a multi-file documents, data integrity and originator authentication is ensured via digital signature and digital envelope to maintain the data confidentiality.

The basic service on WIPONET will be available for e-mail, public web access, web hosting and publishing, file transfer facility, remote participation in WIPO meetings, confidential data exchange and electronic mailing lists.

WIPONET help desk facility will be available for 24 hours for all the seven days with the support provided in six languages.

The WIPONET IP related services will include access to IPDLs access to the PCT services, distance-learning, WIPO, WWA and an arbitration centre. WIPONET deliverables for IP offices will have six windows NT workstations (with DVD drives), Software: MS Office, e-mail, browsers, anti-virus, backup, one printer, one scanner, security hardware and software and a PC video camera.

Strategic Information Technology Plan into the 21st Century

SCIT, in its Third Plenary held on 14 and 15 June 1999, was able to finalize the SCIT strategic information technology plan into the 21st century. This is a major accomplishment of the global IP community, as this plan will continue to provide a direction on the modernization endeavour of the IB and the member States in the year 2000 and thereafter. The goals of WIPONET were crystallized during the formulation process of strategic plan and have been already mentioned under 'Goals of WIPONET'. The plan provides details and framework on issues, such as the project management, infrastructure, security, data management, migration, dissemination, etc. It also defines the roles and responsibilities of IB and member States.

Special emphasis has been laid on the needs of the developing countries. SCIT, as part of its strategic information technology activities will define and recommend Minimum Modernization Standards (MMS), to be put in place at the IP office level.

MMS should address a wide range of areas, including IT infrastructure, human resources, training and support, process modernization, etc. The SCIT will complement, to the greatest extent possible, IP offices' efforts to reach the MMS.

SCIT has also recognized the concern of WIPO member States, regarding the grant-
ing of IPR due to the lack of published documentation on traditional knowledge. SCIT will take the initiative by including activities in its work programme to support WIPO member States, in particular developing countries, in their creation of databases in the area of traditional knowledge available in public domain, so that prior art gets established.

Current Status

Significant achievements have been made since 21 January 1998. WIPONET is no more a concept; now it is a well-defined project. The project bids have been received by IB and are likely to be finalized by late September, once the WIPONET team has completed the "Proof of Concept" tests with the short-listed bidders.

Phase-I implementation of the project will commence shortly after contract signature. SCIT’s strategic IT Plan into the 21st century will certainly ensure sustainability and continued upgradation of WIPONET.

Possible Role of WIPONET in Modernization of Intellectual Property Services

Modernization is not a one-time effort; it is indeed an ongoing process. Modernization is not primarily driven by the resources, rather it is technology and attitude driven. One of the factors, which separates the developing world from the developed world, is the capability to modernize as an ongoing process. For example, all of us are well aware of the paperless office project of Japanese Patent Office (JPO), which was launched way back in 1980 or the Kyoto Memorandum of Understanding, which was signed in November 1997, between the United States Patents and Trademark Office (USPTO), JPO, and European Patent Office (EPO), for establishment of TSVPN for exchange of priority documents.

SCIT plenary witnessed the demonstration of KIPONET during the Third Plenary by Korean Industrial Property Office (KIPO). This project was initiated in 1992. KIPO had spent 4,700 man months and US$26 million on the development and implementation of the system. The situation is quite different in a large number of developing countries. There are several concerns about the preparedness of many national IP offices in most of the developing countries. These concerns mainly relate to:

(i) Manual and paper-based operation;
(ii) Static manpower resources for the past several years;
(iii) Inadequate skills and expertise in emerging areas of technologies;
(iv) Phenomenal increase in the number of applications filed in recent years;
(v) Inordinate delays in granting IPR services (may take even up to 6 to 7 years);
(vi) Large number of applications pending first examination;
(vii) Non-uniformity in the examination, poor quality of search, resulting in fresh objections, even after first examination report;
(viii) Inadequate search facilities and tools;
(ix) No change in the work practices for last several decades;
(x) Traditional offices;
(xi) In general, the lack of digital data and networks;
(xii) IT yet to be inducted in the IP administration; and
(xiii) IT professionals not available to IP offices.
It is necessary to understand the basic components of a modernized framework in the context of IPR services, viz re-engineering of work functions, automation and networking, shift from paper-based operations to electronic management of records, providing legal framework for making available electronic payment systems, ability to authenticate originator and for maintaining the confidentiality of data and records whenever needed. Above all, there is a need for human resource development and training. WIPONET will be making direct, as well as indirect contributions to the modernization endeavour of national IP offices. It will be a direct provider of the minimum level of hardware equipment and services to ensure the connectivity of the Internet. It will be a facilitator for providing details on technologies and related standards. In addition, it will define minimum modernization standards and provide an implementable mechanism through NFAPs and future WIPONET support projects. It will help to create abilities to contribute to WIPONET contents through IPDL. It is bound to have a catalytic impact on the development of national IT infrastructure.

Although the national IP offices will get the basic IT infrastructure, which is necessary for developing a modernized environment, the full objectives of modernization of WIPONET, will not be realized unless the nations take urgent steps to utilize this infrastructure effectively.

*Role of WIPONET as a Facilitator for Providing Details on Technologies and Related Standards is Going to be Enormous*

The impact of WIPONET on this aspect on the modernization of the global IP services is likely to be extremely beneficial. Sharing of the technical information may vary from simply posting the information on a website created by the provider of the information to the online exchange of various files in a secured network environment.

The web publication would not require standards (the Internet is standardized), but the secured exchange of files would require a set of internationally agreed standards and policies. Some of them are quite complex and may not be otherwise readily available to the member States. These contributions of WIPONET will have far reaching impact, not only on the national IP offices, but even beyond them.

MMS relating to IT infrastructure, human resources, training and support, process modernization, etc. are integral to SCIT’s strategic IT Plan. It is expected that several of the support projects will be evolved in the future phases of WIPONET. These support projects may get implemented through NFAPs. SCIT is also committed to complementing the efforts of national IP offices to reach the MMS level.

WIPONET will be established on the basis of the Internet and will grow and be upgraded in conjunction with a number of new applications software and business models developed for e-commerce. To ensure secured transaction necessary to undertake such new applications of e-commerce and e-business, public key infrastructure is an important component of WIPONET. Implementation of these technologies for national IP offices, will have direct or indirect impact on the other institutions and may provide catalytic impact towards development of national IT infrastructure in the context of developing countries.

Today, as a part of the global innovation strategies, several companies, worldover, are scouting for new ideas and patents. Ex-
ternal technology acquisition is assuming importance within leading global corporations. The ability to assemble and manage an effective global knowledge network in a short time, rather than developing in-house capability, is becoming the key determinant of competitiveness.

IP offices are the repository of knowledge and information on technologies. These offices can contribute significantly in bridging the gaps in the creation of a virtual global knowledge network. There is also a need to develop skills amongst the scientists to understand, interpret and analyze the technological and business information contained in patents and other IP documents available in an IP office.

For this to happen, it is necessary that these vital documents become available to scientists and researchers. As it is not adequate for scientists to only have access to their own national IP office, they also need access to the global IP databases, as the legitimate member of global IP-community.

When we realize that most of the documents and records in the IP offices in the developing world are in paper form and access to these records is not available, it is clear that the goals of WIPONET will remain unfulfilled.

WIPONET and its components such as IPDL, are likely to change the situation in the coming few years. IPDL will make available in digital form, the patent documents, which will be accessible over WIPONET as web enabled databases. The contribution to IPDL will also come from the developing countries, after they have attained the MMS levels. Perhaps some developing countries may be able to contribute to IPDL, even earlier.

Author can foresee the strong alliance forming between IP offices and institutions such as the Council of Scientific and Industrial Research (CSIR), which he represents. Researchers and scientists of such institutions may be able to provide interpretations and value addition to the knowledge-base available in IP offices. They will then be disseminated over networks, such as WIPONET for the benefit of the global community.

In due course, WIPONET will be enriched with technological inputs from the developed world. Matching contributions will come from the developing world in the area of biodiversity, traditional knowledge base, including traditional medicinal systems and other relevant technologies. Once enriched with these inputs, WIPONET will open up new areas for technology transfer and collaboration, which will finally have a positive impact on the quality of life of the people.

Conclusions

It is consensus of the member States on the establishment of a global information network that has driven the forums of WIPONET. WIPONET will be implemented under the framework of SCIT and its working groups. There is no doubt that the implementation of SCIT's strategic IT Plan into the 21st century will ensure sustainability of WIPONET. The following points need reiteration:

(i) Projects such as IPDL, IB's automation, i.e. PCT and Madrid are integral to WIPONET;
(ii) Modernization endeavours undertaken under the aegis of NFAP and distance learning programme being pursued by WWA will have direct linkages with WIPONET;
(iii) Attaining MMS by the developing countries will be the key to the long-term success of WIPONET; and

(iv) WIPONET's role, as a facilitator for providing details on technologies and related standards, will have a catalytic impact on the modernization of national IP offices and on the possible development of national IT infrastructure.

WIPONET is likely to open-up several new opportunities in the area of technology transfer and is likely to provide mechanisms for a meaningful collaboration among the developed and the developing countries. WIPONET may prove to be extremely beneficial to the seeker/user of technologies in the long-term, once the value-added services become available on the WIPONET.

Finally, WIPONET is not just an IT project. It is a great vehicle for modernization and an extremely effective medium of international cooperation which will provide the impetus and drive for the whole world to use IPR as a tool for development.