The Update on JPO's Activities on IP Office Digital Transformation Services

November 20, 2023
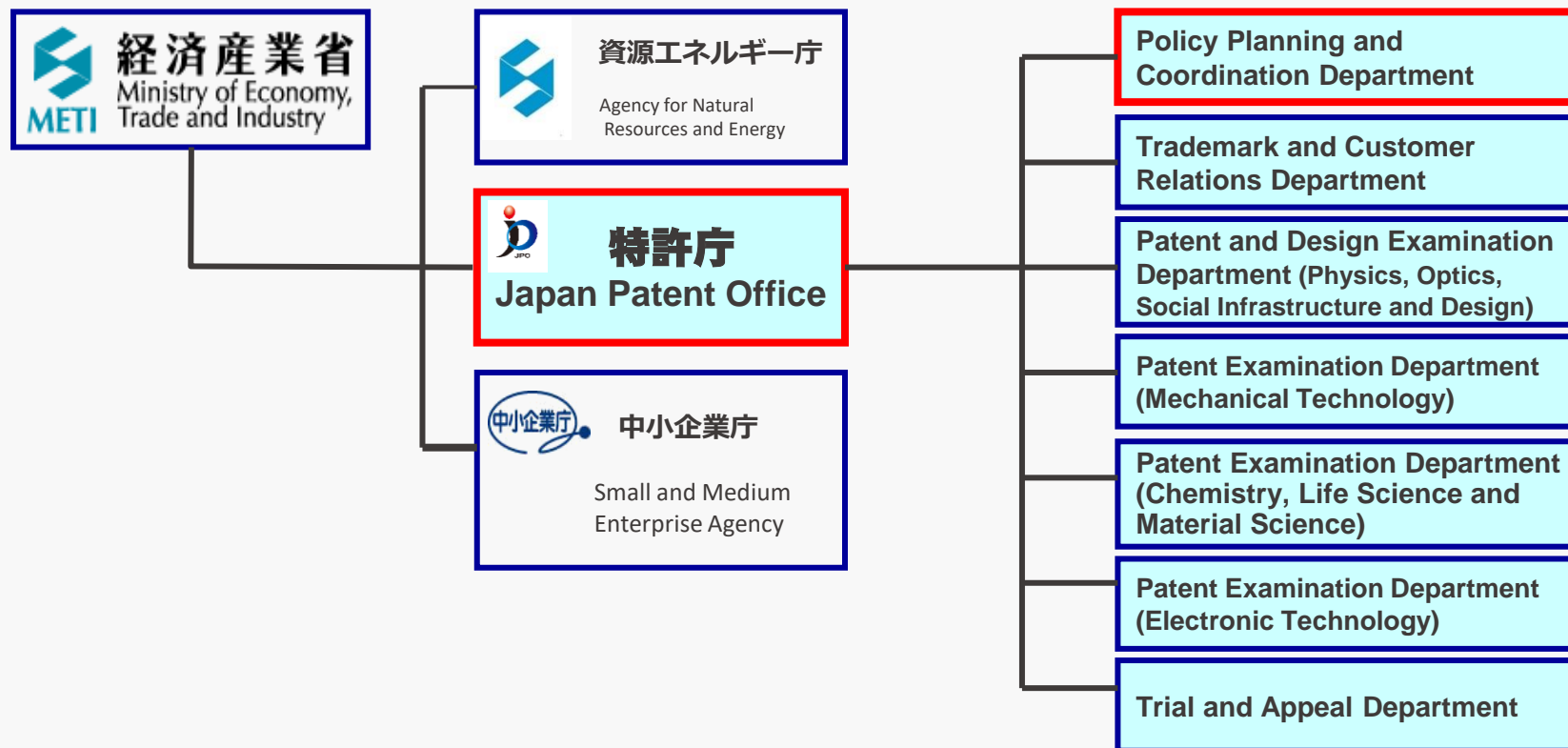
Japan Patent Office

特許庁

1. Organization of the IT Division

1-1. JPO Organizational Structure

1-2. Organization and Roles of the IT Division

Policy Planning and Coordination Department

Information Technology and Patent Information Management Office

Information Technology Policy Planning Office	**Information Technology System Development Office**	**Patent Information Policy Planning Office**	**Information Technology Innovation Office**
• IT-related international measures • IT-related projects • IT-related budget • IT-related procurement	• System development, maintenance, and operation according to optimization plan • Development, maintenance, and operation of current system	• Investigation and planning related to patent information • Multilingual support of patent information • Management of patent information	• In-house system development

1-3. Reinforcement of the JPO Project Management System

Project Promotion and Management System

Ministry of Economy, Trademark and Industry (METI)

Minister

METI PMO

Report Instructions

Japan Patent Office (JPO)

JPO Commissioner
JPO CIO（Deputy Commissioner）

Information Technology Promotion Headquarters of the JPO
General Manager: JPO Commissioner
Deputy Manager: JPO CIO（Deputy Commissioner）
Headquarters meeting will be held from time to time to make decisions on important matters.

JPO PMO（Secretariat）

Individual Project A	Individual Project B	Individual Project C	Individual Project D

Electronic Administration Promotion Entity

Comprehensive Strategy Office for Information and Communication Technology (IT)
Director: Deputy Chief Cabinet Secretary for Information Technology Policy (Government CIO)

Ministry of Internal Affairs and Communications Administrative Management Bureau

Surveillance system by private sector experts etc.

Technical Verification Committee on JPO information systems

Providing information and improving convenience

Grasping needs about building information system

User

Active use of intellectual property rights

Outside IT vendors and academic experts, etc.

Technical knowledge such as system development in the private sector

1-4. General Information of the IT Division

Scope of work

- Development and management of the information system
- Collaborations with and support for overseas patent offices
- Provision of information to public users

Budget for FY2023

- JPO budget: Approx. 146,000M yen (≒1,000M USD)
- IT-related budget: Approx. 34,100M yen (≒233M USD)

Number of staff

- JPO staff: 2796 (FY2023)
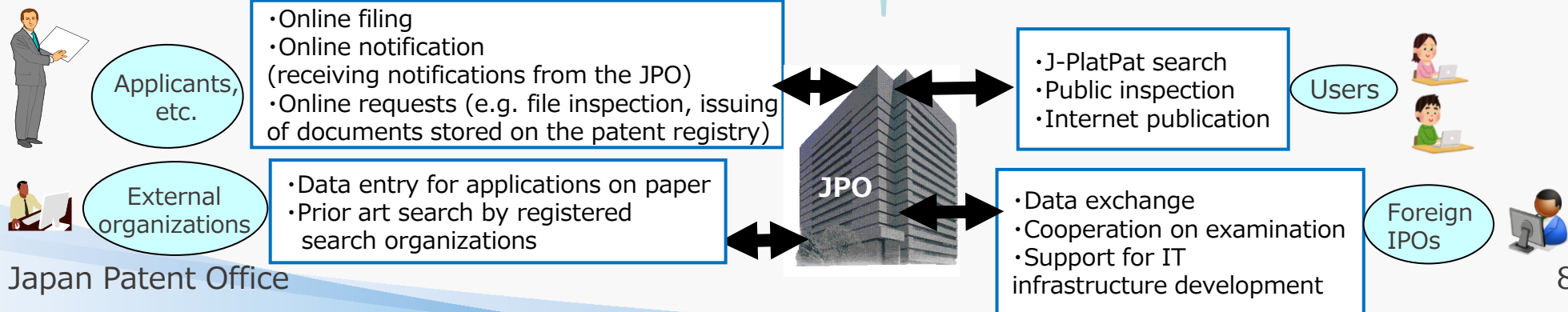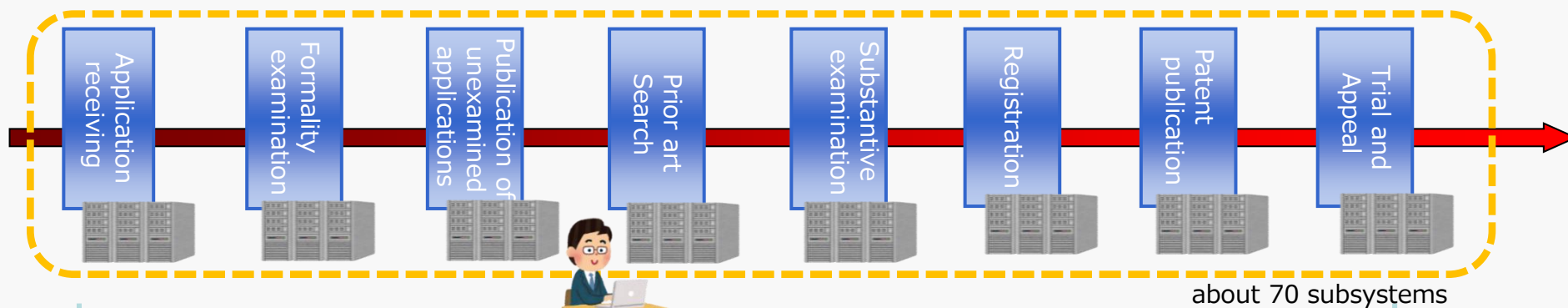- IT division staff: 119 (as of Jul. 2023)

External resources

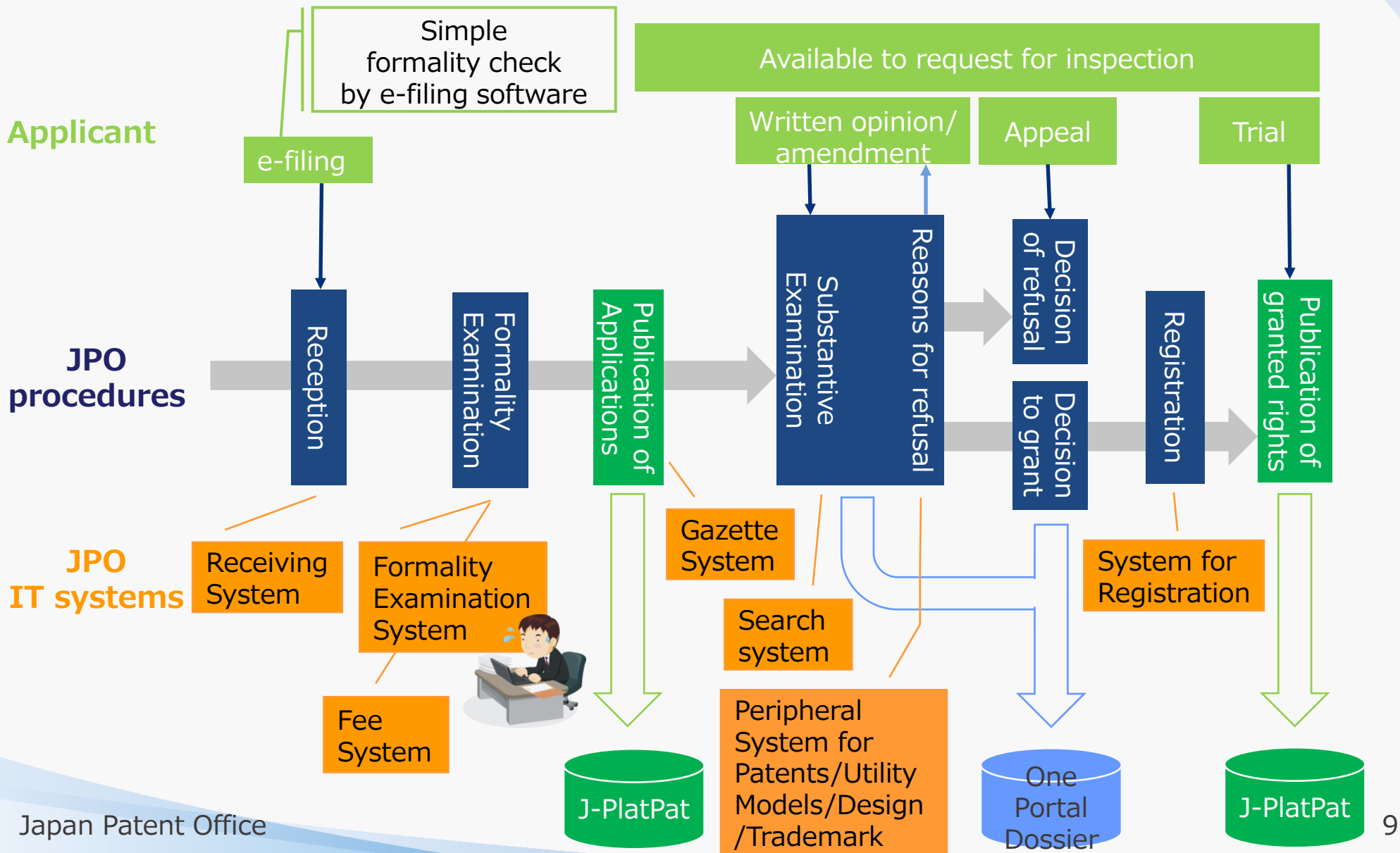- IT vendors help manage the system operations.

2. Overview of the JPO System

2-1. Outline of the JPO System

➢ In 1990, the JPO launched **the world's first e-filing system.**

➢ **The large-scale information system** that handles **a wide range of operations**, such as receiving large numbers of applications (about 500,000 a year) for patents, utility models, designs and trademarks, examinations, registrations, trials and appeals is in operation.

➢ **So far, the JPO has built the system for each operation**, which currently consists of about 70 subsystems.

➢ **About 93% of applications are made online** (patents/utility models: about 99%, designs: about 94%, trademarks: about 85%). Most of the staff operations are already systematized.

| Application receiving | Formality examination | Publication of unexamined applications | Prior art Search | Substantive examination | Registration | Patent publication | Trial and Appeal |

about 70 subsystems

Applicants, etc.
·Online filing
·Online notification
(receiving notifications from the JPO)
·Online requests (e.g. file inspection, issuing of documents stored on the patent registry)

External organizations
·Data entry for applications on paper
·Prior art search by registered search organizations

JPO

·J-PlatPat search
·Public inspection
·Internet publication

Users

·Data exchange
·Cooperation on examination
·Support for IT infrastructure development

Foreign IPOs

Japan Patent Office

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2-2. Workflow and Related Systems

Japan Patent Office
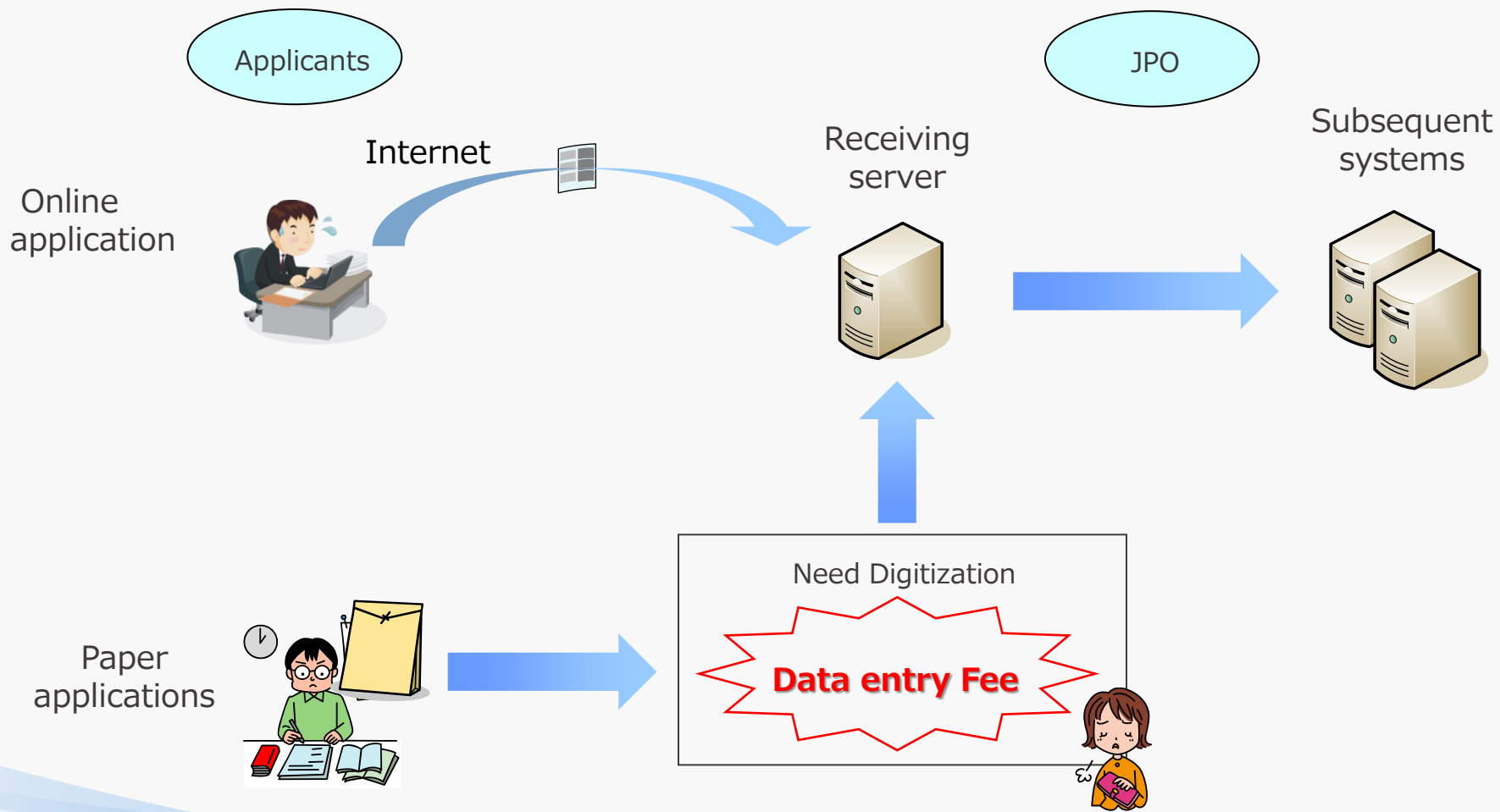
2-3. Online and Paper Applications

> Applicants are able to submit an application to the JPO either online or on paper.

Applicants

JPO

Online application

Internet

Receiving server

Subsequent systems

Paper applications

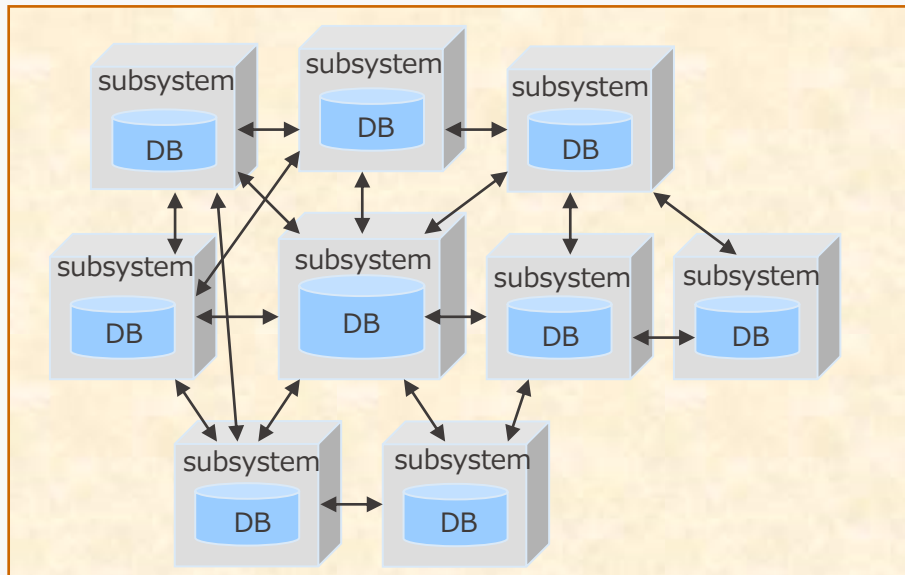Need Digitization

Data entry Fee
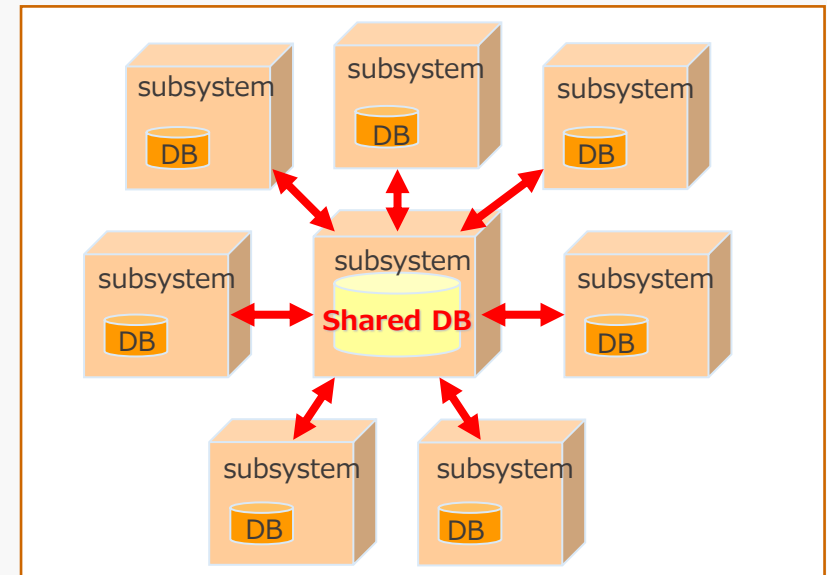
3. Latest System Development

3-1. Reconsidering the System Structure

➢ The current system structure is inconsistent, because the JPO has systematized it individually for each operation.

➢ By integrating all databases(DBs) and **simplifying the system structure**, the JPO aims to speed up various procedures and information provision, as well as expand online procedures, improve reliability, save system costs, etc.
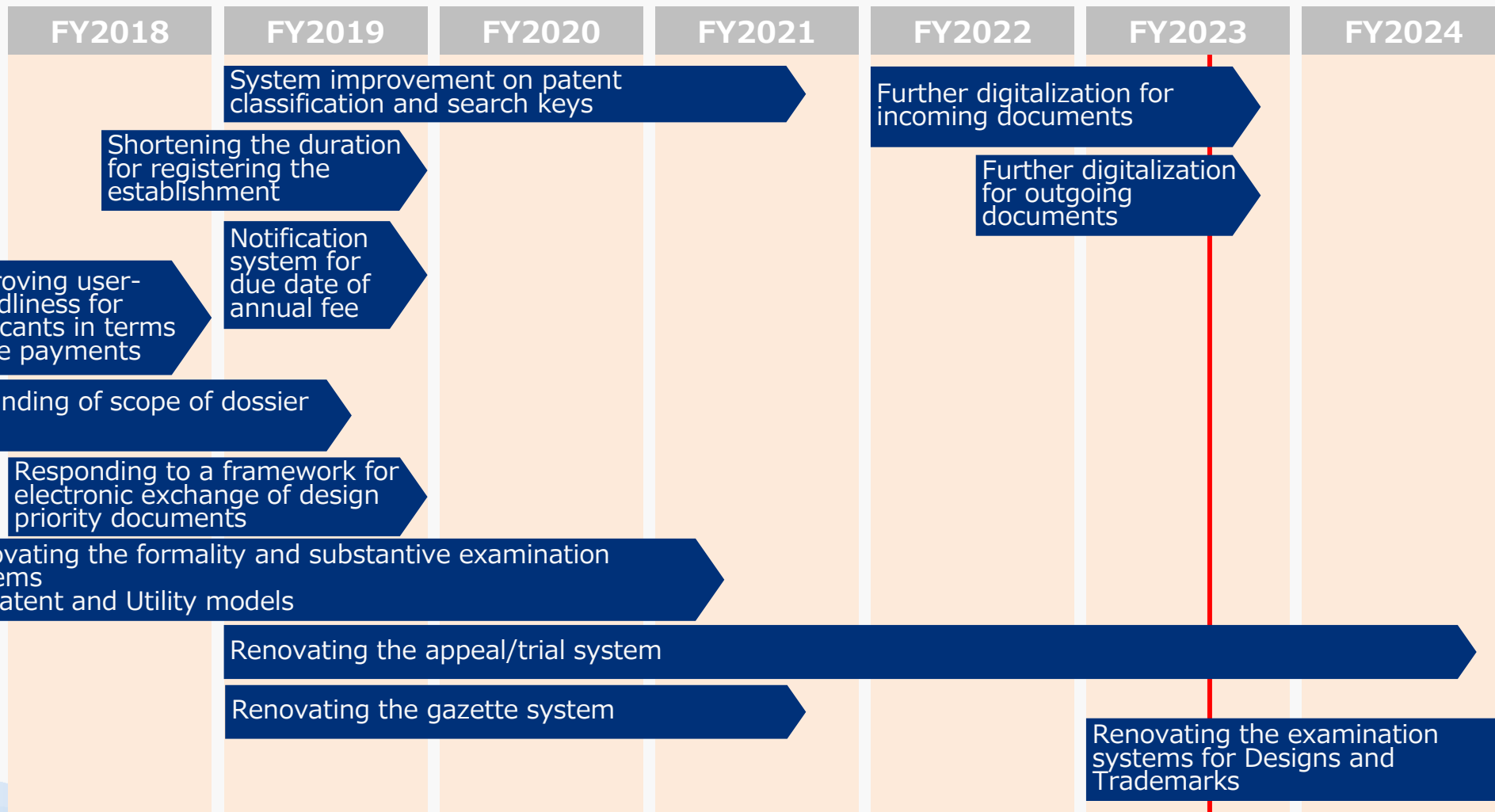
System before renovation

Target system

The system structure is inconsistent, as each subsystem has its own DB.

Integrate the DBs of all subsystems/ Simplify the system structure

3-2(1). Actions to Be Implemented from FY2018 to FY2024

The schedule for the actions to be implemented from FY2018 to FY2024 in "the Plan for Optimization of JPO Operations and Systems" is as follows:

FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024

System improvement on patent classification and search keys

Further digitalization for incoming documents

Shortening the duration for registering the establishment

Further digitalization for outgoing documents

Notification system for due date of annual fee

Improving user-friendliness for applicants in terms of fee payments

Expanding of scope of dossier data

Responding to a framework for electronic exchange of design priority documents

Renovating the formality and substantive examination systems for Patent and Utility models

Renovating the appeal/trial system

Renovating the gazette system

Renovating the examination systems for Designs and Trademarks

3-2(2). Actions to Be Implemented from FY2018 to FY2024

Action items of JPO in FY2022

- Improving user-friendliness for applicants in terms of fee payments
  In order to improve user-friendliness for applicants in terms of fee payments, the JPO renovated systems, and the systems was released in FY2022.
  - Enable advance fee payments in cash instead of stamp
  - Simplify fee payments for Madrid System.
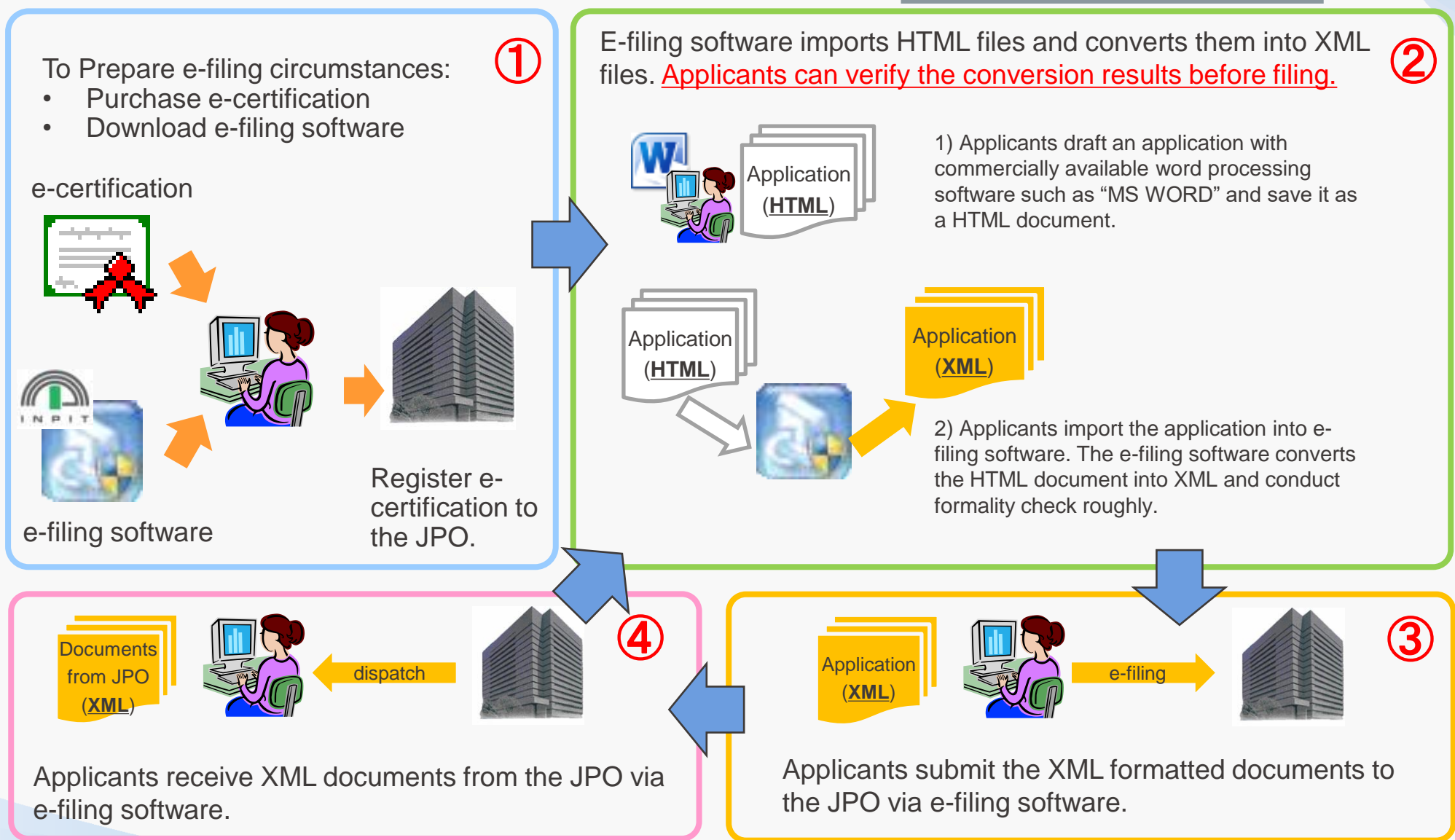
Action items of JPO in FY2023

- Further digitalization for incoming documents
  In order to receive almost all types of documents online, the JPO will renovate systems, and the systems will be released in January 2024.
- Further digitalization for outgoing documents
  In order to send more types of documents online, the JPO will renovate systems, and the systems will be released in March 2024.

Action items of JPO in future

- Renovating the appeal/trial system
  Renovating the appeal/trial system for release in January 2025.
- Renovating the examination systems for Designs and Trademarks
  Renovating the examination systems for Designs and Trademarks for release in September 2026.

4. Update of E-filing System

4-1. E-filing procedures in JPO

① To Prepare e-filing circumstances:
- Purchase e-certification
- Download e-filing software

e-certification

e-filing software

Register e-certification to the JPO.

② E-filing software imports HTML files and converts them into XML files. Applicants can verify the conversion results before filing.

Application (**HTML**)

Application (**HTML**)

Application (**XML**)

1) Applicants draft an application with commercially available word processing software such as "MS WORD" and save it as a HTML document.

2) Applicants import the application into e-filing software. The e-filing software converts the HTML document into XML and conduct formality check roughly.

④ Documents from JPO (**XML**)

dispatch

Applicants receive XML documents from the JPO via e-filing software.

③ Application (**XML**)

e-filing

Applicants submit the XML formatted documents to the JPO via e-filing software.

4-2. Update of e-filing system - Promotion of further digitization of procedures

➢ The JPO digitized patent application in 1990. Currently, about 2.9million (about 90%) of the total 3.1 million annual applications can be submitted online. The JPO promotes digitization of all procedures not accepting online application at this moment (about 500 types).

➢ The JPO formulated the "Plan on Promotion of Digital JPO Procedures" on March 2021.

➢ A system to accommodate the digitalization is currently under development, with the aim of launching in January 2024.

Total number of applications — Approx. 3.1million

Procedures accepting online application (Approx. 300 types)

Examples: Application and right registration procedures (Ex: Application for patent, trademark, etc., written amendment of procedure)

Applied online — Approx. 2.75 million (approx. 90%)

Applied on paper — Approx. 150,000

Procedures not accepting online application (Approx. 500 types *) — Approx. 200,000 → Decide to digitize all procedures in principle

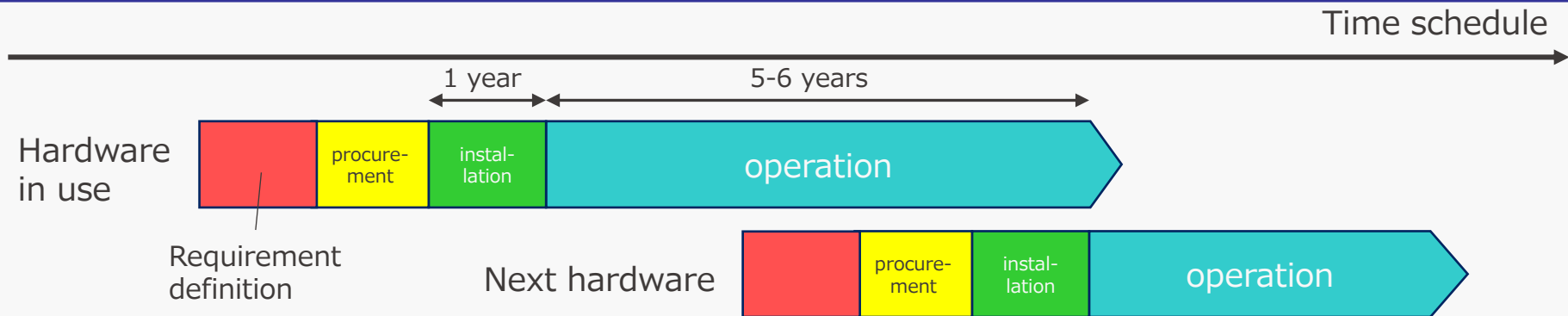*Includes procedures requiring submission of attached documents on paper

Examples:
○ Procedures for appointment of agent
   (Ex: Power of attorney)
○ Procedures related to changes in rights
   (Ex: Deed of transfer (procedure for transfer of rights), written request for trial/appeal procedure)
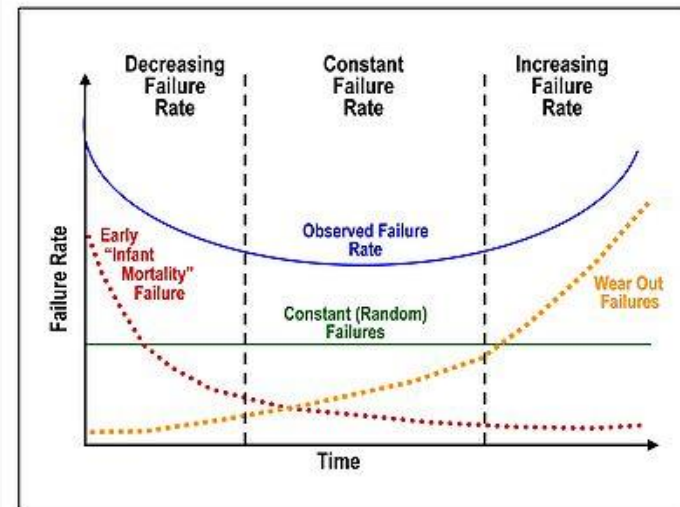
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5. Issues Related to Digitization

5-1. Cycle of Hardware Installation and Replacement

> The JPO basically installs and operates their hardware by lease contract.

> Replace to a new hardware after using 5-6 years
> because the failure rate increases rapidly after that period.

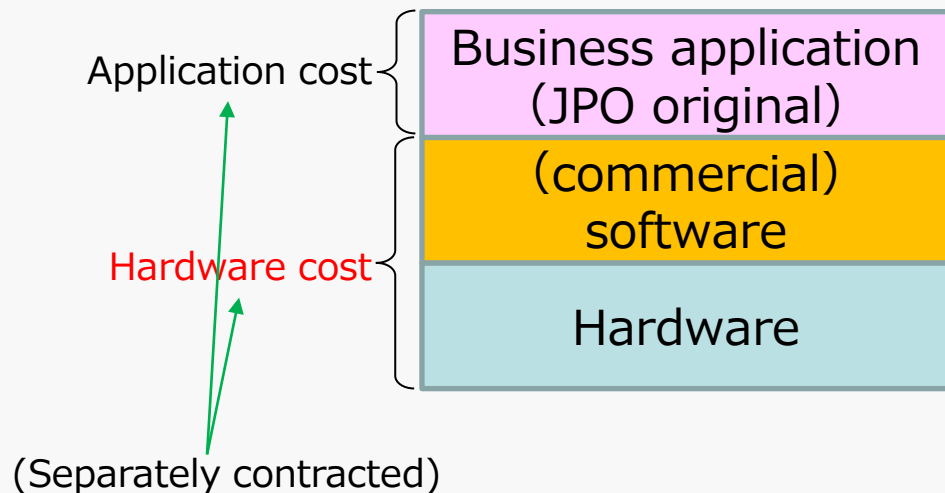> JPO starts to prepare a new hardware 2-3 years before the end of the current hardware use.

Time schedule

1 year | 5-6 years

Hardware in use

| | procure-ment | instal-lation | operation |

Requirement definition

Next hardware | | procure-ment | instal-lation | operation |

> The hardware failure rate is expressed as a bathtub curve. According to this curve, after the early "infant mortality" failure period has passed, the failure rate has once decreased. Then, the failure rate rises rapidly during the wear out failure period due to aging.

> When operating the system in a high failure rate period, serious problems such as availability reduction and data loss might occur.

5-2. Maintenance Cost of Hardware

> Not only installation but also maintenance is important.
> The breakdown of hardware costs is approximately as follows:

Application cost
Hardware cost

Business application (JPO original)

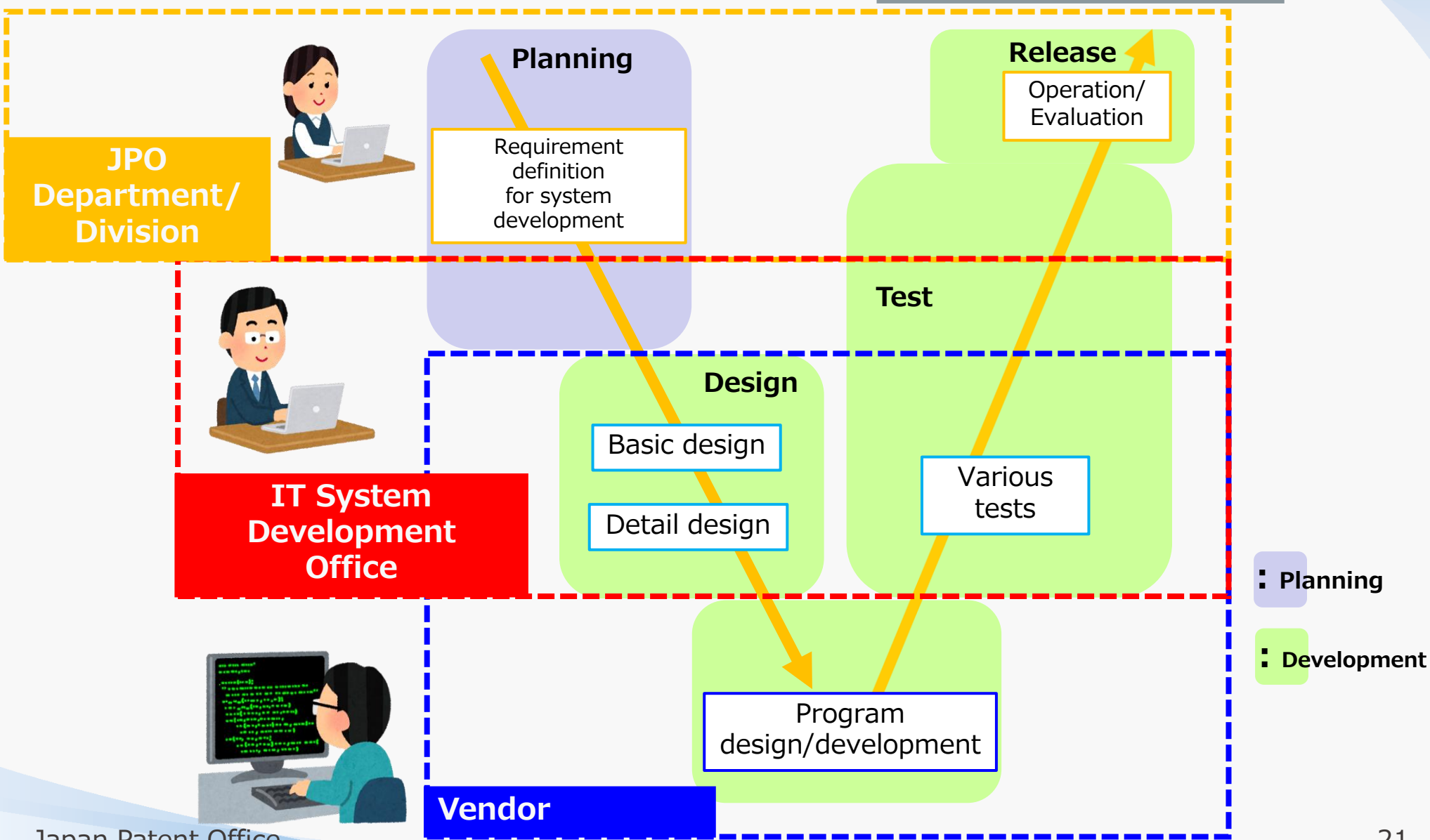（commercial) software

Hardware

(Separately contracted)

- Software 10-20%
  - ✓ Commercial OS software, database software for business application
  - ✓ Mail software, OA software for PC
- Software maintenance 10-20%
  Expense for when it becomes necessary to modify commercial software. If continue to use an out-of-support software, this cost may increase.

- System Operation about 20%
  Labor costs for stable operation of hardware

- Hardware itself 20-40%
  Server, network device, PC, etc.
- Hardware maintenance about 10%
  If old hardware continues to be used after the normal operation period of four years expires, costs may increase or maintenance contracts may not be possible.

5-3. Structure of IT Systems Development

Japan Patent Office

Thank you!

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