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ESTABLISHMENT OF THE WIPO GLOBAL INFORMATION NETWORK

Document prepared by the International Bureau

INTRODUCTION

1. In March 1998, the Assemblies of the Member States of WIPO approved the establishment of a Global Information Network for intellectual property offices. The decision was made to utilize external resources to the fullest extent practical for the development and deployment of the network, to be completed by the end of 1999. This document presents a summary of the features, services, and benefits to be provided to Member States and the intellectual property community through the proposed WIPO global information network (hereinafter referred to as "WIPONET").

WIPONET

The Expected Role of WIPONET

2. Recent developments in technology have provided not only a new global communications infrastructure, but also an opportunity for communication and cooperation by people and organizations linked together in a networked environment. Similarly, WIPONET, which will make extensive use of existing communications infrastructures, is a new opportunity for the intellectual property community to propose, discuss and implement a

number of innovative ideas for the effective use of information technology and the furtherance of WIPO's basic mission. The establishment of WIPONET, in itself the first global project undertaken by WIPO using information technology, is not the final goal but the first important step. WIPONET will become a tool through which the Intellectual Property community can launch a series of new initiatives using modern information technologies.

3. There are two major roles that the WIPONET is expected to play, as follows:

(a) Member States Access to, and Exchange of, Intellectual Property Data
WIPONET will strengthen the collective efforts by Member States to create high-quality, high-value information collections, to be made easily yet securely accessible on the network by the intellectual property community through the proposed Intellectual Property Digital Libraries (for further details, see document SCIT/1/5).

(b) Public Access to Information
There is a growing need to provide a form of public access to published intellectual property data. WIPONET can provide a vehicle for the improved dissemination of intellectual property information to previously unserved communities, such as universities, research and development institutions, and copyright users.

Main Services to be provided via WIPONET

4. WIPONET will provide many services, three of which are highlighted as follows:

(a) WIPO Intellectual Property Digital Libraries
(for further details, see document SCIT/1/5).

(b) Electronic Filing of PCT International Applications
With the advent of electronic application filing programs at WIPO (most notably, for PCT international applications), the International Bureau and a number of patent offices acting as PCT Receiving Offices must have adequate network connectivity to support electronic filing efforts by the public. This practice requires the secured transmission of text and image data, as PCT applications contain confidential information.

(c) WIPO Worldwide Academy
The WIPO global training program for intellectual property Offices and the intellectual property community (known as the WIPO Worldwide Academy) will require WIPONET to provide videoconferencing, distance learning and training, and telecourses. Major improvements to WIPO's services in the field of cooperation for development can be envisaged as a result of the establishment of a coordinated Internet-based communications network. In particular, applying new distance learning, collaborative development and videoconferencing technologies to the programs supported by the WIPO Worldwide Academy will help to overcome difficulties in distributing information and services to developing countries.

Network Architecture

5. WIPONET will be based on the existing public Internet, which provides at least basic levels of connectivity to most countries. WIPONET will extend connectivity to offices which lack the capability and WIPONET will also include a component similar to many corporate virtual private networks (VPN), i.e., secure, private communications using existing communications infrastructure, augmented to provide service where existing facilities are inadequate. It is foreseen that certain offices will be responsible for the exchange of larger amounts of data to and from the International Bureau, as well as with each other. Higher levels of private, dedicated, secure bandwidth will be needed for these offices.

6. WIPONET will use existing open standards, augmented with specialized information standards suited to intellectual property data if needed. Where required, intellectual property offices will receive a complete set of information publishing and data search tools. WIPONET will incorporate a flexible design which will allow for updates and modifications of software and hardware as technology changes.

7. WIPONET will provide both public and private (e.g., limited to intellectual property offices) information services. Fundamental services, such as general information about WIPO activities, on-line tutorials, video conferences, and various announcements through the WIPO Web site, will require sufficient bandwidth to ensure satisfactory minimum access to the Internet. Bandwidth must also be sufficient to allow for text search and retrieval, with occasional image support. More advanced services, such as the Intellectual Property Digital Library (IPDL), cross the line between public and private services. These services will require suitable bandwidth for the effective transfer of large volumes of image data (for example, in the case of priority documents) and comprehensive security services, at both the hardware and software levels. Many, but not all, offices will require sufficient bandwidth for the regular exchange of such data.

Network Requirements

8. The International Bureau perceives the need for a virtual private network utilizing the existing public Internet infrastructure where possible, augmented with dedicated connectivity to intellectual property offices in various Member States. While the majority of connectivity requirements to Member States is already in place, it may be necessary to provide wire or wireless communications between Internet access points and intellectual property offices, as many offices currently lack basic Internet access.

9. The International Bureau will discuss detailed design and requirements with a contractor that will be selected through an international tender (see the proposed timetable described in paragraph 13, below). The International Bureau has no preconceived notion of the best way to provide these connectivity services, although the concerns described below remain pre-eminent:

(a) Speed – suitable bandwidth and connectivity must be provided to each intellectual property office. Initially (during the first stage of the deployment to be completed by the end of 1999), this will be limited to the minimum connection speeds, but these connections must be scalable to support increased demand by program participants. Furthermore, it is important that strategies for improved quality of service be evaluated, proposed and implemented where technologically feasible.

(b) Security – the concept of a virtual private network will permit the coexistence of various security mechanisms on both the private high-performance backbone catering to the needs of the High Performance Intellectual Property Offices (see below) and the commercial Internet connectivity provided to individual offices.

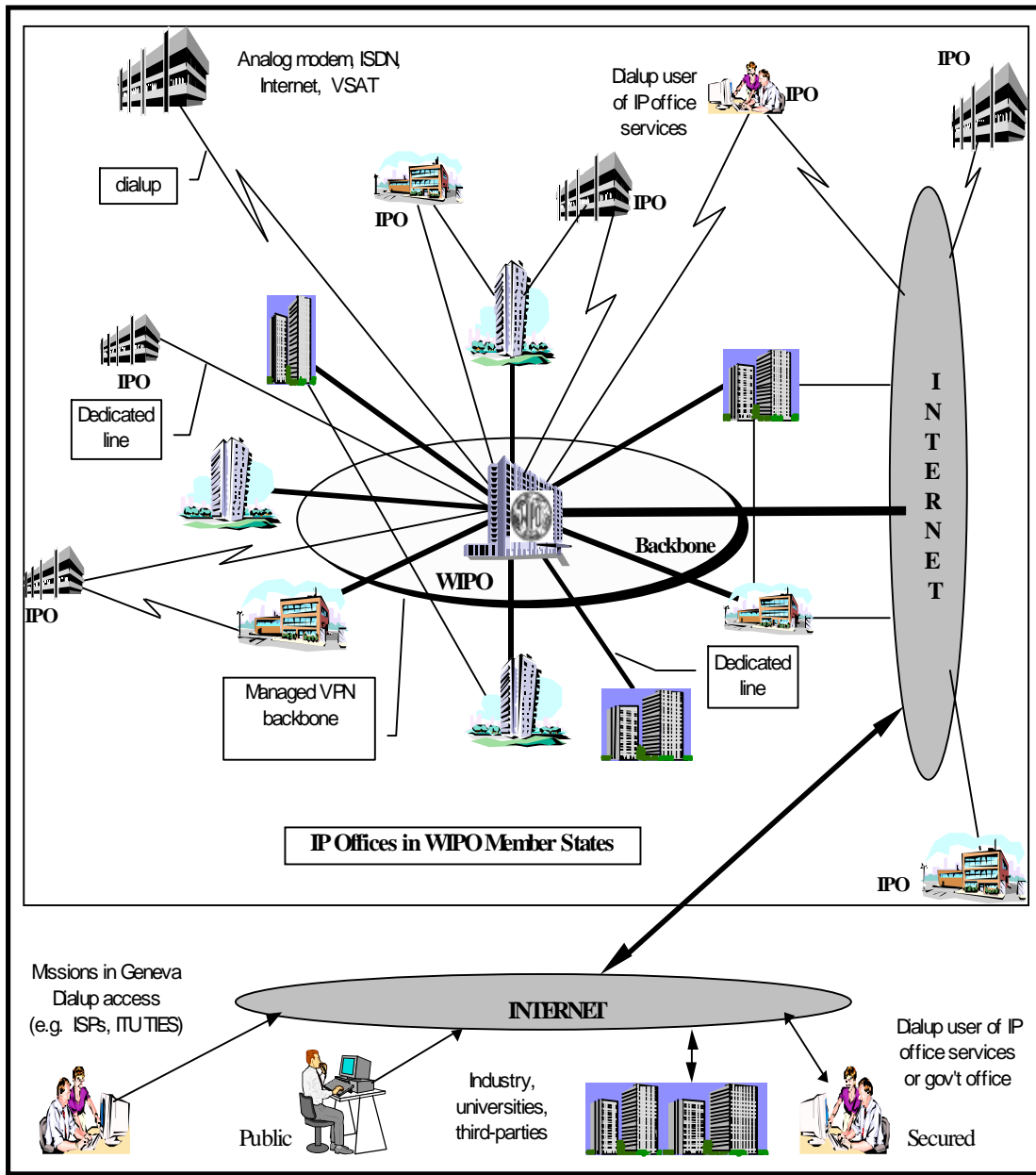
(c) Control – the proposed network infrastructure must support global management and control strategies.

10. The following conceptual possibilities will be discussed with the contractor, taking into account the specific needs and requirements of intellectual property offices as perceived by WIPO:

- Fully secured virtual private network implemented through dedicated connections linking WIPO to other High Performance Intellectual Property Offices worldwide to form a comprehensive backbone,
- support of network connections providing access to the backbone for intellectual property offices by means of public telecommunication networks and/or the Internet,
- support of public Internet-based services for the dissemination of public information,
- support of secure services for various high-level applications,
- provision of secured restricted access to specific information resources available on WIPONET by duly authorized entities (e.g., governments, industry, academia, etc.).

Network Topologies

11. Based on the above considerations, the following topologies are tentatively proposed but subject to modification depending upon the recommendations of the contractor and recommendations from competent technical authorities within Member States:



Tentative WIPONET Network Topology

Structure of WIPONET

12. Telecommunications requirements for individual offices vary depending upon the nature of work performed at a given office, its workflow and application volume, and its need to access external resources. It seems reasonable to reflect this fact in the basic design of WIPONET which will be reviewed after the deployment of the network (next biennium), on the basis of updated user requirements of a given intellectual property office. At this stage, therefore, it is proposed that WIPONET infrastructure should consist of the following two parts:

High Performance Intellectual Property Exchange Testbed

This program will provide very high speed connectivity between selected national and/or regional offices and the International Bureau. Designed to provide an advanced, private backbone for the exchange of high-volume text and images related to intellectual property, the testbed will support advanced (but compatible) networking technologies. It is proposed that the SCIT plenary and/or the Information Infrastructure Working Group (IIWG), augmented as needed by outside technical specialists, select those offices participating in this program on the basis of proposals submitted by them. Proposals will be graded based on several factors, including the capacity of the local and national networking infrastructure to support very high speed network connectivity, and the ability of the proposing office to provide significant cost-sharing resources. In the course of selection, terms and conditions of the participation should be elaborated to conclude agreements between the participants and the International Bureau.

Intellectual Property Office Network Access Program

This program will provide basic network access to each intellectual property office by the end of the biennium (1999). The program will include the provision of basic equipment to each office (PCs, routers/modems, small-scale internal office networking, training and support services). This basic networking support will be provided through connections (either wire or wireless) to the nearest appropriate network service provider. The network connection will be to the commodity Internet.

Deployment of WIPONET and Timelines

13. The contractor will be selected in November 1998 through an international tender to be issued in September, 1998. The International Bureau is in the process of preparing a tender document (Request For Proposal; RFP).

Table I - RFP Timelines

<i>Action</i>	<i>Start Date</i>	<i>Comments</i>
Tender Issued	September 1998	Tender refers the full WIPONET Request for Proposals
Tender Closing Date	October 1998	All Tender bids due at WIPO
Tender Awarded	November 1998	Successful bidder will be notified of acceptance and will commence implementation.
Deployment Begins	December 1998	First connectivity established with a Member State office.

14. It is proposed that, at its first session in November 1998, the IIWG should formulate and elaborate policies on the basis of those proposed above, with necessary amendments thereto made at the present meeting, and review the progress concerning the tendering process and propose projects concerning information systems useful to intellectual property offices, particularly those in developing countries.

15. The SCIT Plenary is invited to note and approve the contents of this document.

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