No. 46

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

INTELLECTUAL PROPERTY CORPORATION OF MALAYSIA (IPCM),
MALAYSIA

STUDY
ON
ENHANCEMENT OF INTELLECTUAL PROPERTY RIGHTS ADMINISTRATION CAPACITY THROUGH UTILIZATION OF INFORMATION TECHNOLOGY
IN
MALAYSIA
(PHASE 2)

(SUMMARY)

FEBRUARY 2005

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Abbreviations

AIPN	Advanced Industrial Property Network
API	Application Program Interface
CD	Compact Disc
CD-ROM	Compact Disc Read Only Memory
CPU	Central Processing Unit
CS	Common Software
DB	Data Base
DVD	Digital Video Disk
EPO	European Patent Office
ECAP II	EC-ASEAN Intellectual Property Rights Co-operation Program II
FSS	Figurative Search System
ICT	Information and Communication Technology
ID	Identification
IDF	Industrial Design Form
IPCM	Intellectual Property Corporation of Malaysia
IPD	Intellectual Property Division
IPDL	Intellectual / Industrial Property Digital Library
ISP	Internet Service Provider
IT	Information Technology
JPO	Japan Patent Office
Kbps	Kilobits per second
K-Economy	Knowledge-based Economy
LAN	Local Area Network
MB	Megabyte
Mbps	Megabits per second
MDTCA	Ministry of Domestic Trade and Consumer Affairs
PANTAS	Patents and Trade Marks Automation System
PC	Personal Computer
PCT	Patent Cooperation Treaty
R&D	Research and Development
SAGA	Standard Accounting System for Government Agencies
SQL	Structured Query Language
TRIPS	Agreement on Trade-Related Aspects of Intellectual Property Rights
USPTO	United States Patent Office
VPN	Virtual Private Network
WIPO	World Intellectual Property Organization
WWW	World Wide Web

Table of Contents

1 Outline of the Study and Organization of the Report

1.1 *Objective, Background and Scope of the Study*

1.1.1 Objective of the Overall Study

The primary objective of the present study is to enhance the capacity of the Malaysian Government to deliver administrative service relating to intellectual property rights (IPR) through the effective use of information technology (IT). An emphasis is placed on administration work in the fields of IP administration, including the processes of application, examination, registration, and search.

The Study consists of two Phases. The present study is Phase 2, and in which following were carried out to achieve the objective of the overall study, on the basis of the results of Phase 1.

1) Development of a pilot computerized system for the purpose of realizing effective administration of industrial design application and registration, and the evaluation of the system in view of efficiency improvement and effectiveness;
2) Study for upgrading of patent document search environment through internal and internet traffic analysis; and
3) Recommendation of future plan for further improvement of the IPR administration through use of IT.

1.1.2 Background of the Study

(1) Background of the overall study

The development and upgrading of technical and creative capabilities have been encouraged in Malaysia, including R&D and design activities at home, while introducing advanced technology and management know-how to support development of such capabilities. As a result, the number of applications for the industrial property rights[1] in the country has been growing rapidly.

The Ministry of Domestic Trade and Consumer Affairs (MDTCA) is responsible for public administration relating to intellectual property protection, and the Intellectual Property Corporation of Malaysia (IPCM; formerly Intellectual Property Department, or

[1] The intellectual property rights related to industry, including patents, utility innovations, trademarks, and industrial designs, etc.

IPD) is in charge of field operation of the IP protection system. The administration system of IPCM has been computerized with the cooperation of WIPO, with establishment of Patents and Trade Marks Automation System (PANTAS), which is a system using the Common Software (CS) as the core software.

However, further upgrading of the administration system has been recognized as necessary by IPCM for improvement of efficiency of the administration process.

Under such circumstances, the Government of Malaysia made a request for the present development study to the Government of Japan in August 2001. In response, the Japanese Government sent a preliminary study team to Malaysia in March 2002 and discussed with the Malaysian counterpart a general framework, contents and other particulars of the development study. They agreed and signed the Scope of Work, and the Phase 1 Study was undertaken during the period of July 2002 through January 2003.

(2) Background for Phase 2 Study

Major activities undertaken during Phase 1, and decisions made on the scope of Phase 2 are outlined as follows.

1) Basic design of a pilot computer system for improvement of efficiency in industrial design rights administration

The industrial design rights administration and examination process was analyzed in detail and a basic design for a computerized system to improve the efficiency was developed. The Malaysian Counterpart requested that the study proceed further, to the development of the pilot computerized system.

2) Basic design of a pilot computerized system for improvement of efficiency in the environment for patent document search

The examiners' workloads relating to patent document search were analyzed, and the study team recommended that the future system should be based on Web-based searching, and the Malaysian Counterparts agreed to this. However, since it was observed that the present Web-based search system was very slow and frequently stalled, causing loss of efficiency in examination work, the study team analyzed the problem and identified the need for further network analysis.

At that stage, it was planned to speed up the Internet access to implement online application and search work for patents and trademarks. At the same time, the internal networks were being made subject to an increasing load due to the input of trademark image data. In anticipation of the imminent and drastic changes in the

Web-based system environment, the Malaysian Counterparts requested that further network be undertaken in Phase 2, when the changes have subsided.

1.1.3 Scope of the Phase 2 Study

Based on the results of the Phase 1 Study, as described above, the scope of work for the Phase 2 study was agreed as follows:

1) Development of a pilot computerized system for effective administration of industrial design application and registration, and evaluation of effectiveness of the system;
2) Study for upgrading of the patent document search environment through internal and internet traffic analysis;
3) Recommendation on future plan for further utilization of IT in IPR administration.

1.2 Organization of the Final Report

The final report covers all the aspects of the present study, including the content of the progress reports, and of the Interim Report prepared and submitted throughout the Study.

The report consists of two volumes: "Summary" and "Main Report".

The "Main Report" consists of four parts: "Part 1: Outline of the Study and Organization of the Report", "Part 2: Development of a Pilot Computerized System for Administration of Industrial Design, and Assessment of its Effectiveness", "Part 3: Network Analysis for Improvement of the Patent Document Search Environment", and "Part 4: Recommendation for Further Improvement of Intellectual Property Administration through Utilization of IT".

"Part 1: Outline of the Study and Organization of the Report" describes the objective, scope and outlines the implementation of the Study. "Part 2: Development of a Pilot Computerized System for Administration of Industrial Design, and Assessment of its Effectiveness" describes the contents and the expected effects of the pilot system, which was developed in order to improve the efficiency and quality of industrial design administration. "Part 3: Network Analysis for Improvement of the Patent Document Search Environment" analyzes the transaction capacity of the internal lines of IPCM and the Internet access line, and assesses the line capacity in view of the future administrative requirement of IPCM. Finally, "Part 4: Recommendation for Further Improvement of Intellectual Property Administration through Utilization of IT" recommends the possibility of use of IT for further improvement of IP administration, reviewing the whole process of administration and user services.

2 Development of a Pilot Computerized System for Administration of Industrial Design, and Assessment of its Effectiveness

2.1 Background and Objectives

Among the industrial property administration systems of IPCM, those for patents and trademarks are computerized using Common Software (CS), and the data has been stored in the database of CS. The administration of industrial design, however, depends totally on papers documents and manual works.

The present study is to develop a pilot computerized administration system including search function for the industrial design, to improve its administrative procedures.

Phase 1 of the study analyzed the administrative process of the industrial design in detail, and carried out the basic design for the computerization. In Phase 2 of the study, a pilot administration system was developed based on the basic design, and the effectiveness of the system was studied.

2.2 Concept for the System Development and the Basic Policy of the Design

2.2.1 Scope of the Services of the System

The Industrial Design Administration System is composed of the 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 warehousing 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 manages cash and checks.
3) Search System	This system provides functionalities for searching 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 a PC. Using this system, it is almost unnecessary to use paper documents.
5) Management Support System	This system provides "To Do List" for every operator, and monthly and yearly statistical 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 the system administration staffs.

Introduction of the following sub-systems are under planning for patents and trademarks administration, but are not assumed for the industrial design administration.

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.

2.2.2 Development Concept

The following conditions were presumed in the system design:

(1) System based on the actual operation

The system developed is based on the current operations. The system developed, therefore, includes a search tool to be used for examination on novelty, which has been performed in the process of formality examination, to find out if there are the same or similar designs among the prior filings and the registered designs.

(2) Consideration on operational size

The system is assumed to be operated by the current number of staffs and examiners (around 10 persons) even with an increase in the number of applications in the future.

(3) Consideration of the relationship between the Online Filing and Online Search Systems being planned

Online filing and search systems, which are similar to those being planned for patents and trademarks, are excluded from this system. This is to avoid the difficulty of

defining the cause of problems, which might occur either in the online system or this system. If the online system is included before the operation of the system is commenced, the problem area will become difficult to define.

Rather, we recommend studying the concept of the online system, on the basis of the experiences on operation from the full-scale operation of the base administration system, and solving all the possible problems of the system.

2.2.3 Policies for Basic Design

The Pilot Administration System of Industrial Designs was designed with the following policies.

(1) Flexibility for change in the environments

Since the administration system of industrial designs in Malaysia was enacted in 1996 and came into force on September 1, 1999, and not enough time has passed for experience covering all cases and internal operation rules of IPCM to be accumulated, the system is expected to be revised in the future, based on the actual practices. Moreover the standardization of formats and procedures are still subject to change under the influence of international activities and international cooperation among IP offices. Such changes in the international scene may affect the operation rules of individual countries. Thus, the present computerized system was designed to be flexible enough to for easy adjustment to the changed environment.

(2) Modification of the administration procedure in view of efficiency improvement

Within a certain range, which complies with the Act and Regulations, some administration processes were modified, but modified so as to ensure that the modification contributes to efficient administration.

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

Considering the end users' (or operators') convenience, the System was designed to ensure the operational compatibility with the current system for patents and trademarks. The conformity of database was also maintained with them.

2.3 Details of the System

2.3.1 Control Structure of the System

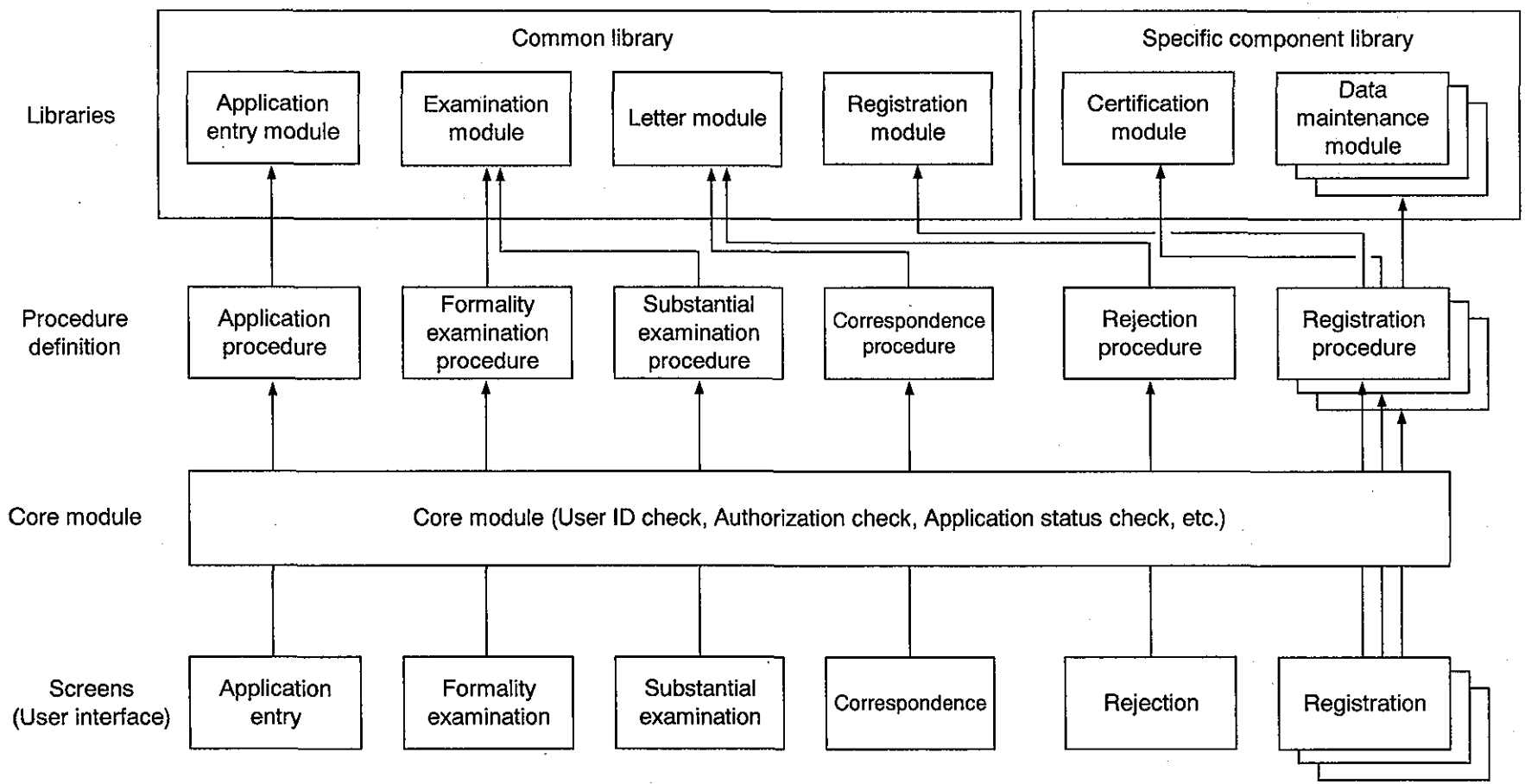
The control structure is comprised of the following four elements: 1) components commonly used for all the administrative processes (core elements); 2) components used in more than one administrative processes (common component library); 3) components used in a specific process only (specific component library); and 4) data defining components to be used in respective administrative procedures.

The above structure was adopted to enable the system to have the following features:

1. Expandability: When Malaysia desires to add a new administration process or change application procedures in the operation process, it can be accomplished by merely adding or changing an appropriate library and by changing the definition data, without changing the system's core element.
2. Versatility: The system can be easily applied to administrative procedure of other IPRs by changing the library elements and/or definition data.

The application control structure is shown in Figure 2-1 on the next page.

Figure 2-1 Architecture of Program Module Control



2.3.2 Requirements for the System

The system meets the following requirements:

(1) Language

The item names which appear on the screen are based on English language only. But the data, which are entered from a keyboard, can be Bahasa Malaysia.

For the availability of multi-languages, the system uses the Unicode system.

(2) Registration Number

The system 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)[2]. For migration data of extended UK registrations, the form "UK(E)99/9999" is applied.

(3) Document Size

The pilot system reads the scanned images and displays them on the screen. The pilot system assumes that the documents are in A4 size.

(4) Management of Applications 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

a) Management of Applications for Registration

The system keeps and manages all the necessary data of application in the database, and the data can be retrieved when necessary.

b) Maintenance of Registrations

The system handles the registration of assignment of rights of owners.

c) Management of Status

The system manages the legal status of the filed applications (status of rights of applicants) and it clearly shows its status anytime.

d) Management of Other Documents than Application for Registration

The system electronically manages other documents which are received after filing of applications.

[2] For an application with more than one designs.

e) Management of Corresponding Documents

The system manages the corresponding documents exchanged between examiners and applicants. It also provides the function to register templates of frequently used letters and generate letters easily.

(5) Search for Examiners

The system provides search functions to retrieve stored designs by indicating Locarno Classification, name of articles, range of filing date, range of registered date, applicant name, country of applicant, priority country, agent name or combination of these.

(6) Search for Public

The system provides 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 means of an instruction by the operator, the system generates a Gazette sheets file in "Word format" if the application is granted.

(8) Certificates

By means of an instruction by the operator, the system generates a certificate file in "Word format" if the application is granted.

(9) Diary

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

(10) Management of Application for Agent

The system provides the function of registration of agents.

(11) Statistic Reporting

The system provides monthly and yearly statistic reports.

(12) Registration of Frequent Used Letters

The templates of frequently used letters can be registered and can be retrieved when an examiner needs to make an outbound letter.

(13) Access Control

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

(14) Registration of Users

The system provides the function of registering a user, ID, password, and the groups which he belongs to.

(15) Conformity with Existing Database

The system maintains conformity with the Informix used in the system for patents and trademarks. Although the system adopts the SQL Server of Microsoft as the database software, it can import data from the Informix database through standard database format.

(16) Existing Infrastructure

a) The existing LAN is used for the system. The LAN segment is applied to the system to avoid unauthorized access to the system.
b) 10 PCs each with a 17-inch display are used to fulfill the requirement for examination and for display of document image.

(17) Migration of Existing Data

Migration functions to register designs granted are provided. The workload of the data entry of the migration is performed by the IPCM.

(18) Payment Management

The system will provide functions to calculate fees and print receipts. The accounting function is out of the scope of the pilot system.

(19) Document Management

The system provides for storing received documents as image data and to retrieve and display on PCs.

(20) Capability for Minor Changes

The architecture of the software provides flexibility to adjust to the necessary changes. The processing software is composed of core functions, library parts, and procedure lists. Minor changes can be done by changing the procedure lists. The other changes can be made by modification of the library parts.

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

The architecture permits connection to the Online Filing and Online Search System. The database structure and status management system allow adding functions to receive data in files, and register them temporarily.

2.3.3 Structure of Hardware

The pilot system is composed of 6 types of hardware, (1) WWW server, (2) application server, (3) DB server, (4) file server, (5) backup server, and (6) PCs (client terminals). Figures 2-2, 2-3 and 2-4 show the architecture of the system, Application Programs Architecture, and Configuration of Hardware, respectively.

Figure 2-2 System Architecture

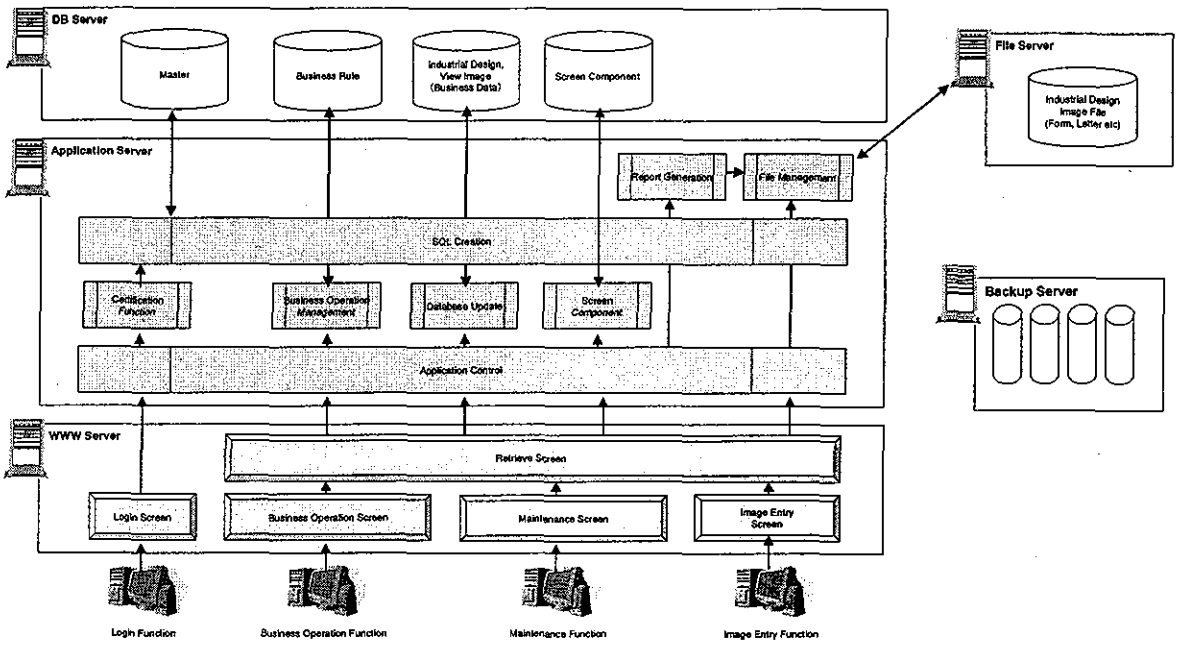
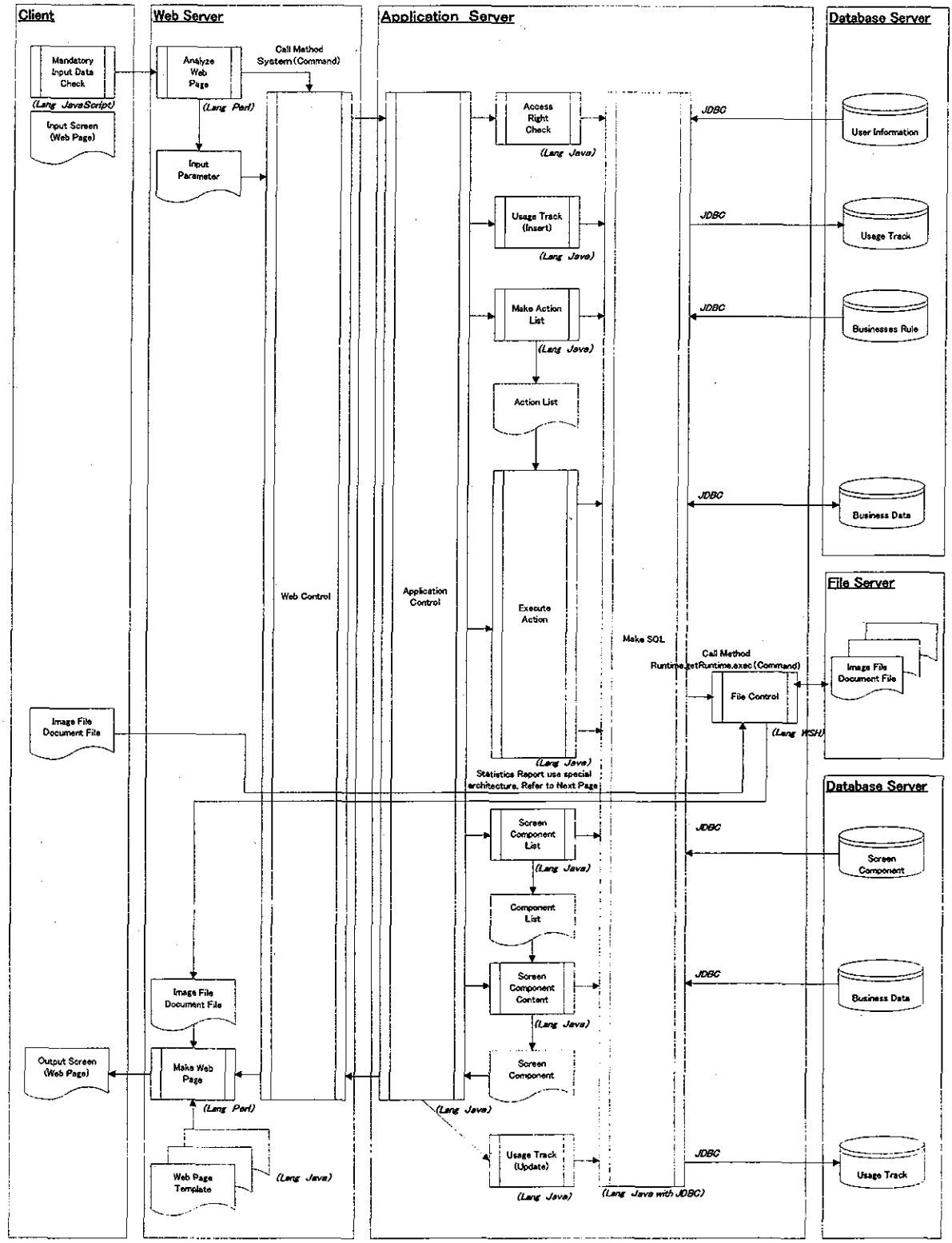


Figure2-3 Application Programs Architecture



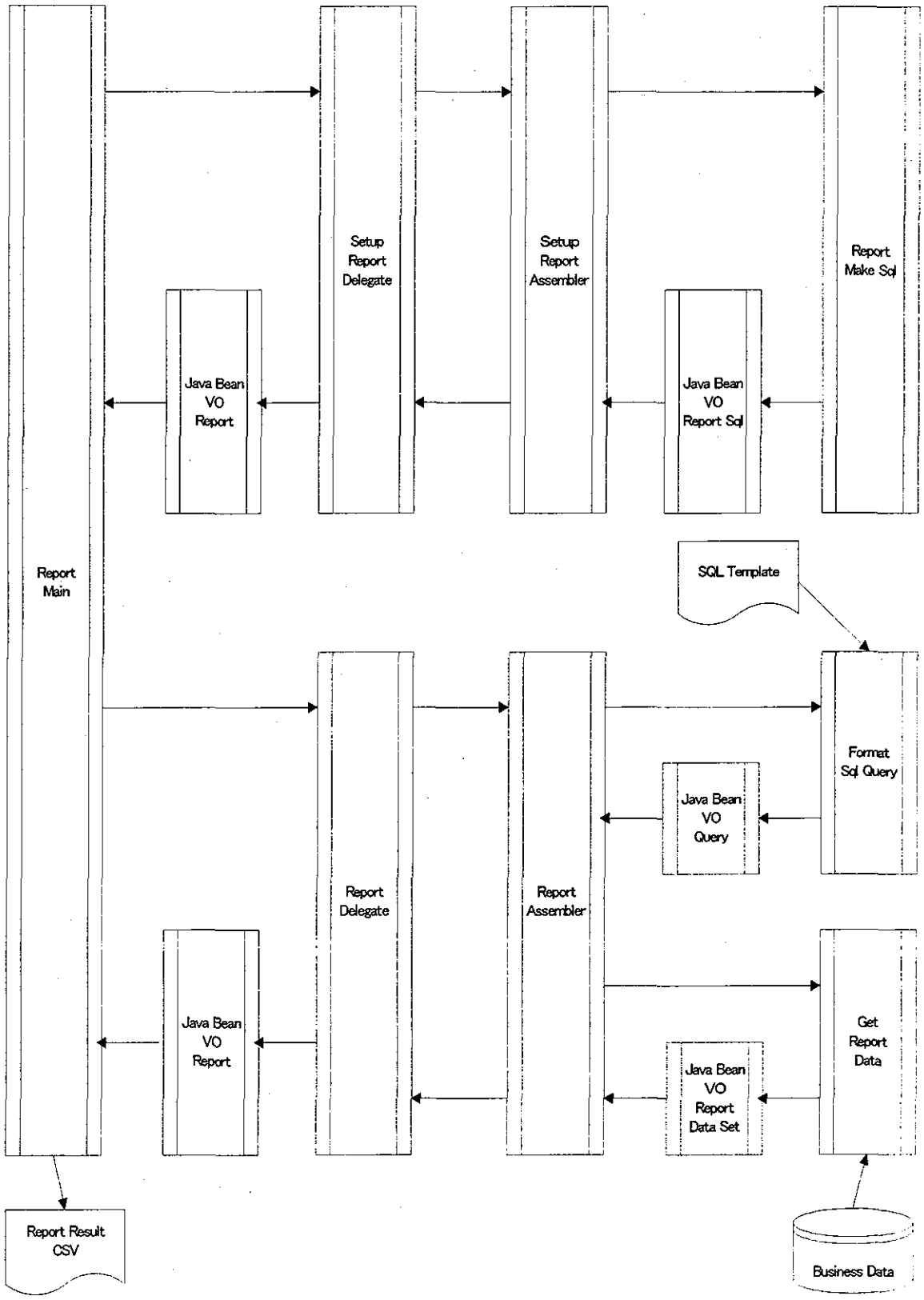
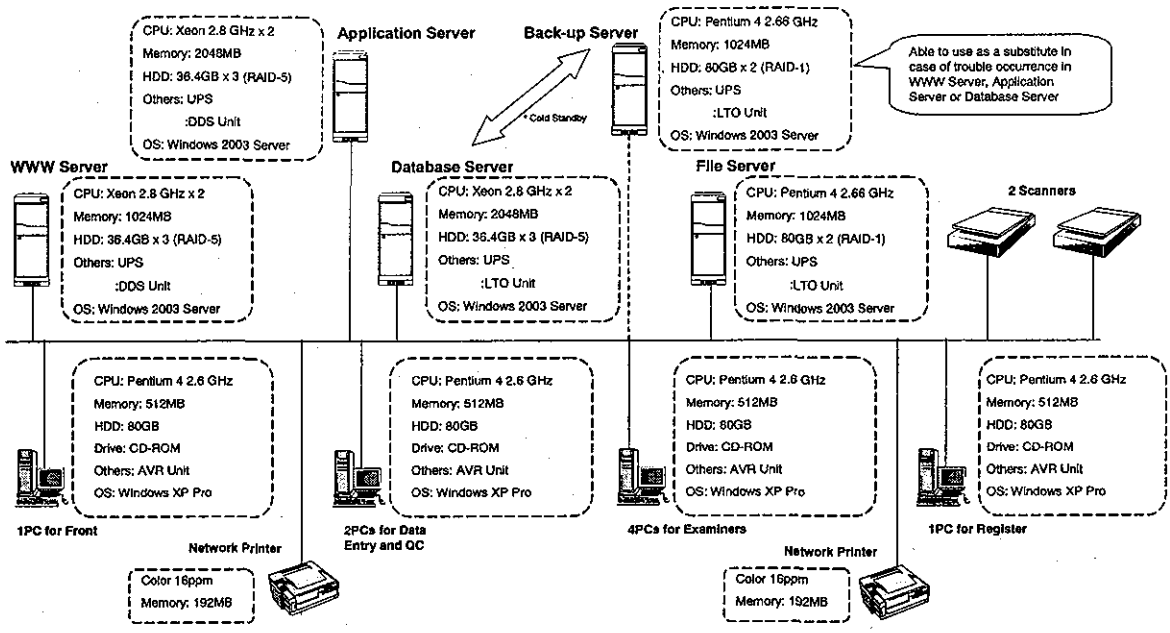

Report Main
Setup Report Delegate
Setup Report Assembler
Report Make Sql
Java Bean VO Report
Java Bean VO Report Sql
SQL Template
Format Sql Query
Java Bean VO Query
Report Delegate
Report Assembler
Get Report Data
Java Bean VO Report
Java Bean VO Report Data Set
Report Result CSV
Business Data

Figure2-4 Configuration of Hardware



2.4 Assessment of Effects of the Pilot Computerized System

Introduction of the computerized system will reduce the work load, but it will not result in reduction of staffs, because of the facts that:

1. The total volume of the work load is small, and number of clerks and examiners are assigned at the minimum required level. If the number of clerks and examiners is reduced further, the checking system in the administrative procedure will be affected adversely. Therefore, even if the work load becomes less, the current number of assignment of clerks and examiners must be maintained.
2. The reduction of work load in examination will not be significant. Since the substantive examination is not applied to industrial designs in Malaysia, the current work load of the examiners are not as heavy as that of patent examination.

Rather, the effects of the computerized system can be expected in the following areas:

(1) Improvement of accuracy of examination

In the case of the examination of industrial design, formality examination and other checks defined in the act is conducted by one examiner.

The search at the examination is not efficient enough, since the examination for similarity is performed by manually searching the files of representations as classified by the Locarno method.

Introduction of a computerized system will contribute significantly to improvement of efficiency and accuracy of the searching, as a result, of examination, since the system enhances the visibility and helps ensure that existence of similar designs is not overlooked, by displaying 18 designs, which are in the same Locarno classification, on the screen at the same time in the form of thumbnail images.

(2) Management of registered industrial designs in an organized manner

The current Register is separated into three types of Registers, namely, Filing Register, Registration Register, and Extension Register, for which a supporting staff register and an examiner signs for confirmation. When a registrable event happens, the event is registered in one of the Registers in question, in sequence. Retrieval of all the historical registrations by application is very hard to make. Examiners have to get all the dossiers in which historical notes of the target application are listed, to know all the histories of the application. Since the Registers do not contain the list of information, it does not provide any index to the target registration. Currently examiners depend on their memories for finding them.

The pilot system keeps all the items in the form of application for registration (IDF1) and important items of rest of the forms in the database.

(3) Improvement of convenience of applicants

When agents or applicants wants to make research on the filed designs, they have to use the files, which contains representation according to the Locarno classification, together with the index cards containing bibliographic items, in the library room of IPCM. All the views of registered designs are filed in sequence of registration date in the separate file according to the Locarno classification. Each view contains the registration number, without information on applicants or filing date. These data are available only from the index cards which are sorted in sequence of filing date. Thus, the process of search is not efficient.

A part of the search functions of the System will be made available for pubic users who use the PCs in the library of IPCM. The information, which will be made available by the search functions, is limited to those matters or items which can be open to the public. This search service will provide tools for users to make efficient research reducing the risk of missing items in the search.

(4) Increased transparency in registration and operation procedures

The introduction of a computerized administration system will enable retrieval of all the designs in one view, including that had been rejected, according to the status specified with search keys. This is particularly useful for novelty examination, which has been carried out partly in the process of formality examination. This function enables an overview of the results of examinations under specifically designated conditions, resulting in increased transparency in registration and operation procedures.

3 Network Analysis for Improvement of the Patent Document Search Environment

3.1 Background, Problems and Objective of the Analysis

(1) Conclusion of Phase 1 Study, and Scope of Phase 2 Study

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.

In Phase 1, the current search environment of foreign patent documents was studied to improve the efficiency of patent examination.

Various international cooperative efforts, especially under the leadership of the WIPO, are underway to reduce the workload of patent examiners. It was pointed out, in this connection, that the storage and use of all patent documents on the hard disk would be costly, and that the considerable investment required for storing the documents on hard disk could become wasted in the short-term future, if the international collaborations become readily accessible via the Web. Thus, it was concluded that the future system should be based on a Web-based search. However, since it was observed that the present Web-based search system was very slow and frequently stalled, reducing the efficiency of examination work, the need for further network analysis was identified.

The objective of Phase 2 Study was agreed to be the determination of the proposal for improvement on the basis of the analysis of the Internet access environment.

(2) Change in IT environment afterwards

IPCM has started to convert the current paper-based data to electronic data. The main work consists of scanning of paper document data to image file data, particularly of trademarks, and migration of the image file data to CS database. This work has caused overloads on the CS, and the search time for trademarks and patents was increased significantly, affecting the examiners workload seriously.

On the other hand, a large number of staffs were newly recruited occasion of corporatization to IPCM, and the number of terminals was also increased. IPCM enhanced the internal network to 100/1,000 Mbps to avoid the danger of over load of the system that could be caused by the increased number of terminals in use. IPCM implemented the following measures accordingly:

1) Independent server configuration for trademark and patent administration
   IPCM introduced two dedicated servers, and made each system run independently on a separate server.
2) Introduction of Documentum
   IPCM upgraded the capacity for quick searching and storing of image files.

Figures 3-1 and 3-2 show the server configuration and the equipment configuration for network connection, after the above measures were implemented.

Figure 3-1 Current Configuration of Server Equipment

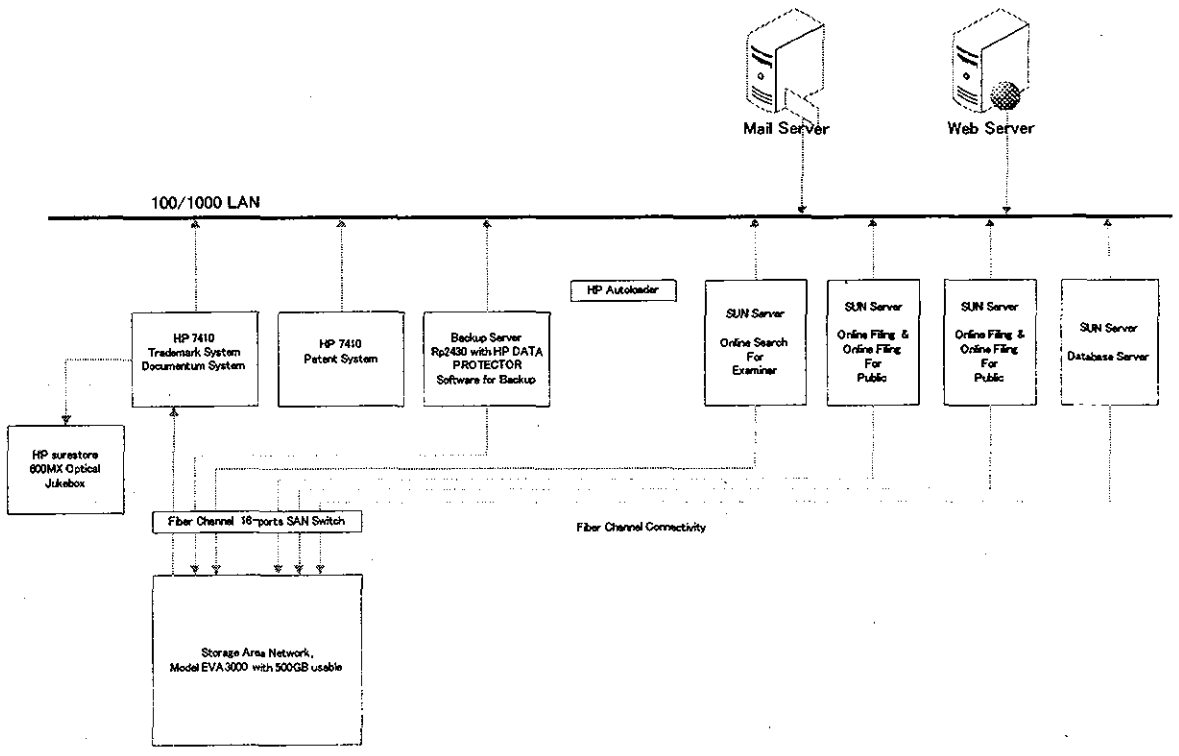
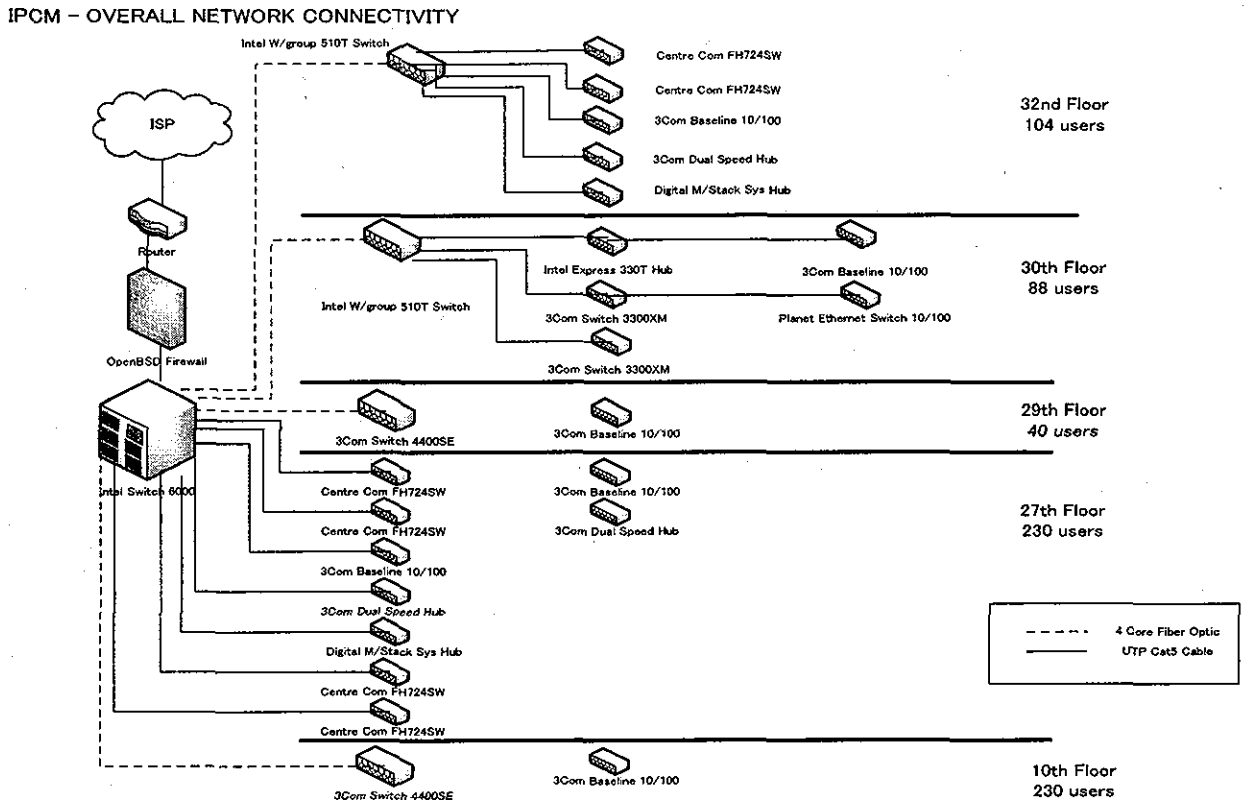


Figure 3-2 Configuration of Equipment for Network Connection



The Internet line was enhanced from 128Kbps to 1.5Mbps assuming commencement of online services.

As for the patent document search, the function of IPDL provided by EPO, which is the most frequently used search tool for patent examination in IPCM, was enhanced. The downloading function of searched documents was upgraded to whole document downloading from the former "page by page downloading". Thus, the patent document search environment has been improved significantly, except for some remaining problems which are be analyzed in Chapter 4.

(3) Objective of the Study

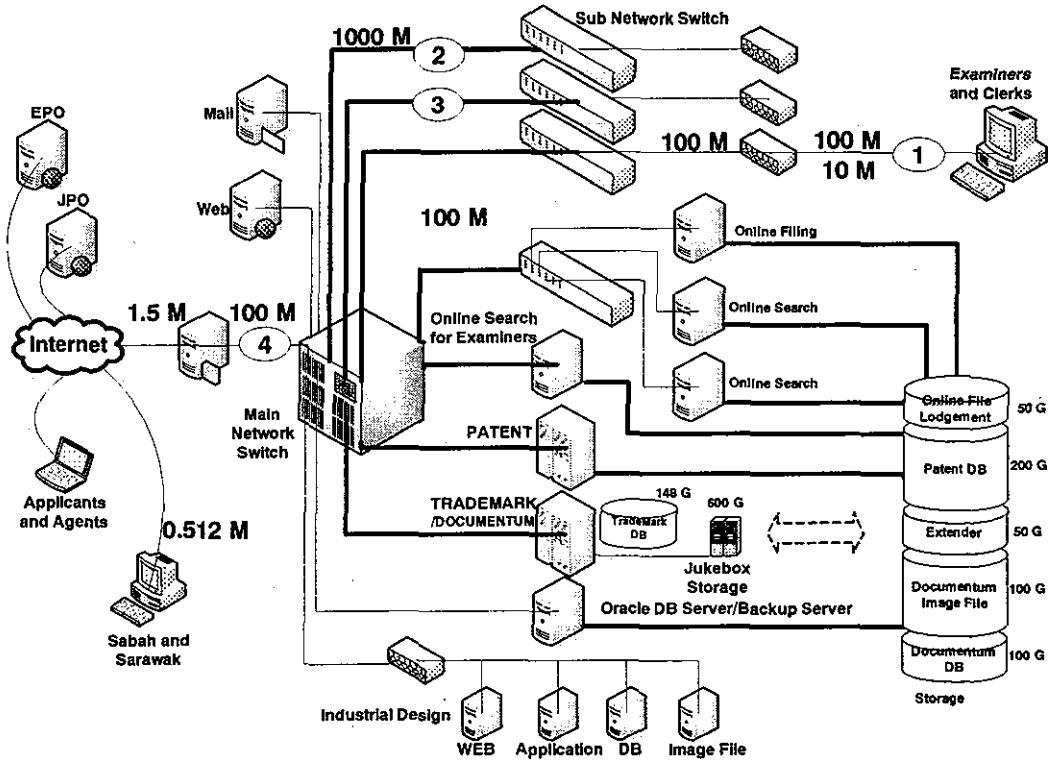
A network study was conducted to investigate whether the current network has enough capacity to meet the future increase in the load that will be caused by various factors, such as introduction of Online services, increase in number of staffs, and other unforeseeable factors. The study analyzed the occurrence of data and the delay of data, after the internal network configuration of IPCM and the network structure to the Internet were surveyed.

The study also investigated the cause of deteriorated response of client terminals for patent examiners, which have been observed during the regular operation.

3.2 Scope and Method of Network Study

Figure 3-3 shows current network configuration in IPCM in view of connection among devices. The numbers (1) through (4) stand for the measuring points set for the present network analysis.

Figure 3-3 Network Configuration of IPCM



3.3 Measurement Results and Conclusion

3.3.1 Network Study

(1) Measurement

1) Number of packets of data that flows between client terminal and HUB
2) Number of data packets between the main network switch and subnetwork switch
3) Number of data packets between the main network switch and subnetwork switch
4) Number of data packets and the data type that flows in the Internet line during the regular business hours between the gateway server and the main switch

(2) Conclusion

1) Internal network

Internal network speed have been upgraded to 100/1,000 Mbps. According to the measurement result in 3.3, the line load is concluded to be not so high as to cause the data insufficiency and the data delivery delay, though there is a data packet transmitted by the broadcast.

Thus, the internal network has sufficient quality to withstand can endure the load that will be generated by the system modification and the new business addition now.

2) The Internet line

The Internet line of 1.5Mbps is used very efficiently at the present operation level.

However, the load of the Internet line is expected to be increased in the future, because of the following factors.

- Increase in the Internet use for patent document search
- Commencement of online services

Therefore, upgrading of the Internet line will be necessary in the near future, since the performance shortage is feared. There will be two options for the upgrading.

A) Use of maximum line speed that ISP can offer

B) Introduction of more than one line, and allocation them by user group

The Option A) works most quickly, while Option B) and the combination of A) and B) require time for modification of the environment, and checking of operation. Thus, Option A) is recommended first, while other options should be considered according to the results of Option A).

3.3.2 Decrease in Response of Client Terminal

It is concluded that the response decrease in the client terminal of the Patent Division is caused by insufficient performance of old client terminals.

Assessment Result of Response Decrease

Survey Items	Assessment Criteria	Assessment
(1)	Server Performance	Server has enough performance
(2)	Network Traffic	Network has enough performance
(3)	Client Terminal Performance	Some terminals don't have enough performance.

Around 60 PC terminals are provided for examiners in the Patent Division, and about 50% of them are Pentium2 machines as of now.

4 Recommendation for Further Improvement of Intellectual Property Administration through Utilization of IT

4.1 Objectives

The present Study has focused on improvement of IP administration through use of IT throughout Phases 1 and 2 of the Study. This chapter recommends potential areas of improvement in the administration process through the use of IT, based on the analyses of the overall administration process including areas the Study did not cover previously.

4.2 Current Status of IT Use in IPCM

The status of IT use in IPCM was studied in detail in Phase 1. The following describes the changes after that and the current situation.

(1) Change in organizational setup of IPCM

The former IPD of the Ministry of Domestic Trade and Consumer Affairs (MDTCA) was separated from the MDTCA and reorganized as IPCM, a Government corporation. There was no significant change in organizational setup responsible for IP administration.

The number of staff members of IPCM has increased to 272 from 153 by recruiting of 119 persons.

(2) Upgrading of IT infrastructure and equipments

The following upgrading has been carried out for the IT environment:

1) Increase in number of PCs
2) Upgrading of the transaction capacity of internal network

The current backbone of the internal network provides 1,000Mbps quality of speed. The PCs are connected to the switches of each floor at 100Mbps. Thus, the current internal network has enough capacity for the transactions within IPCM including capacity for a possible increase in the near future.

3) Upgrading of the bandwidth to the Internet

The access bandwidth to the Internet was increased to 1.5Mbps form 128Kbps in late 2003, assuming the introduction of Online Filing and Online Search Services.

(3) Enhancement of computerized administration systems

There was no significant progress in application systems. Online Filing and Online Search Systems, which were planned to be open to the public, are not available as of

December 2004.

Currently, the computerized administration systems of trademarks and patents are operated on independent servers respectively both using Common Software. Most of the data is stored in the network storage system, which has a hard disk with capacity of 550 GB, and the system is connected to the servers.

The environment of the patent document search has been improved; because of the upgrading of the Internet line speed and delay in implementation of Online Filing and Online Search Services. Thus, the access of the examiners to the IPDL of EPO, USPTO, and JPO through the Internet has been improved.

Although Online Search Service for public is not available yet, the examiners are using the online search tool, which is a part of Online Search Service System, to search applications filed in Malaysia.

Images of trademarks are already scanned and registered in the database of CS and Online Search Servers. However, since the users of Online Search Service cannot access some of the items in the database of CS, updating of the search functions is being planned.

Online Search Service has been provided to the public on a trial basis in a library room of IPCM.

4.3 Analysis and Recommendation on Further Utilization of IT for Improvement of IP Administration

4.3.1 *Facilitation for the Convenience of Applicants*

(1) Improvement of ease of application procedure

There seems to be no serious error in the application procedures.

To prevent typographic errors when applications are prepared, an intelligent data entry screen can provide an automatic function, which can eliminate misspelling and unexpected wording. The Common Software does not provide these functions.

The planned Online Filing System, once it is introduced, will provide automatic checking functions. EPTOS～Soprano, the next generation of Common Software, also provides the functions. The upgrading to EPTOS～Soprano has already been decided by IPCM, and will be implemented within 2 years.

Recommendation 1

Amending of errors after filing of an application requires the official procedures of communication between applicants and examiners. Therefore, it is desirable to avoid such procedure by establishing a mechanism for applicants to correct errors before the application is filed. It is recommended in this connection, that either there be adoption of a rule for applicants to go utilize the spelling check function before submitting an application, or provision of automatic spell-check functions in an automatic application form.

(2) Easy access to filing

Online Filing Service is being planned. The service is only for patents and trademarks, and does not cover industrial designs.

Recommendation 2

It is recommended that after the online services for patents and trademarks are implemented, and operational issues are cleared, IPCM should launch on Online Filing Service for industrial designs. In view of convenience it would provide for applicants and agents, an integrated operation rule among patents, trademarks, and industrial designs is desirable to be applied.

(3) Filing at local offices

IPCM has a plan to connect Sabah and Sarawak offices with the head office through the Internet using the VPN connectivity for filing at these offices. The plan is scheduled for implementation at the end of 2004.

Recommendation 3

The current security measures for when access is made from these local offices to the head office are composed of an ID and password. The messages between the offices are exchanged as plain text. Before starting to exchange filing data between these offices, it is highly recommended that a higher security measures be adopted to avoid ill-intended access to protect information.

(4) Improvement of applicants' convenience in search before application

(See 4.3.7).

(5) Corresponding to inquiries from applicants in the process of examination

Inquiries or notices to the applicants from IPCM are currently delivered by postal mail. If those exchanges of paper documents can be replaced by online procedures, less paper is required and the delivery time will be shortened. In this case, however, the information provided will be that of limited parties, and require precise identification of the senders and the recipients. In this connection, a more secure method for identifying corresponding parties must be established.

Recommendation 4

After the Online Filing Service is established, it is recommended to promote online correspondence not only for application procedures, but also for all other administrative processes, to improve efficiency of administration and convenience of applicants.

4.3.2 Reduction of the Examination Workload

(1) Patent examination

The procedure of collecting information from EPO has been highly improved as IPCM has upgraded the line speed of its connection to the Internet and the EPO has begun the new IPDL services that allow downloading all pages of specification by a single operation.

The search keys allowed at the IPDL, however, are limited to four words only, which are not enough for the complex conditions of search.

In the case of searches for applications which have been filed in Malaysia, the examiners totally depend on the search tool available from the Online Search System. There are many documents which are not stored correctly, or not available. Thus, the examiners currently use the Online Search tool to find out the patent or filing numbers only, and ask staff members to bring the original paper documents from the filing room by referring to the patent or filing numbers thus found.

In addition, the Online Search tool is not capable of accepting complex search conditions, and it requires examiners to enter search conditions in each case of search. IPCM is studying the development of "batch search" functions, which enable examiners to assign a file, which can contain complex search conditions like MIMOSA.

(2) Trademark examination

For examination of trademarks, examiners use the Online Search tool as same as in the case of patents filed in Malaysia.

Since the Online Search servers do not necessarily include all the data, which are registered in CS, examiners sometimes have to use the CS client software and re-key in to access necessary information. IPCM is considering to update the Online Search tool to be able to access directly the necessary information stored in the database of CS.

Recommendation 5

Patent examiners prefer to use paper documents for examination.

For the future, however, it is recommended to provide better conditions for examiners to conduct their examinations with reduced dependence on paper documents, considering the benefit of paper-less operation including the reduction of the costs of printing and disposal of paper, etc. Such tools/functions include high speed for search response and a function that puts memos on the screen.

4.3.3 Improvement of Efficiency of Administrative Process

(1) Ensuring interoperability among different administration systems and use of a unified window among the systems

If integrity among all the systems is achieved, and users can access every data or application programs, it might improve the users' convenience to some extent. However, since only a limited number of users need to access different systems in the regular administration process, integrity of operation does not necessarily provide a significant benefit for users, except that common use of data among the different system will increase the users' convenience.

Recommendation 6

The expecting convenience should be analyzed in detail, with the integrity among the different systems, in advance to which there should be a decision on the integrity issue. The requirements should be identified and the extent of benefits from the integrity should be figured out in advance.

(2) Interoperability with computerized accounting system

Introduction of the SAGA system (Standard Accounting system for Government Agencies) is being planned, with as the target for introduction the middle of year 2005.

IPCM currently does not have enough information on the specifications of SAGA and no specific implementation plan has discussed yet.

4.3.4 Reduction of Massive Storage of Paper Documents with Computerized Documents

Promotion of electronic documents is a part of efforts to improve the efficiency of administrative procedures. It will improve efficiency of application filing procedures, and other administrative procedures. It will also contribute to improvement in providing a variety of information to the relevant organizations and personnel.

However, if all the examiners use scanned image documents, excessively heavy transaction traffic would occur at CS and Documentum.

Recommendation 7

To further advance the shift to paperless administrative processing, the transaction capacity of Documentum must be upgraded. Currently the Documentum is operated on the same server as that of CS for trademarks, while the Documentum obtains necessary data from the Oracle database on another server (backup server). Since there is no need for the Documentum to be operated on the same server as that of CS, they should be operated on the different servers to reduce the transaction burden.

4.3.5 Assurance of Security of Stored Data

If the planned Online Search service is implemented, and electronic image document files are fully utilized, there will be a heavy burden on some portions of the systems again. It is recommended for IPCM to have future enhancement plan ready in advance based on projection of such future events.

With regard to the data back up operation, periodical review of the back up procedures and drill training of the procedure is essential for possible change of IT staff in the future.

Recommendation 8

It is strongly recommended to review the back up procedures time to time, and have drills on the procedures periodically, at least once a year.

4.3.6 Strengthening of Network Security

The connection with the outside network will increase accordingly with implementation of Online Filing service and Online Search service. The connection with the local offices is being planned with the Sabah and Sarawak offices.

To protect the resources of IPCM, the current security measures should be reviewed from all the possible physical, technical, and operational points of view.

Recommendation 9

For the immediate measures, the parameters of the firewall should be reviewed and adjusted, and the current management rules for IDs and passwords should also be reviewed to enable detection and rejection of intruders. The access rights to be assigned to the local offices should be studied carefully based on the analysis of all the information of IPCM and the probable risks accompanying the exposure.

4.3.7 Expansion and Upgrading of Intellectual Property Services

Online Search service is under planning for patens and trademarks.

To start the service, network security measures must be implemented. To protect the internal servers, separation of the servers and databases accessible from the outside should be studied physically and logically.

As for the building up of IPDL (Intellectual Property Digital Library), which is based on the concept of a free service for information disclosure, the current Malaysian laws and regulations assumes that disclosure of contents of the Register is a service with fees. There is a need to make adjustment between the concept of charged services and the free IPDL services, which are a useful measure in promoting the intellectual property rights system.

Recommendation 10

There is a significant policy gap between the current laws and regulations on the matter of provision of Online Search service with fees and the philosophy of free IPDL services. Development of IPDL needs budgetary steps to be taken for establishment and operation. The consensus building for free IPDL service is necessary on the basis of the understanding that the availability of free information on intellectual property would play a big role in the development of the intellectual property rights system.

4.3.8 Harmonization with the International IP Systems

A current issue in Malaysia related to the international harmonization of IP system is membership in PCT. Since the patent applications based on PCT are required to be published 18 months after the filing date, the government is preparing laws and regulations to apply the same rule to domestic patent applications.

Further, the preparation is necessary for the implementing procedures, which are required for the accepting countries of PCT applications, and the guidance for applicants.

4.3.9 Exploitation of Cooperation among IP Offices

1) JPO is providing the AIPN (Advanced Industrial Property Network) to IP Offices in Asian countries as one of the activities of international cooperation in the field of patent examinations. AIPN provides an English translation of search reports produced in Japan and information on patent family. AIPN can be accessed over the Internet and it does not require any additional facilities or equipment. As Japanese applicants have made around 30% of patents applications, the Japanese search reports would help to provide good information for examiners.

2) Malaysia has officially joined ECAP II. The upgrading of CS is being planned.

3) The search reports issued by USPTO cover many areas, which could be a great help for examiners of IPCM. But as the examination system of patents in USA is different from that of Malaysia, and IPCM does not have enough information about the procedures of USA, the search reports are not be used efficiently.

Recommendation 11

The current study has provided a good opportunity for JPO and IPCM to communicate and understand each other. Nevertheless, the current official communication channel between them is not sufficient enough for the cooperative efforts to be widely known and used by the examiners in their administrative process, as in the case of AIPN, which was developed by JPO for the Asian patent offices. It is recommended for IPCM to establish an official structure, which enables the examiners smooth and continuous communication with JPO and other IP offices abroad.

4.3.10 Enhancement of Planning Role of the IT Unit

IPCM has been utilizing IT by a combination of systems developed originally, packaged systems, and the services provided outside of IPCM. IPCM needs to have a plan of IT development that takes into account strategic and integrated use, while utilizing the current mixed resources as much as possible.

To realize this, the role of the IT Unit is essential. The status of the IT Unit should not be left as the technical supporting team. It should be so positioned as to enhance the planning role of IP administration system as a whole to realize the objectives of IPCM.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