

**Part IV: Study and Basic Design of Intellectual  
Property Administration Capacity  
Enhancement of IPD using IT**



# **1 Basic Considerations in Planning Enhancement of Intellectual Property Administration Capacity Using IT**

## **1.1 Potential for Improvement of Efficiency in Intellectual Property Administration, and the Present Level of IP Administration**

The major issue facing the administration system for IP protection in any country, including Malaysia, is to augment the protection and encourage the utilization of, intellectual property rights, while improving the effectiveness of the system.. IT is expected to play a critical role in upgrading the efficiency and certainty of the administration process.

In the case of Malaysia, administration efficiency will be improved significantly, once plans for the administrative system for industrial design (examined in IV-2) are realized, and an online filing and searching system becomes operational.

Some of the administration processes and forms might need revision in the future, in view of harmonization with the international consensus. The industrial design system as described in IV-2 has been planned to meet such future needs, taking into account the need to endow the system with flexibility and versatility, but the existing system and the online system now under development might need similar consideration in the future.

The administration processes or public services of IPD, for which improvement can be expected through IT utilization, are as follows:

### **(1) To maximize the convenience of applicants**

#### **1) Convenience in search of prior applications**

At present, users are generally satisfied with the search service with respect to patent and trademark (verbal search only) which relies on the Common Software (CS) -based query and answering system. On the other hand, a search of figurative trademarks and industrial designs is carried out manually, using the archive of classified drawings or file cards. Users cannot enjoy the benefits of a quick and convenient search system.

Figurative trademarks are to be incorporated into the new on-line search system. Industrial design search needs are to be met by the system discussed in IV-2.

#### **2) Convenience in the application procedure**

Improvement of user convenience in the application phase can be accomplished by an IT system that quickly and accurately identifies the omission of data in the application form and any error in formalities. The IPD's computerized system does



not provide for this type of service.

### 3) Protection of confidential information

The online application system that is now under development will be for patents and trademarks, but it has not been confirmed that the system meets the requirements for confidentiality and security management (described in 1.3 of this section). There is no plan at present to incorporate industrial design administration into the online system.

## (2) Reduction of workloads for examiners

At present, IPD receives patent literature information from foreign intellectual property offices in the form of CD-ROM disks. IV-3 examines possible measures to improve the efficiency of patent examination using the data provided in this way.

Ongoing international cooperation in the area of patent examination is to reduce the workload of examiners, including membership to PCT, and application of MSE, etc. Use of IT is expected to support IPD in developing the administration processes that makes use of such international cooperation efforts.

Another area where the workload of examiners can be reduced by effective use of IT is the examination of figurative trademarks, which is currently performed by matching an applied trademark with prior applications and registrations. IPD has been trying to streamline this work, by means such as the outsourcing of the prior search and matching work, but further improvement is required in terms of productivity and accuracy, and the proposed online search system is planned to be used for the search and examination by IPD examiners. A similar issue will arise for examination of industrial designs, and the relevant needs therein are addressed as a matter of system development, which is examined in IV-2.

## (3) Improvement of IPD's administrative efficiency and reduction of stored documents by use of electronic files

Most paperwork including documentation and filing is an obvious target for the application of IT on behalf of improvement of efficiency. In fact, IPD has launched an IT system for patent and trademark related services. The IPD should now make an effort to improve the existing system and to develop the system for industrial design. These needs are expected to be addressed in the context of the development of the online system and industrial design system, as described in IV-2.

In addition to improving the management process of application, it is important to record the ever-increasing volume of documents in electronic form. IPD is now working to record all documents relating to patent and trademark applications as image



data. If the database system is completed, the volume of paper files can be reduced significantly, reducing the minimum period required for document storing. Similarly, the electronic recording of industrial design application documents is one of the requirements to be included in system development, as described in IV-2.

(4) Enhancement of IP information service

A system for patent and trademark search services will be developed as part of the online search system, which is under development by IPD (see IV-1.3), whereas the system for industrial design search service will be examined later after the industrial design administration is developed, as studied in IV-2.

(5) International harmonization

The use of international filing to acquire and protect intellectual property rights is increasing in many countries, and efforts to establish an international filing system are in progress within the international framework of intellectual property system. These include PCT for patents, Madrid Protocol for trade marks, and Geneva Act of Hague Convention for industrial design, etc. Malaysia has acceded to none of these, but is preparing to become a party to the Patent Cooperation Treaty (PCT). Malaysia will be requested to modify the form of its documents and administration procedures in the future to meet the requirements of international procedures.

As for industrial design, system flexibility, needed to meet the requirements for international harmonization, will be ensured in designing the system in IV-2.

Further, there is a global tendency for strong demands to be made to reduce the duration of time required for examination, and the streamlining of the administration process is an important issue from this viewpoint. The present CS works sufficiently well for the patent and trademark administration processes. The new system under study in IV-2, will meet the needs for industrial design administration.

(6) International collaboration in the area of exchange of search and registration information

Efforts to reduce the burdens of examiners are being made on a multinational base collaboration. Such international collaboration initiatives include:

- 1) Shared use of the results of prior search and examination; and
- 2) Provision of information relating to examinations via the Internet, e.g., AIPN (Asian Industrial Property Network).



In addition, consideration should be given to harmonization in substantive aspects of patents through the Substantive Patent Law Treaty (SPLT), which may be materialized in the near future.

International collaboration should be fully utilized to help achieve the goal of reducing the examination workload. On the Malaysian side of the international exchange processes, Malaysia should develop and maintain its system for provision of information in an efficient and effective manner to other countries.

## **1.2 Basic Considerations in Development of the IT-based IP Administrative System**

- (1) Versatility, adaptability to the future institutional changes, and relationship with the present system

The intellectual property protection system for patents, trademarks, industrial designs and other rights is well established and has a long history of development. It has been gradually standardized in terms of internationally acceptable procedures, processes and forms, which have been established on the basis of long experience in industrialized countries. At the same time, it is still evolving, reflecting technological advancement and other changes, while expanding its global coverage. The emerging international standards for IP protection and globalization of IP use are requiring many countries including Malaysia - where the IP protection system has recently emerged to meet the needs of foreign corporations - to create, modify or adjust the basic system and institutions as well as their operation or functioning. On the other hand, the protection system for new intellectual property rights continues to undergo development in the industrialized countries.

Under these circumstances, the IP administrative system is expected to meet a number of requirements for adapting itself to globalization, including process and system compatibilities, data sharing, harmonization with international standards, and flexibility in modifying the processing system in response to the changing needs of the times.

In Malaysia, a computerized system is already in service for patent and trademark application management, and is generally well accepted by users. However, since the source code of the core software program has not been disclosed, future upgrading by the users is difficult. The future system should be designed to be able to meet the needs of easy revision for expansion to meet the changes in needs specific to the country.



(2) Flexibility in system development

The scope of system development should be determined in consideration of cost effectiveness. In the initial stage, the core process should be incorporated into the IT-based administrative system, while the administration process handling a relatively small amount of applications should be left intact. At the same time, system design should anticipate future expansion and new requirements. Thus, system development is not necessarily intended to automate every administration process, regardless of actual needs. Rather, it should first focus on the core process of satisfying the basic needs, while allowing for detailed adjustments to address the needs that arise with future system expansion.

(3) Operational compatibility with the present system including data sharing

The present system handling patent and trademark applications is widely accepted by users, who have become acquainted with the system's operational features and characteristics. Thus, need exists for assurance that the proposed system has operational compatibility with the present one, or, at least, the transition should be easy. Also, the present system stores an enormous amount of patent and trademark data. The new system should be designed taking into account operational compatibility, possible data sharing, and easiness of operator transition.

(4) System development environment, tool and language

The system development environment, tool and language should be selected by taking into account not only function, performance and cost aspects, but also maintenance and versatility in view of international harmonization of systems.

Also, the system design should integrate appropriate Web technologies to meet the growing demand for information access and publication via the Internet.

(5) Operation and maintenance considerations

System development should provide learning opportunities for the IPD staff so as to facilitate their own system's operation and maintenance after implementation (including the use of local resources). There should be disclosure of the source code of the core software, and there should be participation by the IPD in the system development project. Also indispensable are implementation of training prior to commercial operation, and preparation of system and user manuals.



### **1.3 Review of online filing and online search system under development**

#### **1.3.1 Outline of online system development plan**

Currently IPD is developing an online-filing and search system. According to the present development schedule of the IPD, the actual operation will start in April 2003.

The online system under development covers receiving of applications, collecting fees, and a search service for public<sup>1</sup> regarding trademarks and patents.

##### **(1) Online Search**

The online search system under development is to have the function of searching information on trademarks and patents, stored in the Common Software database. IPD examiners can make searches from their office through the internal network environment, and applicants can do so through the Internet from their own offices.

The new online system is intended not only to implement a figurative trademark search system, but also to provide an integrated system environment of figurative search and verbal search of trademarks.

##### **(2) Online Filing**

One purpose of “Online Filing” is to perform above application procedure via Internet. However, it is supposed to be applicable only to the procedures of new application. After this “Online Filing” begins to function, new application will not be accepted in paper form.

##### **(3) Online fee collecting**

Charges for the online search and filing services will be collected from applicants via the Internet. This system requires member registration in advance.

#### **1.3.2 Configuration of the online system**

Figure IV-1-1 shows an overview of the online system under development. When it starts to operate, the volumes of both sent data and received data are projected to increase significantly, including the image data of the trademarks and the documents attached, owing to the improved access by the public (general public and patent agents).

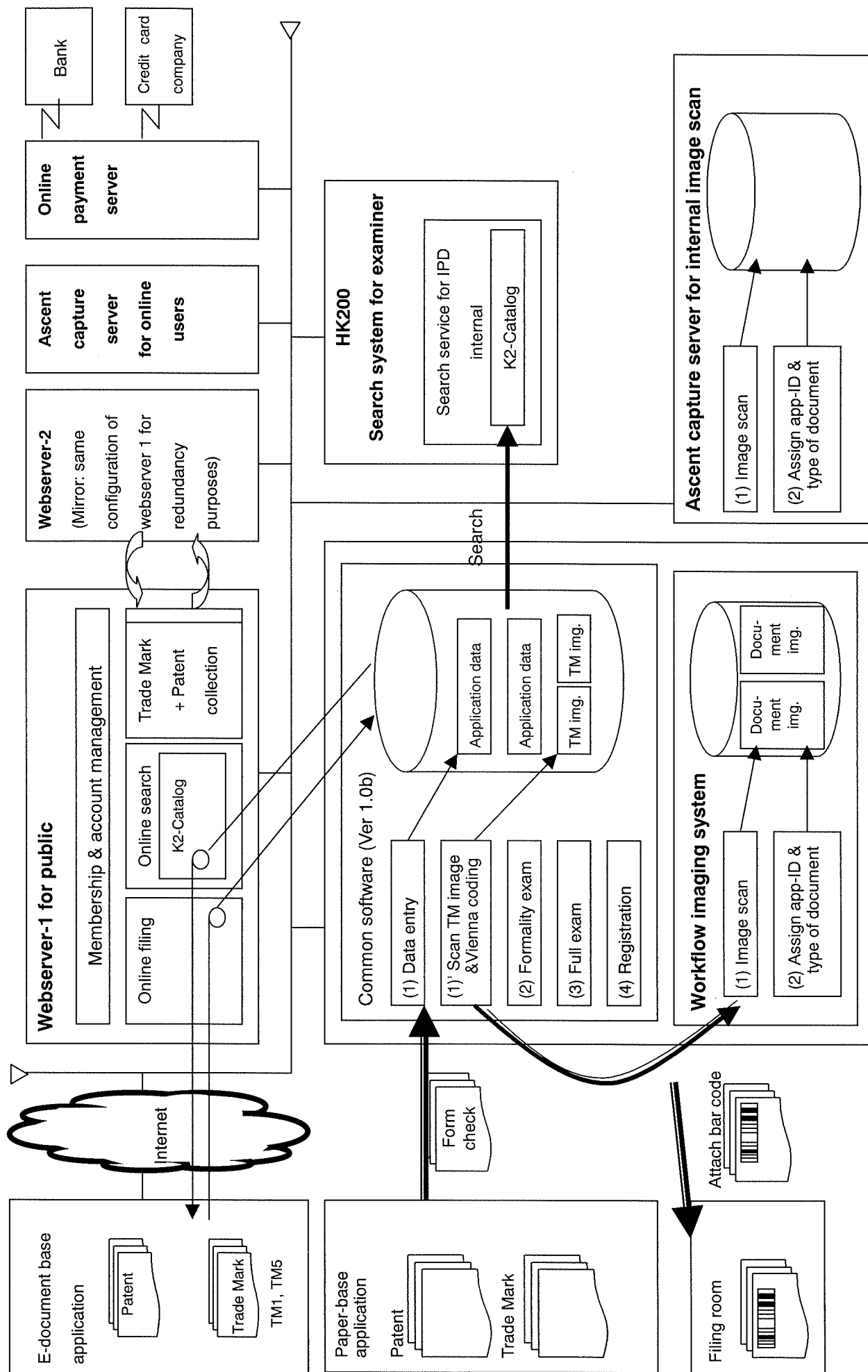
The current line speed of 128 Kbps for outside connection, and IPD is planning to expand it to 1.5Mbps

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<sup>1</sup> The search function will be expanded to include that for examination in the next phase.



Figure IV-1-1 System Configuration of PANTAS with New Online System





The new online system consists of six modules, as follows:

1) Section A "LOGIN" module

This section is to manage information on users who access the new online system.

2) Section B "MAIN MENU" module

This section is to refer/revise information on individuals and agents.

3) Section C "ONLINE SEARCH" module

4) Section D "ONLINE FILING" (online application) module

Online filing system, for initial applications only.

The trademark registration application form to be used in online filing system is Form TM1 (application form concerning the applying agent) and Form TM5 (application form concerning the applicant and the applied trademark), presently submitted as hard copy originals.

Online applicants will be able to attach as document files reference materials to accompany their TM1 and TM5 forms. This function is considered to be important primarily for submitting image file of a scanned trademark, but any reference file can be appended according to user's circumstances.

There are three options for payment.

5) Section E "SYSTEM ADMIN" module

This function module is for the information management of applicants who accesses to the system, and for IPD staff.

6) Section G "MANAGEMENT" Module

This function module is to define the applicants' activity of payments in section A to D, control completed transactions, and manage parameters of fee payments.

### **1.3.3 Recommendation on online filing**

The final plan of the online filing system developed by IPD has not been announced in its entirety. However, taking into account the importance of the system for efficient operation of application management, the following section recommends essential points for consideration in developing the system, particularly on the basis of recent IT requirements and international harmonization of IP administration<sup>2</sup>.

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<sup>2</sup> See IV-4 for details.



## (1) Security measures

### 1) Security against the risks related to the Internet connectivity

As the proposed system will be for new applications only, there will be little incentive for someone to make false applications. In the future, however, there will be more opportunities for system abuse when online applications include modification of applications and transfer of intellectual property rights. The proposed system should therefore be protected by security measures to minimize the risks accompanying online applications.

Encryption is one of the effective security measures. As the Internet utilizes public communication lines, messages it carries have a great risk of being intercepted. Thus, messages and data exchanged between IPD and users need to be encrypted. Furthermore, encryption technology used for the proposed system must be upgraded from time to time in order to maintain a sufficient level of security against the advancement of decoding technology.

### 2) Disaster control measures

Online application, which contributes to the streamlining of the overall IP application process, faces the risk of service stoppage due to power failure or computer breakdown. The proposed online plan should therefore include contingency measures for acceptance and processing of paper applications in the case of a system breakdown.

## (2) Consistency with the e-Government scheme

Malaysia has decided in its national policy to provide public services via the Internet. In implementing the “e-Government” scheme, unification of a user interface is very important.

However, coordination of various services provided by different agencies takes considerable time, which may delay the inauguration of full-scale service. On the other hand, if individual agencies are allowed to design and implement their own service delivery systems, they will likely be provided with different user interfaces, which will certainly cause confusion among users and result in redundant development expenses.

In the case of the current system development, at the same time that IPD proceeds with the development, it should pro-actively offer its know-how in system development to other agencies, and thereby help reduce total costs and unify the user interface. Thus, IPD can make contribution to the e-Government scheme.



(3) Consideration to user interface

The proposed online system will use a Web browser as user interface. It is important to select the browser that provides the best operating environment for users by studying the actual needs.

(4) International initiatives for collaboration and harmonization of IP administration

As the IP protection system is inherently global in nature and extent, extensive efforts are required for collaboration and harmonization toward the development and smooth functioning of the global system.

Among the various international initiatives underway, the most relevant to the proposed online system is the standardization of documents used on the network, which is carried out by national IP agencies. Essentially, standardization is promoted using XML (eXtensive Markup Language), which is an enhanced version of HTML (Hyper Text Markup Language) used for display of Web information by a browser program and is adapted for automated processing by computers.

Given the progress of such international initiatives, the proposed online system should be developed with the strategic viewpoint of adapting the system to global trends, i.e., when and how it will be fully standardized.



## **2 Study and Basic Design of Industrial Design Administration System**

### **2.1 Objective**

In Malaysia, the industrial design registration and protection system is a comparatively new system, which was inaugurated in September 1999, and the entire filing and examination process is handled manually. In recent years, the number of applications has been growing rapidly, accompanied by a significant increase in the number of registrations, with the result that there is increasing demand for computerization of the administration system in order to improve work efficiency. In particular, registration of industrial design requires the formality examination, in which an application is compared with earlier filed applications in Malaysia to confirm novelty. This task is performed by searching similar prior applications, presenting problems relating to work efficiency and search accuracy.

Also, the applicants are expecting development of a computerized search system accessible to the public, to be used for examination of the prior applications before their application.

The objective of the present project is to meet the above needs by constructing a computerized system of administration and search for the industrial design registration system.

Regarding the need for improved efficiency, IPD plans to first streamline its basic administration process by means of computerization. Then, it will extend the system to meet the needs for on-line filing and on-line search, which are being planned for the patent and trademark administration.

### **2.2 The Present Industrial Design Administration**

#### **2.2.1 Overview**

All the works in the industrial design administration are handled manually, including the acceptance of an application, examination, and other administrative procedures up to registration, and preparation of various documents involved. While a word-processor is used for preparation of some forms, such as the certification of registration, most documents are filled out manually.

Examination of a new application is carried out for both examinations on merit and method, which are conducted by the same examiner. The examination on merit examines presence of similar, earlier filed applications. As the task involves the manual search and



examination of files for applicable categories, it is very difficult to ensure that it is conducted in an effective and efficient manner to meet the intent of the system.

IPD maintains several registers to record applications, registrations, extended registrations, and other actions. However, entry is made separately for each register as an applicable action is taken or a relevant event occurs, making it difficult to quickly view an examination history of a specific application or its current status; it is necessary to look at the table of contents in each file. Thus, the registers are maintained as discrete sources of information and do not contain information that effectively serves as an index for quick file access. As a result, it is difficult to conduct an efficient search of case files, such as those containing a common element, which has to be conducted on the basis of personal memory.

### **2.2.2 Current administration process and forms**

The duties are divided among the clerical work section, formality examiners and post-registration examiners as illustrated in Figure IV-2.2-1. The clerical work section covers back-office functions involved in the acceptance of applications, checking of documents at the acceptance counter, document filing, and receipt and dispatch of documents. The examination related to registration of design is conducted by formality examiners and post-registration examiners. They prepare queries and notices of reason for objection, and decide on registration.

Figures IV-2.2-2 and IV-2.2-3 show the flow of the current administration process.

### **2.2.3 Information handled**

Table IV-2.2-1 contains a list of main forms and entry items to be entered in the register related to the Industrial Design Unit. Most of the data consists of the information written in such forms by applicants or agents and the data is repeatedly utilized for subsequent work. Input and check of such data for the purpose of acceptance will become important elements for operating the entire system.

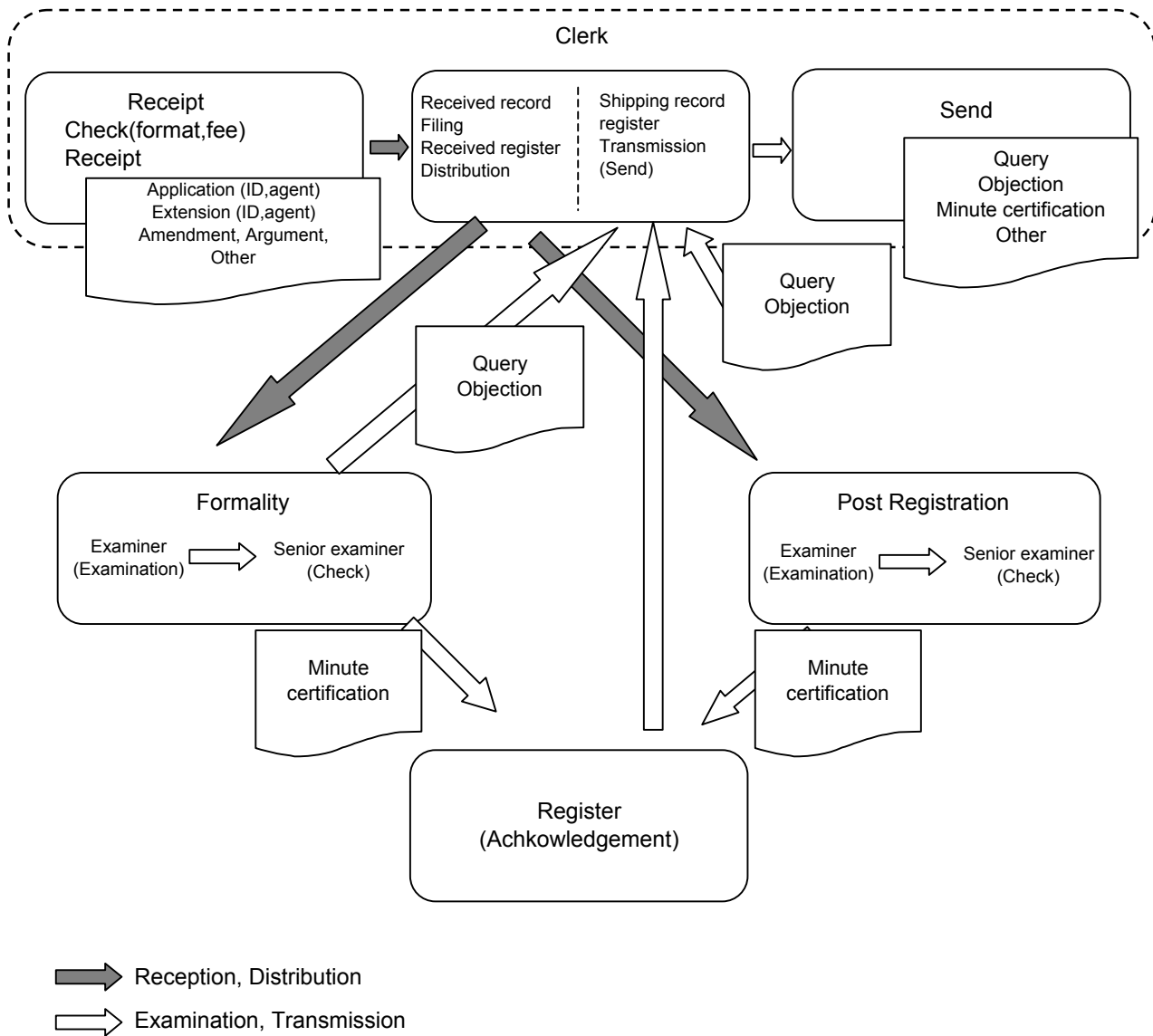
## **2.3 Setting the System Concept of Industrial Design System Administration**

### **2.3.1 Consideration in setting the system concept**

The concept of the system has originated from the plan for improvement of administration efficiency of the industrial design registration system. In other words, the scope to be covered includes all the processes of basic administration and user services, which are expected to be improved with computerization.

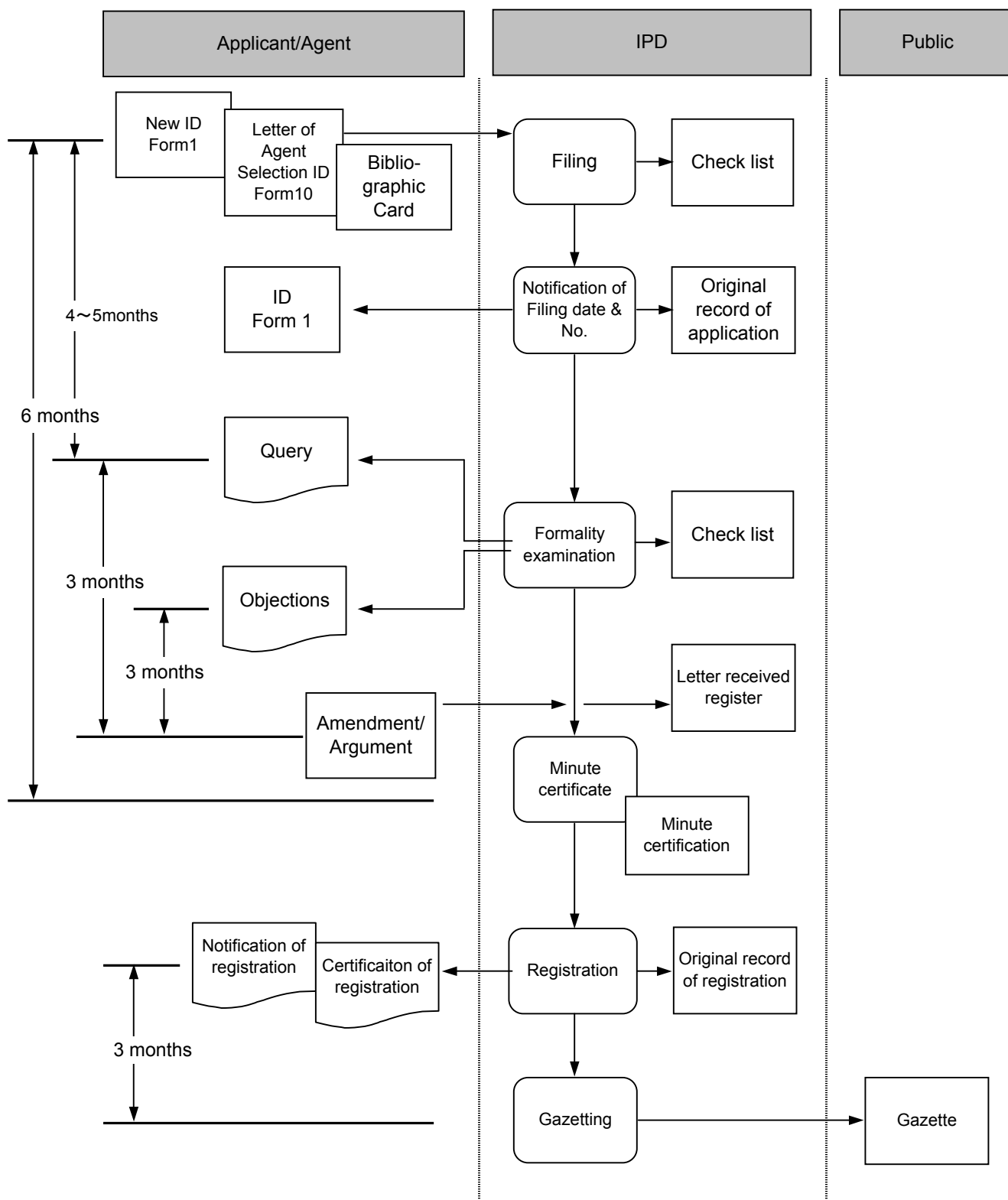


**Figure IV-2.2-1 Participation of Industrial Design Unit**



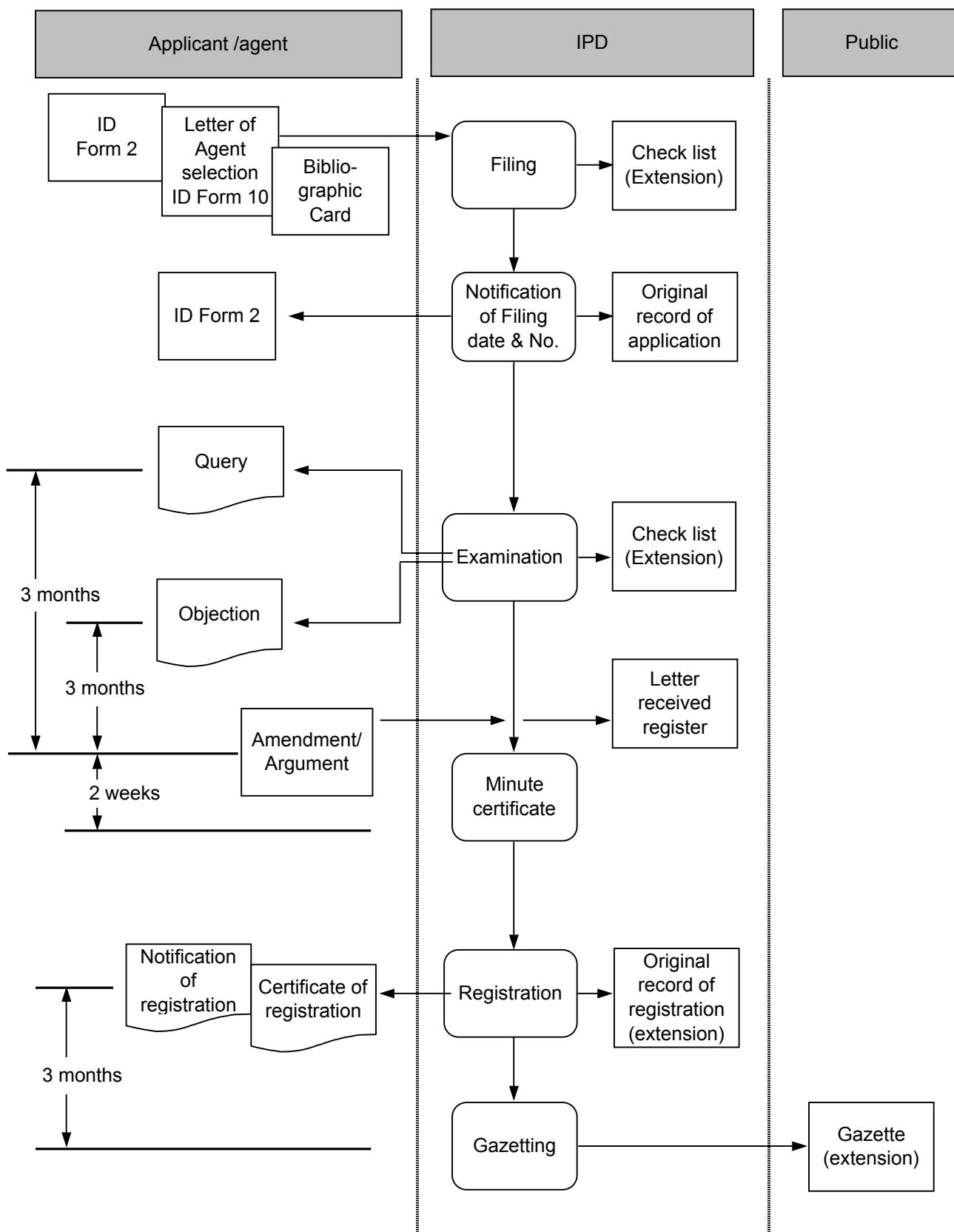


**Figure IV-2.2-2 Process Flow of ID (Applications)**





**Figure IV-2.2-3 Process Flow of ID (extension)**





**Table IV-2.2-1 Item of ID Form (ID Application / Agent)**

© Items assumed in law



The following were taken into account in setting the system concept.

(1) System based on the actual operation

There exist some differences between what the Act and the Regulations say and the current operations. The system under development planning is based upon the current operations. One of the most significant differences is the examination on novelty in the process of formality examination. The new system, therefore, needs to be designed to include a search tool to find out the same or resembled designs among the prior filing designs and the registered designs.

(2) Consideration on operational size

The operations of the system is assumed to be handled by the current number of staffs and examiners (around 10 persons). Main focus of administration efficiency improvement is as follows:

- Establishing data entry group by reallocation of the current front line staff
- Document processing by the current typing staff
- Computerized search tools for examiners
- Automated gazette printing

(3) Consideration on the Online Filing and Online Search System under development

The similar system to the online filing and search system under development for patents and trademarks, are excluded from this system. This is because of the difficulty to define the cause of problems, which might occur either on the online system or this system, if the online system is included before the operation test of the system.

Rather, we recommend to evaluate the pros and cons of connecting the online system to this system, after starting the full-scale operation and solving all the possible problems of the system operation.



### 2.3.2 Concepts of the IT based System

The Industrial Design Administration System is composed of following sub-systems.

Sub-System	Outline of Functions
1) Basic Industrial Design Registration System	This system is the essential component of the Industrial Design Administration System and manages all the applications and designs by keeping the data and their legal status. The system includes functions of data entry operation, image data entry operation, examination operation, registration operation, and operation after registration.
2) Payment Management System	This system calculates fees and keeps cash and checks.
3) Search System	This system provides functionalities to search data or image data stored in the database server by identifying some conditions on the data items of the database table. For the visiting applicants or agents, condition keys and items to be displayed are limited.
4) Document Filing System	This system captures the image of received documents and stores it in the file server. The document image can be retrieved on the PC. Using this system, it is almost unnecessary to carrying around paper documents.
5) Management Support System	This system provides “To Do List” for every operator, and monthly and yearly statistic reports on the progress of the application management for managers.
6) Maintenance System	This system provides functions to maintain the tables in the databases for system administration staffs.

Online Filing System and Online Search System will compose the Industrial Design Administration System in the future, but they are not included in the scope of this basic design.

Sub-System	Outline of Functions
1) Online Filing System	This system receives application data directly from an applicant or agent via the Internet and exports it to the Industrial Design database
2) Online Search System	This system provides the same search functions via the Internet without visiting IPD.



## **2.4 Basic Design**

### **2.4.1 Policies for basic design**

The basic design of the Industrial Designs Administration System is based on the following policies.

#### **(1) Flexibility for changing environments**

The System of Industrial Designs in Malaysia enacted in 1999 and has not experienced enough time to cover all the cases and internal operation rules of IPD may change based on the actual cases. Moreover the standardization of formats and procedures are under discussion through the international activities and the international cooperation between each office of intellectual properties may affect the operation rules of each country. The Industrial Design Administration System should be flexible enough to be able to adjust itself to those expected changing environments.

- 1) The system is composed of modules which allow changes of sub-system without affecting other sub-system and the maintenance of software or upgrades can be conducted without original developer.
- 2) To comply with changes of regulations or operation rules, the system can be adjusted by changing the parameters for regular or expected changes.
- 3) The system should be adjusted easily for the changes of the internal classification code, such as increase of classification types and usage of sub-class.

#### **(2) Possible modification in the administration procedure if needed in view of efficiency improvement**

Utilizing IT does not mean just the replacement of the same procedures which are operated manually. It could provide the same functionalities with the efficient but different method. As far as it complies with the Act and Regulations, it is in the scope to change the internal operation rules to achieve the efficient administration.

- When IT is introduced, Register that is defined in the Act is expected to be played by the electronic Register, or database, which replaces the paper Register Book of today.
- Although the system and the operations are based on the Act and Regulations of today, it is necessary to change some of the regulations which describe the application form of IDF 1 to IDF 14.
- At least new roles to enter data, to store the scanned representations and documents and to control quality of entered data are required.



(3) Operational compatibility with the current system for patents and trademarks

Considering the end users or operators, it is recommended to design the Industrial Design Administration System to keep the operational compatibility with the current system for patents and trademarks. And it is also recommended to keep the conformity of database with them.

#### **2.4.2 Outline of the System**

The system assumes following items to be implemented. The overview of the system is shown in Figure IV-2.4-1.

(1) Language

The item names which appear on the screen are based on English language only. But as far as data, which are entered from a keyboard, the system will accept Bahasa Malaysia, also.

(2) Registration number

The system will handles the registration number in the format of “MY9999-99999-99”. 4 digits (year) + 5 digits (serial number) + 2 digits( serial number of design in the same application For migration data of extended UK registration, the form “UK(E)99/9999” is applied.

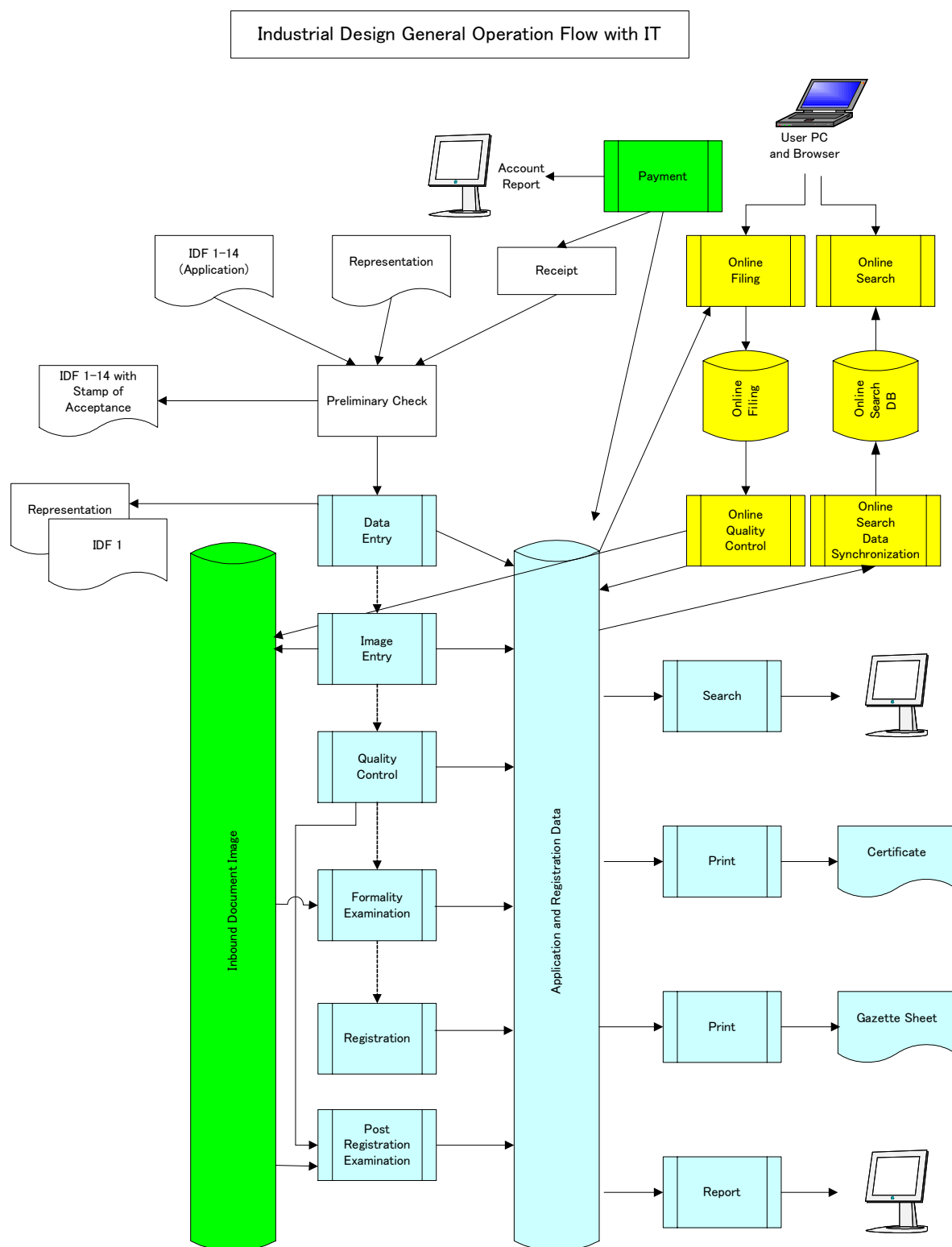
(3) Document size

The system expects all documents to be scanned are in A4 size.

(4) Management of application for industrial design

The system provides the functions for maintenance of application data, maintenance of registered data, management of legal and operational status of applications, management of applications or requests other than IDF 1, and recording of communication





**Figure IV-2.4-1 Outline of the System Functions**



(5) Search for examiners

The system will provide search functions to retrieve stored designs by indicating Locarno Classification, Name of articles, range of filing date, range of registered date, applicant name, agent name and combination of these.

The system will also leave room for providing the following functions related search :

- 1) Use of classification other than Locarno Classification, and sub-classifications, in parallel with the Locarno Classification
- 2) Search with the other dates such as priority filing date
- 3) Display of searched designs in a lump with thumbnail, etc.

(6) Search for public

The system will provide search functions to retrieve stored designs by indicating Locarno Classification, Name of articles, range of filing date, range of registered date, and combination of these.

(7) Gazette

By the instruction of the operator, the system will generate a gazette sheets file in “Word format” if the application is granted.

(8) Certificates

By the instruction of the operator, the system will generate a certificate file in “Word format” if the application is granted.

(9) Diary

The system will provide a To-Do-List for each examiner or operator.

(10) Management of application for agent

The system will provide the function of registration of agents.

(11) Statistic reporting

The system will provide monthly and yearly statistic reports.

(12) Registration of frequent used letters

The templates of frequently used letters are registrable and can be retrieved when an examiner makes an outbound letter.



(13) Access control

The system will provide a table to register the holder name or group. The named operator or operators in the named group can access to the application data and process it if he is authorized to do.

(14) Registration of users

The system will provide the function to register a user, ID, password, and the groups which he belongs to.

(15) Conformity with existing database

The system should be able to import data from Informix database.

(16) Existing infrastructure

Existing LAN is expected to be provided for the system.

PCs will be provided depending on the allocation of total budget of the project.

(17) Migration of existing data

Migration functions to register designs already granted will be prepared. .

(18) Payment management

The system will provide functions to calculate fees and print receipts, check management, account management.

(19) Image filing

The system will provide to scan received documents and store them as image data which can be retrieved and displayed on PC.

(20) Capability for minor changes

The architectures of the software should allow flexibility to adjust to the necessary changes.

(21) Capability to connect to Online Filing and Online Search System

The architecture permits to connect to the Online Filing and Online Search System.



### 2.4.3 Systems architecture

The system is composed of Client Server, WWW Server, Application Server, Database Server, and File Server. These servers are connected each other with LAN.

Layer of System		Concept
1	Client System	The Client System consists of operating system of Windows, and web browser capable of handling JavaScript, which is either Explorer or Netscape. The functions of the Client System includes data entry, data reference, and printing. The Client PC for examiners require adequate resolution and display size sufficient to display designs and document images.
2	WWW Server System	The WWW Server System receives the HTML data form the Client Systems, performs prescribed data checks, transform the data into the suitable form for the upper servers and sends it to the application server.
3	Application Server System	The Application Server System, receives the request form the WWW server and process it. The how process the data depends upon the related data which is stored in the Database servers. So the Application server makes a request to receive the related data to the Database servers and receives the related data
4	Database Server System	The Database Server System, provides the functionalities of relational database. The Database Server maintains all the application data and its related information and access control data of the operators. The database is accessed though JDBC by the application server.
5	File Server System	File Server System stores the image data of the applications and other documents. The scanned data is converted to JPEG, GIF of other archived format and temporally stored in a client disk file. After an operator designates the image data file to the related application of registration, it is copied in the File Server.

## 2.5 Development Schedule and IPD's Organizational Setup for Supporting Development

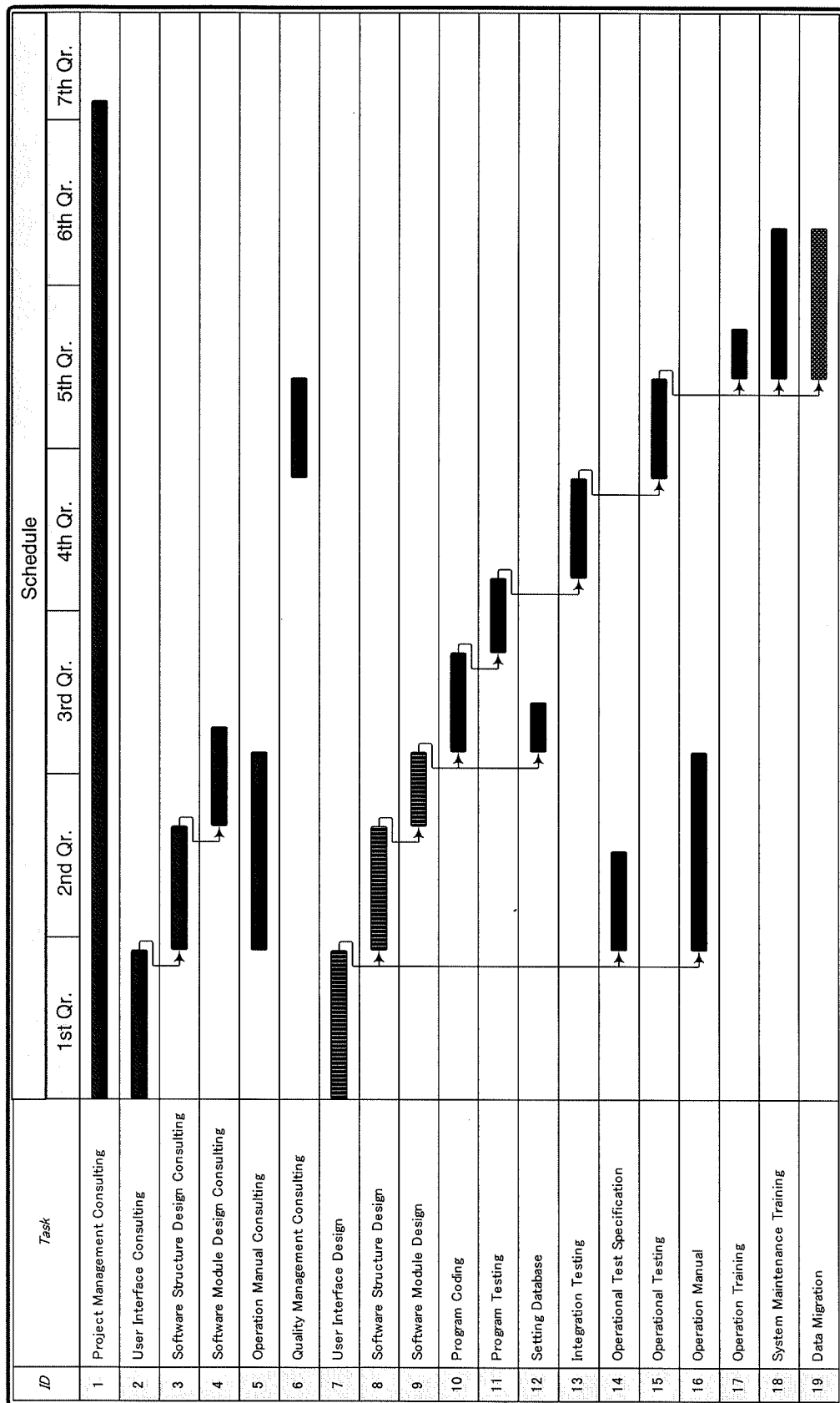
### 2.5.1 Development Schedule

The development schedule is shown in Table IV-2.5-1. The system development is expected to take around 1.5 years.

The basic design is assumed to be finalized before start of the above development work.



Table IV-2.5-1 Draft Schedule Chart





In detailed schedule planning of the system development and installation, the consideration should be made to shorten the time required for development, installation test, and other preparation for full-scale operation, making it a point to start some processes earlier, which can be begun in the earlier stages, or in parallel with other processes, as much as possible.

These include, but are not limited to:

- 1) Simulative evaluation of operability with earlier completion of the screen system
- 2) Start of data migration before completion of the system development

### **2.5.2 IPD's organizational setup for supporting the development**

During the system development stage, IPD is recommended to set up a supporting organization to reflect the IPD's opinion on the system, and prepare the human resource allocation after the system implementation.

The recommended organizational setup of IPD for supporting the system development is shown in Figure IV-2.5-1. The human resource allocation plan after implementation of the system is shown in Figure IV-2.5-2.



**Figure IV-2.5-1 Recommended Organizational Set-up of IPD for Supporting System Development**

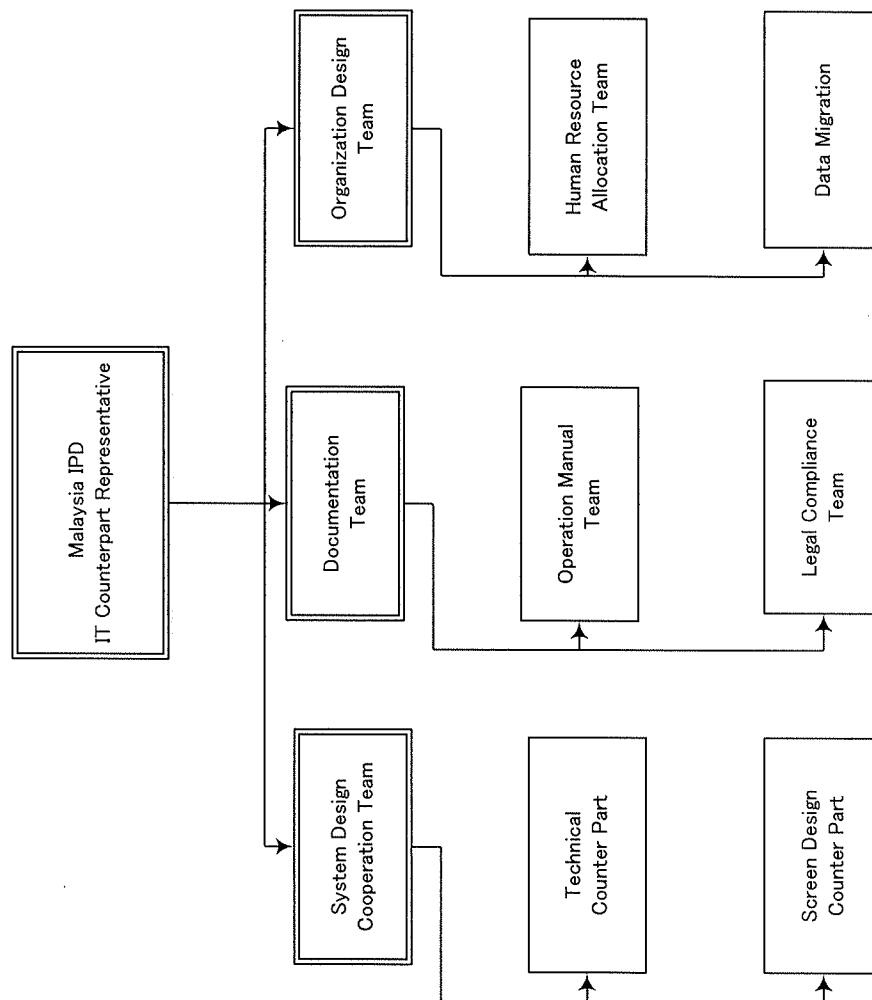
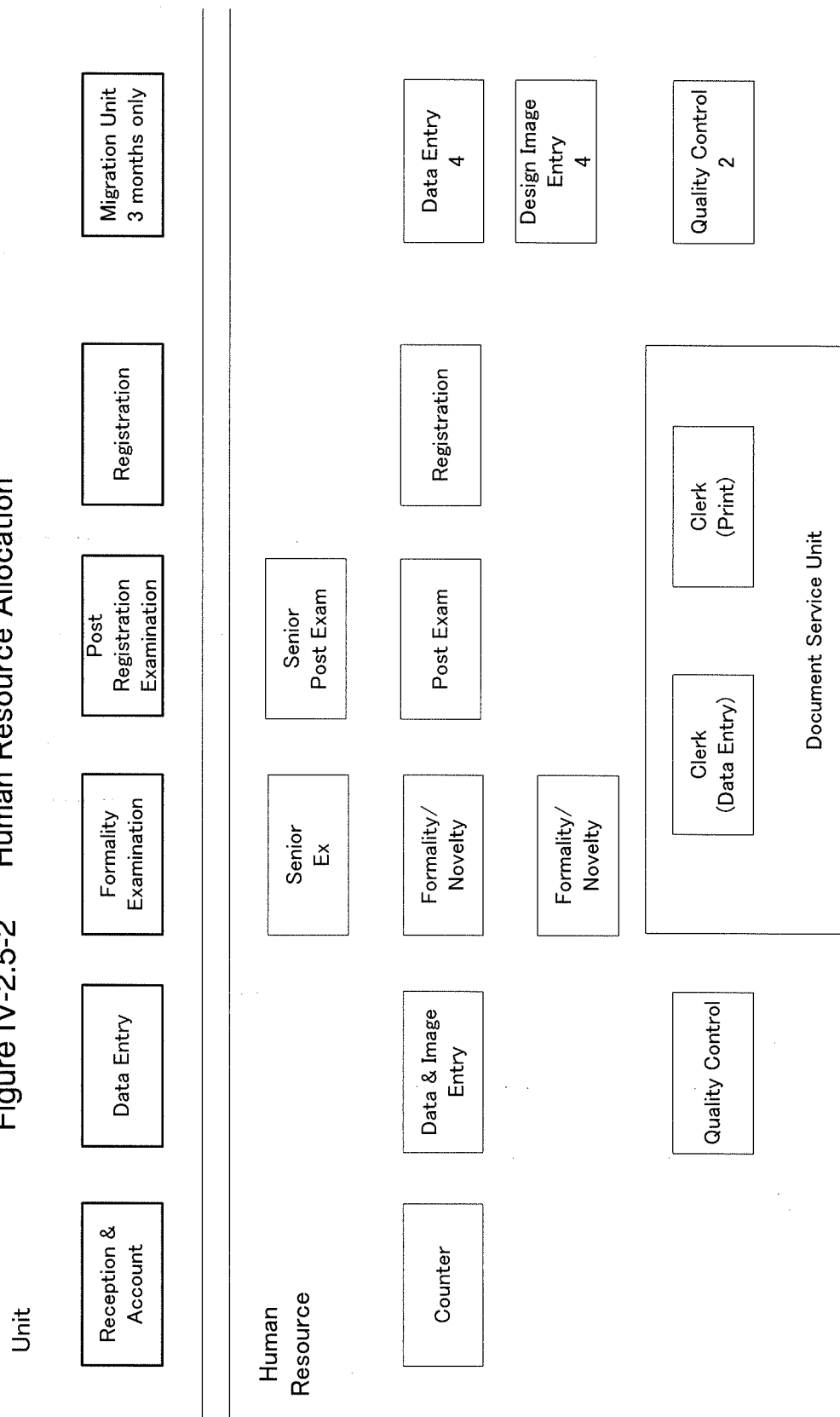




Figure IV-2.5-2 Human Resource Allocation





### **3 Study and Basic Design for Upgrading of the System Environment for Patent Document Search**

#### **3.1 Objective**

Examiners everywhere face a steady increase in workload as there is high growth of the applications filed from year to year, and effective reduction of the workload is a major concern for the patent office in many countries. The patent examinations being conducted at present in Malaysia is for applications made in 1996. This project is designed to improve efficiency of the patent examination work, and especially search of foreign patent documents.

Searching foreign patent databases is conducted using a patent document search package, MIMOSA. MIMOSA searches index CD-ROMs or DVDs as well as CD-ROMs containing full text, which are provided by patent offices of EU, the U.S. and Japan.

At present, index data for MIMOSA search work are stored in the personal computer of each examiner, who can search the index at his or her office. However, to search a full text, the examiner must find an appropriate CD-ROM from the search room and run it on a workstation in the search room (two workstations are available) or on his own PC. It takes time to look for a CD-ROM among the approximately 4,000 kept in the search room, and set it up on the PC for use. Moreover, if the desired CD-ROM is being used by another examiner, the examiner has to wait until it becomes available.

The primary purpose of the proposed upgrading is therefore to simplify the search process and reduce the time required for examination.



### 3.2 Current State of Patent Examination Work

#### (1) Workload at the Patent Unit

The recent changes in patent/utility model applications and granted applications in the country are shown below.

Year	1995	1996	1997	1998	1999	2000	2001	2002-June
No. of applications	4,177	5,575	6,456	5,963	5,835	6,227	5,934	2,480
No. of granting	1,753	1,801	787	566	721	405	1,485	693

Substantive examination by the Search and Examination Sub-unit is considerably delayed. Although no statistical data on the start period or other parameters are available, examinations are currently being conducted for applications filed in 1996.

In light of the fact that approximately 10% of all applications are withdrawn voluntarily without making a request for examination, the actual workload for the entire section is estimated at around 4,000 applications per year (4,500 – 5,000, if 10% (withdrawn before examination) are added) and 150 – 200 per examiner (20 in total).

#### (2) Current state of substantive examination work

##### 1) Substantive examination

As the country's patent system allows requests to be made for a modified substantive examination (introduced in August 1995), there are several different types of substantive examination. The percentage breakdown of requests for examination by type is summarized as follows:

1. Request for substantive examination (SE) 80%
2. Request for modified substantive examination (MSE) 10%
3. No request (withdrawn) 10%

When a request for substantive examination is made with a status report on the application and examination of a corresponding patent in a foreign country (the U.K., the U.S., Europe or Australia), and if there is a search report identifying a corresponding patent or a granted patent and the applicant agrees that the claims of the application are modified to those of the corresponding foreign patent, the examiner accepts the results of examination on the corresponding patent (novelty and inventive advance). In this case, Search and Examination Sub-unit can complete the examination without its own search or evaluation.



If there is no search report or granted patent, or if the applicant chooses to have his claims examined separately despite the existence of the search report or the granted patent, the Search and Examination Sub-unit conducts its own search and evaluation (examination). Thus, substantive examination procedures are divided into the following five types: (A) no corresponding patent or search report; (B) existence of a corresponding patent and claim modification; (C) existence of a corresponding patent without claim modification; (D) existence of a search report and claim modification; and (E) existence of a search report without claim modification.

## 2) Modified substantive examination (MSE) procedures

When modified substantive examination is requested, the applicant is granted to a patent applicant on the condition that the corresponding patent in any of the designated countries (the U.K., the U.S., Europe or Australia) is granted and the claims of the application are the same as those in the corresponding foreign patent. If the corresponding patent is granted in more than two countries, the applicant may notify any of the granted patents, at his own choice, and agree to use the claims in the granted patent as the claims of the Malaysian patent application in order to obtain the patent in Malaysia.

After the agreement with the corresponding foreign patent has been confirmed, additional examination is conducted to check novelty against prior patent/utility model applications filed in Malaysia to see if there is any prior application for the same invention. Also, eligibility of the patented subject is confirmed.



### 3) Examination of workloads

Assuming that the annual number of application is 5,000, the workload of examination is estimated as follows:

Type of examination	Category	Corresponding foreign patent	SR	Accordance of claims	Composition (%)	Workload (day/cases)	Annual total workload (day-persons)
Substantive examination	A	No	No	-	30	5.0	7,500
	B	Yes	-	Yes	18	0.5	450
	C	Yes	-	No	8	5.0	2,000
	D-1	No	A only	Yes	12	0.5	300
	D-2	(founded later)	X, Y	Yes	7	0.5	175
	D-3	No	X, Y	No (as amendment)	5	4.0	1,000
	E	No	Yes	No (from the beginning)	3	5.0	750
Modified substantive examination		Yes		Yes	10	0.5	250
No request		-	-	-	10	0.0	0
Total workload							12,425

### 4) Analysis of issues of examination workloads and handling capacity and resources

The present examination capability of the Search and Examination Sub-unit will continue to be less than the workload for substantive examination as long as the present examination method and procedure is maintained. For the present organization consisting of 20 examiners, the above workload is equivalent to 621 days of work per person per year. IPD plans to increase its examiners to 50 when it is converted to a public corporation. However, the workload per person will be 245.8 days of work per year with 50 examiners, and the number of examiners will still be insufficient to handle the increasing workload.

Further, the adoption of the modified substantive examination system (in August 1995) has contributed to the increase in the number of applications processed. The rapid increase in the number of patents granted in 2001 reflects the results of modified substantive examinations, which were conducted for patent applications filed in 1995/96, for which requests for MSE were made. While MSE accounts for only 10% of total applications, it contributes greatly to growth of patent registration. At the same time, it is indicative of the heavy workload created by substantive examination.

The largest element of substantive examination in terms of workload is the global



search and examination of novelty/inventive advance conducted by the Search and Examination Sub-unit. In particular, major workload increments are produced from substantive analysis and review, such as the analysis of inventions and claims, determination of patentability (novelty/inventive advance), and preparation of a clear report. Thus, the search speed is not necessarily a major issue that causes heavy workload in the substantive examination process.

### (3) Current patent document search system

The current patent document search environment has access to data on CD-ROM and DVD provided by EPO, WIPO, JPO and USPTO. The patent documents are also available from IPDLs in these countries with Web access.

#### 1) Patent document data provided with CD-ROM/DVD

Foreign patent document data used for the search in the examination process are stored in CD-ROMs and DVDs. More precisely, there are CD-ROMs/DVDs containing index information and the full text information. To search all these data, three search software programs are used, with different database formats, namely Bibliographic (used for search of USP index CD-ROMs), MIMOSA (used for CD-ROM/DVD search of USP, EP, PCT, JP and GB), and Patent View (used for USP full-text CD-ROMs for years 1993-2001).

#### 2) Hardware configuration and operation

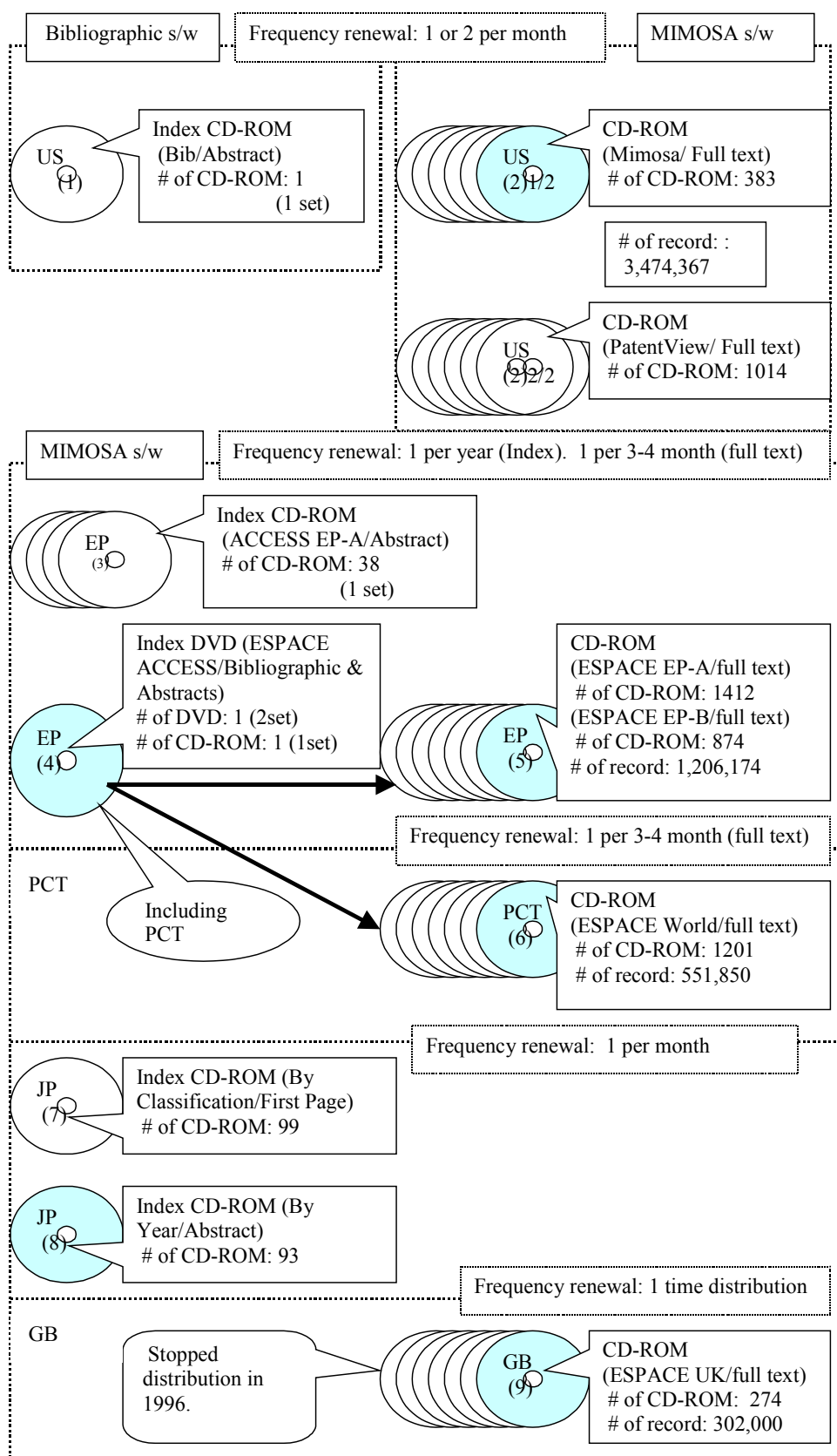
Hardware configuration is illustrated in Figure IV-3-1. To do the search, the examiner first goes to the search room and loads the Index CD-ROM to the DVD/CD-ROM drive of the MIMOSA terminal which is used for retrieval work exclusively. Or index data for a MIMOSA search are stored on hard disk drives of each examiner's PC so that the examiners can search the index on their own PCs. In addition, to search a full text the examiner must find an appropriate CD-ROM in the search room and run it on either of two workstations which are furnished in the search room or on their PCs in their own offices.

In this manner, the examiner must retrieve a CD-ROM from among 4,000 CD-ROMs to search for his necessary patent documents, and load it into either a workstation in the search room or in his/her own PC drive. Moreover, if the CD-ROM is used by another examiner, he has to wait until it becomes available<sup>3</sup>.

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<sup>3</sup> In case of U.S. patent, each examiner has to use the terminal in the search room since indices are not stored in examiner's PC. Furthermore, CD-ROMs needs to be frequently and intricately loaded and reloaded for a full text search.





**Figure IV-3-1 Patent document search data and software**



### 3) Web-based search

In addition to MIMOSA, a patent search can be made by looking at relevant Web sites. Web information is also used for examination purposes, but there are the following problems. First, patent information contained in Web sites does not necessarily cover all patents, and second, the search takes a longer time. And it is required to assign print commands to print out page by page for each necessary page for printing. It takes time and a lot of trouble. Moreover, computer user errors or cut-offs frequently occurs.

### (4) Issues related to the search environment and strategic direction of improvement

The present prior art search environment is primarily limited to EP, WO and USP, with the Abstract keyword search only. Also, gaining access to Web sites takes time and there is no guarantee of uninterrupted use of a given site. Also, a CD-ROM must be used to print a full text, requiring additional time and effort. There are several approaches to the upgrading of the search environment: (a) high speed Internet access; (b) high speed and user-friendly Abstract data search, with high speed output of the full text with ease of use; and (c) high speed search and printout of the full text of patent literature information on EP, WO, USP, JP and other patent offices in major countries.

Thus, even if the search environment is substantially upgraded in terms of the IT system, manpower requirements can only be reduced by 30% at maximum (1,305 person/day). This is equivalent to 10% - 11% of the total workload. Among them, a major upgrading project such as (c) does not fit into the immediate objective of streamlining the examination process.

## **3.3 Setting the Concept for Upgrading of Patent Document Search Environment**

### **3.3.1 Basic considerations in project design**

The proposed project to upgrade the patent document search environment is primarily designed to reduce IPD's burdens in its patent examination work, with an ultimate goal of reducing the time required for examination and registration.

While reduction of the workloads in patent document search is an important factor for reducing IPD's burdens produced in the examination process, the upgrading of the patent search environment needs to be planned from the overall viewpoint by taking into account



the changing environment facing patent offices in the world and their patent examination service, and other IT-related plans, so that the new search environment should be aligned with the overall changes in the international IP-related community and its working environment.

(1) International cooperation in reduction of the workload of patent examination

Heavy workloads required for patent examination service are one of the major issues facing patent offices in many countries, including Malaysia, and various international cooperative efforts, especially under the leadership of the WIPO, are underway to reduce them. In developing the plan for upgrading of the patent document search environment by using an IT system, therefore, it is important to assess how the international initiatives can be used in Malaysia, including what measures should be taken to use them effectively. Then, the remaining issues that cannot be tackled by available solutions should be addressed within the framework of the proposed project.

The international cooperative efforts in which Malaysia can participate or will be able to participate in the near future are as follows.

- 1) International arrangements relating to multilateral cooperation in patent examination, which are intended to reduce the workloads directly
  1. PCT membership
  2. Approval of the MSE status for Japanese applications
- 2) Diversification of patent information sources and document search means, through increased international cooperation in the field of information exchange
  1. Availability of international search and preliminary examination reports as a result of PCT membership
  2. Japan's AIPN (Asian Industrial Property Network), which is planned to provide patent information available from JPO patent examinations for examiners in Asian countries

Another important factor that requires attention is active efforts made by patent offices in leading countries to provide information via the Internet by developing the IPDL.

At present, the Web-based search system used at IPD is very time consuming and does not contribute to the streamlining of the examination work. Nevertheless, it is planned to upgrade the Web access and the search system is expected to help examiners to reduce search time significantly.



- (2) Consideration of the risk of discontinuation of data and search tools currently provided

It is important to consider the risk that the IT investment contemplated here may become useless within a short period of time as data currently supplied in CD-ROM and DVD form and the corresponding search tools may become unavailable in the future.

- (3) Possibility of workload reduction through increased staffing

IPD's Patent Unit added 10 examiners in 2002, for a total of 20. With transition of IPD to the status of a public corporation, it will have 50 examiners next year. At the same time, however, IPD can expect a reduction of the workload due to the joining the PCT, and the approval of the MSE status for applications from Japan (accounting for 20% of the total). Thus, the overall workload for of patent document searches in the new working environment should be assessed, and based on the results of this assessment, the upgrading of the search environment should be considered in terms of cost effectiveness.

- (4) Other considerations

1) Limitation of MIMOSA

The source codes of the software currently used, MIMOSA, has not been disclosed,, and reliance of the system on MIMOSA implies weak adaptability to the future change in the search environment. From the viewpoint of upgrading the present search environment, it is desirable to reduce dependence on MIMOSA. This can be accomplished by either of the following two ways.

- a) Use of a commercially available packaged software for general search or patent search work, including a customized version for IPD; or
- b) Development of a Web-based search system.

Clearly, if above case (a) is adopted, there would be the high cost of purchase and/or customizing of packaged software for IPD's examination service, in which case the latter method (development of a Web-based search system) seems to be desirable.

2) Establishment of the operation and maintenance system

The present search system relies on CD-ROM and DVD for data storage. These media are used for provision of new data. If the system is switched to a file server-based system, an adequate operation and maintenance system should be established to assure (a) data backup and (b) updating of patent data by means of periodical additions.



### **3.3.2 Study on concept for the upgrading of the patent document search environment**

The patent document search can be classified into 3 categories (Figure IV-3-2). First type of search is to find the similar patents and get the full text of them. Second type of search is to find out information on the legal status, the result of examination already conducted, and the other relevant documents. In addition to these two types, there is another type of search, namely that of MSE applications. In this case, the applicants have to notify the legal status to the IPD. The IPD does not have to search the legal status proactively. All it has to do is to confirm whether the information provided by the applicant is valid.

The first type of patent search work is applicable to the domestic application without the priority claim in other countries, for which IPD has to make examination by themselves. The IPDLs, Index CD-ROM, Full-text CD-ROM, PANTAS Online Search System, improvement of the Internet access speed, and a local disk library are the information sources or search tools available for this type of search (Table IV-3-1).

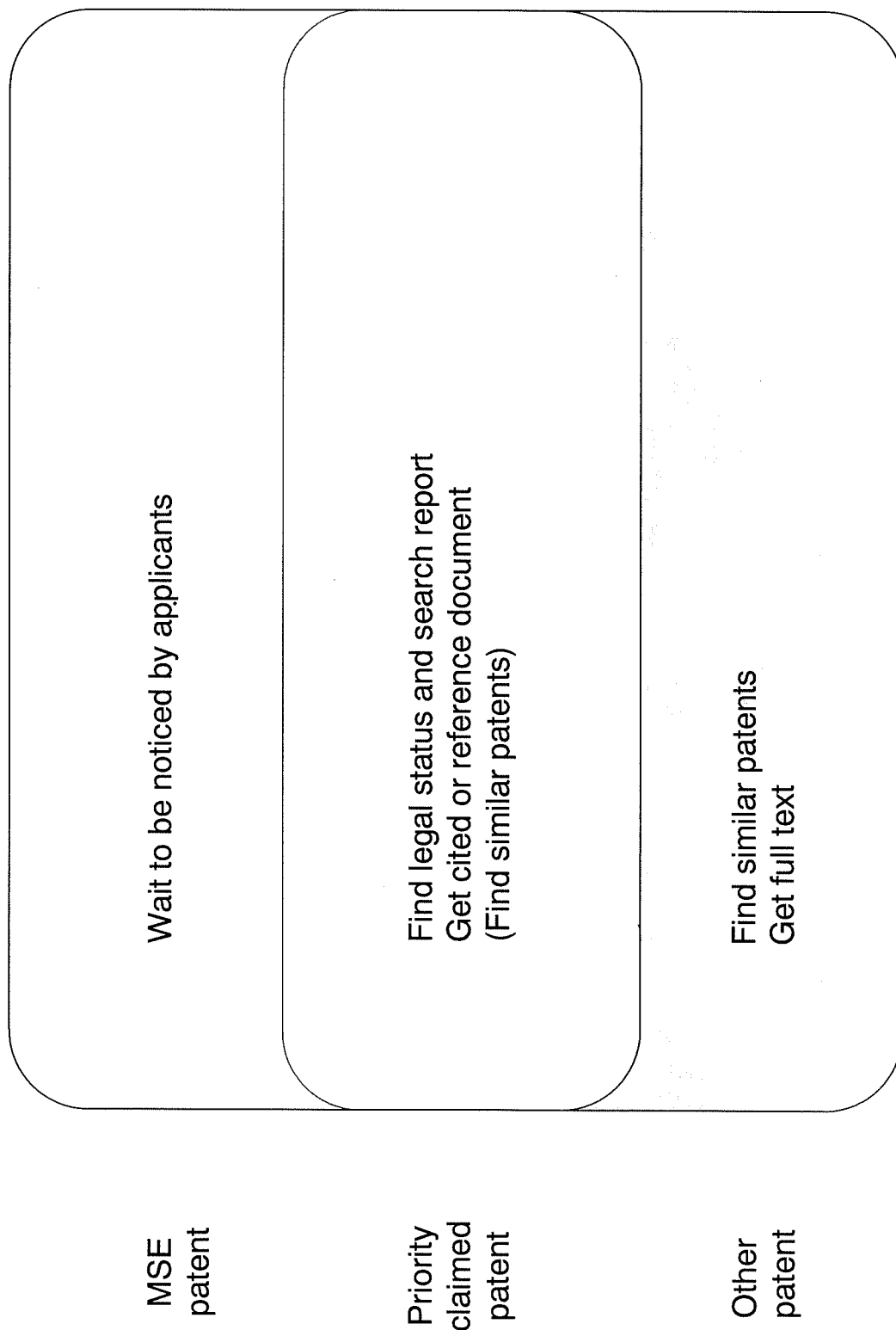
In view of the improvement measures, they can be classified into two types. One is the measure, which is the combination of IPDLs and Index CD-ROM, requiring the improvement of Internet access speed. Another is the measure to build up a local disk library, using Index CD-ROM, and Full-text CD-ROM (Local Library Solution).

The second type of patent search work is applicable to the applications with the priority claim in other country. The examiners utilize the patent examination information provided by the country of the priority claim. The Bulletin CD-ROM, AIPN, and IPDLs are the available sources of information, and the improvement of the Internet access speed is the essential factor for upgrading the search environment in this case.

Since these solutions require a certain level of investment, and there are various factors which affect the influences on improvement results, it is necessary to assess the best solution after trials of each solution one by one. The disk storage library, particularly, requires a large investment if it is implemented without selection of CD-ROMs to be installed. More importantly, the investment might result in vain in a short period of time, depending on the progress of international cooperation in patents examination.



**Figure IV-3-2 Required Information for Patent Examination**





**Table IV-3-1 Tools for Patent Examination**

Tools	Bulletin CD-ROM	AIPN	IPDL	Index CD- ROM	Full text CD-ROM	PANTAS new online search	High speed internet access	Hard disk storage of CD-ROMs
Evaluation points								
Search and narrow down			X	<b>X</b>	X	<b>X</b>	<b>X</b>	X
Read full text		X	X		X	X	X	<b>X</b>
Print full text		X	X		X	X	X	<b>X</b>
Find legal status	<b>X</b>	<b>X</b>	X					
Find search report	<b>X</b>		<b>X</b>					
Find patent family		<b>X</b>	<b>X</b>					
Get cited and reference documents		<b>X</b>						
Cost	X	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	X	



### 3.4 Recommended Measures for Upgrading the Patent Document Search Environment, and the Basic Design

#### 3.4.1 Assumptions

Since the pattern of current document search will not continue for long in the future, in terms of search volume and patent examination process, and since the provision of foreign patent documents and information related to patent examination will change significantly in the future, the patent search environment needs to be flexible enough to meet the change. Especially, the large investment on upgrading of patent document search environment is not recommendable. Further, the IPD is recommended, firstly, to examine the possible solutions for reduction of workload of patent examiners with reviewing the current operational standards, and making use of international cooperation of patent document search.

The following indicates the items for IPD to review:

#### (1) Reduction of examination workload by pro-active use of MSE

While ordinary substantive examination requires approximately five days on average, the MSE requires only a half day and thus contributes greatly to reduction of workload.

At present, around 10% of foreign applications that are filed from the designated countries actually request the MSE. To encourage MSE, the following solutions are recommended.

- 1) To extend the period for submission of foreign patent certificates.
- 2) To encourage the use of the expedited examination system available in some countries.

When the request for the MSE procedure (including Japanese applications) increases, reduction of the workload in the examination process is expected to be as follows.

Percentage of MSE request	Annual examination workload (days/year)	Index (when the annual workload = 1.00)
10% (at present)	12,400	1.00
40%	9,200	0.74
60%	7,100	0.57
80%	5,000	0.40



(2) Use of foreign search reports

For the applications which are not eligible for the MSE, IPD requires foreign applications to be accompanied by information on the corresponding foreign application (or inherently same patent application) filed in the U.S., Europe or Australia, including the application number and documents relating to the examination, which are used to reduce the workload as far as possible. In practice, however, such documents have not been submitted by many applicants because they do not have to expedite the examination procedure if their applications were made prior to the amended act of 2000 (the validity is 15 years after the date of registration). Thus, it is important to create an incentive for the applicant to request the expedited process by revising the operational rule or by other means.

(3) To promote PCT membership

Malaysia plans to join the PCT in the near future. PCT membership opens up a new route for foreign applications. International applications pursuant to the PCT agreement are subject to international search and preliminary examination (upon request of the applicant), results of which are made into a report. IPD uses the report as the basis of its examination, saving considerable time and effort.

In fact, substantive examination takes only a half day for the application to which the search report is attached and its claims are the same as those in the original foreign application, compared to five days for ordinary substantive examination. The PCT report will shorten the examination period to the same extent.

At present, foreign applications account for more than 95% of all applications filed in Malaysia (as of 2001). If they are diverted to the PCT route, the workload can be reduced significantly. Therefore, it is important to promote the affiliation of Malaysia with the PCT.

### **3.4.2 Recommended Measures for Upgrading the Patent Document Search Environment and the Basic Design**

The recommended measures can be classified into that for the domestic patent applications and for the priority claimed patent applications. The current focus of search environment upgrading in IPD is placed mostly on the former case.



#### **3.4.2.1 Upgrading of the search environment for patent examination of domestic application**

The measures to upgrading the search environment is composed of two steps of approach. The first step is improvement of the Internet access speed, and the second step, if the problem still remains after the first step measure is taken, is the improvement with building up of local patent document library (Figure IV-3-3). The two-step approach is recommended due to the fact that the approach to build up local patent document library is estimated to require large investment, and that the investment might become in vain in a short period of time. Therefore, even if the second step will be implemented, the investment is recommended to be limited to the minimum level only. At the same time, the reason why the solution with the Internet access improvement is the first step to be tackled, is that it is along the line of future direction of patent document search.

##### **(1) Upgrading through Internet access speed improvement**

This solution assumes IPDLs as the information sources, and Index CD-ROM and PANTAS Online Search System as the search tools, and proposes to take the following actions step by step, to improve the access speed to the IPDLs through Internet (Figure IV-3-4).

##### **1) Analysis of the results of upgrading of Internet access speed currently planned by IPD**

The Internet access speed at IPD is planned to be upgraded from the current 128kbps to 1.5Mbps. This will hopefully resolve the inefficiencies caused by slow response and freezing. However, it is required to carefully observe the effects of the speeding up. The analysis should be conducted after the Online services are operated in full scale in April 2003. The upgrading the line speed is not only for the examiners but also for the clients who uses the Online Filing and Online Search. These new services will cause the new clients to access increasingly to the IPD using the Internet, and might worsen the efficiency of examination.

##### **2) Installation of a proxy server**

Installation of a proxy server should be considered at the same time, exclusively for use by the examiners. The proxy server will be useful not only for investigating the network environment of the examiners, but also for the improvement reducing the traffic congestion of LAN in the IPD. Further, the cash mechanism of the proxy also effective to reduce burden of the IPDLs in some cases, avoiding the overlapping demand for file access.



**Figure IV-3-3 Implementation Approach**

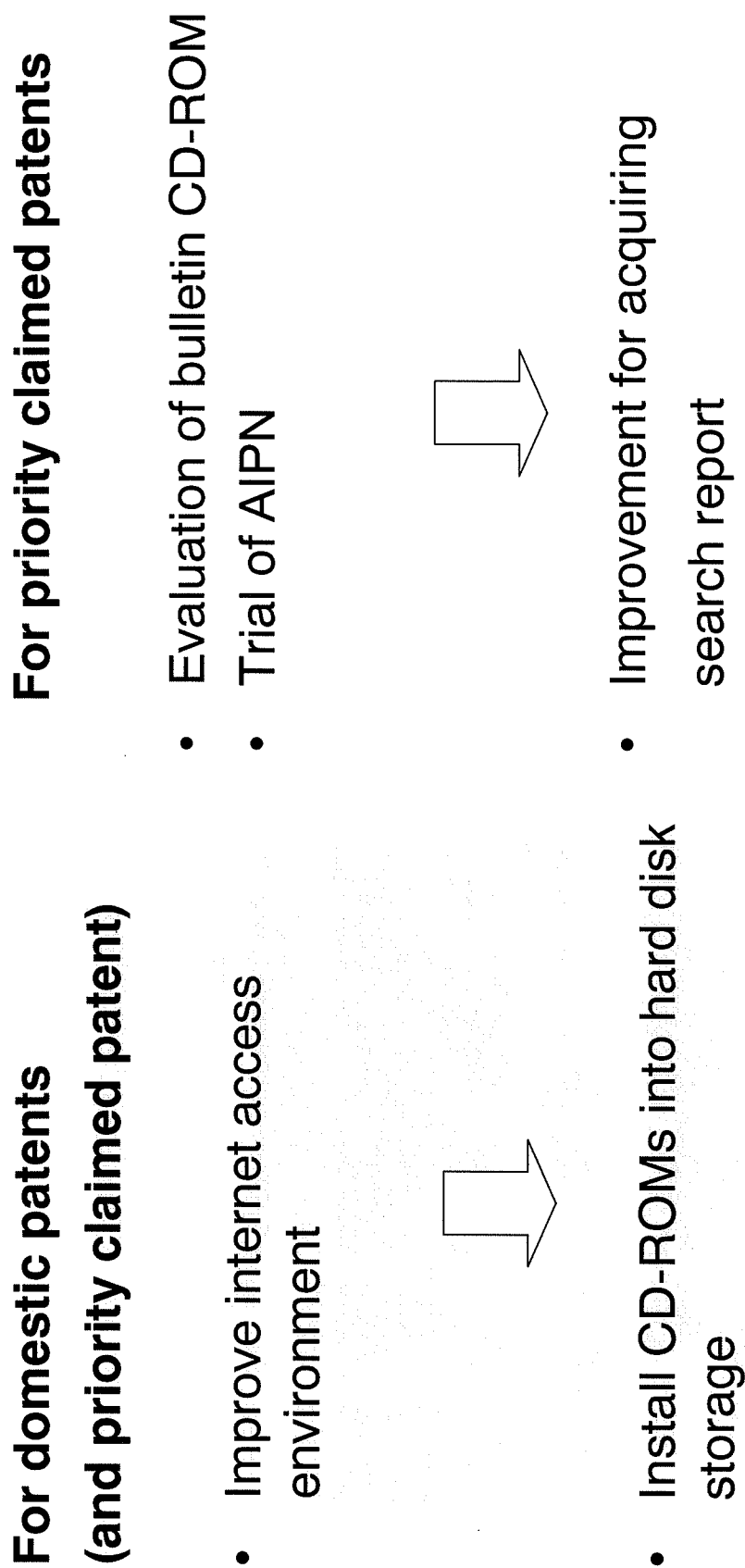
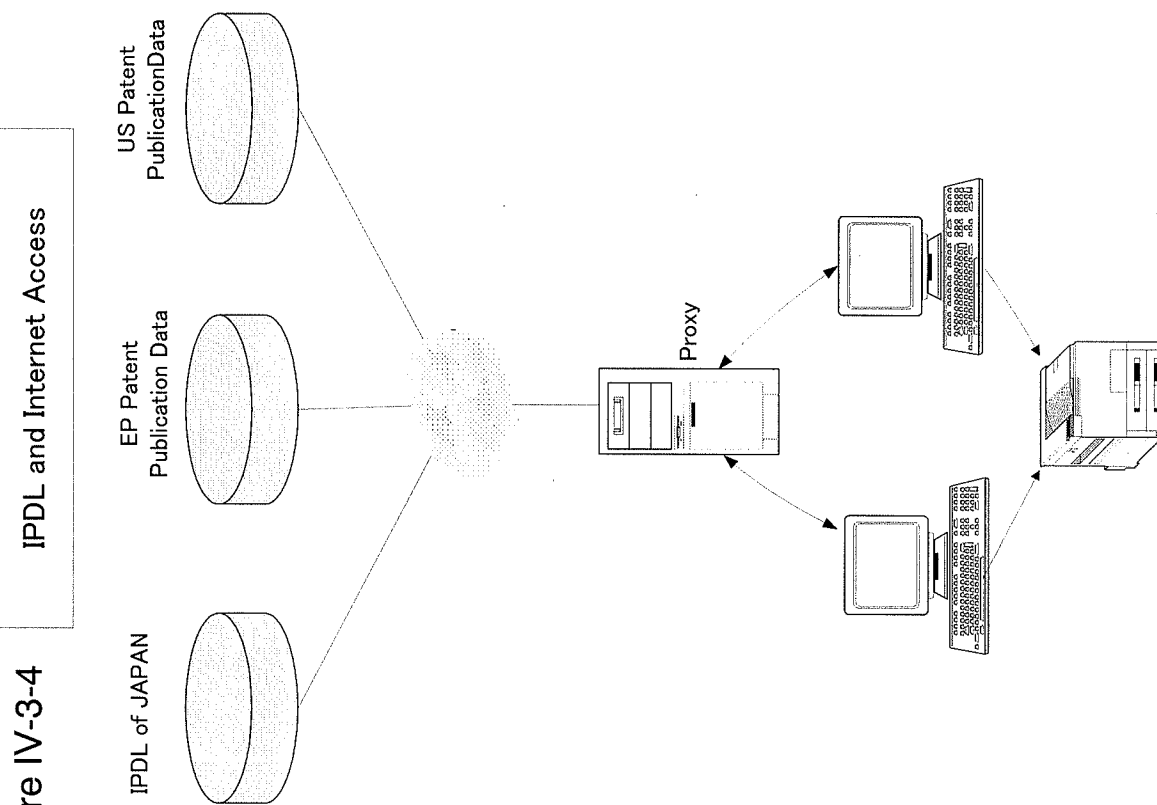




Figure IV-3-4





3) Analysis of cause of access speed deterioration

If the problem of response time still remains after the upgrading of the Internet access line, the further detailed analysis should be made for the network environment of IPD.

4) Introduction of an additional line connection

If the improvement of access speed is found difficult with the above analysis, introduction of an additional line connection from the proxy server is recommended, exclusively for examiners.

5) Study on improvement of efficiency in printing out full text of the documents

Most of IPDLs have measures to preventing heavy access by one user, and provide one page data at each access. Because of it, the examiners have to display or print out the patent documents page by page. If this problem still remains unsolved after taking the above measures, a measure should be studied for the full text printing.

(2) Installation of the CD-ROMs into Hard Disk Library

If the problems remain unsolved after all the above measures for upgrading the Internet access speed, are taken, then install CD-ROMs into a file server so that each examiner can directly access to the data from his or her PC and read and print the full text data (Figure IV-3-5).

However, this solution requires large hard disk storage to store CD-ROM data. In order to minimize investment, CD-ROM data to be stored on the hard disk should be limited to those frequently used.

With this, the search environment allows the examiner to find all full-text data (in a format retrievable by MIMOSA) from his PC, without changing CDs, and printout can be made easily. In addition, search can be made also, using MIMOSA Batch, which retrieves the stored CD-ROM data according to the conditions specified by the examiner.

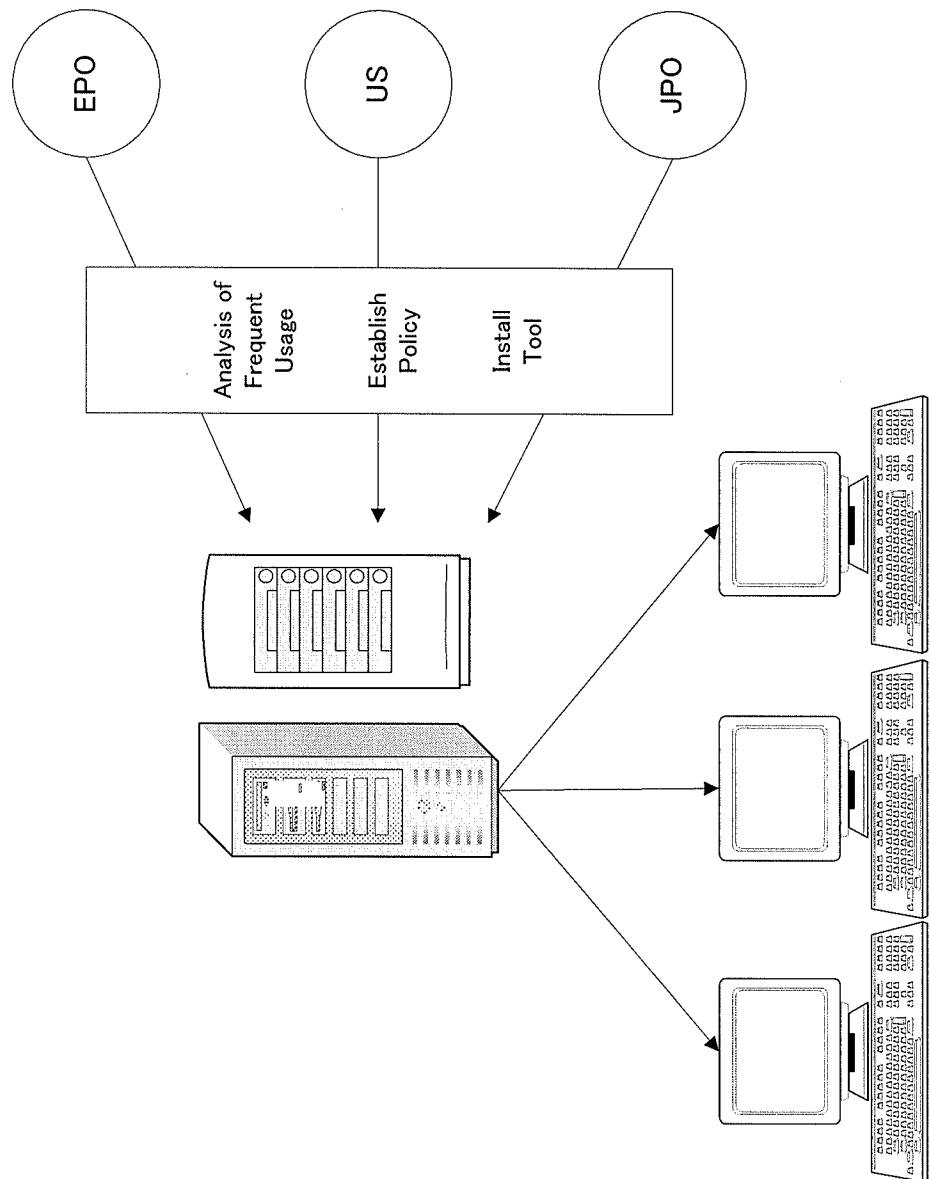
It should be noted, however, that CD-ROM data provided by the U.S., which are in the format retrievable by "Bibliographic" only, which cannot read the MIMOSA-format data from a hard disk, and thus should be read from each CD-ROM.

It takes long time to install a number of CD-ROMs one by one, and use of juke box type CD device is one of the options.



## Hard Disk Storage

Figure IV-3-5





#### **3.4.2.2 Improvement of search environment for patent examination of the priority-claimed applications**

The document search for the patent examination of the priority-claimed applications is the work to find out the patent information provided by priority claimed country.

The available information sources for this aim include Bulletin CD-ROM, AIPN, and IPDL. The following actions are recommended to be taken:

1) Upgrading of the Internet access speed, and installation of a proxy server

Japan Patent Office plans to provide AIPN (Asian Industrial Property Network) service to the Asian patent offices. AIPN service provides the information on the patents filed in Japan, which includes patent family, the legal status, cited documents, referred documents and abstracts in English. All documents published on the IPDL will be automatically translated into English. The AIPN, when it becomes available, is expected to increase efficiency of search process of the examiners significantly.

As AIPN services are exclusive for Asian patent offices only, it will require to register the IDs and passwords of the patent offices. In order to eliminate the login procedure, the users (patent offices) are requested to register their fixed IP addresses. The proxy server will help meet this requirement (Figure IV-3-6).

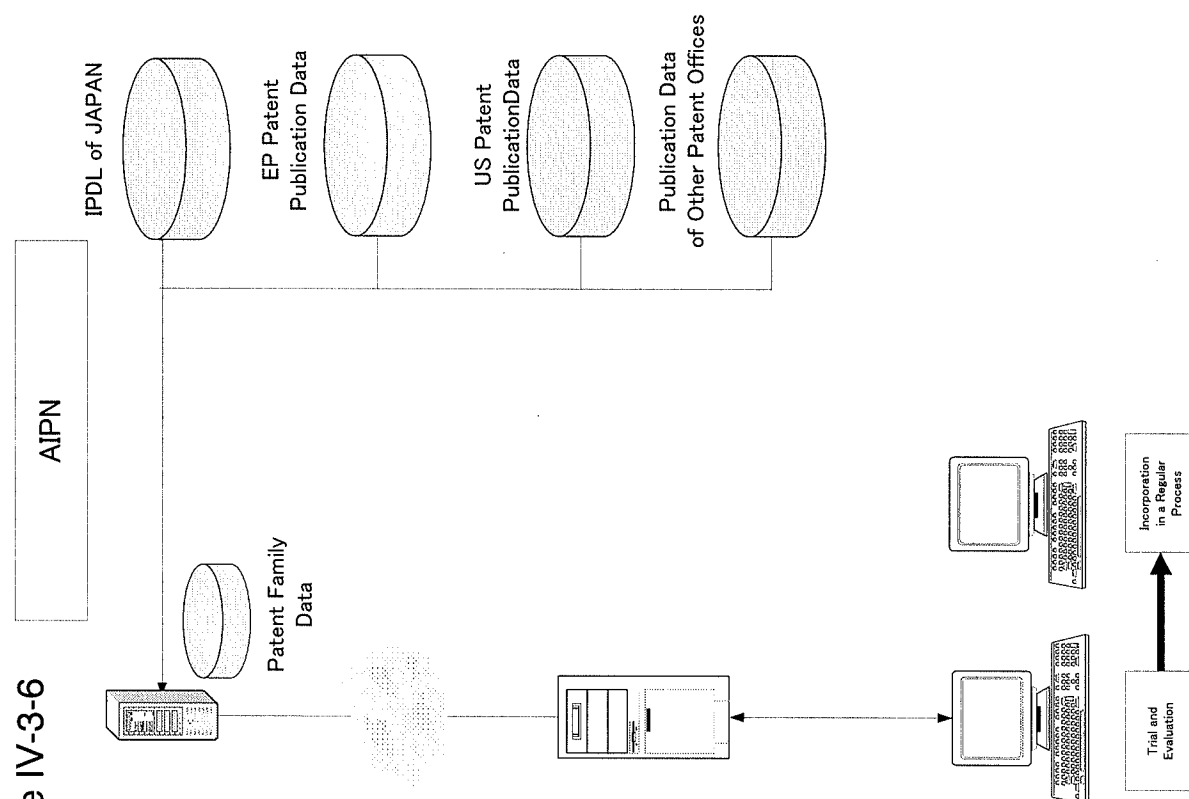
2) Use of bulletin CD-ROM

In parallel with the access to AIPN, evaluation of Bulletin CD-ROM is necessary. If it can improve the efficiency, regular subscription should be considered.

Automation procedure might be necessary to be studied to IPDL of EPO for self receiving procedure of legal status and search report.



Figure IV-3-6





## **4 Study on Upgrading of the Figurative Search System for Trademark Examination**

### **4.1 Objective**

In trademark examination, novelty relative to trademarks applied prior to the application domestically is examined. Newly applied trademarks will be examined with existing trademark records such as registered, applied and pending (The total amount of which is approximately 360,000).

The examination is carried out from the following standpoints.

- 1) Similarity in letters / words and phonetics
- 2) Similarity in figurative terms

As for examination of trademark, IPD has geared up for use of a VSS (Verbal Search System) to search letter / word and verbalism and a FSS (Figurative Search System) for the search of figurative trademark. Although VSS has been in use, FSS is no longer usable due to the reason described below. Therefore a figurative search for “Figurative” and “Figurative + Word” trademark is executed manually by collating with printed trademark on card.

The main objective of the improvement of the trademark figurative search system environment is to promote the efficiency of the figurative search.

Moreover, the following issues have been identified regarding trademark search.

- 1) Integration of the environment of figurative search and verbal search which are different at present.
- 2) Improvement of search service offered to the applicants.

IPD is developing a new online search system to solve these problems. The above problems are expected to be solved by completing the online system. This report, thus, will not propose a new system design and concept for this case.

However, the following is proposed for the improvement of the search system environment, to make it more efficient and effective on the basis of study of the current situation of search system of the IPD.



## 4.2 Status of present operation

### (1) Existing trademark search system

Trademark search consists of two services. One is examination for IPD examiners, and the other is search service for user from among the general public. FSS and VSS are newly developed computerized search systems for searching trademark. The two systems are operated independently.

FSS was provided to IPD by WIPO in 1997. However, IPD ceased data accumulation in FSS in 2000, and abandoned the use of FSS. It was because of the fact that the Nice classification, used as a classification code of FSS, was later enhanced from 42 to 45 classifications, and the WIPO did not modify the FSS accordingly<sup>4</sup>.

As the alternative measure, IPD has classified and file hardcopy cards and index cards (paper) that contain trademark information at the time of application. Examiners usually examine and collate applied trademarks using the above card, category by category in batch at regular period interval.

However, improvement of efficiency of the search for the examination is expected, since there are 16,000 - 18,000 applications annually (in total including verbal trademarks), and 360,000 of accumulated trademark data. The online search system now under development is expected to meet such trademark requirement.

### (2) Search environment in online system under development

The conceptual design for a search environment in a new system is proposed as follows:

#### 1) Simple trademark search

A simple search is available only with “key word” and “Classification code (Nice classification)”

#### 2) Advanced trademark search

In case the operator selects “Advance Search” from the screen of “(1) Simple trademark search”, the following options can be selected.

Search Criteria: - Exact Match \*Phonetics \*Suffix \*Prefix

Mark Type: - Figurative \*Verbal \*Combine

Search In: - Name of Mark \*Agent Name \*Applicant

Search Date: Filing Date MM-YYYY until MM-YYYY

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<sup>4</sup> Source code of FSS has not been disclosed.



In reference to the above option items, VSS and FSS seem to realize an integrated search environment. These are search options for applicants, and the design concept of the search system for examiners has not been fixed yet.

#### **4.3 Recommendations on Environment Improvement of Search for Trademark Examination**

Since the online search system under development is not finalized, it is early to comment on the system. Rather, the following recommends the required conditions of online trademark search system in general, for the reference of further upgrading of the system in the future.

##### **(1) Recommendation on upgrading of the figurative search environment**

###### **1) Scalability in the future**

- a) Currently the Nice classifications number 45 but may be increased. The system should be scalable to meet future demand.
- b) The number of trademark applications in Malaysia is expected to increase by about 10% per year in the future, so the system must be provided with enough capacity to cope with such an increase.

###### **2) Operability**

Operability is essential particularly in the case of trademark search since the number of applications is large. In addition, there is a possibility of the search by examiners to conflict with that of general public with start of online search service. In this context, it is necessary to secure at least the following;

- a) Securing of integrated operation of VSS and FSS search
- b) Temporal stability of the output of the search result.
- c) Security of the search efficiency for operation by examiners in case the search service could be accessible from the outside in the future.
- d) As the number of applications increases, the scale of human resources such as examiners and contract workers is expected to be built up. The system thus should have a user-friendly interface that provides an adequate, swift educational facility and help function to reduce instruction and learning time and cost.
- e) To confirm detailed information on the records that are “hit” by the search processing, the detailed information should be capable of being extracted through an easy operation.



3) Compatibility with present system

- a) The trademark search should also be applicable to the data that has been accumulated in CS through the present.
- b) Although the accumulated data in CS is also used for patent searches, there should be assurance that mutual search efficiency is not adversely affected.

4) Coordination with other systems

- a) An account subsystem should also be adopted in parallel so as to prevent load on the system caused by an unnecessary search, collecting fees for every search.
- b) A member registration management subsystem should be implemented to protect against unnecessary access and control collection of charges due from users' accounts.

(2) Problems in VSS operation

Search response time is at present a problem in trademark search work using the VSS. Response time has become longer and has lost stability lately though it took about one minute ordinarily.

The following factors prolong search response time.

1) Influence of preparation work for the new online system

Generally, registration and updating of the database increase the load on the system relative to the reference process. At present, the following are being implemented as preparation for online system operation, resulting in the possible increased load to the system.

- a) "Trademark" application forms are being image-scanned, and image data files of the whole application forms are being created and stored.
- b) The figurative part is pulled out from the above-mentioned scanned (whole) image data, using a graphic editing tool, and the image file of figurative part is created attaching the application number.
- c) Registration of the image file created in b) as trademark figurative data stored in the CS database.

Generally, registration/updating process to the database increase the load on the system compared with the reference process.



2) Load created by W&IS (Workflow and Imaging System) operation

IPD is scanning all the paper application forms for trademarks and patents in order to preserve them for possible use over a very long period, using electronic memory media. W&IS is used as software to manage the image data.

W&IS is installed in the CS platform, and high-frequency-operation for preservation of the image data could be conceived of as a cause of the load on CS.

The following action plan is presumed to be the solution to the problem.

Solutions	Concepts
Solution (1): Improvement of machine performance	The solution is to upgrade the processing performance of the machines. The following options are possible solutions.  1) Processing performance is improved by installation of additional CPUs and memory.  2) Processing performance is improved by installing CS on the machines, the CS conforming to new, advanced specifications (more power, more memory).
Solution (2): CS and W&IS are installed in separate machines	
Solution (3): Adjustment of operation time zone	If the operation time for workers and examiners are assigned so as to be in separate time zones, the load on the machine will be reduced.
Solution (4): Wait for the solution without action	The current work load consists mostly of processing accumulated backlog, so that the problem will be cleared up in time, if the backlog is worked off. Therefore, one choice is to not take action for the time being, and to convince the examiners to accept the inconvenience for a while.

The table below shows the additional hardware and software requirement for each case.

Since the trademark searches are planned to be undertaken with the online search system under development, the proposed solution must be examined again after the online search system goes into use.

At present (prior to transition to new online search), solutions 1-(2) and 2 are not recommended due to high investment in hardware and software. Solution 1-(1), or installation of additional CPU and memory, is the most noteworthy option in terms of reasonable cost requirement and possible reduction of the examiners' burden.



Proposal No.		Hardware	Software	Remarks
1	(1)	Additional CPU & memory are required. Cost: Small	Not required	Additional CPU & memory device on the existing computer.
	(2)	New machine is required. Cost: High	Not required	Installation of CS on new machine of high specification hardware.
2		New server is required. Cost: Middle	Not required	Another server machine is required for CS or W&IS.
3		Not required	Not required	<ul style="list-style-type: none"> <li>• Change of operation rules &amp; work condition are required.</li> <li>• Overtime cost is required.</li> </ul>
4		Not required	Not required	Solution without any action.