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UPOV

CAJ/29/4
ORIGINAL: English
DATE: September 23, 1991

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

ADMINISTRATIVE AND LEGAL COMMITTEE

Twenty-ninth Session

Geneva, October 21 and 22, 1991

POSSIBLE CENTRALIZED FUNCTIONS OF THE UPOV OFFICE

Document established by the Office of the Union

1. UPOV has discussed on several occasions in the past the possibility of closer cooperation between the Plant Variety Protection Offices of the member States, which would go beyond the present bilateral arrangements. The first documents containing proposals for closer cooperation were established by the Office of UPOV as far back as in 1974 and 1975 (see documents ICE/I/3 and ICE/III/7) but at that time were considered premature and preference was given to a slower procedure with step by step progress. Further proposals followed in 1979 (see documents CAJ/III/2 and CAJ/IV/2) which, however, underwent the same fate. In 1987, at the request of the Chairman of the Administrative and Legal Committee ("the Committee"), the Office of UPOV established document CAJ/XXII/7, giving an overview of the different systems for obtaining intellectual property rights in several States. The document was favorably received but was, in terms of priority, placed after the problems arising in connection with the protection of results from biotechnology and the preparation of the revision of the UPOV Convention.

2. The question of closer cooperation has continued to be raised from time to time (the President of the Diplomatic Conference made a specific plea to this effect in his opening address to the Conference) so that with the revision of the UPOV Convention successfully completed, the Office of UPOV can now address once more the question of closer cooperation between the various plant variety protection systems, a need for which is felt especially in the technical field. Reference is made in this context to document C/XXIII/10 Add.2, paragraph 4, reporting on discussions held in the Technical Committee and the request emanating from that Committee for the Committee's views on the matter of interactive access to international data, and to documents C/XXIII/14, paragraph 118, and C/24/18, paragraph 110, reporting that the Council noted that the question of the setting-up of an international variety denomination data base would be taken up by the Office of the Union in the Committee in the context of the question of interactive access to international data.

3. In the Technical Working Parties the wish for an extended exchange of data in machine-readable form has been discussed on several occasions over recent years. UPOV has been asked to work towards harmonized procedures to facilitate such an exchange and to consider the possibility of direct access to the data bases of member States by other member States. The latter proposal, even if limited to already published information, gave rise to a variety of concerns and the setting up of a specifically designed and established central computerized data base for access by the competent authorities of UPOV member States was seen more and more as the only possible solution.

4. The need for access to data in machine-readable form with a facility for the direct incorporation of data into the member State's own data base, is most recognized by the Technical Working Party for Ornamental Plants and Forest Trees. That Technical Working Party decided at its last session in June 1991 to prepare a questionnaire on the usefulness of a central computerized data base of UPOV (see Circular U 1741). Experts from the United Kingdom gathered the replies to that questionnaire and prepared document TC/27/7 for discussion by the Technical Committee during its session from October 16 to 18, 1991. Annex I to this document gives a summary of the discussions held on that subject during the last sessions of the Technical Working Parties as reproduced in document TC/27/3, paragraphs 21 to 26; Annex II reproduces document TC/27/7 for easy reference.

5. The Technical Working Parties feel that there is a pressing need for improvement of the present situation and that, at the very least, plans for a feasibility study for a central computerized data base of UPOV should be included in the program and budget of UPOV for the 1992-93 biennium.

6. The likelihood of a significant increase in the number of member States of UPOV in the years immediately ahead and the possibility of a much greater geographical spread of member States gives added urgency to the question.

7. In addition to (i) the earlier proposals for closer cooperation, (ii) the comparison of different existing systems of cooperation in other fields of intellectual property, and (iii) the proposals from the Technical Working Parties, the Office of UPOV has also inquired into the possibility of setting up a centralized computer facility in Geneva in cooperation with WIPO. WIPO has considerable experience in the running of international data bases. WIPO, as a member of the International Computing Center of the United Nations (ICC), can give UPOV access to powerful computing facilities without the need for capital expenditure on hardware.

8. Annex III to this document gives a summary of certain aspects of the ICC used by WIPO. The cost for using the ICC is based upon the actual usage of the resources. For instance, a CPU sec. costs 0,49 SFr., a megabyte of data stored on disc costs 1 SFr. per month. It seems likely that a terminal linked to the ICC for 2 to 3 hours per day would cost around 10,000 SFr. per year, depending on the size of the data base and the number of queries and reports being processed. WIPO offers on-line access to its International Marks Register, which includes all internationally registered trademarks, but the offer of on-line access has been taken up by very few States, partly because of the heavy expense of on-line access.

9. On-line access to data banks is now for many purposes being replaced by CD-ROM ("compact disc read-only-memory") disks upon which an astonishing amount of data can be recorded and accessed almost instantaneously. Each subscriber to a data base using CD-ROM technology has his own copy of the disk upon which the data base in recorded and is not faced with the heavy hourly cost of on-line access to a central data bank. The hourly cost of a line from the

Southern Hemisphere to Europe, for example, would be prohibitive. Fresh data is supplied periodically to a central point and an updated disk is prepared. WIPO is at present working on a project called ROMARIN for the issuing on CD-ROM disks of its complete International Trademarks Register. An updated disk will be available to subscribers monthly. Annex IV to this document reproduces document MM/A/XXII/1 which explains the ROMARIN project in detail.

10. If UPOV were to consider a similar project, it would have the possibility to benefit from the development work done by WIPO in relation to ROMARIN and other projects (a number of the initial non-recurring investment costs of WIPO would not have to be borne by UPOV). During the studies made by WIPO, it appeared, as can be seen from Annex IV, that the distribution of periodical CD-ROM disks containing an updated data base would be considerably cheaper than direct on-line access to the data base. While WIPO foresees twelve updates per year for its ROMARIN product, UPOV could, for example, start with two updates per year. WIPO's criteria for the establishment of the ROMARIN project (UPOV's situation and needs are very different) were the following:

a) the offices would, in exchange for their information, receive the periodical updated disks free of charge;
b) one CD-ROM work station would be supplied free of charge to each participating member State;
c) the funds for the establishing of the system would be borrowed from the Reserve Fund;
d) the refunding would be made through the sales of the service to the private sector.

As is the case of WIPO, UPOV would have to develop a standardized system for the collection of the information to be supplied by the member States to enable an efficient input of that information to the international data base. The Technical Working Party on Automation and Computer Programs has already given some consideration to this question.

11. It is proposed that, initially, the Committee limit its discussions to the possibility of setting up a central data base covering variety denominations and variety descriptions of protected varieties, and of varieties used by the individual member States in their reference collections. In a subsequent stage, discussions could also cover candidate varieties for which applications for protection have been filed and whole test reports.

12. The Committee is invited to
(i) consider possible steps for the setting up of a central computerized data base,
(ii) recommend to the Council the inclusion of a feasibility study for the setting up of a central computerized data base in the draft program for the coming two years
(iii) consider the extent to which a central data base for variety denominations could be linked to a system of international preliminary examination for suitability of denominations.

[Four annexes follow]

ANNEX I

Access to Data Bases of UPOV Member States and Central Computerized Data Base
(Extract from document TC/27/3)

21. The TWC noted the results of the discussions held by the Technical Committee on the question of the access that the authorities of member States responsible for plant variety protection and testing could have to data held by the offices of other member States, which were reproduced in document TC/26/5, paragraph 20. The Technical Committee had recognized the usefulness of that kind of access, but had pointed out that some categories of information might present problems. It had asked the Technical Working Parties, as a first step, to study the possibilities for the exchange, in electronic form via diskettes, of published information between member States.

22. The TWC also noted document TWC/9/4, which reviewed the question of international access to data as dealt with by the TWC during the past four years. The document listed (i) the type of information that member States exchanged at present, (ii) the ways in which that information was transmitted (hard copy, fax, floppy disk or magnetic tape, international network or interrogation of international data bases), including advantages and disadvantages, (iii) the experience within UPOV and (iv) the way forward. A slightly revised version of that document is reproduced in document TWC/9/4 Rev.

23. The TWA emphasized that, in its area, it would be interested in the possibility of exchanging in electronic form lists of varieties under test, since they contained very useful information that would raise no problems for the authorities. It would also be of interest to put all published information into one single data base, together with a sorting mechanism that would allow access to information on a given crop provided by all member States. It therefore asked the Technical Working Party on Automation and Computer Programs to devote special attention to such an exchange or to a centralized data base.

24. The TWF discussed the possibilities of the international exchange in electronic form of data published in official gazettes, and repeated its wish for such an exchange, which would be an improvement on the present exchange on paper of the lists of varieties under test. The TWF would prefer to have the data collected and incorporated in a single data base, which would be done on an international basis by UPOV, as that would be cheaper than if each member State were to individually collect and transfer into its own data base all the information published in the various gazettes. The internationalization of plant variety protection would require member States to keep abreast of the international situation. It would be necessary to have easy access and combine all published information with respect to a given variety or species. That could be most easily ensured if all information were collected centrally. It could then be made available periodically via electronic mail or optical disk to all UPOV member States or via direct access to the data base. This kind of electronic exchange would enable the offices of member States to have faster and less labor-intensive access to data already published in the official gazettes. At present, national offices already received requests for information on particular varieties or species that were difficult, if not impossible, to satisfy.

25. The TWO noted document TWC/9/4 Rev. on International Access to Data. It had a long discussion on the usefulness of such international access. It realized that in the field of ornamental species there was a particular need to have access to data of other member States since many ornamental varieties were grown and protected in many States at the same time, contrary to other species where varietes often had only national or limited regional importance.

26. The TWO therefore proposed to the Technical Committee that UPOV should immediately start studying the usefulness of setting up a central computerized data base, as only such a central data base could overcome certain difficulties raised against direct access to individual national data bases. The study should include the questions of which savings such a data base could make, what other improvements it would bring, what kind of information it would have to store and whether an existing system could be adapted for use of that data base. In view of the urgency of the matter and in order to enable the Technical Committee to formulate during its October session a proposal to the Council--which would discuss the UPOV budget for the coming two years--the TWO decided to prepare a technical questionnaire (see Annex II) concerning a central computerized data base. The answers would be used to prepare a document for the Technical Committee, supporting the TWO's proposal. Mrs. Campbell (United Kingdom) offered to draft the final document (see document TC/27/7) on the basis of answers received to the questionnaire.

(see TWA/20/9 Prov., paragraph 12, TWC/9/12 Prov., paragraphs 32 and 33, TWF/22/4 Prov., paragraph 11, TWO/24/12 Prov., paragraphs 21 to 24)

[Annex II follows]

ANNEX II

Proposal for a Central Computerized Data Base

[prepared by experts from the United Kingdom
on the basis of replies to a questionnaire established by the
Technical Working Party for Ornamental Plants and Forest Trees]
(copied from TC/27/7)

1. Introduction

At its meeting in Cambridge June 24-28 1991, the Technical Working Party for Ornamental Plants (TWO) discussed the desirability of setting up a central computerised database for access by the competent authorities of UPOV member states. Further information was elicited by means of a questionnaire and responses were received from Denmark, Israel, Japan, South Africa, Spain, UK (Cambridge) and UK (Brogdale).

This paper summaries the responses to give a preliminary assessment of the need together with an estimate of the cost benefits which could accrue. Many ornamental and fruit varieties are grown and protected simultaneously in many member states and therefore it was felt that there was a particular need for this project. However, Denmark has expressed some caution, pointing out that funding is presently being sought for an EC project for the provision of a centralised database covering the same information.

2. Access to Data

Experts of the TWO discussed the benefits of instant access to administrative and technical data from other member states. The species which should be covered are:-

Ornamental plants generally but especially chrysanthemum, rose, apple, pear, cherry, plum, ribes, rubus, fragania, chincherinchee, protea, leucadendron, leucospermum, lachenalia and other unusual species. Specifically, the data which were felt to be useful were:

2.1 administrative data relating to varieties already publicly available in National Gazettes including:-

country of origin, owner, applications received, variety denominations, grouping characteristics, withdrawals, decisions, variety names granted, synonyms, species code, application number, breeders reference, applicants address, agent detail, status, dates, proposed and actual termination of grants and decisions, addition to list of species eligible for protection.

2.2 technical data:-

variety descriptions, similar varieties or comparisons. For those countries operating bilateral agreements for DUS and PBR testing, experimental data relating to candidate and control varieties are also transferred.

Lists of descriptions held, including common knowledge varieties. Varieties under test.

2.3 UPOV test guidelines for each species and National test guidelines, where there is no UPOV document.

2.4 UPOV standardised forms.

2.5 National forms - eg application forms, Technical Questionnaires, variety description forms, lists of fees, plant material required etc.

3. Benefits of Access

The benefits of access could be quantified in the following ways:-

3.1 Time savings in searching for information:-

Estimates of this vary from 10 days of staff time per year (UK-Cambridge) to 6 months of staff time per year (Israel).

3.2 Elimination of retests caused by inadequate information:-

Savings vary from staff time of 1 week (UK-Cambridge) to 3 months (Israel).

3.3 Elimination of unnecessary parallel test:-

Savings vary from staff time of zero (UK-Cambridge) to 6 months (Israel)

3.4 Other savings will arise from more efficient management of reference collections (2 weeks), and space saving on hard disc.

It was thought that there would be additional advantages in the receipt of up-to-date data; being able to retrieve data from one source only, knowing that data are checked, evaluated and edited, being able to send data to one destination only, as well as quick, easy, clean delivery and receipt of data. The user is able to receive data on request for their own use and it was thought also that a central database may release member States from the necessity of providing their own system.

Other advantages would arise from improved credibility by reducing the need to ask breeders questions to which the answers should already be known. "One expert said, the current inability to get rapid access to information means that half finished jobs pile up and somtimes get forgotten, whilst waiting for replies to letters/faxes". Another expert thought that since plants inherently grow differently and show different characteristics in a range of environments, it would be most useful to have a broad view of this.

4. Solutions

The database could be provided in several ways:-

4.1 A central computer system based in Geneva. The system would hold information on all species and all varieties which have registered applications in member states. The disadvantage of such a system is that it would need new hardware and specialist staff to operate it. This was the preferred option from the majority of countries who responded.

4.2 A dispersed computer system with different countries being responsible for different species. This is the option favoured by South Africa.

Each country would then be responsible for maintaining that system for their own species. This might be placed on an existing computer system and although it would require additional resources, it would use existing expertise on site.

4.3 A central computer system located in one member State. UK (Cambridge) mentioned this as a second preference.

4.4 An interim solution is for countries to send their data (administrative and technical) to other member states on floppy disk. It should then be possible for recipient states to read this directly on to their database systems. This happens already between France and Spain and is being considered by Israel.

5. Costs

Member states have some experience in the costs of developing and maintaining similar databases to the one proposed. It is possible that an existing system could be adapted for use by UPOV members. The costs are of the following order (these are based on maximum estimates received):-

5.1 Development of appropriate software (this may be an adaption of existing system).

Database software + estimated staff time of 6 months to 1 year.

Japan estimates 890,000 US dollars to establish the appropriate software in Japanese. It will cost much more to establish software available in English also.

5.2 Entry of back data (assuming that, at least, 50% can be sent in electronic format).

2 years of staff time estimated.

5.3 Annual maintenance charge for upkeep of database and maintenance of software.

1 person full-time (or estimates of 24,000 US dollars from Japan).

5.4 Costs of computer with appropriate links to international networks.
50,000 US dollars
+10,000 US dollars annually.

6. Recommendation

The Technical Committee are asked to consider recommending that a centralised computer database for access and supply of data by the competent authorities of the UPOV member states is provided.

[Annex III follows]

ANNEX III

Summary of Certain Aspects of the International Computing Centre (ICC) of the United Nations

INTERNATIONAL COMPUTING CENTRE

CENTRE INTERNATIONAL DE CALCUL

Introductory Information On

The International Computing Centre

The UN Secretary-General, in December 1968, requested the Board of External Auditors of the United Nations to undertake a study of electronic data processing in the United Nations offices in New York, Geneva and Vienna. This study, which was carried out by the Auditor-General of Canada, was later extended to cover all of the Specialized Agencies.The primary recommendation was the creation of a Centre which would provide an international information support service on an inter-organisational basis.

This recommendation was adopted by the Economic and Social Council at its 1721st meeting. The UN General Assembly, at its XXVth session, passed Resolution 2741(XXV) which invited all agencies of the United Nations system to join with the United Nations, the World Health Organisation and the United Nations Development Programme as partners in the International Computing Centre (ICC) which was to be established in Geneva on 1st March 1971.

The Director of the ICC was appointed by the Secretary-General of the United Nations in consultation with the Administrative Committee on Co-ordination (ACC) in May 1971; the other staff of the Centre were appointed by the Director.

The General Assembly, when it established the ICC gave it the following objectives:

1. To stimulate the use of modern technology in solving problems.
2. To develop more effective co-ordination in data processing activities.
3. To enable its' participants to perform their computing work more quickly and efficiently.
4. To open up new possibilities for integrated data storage and retrieval.
5. To provide facilities for the training of Fellows from Developing Countries.

The Centre has evolved into a world wide computing and communication network providing services not only to International Organisations associated with the United Nations system, (who alone may become full ICC participants), but also to the National Governments, to Non-governmental or Inter-governmental Organisations, to Research Centres and Universities.

Those Organisations which are full participants in the Centre became members on the following dates:

UN	March	1971	WIPO	October	1975
WHO	March	1971	UNESCO	October	1976
UNDP	March	1971	ITC	April	1978
UNICEF	September	1972	UNHCR	January	1981
ILO	November	1972	WFP	January	1983
WMO	January	1973	WORLD BANK	January	1986
UNRISD	January	1973	IFAD	June	1987
UNEP	January	1974	UNIDO	January	1988
GATT	June	1974	IMF	January	1988

On becoming a full participant in the ICC an organisation:

a. contributes towards the net operating costs of the Centre in accordance with its' usage of ICC facilities;

b. may request information support services within the framework of its work programme it has agreed with the Centre;

c. is entitled to one representative on the Management Committee;

d. is entitled to receive a share of any savings in the cost of operating the Centre proportionate to its' usage costed at the rates agreed by the Management Committee;

e. may terminate its' participation in the Centre by giving two years notice at any Spring Session of the Management Committee.

The design philosophy is to provide access, from any part of the world served by the ICC telecommunications network, to a variety of interactive services through either general purpose work-stations, dedicated terminals or personal computers and also to provide a gateway for inter-connecting to other networks within and outside the UN systems.

The services which are currently offered include:

CALL/MAIL	ICC'S Electronic Mail service which sends, receives, files and retrieves correspondence, text or messages which can be sent, with full security protection, to any other user authorised to access the ICC or associated networks throughout the world.
CALL/TEXT	Used for the preparation of correspondence, text and any other documents which can be entered, edited, revised, justified, stored, searched, formatted, and printed using over 26 type fonts in accented upper and lower case for most European languages.
CALL/NWY	This is an enhanced version of the "CALL/TEXT" system all of whose facilities are available together with additional powerful document formatting and recovery facilities.
CALL/TELEX	Access to the International Telex Network and the UN Message Switching System. Both telexes and cables can be entered, revised, stored in Electronic Mail files and automatically sent, if necessary to multiple recipients. Incoming telexes can also be received by the computer, stored, displayed at a work-station, printed, or re-routed automatically to another destination on the World's Telex Network.
CALL/DATANET	Access to the several thousand of databases available commercially throughout the world. This service includes access to the European Community's DIANE databases, and also to those available commercially.
CALL/HELP	On-line access to the Centre's User's Reference Manual including the instruction brochures relating to those CALL/ICC services which are available in machine-readable formats.
CALL/GUIDE	On-line access to guidelines, checklists and such in-house standard procedures developed by the various special interest user groups in different agencies.
CALL/NEWS	On-line access to the ICC's community bulletin board for items such as node schedules, training courses, new features, focal point messages or job vacancies.
CALL/ENTRY	The entry of data directly into the computer using a formatted screen with editing, verification, checking and duplification options.
CALL/TSO	Interactive access to the computer to write, edit or to submit programs, using high level languages or one of the ICC's extensive library of application software. Closely associated with "Time Sharing Option" are the CALL services to the ADABAS, and DATACOM data base systems.
CALL/DTN	Permits telexes sent from experts out in the field to initiate, automatically, computer programs (e.g. for information retrieval) with the option also to initiate a telex or some other type of response.
CALL/BURONET	Access to Commercial Service Bureaux throughout the world to execute special, proprietary application programs (eg. modelling, PERT, APL).
CALL/TELECON	Access to proprietary systems for conducting tele-conferences with other persons connected either to the ICC network or an associated public network.

At its XXXIst session, in 1976, following the move of the ICC to "Usage Related Funding", the UN General Assembly adopted the resolution on the Report of the Fifth Committee endorsing the ACABQ recommendation that "future budgets of ICC should be subject to review and approval by the General Assembly." The Centre prepares its budget annually and this is reviewed by the Management Committee at its autumn session, then at the inter-organisational level by a sub-group of the CCAQ (FIN) made up of the financial officials of the participant organisations. The budget, together with any comments which the CCAQ (FIN) make, are next presented to the ACABQ by the Director, and later, along with the ACABQ recommendations to the Fifth Committee of the General Assembly.

The External Auditors of the ICC, (currently the National Audit Office of the UK Government) audit the Centre's accounts each year and produce a "Statement of Income and Expenditure" which is then presented to the Management Committee and the ACABQ.

To provide working capital for the Centre, participants pay one quarter of their estimated annual expenditure in advance through the ICC's Host Organisation (which at present is the World Health Organisation), by 1st January, 1st April and 1st July. At the end of the third quarter the amount paid to date is deducted from their costed usage to date. Participants are then invoiced for the difference, or a credit balance is carried forward against further usage. Invoices for October and November are issued at the end of these months.

As at 31 December, the income from non-participant organisations (such as Governments, IGO's and Universities) is deducted from the overall expenditure Centre, and only the net amount is prorated amongst the participant organisations on the basis of their overall usage.The difference between a participant's share of the net expenditure and the amount they have paid to the end of November is either invoiced or credited to the participant.

Over the years the ICC has grown through a series of innovations, or incremental changes in the services which it offers. This process starts from a technological concept which is then continuously refined, firstly, by eliminating any shortcomings its implementation brings to light, and, secondly, by expanding each service as new facilities are added and integrated with those already existing.

The initial concept in which the Centre's longer term strategies was encapsuled was the "Depersonalising of Know-how" which ensured that an equivalent level of service could be guaranteed to users anywhere in the world. This has allowed the ICC, from its earliest days, to reduce the effect of any technical constraint on the geographical role it had been given by the General Assembly. This was followed by concepts such as the integrated "CALL/ICC" facility in 1975, and the idea of the "Multi-purpose, Multi-lingual Video Terminals" through which the growing variety of interactive services could be accessed. Associated with this, in 1979, was the "ICC Network Architecture" (INA) which established the standard for distributing processing to the Centre's users and the creation of a structured ICC Network. In turn this led in 1980 to the idea of forming a "Network of Networks" all accessible from every workstation with the world wide routing of electronic mail and data being transparent to our users.

This has enabled the Centre to provide an automatic electronic message and mail switch linking the ICC user community, the public and the third party telex networks, commercial electronic mail services and the world academic research network. There are now approximately 15,000 documents created within the ICC mail facility daily and over two million are stored on-line for quick searching and reference.

Since 1985 the keynote of our strategy has been "Open Access" which aims to make the facilities of the Centre available interactively to Agencies, to the National Governments and to Inter-Governmentantal organisations regardless of their location. The preliminary stategy for the early 1990s is also emerging. This is based upon the full integration of voice with conventional text and image processing. The aim would be for speech to be captured, at any time, and at any place where either a telephone or a microphone is available. This could have a profound effect upon conferences, and related office activities such as translation and publishing, and, in the longer term, even upon activities such as interpretation and verbatim speech retrieval.

INTRODUCTION

This Directory sets out the services available in the CALL/ICC facility under the headings listed and defined below, by service.

NAME OF SERVICE

CALL/ICC is the Interactive Service through which the United Nations Family of Organisations, authorised inter-govermental and non-governmental organisations, national governments and universities are given fast, easy access to the computers in the ICC's network, associated data bases and extensive application program libraries as well as to the International Telex and Cable Networks, public and private communication networks such as the European Academic Research Network (EARN), the UN Message Switching System and commercial data bases and service bureaux throughout the world. TEMPUS-LINK provides a transparent link between a PC and the mainframe. Any PC application can directly access data on the mainframe.

Documentation available

This section lists the documentation which is relevant to the particular CALL/ICC service. There are specific sections in the ICC User's Reference Manual dealing with these services. The whole manual or sections of it can be printed, or it can be accessed online using the CALL/HELP facility.

Availability

The CALL/ICC Services are available to all ICC users. To have access to any of the services, each user must initially register with ICC through the participant organisation to which they belong. Certain services require other prerequisites. For instance, CALL/TSO requires a user identification, CALL/DATANET needs additional passwords, and access authorization is required to certain CALL/ICC services. To request these authorizations, special forms (stored in the ICC User's Manual) are available. They can be sent by authorized electronic mail. Certain services require datasets to be created or accessed. The method of creating these and the naming conventions adopted by the ICC are to be found in the appropriate section of the User's Reference Manual. System datasets (starting with SYS) are already established, user datasets (starting with the organisation code) have to be established by the user. CALL/ICC services are available 24 hours 7 days a week, unless stated otherwise under a particular service.

Scheduled maintenance which may take place between 0h00 and 4h00 on normal working days, and between 0h00 and 8h00 and between 20h00 and 24h00 on Saturdays, Sundays, or official holidays is announced in CALL/NEWS. It is normal practice, however, to try wherever possible to provide worldwide continuous access to the Centre. All hours are expressed in local Geneva time, unless stated otherwise. The services can be accessed from any terminal in the world with access to a network having a gateway to the TELEPAC network.

Training

There are several types of training available:

1. ICC provides a consultancy service (see ICC User's Reference Manual)
2. Computer Aided Instruction (CAI) courses, available through CALL/HELP
3. ICC organizes classroom training courses announced in CALL/NEWS. Their cost is roughly SF 100 per student for a full day's training.
4. Training courses are offered by suppliers of the systems accessed through the CALL/ICC services. Attendance at these courses can be arranged through ICC.
5. A half-day classroom course "Introduction to CALL/ICC Services" is organised by ICC periodically.

Hardware Requirements

1. Terminals

   Video Display Unit (VDU) or PC which must be IBM 3270 or TTY compatible or a Lowspeed ASCII TTY typewriter terminal operating in half duplex mode at 300 bits per second.Part on a local control unit.

2. Modems

   a. Not necessary if local connection is possible to central computer.
   b. BSC-PTT BB19200
   c. High Speed ASCII-PTT BB9600
   d. Low Speed ASCII-PTT FM300 Full Duplex 300 bps asynchronous

3. Telecommunications Control Units

   a. BSC Port or
   b. High Speed ASCII Port or
   c. Low Speed ASCII Port

4. Communication line

   a. Local connection of IBM 3270 compatible terminals through co-axial cable.
   b. PTT four-wire twisted pair non-loaded BSC - 2
   c. – Low Speed ASCII circuit (2-wire) twisted pair non-loaded direct metallic lines
   d. Access through a public data network and the Swiss PTT TELEPAC network.

Maintenance

The overall maintenance of CALL/ICC is the responsibility of the Centre. If a particular service gives access to a facility provided by a commercial supplier, that system is maintained by the supplier.

Cost

1. Hardware costs depend on type of terminal, mode of operation (local or remote, single terminal or a cluster). For costs of individual hardware components see the rates quoted in the ICC User's Reference Manual.
2. Composite monthly subscription fee for all CALL/ICC Services is 10 SF per terminal.

3. Charges in addition to the composite fee vary according to the service used:

CALL/MAIL	same as CALL/TEXT plus Transmission charges if mail routed on external circuits
CALL/TEXT	Disk storage plus processing charges for processing services exceeding 30 seconds CPU time
CALL/NWY	Same as CALL/TEXT
CALL/TELEX	Disk storage plus PTT telex and cable charges
CALL/DATANET	Network and Host charges
CALL/HELP	None
CALL/GUIDE	None
CALL/NEWS	None
CALL/ENTRY	Disk storage charges
CALL/TSO	Disk storage and TSO processing charges
CALL/DTN	Disk storage plus application Program processing charges
CALL/BURONET	Network and Host charges
CALL/TELECON	Network and Host charges
CALL/ISIS	Disk storage plus ILO/UNESCO charges
CALL/CCAQ	TSO processing charges
CALL/DATACOM	Disk storage and processing charges plus Proprietary software usage charge fixed by organisation financing the package.
CALL/ADABAS	Disk storage and processing charges plus Proprietary software usage charge fixed by organisation financing the package.
CALL/CCE	EEC charges
CALL/ILO	ILO charges
CALL/UNOG	UNOG charges
CALL/NYCS	NYCS charges
CALL/EARN	EARN charges

Storage cost for data on disk: approximately 0.004 SF per month for 1000 characters (for actual rates see ICC User's Reference Manual)

Participants using this Facility

The participating organizations using a particular CALL/ICC service are listed in this section.

Interfaces with other Systems

It is possible to switch from one CALL/ICC service to another without logging off. This allows users to maintain several logical sessions at the same time. If additional interfaces

exist, these are mentioned in the segment for the particular CALL/ICC service concerned.

Useful Features

This section lists the main features of each CALL/ICC service.

Present and potential Uses

CALL/ICC serves as a control mode to give access to all CALL/ICC services. Currently available services are listed in the index. This section gives for each CALL/ICC service the main applications in present or possible future use by participants.

PARTICIPANTS WORK PROGRAMME

The ICC services are driven by the participants' work programmes. The following summaries, submitted by the participants, describe the activities for the year 1991:

UNITED NATIONS

The offices of the United Nations in Geneva utilize the facilities of the ICC to carry out approved programmes of work. The offices include the United Nations Office at Geneva itself, and other units such as the ECE, UNCTAD, the Centre for Human Rights, UNDRO and the outposted unit of the Statistical Office. The applications are highly diverse and varied, including administrative systems for UNOG, such as accounting and payroll, econometric modelling and data bank retrievals, statistical data processing, and assistance in areas such as Human Rights and Disaster Relief.

UNITED NATIONS CHILDREN'S FUND

UNICEF will continue to utilise the ICC facilities for the processing of financial and management information data for its office in Europe. Reports and data will continue to be sent routinely to and from the UNICEF headquarters through the teleprocessing link between ICC and New York. The Centre covers the requirements of all Divisions within this Office.

UNITED NATIONS DEVELOPMENT PROGRAMME

UNDP is in the process of installing microcomputers and Local Area Networks for providing its Geneva-based organizations with micro-computer based systems to replace mainframe applications. UNDP will be looking to ICC primarily for support in the area of field office communications and electronic data transfer between UNDP Headquarters, field offices and the specialised agencies. UNDP therefore will continue to support ICC and its mandate but expects that the type of services and support provided will be changed over time.

UNITED NATIONS ENVIRONMENT PROGRAMME

The data processing for UNEP is divided between Geneva and Nairobi. The Geneva portion, performed at ICC, is financed through approved Environment Fund projects. The Nairobi component, financed through a combination of regular budget and PPSC funds, is primarily administrative and financial management processing.

bases in the New York Computing Service including access to the UNJPF information bank for pension calculations and to use packet switching networks for access to other data bases located on host computers to UNDP and in various member countries. With the increasing possibilities of telecommunications via ICC it is hoped to operate links with the ILO Regional Office in Bangkok, the Branch Office in Washington and the ILO New York Office. The ILO's contribution to the ICC is funded from the Regular Budget and from resources allocated for the purpose to the Bureau of Information Systems.

FOOD AND AGRICULTURAL ORGANISATION

The Organization is planning to use the ICC as a main node of the telecommunications network which provides inter-connections between the Organization's mainframes and external networks and other UN and non-UN Organization's hosts. The ICC installation will continue to be accessed to retrieve administrative data as well as to facilitate exchange of information and messages throughout its users of the available Call-Mail services. In view of the computing environment, capacity and facilities that are available at the ICC and which are compatible with the Organization's mainframes.

UNITED NATIONS EDUCATIONAL SCIENTIFIC AND CULTURAL ORGANISATION

UNESCO/IBE will continue to build up, on a continuous basis, data bases on education in close co-operation with ICC, mainly for research and information retrieval, but also for administration purposes. This data base is available to other ICC members.

WORLD HEALTH ORGANISATION

WHO will continue to use the services of the ICC in the operation and on-going development of the Organisation's Information System Support for the planning, programming, implementation and evaluation of WHO's programmes. These include the support to the management of the Organisation's administrative and financial functions, the management of the programmes of technical cooperation with and between Member States, computer-assisted communications and the international exchange of Health-related information.

INTERNATIONAL MONETARY FUND

IMF is a full participant of the International Computing Centre. Active users in the IMF access primarily the TNT Data, ETS and COMTRADE databases. As the availability of various other databases become known there is an expectation of increased usage. The IMF also cooperates closely with the WORLD BANK, and is currently investigating the possibility of sharing and exchanging data and documents over common electronic communication networks with national and international institutions in the future.

INTERNATIONAL ATOMIC ENERGY AGENCY

A limited number of users in the Technical Co-operation area use electronic mail services of ICC to contact UNDP offices, using the permanent data link from Vienna via New York to Geneva. We hope to improve the transfer of documents between the IAEA in-house computing services and ICC in the future.

WORLD BANK

Participation in the ICC is a major element in the World Bank's strategy for international communication and information exchange. Since joining ICC, the Bank has established a permanent data communications link between Washington and Geneva. Close cooperation between the staff of the ICC and the Bank's computing center has greatly facilitated the smooth operation of the link. The Bank's Trade Analysis and Reporting System (TARS) was released January 1989. Since then over 70 accounts have been opened for Bank and IMF users of the UNSO's COMTRADE database. The Bank has also begun to make use of other databases maintained at the ICC.

INTERNATIONAL TRADE CENTRE

In 1990, ITC uses ICC's facilities in direct support of its technical co-operation programme in trade promotion. The projects financed from extra-budgetary resources encompass inter alia: the analysis of international trade statistics (COMTRADE) disseminated to developing countries in the form of microfiche series or tailor-made tabulations, the development of data bases (INQUIRE) including mailing lists, expert roster and profiles of potential traders, and the use of on-line data bases (Call/Datanet). ITC also finances a number of EDP expenditures from its regular budget, including the cost of equipment and subscriptions to software and telecommunication networks, and the processing costs of information systems used for mailing, personnel management, trade documentation as well as various text processing and communication operations (Call/Mail, Call/Telex). Part of the data processing elements of the regular budget of ITC, as well as of the trust funds and UNDP-financed projects of its technical co-operation programme, is therefore used to finance the respective inputs requested from and provided through ICC.

Hardware configuration of the International Computing Centre

05Apr90

ICC HARDWARE CONFIGURATION

Processing Units	1) Amdahl 580/5890 Model 400E 3-way Multi-Processor 4 byte multiplexer channels 60 block multiplexer channels Average instruction rate: 3x20 mips
	2) IBM 370/3090 Model 200E 2 dyadic processors 2 byte multiplexer channels 30 block multiplexer channels Average Instruction Rate: 2X15 mips
Main Storage Units	1) 5890 — 128 Megabytes 2) 3090 — 64 Megabytes
Direct Access Facility	— 135 gigabytes:
	4 STC Model 8890 disk controllers 4 STC Model 8380-R disk strings equiv. to 32 IBM 3380-D volumes and 32 IBM 3380-E volumes total capacity 60 gigabytes 14,846,222,400 bytes/string 609,202,200 bytes -D volume 1,246,575,600 bytes -E volume 885 cylinders/logical -D volume 1770 cylinders/logical -E volume 15 tracks/cylinder 46952 bytes/track Data rate: 3.0 Megabytes/second Average seek time: 16 milliseconds Average latency: 8.33 milliseconds
	4 NAS Model 7880-3C disk controllers 4 NAS Model 7380-AK8 disk units 2 NAS Model 7380-BK4 disk units equiv. to 40 IBM 3380-K volumes total capacity: 75 gigabytes 1,869,863,400 Volume 2655 cylinders/logical disk volume 15 tracks/ logical cylinder 46952 bytes/track

ICC HARDWARE CONFIGURATION

Data rate: 4.5 Megabytes/second
Average seek time: 12.5 milliseconds
Average latency: 8.33 milliseconds

2 NAS Model 7970 disk controllers
1 NAS Model 7990 electronic disk unit
equiv. to 8 IBM 3380 volumes
total capacity: 256 megabytes
32 megabytes/volume
15 tracks/ logical cylinder
46952 bytes/track

Data rate: 4.5 Megabytes/second
Average seek time: 0.3 milliseconds
Average latency: 0.0 milliseconds

Magnetic Tape Facility

1 IBM 3480 Tape cartridge controller
8 IBM 3480 Tape cartridge drives
18-track
38000 bytes/inch
Data transfer rate:
3,000,000 bytes/second

2 STC 3804 tape controllers
4 STC 3670 9-track tape drives
(1600/6250 b.p.i.)
1 STC 3450 9-track tape drive
(800/1600 b.p.i.)
1 STC 3450 7-track tape drive
(200/556/800 b.p.i.)
Data transfer rate per controller:
1,250,000 bytes/second
Tape speed: 200 inches/second

Teleprocessing Facilities

Terminal Control Units

3 Memorex 1270
1 IBM 3705
1 IBM 3725
1 Amdahl 4705
1 Amdahl '745

[Annex IV follows]

MM/A/XXII/1
ORIGINAL : English
DATE : June 29, 1990

WIPO

WORLD INTELLECTUAL PROPERTY ORGANIZATION
GENEVA

SPECIAL UNION FOR THE INTERNATIONAL REGISTRATION OF MARKS (MADRID UNION)

ASSEMBLY

Twenty-Second Session (14th Extraordinary) Geneva, September 24 to October 2, 1990

THE INTERNATIONAL MARKS REGISTER OF WIPO
ON CD-ROM
(Project ROMARIN)

Memorandum by the International Bureau

INTRODUCTION

1. By the end of 1991, the whole International Trademark Register administered by the International Bureau of WIPO will have been converted into an electronic register. At that time, this electronic register--hereinafter referred to as the SEMIRA (System of Electronic Marks Interrogation Registration and Administration) data base--will contain the complete records of some 300,000 international trademark registrations. Presently, it contains some two-thirds of the said number. In other words, the data base of SEMIRA will increase by some 100,000 registrations during the next 18 months.

2. It is recalled that the SEMIRA data base is loaded on the computers of the International Computing Center (ICC) in Geneva, the basic hardware being IBM 3090 and Amdahl 5890 series computers with 3270-type terminals provided by MDS Suisse SA. The SEMIRA data base, which includes the whole history of each international registration, contains at present 3.5 million physical records totalling one Gigabyte of uncompressed digitized information. Entering, updating, consulting and processing of the data in the SEMIRA data base is done by way of a software package specially developped for WIPO, which is written in the Natural-2 programming language, using ADABAS as the underlying data base management system (DBMS).

3. It is further recalled that, following the approval by the Madrid Union Assembly in 1988, the International Bureau is presently installing an archival system on optical discs for the Madrid files, which will be tested within the next few months. It is hereinafter referred to as "the MINOS system" (MINOS standing for: "Marques internationales numérisées et optiquemment stockées").

It is expected that the archiving in the MINOS system will start from 1991 onwards on a operational and continuing basis, but the system will be completed only by the end of 1995.

DIRECT ACCESS TO DATA IN THE INTERNATIONAL REGISTER

4. Since the inception of automation in the area of international trademark registration, the Member States of the Madrid Union have shown great interest in the progress made by the International Bureau, and they are showing great interest that the said automation should also directly benefit their national registries and their public. In particular--since SEMIRA is an interactive system--interest has been expressed in the possibility of direct access to the SEMIRA data base by trademark offices.

5. Direct access to SEMIRA, once the data base is completed, could indeed result in important savings for those trademark offices of the Member States of the Madrid Union which keep records of (or even re-register) international marks valid in their territory, since such access would obviate the need to keep in their trademark offices track of international registrations concerning them.

6. So far the offices of Austria, France, Hungary, Italy, Switzerland, Yugoslavia and the Benelux Office have expressed interest in direct access to the information in the SEMIRA data base.

7. Direct access to information in a data base can be organized either by on-line techniques or by Compact Disc Read-Only-Memory (hereinafter referred to as "CD-ROM") techniques, the latter having become feasible just recently. Both these possibilities are discussed in the following paragraphs.

On-Line Access

8. Preliminary estimates by the International Bureau show that the price to be paid to the ICC for the use of the SEMIRA data base would be around 30,000 francs* (assuming 3 hours of use per working day) per year, for each national (or regional) office that would wish to have on-line access to that data base. This amount does not include the cost of the use of the telephone lines. (On-line access to the MINOS system is not envisaged for technical reasons.)

9. Reliable telecommunications, either by telephone or data transmission networks, play a very important role in securing access to remote data bases. These telecommunication links are expensive and delicate to operate, i.e., apart from hardware investments such as terminals, printers, modems etc. (which cause non-recurrent costs), continuous expenses are caused by keeping them operational, and even in some of the highly industrialized countries these telecommunications links are still not always reliable.

10. Experience has shown that in the territory of several Member States of the Madrid Union, access to remote data bases using telecommunications is virtually impossible, in view of the inadequacy of their present telecommunication systems.

* Throughout this document, "francs" means Swiss francs.

CD-ROMs

11. To give an equal chance to all Member States of the Madrid Union irrespective of the state of their telecommunication systems, and to offer practically the same advantages at a far lower cost, the International Bureau recommends that a system of "distributed data" both from SEMIRA and from MINOS using the most advanced optical disc technology should be adopted, in other words, the International Bureau would distribute the same data as contained in the SEMIRA and MINOS data bases using CD-ROMs, through a project hereinafter referred to as ROMARIN (Read-Only-memory of Madrid ARchives INformation).

12. ROMARIN would provide for two CD-ROMs. The first disc would contain the text elements, and the second disc would contain the figurative elements, of each international registration, and each disc would also contain the necessary indexes to permit its searching.

Disc N° 1 (to be available as a complete file from January 1, 1992, onwards) would contain

(a) display records in coded form: one for each international registration in a format that is basically the same as in the notifications;

(b) several search indexes permitting the retrieval of the said records by

	INID Codes
- the date of the international registration	(15)
- the reproduction of the mark (if the mark contains words or numbers)	(54)
- the serial number of the international registration	(11)
- the name of the owner of the international registration	(73)
- the class(es) of goods/services covered by the international registration according to the Nice Classification	(51)
- the class(es) of the figurative elements according to the Vienna Classification	(53)
- the registration country, number and date of the basic registration in the country of origin	(86)
- the names of the countries to which the international registration extends	(81)
- the date of recordal in the international register according to the provisions of Rule 17(1) of the Regulations under the Madrid Agreement	(85)

Furthermore, the said disc would contain, as "support" or "help" files, the Nice and the Vienna Classifications, as well as the search software.

Disc N° 2 (to be available as an incomplete file as from 1992 (see paragraph 3, above), and as a complete file by the end of 1995) would contain

(a) display "facsimile" records: one for each international registration of a mark containing figurative elements;

(b) three search indexes permitting the retrieval of the figurative elements by

	INID Codes
- the reproduction of the mark (if the mark contains words or numbers)	(54)
- the serial number of the international registration	(11)
- the class(es) of the figurative elements according to the Vienna Classification	(53)

Furthermore, the said disc would contain, as "support" or "help" files, the Vienna Classification, as well as the search software.

13. A logical link would exist between the two CD-ROMs permitting the search results of a search in Disc N° 1 also to be stored (locally in a personal computer, for example) and used as input for search and display (of the figurative elements) from Disc N° 2. For example, a search made in Disc N° 1 should normally result in one or several international registration numbers. This number or list of numbers can be used as a search index for Disc N° 2 in order to display the figurative elements contained in the corresponding international registrations.

14. Once started, a new edition (i.e., a new disc replacing the previous one) of ROMARIN would be published every month on the same day on which the monthly issue of the periodical "Les Marques internationales" is published. The display and search index records in any ROMARIN monthly issue would always (and only) show the latest complete status of each international registration. An indication (consisting, for example, of an asterisk) in the sub-records could be introduced to draw the attention of the user that vis-à-vis the earlier ROMARIN edition a change has occurred, e.g., a change in the owner (the data concerning the previous owner would, however, not be available on the most recent ROMARIN disc).

15. Data on the ROMARIN CD-ROMs would come from three sources available at WIPO:

(a) the SEMIRA data base;

(b) the electronic files of the Nice and Vienna Classifications;

(c) the MINOS system, as far as the figurative elements of the marks are concerned.

16. The trademark office of each Member State of the Madrid Union (or, in the case of the Benelux countries, the Benelux Office) would receive from the International Bureau free of charge each month the two updated ROMARIN discs for its internal use and/or for use in its public search room.

17. Furthermore, each of the said offices would receive free of charge from the International Bureau a set of the equipment needed--i.e. a 386 processor, a VDU screen, a CD-ROM drive and a printer--to use the ROMARIN discs. This

equipment (hereinafter referred to as a "work station") would allow searching the indexes on the CD-ROMs, visualizing the display records on the CD-ROMs and printing on paper whatever is needed in paper form from what has been visualized. Additional work stations would be sold to Member States of the Madrid Union at their actual cost (estimated to be around 14,000 francs) payable, if they so desire, from their Madrid Union credits.

18. Any other interested party would be authorized to buy the ROMARIN discs at a price to be fixed by the Assembly of the Madrid Union. At present, it is estimated that the subscription price should be about 2,000 francs for the first year of the ROMARIN service, plus about 500 francs per year for each of the two discs in the subsequent years.

FINANCIAL CONSIDERATIONS

On-Line Access

19. As already indicated, on-line access to the SEMIRA data base of the International Trademark Register would cost, for each office, around 30,000 francs per year. This amount would provide access for three hours per day for 250 days per year at a price of 40 francs per hour, and includes ICC support and training. This amount would, however, include neither the cost of telecommunication nor the cost of the equipment needed by any prospective on-line user.

CD-ROM Solution

20. Paragraph 21, below, indicates the cost of the initial investment of the CD-ROM system, and paragraph 22, below, indicates the yearly cost of maintenance of that system. Both would be borne by the International Bureau.

Initial (non-recurring) investment

21. The once-and-for-all investment (i.e., the non-recurring cost) would consist of the following:

Disc N° 1 (SEMIRA [text] data)		Francs
(a)	software development for data extraction (including Central Processing Unit (CPU) time payable to the ICC) from SEMIRA, formatting and pre-mastering	140,000
(b)	acquiring and adapting the ROMARIN search software	20,000
(c)	purchase of a "CD Simulator" (hardware and software) for preparation of the pre-mastering tape	80,000
(d)	preparation of a prototype disc	40,000

(e)	purchase of 30 CD-ROM work stations (although presently there are only 27 trademark offices of Madrid Union Member States):	
	30 x 14,000 francs =	420,000
	Total initial investment for Disc N° 1	700,000

Disc N° 2 (MINOS [figurative elements] data)		Francs
(a)	software development for "image extraction" from the MINOS system, formatting and pre-mastering	140,000
(b)	preparation of a prototype disc	60,000
	Total initial investment for Disc N° 2	200,000

Thus the total of the initial investment would be (for Disc N°1, 700,000; for Disc N° 2, 200,000) 900,000 francs.

Annual Costs

22. The annual costs to the International Bureau for the production and mailing of the discs for the trademark offices of the Madrid Union would consist of the following:

		Francs
(a)	CPU time (payable to the ICC)	30,000
(b)	CD-ROMs:	
	- 24 (2 x 12) master discs: 24 x 3,000 francs =	72,000
	- producing and mailing 30 copies: 24 x 30 x 20 francs = (rounded)	14,000
(c)	Staff expenses for one-half post devoted to producing and distributing the CD-ROMs	54,000
	Total	170,000

(For each paid subscription, the annual costs to the International Bureau for producing and mailing the two discs would be about (24 x 20 =) 480 francs.)

Benefits and Financing of ROMARIN

23. The ROMARIN initial investment of about 900,000 francs could be financed from the reserve fund of the Madrid Union, to be repaid from the surpluses of income over expenditure that are expected to result from sales of the ROMARIN CD-ROMs to users other than the trademark offices of the Madrid Union (see paragraph 30, below).

24. As far as the trademark offices of the Madrid Union are concerned, the ROMARIN project would produce very significant benefits for each of them. The ROMARIN CD-ROMs would give the offices direct access to the data contained in the International Trademark Register as concerns the current status of any international registration, that is, containing all the changes that may have taken place in any given international registration since the latter was effected. As noted in paragraph 5, above, that direct access would obviate the need for offices to keep track of international registrations concerning them. That direct access would be provided at no cost to the offices since the necessary equipment and monthly CD-ROMs would be provided for them free of charge by the International Bureau. (The alternative form of direct access, involving a telecommunication link giving on-line access to the SEMIRA data stored in the computer in Geneva, would involve high annual costs--estimated at around 30,000 francs per year plus telecommunications charges--for each office, along with the technical difficulties caused by inadequate telecommunications links for certain Member States; moreover, such on-line links would not give access to the figurative elements contained in the MINOS system.)

25. As far as the outside users (in particular, trademark attorneys and agents, and the trademark departments of enterprises) are concerned, the ROMARIN project would also produce very significant benefits. The ROMARIN CD-ROMs would give complete and up-to-date information on every international trademark registration that is in force. Since that information could be searched using the powerful search tools offered by the CD-ROM system, retrieval of information would be considerably facilitated as compared to retrieving information from the monthly periodical "Les Marques internationales."

26. At present, there are 1,223 paid subscriptions to that monthly periodical, with the price of the annual subscription (surface mail) being 410 francs. Because the ROMARIN CD-ROMs would be so much more useful to outside users, it is expected that a number of the present subscribers to "Les Marques internationales" will cease to subscribe and, instead, will subscribe to ROMARIN. Furthermore, there will probably be a number of new subscribers to ROMARIN, that is, subscribers who do not now subscribe to "Les Marques internationales."

27. As noted in paragraph 18, above, it is assumed that the subscription price of the ROMARIN service would involve an initial charge of about 2,000 francs for the first year (which amount would help cover the initial investment costs for the International Bureau, and would be in recognition of the fact that the provision of the first ROMARIN discs gives the subscriber access to a complete data base of all existing international trademark registrations) whereas, for subsequent years, the subscription price would be about 500 francs per year for each of the two discs.

28. It is assumed that the growth in the number of subscriptions from outside users would be about as follows: 200 subscribers in the first year of operation (1992), plus an additional 100 subscribers for each subsequent year until the level of about 1,000 subscribers is reached. (It is also assumed that about half of those subscribers to ROMARIN would be former subscribers to "Les Marques internationales" who would no longer subscribe to that periodical.)

29. The assumptions contained in the two previous paragraphs would result in the following approximate subscription income for ROMARIN for the years 1992 and thereafter.

Year	Number of Subscriptions	Income (francs)
1992	200	400,000
1993	300	400,000
1994	400	500,000
1995	500	600,000
1996	600	700,000
1997	700	800,000
etc.		

30. A comparison of the expected costs--including both the initial investment of about 900,000 francs, given in paragraph 21, above, and the annual costs, given in paragraph 22, above--with the expected annual subscription income, given in the preceding paragraph, indicates that the initial investment should be able to be fully repaid to the reserve fund of the Madrid Union after about six years. Thereafter, there would be a significant contribution to the biennial surpluses of the Madrid Union.

31. As far as the International Bureau is concerned, while the ROMARIN project would not provide operational benefits (since the International Bureau will already have full on-line access, through the SEMIRA and MINOS systems, to all the data contained in the ROMARIN CD-ROMs, as well as to the further information contained in those systems), considerable financial benefits would accrue once the initial investment is amortized.

CONCLUSION

32. The preceding paragraphs indicate that the ROMARIN project would offer significant benefits to the trademark offices of the Madrid Union (at no cost to them), would offer important benefits to outside users (for relatively low subscription prices), and would later offer considerable profits to the International Bureau. Such profits would be used to delay increases in fees or would be distributed to the Member States of the Madrid Union or could be used for both of those purposes.

IMPLEMENTATION AND PROVISIONAL TIME SCHEDULE

33. It is expected that a prototype Disc N° 1 of ROMARIN will be available for demonstration and testing by the end of 1990.

34. If the Assembly of the Madrid Union approves the ROMARIN project, the International Bureau will proceed with the implementation of the project so as to be ready for production of ROMARIN Disc N° 1 in early 1992, i.e., at the projected date for the completion of the SEMIRA data base.

35. A progress report of the ROMARIN project will be made at the next ordinary session of the Assembly of the Madrid Union, to be held in September 1991. By that time, a prototype of ROMARIN Disc N° 2 could be available for demonstration.

36. The Assembly of the Madrid Union is invited to approve the implementation of the ROMARIN project, with the initial investment to be financed from the reserve fund of the Madrid Union.

[End of annex and of document]