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**INFORMATION TECHNOLOGY PROJECTS
TO BE FINANCED BY SURPLUS RESOURCES**

Document prepared by the Secretariat

Introduction

1. This document contains a proposal concerning Information Technology (IT) projects to be financed by surplus resources. In the draft Program and Budget, the importance of investment in the establishment and reinforcement of WIPO's IT infrastructure is outlined, particularly in the context of Internet-based communications and the dissemination of information. These activities are designed to further improve the efficiency and productivity of WIPO's global services (in particular, the Global Protection Systems and on-line-arbitration services) to Member States and users.

2. Given that WIPO's global services are accessible to any users in the world via the Internet, WIPO's IT infrastructure needs to be state-of-the-art and compatible with industry standards. Due to the open nature of the Internet and the sensitivity of the data that WIPO is processing, particularly under the PCT, WIPO's IT infrastructure also requires robust security to ensure data safety and integrity. Such secure IT facilities allowing for the required authenticity of users, including digital signatures, are of particular importance in the envisaged Internet-based PCT electronic filing (E-filing) activities. The need for such sophisticated functionality, which is supported by well-documented requirements, is only one example of many required to enhance WIPO's IT infrastructure in the Internet age.

3. In addition to building a modern and sophisticated IT structure to support WIPO's global services, the Organization has a need to keep its corresponding internal supporting IT infrastructure up to date and modern. A robust and secure internal IT infrastructure will support the global services activities by providing an overall IT environment in which processes and procedures can be streamlined and optimized. IT systems, such as the Organization's finance system, are an integral part of the internal IT infrastructure upon which the global services are heavily dependent.

PART I: PROPOSAL

4. While making efforts in the draft Program and Budget to achieve a balance between the anticipated amount of available resources and the planned expenditure during the next biennium, it appears that the level of the accumulated surplus resources as of the end of 2001 will be some 186 million Swiss francs. It is proposed to use these surplus resources to finance the following IT projects for either a fixed period or for the duration of the respective projects (as indicated in paragraph 6 below):

- (a) Two ongoing projects, i.e.: WIPONET and IMPACT (Information Management for the Patent Cooperation Treaty) until their full deployment, where the implementation of Internet connectivity to all WIPO Member States via WIPONET will allow them to benefit equitably from WIPO's on-line services, including on-line exchange of, and access to, PCT data which will be processed by IMPACT.
- (b) PCT E-filing, which will allow PCT users to seek global patent protection in the most cost-effective and simplified way and will also greatly reduce the cost for the processing and transfer of application data by applicants, Member States and the International Bureau.
- (c) CLAIMS (Classification Automated Information System), which will enhance the searchability of patent information and, together with the WIPONET, IMPACT and IPDL (Intellectual Property Digital Library), facilitate the dissemination of technological information contained in PCT pamphlets.
- (d) AIMS (Administration Integrated Management System), which will replace an aging finance system developed in the early 1980s and provide the Secretariat with a modern administrative system with advanced functionality to meet the growing demand for up-to-date and accurate financial management information. Importantly, the new system will have the capacity to process an ever-increasing amount of financial data emanating from the global protection systems.

5. This proposal reflects the third strategy described in the Introduction of the draft Program and Budget (WO/PBC/3/2) and a new budget policy on IT activities elaborated in Appendix 1 to the same document. As an integrated package of IT solutions, the proposal will allow users of WIPO's services to take full advantage of the Internet as the systems further enhance WIPO's capacity for the secure exchange of data and access databases held at the International Bureau. The proposal has the following merits:

- (a) The proposal reflects the decision taken at the General Assembly in September 2000 (see attachment to document A/35/6, pages 16 to 23) as it enhances the accountability

and transparency of how surplus resources are used, compared to the previous Special Reserve Funds, which were discontinued following the above-mentioned decision.

- (b) The control of the surplus resources is simple and rigorous, as it has no effect on the regular budget. If the surplus is not foreseen, no further projects will be financed from the surplus resources (see Appendix 2 to document WO/PBC/3/2 for the trends of the surplus). The nature of capital investment is also strictly respected, as once IT projects have been completed, the recurring cost of their operation will be financed from the regular budget.
- (c) The use of the surplus is effectively aligned with WIPO's business objectives and is result-oriented, as any new IT project to be financed from the surplus will be carefully evaluated based on an objective needs analysis, resource requirements and priority by the Standing Committee on Information Technologies (SCIT).
- (d) The proposal reflects the fact that large IT projects require a period longer than one biennium to fully deploy. The proposed process will avoid the need to possibly reappropriate resources between biennia if they are not used due to delays in project implementation, which can be the case if a project is large and complex (in fact, the General Assembly took such a decision last year).
6. The following table provides the estimated cost of each project and expected duration.

Project	Required Resources (in million Swiss francs)	Expected Duration
WIPONET	29.3	Until the end of 2003
IMPACT	22.2	Until the end of 2003
PCT E-filing	18.3	Until the end of 2004
CLAIMS	3.2	2 years
AIMS	9.9	3 years
TOTAL	82.9	-

NOTE:

- (1) For further breakdown, see tables contained in Part II of this document.
- (2) The amount of required resources for the WIPONET includes start-up costs of 24.1 million Swiss francs.
- (3) The amount of required resources for the IMPACT includes start-up costs of 20.0 million Swiss francs.
- (4) The resources required for the full operation of the WIPONET and IMPACT will be charged to the Regular Budget from 2004.
- (5) The duration and life-times of each project indicated above is based on the current plan, and may turn out to be longer due to unforeseeable delays in the development.
- (6) Due to the urgency of the PCT E-filing Project, it is proposed that immediately following the approval of the WIPO General Assembly, the PCT E-filing Project will commence its full implementation.

7. The following Tables A, B and C show the expenses of IT projects in coming years with the indication of the funds that have been spent up to now. Annex II provides the summary of staff costs, including three posts approved under the Special Reserve Fund for PCT automation (document A/32/5), 17 transferred from the regular budget (WO/PBC/3/2) and 14 new posts requested. These posts are established for the duration of each project. It could be envisaged that once projects are completed and become operational, subsequent staff needs be assessed as part of the regular program and budget cycle.

Table A Period of budget approval by project

Project	Prior to 2000	During 2000	During 2001	2000-2001	Total
	A	B	C	D=B+C	E=A+D
WIPO _{NET}	37,842	15,326	29,300	44,626	82,468
IMPACT	40,000		22,200	22,200	62,200
E-filing			18,300	18,300	18,300
CLAIMS			3,200	3,200	3,200
AIMS			9,900	9,900	9,900
Total	77,842	15,326	82,900	98,226	176,068

Table B Expenditure pattern for approved and proposed projects

Project	Prior to 2000	2000-2001	2002-2003	2000-2001 2002-2003	Total
	A	B	C	D=B+C	E=A+D
WIPO _{NET}	9,622	43,546	29,300	72,846	82,468
IMPACT	1,471	21,882	38,847	60,729	62,200
E-filing			18,300	18,300	18,300
CLAIMS			3,200	3,200	3,200
AIMS			9,900	9,900	9,900
Total	11,093	65,428	99,547	164,975	176,068

Table C Source of funding for approved and proposed projects

Project	SRF	PCT Union	Madrid Union	Hague Union	Total
	A	B	C	D	E=A+...+D
WIPO _{NET}	37,842	36,448	7,030	1,148	82,468
IMPACT	40,000	22,200			62,200
E-filing		18,300			18,300
CLAIMS		3,200			3,200
AIMS		8,010	1,610	280	9,900
Total	77,842	88,158	8,640	1,428	176,068

8. To assist in the evaluation of the proposals put forth in this document, Annex I to this document provides a five-year financial overview of all five projects, which includes project development costs as well as start-up costs. It demonstrates clearly that even though the current IT project activity is comparatively high in the short term, the longer-term operational costs (to be charged to the regular budget) are sustainable.

9. *The Program and Budget Committee is invited to comment on the contents of the proposal in Part I and to recommend to the WIPO General Assembly for its approval.*

PART II DESCRIPTION OF IT PROJECTS TO BE FINANCED BY THE SURPLUS RESOURCES

Summary

10. During the last biennium the International Bureau has launched three significant IT projects, namely the WIPONET, IMPACT and IPDL Projects. It is recalled that only the non-staff costs related to the WIPONET and IPDL Projects were financed from the Special Reserve Fund for Additional Premises and Computerization, whilst both staff (three professional posts and back-filling of staff involved in the project) and non-staff costs related to the IMPACT Project were approved to be appropriated from the Special Reserve Fund for Additional Premises and Computerization (see document WO/BC/18/5). Though IMPACT and WIPONET are expected to be fully deployed towards the end of the 2002-2003 biennium, they will continue to be in the phase of start-up during the next biennium. It is thus proposed that the start-up costs of the WIPONET and IMPACT Projects be funded from the surplus resources for the 2002-2003 biennium. On the other hand, the IPDL Project will be completed in its current phase by the end of 2001 and its operational costs will be charged to the Regular Budget for the 2002-2003 biennium. Other IT projects, namely, PCT E-Filing, CLAIMS and AIMS are new.

WIPONET

Objective:

- ◆ To provide the necessary network infrastructure and services for improved information exchange among the global intellectual property community.

11. The WIPONET Project has two basic components. First, the establishment of a central facility called the WIPONET CENTER will provide a wide range of electronic information services. These services will be available to the intellectual property offices (IPOs) that are connected to the Internet. The second component is to provide basic computer hardware, Internet connectivity and training, referred to as the WIPONET KIT, to those IPOs where Internet connectivity does not exist.

12. To ensure that the requirements and expectations of the Member States were satisfied within the allocated resources, the International Bureau developed a phased deployment strategy which provided for equitable benefit to all Member States, as well as training of the

IPO staff. Phase I deployment during 2001 consists of the establishment of the WIPONET CENTER, and equipment deployment, training, and Internet connectivity at approximately 65 IPOs. Phase II deliverables during the 2002-2003 biennium involves deployment to a further 98 IPOs.

13. Activities related to deployment to IPOs are coordinated by one existing professional staff member. The day-to-day operation of the WIPONET CENTER, network connectivity, and the delivery of WIPONET services to the Member States are managed by three existing professional staff members and it is proposed that an additional four posts be established (three professional and one general service) during the 2002-2003 biennium to support and further develop the WIPONET. If WIPO supports and develops WIPONET using staff, as opposed to external contractors, the long-term operational costs will be substantially reduced.

<u>Expected Results</u>	<u>Performance Indicators</u>
1. The provision of a full set of WIPONET CENTRAL SERVICES to all Member State IP Offices that are connected to the Internet.	<ul style="list-style-type: none"> ❑ Number of services that are available to the Member State IP Offices. ❑ Number of IP Offices that are accessing WIPONET CENTRAL SERVICES, indicating the relevance of the services to their business requirements. ❑ Number of registered WIPONET users using the services ❑ Performance parameters specified in Service Level Agreements. ❑ Member State feedback.
2. Completion of Phase II deployment at approximately 90 IPOs, including training, and increased use of Internet by IP Offices.	<ul style="list-style-type: none"> ❑ Number of IPOs that have received the WIPONET KIT. ❑ Number of IPO staff trained. ❑ Number of hours of Internet connectivity provided to IP Offices.

<p>3. Enabling enhanced dissemination of IP information, through increased access to Distance Learning programs, thereby improving collaboration within the intellectual property community.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Number of WIPONET-hosted IPO Web sites. <input type="checkbox"/> Number of hits on WIPONET-hosted Web sites. <input type="checkbox"/> Number of pages of information posted on the WIPONET Web servers. <input type="checkbox"/> Number of WIPONET-based e-mails exchanged. <input type="checkbox"/> Number of participants in WIPONET discussion groups and chat rooms. <input type="checkbox"/> Number of WIPONET-based audio/video conferences. <input type="checkbox"/> Number of WIPONET-based list server communities. <input type="checkbox"/> Number of online courses accessed through Internet connections provided by WIPONET. <input type="checkbox"/> Number of participants in online courses from offices connected by WIPONET.
<p>4. Integration of WIPONET services with Core IT, eliminating redundancy, improving efficiency, and enhancing the effective use of financial resources.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Number of IB staff using WIPONET services. <input type="checkbox"/> Number of IB systems using WIPONET services. <input type="checkbox"/> Number of integrated WIPONET and Core IT services.
<p>5. Effective system and end-user support, including establishment of the WIPONET disaster recovery site.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Number of helpdesk calls dealt with and the average duration of calls handled. <input type="checkbox"/> Statistics on helpdesk calls, and associated trends. <input type="checkbox"/> WIPONET disaster recovery site in full operation.

Activities:

- ◆ Management and operation of WIPONET, including deployment at approximately 90 IP Offices.
- ◆ Organization of training, symposia, workshops to keep IPO and IB staff up-to-date with WIPONET services.
- ◆ Monitoring global network security trends and issues, and taking appropriate measures against threats, including the development of the WIPONET Public Key Infrastructure.
- ◆ Maintenance and upgrade of the WIPONET infrastructure, enhancing end-to-end network performance and service quality.

- ◆ Integration of WIPONET into the IT Services Division.
- ◆ Enhance WIPONET support in the delivery of WIPO programs to end-users. e.g. Distance Learning, etc.
- ◆ Establishment of the WIPONET disaster recovery site.
- ◆ Interface of WIPONET with other IP-specific regional and private networks e.g. the Trilateral Secure Virtual Private Network (TSVPN) and the EPO's Patent Network (PATnet).
- ◆ Continuous skill development of the IT staff supporting the WIPONET infrastructure and services.

14. In the 2004-2005 biennium, the WIPONET Project is expected to be fully operational, thus all activities would be financed from the Regular Budget. The tables below give a breakdown of the financial resources needed to complete the development of the project (Table I a) as distinct from those funds needed to support the start-up components of the system (Table I b), during the 2002-2003 biennium. Budget estimates for the WIPONET operations for the 2004-2005 biennium are given in Annex I.

Table I a
WIPONET Project Costs (thousands of Swiss francs)

Staff Costs	Official Travel and Fellowships			Contractual Services				Operating Exp.		Equipment & Supplies		Total
	Staff Missions	Part. Govt. Officials	Fellowships	Conferences	Consultants	Publishing	Other	Premises & Maint.	Comm. & Other	Furniture & Equipment	Supplies & Materials	
432	100	150	-	-	419	20	3,733	224	80	-	10	5,168

Table I b
WIPONET Start-up Costs (thousands of Swiss francs)

Staff Costs	Official Travel and Fellowships			Contractual Services				Operating Exp.		Equipment & Supplies		Total
	Staff Missions	Part. Govt. Officials	Fellowships	Conferences	Consultants	Publishing	Other	Premises & Maint.	Comm. & Other	Furniture & Equipment	Supplies & Materials	
2,340	420	-	-	-	720	-	19,674	448	235	95	200	24,132

IMPACT

Objective:

- ◆ To meet the business requirements of the Office of the PCT in the processing of PCT applications, whether in paper or electronic format.

15. The IMPACT Project has made considerable progress during the year 2000 and certain modules will start to become operational during 2001, with the first deliverables being a scanning office and the Communications on Request module. Start-up costs for 2001 will be absorbed from the initial project budget of 40 million Swiss francs as commitments had to be made from approved funds in order for the project to proceed on schedule. However due to the large amounts involved, especially during the next two years as the leasing costs of the equipment are paid, it is not feasible to absorb any further start-up costs into the existing approved budget. It is recalled that start-up costs were not foreseen to be part of the original

allocation of 40 million Swiss francs. The project has already had to absorb the costs of catering for a higher than expected growth in the number and size of PCT applications from a budgeted expected growth of 9 per cent per annum to an actual growth average exceeding 20 per cent per annum over the four years since the project was initially budgeted. In real terms this represents an increase of approximately 45 per cent in the system capacity requirements in terms of only the number of PCT applications filed without consideration for the increase in the physical size of PCT applications due to increase in the number of so-called "JUMBO" applications (applications containing thousands of pages) in areas such as biotechnology. These factors have resulted in the hardware and networking infrastructure capacity being increased substantially over what was planned in 1997 to make the system viable.

16. Given that the full operational phase is yet to come during the next biennium, it is proposed to fund the start-up components of the IMPACT Project including staff costs related to the remaining development work from the surplus resources. It is further recalled that, apart from back-filling staff involved in the project and three professional posts, staff costs were not included in the original allocation of 40 million Swiss francs.

<u>Expected Results</u>	<u>Performance Indicators</u>
1. Communication On Request (COR) (phase 1) operational.	<ul style="list-style-type: none"> <input type="checkbox"/> Number of PCT pamphlets and other PCT related documents transmitted via this service. <input type="checkbox"/> Reduction in the number of PCT paper pamphlets. <input type="checkbox"/> Number of Offices no longer receiving the paper copies of pamphlets, and automated documents.
2. International Bureau System (phase 2) operational.	<ul style="list-style-type: none"> <input type="checkbox"/> Number of users switched from manual procedure to IMPACT IB system. <input type="checkbox"/> Reduction in the amount of paper moving within the Office of the PCT. <input type="checkbox"/> Reduction in the amount of International Computing Center (ICC) usage.
3. RO/IB system (phase 3) operational.	<ul style="list-style-type: none"> <input type="checkbox"/> Number of International Applications transacted through IMPACT RO/IB system in electronic form.

Activities:

- ◆ Monitor progress in accordance with project plan.
- ◆ Monitor risks for the project and act to limit impact of any risks that materialize
- ◆ Address any departures from plan and seek to mitigate their impact on the achievement of project objectives.
- ◆ Maintain active dialogue with project stakeholders, including Member States of the PCT, and involve them in any decisions that might entail a significant departure from plan

17. The tables below give a breakdown of the financial resources needed to complete the development of the project (Table II a) as distinct from those funds needed to support the start-up components of the system (Table II b), during the 2002-2003 biennium. These costs include sufficient funds for the establishment of six professional and two general service posts to support and further develop the IMPACT system. This approach will assist WIPO in substantially reducing the long-term operational costs, whilst offering an opportunity to retain the knowledge and skills developed during the project in WIPO.

Table II a
IMPACT Project Development Costs (thousands of Swiss francs)

Staff Costs	Official Travel and Fellowships			Contractual Services				Operating Exp.		Equipment & Supplies		Total
	Staff Missions	Part. Govt. Officials	Fellowships	Conferences	Consultants	Publishing	Other	Premises & Maint.	Comm. & Other	Furniture & Equipment	Supplies & Materials	
2,186	250	-	-	50	2,660	-	11,487	700	-	200	1,300	18,833

Note: Of this amount 16,647 Swiss francs (non-staff costs) is already appropriated from the Special Reserve fund for Additional Premises and Computerization and forms part of the initial 40 million Swiss francs appropriation.

Table II b
IMPACT Start-up Costs (thousands of Swiss francs)

Staff Costs	Official Travel and Fellowships			Contractual Services				Operating Exp.		Equipment & Supplies		Total
	Staff Missions	Part. Govt. Officials	Fellowships	Conferences	Consultants	Publishing	Other	Premises & Maint.	Comm. & Other	Furniture & Equipment	Supplies & Materials	
1,328	610	-	-	-	-	-	1,681	14,895	100	1,200	200	20,014

PCT E-filing

Objectives:

- ◆ To adopt a standard for the electronic filing and processing of international applications;
- ◆ To develop a system for the electronic filing of international applications based on the present software PCT-EASY (Electronic Application System).

18. The objectives of this project are to adopt a standard for the electronic filing and processing of international applications, and to develop a system for the electronic filing of international applications based on the present software PCT-EASY (Electronic Application SYstem). PCT-EASY is a software designed to facilitate the preparation of international applications in electronic form. There has already been significant work towards making electronic filing possible with the implementation of the PCT-EASY software. In its current capacity to assist in the preparation of international applications on paper with an accompanying floppy diskette, the software has proved highly successful, with over 27 per cent of PCT filings during 2000 being prepared using PCT-EASY (a total of 24,882 international applications). This suggests that further development into a fully electronic filing solution will be an acceptable and attractive option for PCT users.

19. In addition to PCT-EASY, several Offices have created pilot and production systems designed to exchange and process electronic patent application documents and data. The International Bureau is also developing such a system under the IMPACT Project. As such, the standard for the electronic filing and processing of international applications is an important step to assure future interoperability and data conformance among Offices, applicants and the International Bureau.

20. The PCT electronic filing Project originated as part of the IMPACT Project. Considerable progress was made in drafting a standard for the electronic filing and processing of international applications, in close consultation with PCT Offices and Authorities and other interested parties, with a view to identifying the system requirements for PCT electronic filing. In addition, a high level project plan (see document PCT/A/29/2 Add., Annex III) was prepared and noted by the PCT Assembly (see document PCT/A/29/4, paragraph 12). In recognition by the International Bureau of the importance of PCT electronic filing to Contracting States, as well as the complexity of the identified requirements, a separate project was created within the IT Projects Division to urgently undertake the development of the system. The project, however, still remains closely linked to the IMPACT Project and will need to rely on funding from the budget allocation within that project until such time as the funds requested in this proposal for the project are made available.

21. Consultations have shown that a number of offices are already committed towards developing their own systems for the exchange and processing of electronic patent applications. On the other hand, others are continuing to deal with the burden of an increasing paper-based workload, noting that the International Bureau is developing a standard (and to a certain extent the necessary software) to enable the implementation of electronic filing and processing international applications. Bearing in mind the expectations of many member States, and the risk that unnecessary diversity of systems will lead to interoperability deficiencies for both applicants and Offices, the International Bureau has started preliminary work on the PCT electronic filing activities using existing resources.

22. The PCT electronic filing Project is divided into Step 1 (PCT E-filing Pilot) and Step 2 (PCT E-filing Implementation). Step 1 (PCT E-filing Pilot) will progress through three build cycles—prototype, beta and pilot—for each of the following four components:

- Extended PCT-EASY software capable of preparing and submitting international applications electronically. This and all subsequent components will conform with the standard for the electronic filing and processing of international applications, including the principles of electronic records management contained in that standard;
- The International Bureau as receiving Office (RO/IB) server software that can receive international applications filed electronically by applicants;
- A Public Key Infrastructure (PKI)¹ for the International Bureau that can administer the assignment and validation of low-level digital certificates for applicants who use the PCT electronic filing system;

¹ PKI provides a suite of services integral to information systems for processing sensitive information. Through digital signatures and encryption, PKI provides authentication, data integrity, non-repudiation, and confidentiality.

- A secure pilot database that allows for simple storage, retrieval and printing of the electronic version of international applications received by the RO/IB during the pilot.

In addition, Step 1 will include the finalization of a system requirements document and a scope definition document, and the preparation of a Document Type Definition (DTD) in eXtensible Mark-up Language (XML) for the international application, which will form the basis of an inventory of tags.

23. Step 2 (PCT E-filing Implementation) will similarly progress through three build cycles—prototype, beta and pilot—for the following two components, based on the components previously developed in Step 1:

- The RO/IB server software will be further developed to make it available, as RO server software, to other receiving Offices for deployment in their IT environments;
- PCT-EASY for enterprises (the PCT-EASY software will be developed into a product which can be deployed and integrated into an enterprise's IT environment).

Step 2 will also include the implementation of additional functionality into the pilot versions of the components produced in Step 1, such as PKI's extension to limited interoperability of digital certificates, depending on the results of further consultations with Contracting States and PCT users. DTDs in XML for other documents than those covered by Step 1 will be developed, depending on the requirements of the IMPACT Project and of Contracting States and PCT users.

24. In addition to the two steps summarized above, the PCT electronic filing Project will include the implementation of a Help desk infrastructure at the International Bureau as well as the integration of customized services for the PCT electronic filing system into the International Bureau's Help desk services. Since the project will be delivering complex software for both applicants and Offices, and there is a strong requirement for reliably and consistently upholding applicants' rights, Help desk services to PCT applicants and Offices will be critical to the success of the system. There is currently no Help desk infrastructure at the International Bureau, thus it is envisaged that this project initiate the implementation of such an infrastructure with a view to it being expandable to other areas in the International Bureau, such as IMPACT.

25. The enterprise version of PCT-EASY will be offered to applicants, providing them with the possibility of integrating PCT-EASY software into their own IT environment. Likewise, software for the reception of electronically filed international applications will be made available to receiving Offices, thus enabling even small Offices to participate in electronic filing. This initiative is in accordance with the agreement made during the Diplomatic Conference for the Adoption of the Patent Law Treaty, May 11 to June 2, 2000 for:

“...the General Assembly of the World Intellectual Property Organization (WIPO) and the Contracting Parties to provide the developing and least developed countries and countries in transition with additional technical assistance to meet their obligations under this Treaty, even before the entry into force of the Treaty” (see document PT/DC/47, Agreed statements, paragraph 4).

Since one of the major benefits of electronic filing is a reduction in costs for the offices involved, applicants may also benefit from reductions in fees.

<u>Expected Results</u>	<u>Performance Indicators</u>
1. International applications will be filed with minimal formal defects, having been prepared by officially designed software.	<input type="checkbox"/> Number of international applications filed electronically. <input type="checkbox"/> Number of staff used for formalities examination. <input type="checkbox"/> Number of defects per international application.
2. Avoidance of the manual process of entering data (typing or scanning) into computer systems.	<input type="checkbox"/> Number of staff used for data entry.
3. Applications will be processed faster and at less cost.	<input type="checkbox"/> Number of international applications processed per examiner.
4. Documents and data will be in an agreed format for exchange with other Offices.	<input type="checkbox"/> Level of activity in the area of data exchange between Offices.

Activities:

- ◆ Development of extended PCT-EASY software capable of preparing and submitting international applications electronically.
- ◆ Development of RO/IB server software that can receive international applications filed electronically by applicants.
- ◆ Implementation of a Public Key Infrastructure (PKI) for the International Bureau that can administer the assignment and validation of low-level digital certificates for applicants who use the PCT electronic filing system;
- ◆ Implementation of a secure pilot database that allows for simple storage, retrieval and printing of the electronic version of international applications received by the RO/IB during the pilot.
- ◆ Finalization of a system requirements document and a scope definition document for the extended PCT-EASY software and for the development and implementation of PCT electronic filing in general;
- ◆ Production of a Document Type Definition (DTD) in eXtensible Mark-up Language (XML) for the international application, which will form the basis of an inventory of tags.
- ◆ Implementation of a Help desk infrastructure.

26. The development of the project is expected to take three to four years. On the basis of the analysis made by the International Bureau, in consultation with other Offices which already implemented similar systems, the resources required for the project is presented below in Table III.

Table III
PCT E-filing Budget (thousands of Swiss francs)

Staff Costs	Official Travel and Fellowships			Contractual Services				Operating Exp.		Equipment & Supplies		Total
	Staff Missions	Part. Govt. Officials	Fellowships	Conferences	Consultants	Publishing	Other	Premises & Maint.	Comm. & Other	Furniture & Equipment	Supplies & Materials	
1,615	413	-	-	-	473	-	11,617	616	-	3,566	-	18,300

27. The budget estimate is in line with similar electronic filing initiatives in other IP Offices, which are known to the International Bureau. When funding for the IMPACT Project was initiated in March 1998, the estimates for the electronic filing component of that project were based on a study carried out in 1997 by the consultants Deloitte & Touche Consulting/Praxis plc (see document A/32/5). In that study, the estimate for the cost of the electronic filing component was 2,845,809 Swiss francs. That figure has already been allocated under the IMPACT Project into activities associated with the PCT electronic filing Project, including the development of the Quality Procedures to be used under both projects, the integration of the IMPACT receiving Office database with the electronic filing server software, dependency management, resource sharing (secretarial staff, Documentum experts, XML experts), quality assurance of the conformance to the standard for electronic filing and processing of international applications, shared security policy formulation and various business analysis and change management activities for RO/IB (Receiving Office/International Bureau) under electronic filing.

28. Following consultations with PCT Contracting States and other interested parties over the course of the year 2000, it has become apparent that the solutions required for electronic filing are far more complex than those proposed in the Deloitte & Touche Consulting/Praxis study. For example, there is now a requirement for substantial investment in the area of security including PKI developments and services. In addition, the reduction in services provided by WIPONET (see document SCIT/WG/2/2, paragraph 13) has led to an increase in the costs involved in developing the server software to be made available to PCT receiving Offices.

29. Costs are expected to cover the following:

- Establishment of the standard for the electronic filing and processing of international applications;
- The creation of principal DTDs (Document Type Definitions) for PCT documents;
- The design, prototyping, beta testing and development of all sub-systems including extended PCT-EASY, receiving Office server software, a PKI and a secure database for RO/IB for Pilot purposes;
- Pilot work in co-operation with interested PCT receiving Offices, in particular those based in developing countries;
- The implementation of a Help desk infrastructure at the International Bureau including hardware, software, licenses and installation, as well as the integration of customized services for the PCT electronic filing system into the IB's Help desk services;

- Acquisition of hardware and software necessary for the new system;
- Detailed testing of the new system, with the active participation of the users;
- Management of the development and implementation of the new system;
- WIPO staff costs linked to the project;
- The hiring of consultants to assist the PCT staff in the development of the project;
- Staff missions and third party travel related to the project.

30. It is intended to build a core team made up of a mixture of International Bureau staff members and internal and external consultants. This team will be responsible for developing the standard for the electronic filing and processing of international applications, and for activities including project management, specification of system requirements, contract management, verification and validation of third party deliverables (such as software) and the deployment of the various software products. The enhancement of PCT-EASY and other software developments such as the construction of server software will be outsourced to third party developers. Provision has been made for the creation of one professional post during the 2002-2003 biennium to support and further develop PCT E-filing in the longer term.

31. Towards the conclusion of the project, the deliverables coming out of the PCT electronic filing Project will be in operation and stable. As a consequence, costs associated with operational electronic filing activities (including items such as hardware leases and upgrades, software and support licenses and operations staff) will be included in the Regular Budget beginning with the 2004-2005 biennium.

CLAIMS

Objectives:

- ◆ To support the industrial property offices of the Member States in the re-classification of their patent collections.
- ◆ To provide tools for sharing the results of classification done by the trilateral and big offices using the advanced layer of the reformed IPC with the small and medium-sized patent offices and with the offices of the developing countries using a Master Classification Database containing the classification (and application/publication/priority number) data of all the patent documents published anywhere in the world.

32. IPC is the unique international classification that is used by a number of IP offices to classify and search patent documents and information. With the advent of the Internet, engineers and the general public have realized the value of IPC, as it is more powerful than the full text search engine, which is often of little use to patent information search, due to the technical complexity and terminology contained in patent documents. The increase in patent information put additional workload to IP offices to classify patent documents. The rapid technical advances make it difficult to keep updating and revising IPC to be established in English and French, two authentic languages according to the Strasbourg Agreement of the

IPC. The IPC reform will introduce the Master Classification Database consisting of a core level and an advanced level of classification symbols with a view to overcoming the above-mentioned difficulties.

33. The CLAIMS Project is essential to the completion of the IPC reform and the establishment of Master Classification Database. It will provide a computer-assisted and the Internet-based system for allotting a classification symbol (automated classification) and translating the text in English into French (automated translation).

34. The CLAIMS Project has a number of benefits particularly for small IP offices and users of patent information made available on the Internet. Assisted by the most recent IT, the cost-efficiency, speed and the level of standardization of vocabulary are better than the manual work. The reformed IPC will facilitate the use and search of the minimum documentation, which is defined under PCT as the essential patent documents to search for the patent examination of PCT applications.

35. The project will be undertaken by taking steps as follows:

Automated Classification

- Setting-up the database in cooperation with the Trilateral Offices (EPO, JPO and USPTO).
- Providing links from the web-based version of IPC generated from the present database within the International Bureau to the new database.
- Linking the advance level of IPC to the database.
- Developing tools to use patent family information in the database.
- Testing of tools for automatic categorization, classification and re-classification of patent documents.

Automated Translation

- Offline local tests with selected machine translation software.
- Overview of translation-related problems of IPC.
- Computer-aided checking and analysis of the evolution of the IPC vocabulary.
- Build-up of a special IPC vocabulary.
- Implementation of a server-based translation support system.
- Automatic translation of entries in case of re-use of terminology from the IPC vocabulary.
- Automatic translation of entries and submission for human checking.

<u>Expected Results</u>	<u>Performance Indicators</u>
1. Improved access to the patent documentation of the small, medium sized and developing countries.	<input type="checkbox"/> Usage intensity of the Master Classification Database, in particular its services for classification based upon the use of the existing classification information for patent family members.

2. Decrease in the workload related to the classification of patent documents.	<input type="checkbox"/> Number of documents classified using the advanced level symbols allotted by the big offices.
3. The making available of the IPC in other languages of the Strasbourg Union.	<input type="checkbox"/> Number of language versions created using computer aided translation.
4. Improved access to the patent collections of the small/medium sized and developing country patent offices not publishing their documents in English.	<input type="checkbox"/> Number of databases connected to special language versions of IPC.

Activities:

- ◆ Setting-up the Master Classification Database in cooperation with EPO (or providing links from the web-based version of IPC (generated from IBIS) to the Master Classification Database).
- ◆ Developing of tools to use patent family information in the Master Classification Database to push classification symbols of documents having national equivalents to IPOs (or providing tools for IPOs to pull this classification information from the Master Classification Database).
- ◆ Testing of tools for automatic categorization, classification and re-classification of patent documents (based upon analyzing full-text/abstract/claims of patent documents).
- ◆ Elaboration of a self-learning system.
- ◆ Implementation of a server based translation support system.

36. On the basis of the analysis made by the International Bureau, in consultation with other Offices which already implemented similar systems, the resources required for the project is presented below in Table IV. These include a proposal to create one professional post to support and further develop CLAIMS in the longer term.

Table IV
CLAIMS Budget (thousands of Swiss francs)

Staff Costs	Official Travel and Fellowships			Contractual Services				Operating Exp.		Equipment & Supplies		Total
	Staff Missions	Part. Govt. Officials	Fellowships	Conferences	Consultants	Publishing	Other	Premises & Maint.	Comm. & Other	Furniture & Equipment	Supplies & Materials	
794	60	-	-	20	1,674	-	-	112	-	140	400	3,200

AIMS

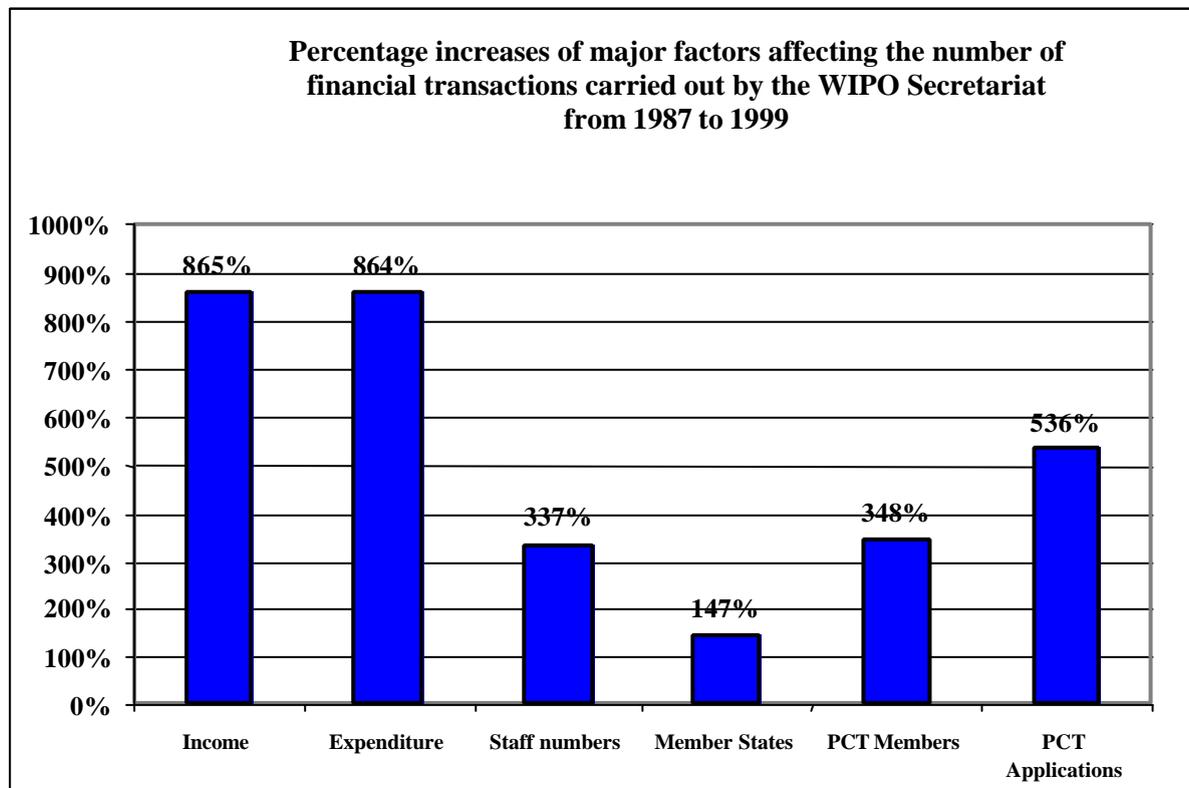
Objectives:

- ◆ To replace the 16 year old financial system (FINAUT) and the BETS reporting system with a modern integrated financial accounting and budgetary control system which will be able to support the way the Organization manages and presents its financial information.

37. At its fifth Plenary session in July 2000, the SCIT agreed in principle a proposal for a project to replace and modernize WIPO's finance and budget systems (see document SCIT/5/6). Under the title of AIMS (AdmInistratIon InformIon ManagEment System) the objective of the project initiation process was to establish the requirement, scope, costs and benefits to the Organization of a modern financial management system.

38. WIPO is an Organization in transition where many roles, tasks, processes and procedures are undergoing change driven by several major factors. Most notably, the Director General's emphasis on reform through increased transparency and accountability has led to a revision of the way the Organization manages and presents its financial and management data. This has, in turn, led to the need for an up-to-date IT infrastructure to support the changing work environment. The FINAUT 2000 Enterprise Resource Planning (ERP) Project, identified in the IT Strategic Implementation Plan, arose from the recognition that the Secretariat's finance system needed an urgent upgrade. However, a simple replacement of the current system is no longer enough to meet the Organization's evolving needs as they extend beyond finance to every aspect of WIPO's daily working practices.

39. The Finance Division's legacy system (FINAUT) has, for several years, been one of WIPO's three main computerized systems, the others being PCT and Madrid. Since its implementation in the mid-1980s, its core has remained largely unchanged with only minor peripheral improvements being able to be made. However, over this period there have been major increases in areas that directly impact the numbers of financial transactions being performed by the Secretariat.



40. In November 2000, the Swiss Federal Audit Office conducted an IT audit in WIPO and made, *inter alia*, the following statement and recommendation concerning the AIMS Project:

“...the financial data of FINAUT is no longer able to deliver sufficient management information for a modern Organization as large as WIPO. Users are often forced to manually record data that is held in mainframe systems and then process it with the limited spreadsheet and database tools available. The lack of system integration, requiring redundant data capture, results in wasted resources... AIMS has to be developed as a matter of high priority. An adequate budget has to be approved for AIMS. User support must be strengthened by additional human resources.”

41. The new Program and Budget needs a system that is capable of serving senior management and Program Managers in monitoring expenditures and revenues based on cost centers and, therefore, needs to be integrated with and capable of extracting information from the financial system. A growth in program activities, coupled with a requirement to demonstrate expenditure against objectives, has identified a further need for tools that provide for project/activity budget and costing, cost monitoring and project management support.

42. The existing finance system (FINAUT) and the BETS (Budget Expenditure Tracking System) reporting system will be replaced, budget monitoring facilities will be integrated and all existing manual or computer-assisted interfaces will be assured. Business processes within the area defined by the scope will be analyzed, and, where required or desirable, modified. No attempt will be made to analyze and improve out-of-scope processes.

43. With regard to the area of Finance, the new system will support the accounting structures of the different legal entities for which the Finance Division has responsibility: WIPO, UPOV, Funds-in-Trust (FIT), UNDP, and the Closed Pension Fund. For each of these areas the system functionality will cover: expenditure (staff and non-staff, including automatic comparison of payables with commitments and subsequent liquidation of commitments), income, profit and loss, trial balances (being roughly the combination of expenditure, income, and profit and loss), balance sheet (assets and liabilities accounting), bank and supplier and other automatic reconciliations, Treasury, audit requirements and the production of financial reports and statistics.

44. In addition to the Finance Division, other users require access to financial management reporting. Two main functions performed by the Office of the Controller need IT support. These are formulation of the staff/manpower and non-staff expenditure budget, and the monitoring of the staff/manpower and non-staff expenditure budget. At this stage, only the monitoring function is included in the scope of the AIMS Project. Individual Program Managers require an on-line facility for the monitoring of committed and actual expenditure (staff and non-staff) against the budget and the ability to drill down to individual transactions, as appropriate.

45. Finally, the existing interfaces with the current FINAUT system will need to be maintained. Automated interfaces which currently exist to the FINAUT system will be upgraded for the new system: for example, the PCT systems, the Madrid and The Hague systems (MAPS/DMAPS), and payroll. Existing manual interfaces will continue for Procurement and Contracts Services, the Cooperation for Development Project Planning and Monitoring system, and the WIPO Arbitration and Mediation Center.

46. The following have been identified as risks, if AIMS were not to go ahead:

- Risk to financial integrity: FINAUT no longer provides the necessary quality and quantity of control mechanisms to protect the Organization against error or fraud. Making further changes to the system is considered to be highly risky.
- Risk of system failure: There is a very real risk of complete system failure for FINAUT. Efforts to adapt the system over the years to functions for which it was not designed have made it complex and difficult to maintain. There is increasing difficulty in attracting and retaining staff with the necessary skills to maintain the system and its now outmoded software, and this has led to a serious dilution of the knowledge-base necessary to guarantee system security.
- Risk increases with time: It is the reported opinion of the External Auditors that “Until [existing] weaknesses have been resolved, the integrity of [FINAUT] is at risk of unauthorized access or accidental damage.” A new system cannot be delivered in less than 18 months from inception; therefore, it is highly advisable that pre-emptive action be taken now.

47. A number of benefits would be realized with the delivery of the AIMS Project. In terms of improvements to current business functions, the processes within the Finance and Budget areas will be streamlined to improve work productivity. Data input will be easier, faster and non-duplicative and data retrieval will benefit from modern data querying tools and the integration of the system with existing WIPO Office software. Requirements from internal and external auditors for transparency in, and security of, financial operations will be addressed, and there will be a huge improvement in the quality and quantity of financial management information available to Program Managers throughout the Organization, thus making it easier for them to monitor their budgets for the projects and activities under their responsibility.

48. Once a reliable finance and budget core system is established, with robust interfaces to existing systems, future system modules may be developed on the same software platform for other administrative services, and for the Cooperation for Development Sector. The high degree of system integration which will result will further improve the Organization’s management information and control. The new system will also provide the necessary flexibility to accommodate the changes in Organizational budgetary and accountancy procedures which are impeded by the existing system. Finally, annual maintenance costs for the new system may be expected to diminish, when compared to those for FINAUT.

49. In July 2000, the Secretariat received estimates from suppliers in response to an AIMS Request for Quotation. Thus, the financial information presented has a conservative basis, which does not prejudice the selection of any one technical solution at this stage. It should be noted that the provisional financial estimate given in SCIT/5/6 for a four-year AIMS Project was 15 million Swiss francs. The difference is reflected in the reduced project scope and time-scale, which is now estimated at three years to complete. The total project cost is as shown below. This also assumes that the development team would comprise a core team consisting of a combination of existing staff supported by internal and external consultants, as opposed to completely outsourcing the project.

<u>Expected Results</u>	<u>Performance Indicators</u>
1. Phasing out of the legacy FINAUT system within the next 2-3 years.	<input type="checkbox"/> Number of areas within finance and budget dependent on the legacy system by 2003. <input type="checkbox"/> Number of areas within finance and budget dependent on the legacy system by 2004. <input type="checkbox"/> Reduction in the amount of ICC usage.
2. Robust integration between the financial accounting and budgetary control system.	<input type="checkbox"/> Ease with which changes in financial and budgeting practices can be implemented - primarily determined through user feedback.
3. Implementation of a financial system with the desired controls to satisfy internal and external audit requirements thereby minimizing financial risks.	<input type="checkbox"/> Feedback from internal auditors. <input type="checkbox"/> Feedback from external auditors.
4. Minimizing the risk of system failure by implementing a standard proven system with well documented procedures and adequate system security.	<input type="checkbox"/> Feedback from a structured information systems security audit to be conducted after the system moves into stable operation.
5. Providing a stable core financial and budgetary control system which will enable integration of future operational systems.	<input type="checkbox"/> Number of automated interfaces working with systems outside finance and budget.
6. Provision of appropriate financial management information to service management.	<input type="checkbox"/> Feedback from users.

Activities:

- ◆ **Hardware and Software Acquisition:** the most suitable software solution will be identified. The proposals would be evaluated using a structured evaluation methodology and software contracts finalized with the selected vendor(s). The activity would also identify a detailed inventory of hardware to be purchased and would finalize contracts for the same, ensuring that deliveries and installation of the said hardware would be aligned carefully with the project plan.
- ◆ **Process and systems design using target software solution:** all the target business processes to be carried out using the new solution will be documented. The project team, along with users, will decide the manner in which the target system will be used to complete all transactions within the scope. The activity will also identify essential customization requirements, bearing in mind that the best-practice business models must be adopted to the extent possible.

- ◆ Implementation and training: to include minimum customization as appropriate based on the design decisions taken, data clean-up, migration and preparation, documentation of user procedures, training of all users and system and user acceptance testing.
- ◆ Project deployment, including the change over from the old systems to the target system in the designated phases.
- ◆ Post conversion (go-live) support: to include all user-support, trouble shooting and related activities to be performed by the project team and users to ensure the smooth running of the target systems after go-live.

Table V
AIMS Project (thousands of Swiss francs)

Staff Costs	Official Travel and Fellowships			Contractual Services				Operating Exp.		Equipment & Supplies		Total
	Staff Missions	Part. Govt. Officials	Fellowships	Conferences	Consultants	Publishing	Other	Premises & Maint.	Comm. & Other	Furniture & Equipment	Supplies & Materials	
1,750	450	-	-	-	5,430	-	800	200	200	970	100	9,900

Completion of an Initial Phase of IPDL Project

50. The IPDL Project was launched in 1999 and was expected to be fully developed by the end of 2004 (see document SCIT/5/5). However, after reviewing the urgency and progress so far made with regard to the ongoing IT projects with budgetary constraints, it is proposed to suspend the planned development work on the IPDL Project beyond the end of the current biennium and to focus on the continued provision of the existing services and standardization work. The establishment of standards for the IPDL Project is very important in order that other Member States which may be developing similar systems for their own data collections, will be able to achieve interoperability with the International Bureau's IPDL system. The current phase will be completed and put into a full production environment by the end of 2001. The work planned for 2001 can be completed with the funds currently allocated. The operational budget for 2002-2003 is included in the Regular Budget under program 15.2. Consequently, no surplus resources will be used for the IPDL Project during the 2002-2003 biennium.

[Annex I follows]

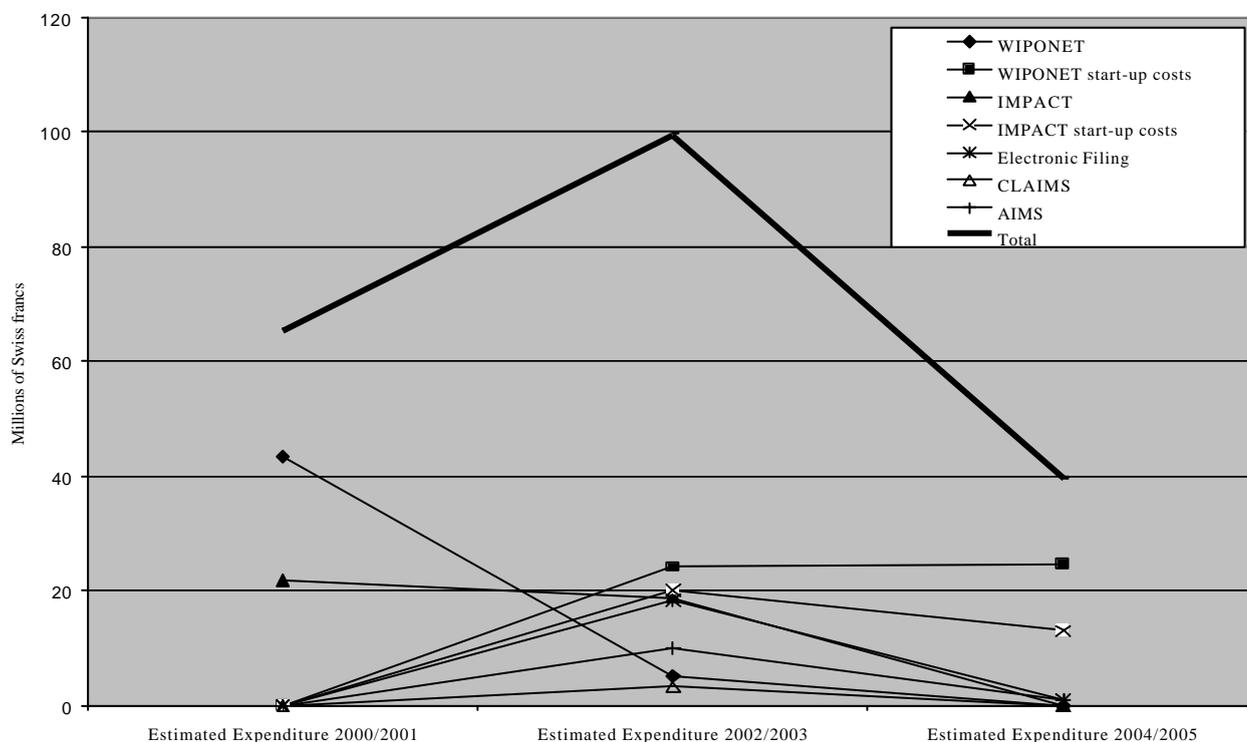
ANNEX I

Summary of Surplus funded Information Technology Activities
(in thousands of Swiss francs)

Project	Estimated Expenditure 2000/2001			Estimated Expenditure 2002/2003			Estimated Expenditure 2004/2005		
	Staff	Non-staff	Total	Staff	Non-staff	Total	Staff	Non-Staff	Total
WIPO _{NET}	-	43,546	43,546	432	4,736	5,168	-	-	-
WIPO _{NET} start-up costs	-	-	-	2,340	21,792	24,132	2,340	22,260	24,600
Impact	-	21,882	21,882	2,186	-	2,186	-	-	-
Impact start-up costs	-	-	-	1,328	18,686	20,014	3,000	10,000	13,000
PCT Electronic filing	-	-	-	1,615	16,685	18,300	-	1,000	1,000
CLAIMS	N/A	N/A	N/A	794	2,406	3,200	-	-	0
AIMS	-	-	-	1,750	8,150	9,900	-	1,000	1,000
Total			65,428			82,900			39,600

Note: The IMPACT Project has a balance of 16,647,000 Swiss francs, which is needed to complete the project development, is not included in this table.

IT PROJECTS SIX-YEAR EXPENDITURE



Note: The IMPACT Project balance of 16,647,000 Swiss francs has been included in this chart.

[Annex II follows]

ANNEX II

INFORMATION TECHNOLOGY PROJECTS
CURRENT AND PROPOSED STAFF POSTS

1. WIPONET

Post Category	Existing	Transferred ¹	New Proposals	Total
Professionals	-	4	3	7
General Service	-	-	1	1
Total	-	4	4	8

2. IMPACT

Post Category	Existing	Transferred	New Proposals	Total
Professionals	2	5	6	13
General Service	1	2	2	5
Total	3	7	8	18

3. PCT E-filing

Post Category	Existing	Transferred	New Proposals	Total
Professionals	-	4	1	5
General Service	-	-	-	-
Total	-	4	1	5

4. CLAIMS

Post Category	Existing	Transferred	New Proposals	Total
Professionals	-	1	1	2
General Service	-	-	-	-
Total	-	1	1	2

5. AIMS

Post Category	Existing	Transferred	New Proposals	Total
Professionals	-	1	-	1
General Service	-	-	-	-
Total	-	1	-	1

6. Total

Post Category	Existing	Transferred	New Proposals	Total
Professionals	2	15	11	28
General Service	1	2	3	6
Total	3	17	14	34

¹ Transferred from regular budget