No.

DIRECTORATE GENERAL OF INTELLECTUAL PROPERTY RIGHTS (DGIPR),
MINISTRY OF LAW AND HUMAN RIGHTS,
THE REPUBLIC OF INDONESIA

STUDY
ON
INTELLECTUAL PROPERTY RIGHTS ADMINISTRATION THROUGH UTILIZATION OF INFORMATION AND COMMUNICATION TECHNOLOGY
IN
THE REPUBLIC OF INDONESIA

(SUMMARY)

MARCH 2007

JAPAN INTERNATIONAL COOPERATION AGENCY

UNICO INTERNATIONAL CORPORATION

FUJITSU LIMITED

ED
JR
07-026

Abbreviations

BKPM	Investment Coordinating Board, Ministry of Commerce
DB	Database
DGIPR	Directorate General of Intellectual Property Rights
DTS	Data Transformation Services
EPO	European Patent Office
FTP	File Transfer Protocol
GB	Gigabyte
GRDP	Gross Domestic Regional Product
ICT	Information and Communication Technology
IDC	Internet Data Center
IIPS	Indonesia Intellectual Property Societyy
IP	Intellectual Property
IPC	International Patent Classification
IPDL	Intellectual Property Digital Library
IPMO	Intellectual Property Management Office
IPO	Intellectual Property Office
IT	Information Technology
ITB	Institute of Technology Bandung
JODC	Japan Overseas Development Corporationn
JPO	Japan Patent Office
KB	Kilobyte
KCI	Indonesia Copyrights Collecting Agency
LAN	Local Area Network
LIPI	Lembaga Ilmu Pengetahuan Indonesia
LTO	Linear Tape-Open
MITI	Ministry of Trade and Industry
MOI	Ministry of Industry
MOLHR	Ministry of Law and Human Rights
MS SQL	Microsoft Structured Query Language
PC	Personal Computer
PCT	Patent Cooperation Treaty
PDF	Portable Document Format
RISTEK	State Ministry of Research and Technology
S/W	Scope of Work
TMNS	Trademark New System
TRIPS	Agreement on Trade-Related Aspects of Intellectual Property Rights
USPTO	US Patent and Trademark Office
VB	Visual Basic
WBPS	World Bank-Project Assisted System
WIPO	World Intellectual Property Organization
WTO	World Trade Organization
XML	Extensible Markup Language

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I Outline of the Study, and Structure of the Report

1 Background, Objective and Scope of the Study

1.1 Background of the Study

The Indonesian government, realizing the need for promotion of foreign direct investment in the country, has been making efforts to reinforce IP protection within the country and upgrade the quality of administrative service in the field of IP rights In particular, the administrative process of filing, examination and registration of IPR applications, which had been handled and processed manually, was computerized as of September 2003 with assistance from the World Bank. However, service relating to publication of IP information, which has recently been started using the Web site of DGIPR, still remains at insufficient levels in terms of scope and contents as well as limited period covered by the information. Also, the Gazette, which is the official means of publication, is limited in its circulation and is difficult to use, particularly for foreign applicants who account for a major portion of patent applications in the country.

Against the above background, the Indonesian government has requested the Japanese government for technical cooperation in the effective use of IT for upgrading information publication service, and IT personnel training in DGIPR for ensuring provision of such service by the DGIPR.

1.2 Objective of the Study

The objective of the Study is to enhance the ability of the Indonesian government to provide IP-related administrative service through the use of IT and the development of human resources necessary for the service. To be more specific, DGIPR will be able to make available, through the Intellectual Property Digital Library (IPDL) that information on IPR which can be made open to the public, and the status of applications, as well as related laws and regulations. As a result, stakeholders will be able to collect information on the scope of registered IPRs freely through the IPDL.

1.3 Scope of the Study

The Study has been planned to be implemented in two phases.

Phase 1 includes the stages of overall review of the present system and situation on

intellectual property rights administration in DGIPR, preparation of the basic design of the pilot IPDL, study of the system for sharing information with regional offices, and drafting of a human resources development (HRD) plan for the utilization of ICT.

Phase 2 includes preparation of policy recommendations for IT utilization in the DGIPR's administration area, the development of the pilot IPDL, and IT–related HRD activities based on the result of Phase 1.

Before the Study advances to Phase 2, DGIPR and JICA were required to confirm the successful completion of Phase 1, and mutually agree on the detailed scope of Phase 2.

2 Outline of Implementation Process of the Study and Structure of the Report

2.1 Outline of Implementation Process of the Study

The Study is composed of Phase 1 and Phase 2. Phase 1 began with the First Fieldwork in June 2005 following preparatory work in Japan, and was completed with the Fourth Fieldwork (and Fourth Home-office Work in Japan) in February 2006. Phase 2 began with the Fifth Fieldwork in May 2006, and ended with the Eighth Fieldwork in February 2007.

2.2 Structure of the Report

The Report composed of Main Report and Summary, and compiles all the study results. The Main Report consists of six Parts, as follows:

I Outline of the Study and Structure of the Report
II Current IPR System in Indonesia, and Background Information Related to Promotion of IT Utilization in the IPR Administration
III IPR System and Administrative Process under DGIPR for Filing, Examination and Registration of IPR Applications
IV Development of the IPDL System
V IT-related HRD in DGIPR
VI Recommendation on Utilization of IT for IPR Administration by DGIPR, and IT-related HRD

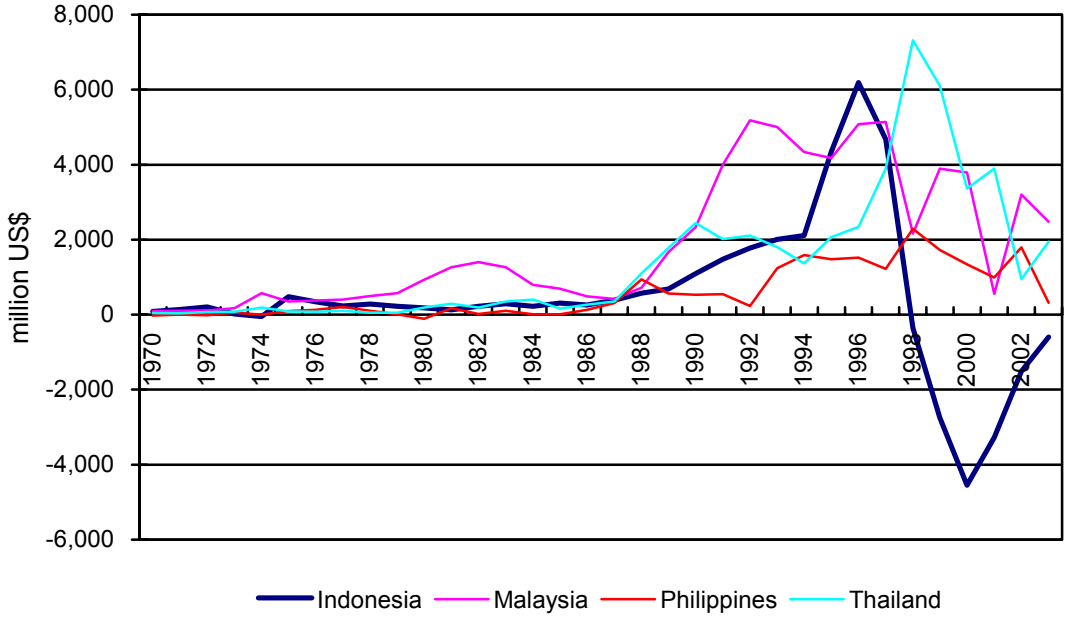
II Current IPR System in Indonesia, and Background Information Related to Promotion of IT Utilization in the IPR Administration

1 Socio-economic Background

In recent years, economic globalization has prompted the establishment of international rules on protection of intellectual property. Countries are subject to growing demand to comply with such international rules and harmonize their national IP protection systems with the international ones. In fact, compliance with the international IP protection rules and the level of harmonization are increasingly viewed by foreign investors as one of the important requirements when they make investment decisions.

Foreign direct investment (FDI) in Indonesia has played a vital role in its economic development in the past. The FDI, however, has declined conspicuously in the developing countries in Asia following the outbreak of economic crisis in the Region in 1997. The recovery of FDI has not been significant in Indonesia, despite the fact that most of the Asian countries have achieved a significant recovery after the economic crisis (see Figure II-1-1).

Figure II-1-1 FDI Net Inflow in Some Asian Countries



Source: World Bank

The FDI in other Asian countries, where the economic environment to receive FDI has been improved in the recent years, has achieved a significant recovery, in contrast to the case of Indonesia. .

Under such circumstances, development of a system for IP information publication and improvement of the relevant administrative services is expected to be an important factor which will contribute to improvement of the investment conditions in this country.

2 Overview of Intellectual Property Right (IPR) System and its Administration in Indonesia

2.1 Protection of Intellectual Property Rights in Indonesia

The system of protection of Intellectual Property Rights (IPR) in Indonesia, relevant laws, and accession to the relevant international treaties may be summarized as follows.

Intellectual Property Rights		Law (enforcement and amendment)	Accession to the relevant international treaties
Industrial Property Rights			Paris Convention (accession in 1950)
	Patents (*1)	Law of Patents (enforced on 08.01.1991, amended law enforced on 08.01.2001)	PCT (accession in 1997)
	Industrial Designs	Law of Industrial Designs (enforced on 12.20.2000)	
	Marks (*2)	Law of Marks (enforced on 04.01.1993, amended law enforced on 08.01.2001)	Trademark Law Treaty (accession in 1997)
Copyright (*3)		Law of Copyrights (enforced on 09.19.1987, amended law enforced on 03.27.2002)	Berne Convention (accession in 1997)
Trade Secrets		Law of Trade Secrets (enforced on 08.01.2000)	
Layout Designs of Integrated Circuits		Law of Layout Designs of Integrated Circuits (enforced on 08.01.2000)	

Notes:

(*1) Patent Law protects simple patents as well.

(*2) Mark Law protects not only trademark and service mark, but also geographical indication and mark of origin.

(*3) Copyright Law protects not only art works and written works, but also computer programs as well as related rights such as image recordings and their reproductions of performances.

In addition to the above treaties and conventions, Indonesia has joined the following:

- WIPO convention (1979)
- WTO/TRIPS agreement (1995)

2.2 Overview of Application Trends for IPR

Table II-2-1 shows the trends of applications for IPR in Indonesia.

Table II-2-1. The Number of Filed Applications in Indonesia, 2001-2005

	2001	2002	2003	2004	2005
Patents	3,926	3,843	3,300	3,669	4,304
Simple Patents	221	205	192	208	195
Marks	28,425	30,004	36,340	49,311	54,641
Industrial Designs	1,403	2,868	3,154	4,394	5,114
Copyrights	1,535	1,898	2,098	2,998	4,269

The number of applications filed for trade secrets is only one, in 2002, while there has been no application for layout design of integrated circuits.

2.3 Organizations Assumed In the Intellectual Property Right Laws

(1) Overview

The IPR laws assumes a Minister responsible for the guidance in the field of IPR, and a Directorate General responsible for administration of the IPR under the department presided over by the Minister. The Minister means the Minister for Justice and Human Rights, and the Directorate General means the Directorate General of Intellectual Property Rights (DGIPR).

Each law defines an IP Consultant as a person who has expertise in the fields of IPR and provides services on behalf of filing of applications and subsequent application processing. The consultant is required to register at the DGIPR.

(2) Administrative organization

The DGIPR is composed of five directorates, namely, three IP Directorates, an IT Directorate, a Development and Cooperation Directorate, as well as a Secretariat of the Directorate General, and an Appeals Commission).

(3) IPR related institutes and organizations

The IPR related institutes and organizations are classified into government agencies, bodies affiliated with universities (IP Clinics), IP Consultants (private sector), and other IPR related organizations. Table II-2-2 shows a summary of those organizations' activities. As is evident, the main activity of the IP Consultant is to file applications as a proxy for foreign companies. On the other hand, that of IP Clinic of universities and of the government agencies is to support researchers to file applications and to promote awareness of IPR.

Table II-2-2 IPR Related Institutions and Organizations and Their Main Activities

		Proxy application / Support				Awareness campaign
		Domestic companies / Individuals			Foreign companies	
		Researchers/ academics	SMEs	Large companies		
IP Consultant				△	○	
IP Center of University		○	△			○
Government agency	MOI DGSMSI IP Clinic		○			
	LIPI	○				○
	RISTEK		○			
Others	IIPS					○

Note: ○: Main activities △: Minor activities

2.4 Publication of Information on IPR Administration

In Indonesia, IPR related information is provided in the form of paper documents, that is, the Gazette. There are many constraints imposed on its use, because the number of copies published is limited and very few organizations keep cumulative copies of it.

The DGIPR also provides the published information on the Web, although it does not cover all data in so doing, and the data are not updated regularly. Furthermore, the search function is not well developed.

Some of the IP Consultants provide search services, constructing their own DB with data from paper documents.

LIPI has begun to make a CD-ROM compilation of the patent information based on the Gazette of registered patents (Publication B) mainly for researchers, but has not completed it yet.

3 Use of IT in IPR Administration by DGIPR

3.1 Current Use of IT in the Administration with the History of Introducing Systems

(1) Trademarks

The trademark law was revised and became effective in 1992. All the administrative processes in the DGIPR were carried out by manually from 1922 to 1995. In 1995, DGIPR introduced a database called "Clipper", in which character data of applications and the formality examination results were recorded electronically.

In 2003, the World Bank-Project Assisted System (WBPS) was introduced for the administrative processes from receiving filed applications to formality examination including recording scanned images of trademarks. In spite of this, the DGIPR had to make and print its Gazettes and certifications with using the MS Word "Mailmates" function. The operation manual of the WBPS covers the operations for reception, data entry, formality examination, substantial examination, Publication A, grant, and certification. However, the DGIPR, which has believed that the application programs of WBPS were susceptible to malfunction, has never used it for substantial examinations and procedures.

Due to the unsatisfactory performance of WBPS, the DGIPR decided to request a local software company to develop a new IT system for Trademarks, TMNS (Trademark New System), and then stopped using WBPS for trademark administrative works. The TMNS, however, only covers the operations from filling applications at reception to formality examination. The operations afterwards still rely on use of personal computers and MS Word.

(2) Patents

Based on the new patent law enforced in 1991, which requires substantive examination, the DGIPR started keeping records of Publication A without image data, in the MS-SQL database. Certifications were made and printed using MS Word just like the case for trademarks.

In 1995, the DGIPR introduced WBPS for the operations of filling applications that have been received, data entry, formality examination, and Publication A. The

operation manual covers not only the operations of data entry and formality examination, but also outbound letters, Publication A, request for examination, and substantial examination. The Directorate, however, has not used the system for the latter operations due to the same reason as for trademarks. In producing Publication A, the staff re-enters necessary data because they can not retrieve stored data on the WBPS.

(3) Industrial Designs

The application system for industrial designs was started in 1991. The DGIPR produced Publication A, certification, and Publication B, using MS Word.

In 2003, the DGIPR employed WBPS to process applications for Industrial Designs. The system covers the operations of filling applications that have been received, data entry, formality examination, and Publication A. The operation manual of the WBPS includes not only those operations but also those of outbound letters, Publication A, substantial examination, certification, and Publication B. The DGIPR, however, has not used the system for the latter operations due to the same reason as for Trademarks. In producing Publication A, the necessary data can be retrieved from the database.

(4) Copyrights

The application system for copyrights was started in 2001, and at the outset all operations were carried out manually.

In 2003, the DGIPR started using WBPS to process applications for copyrights, which system covers the operations of filing applications that have been received, data entry, and formality examination. The operation manual of WBPS includes operations of those in the above, substantive examination, notice of refusal, certification, and Publication B. The DGIPR, however, has not used the system for the latter operations due to the same reason as for Trademarks.

3.2 Recent Trends of IT Use in DGIPR

The DGIPR's plans for the introduction of IT in their administrative work are as follows.

1) On-going projects (approved in the budget of FY2006)
    1. Development of new processing systems for administration (one each for patents, trademarks, and industrial designs)
    2. Development of an application processing system for the regional offices ("Electric Filing System")
    3. Development of a new portal site
    4. Automation of the Secretariat Office of Director General

2) Forthcoming projects (to be budgeted in FY2007)
   1. Development of a new processing system of administration (for copyrights)
   2. Electronic Gazette

Development of new processing systems for administration includes development of systems covering the whole range of administration processes from receiving applications to issuing certificates as well as mutations of registered information. As of January 2007, the three different vendors, who had contracted with the DGIPR to develop the systems for patents, trademarks, and industrial designs respectively, commenced the development work. According to the DGIPR's planned schedule, it will start using the system first with reception of filed applications by April 2007 and complete installation for the other activities by the middle of 2007. The copyright system will be put out to tender in FY 2007.

All the data in the WBPS and TMNS as well as in the individual computers will be migrated into the new systems.

Development of the application processing system for the regional office ("Electric Filing System") is to enable regional offices, which have personal computers, to convert the application information into electronic data in order to transfer them to the DGIPR in an electronic file. Applicants are requested to file applications in paper document form at the time of reception as they do currently. Then the regional office's staff enters the data into the web-base system and scans all the application documents, converting them into PDF format, except for full documents of patent applications. They will send those data stored in recording media such as floppy disks or CD-ROMs, or through email to the DGIPR. At the same time, the application documents will be sent to the DGIPR. The DGIPR will enter the received data into their new application processing system and use them in its administration process. However, it should be noted that the electronic data is used only for administrative purposes, while the filed documents sent by mail remain as the original application documents. The DGIPR is expected to use the system from April 2007.

Electronic Gazette is the project to convert the contents of the Gazette that are for announcement of applications and registrations, which is currently issued as a printed document, into electronic data format so as to enable users to search the contents. The Electronic Gazette will be made available in media such as CD-ROM for wide distribution

and convenience of use. The DGIPR plans to put out this system development to tender in 2007.

III Intellectual Property Right (IPR) System, and Administrative Process under DGIPR for Filing, Examination and Registration of IPR Applications

1 Patent (and Simple Patent) System, and Administrative Processes of Filing, Examination and Registration of Patents (and Simple Patents) Application

1.1 Current Laws and Regulations, and Related International Laws and Treaties

A full-blown patent system was introduced in Indonesia by Law No. 6 regarding patents, enacted in 1989. Revision was made thereto by Law No. 13 in 1997 along with PCT entry, and the current Patent Law was enacted as Law No. 14 in 2001. Government regulations regarding patents were established under the Law No. 6 in 1991, but neither revision nor new regulation was introduced in conformity to revisions of Patent Law thereafter. As a result, there are some obscurities in determining detailed procedural standards in DGIPR.

The current situation of the Republic of Indonesia regarding accession to international treaties related to patents is as follows:

- Paris Convention, since 1950
- WIPO Convention, since 1997
- WTO (including TRIPS Agreement), since 1995
- PCT, since 1997

In regard to patent classification, although Indonesia has not joined in the Strasbourg Agreement, DGIPR uses the latest version of International Patent Classification (IPC 7th Edition).

1.2 Outline of the Patent (and Simple Patent) System

(1) Requirements and application

Substantive patentability requirements under the current Patent Law in Indonesia include novelty and inventive steps (Article 2), industrial applicability (Article 5), and eligibility or subject-matter patentability (Article 7), as is consistent with international

standards.

Novelty standards, here, are public knowledge or announcement worldwide. Any earlier patent or simple patent application filed in Indonesia shall destroy the novelty of inventions in later filed applications, and thus has prior status as an early filed application.

A separate patent application must be filed for each one invention or inventions constituting unity (Articles 21 and 105).

A filing fee is required to be paid for filing. Documents satisfying the minimum requirements must be submitted in order to be assigned a filing date (Article 30). Other documents/items may be submitted after the filing date.

As for the requirement for disclosure of the invention, detailed disclosure of the invention in practice must be included as in any other major countries. As for claims, the law allows inclusion of only one independent claim for each category in order to ascertain the unity of the invention.

(2) Announcement of application

A patent application is made open to the public soon after 18 months have passed from the filing date and upon completion of the formality examination. Where the application includes a foreign priority claim, the 18 months period for publication is counted from the priority date claimed. PCT regional phase applications based on PCT international applications are also published. Usually, PCT based applications are published as soon as the formality examination is completed. Simple patent applications are made open to the public after three months have passed from the filing date and after completion of the formality examination (Article 42).

(3) Substantive examination

Patent application cases are transferred to the Substantive Examination Division after the publication period has elapsed and request for examination has been received.

Namely, as a request-for-examination system has been adopted, any applicant may file a request for examination for his/her patent application any time until 36 months from the filing date, together with the fee (Article 49). The period of request for examination for simple patent application is six months from the filing date (Article 105). For applications originated from foreign countries, it is DGIPR's current position that the date on which the period starts is the actual filing date, which is the international filing date in case of PCT, rather than any foreign priority date.

Where the patent application is accompanied by a foreign priority claim, the examiner may request information regarding the result of the examination on the foreign priority patent application (Article28). Also, other information relevant to determination of patentability such as novelty and industrial applicability of the patent application under examination may be requested to the applicant. By the same token, the examiner may request the applicant to submit information of the result of the examination of any other foreign counterpart patent application.

(4) Patent grant

Where the result of the substantive examination is affirmative or allowed, DGIPR sends the Applicant a grant notice letter and then issues a Patent Certificate in due course. Issuance of a Patent Certificate is announced in the Official Gazette for Patents except for the cases designated not to be announces for reasons related to national security (Article 55).

(5) Patent term, lapse and extension

The term of a patent is 20 years from the filing date. The term of a simple patent is 10 years. The patent once granted is deemed to exist from the filing date.

Extension of patent term is not possible even for otherwise conceivable cases, such as cases involving issues of compensation for delayed commercialization of patented pharmaceutical products due to the time required for the government approval process, for instance.

(6) Post grant events including revocation, transfer, and license (mutation)

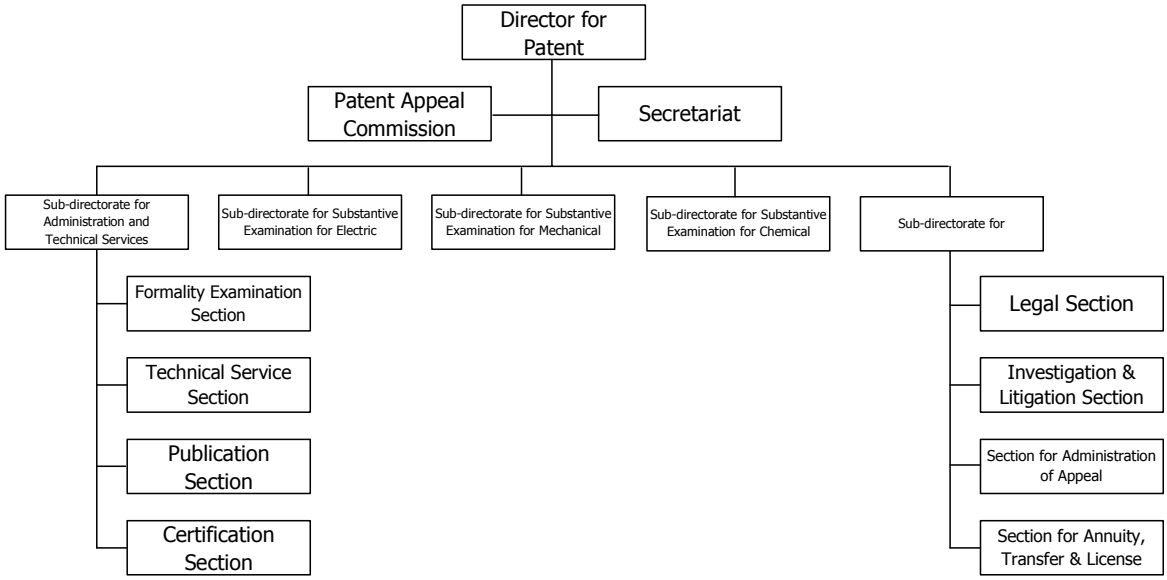
Post grant events enumerated below must be registered and announced by DGIPR. Without registration through request by the patent holder or other party having interest, no legal effect will be accorded to such mutations against a third party.

1) Transfer
2) License
3) Revocation

1.3 Organization and Staffing of the Patent Directorate

The current organization of the Patent Directorate of DGIPR is shown in Figure III-1-1.

Figure III-1-1 Organization Chart of the Patent Directorate



In total 120 employees including 15 for the Certification Section and seven for the Publication Section belong to the Directorate for Patents. Of these workers, 71 examiners, who are undertaking substantive examination on patent applications, belong to either one of the Sub-directorates for Substantive Examination, for Electric, Mechanical and Chemical areas. The Patent Appeal Commission directly belonging to patent director is separate from these and currently consists of six external experts such as scholars and other Government officers plus five senior examiners of DGIPR.

1.4 Administrative Process of Filing, Examination, and Patent Grant, and Their Computerization

The processing flow for handling patent applications at DGIPR is shown in Figure III-1-2, while the data handling flow is shown in Figures III-1-3 and 4.

Up until 1995, patent publication had been prepared by manual means, and then MS SQL server was acquired for use for a system for preparation of patent publication, which did not contain any image database.

In 2003, a new system was furnished under the World Bank-Project Assisted System, by which the administration of formality examination and preparation for patent publication were carried out. Administration of any handling process downstream after the substantive examination stage is conducted without using this new system. Subsequently, for administration purposes, many handwritten ledgers, MS templates, Access and Excel files, and so forth are used.

Since 2003, DGIPR began to generate PDF image data of the full text of patent specifications by using high-speed scanners and EPO Scan separately from WBPS. The scanning operation is performed by the use of application files which is borrowed from the Library after completion of all application procedures, accordingly, currently worked files are as old as those filed in 1997. So far, full text data of 10,500 application cases have been created.

Figure III-1-2 Administrative Process of Patents (and Simple Patents) Application

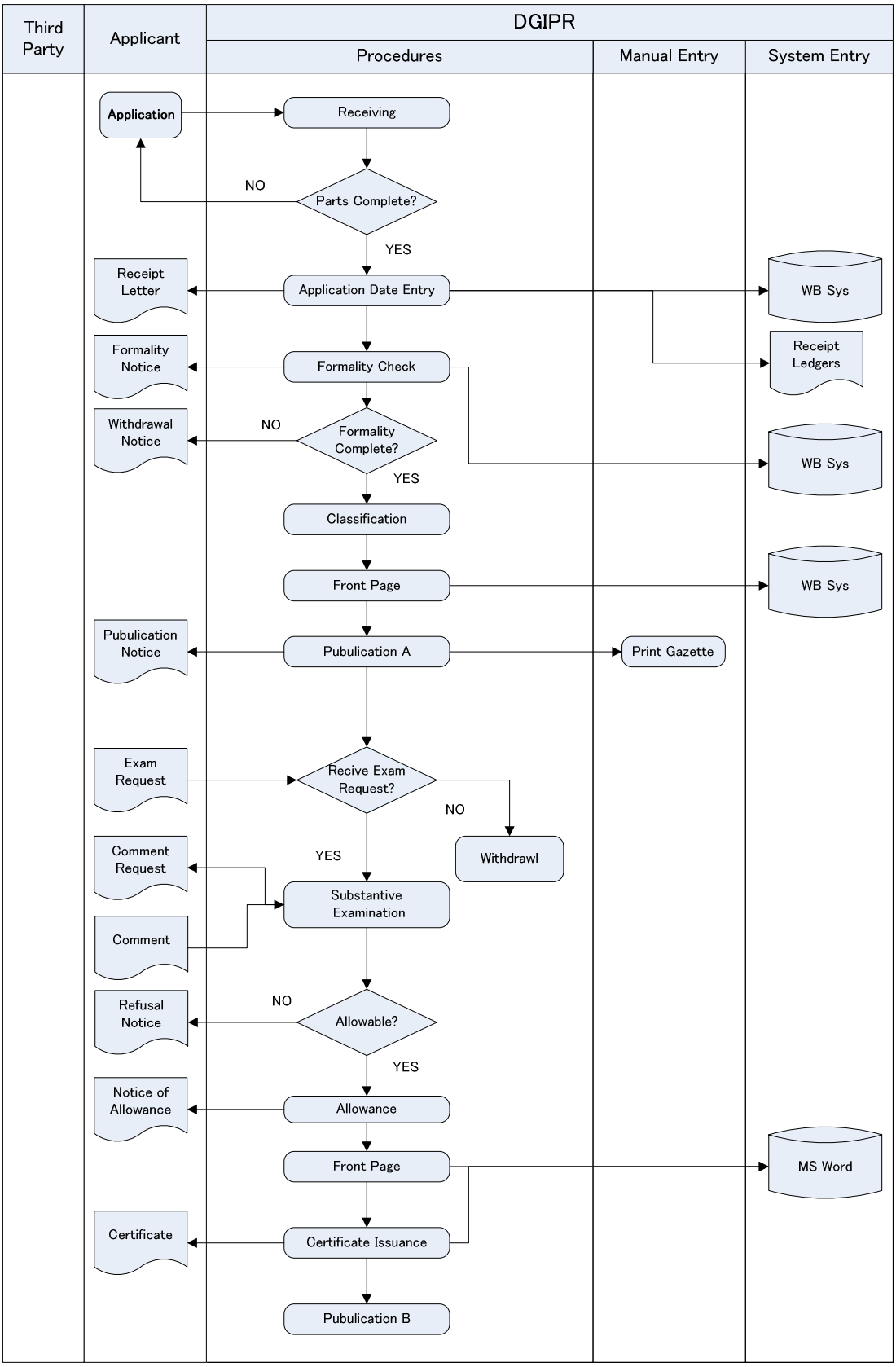


Figure III-1-3 Data Handling Flow in Administrative Process of Patent Application (1)

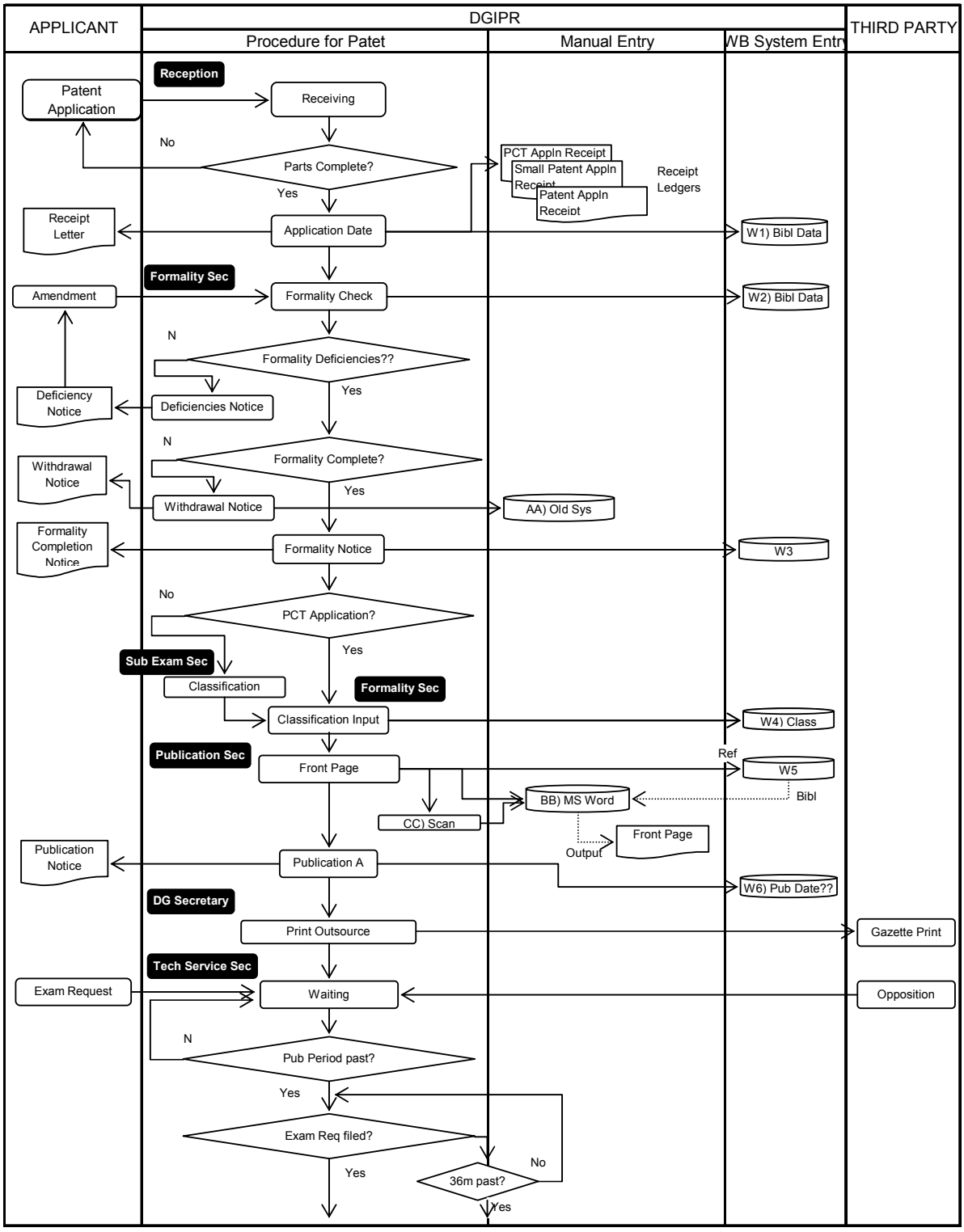
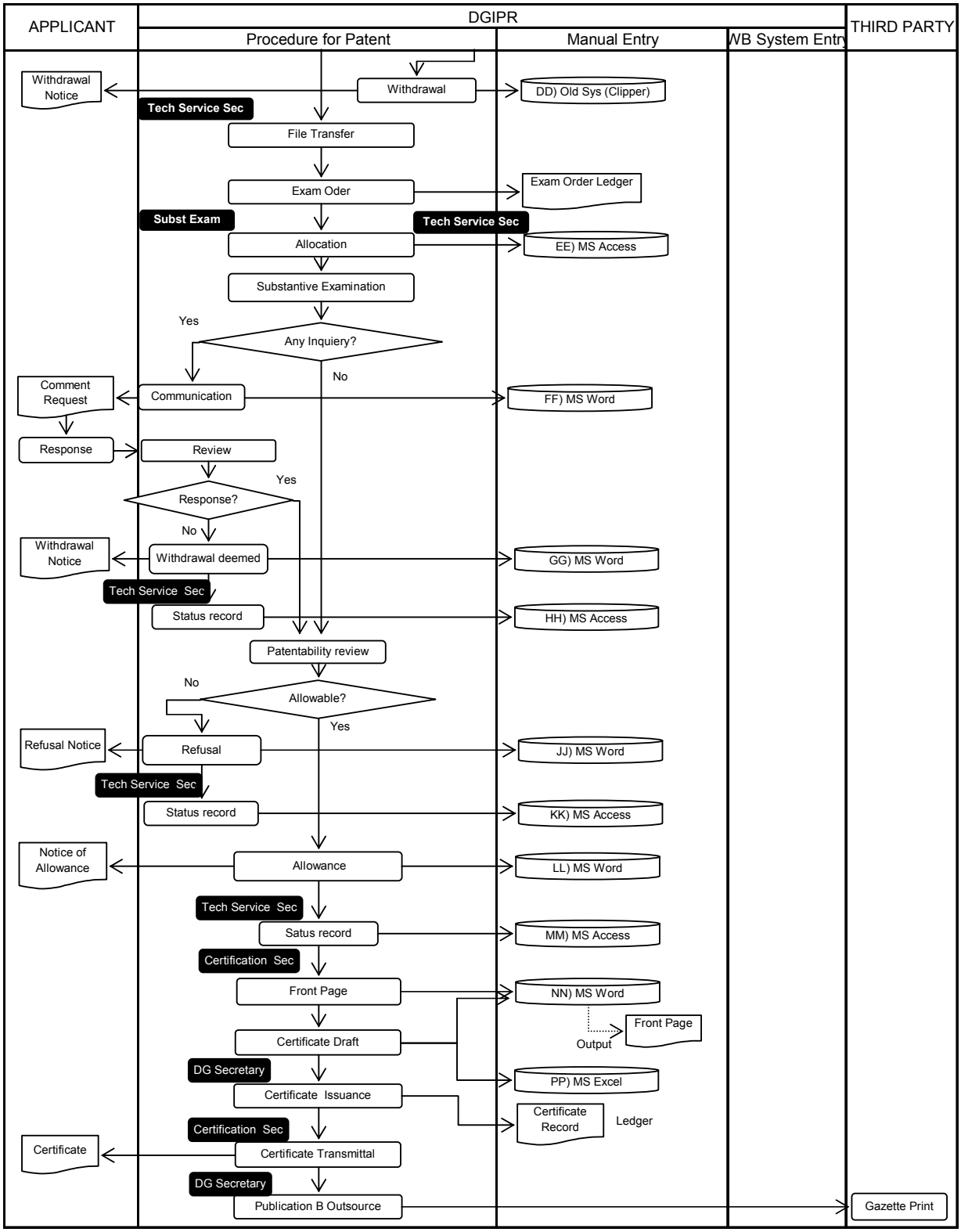


Figure III-1-4 Data Handling Flow in Administrative Process of Patent Application (2)



2 Trademark System, and Administrative Process of Filing, Examination and Registration of Trademark Application

2.1 Current Laws and Regulations, and Related International Laws and Treaties

Marks are protected in Indonesia under the Law No. 15 of 2001, which was enacted and put into effect in July 2nd 2001. The Law is the amended version of the Law No. 19 of 1992 so as to meet the requirements of the TRIPS. Law No. 19 was the first full-blown law for Marks in Indonesia, replacing the law enacted in 1961 which had not been in effect. The government ratified the Trademark Law Treaty in 1997, and the Law was amended in the same year 1997 accordingly.

Indonesia is a signatory to the following treaties and international organizations related to Mark protection;

- Paris Convention in June 5, 1997;
- Trademark Law Treaty in June 5, 1997; and
- TRIPS in January 1, 1995.

Indonesia has not been a signatory of the Nice Agreement Concerning the International Classification of Goods and Services for the Purposes of the Registration of Marks and Vienna Agreement Establishing an International Classification of the Figurative Elements of Marks, while the administrative procedures for trademarks follows the Nice classification in practice.

2.2 Outline of the Trademark System

(1) Requirements and application

The Mark Law defines that a Mark means a sign in the form of a picture, name, word, letters, numerals, composition of colors, or a combination of said elements, used in the activities of trade in goods or services (Article 1(1)). A sound, a smell, and a color thus are not able to be registered as a Mark.

The Law defines Trademark, Service Mark, and Collective Mark as Marks (Article 1).

The protection of a Mark under the existing Mark Law follows the principle of registration, first-to-file, and examination. The Law prescribes a Mark that cannot be registered or rejected.

An application for two or more classes of goods and/or services may be filed in a single application, specifying the kinds of goods and/ or services to be registered (Article 8). As a matter of practice, however, the DGIPR requires that one application be filed for each class, though the Law does not explicitly provide any rule of one application for one Mark.

(2) Substantive examination

The DGIPR conducts a substantive examination of an application within a period of 30 days at the latest from the filing date (Article 18 (1)). The examination relies on provisions of a Mark which can not be registered or is rejected.

(3) Announcement of application

The DGIPR makes open to the public of the application approved to announce in the Official Gazette of Marks within a period of at the latest 10 days from the date of the approval (Article 21).

(4) Registration

The DGIPR issues and grants a Mark certification to the applicant within a period of 30 days at the latest from the date of expiry of the announcement period if his/her application does not receive any objection.

(5) Mark term, lapse, and extension

The Law provides that legal protection for a registered Mark lasts for a period of 10 years from the filing date and protection period can be extended (Article 28).

The owner of a registered Mark is required to file a request for extension of the protection period within a period not more than 12 months before the expiry of the protection period (Article 35). A request for the extension is approved if the relevant Mark is still in use on the goods or services as stated in the Mark Certification (Article 36).

(6) Post grant events including deletion and cancellation, transfer, and license

The owner of a registered Mark can transfer the right by submitting supporting documents for the right transfer with payment of fee. The transfer of a right to a registered Mark which is not recorded in the General Register of Marks does not have legal consequences to any other party (Article 40).

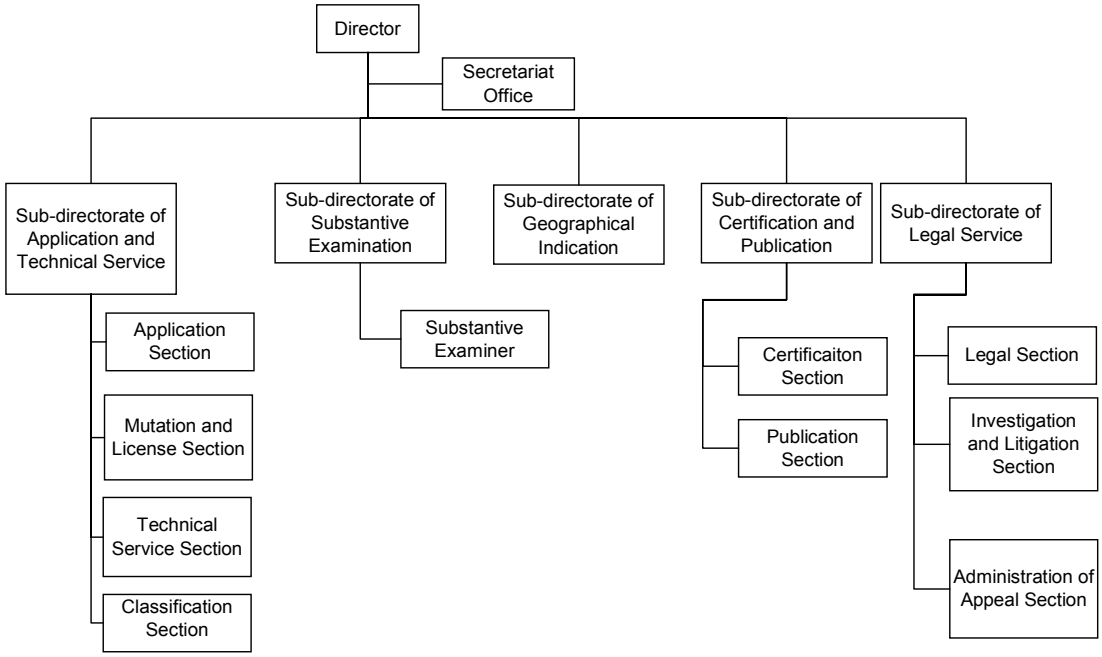
The owner of a Registered Mark is entitled to grant a license to another person within the protection period. The DGIPR records a license agreement in the General Register of Marks and announces it in the Official Gazette of Marks (Article 43).

The owner of a Mark can delete the registration from the General Register of Marks before the expiration by requesting this of the DGIPR.

2.3 Organization and Staffing of the Trademark Directorate of DGIPR

The current organization chart of the Trademark Directorate is shown in Figure III-2-1.

Figure III-2-1 Organization Chart of Trademark Directorate



The Sub-directorate of Substantive Examination is responsible for substantive examination. There are 42 examiners who are divided into six groups.

2.4 Administrative Process of Filing, Examination, and Registration, and Their Computerization

Figure III-2-2 shows the administrative process of Trademark application, while Figure III-2-3 shows the data handling flow in the administrative process.

Figure III-2-2　Administrative Process of Trademark Application

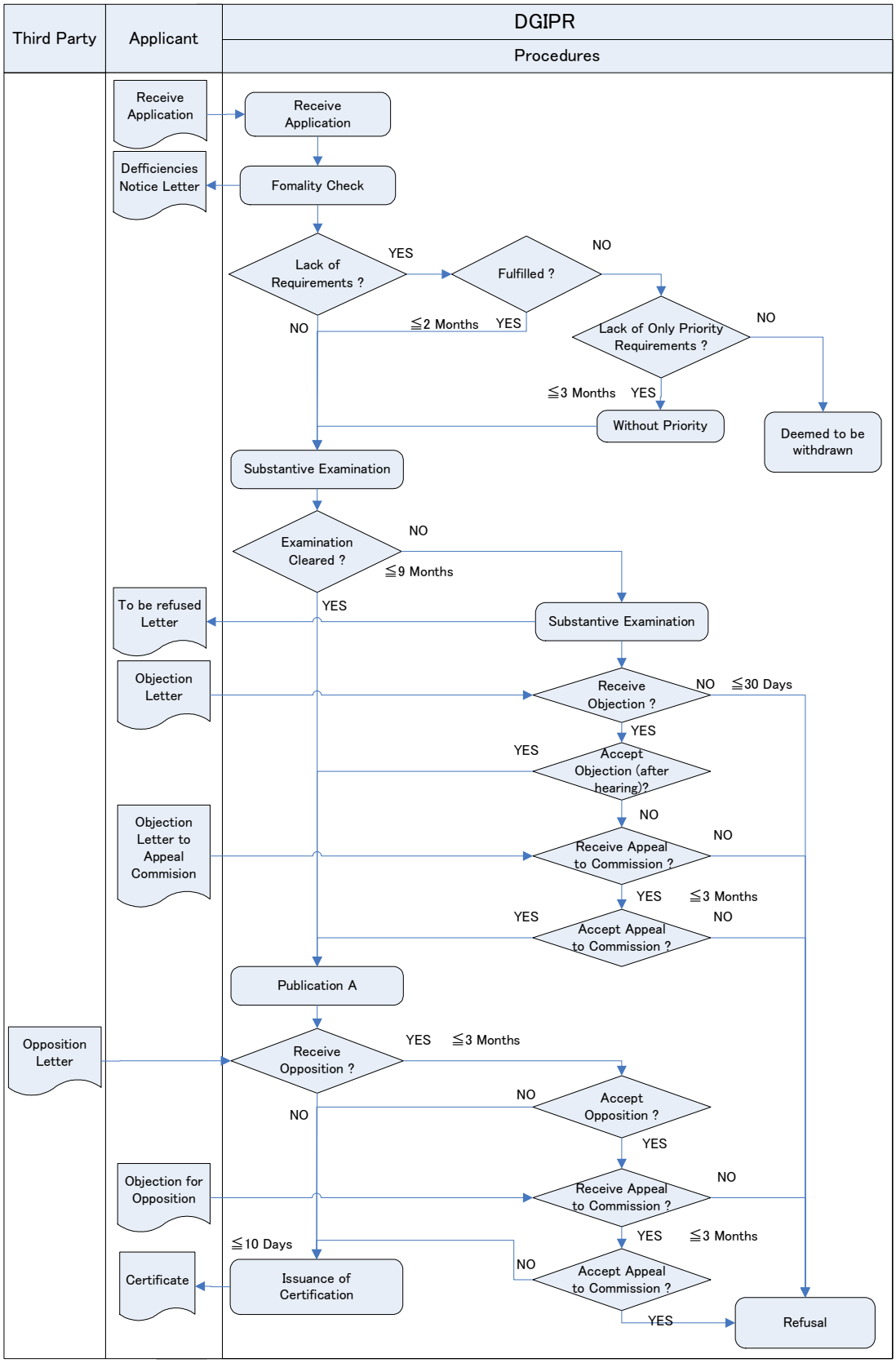
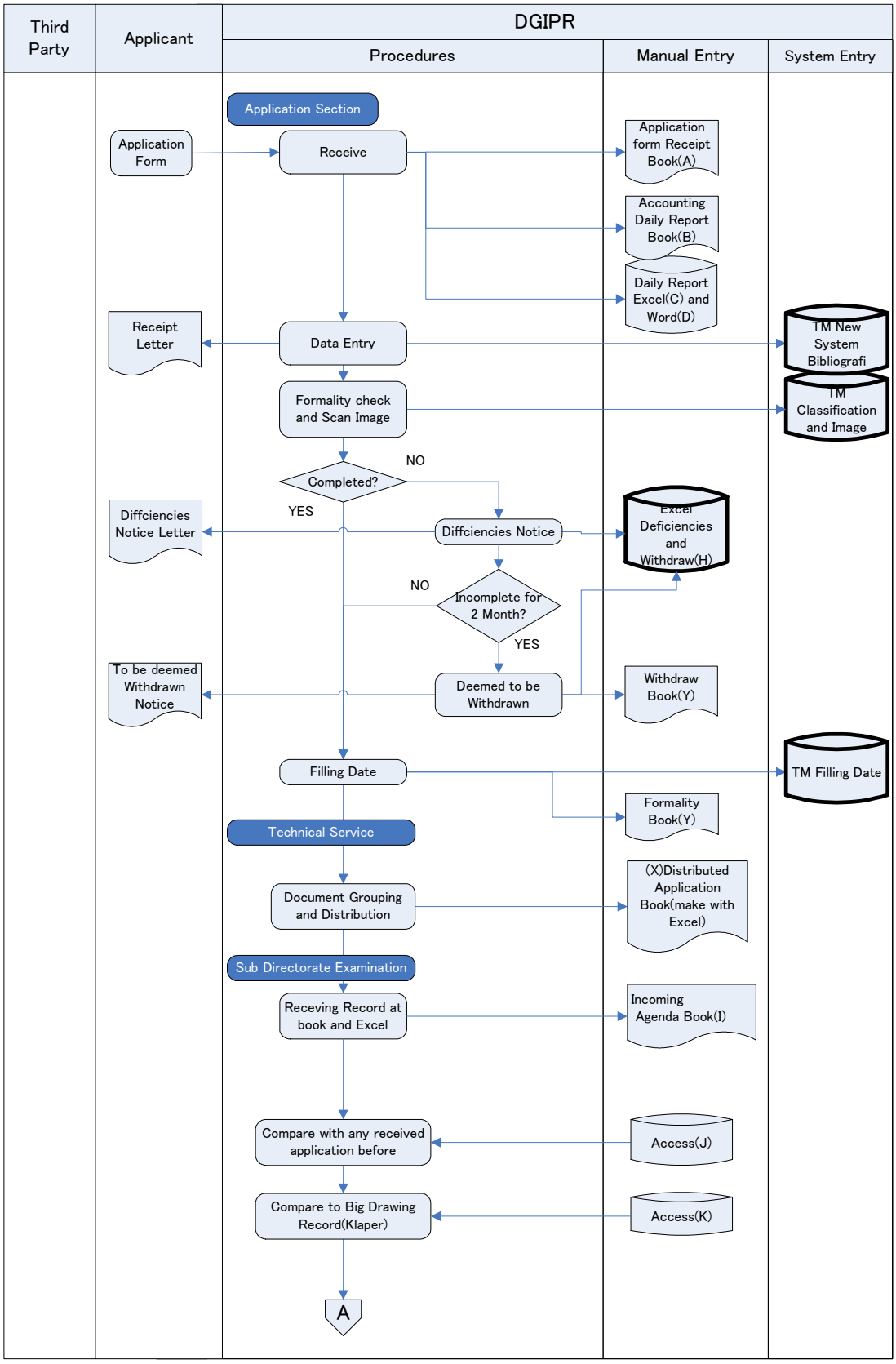
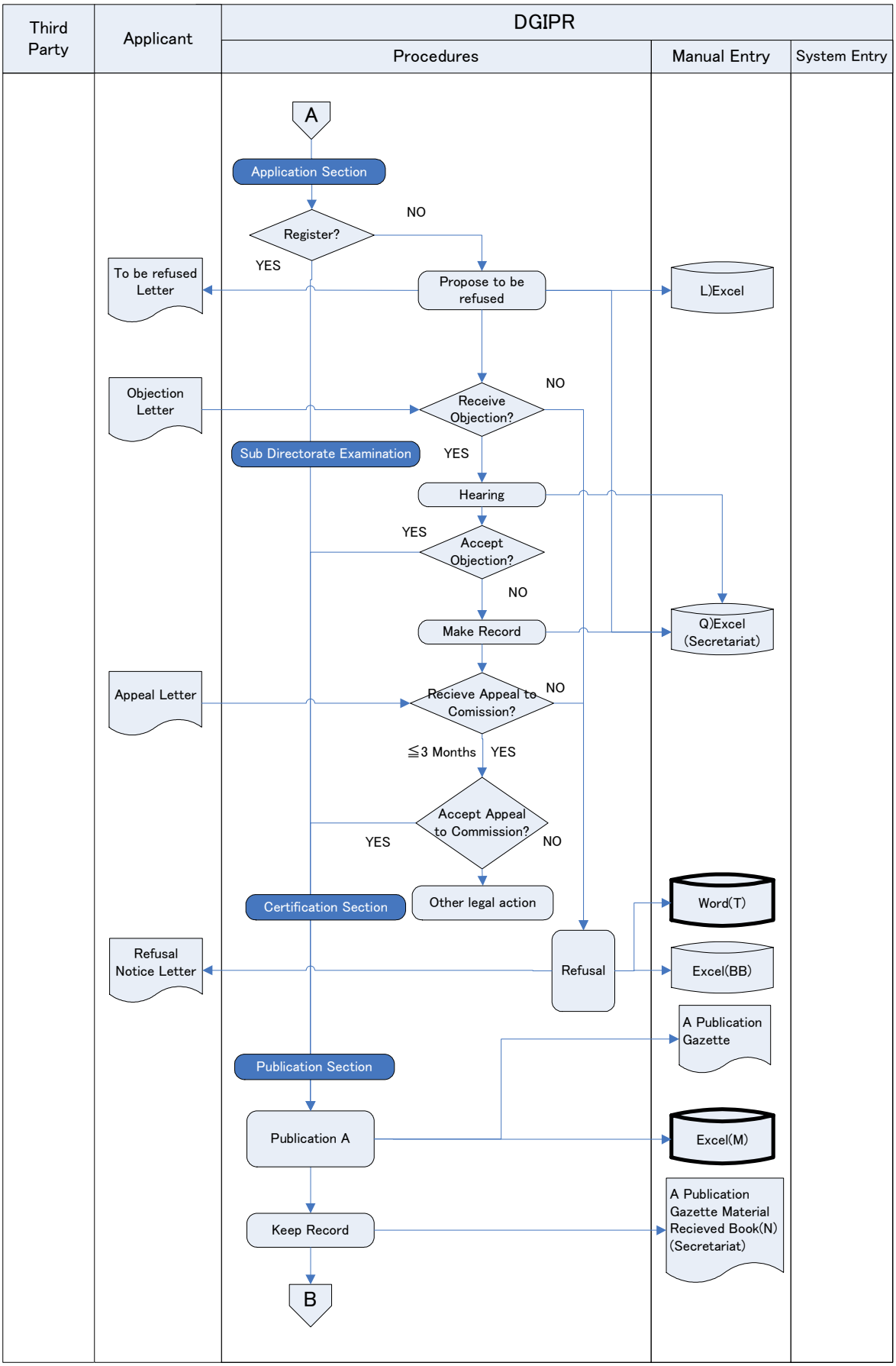
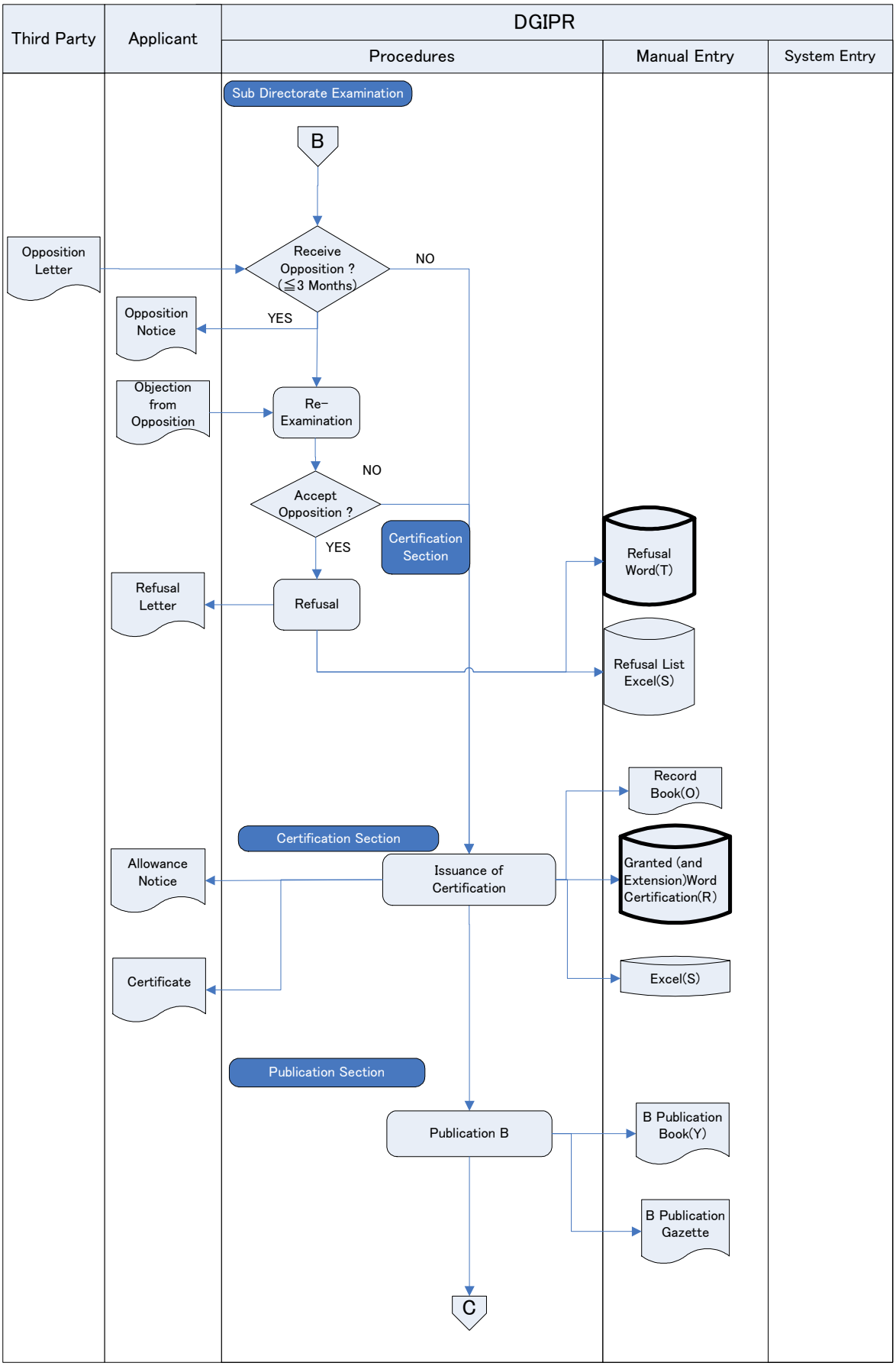
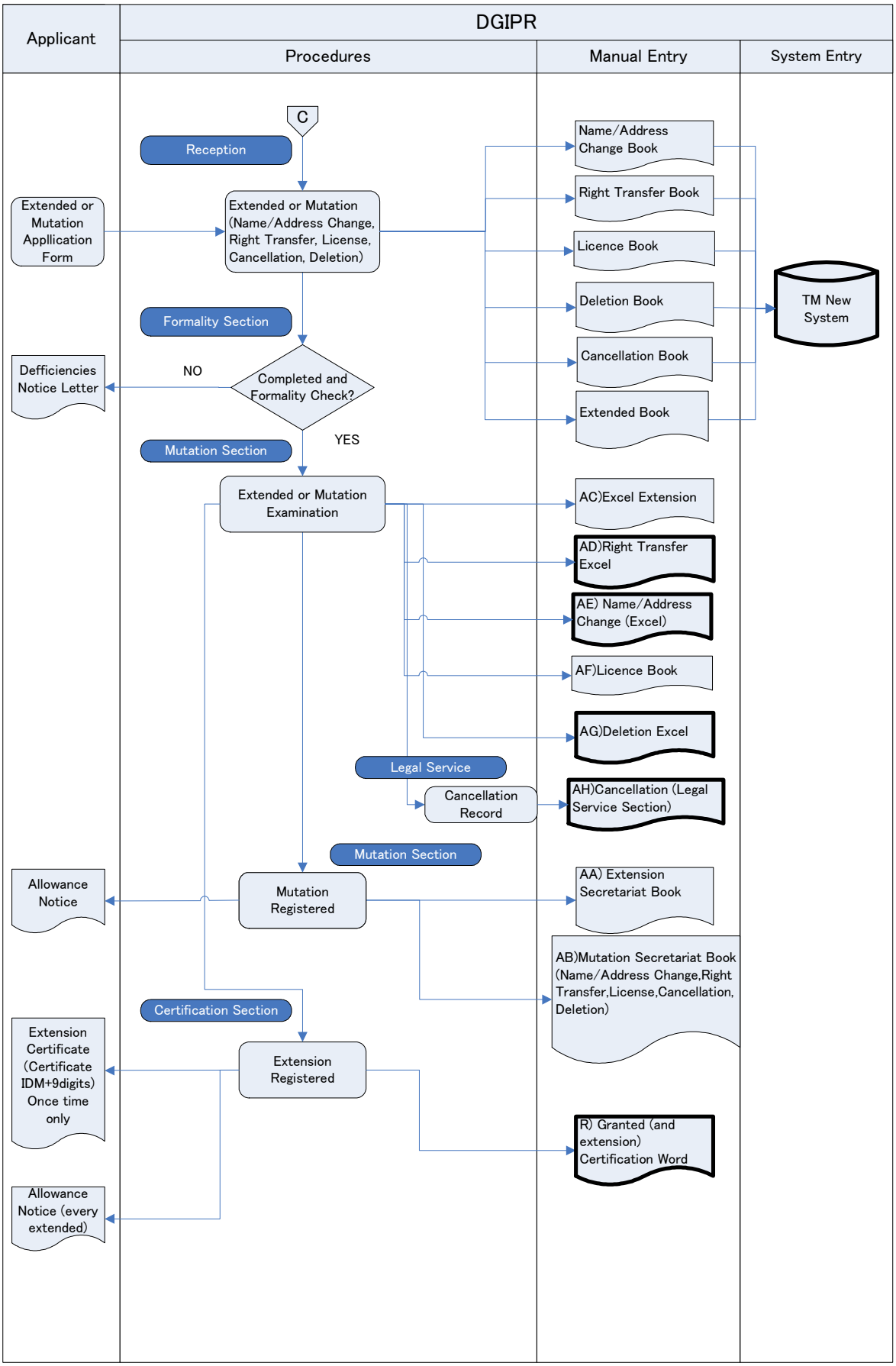


Figure III-2-3 Generation, Gathering and Custody of Various Information Data




Third Party
Applicant
DGIPR
Procedures
Manual Entry
System Entry
A
Application Section
Register?
NO
YES
To be refused Letter
Propose to be refused
L)Excel
Objection Letter
Receive Objection?
NO
Sub Directorate Examination
YES
Hearing
YES
Accept Objection?
NO
Make Record
Q)Excel (Secretariat)
Appeal Letter
Recieve Appeal to Comission?
NO
≦3 Months
YES
Accept Appeal to Commission?
YES
NO
Certification Section
Other legal action
Word(T)
Refusal Notice Letter
Refusal
Excel(BB)
A Publication Gazette
Publication Section
Publication A
Excel(M)
A Publication Gazette Material Recieved Book(N) (Secretariat)
Keep Record
B


Third Party
Applicant
DGIPR
Procedures
Manual Entry
System Entry
Sub Directorate Examination
B
Opposition Letter
Receive Opposition ? (≦3 Months)
NO
YES
Opposition Notice
Objection from Opposition
Re-Examination
NO
Accept Opposition ?
YES
Certification Section
Refusal Word(T)
Refusal Letter
Refusal
Refusal List Excel(S)
Record Book(O)
Certification Section
Allowance Notice
Issuance of Certification
Granted (and Extension)Word Certification(R)
Certificate
Excel(S)
Publication Section
Publication B
B Publication Book(Y)
B Publication Gazette
C


Applicant
DGIPR
Procedures
Manual Entry
System Entry
C
Reception
Extended or Mutation Appllication Form
Extended or Mutation (Name/Address Change, Right Transfer, License, Cancellation, Deletion)
Formality Section
Defficiencies Notice Letter
NO
Completed and Formality Check?
YES
Mutation Section
Extended or Mutation Examination
Legal Service
Cancellation Record
Mutation Section
Allowance Notice
Mutation Registered
Certification Section
Extension Certificate (Certificate IDM+9digits) Once time only
Extension Registered
Allowance Notice (every extended)
Name/Address Change Book
Right Transfer Book
Licence Book
Deletion Book
Cancellation Book
Extended Book
TM New System
AC)Excel Extension
AD)Right Transfer Excel
AE) Name/Address Change (Excel)
AF)Licence Book
AG)Deletion Excel
AH)Cancellation (Legal Service Section)
AA) Extension Secretariat Book
AB)Mutation Secretariat Book (Name/Address Change,Right Transfer,License,Cancellation, Deletion)
R) Granted (and extension) Certification Word

3 Industrial Design System, and Administrative Process of Filing, Examination and Registration of Industrial Design Application

3.1 Current Laws and Regulations, and Related International Laws and Treaties

The current Industrial Design Law was introduced in Indonesia in 2000 as the Law No. 31 of 2000. Before the enactment of the law, industrial design was protected under the Copyright Law.

Indonesia is the signatory to the following treaties and international organization.

- Hague Agreement, since 1950
- Paris Convention, since 1950
- WIPO Convention, since 1999

Indonesia is affiliated with WIPO Convention, and requirements for industrial design application follow WIPO standards.

Although Indonesia is not an accession country of the Locarno Agreement, Indonesia has adopted the Locarno International Classification for industrial design applications.

3.2 Outline of the Industrial Design System

(1) Requirements and application

An application can be filed for one industrial design, or several industrial designs that constitute a unity of an Industrial Design, or that have a same class (Article 13).

The application sheet, filled out, with a representation of the design and the fee consist of the minimum requirements. The filing date is given only after those requirements are satisfied (Article 18). Other items can be submitted afterwards.

The formality check is done for contradictions to the prevailing laws and regulation, public order, religion, or morality (Article 4).

(2) Announcement of application

That an industrial design application has been made is announced to the public within three months after the filing date (Article 25). During the publication period which lasts three months, any third party can submit an objection or a comment in writing to the

DGIPR (Article 26).

(3) Substantive examination

Substantive examination is carried out after the formality examination, while the application is published on a Publication A basis.

Substantive examiners conduct the examination on novelty, searching prior industrial designs filed at the DGIPR and stored in foreign IPDLs by using the Internet and Web browsers. Applications for designs which are found to be identical to one already filed or one that is well-known are rejected, while similarity is not considered in the examination.

(4) Registration

If there is no opposition against an application by the time of the termination of the Publication A period, DGIPR will issue and grant a Certificate of industrial design at the latest 30 days from the date of termination of the Publication A period (Article 29).

(5) Industrial design term, lapse and extension

The protection of industrial design rights are granted for 10 years from the filing date. The industrial design rights once granted are deemed to exist from the filing date. Extension of the registration is not assumed.

(6) Post grant events including cancellation, transfer, and license

The following change in the rights of an industrial design must be recorded in the General Register of Industrial Design at the DGIPR to assure legal effectiveness against a third party.

1) Transfer of right
2) Licensing
3) Cancellation

3.3 Organization and Staffing of the Copyright, Industrial Design and Layout Design of IC Directorates

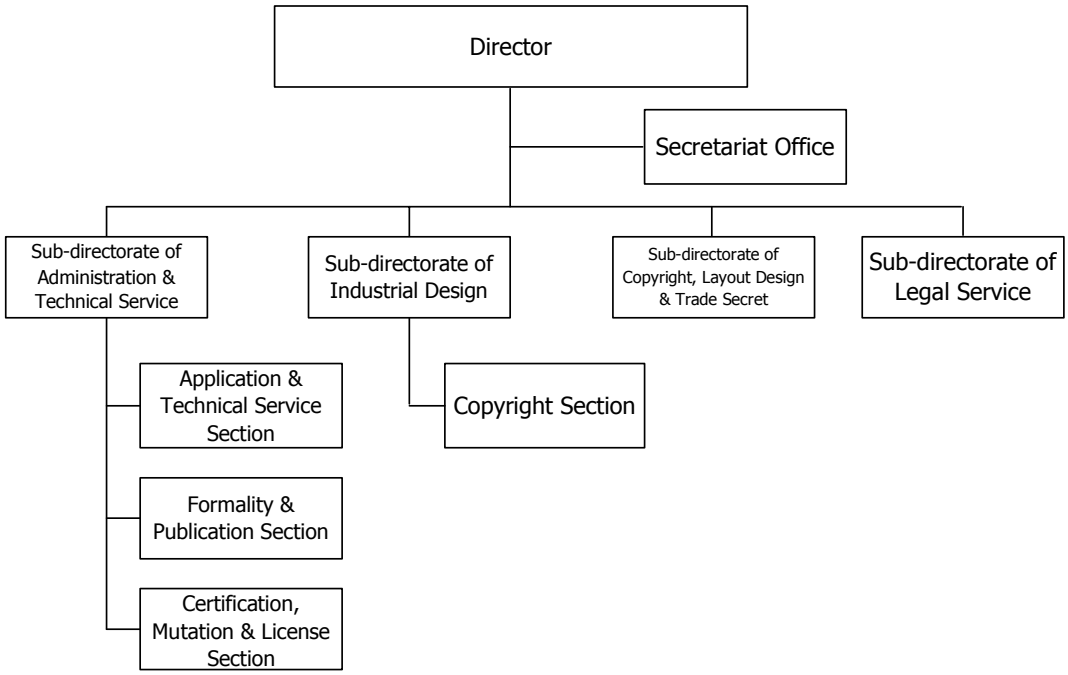
The current organization of the Copyright, Industrial Design, and Layout Designs of Integrated Circuits Directorate of the DGIPR is shown in Figure III-3-1.

The Application/ Technical Service Section has the administrative functions of processing applications for industrial design. The Formality/ Publication Section handles

formality examinations and publication. The Certification/ Mutation Section deals with issuance of certificates and administration of mutation.

The Industrial Design Sub-directorate carries out substantive examinations. There are 10 Substantive examiners. Examiners are not grouped according to their specialized fields.

Figure III-3-1 Organization Chart of Copyright, Industrial Design, Layout Designs of Integrated Circuits Directorate



3.4 Administrative Process of Filing, Examination, and Registration, and Their Computerization

The processing flow of industrial design applications at the DGIPR is shown in Figure III-3-2, while the data handling flow in the process is shown in Figure III-3-3.

Administrative processes, including the WBPS, are used in a part of reception, formality examination and Publication A work. The bibliographic data and images of filed industrial designs are entered in the WBPS. These are used to print a receipt letter to be sent to the applicant and a front-page of the Publication. For substantive examination and issuance of certifications or result notices, however, the System is not in use. Hand-written notebooks and Microsoft Word, Excel or Access are major tools to keep records of activities.

The following points were raised by substantive examiners, as the reasons for not using the system in substantive examination:

- The System does not provide Analysis Table and Substantive Examination Report; and
- The system does not provide a function to amend data.

Figure III-3-2 Administrative Process of Industrial Design Application

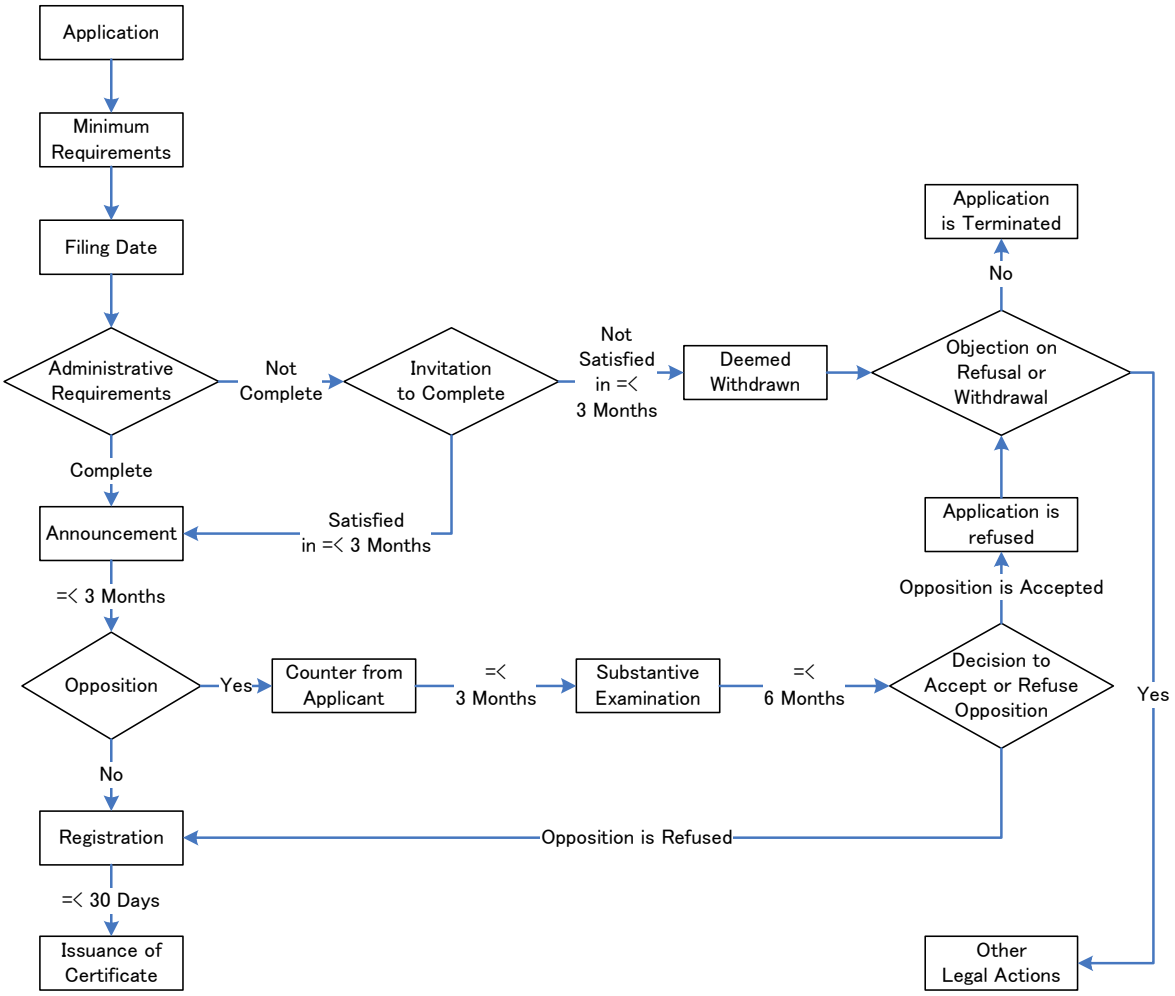
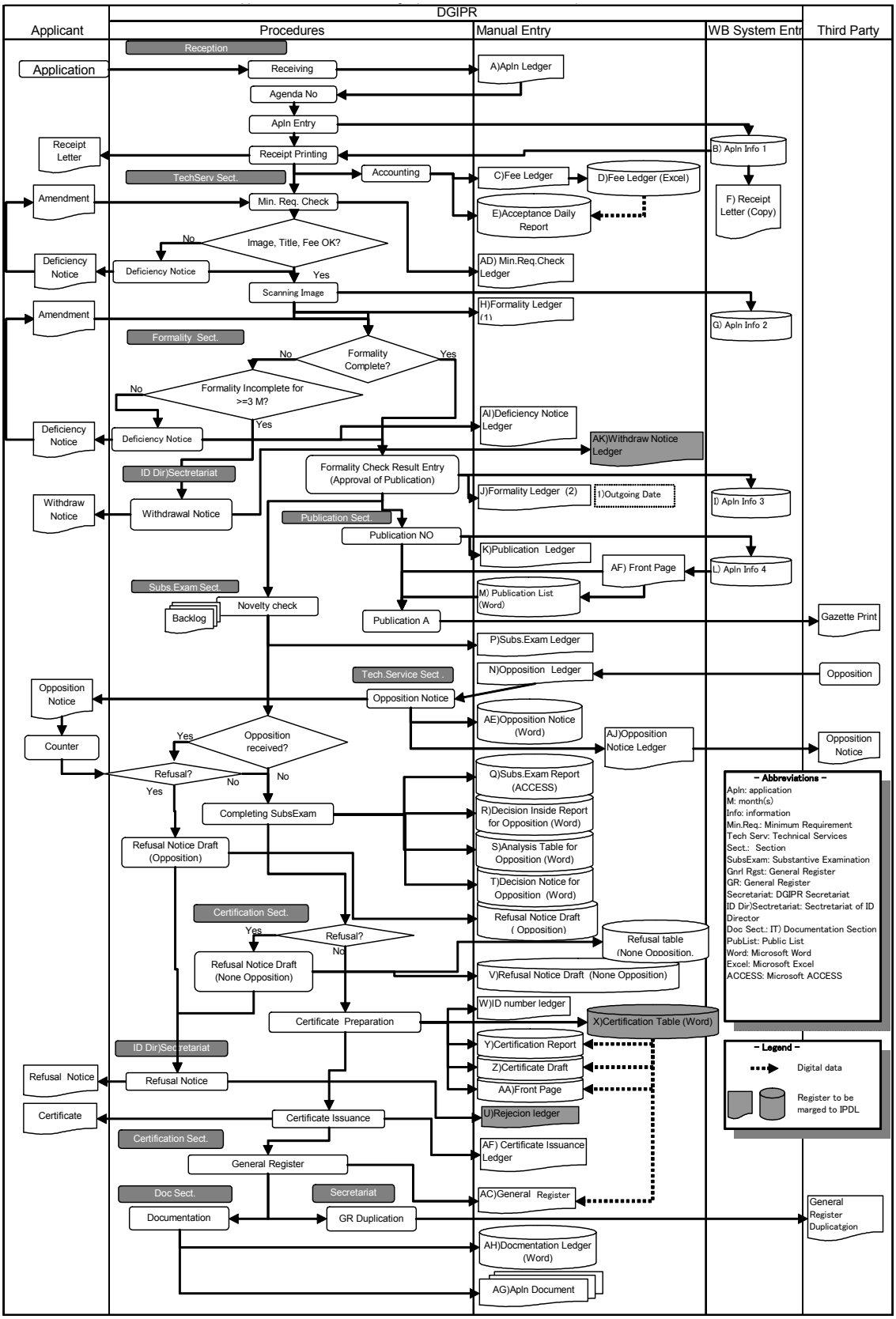


Figure III-3-3 Data Handling Flow in Administrative Process of Industrial Design Application



4 Copyright System, and Administrative Process of Filing, Examination and Registration of Copyright Application

4.1 Current Laws and Regulations, and Related International Laws and Treaties

Copyright in Indonesia is protected under the Copyright Law No. 19 of 2002, which was put into effect on 29 July 2002. The government has still not issued regulations of the Law, and the administrative procedures of Copyright thus follow old regulations.

The current law is the amended version of Law No. 12 of 1997 so as to meet the requirements of the TRIPS. Until the government enacted Law No. 6 of 1982, the copyright law introduced in 1912 under the rule of the Netherlands had been in effect. Law No. 12 of 1997 replaced Law No. 6 of 1982, which had been amended by the Law No. 7 of 1987.

Indonesia is a signatory to and a member country of the following treaties and international organizations related to copyright protection.

- Berne Convention since September 5, 1997
- WIPO (World Intellectual Property Organization) since December 18, 1979
- TRIPS since January 1, 1995

It should be noted that Indonesia has not been a member of the Universal Copyright Convention.

4.2 Outline of the Copyright System

(1) Requirements and application

Indonesia does not require registration of a work for copyright. A copyright thus is generated automatically once one creates a work (Article 2 (1)).

Those works are protected under the law even if they are not or have not been published but have already been put in a form to be capable of reproduction (Article 12 (3)).

Applicants are required to submit two copies of an application in the proper form with samples of the work and the payment of the fee (Article 37 (2)).

Upon receiving an application with the necessary requirements satisfied, the DGIPR issues an application date and an agenda number to the applicant.

(2) Announcement of application

The law of copyright does not required announcement of application.

(3) Substantive requirements and examination

The DGIPR conducts a substantive examination of an application for which the formality requirements have been satisfied. The current law does not prescribe any rule on the examination. The examination is conducted only on the works of logos and batik motifs. It examines similarities of the work with registered copyright-protected works.

(4) Registration

When the application is judged to fulfill the requirements, the DGIPR registers the work.

(5) Copyright term, lapse and extension

The validity term of copyright varies among works. The extension of copyright is not assumed. The law does not provide any rules for lapse of an application during processing.

(6) Post grant events including cancellation, transfer, and license

The legal force of the registration will become ineffective due to (Article 44):

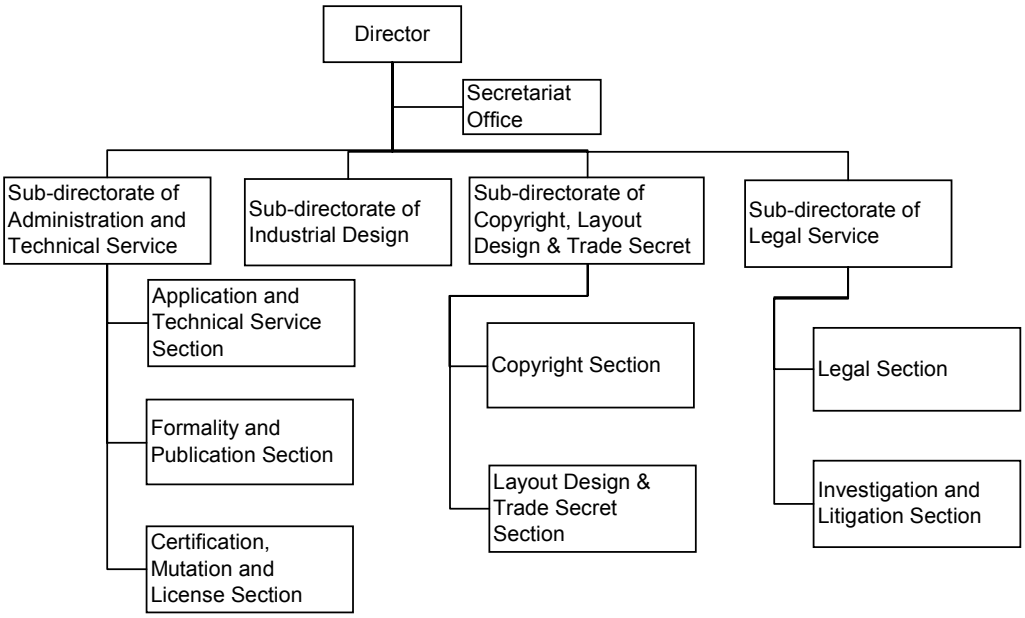
(a) Cancellation upon the request of an author or a Copyright holders whose name is recorded on official Gazette;
(b) Expiration of the validity; and
(c) Invalidation by a court decision.

The law assures that a copyright holder has the right to give a license to another party. The license agreement is necessary to be recorded at the DGIPR in order to have legal force (Article 45).

4.3 Organization and Staffing of the Copyright, Industrial Design and Layout Design of IC Directorate

Figure III-4-1 shows the organization chart of the Directorate.

Figure III-4-1 Organization Chart of Copyright, Industrial Design and Layout Design of IC Directorate



In copyright administration work, the Technical Assistant Section of the Sub-directorate of Administration and Technical Service is responsible to receive applications, while the Formality and Publication Section of the Sub-directorate conducts a formality examination. The Copyright Section of the Sub-directorate of Copyright, Layout Design of IC & Trade Secret is responsible for substantive examination, although the Law does not require substantive examination and assumes that examiners of copyright. The Certification and License Section of the Subdirectories handle registration work.

4.4 Administrative Process of Filing, Examination, and Registration of Copyright, and their Computerization

The processing flow of handling copyright applications at the DGIPR is as shown in Figure III-4-2, while Figure III-4-3 shows the data handling flow in the administrative process.

Figure III-4-2 Process Flow of Handling Copyright Application

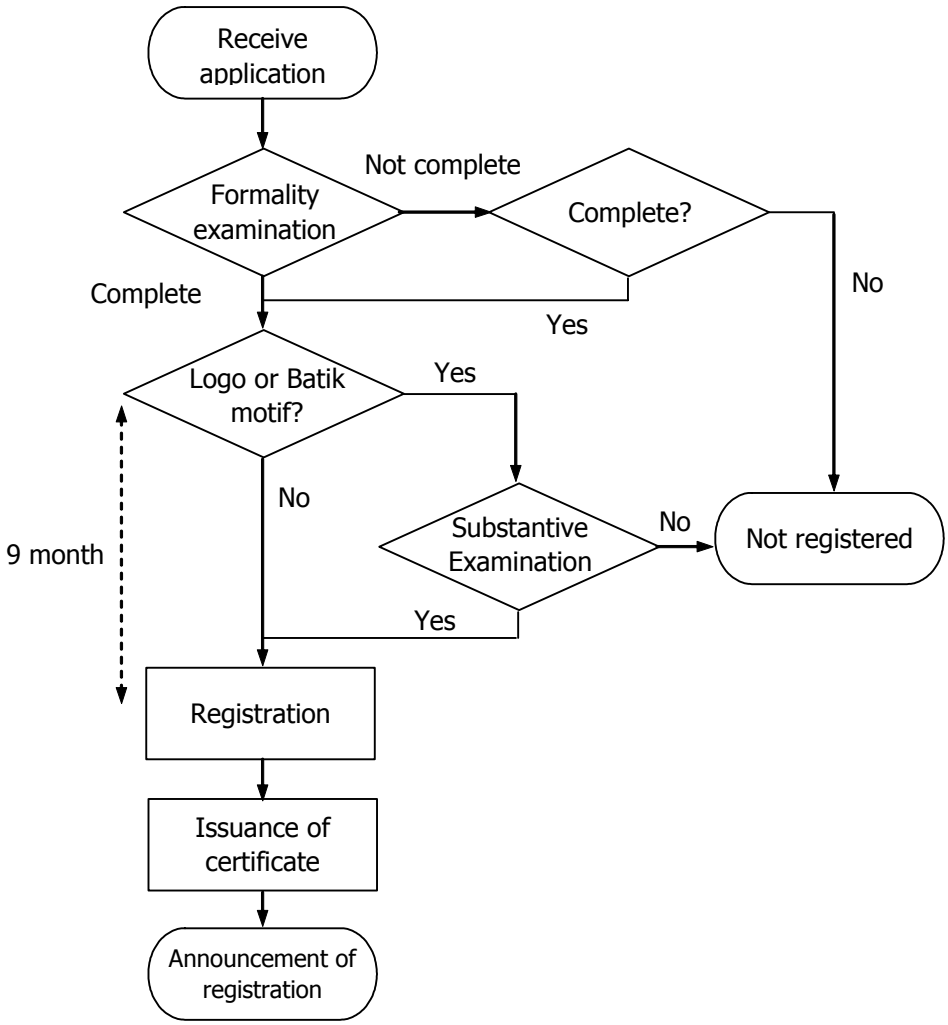
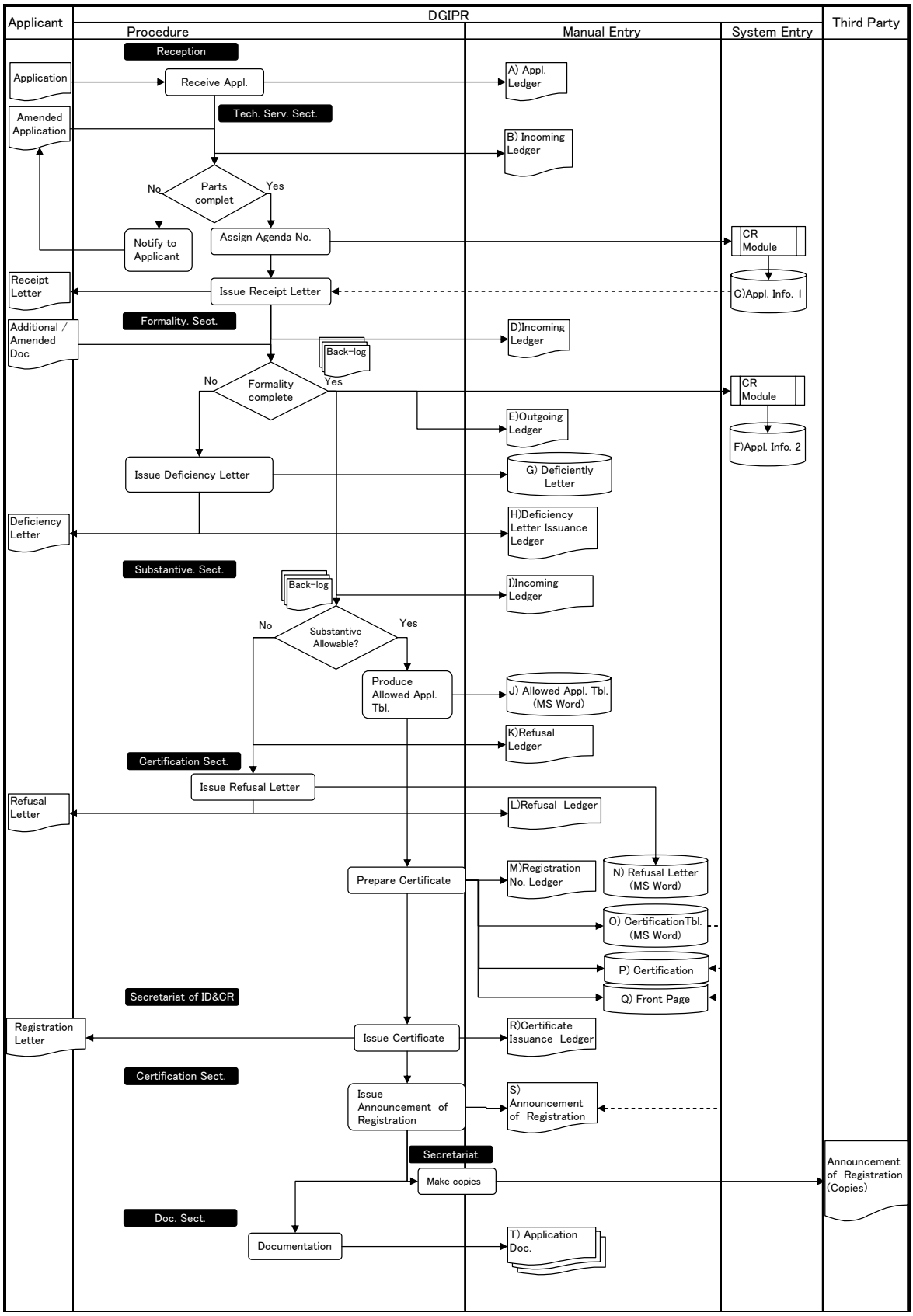


Figure III-4-3 Generation, Gathering and Custody of Various Information Data



IV Development of the IPDL System

1 Objective and Outline of the Study

This study aims at clarifying the concept, requirements and specifications of an appropriate IPDL system, which will be effective for users to collect information related to IP, through development of the pilot IPDL system. The IPDL assumed here is to enable the DGIPR to provide published IPR-related information, and information on the status of IP applications under examination.

2 Needs for Development of the IPDL

2.1 Analysis of Users of the IPDL, and Their Objectives in Using the IPDL

2.1.1 General

The expected users of IPDL are primarily applicants and potential applicants for IPR. In addition, with regard to the information related to applications filed in Indonesia, examiners of DGIPR are expected be the potential users of IPDL, considering the fact that the information available for examination is limited.

In the case of Government Agencies responsible for enforcement, however, there will be no need of using IPDL. Their enforcement activity is basically carried out based on an independent system of in-advance declaration.

2.1.2 Required information on IP for applicants and potential applicants (or their proxies)

(1) Prior art search

Since the prior arts, which will influence the possibility that registration will be successful, are not limited to those in Indonesia, but are considered to be worldwide; the major public information to be searched are those in Japan, the US, and EU countries.

Actually, there is limited demand for a prior art search function currently from the applicants through IP Consultants. This is because of the fact that more than 90% of patents are applied for by foreign applicants. Most of them apply for the same patents in countries other than Indonesia, particularly the US, Japan and EU countries, at the same time. They can access the IPDLs in these countries for information on the prior arts.

The prior art search particularly on the patents registered in Indonesia is performed for researchers in Indonesia. In the case of researchers at universities and research institutes,

particularly in the case of Government-run institutes, they are requested to make the prior art search in advance of start of their research to avoid duplication with already filed and registered inventions.

For the prior art search, at minimum, abstracts, claims, and drawings are required, besides bibliographic data.

For other cases, namely patents to be registered only in Indonesia, provision of full texts in the IPDL is desirable.

(2) Search of prior applications and titles

This type of search has been one of the major objectives for IP consultants to obtain IP information.

1) Patents and simple patents

Applicants usually obtain the detailed information for the patents registered in countries other than Indonesia from IPDL overseas, such as EPO. For the patents to be registered only in Indonesia, there is little demand for full texts so far. The IP consultants, however, have the opinion that the bibliographic information available currently from the Gazette is insufficient, and that it should include abstracts and drawings. They are also expecting the IPDL to provide claims, since the analysis of claims is indispensable for a survey on possible infringement of rights. However, few of them expect full texts.

2) Trademarks and industrial designs

Title searches have been requested by applicants not only through IP consultants, but also directly by the applicants or through the IP Clinic of MITI, etc., because of the fact that significant number of applications have been applied locally (70% in the case of trademarks, for example).

According to the IP consultants, around 70% of intended trademark applications have been found to have already been registered. Therefore, the potential demand for title search of registered trademarks seems to be high.

Those who request a title search of industrial design and trademarks require images in addition to bibliographic data . Further, users expect updated information, since the publication of information with the official Gazette is delayed.

3) Copyrights

Needs for information on the registered copyrights is insignificant.

Information on registered copyrights becomes necessary at time of infringement

disputes, rather than at the time of application.

Basically, bibliographic data is sufficient for a title search of copyrights. Nevertheless, as for the information of the traditional batik motifs to be kept in the IPDL, entry of image data may be recommendable for the purpose of possible use in the future as a database of traditional motifs, not to speak of the value of immediate exposure of the images to the public, considering the importance as in all countries of protection of traditional resources.

(3) Information on the status of applications

Particularly when the applicant wants to use the IP for business, this information becomes critical.

The need for these information is at a high level for patents, trademarks, and industrial designs. Need is particularly high for patents as applicants are eager to know monitor the advance of the examination process, since it takes long time until the examination is completed.

Most IP consultants have the common opinion that the information on the status of an application as presently required by law, namely whether the application is at the step of examination or registration, is adequate. A file tracking system, which would enable an applicant to locate a specific file in the administrative process, is not necessary.

The information is demanded in English, in addition to Bahasa Indonesia, particularly for patents, which are mostly applied for by foreigners.

(4) Information related to objection, status of rights, or change in contents of rights

The need for information on objections against the published applications or registered rights, and information on the status of the rights or the change in contents of the rights, are relatively high for patents, trademarks, and industrial designs. Particularly, the demand for a function to enable users to refer to information on objections is quite high in view of the importance of confirmation of relevant IP information before launching on new projects or sales of new products, as the information obtained can prevent unnecessary conflicts and proper protection of the rights.

2.1.3 Information required by examiners

(1) Patents and simple patents

As for the local applications in Indonesia, or overseas applications without claiming priority, full-examination is conducted. The full-examination includes prior-art search on involvement of an inventive step using IPDL in foreign countries, and search of locally filed applications on the novelty.

The search on the prior applications is carried out mostly by referring manually to the part of the Official Patent Gazette for public announcement. Most of the time, however, publication of the Gazette, takes place almost 24 months from the filing date, and thus is too late for the examination. Further, the applications are not categorized in the Gazette, making the Gazette difficult for use in search for examination information.

(2) Trademarks

All the trademarks are subject to substantive examination in Indonesia on possibility of registration. The trademarks which are approved for registration as a result of the examination are announced through preliminary registration notices placed in the Gazette. In case of objection for a trademark as a result of the announcement, re-examination will be conducted.

In practice, DGIPR requests applicants to file applications one by one according to the classification, in the case of applications covering more than one classification. At this time, the actual trademark examination does not take into account any similarity of the application to registered trademarks and applications for similar ones. Further, Section 2 of Article 6 defines that an application, which has similarity with a registered trademark, can be rejected even if the application is for goods and/or services which are not of the same kind. Again, however, the examination neglects it because of lack of the regulation in actual, and rejects only application which has similarity to the goods and/or services in the same kind. Therefore, the scope of search for the registered trademarks in the trademark examination process is fairly limited, and thus, search functions provided by IPDL will be effective for improved efficiency of examination, even if the functions are limited.

The current search of registered Trademarks is based on a word search function, and as a process is still incomplete. The examiners, therefore, carry out a countercheck referring a book which lists the registered trademarks by classification.

Except for trademarks with figurative elements, the word search function alone will be

significantly useful to improve completeness of trademark examination, since the applications are required to attach notation in Bahasa Indonesia.

As for the trademarks with figurative elements, no systematic code or index is available so far, including the Vienna classification.

In the actual substantive examination, examiners are searching trademarks visually in the books in which the applied trademarks are shown.

The examination of applications for similarity to well-known marks is almost impossible in the current examination environment in DGIPR. Examples of cases of "well-known marks" had been collected by the DGIPR before the amended law in 1997 was enforced. Currently, however, applications similar to "well-known marks" are not rejected by the examiners except when a well-known mark that has been registered in Indonesia is involved. In other words, the current examination does not take into account of the refusal factor, which is regulated in "b" of Section (1), Article 6. Analysis of the administrative process of trademark examination alone will not yield the right solution as to what information to be provided with the IPDL to improve such a situation. Rather, it is the matter of policy relating to trademark registration system in Indonesia.

(3) Industrial designs

In the process of substantive examination, only the novelty of applications are checked mainly with prior art search accessing to IPDLs in foreign countries, search through internet access on publicized designs world-wide, and examination of prior applications and registered designs in Indonesia. The application which is the same in effect as the prior applications or registered designs, will be refused to be registered.

In the case of prior application search, examiners use Gazettes. The Gazettes No.1 through 160 are available on CD-ROMs. The Gazettes No.161 through 206, however, are available only in printed on paper form, and examiners have perforce made many efforts to devise search tools for use in their examination, photo-copying the gazettes, classifying applications, and compiling them in classified files. Further, the search function available for the CD-ROM based Gazettes is very poor in terms of user-friendliness, also resulting in high work-loads for examiners. Thus, information to be provided by the IPDL is highly expected to contribute to reduction of the workload of examiners.

(4) Copyrights

DGIPR examines applications in terms of originality, though only in the case of logos and batiks. The examination section keeps 61 volumes of books, which contain design images of registered logos, for examination by the examination staff (not examiners) for visual comparison.

The proposed IPDL is expected to contribute to reduction of the workload required for examination, eliminating the manual work of comparing the applications with the design images included in the books, and is also expected to provide a search function of bibliographic data of registered copyrights.

In addition, if the image data of registered copyrights are provided by the IPDL, it will contribute further to improved efficiency of the examination. However, the image data will be made public through the Internet, if it is provided with the IPDL, resulting in fear of infringement of copyrights. The copyright image data should not be published through the IPDL for the viewpoint of copyright protection.

2.2 Application and Information Publication in the Provinces, and Needs for Information Sharing with Regional Offices

(1) Overview

There are four major channels of application from the provinces:

a) Through the regional offices of the Ministry of Law and Human Rights (MOLHR);
b) Through the IP Centers of universities in the respective provinces;
c) Through the IP Clinic of the Ministry of Industry (MOI); and
d) Directly to the DGIPR including applications by attorneys.

The number of trademark applications is the largest among the application in the provinces. There were 456 applications in 2004. The number of copyright applications to the regional offices is the second largest, and reached 57, and is disproportionately high in specific regions. The number of patent applications to the regional offices is just 16. The actual numbers, however, should be larger than those presented because patent applications including those from private companies mainly come through universities rather than through the regional offices.

The proportion of applications at the regional offices to the total number throughout is minute. Even trademark applications, for which the largest numbers are recorded, account for less than 1% of the overall applications (49,311) in 2004. The applications

by SMEs and individuals account for almost 90% of the applications through the regional offices.

(2) The regional offices of the MOLHR and their roles in applications from the provinces

Regional offices of the Ministry of Law and Human Rights are located in 27 provinces. The IPR related functions of the offices in are to promote IPR, to receive IPR applications, and to detect violations of IPR law.

The officers in charge of IPR in the regional offices play a positive role in promoting IPR by providing advisory services to applicants in their own regions. Considering this situation, how to supply information including training to those officers is an important issue.

The role of the regional offices, however, has not been defined clearly. In a sense they tend to compete with IP Centers, Clinics of universities and the IP Clinic of the MOI in receiving applications. Moreover, applicants do not recognize the advantage of applying to the regional offices, such as convenience. This implies that it is necessary to sort out the role of the regional offices with consideration given to those relationships.

Facilities for information communication and collection in all regional offices are not at all sufficient. There is almost no equipment specifically for IPR administration.

Speaking generally, SMEs in the provinces do not have personal computers. It should be necessary to consider enhancing the information and communication facilities of the regional offices so as to provide services to those clients.

3 Basic Design of IPDL System

3.1 Basic Policy of Designing

3.1.1 Expected users and their objectives in using IPDL

The following IPDL users and their objectives in using the IPDL was assumed for the purpose of the IPDL System development:

Assumed users of IPDL	Objectives of use of IPDL
Applicants, and IP Consultants	1) Prior art search (for patents and simple patents) 2) Title search before application 3) Title search before request for substantive examination (for patents) 4) Confirmation of application status 5) Information on change of owners of IPRs, which are registered by others 6) Information on filed objection to registered IPRs, which are registered by others
Examiners of DGIPR (*)	1) Patent examiners: Mainly abstract search for examination of applications filed in Indonesia 2) Trademark examiners: Search and display of marks which have similarity in appellation and/or mark 3) Industrial design examiners: Search and display of industrial designs classified under the same category of classification 4) Copyright examiners: Confirmation of brief overview of registered copyrights

Note: (*) The functions provided by the proposed IPDL for examiners do not cover all the functions required as a comprehensive tool for examiners. These functions are limited to those which can be provided additionally to the functions required for IP information publication.

Although the proposed IPDL System will not include the functions other than those assumed above, the following information is recommended to be provided by DGIPR for promotion of IPR among the general public, according to the above needs study on the publication of information:

1) Laws, regulations, and guides, etc.
2) Application forms to promote application using digital data
3) Basic guides and information on IPR, including FQA on IPR

3.1.2 Contents of IPDL

Data to be used for the IPDL are those which already exist as electronic files in DGIPR, or those which will be provided as electronic data through the administrative process. In other words, the IPDL itself does not enter any data just for use for the IPDL.

The current administrative process of DGIPR has some limitations in view of providing data required in the IPDL.

3.2 Specifications of the System

3.2.1 Functions

(1) Information to be provided

The information to be provided by the IPDL is decided on the basis of assumed users and their objectives in using the IPDL, which include the objectives deemed useful in the future, if any.

The information provided by the proposed IPDL for examiners, however, does not necessarily cover all the functions required as a comprehensive tool for examiners to use. This information is additional to that required for IP information publication.

(2) Search Function

The IPDL provides the users with a function for searching its contents.

The search function of the IPDL was designed according to the following basic policy:

- Searchable with entry of simple key-words
- Searchable with a combination of more than one search conditions, to meet the search needs of DGIPR's examiners and IP consultants

1) Combination of Search Keys

Each domain has its own available data items which are to be searched.

2) Applicable Fields

Free Text:

All the searchable data fields are searched with keywords entered in the Free Text field on the Search Condition Screen, following the designated search condition of "AND", "OR", or "NOT".

Abstract 1, and 2:

Not only Abstract data, but also Claim data, and Detailed data, are searched with

keywords entered in the Abstract1 field or Abstract2 field on the Search Condition Screen.

Currently, no data is stored in Claim data and Detailed data fields, but a Claim Table and a Detail Table are available in the Archive DB for future use.

3) Capital Letter and Small Letter

The keywords are used for search, normalizing capital letters and small letters.

(3) Functions for examiners

As a consideration of the convenience of examiners, the IPDL provides additional functions for examiners as follows:

1) Function to save search conditions
2) Function to keep a historical record of search conditions
3) Authentication function

3.2.2 Operation by users

Internal IPDL requires a user to enter an ID and password. When the ID and the password are authorized, the Top Screen appears.

If the subject domain is selected at the Top Screen, the Search Condition Screen of the selected domain appears.

When the entry of search conditions is completed, the search server performs the search and shows the search result. For the domains of trademark and industrial design, the result can be presented either in the form of list or in the form of thumbnail images.

When one of items on the list is selected, the bibliographic data and publication data appear. For patent, scanned image data of full documents or publication can be displayed.

3.2.3 Operation by the system administrator

(1) Starting the IPDL System

Since the IPDL system consists of several servers, for the services to be effective, relevant networks, databases and application programs must be activated. Activation will be carried out automatically according to the predetermined administration schedules, if such schedule is provided in advance.

In the case of manual operation, operators click on icons for each program to be activated. ID and passwords are required to activate them.

(2) Data Migration

1) Check Readiness of Files

The operator starts the Check Readiness of Files program by clicking the icon. The program finds files under the defined directories for updating and displays the list of the files. The program prompts the operator to select "Convert" or "Cancel".

2) Data Conversion

"Convert" leads to a screen where the operator is prompted to decide "convert all the files found" or "convert only selected files".

3) Updating Archive DB

The operator starts Updating Archive DB program by clicking the icon. The program then updates Archive DB using Common Update Format files in the directories which are defined in advance.

4) Updating IPDL

The operator starts the Updating IPDL program by clicking the icon. The program then updates IPDL using data in the Archive DB.

(3) Back Up

Data are backed up on magnetic tapes. Archive DB, Internal IPDL DB, and External IPDL DB are backed up.

3.2.4 Data migration from the current systems to the IPDL

(1) Available Source Data

Data used in the IPDL are collected from the following sources.

- WBPS (World Bank-Project Assisted System)
- TMNS (Trademark New System)
- Local Files

Data stored in these files do not necessarily have uniformity because they are entered by staff members without standardizing the input format. Some data are stored in a different format, while some application data are duplicated.

In order to avoid confusion, the adoption of a standardized format is necessary. The system provides normalization function which converts various types of format data into standardized format data during the migration processes. The normalization is applied to application number, publication number, registration number, date, country name, and

legal status.

(2) Data Modeling

To avoid confusion, the Archive DB must reject unnecessary redundancy.

All the data which are stored in the Archive DB must be related to applications for registration, and be identifiable by application IDs. An application ID is generated by the normalization process and then assigned to each application for registration.

(3) Database Architecture

Data building in IPDL is carried out in the following sequence:

- Gather data from Source Data files
- Convert the data into normalized Common Update Format
- Update Archive DB with data in Common Update Format files
- Update IPDL DB with data in Archive DB

1) Common Update Format

Common Update Format is used as an intermediary between source data files and the Archive DB. Common Update Format is capable to store any data of any source data file. Common Update Format data is stored either in Relational DB.

2) Archive DB

The Archive DB contains all the information received via Common Update Format.

The Archive DB adopts a single common format for all domains of Patent, Trademark, Industrial Design, and Copyright.

As Archive DB adopts a single architecture which is applicable for all the domains, management of IT in DGIPR is facilitated, resulting in increased capacity for using IT.

3) Local File Item Name Table

The Local File Item Name Table is used to define the relation between items in source files and tags in Common Update Format. The Local File Item Table is defined with using XML.

4) Image Data and Their Location

a) Image data in WBPS and TMNS

Relational DBs of WBPS stores image data of industrial designs, while TMNS stores the image data of trademarks outside of the relational DBs. The size of the image data is approximately 100KB.

b) Image data in the Common Update Format File

In the case of Trademarks, all the image data is stored in the TMNS. In the case of Industrial Designs, however, the image data are stored in a local file, which was used for issuance of the certificate.

Therefore, when a Common Update Format file is created from WBPS, TMNS, or a local file, the file needs to work with image data. In such cases, the Common Update Format file will contain the file name of image data and its directory name only, while the image data itself is stored in a different file.

c) Archive DB

The Archive DB contains character data only. Full documents of PDF files (of Patents) and image data of trademarks and industrial designs are not stored in the Oracle DB. The DB only manages name of files and directories where the files of images reside.

d) Search DB

Search DB does not contain any image data as it is designed to search character data only. Images of trademarks and industrial designs, and also PDF files of patents are stored outside of the DB and the DB only manages name of files and directories where images reside.

(4) Data Migration

1) One Time Operation

A great volume of data already has been accumulated in the DBs of WBPS and TMNS. The one time operation transfers these data directories from Oracle DBs of WBPS and TMNS to Oracle DB of Archive Server.

2) Monthly Operation

There are two types of monthly operations. One is an operation to extract data from local files in personal computers for updating. The other is an operation to extract data form Oracle DBs for updating.

3) Operation as needed

Full documents of patents for publications are prepared in PDF format files.

4) Policy on the data to be open to the public

Applications, which are decided to be published as Publication A documents, are extracted from the Archive DB and transferred to the Public IPDL.

(5) Legal Status Management

Taking into account the current operation in DGIPR, the IPDL adopts a status code system which consists of three digits. The first digit represents the main status, and the second digit represents actions of applicants, while the third digit represents an action of the third parties or the courts, which effects status of relevant applications.

Sub-Status / Main Status	Normal	Exam Req Received	Objection Received	Exam Req & Objection Received	Lawsuit	Court Decision
		X1X	XX1	X11	XX4	XX5
Unknown	000					
Received	100					
Filed	200	210				
Formality finished	300	310				
A Publication	400	410	401	411		
Withdrawn	500					
Under examination	700		701			
Granted	800				804	805
Refused	900				904	905
Extended	820				824	825
Canceled	830					
Expired	840					

Status ID	Status Name
000	Unknown
100	Received
200	Filed
210	Filed / Exam Req
300	Formality Finished
310	Formality Finished / Exam Req
400	A Pub
410	A Pub / Exam Req
401	A Pub / Objection
411	A Pub / Exam Req / Objection
700	Exam
701	Exam / Objection
800	Granted
804	Granted / Under Court
805	Granted by Court
820	Extended
824	Extended / Under Court
825	Extended by Court
830	Canceled
840	Expired
900	Refused
904	Refused / Under Court
905	Refused by Court

(6) Rules of Updating and Overwriting

- At the time of the update operation, if the Application ID in question does not exist in the Archive DB, a new Application ID is registered in the Archive DB and all the relevant data stored in Common Update Format file are transferred to the Archive DB.
- If the Application ID in question already exists in the Archive DB and there is no duplicated or conflicting information, all the relevant data stored in Common Update Format file are transferred to Archive DB.
- If the Application ID in question already exists in the Archive DB and there are duplicated or conflicting information, data are updated according to the following rules.
- The existing data in Archive DB is overwritten with the Common Updating Format data, if the Common Updating Format data is new compared with the existing data in Archive DB. The criteria to determine the data “new”, and rule to update is as follows:

B: Bibliographic data is updated

S: Status data is overwritten by the number indicated

H: History data is added

E: Display Output Error message

X: Indicated part of Status remains unchanged

Z: Indicated part of Status is overwritten as instructed

N: No change made

(7) Currently Available Data

Data files currently available in DGIPR are indicated by a P, M, D, or C in the following table.

Update Operation	Operation Code	Source File			
		Patent	Mark	Design	Copyright
Unknown	000				
Received	100				
Filed	200				
Formality Finished	300				
Request for Examination	310				
A Publication	400	P2	M5		
Withdrawn	500	P4	M4		
Complex from PC	600				
Complex from WBPS	610	P1		D1	C1
Complex from TMNS	620		M1		
Examination	700				
Opposition	401			D4	
Grant	800				
Refused	900		M3	D3,D4	
Certification	801	P6	M2	D2	C2
B Publication	802	P3			
Assignment	060		M7		
Amendment	070		M6		
Extended	820				
Annual Fee Payment	821	P7			
Canceled	830		M8		
Expired	840				
Appeal Received	902				
Appeal Granted	803				
Appeal Rejected	903				
Lawsuit	904				
Court Decision	970		M9		
Error Amendment	980	To Be Prepared	To Be Prepared	To Be Prepared	To Be Prepared
Status Amendment	990	To Be Prepared	To Be Prepared	To Be Prepared	To Be Prepared

3.2.5 Data sharing with regional offices

Computers at the local offices are connected to the existing Network Management Server in DGIPR using dial-up telephone access. Since the Network Management Server can provide the virtual LAN environment to the computers outside of DGIPR, the IPDL system does not distinguish between computers in DGIPR and computers outside of DGIPR, and provides all the functions available to computers in DGIPR to the computers outside of DGIPR.

However, considering the fact that it is important for the regional offices to promote use of IPDL for outside users by means of the computers installed in the offices, the access of computers at local offices will be limited to the IPDL for external users only, for the time being.

3.3 Components of the System

3.3.1 System architecture

IPDL servers are provided separately to the public users and the examiners in DGIPR.

Since the IPDL for the public users is accessed through the Internet, it should provide sufficient down link speed for the users to benefit from the services. Further, the IPDL must be isolated from the current systems of DGIPR to prevent malicious attacks through the Internet access.

The IPDL for the examiners is connected to the existing LAN of DGIPR. The services are provided also to the officers in the local offices connecting to the current network management server in DGIPR.

3.3.2 Hardware components

The IPDL system consists of a monitoring server, an archive server, two application servers, two search DB servers, two Web servers, and one back-up server.

3.3.3 Storage capacity

(1) Archive DB

Year / Domain	2005		2010	
	Number	Disk Occupancy	Number	Disk Occupancy
Patents	50,000	6.0 GB	80,000	9.6 GB
Trademarks	300,000	36.0 GB	550,000	66.0 GB
Industrial Designs	8,000	1.0 GB	23,000	2.8 GB
Copyrights	6,000	0.8 GB	11,000	1.4 GB
Total	364,000	58.8 GB	664,000	79.8 GB

(2) PDF

	2005		2010	
	Number	Disk Occupancy	Number	Disk Occupancy
Full Document Publication A, Domestic	3,000	4.3 GB	8,000	11.5 GB
Front Page Publication A, Foreign	47,000	3.0 GB	72,000	4.6 GB
Publication B Full Document	15,000	21.6 GB	24,000	35.6 GB
Total	65,000	28.9 GB	104,000	51.7 GB

(3) Internal IPDL

Required disk capacity for the data in IPDL is the total of that of Archive DBs and PDF files. Currently it occupies 87.7GB (or 58.8GB + 28.9 GB), and is expected to increase to 131.5GB (or 79.8 GB + 51.7 GB) in 2010.

(4) Public IPDL

Public IPDL contains the information which is made available for the public only. Patent information is made available to the public 18 months after the filing date. Since the data for the 18 months requires 3.2GB, the public IPDL requires 3.2GB less than that of Internal IPDL. Therefore, the Public IPDL requires 84.5 GB (or 87.7 GB less 3.2 GB) currently, and it is estimated to increase to 128.3 GB (or 131.5 GB less 3.2 GB) in 2010.

3.3.4 Computers for users

There are two types of users; Internal users of DGIPR, and public users who access the IPDL through the Internet.

Since the internal users of DGIPR currently use Microsoft Windows and Internet Explorer for their daily operations, the operation environment with Microsoft Windows and Internet Explorer will be provided for the computers to be acquired in connection with the IPDL.

3.3.5 Security

(1) Internet Security

- Public IPDL Servers are separated from other internal systems.
- Internal Servers are not accessible from the Internet.
- Anti-Virus software is to be installed in every server and computer.

(2) Authentication

There will be three authorization levels.

1) Level A: An authorized user of Level A can access all the records in IPDL.
2) Level B: An authorized user of Level B can access all the records of the domain where he/she belongs. An authorized user of Level B also can access the records which are already open to the public.
3) Level C: An authorized user of Level C can access the records which are already open to public.

(3) Access to the Update Folder

IT Directorate issues an ID and password to those who are in charge of updating, so that they can access to the Update Folder in the Archive Server.

(4) Update Log

The system records the ID of the operator who uploaded, and date and time of upload, when Common Update Format data from the source file is uploaded to the Update Folder.

The system records the source file information stored in Common Update Format data, the operator's ID and updating date, when the Archive DB is updated using the Common Update Format data.

These data will be kept for 5 years for auditing.

(5) Recovery

1) Hardware

a) Disk All the data in servers are duplicated using a RAID 1 mechanism. Once one of the disks is damaged, it should be replaced immediately.

b) CPU and Memory If the memory is damaged, equipment should be replaced immediately, interrupting the operations.

2) Data

a) Archive DB

- Data in Archive DB should be saved to the backup media after monthly operation.
- The saved data should be kept for at least 3 generations.

b) IPDL DB (Internal and Public)

- Data in IPDL should be saved to the backup media after monthly operation.
- The saved data should be kept for at least 2 generations.

c) Common Update Format Files

- Common Update Format Files are to be kept for 12 months equivalent in the backup media.
- Original Source Files are also kept for 12 months equivalent in the backup media.

4 Estimated Costs and Expenses Required for Maintenance of the IPDL System

Operation and maintenance of the IPDL is estimated to require the following costs and expenses.

(Unit: US dollars/year)

Costs and expenses required	2007	2008	Assumptions
(1) Maintenance support service for hardware			
1) Servers (10 units)	0	3,700	On spot service
2) Data storage (LTO Library) (1 unit)	0	1,200	On spot service
3) Computers (29 units)	0	4,100	On spot service
Sub-total	0	9,000	
(2) Technical support service for software			
1) Back-up software	700	700	On spot service
2) Database software	500	500	On spot service
Sub-total	1,200	1,200	
(3) Maintenance fee for security software	400	400	Online support and continuous version update
(4) Internet access fee of regional offices	800	800	Dial-up access fee
Total	2,400	11,400	

Note: "Year" means January through December.

The following are assumed for making the above cost/expense estimate:

(1) Maintenance support for hardware and software

As for the maintenance support for hardware, "On spot service" was selected as the best option, since it is the cheapest case.

(2) Maintenance fee for security software

For the security of the system, a support service contract is recommended, since security is crucial for the system.

(3) Internet access facility of DGIPR

No additional costs or expenses are included, assuming that the IPDL System will use the high speed Internet access service, which is currently used under contract.

(4) Internet access fee of regional offices

A budget allocation is necessary for the fees for dial-up internet access by regional offices, to enable the IP information sharing among DGIPR and regional offices.

5 Organizational Setup for Operation, Maintenance and Administration of IPDL

The following is assumed as the organizational setup required for operation, maintenance and administration of the IPDL system.

5.1 Organizational Setup for Operation

(1) Help Desk

Help Desk is organized in the IT Directorate to respond to inquiries made by both external and internal users. Each IP Directorate assigns employees who will support the Help Desk responding to the inquiries which the Help Desk cannot respond to by themselves.

(2) Organizational setup to discuss matters operation and future updating of the IPDL

An organization, involving all the relevant Directorates, that would discuss the problems and future improvement of the IPDL, is necessary. This organization will be effective also for discussion of matters related to further IT use in DGIPR. In this regard, organization of a committee to discuss future direction of IT use, and assignment of staff in charge of planning and promotion of IT in the Directorate, is assumed.

5.2 Organizational Setup for Maintenance and Administration of IPDL

(1) Periodical data migration from the administrative systems to the IPDL

Data is transferred automatically from the administrative process to the IPDL. However, the data stored in the files in the individual sections' or staff members' computers must be submitted to the designated submission files by the staff members who are in charge. In this connection, a supervisory person who is responsible for monitoring the submission must be assigned in the respective IP Directorates.

(2) Supply of any deficient data, correction of wrong data and entry of non-digital data

Applications which were processed before introduction of the computerized systems, are stored in DGIPR in non-digital form. Further, some data are missing, while others contain wrong or omitted information. Some are duplicated, and others are lacking the

image data. Thus, there are some limiting factors if DGIPR were to make all the data open to the public. DGIPR should make efforts to increase the data which can be made open to the public.

Based on the plan decided by the committee for promotion of IT use, all of the above should be implemented.

(3) Daily maintenance and administration of the system

The daily maintenance and administration tasks are the responsibility of the IT Directorate.

The maintenance and administration manual should be kept under the responsibility of the Sub-director for System Development Sub-directorate.

For maintenance and administration other than the above, including items to be carried out by DGIPR themselves, and items to be requested to the parties in charge, outsourcing is recommended.

V IT-related Human Resource Development in DGIPR

1 Objective and Outline of the Study

The Study aims at providing recommendations for IT-related human resource development programs to improve the capability of IT utilization and maintenance of the computer system, and implement it partly as a pilot project. Further, the IT-related human resource development plan for DGIPR will be recommended based on the results of the pilot project.

2 Current Situation

2.1 Organization for IT in DGIPR

The IT Directorate is responsible for promotion of use of IT, and operation, maintenance and administration of the existing IT-related systems in DGIPR. There are four Sub-directorates with a staff of 24 (six supervisors and 18 engineers).

2.2 Current IT Staffing in DGIPR, and IT-related HRD System and Programs

(1) Current IT staff

More than half of the current IT staff are holders of degrees in computer science, and have three to four years experience in IT-related fields, while four staff members are new in terms of job experience in this field. Eighty percent of the staff have computers for personal use, but only 50% of the staff has access to the Internet.

No staff member is officially certified in IT.

(2) IT-related HRD system and programs

Except for newly recruited employees, all the staff has taken a training course on LINUX, while 60% of staff has completed courses on JAVA programming, and SQL as an introductory database course. These courses are entry-level courses and the more advanced courses are required, according to the survey.

The trainings on items relating to the following IT technologies have been found to be expected in the future by the staff, according to the survey:

1) High expectation for training in development planning such as system analysis, system design and project management, for which they have had no course so far
2) High expectation for training on database design and database management from

the Process Development Sub-directorate and System Development Sub-directorate

3) High expectation for training on network technology and web programming from all the Sub-directorates
4) High expectation for training on system maintenance and system management from the System Support Sub-directorate

3 Recommended Concept of IT-related HRD in DGIPR

3.1 Responsibility of the IT Directorate

The IT Directorate should be responsible for the following, taking into account the future development of IT use, the current situation and issues of system operation and maintenance:

(1) Operation management

This is the function of managing operation of the existing system and systems to be developed in the future.

(2) System maintenance

The function may be classified into two: 1) repairing of defects, upgrading or modification of the current systems, and 2) maintenance of the network infrastructure.

(3) Development plan and project management

This includes the development plan of the new system, analysis of system requirements, preparation of system specifications, and management of the outsourced development process including contracting, control of outsourced development, and acceptance of the output. In the case of DGIPR, system development has been outsourced so far. However, the IT Directorate is recommended to develop its capability to develop systems internally, assuming the future possibility of becoming capable of developing small scale systems by itself.

(4) User training

Training of users in DGIPR should be a responsibility of the IT Directorate. Besides the user training on operation of newly introduced systems, promotion of understanding of benefits of the system, and rules on creation of "private" application and data operation are essential.

3.2 Proposed Target of IT-related HRD

The target of training is shown in the following:

Table V-3-1 Proposed Target of IT-related HRD in DGIPR

Sub-directorate	Section	Target of HRD for Staffs in the Section
Process Development	Process Development	(As a system development engineer) To be able to plan and manage system development, including: • System analysis and specification preparation • Management of outsourcing of system development process (management of procurement and contract)
	Website	To be able to develop web application
System Development	DB and Application	(As a system administration engineer) To be able to perform the following responsibility: • Operation management of the existing systems including DB and networks • Resource management • Capacity planning • Security administration
	Daily Operation	(As a system implementation engineer) To be able to undertake the daily operation support of existing systems and the IPDL system now under development, including: • Daily/weekly data-back up
System Support	Network Administration	(As a system maintenance engineer) To be able to undertake the following responsibility: • Maintenance and upgrading of the existing applications, including the IPDL now under development • Maintenance of existing DB, including the IPDL now under development • Maintenance of the network • Plan and management of system maintenance • Plan and implementation of user training
	Help Desk	To be able to undertake the user support relating the existing application and infrastructure

4 Recommendation on IT-related HRD Plan and the Pilot Program

4.1 Recommended Plan for IT-related HRD

Table V-4-1 shows the definitions of training courses required for IT-related HRD, on the basis of the above concept of the HRD. All the IT-related staffs are assumed to select the appropriate training courses, and receive training which is related to their target IT skills, taking into account their current skill level.

DGIPR is assumed to prepare training courses as deemed necessary on the basis of the training requirements identified by the IT staff as in the above.

4.2 Proposed Pilot Training Program and Implementation

As a pilot program of the recommended IT-related HRD in DGIPR, described in the above, the following were implemented under the Study.

The program consisted of the following three levels of courses:

1) Courses targeting training in basics of IT element technology
2) Courses targeting training in advanced IT element technology
3) Courses targeting application of IT element technology into jobs of IT staff in DGIPR

The program was implemented with the following methods:

- Training on element IT technologies: lectures and practice
- Application training: Mini-workshops at the major steps of system development in the process of the Study, or practical training in parallel with the system development

Table V-4-1 Program Contents for Training of IT-related Personnel of DGIPR

(1) Element IT Technologies

Course code	Method	Course name	Contents	Course target
A-1 Linux OS				
A-1-1	Lecture & exercise	Basics of OS (Linux)	Linux command Editor Shell programming sample	Trainees can understand - Linux command basics - Basic concept of programming - Making programming using language C, C++, Java - Servers creation and management
A-1-2	Lecture & exercise	Advanced OS (Linux)	C programming rather in detail C++ programming sample Java programming sample Web server Name server Mail server Proxy server, dhcp server, NTP server	
A-2 Networking				
A-2-1	Lecture & exercise	Basics of network technology	Linux networking	Trainees can understand - Linux networking - Routing & switching - Firewall - IP filter
A-2-2	Lecture & exercise	Advanced network technology	Routing: static, dynamic Firewall: permit, deny, log, nat Switch: router configuration	
A-3 Database				
A-3-1	Lecture & exercise	Basics of database	Create DB, create table Primary key, index, constraints SQL function, operators, select, insert, delete, update, union….. Commit, rollback, log	Trainees can understand - Basic command of relational database using - MySQL/ postgre SQL
A-3-2	Lecture & exercise	Database design & application	ER modeling, Entity, Relation Normalization, First normal form Higher order normal forms	- Basic concept of ER modeling by using relational database
A-4 Web programming				
A-4-1	Lecture & exercise	Basic Web programming	HTML, CGI, XML Client script: variable, array, control structure, function…. Server script	Trainees can understand - Make Web application program using relational database under Linux environment
A-4-2	Lecture & exercise	Advanced Web programming	Servlet: request, response, thread, session…. JSP: objects, directives, actions, JavaBeans…	

Table V-4-1 Program Contents for Training of IT-related Personnel of DGIPR

(2) Application Training

Course code	Method	Course name	Contents	Course target
B-1 System Design				
B-1-1	Lecture & exercise	System analysis and design	System design - Business process analysis - Define system specifications - Design system concept - Documentation for proposal	Trainees can understand - Basic method of system engineering - Documentation for outsourcing of system development
B-1-2	Workshop	Mini-workshops in the process of IPDL development	Periodical review and discussion at the milestone of the major processes of IPDL development - Confirm conceptual design - Confirm basic design - Confirm user interface design - Confirm detail design - Confirm test design	Trainees can understand - Actual system development processes and specification through IPDL development
B-2 Project Management				
B-2-1	Lecture & exercise	System project management	Project management cycle (plan, do, see) - Scheduling & critical path - Resource estimation & leveling - Progress monitoring & measurement - Test for acceptance	Trainees can understand - Basic project management methodology of system development
B-2-2	Practice	Practical training on acceptance in the process of IPDL development	Method of acceptance test - Preparation of the test plan - Implementation on operation test - Preparation of the test report - Cutover	Trainees can understand - Actual acceptance methodology and procedure through IPDL development project

Table V-4-1 Program Contents for Training of IT-related Personnel of DGIPR

Course code	Method	Course name	Contents	Course target
C-1 System Management			No program in the course of the IPDL system development	
C-2 System Maintenance				
C-2-1	Lecture & exercise	Management of system maintenance	System maintenance procedure - Maintenance work items and responsibility - Operation procedure - Backup and recovery procedure - Maintenance document to be prepared	Trainees can understand - Basic concept and know how of system maintenance
C-2-2	Practice	Practical training on the system maintenance in the process of IPDL development	Maintenance and operation training of the IPDL system - Practice of the maintenance procedure - Prepare system maintenance manual - Operation manual preparation - Implementation of user training using operation manual - Trainers' training using the operation manual	Trainees can study and implement actual maintenance procedures and rules for IPDL system Trainees can study and implement actual operation procedure of IPDL system

VI Recommendation on Utilization of IT for Intellectual Property Rights Administration by DGIPR, and IT-related Human Resource Development

1 Recommendations on Direction of Further Utilization of IT and Improvement of the Current System

The coverage of the overall administrative processes of DGIPR, which are handled by the current computerized system, varies among the fields of IPR, and still remains limited. In the remaining administrative processes, entry, processing and storage of data has been carried out in an unauthorized manner using computers of the individual sections, or the individual staff member in charge. The data thus entered has been used only within the said sections, and thus, completeness of the data has not been assured officially. This has been the major issue of DGIPR's use of the IT in their administrative process. In the future, IT will be utilized all the more in the administration process, including usages recommended in the following sections, and in such cases, the data will be used commonly among the current system and the new system and inter exchanged between the two systems. Thus, the fact that there is no established authorization rule on the data thus stored in the files mentioned above, will remain the major bottleneck in development or improvement of the administrative system.

From the above standpoint, improvement of the current system, or new development of a system as an unified computerized administrative system of DGIPR, is the major and first task of the DGIPR for further IT utilization. The recommendations on further use of IT in the administrative process described in the following sections assumes improvement and reconstruction of the existing system will be accomplished in advance of this additional utilization.

1.1 Recommendation on the Direction of Further IT Use

(1) Use of IT in filing

Recommendation (1): IT use in filing

Most of the IP consultant companies or agents have been using IT for their daily business operations. The demand for online filing through the Internet is significant. Further, preparation of application documents in an electronic form is also easy for them. On the other hand, the electronic filing enables DGIPR to curtail the entry process of application data. It is useful for DGIPR to promote use of the authorized electronic data consistently among the administrative processes. It will also contribute to ensure the

automatic data transfer from the administrative system to the IPDL.

Thus, receiving the application by electronic form and further, through the Internet, should be the first priority in IT use by DGIPR.

In the case of online filing, however, there are some requirements to be satisfied to ensure the data security, as follows, in addition to measures for receiving electronic data. The realization of all of these requirements seems difficult in view of the current conditions of relevant infrastructure.

1) Method for authentication of the sender
2) Method of collecting fees
3) High level of security measures

Although the IT use in filing seems to have some difficulty in the realization as stated in the above, it should be promoted as soon as possible in view of its usefulness, with taking gradual and evolutional approach including the following:

1) Application using electronic application form which is provided by DGIPR in advance
2) Acceptance of electronic data submitted through the Internet

(2) Provision of IP information to users in the regions

Recommendation (2): Provision of IP information to users in the regions with CD-ROM or DVD

Provision of IP information to users in the regions was one of the major objectives of developing the current IPDL. The utilization of IT for this purpose, as the conclusion of the current study, however, had to be limited to provision of computers in the main regional offices for use as access terminals for dial-up access to IPDL. This was because of the facts that (1) delay in dissemination of use of computers in the regions, (2) the small number of IPR applications in the regions in the past, and (3) expensive communication fees in Indonesia compared with general prices.

On the other hand, IP centers of universities in the regions have encountered much difficulty in collecting IP information, and they have visited DGIPR to collect the information at their cost.

With the IPDL, they will be able to collect information through the Internet without visiting DGIPR. Nevertheless, still there are some problems to be solved, since the communication infrastructure is still underdeveloped and the quality of the Internet service is still poor. Even in the area where such infrastructure is available, the cost is high. Given this communication environment, it is necessary to devise methods to

provide services that are not exclusively dependent on the Internet. One of the possible solutions is to provide data to regions by distribution of CD-ROMs and/or DVDs, which contain the monthly updated data, although it requires development of a system which may be operated on personal computers.

1.2 Recommendations on Improvement of the Current System

(1) Comprehensive use of a computerized system in the administrative process

Recommendation (3): Establishment of consensus in DGIPR on the rule on authorized data, which are used in the administrative process

Currently two database systems are operated as the authorized systems of DGIPR. One is Oracle database developed by the assistance of World Bank (World Bank-Project Assisted System), which is used for Patents, Industrial Designs, and Copyrights. Another is the SQL database developed for Trademarks.

However, in the actual administrative process, many other kinds of database and files are used, and these are created and stored in the form of Excel tables, VB files, or Word documents. These are created by individual staff members, or groups of them, to supplement their administrative works, without authorization and without links to the official systems.

In order for DGIPR to keep data and information consistent among DGIPR, there is a need for controlling the data flow in creating and updating the data. The IT Directorate should improve this situation, and promote use of the official administrative system to eliminate data which are not to be included, or are inconsistent with that of the official system, and at the same time should develop devices to avoid "privately operated" databases/files.

Recommendation (4): Setting the strategic areas for introducing computerized system, and expanding the use of IT step by step

Introduction of an unified and comprehensive computerized system into the administrative process is desirable and recommendable in view of the improvement it promises for administrative efficiency. However, in the case of DGIPR, it seems difficult to imagine that system unification can be achieved in a short time, since unification must proceed while taking into account the interoperability at least among the two major systems in operation.

In the future expansion of the system, therefore, DGIPR is recommended to expand its system step by step starting with the processes of highest strategic importance, instead of attempting to expand it to cover all the processes.

In this case, DGIPR should assign priority to Publication A, Publication B and certification following the current data entry at the time applications are received, while leaving other operations to paper-document based operation.

(2) Ensuring security and reliability of the data and the system

Recommendation (5): Establishing of role information for users for data access

Use of IT in the administrative procedures enables DGIPR to use data in other purposes and search for necessary information easily. If the IT security management is inadequate, unauthorized persons can access the database, retrieve data and even change them. The risk of unauthorized access is not limited to the case of end users. It is also an issue related to staff who work with the system.

The DGIPR should analyze the current administration procedures and define the accessible operations (such as data entry, update, and/or refer, etc.) with respect to the role of relevant information for users, and include this function of role control in the requirements for the new system to be developed. This is indispensable in constructing a reliable data system.

Recommendation (6): Keeping data change history

To ensure reliability, the DGIPR should build the system so that it requires authorization before every change of data, and keeps track of all changes to allow later retrievals.

Data on paper documents can have traceability of authenticity by use of signature. In the case of electronic data, however, management should keep records of all changes as change history logs.

Furthermore, current IT operation management allows IT staff to change data in the database without operating application programs. The IT Directorate should establish operational security, for example, by checking the access logs, which are recorded in the database, regularly.

Recommendation (7): Keeping records of system maintenance or modification

DGIPR has remedied the deficiency of the existing system, and devised the additional modules by themselves. In this connection, the IT Directorate is strongly recommended also to keep records of modification or updating work done on the original modules by DGIPR, for tracking of the works in the later stage.

DGIPR has made efforts to remedy the deficiencies of the existing system, and devise the additional modules by themselves. It strongly recommended to keep records of modification or updating or maintenance work done on the original modules by DGIPR,

for later recovery work as may be needed.

Recommendation (8): Ensuring compatibility of data by standardizing the data format

DGIPR should use a unified standard format when it expands or modifies the system in the future, in order to ensure the compatibility of data within a system and across systems.

It is recommended to adopt the standardized format in IPDL as the authorized format, and establish the consistency within and among the systems.

Recommendation (9): Increase reliability of the data by identifying and correcting incomplete/defective data

In the process of developing the IPDL system, the existence of much incomplete/defective data has been identified.

DGIPR is recommend to continue their efforts to improve data reliability by identifying missing data, adding missing data, by means of developing a program, which identifies (1) missing applications and (2) applications which have not been processed for a long period, and so on, using the data stored in the Archive server, until the DGIPR develops a new system which covers all the administrative procedures.

Recommendation (10): Improvement of security management

From the standpoint of security management, improvement of the following is recommended:

- Entry to the server rooms and system rooms is not strictly controlled at present: There is a risk of data loss and leaks of confidential data.
- Authorization of access rights (read, write, and update) to the system data and files are not strictly managed.
- System documents and manuals are not kept in an organized manner: these documents should be kept to be ready for use in case of problems in daily operation and maintenance.
- Periodical data and program back-up is not practiced sufficiently: a back-up server was out of order when the facility was last visited. Further, the back-up files are recommended to be stored at geographically remote outsourcers.

(3) Development of capability of DGIPR to undertake development and improvement of systems

Recommendation (11): Development of capability of DGIPR to manage outsourcing of system development

DGIPR's policy for development of their administration systems is outsourcing, except for small scale upgrading. For ensuring satisfactory results of outsourcing, it is necessary (1) to analyze the user's business processes, (2) to prepare the system specifications, (3) to prepare documents of the requirements, and (4) to conduct acceptance inspection/test at the end of the development.

In this context, there is a need for DGIPR to develop their own development and maintenance capacity to cope with this problem.

2 Recommendations Relating to the Organizational Setup for Promotion of Utilization of IT

(1) Organizational setup for planning and promotion of IT utilization in DGIPR

Recommendation (12): Establishment of organizational setup for deciding the direction and promoting the IT utilization in DGIPR

The future direction of IT utilization in the administrative process is not the concern only of IT Directorate. Rather, the direction of IT utilization should be studied and decided taking into account of the opinions of the beneficiaries also.

In the future process of system development and improvement, provision should be made for a process to hear the opinions of beneficiaries, and inform the contents of modification to the beneficiaries. In this connection, the following organizational setup should be established in DGIPR to handle these matters:

1) IT Promotion Committee

The members will be all Directors. The Committee will discuss and promote IT.

2) Officer in charge of IT promotion of each IP Directorate

Each IP Directorate should assign one officer in each of all the Sub-directorates, who will play the core role in IT promotion in the Sub-directorate. Further, one sub-directors should be assigned in the respective Directorates to be in charge of IT promotion in the Directorate, and to be responsible for managing IT promotion of the directorate.

3) System to promote information dissemination and awareness to IPR

The DGIPR can utilize the IPDL effectively to disseminate IPR related information and promote awareness of IPR not only through providing data on the IPDL but also through deploying activities to realize a comprehensive policy of information

dissemination and awareness promotion.

(2) Developing capabilities of staff required for IPDL operation and maintenance

Recommendation (13): Capacity planning based on the required staffing in the operation and maintenance

Once the IPDL system is put into operation, there will be need for more capacity.

The capacity planning, however, should be carried out well in advance, and covering all the required resources.

(3) Budget allocation

Recommendation (14): Need for planned budgeting based on the system management and maintenance plan

Operation of a computerized system requires costs and expenses for operation and maintenance, in addition to those for development. If these costs and expenses are not well budgeted, operation of the system could be disrupted, or exposed to the danger of a security breach.