



Continuing Education Program
Center for Computing and Information Technology
Fakultas Teknik Universitas Indonesia

IMPLEMENTATION OF INFORMATION AND TECHNOLOGY IN PRINTING BUSINESS

Group : 2

Names : Thara Afina Faza
Muhammad Zidan Satrio
Naufal Rafli

Class : 1CC6

CEP CCIT

FAKULTAS TEKNIK UNIVERSITAS INDONESIA

2021

PROJECT ON

*IMPLEMENTATION OF INFORMATION AND TECHNOLOGY IN
PRINTING BUSINESS*

Developed by

- 1. Muhammad Zidan Satrio**
- 2. Naufal Rafli**
- 3. Thara Afina Faza**

The logo for NIIT (National Institute of Information Technology) is displayed in a large, bold, blue serif font.

IMPLEMENTATION OF INFORMATION AND TECHNOLOGY IN PRINTING BUSINESS

Batch Code : 1CC6

Start Date : September 25th, 2021

End Date : October 10th, 2021

Name of Faculty : Kevin Harada

Names of Developer :

1. Muhammad Zidan Satrio
2. Naufal Rafli
3. Thara Afina Faza

Date of Submission: October 10th, 2021



CERTIFICATE

This is to certify that this report titled “IMPLEMENTATION OF INFORMATION AND TECHNOLOGY IN PRINTING BUSINESS” embodies the original work done by Muhammad Zidan Satrio, Naufal Rafli and Thara Afina Faza. Project in partial fulfillment of their course requirement at NIIT.

Coordinator:

Kevin Harada

ACKNOWLEDGEMENT

First of all, we would like to thank Allah SWT, because of His blessing and mercy, our paper wrote entitled "Implementation of Information and Technology in Printing Business" can be completed on time. We also thank those who have given their hands to us, especially to Mr. Kevin Harada for his guidance in complete this paper.

Our hope, may this paper can add knowledge to the reader, and for the future in order to improve this paper for the better. Due to our limited knowledge, we believe there are still deficiency in this paper. Therefore, we expect constructive advice and criticism from the reader for the perfection of this paper.

BACKGROUND

Along with rapid development of technology, especially information technology (IT), human needs become a problem. Technology is playing a role in combating the problem now. To support information technology in the delivery of information, there are telecommunications technology that serves to connect computers with each other.

The existence of collaboration between information and telecommunication technology is very influential on computer system, so that there is a shift, ranging from the use of centralized system, to the use of distributed systems, where the task of computing is handled by many computers separately, but still communicate with each other in transporting out task.

Printing companies in general already use automated systems, but there are still using the manual system resulting in minimal efficiency of employees, time, and cost. The impacts affect the service to consumers, for example on the queue settings, difficulty in checking incoming and outgoing consumers, recording the number of consumers within a certain time, etc.

Therefore, the authors make a project entitled "IMPLEMENTATION OF INFORMATION AND TECHNOLOGY IN PRINTING BUSINESS". Where, this plan will be a reference for printing business in applying information technology in the work environment. So that consumers get better service, as well as the needs of work efficiency of employees, time, and costs to be met by the company. In this project, the author will discuss the company description, network design, device specifications used based on the needs, where, there are hardware and software, as well as the cost required for each requirement.

SYSTEM ANALYSIS

System Summary: This paper discusses about design of information and technology implementation in printing bussines. starting from discussing about the printing bussines description, network and design, topology will be used, to the device used, as well as the cost required.

In the business world, the role of Information Technology is used for electronic commerce or known as E-Commerce (e-commerce) or electronic commerce. E-Commerce is commerce using the internet communication network. E-commerce is part of e-business, where the scope of e-business is wider, not just commerce but also includes collaborating with business partners, customer service, job vacancies and others. In addition to www network technology, e-commerce also requires database technology or databases, e-mail or electronic mail (e-mail), and other forms of non-computer technology such as goods delivery systems, and payment instruments for e-mail. - this trade.

There are 6 important roles of information technology in business, namely:

1. Simplify How to Communicate
2. Providing Knowledge and Information Resources
3. Data Management
4. Management information System
5. Customer Relationship Management
6. Business Activities For 24 Hours

HARDWARE SPECIFICATION

1. PC Package



- CPU : Intel core i5-3470
- Motherboard : Biostar H61 MLV3
- Ram : Team Elite 2x4 GB DDR3
- Hard disk : Seagate Baracuda 1 TB 7200 RPM
- GPU : Zotac GTX 750ti 2GB 128Bit
- Power Supply : Aerocool United Power 500W 80+
- Monitor : LG 19inch wide 19EN33
- Case : Aiogo Darkflash Aquarius Mesh ATX

2. TP-Link WR840N



- 300 Mbps wireless transmission rate ideal for both bandwidth sensitive tasks and basic work
- Supports 4 modes: Router, Range Extender, Access Point and WISP modes
- Parental Controls manage when and how connected devices can access the internet
- IPTV supports IGMP Proxy/Snooping, Bridge and Tag VLAN to optimize IPTV streaming
- compatible with IPv6 (Internet Protocol version 6)

3. TP-Link TL-SF1008D



- 8 10/100Mbps auto-negotiation RJ45 ports, supports auto MDI/MDIX
- Green Ethernet technology saves power consumption
- IEEE 802.3x flow control provides reliable data transfer
- Plastic case, desktop design
- Plug and play, no configuration required

HARDWARE SPECIFICATION

4. Bardi IP Camera PTZ Indoor



- FHD 1080P IP camera
- Support motion detection, instant&accurate alerts
- Support two-way audio
- Support micro SD card (max 128 GB) storage
- Support Android /iOS system mobile devices, remote real-time monitoring
- Pan/Tilt Pan: 0~355°, tilt: 0~60°
- IR distance max 10m

5. Konica Minolta bizhub PRESS C7000



- | | |
|--------------------------|----------------------------|
| • Speed B/W | : 70 Pages Per Minute |
| • Speed Color | : 70 Pages Per Minute |
| • Resolution | : 1200 x 1200 dpi |
| • Volume | : 330,000 Copies Per Month |
| • Copier Type | : Digital Press |
| • Dimensions (H x W x D) | : 42.3" x 29.9" x 39.1" |
| • Weight | : 785 lbs |
| • Power | : 208-240 Volts, 22 Amps |

HARDWARE SPECIFICATION

6. Mimaki JV-150-160 BS Digital Printing



- Printing speed up to 605 SqFt (56.2 SqM) per hour
- High-quality print resolution up to 1,440 dpi
- Two models: JV150-130: 53.5 inches (1361 mm)
- JV150-160: 63.3 inches (1610 mm)
- 6 Dynamic color dye sublimation ink options
- Nozzle Check Unit and Nozzle Recovery System
- Optional UISS and MBIS III on board 2 bulk ink systems
- 3 way smart heater

7. Laminating Machine Dynamic 330



- Lamination Width: A3
- Lamination Thickness: 75 – 250 Micron
- Number of Rolls: 4 Rollers
- Lamination System: Hot Lamination and Cold Lamination
- Electrical Power: 650 Watt
- Dimensions (H x W x D): 11 x 20 x 50 cm

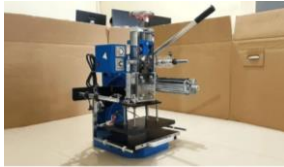
8. Pond Machine 45x80



- Roll width 45cm
- Table length 80cm
- This machine is for cutting cardboard paper, for making food box invitation letters from cardboard or cardboard

HARDWARE SPECIFICATION

9. Hotprint Emboss Machine 20x30



- Specifications of Hot Stamping Tool 20x30cm:
- Brand : HARIZO
- Voltage : 220V/1000Watt
- Plate : 20 x 30 cm
- Distance : 7 cm
- Pressure Weight: 5 tons
- Work Table : 40 x 40 cm
- Round : 40 cm
- Heating : 250 C
- Heat consumption: 100 C

10. Epson L550



- InkJet Printing Method
- Max. Paper Size A4
- Max. Resolution 5760
- Effective Print Resolution 5760 x 1440 dpi
- Print Speed Black/W 33 ppm
- Color Print Speed 15 ppm
- Standard Connectivity: USB 2.0 Hi-Speed
- Input Tray #1 100 sheets, A4 Plain paper (75g/m2), 20 sheets, Premium Glossy Photo Paper
- Input Tray #2 30 sheets, A4 Plain paper, 20 sheets, Premium Glossy Photo Paper
- Optical Resolution 1,200 dpi x 2,400 dpi
- Maximum Scan Area 216 x 297mm (8.5 x 11.7")
- Bit Depth Scanner

SOFTWARE SPECIFICATION

The software used in this printing business, including:

a. Operating system

An operating system (OS) is the program that, after being initially loaded into the computer by a boot program, manages all of the other application programs in a computer. The application programs make use of the operating system by making requests for services through a defined application program interface (API).



b. Print MIS software

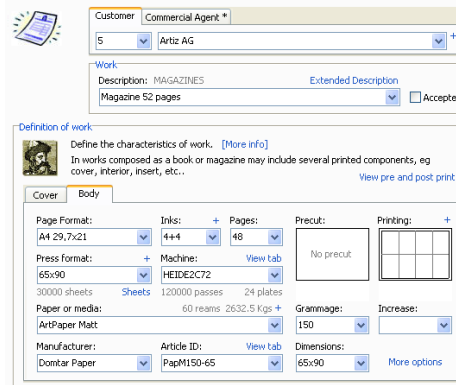
Print MIS or specifically known as print management information software is basically designed to provide enhanced technological support and necessary information to keep the printing business abreast of the latest and advanced demands by the consumer.



SOFTWARE SPECIFICATION

c. Print Estimating Software

Print estimating software is a specialized form of print-business software. It uses data from your day-to-day print-shop operations to quickly calculate and deliver accurate price quotes for different types and sizes of print jobs.



The screenshot shows a software window for estimating print jobs. At the top, the 'Customer' is 'Commercial Agent *' and the 'Work' is 'MAGAZINES'. Below this, the 'Definition of work' section is active, showing details for 'Cover' and 'Body'. The 'Page Format' is 'A4 29,7x21', 'Inks' are '4+4', and 'Pages' are '48'. The 'Press format' is '65x90' and the 'Machine' is 'HEIDE2C72'. The 'Paper or media' is 'ArtPaper Matt'. The 'Manufacturer' is 'Domtar Paper' and the 'Article ID' is 'PapM150-65'. The 'Dimensions' are '65x90'. There are also fields for 'Grammage' (150) and 'Increase'.

d. Graphics Software

In computer graphics, graphics software refers to a program or collection of programs that enable a person to manipulate images or models visually on a computer.



SOFTWARE SPECIFICATION

e. Workflow Automation Software

Workflow automation is the process of using rule-based logic to launch a series of tasks that run on their own without any human intervention.



f. Desktop Publishing Software

Desktop Publishing (DTP) is software for creating documents by using page layout skills on personal computers primarily for printing.



The Software We Choose and Will Use:

1. Windows 10 Pro
2. Adobe CC All Aps 2021
3. Microsoft Office Office Professional Plus 2019
4. MYOB RetailManager Ver12
5. CorelDRAW Graphics Suite 2021
6. Bardi Smart Home

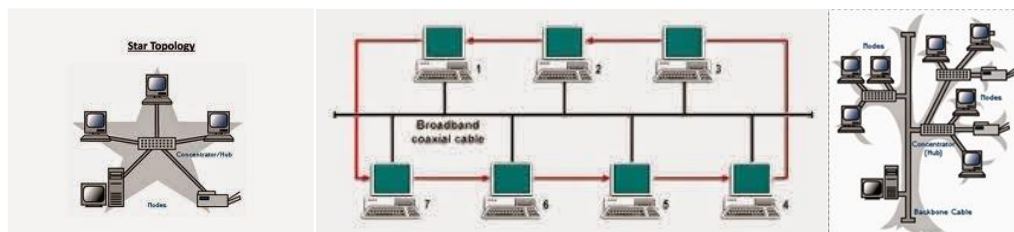
NETWORK TOPOLOGY DESIGN

The type of network connection used in this design is a LAN with a hybrid topology because in the printing company there are many computers and hardware that must be connected to each other, so we tried to make a topology with good and easy cable management. We hope that using this hybrid topology can cover the shortcomings of each topology

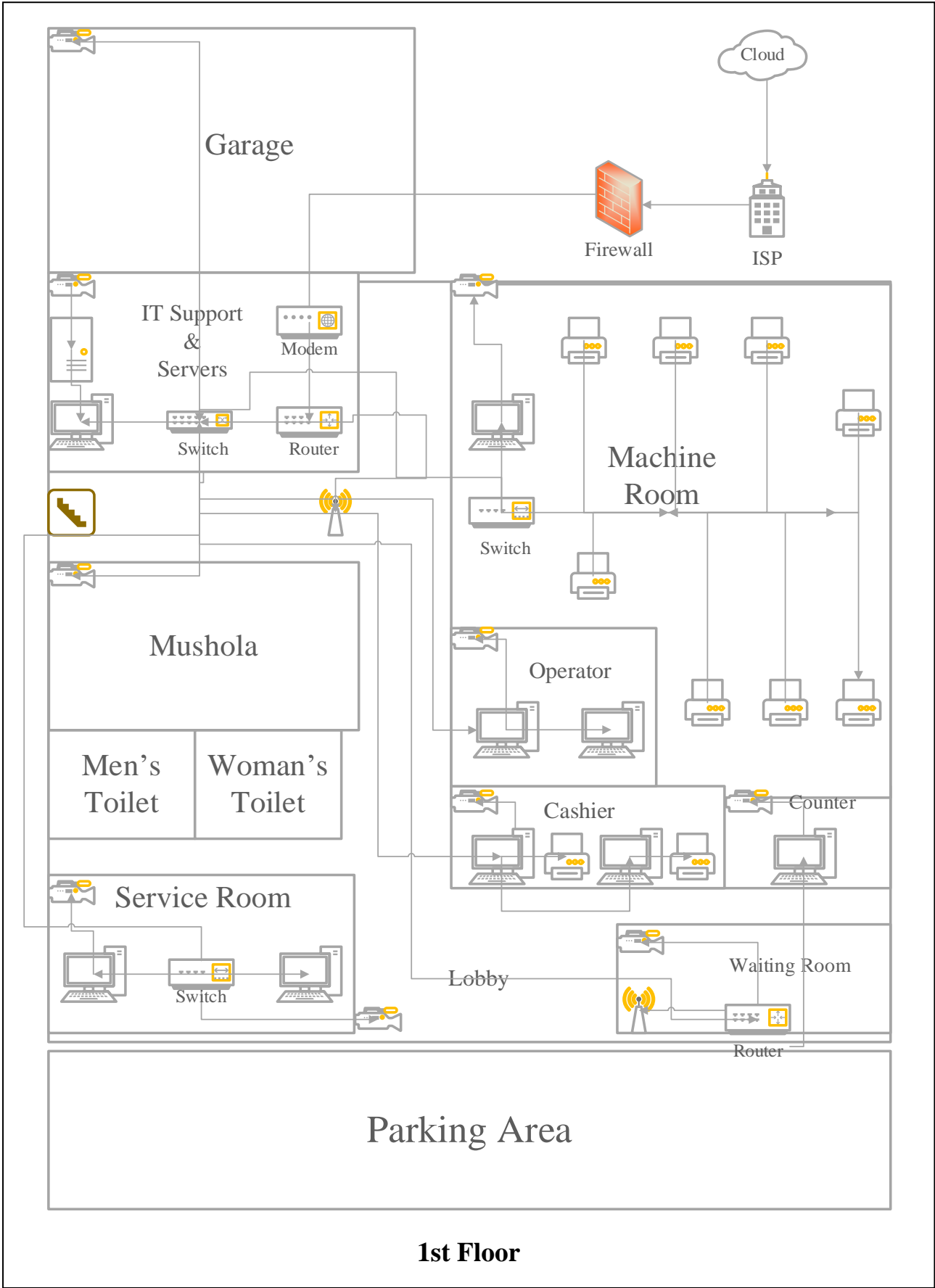
Starting from the server room we use a star topology to every room on the 1st and 2nd floors. There are many cables connected to the switches and routers in each room, for example in the machine room, service room, waiting room, office on the 2nd floor, etc. one of the reason we also used many routers again is for wireless connection and acces point in multiple room

After using the star topology, we use 2 types of topologies, namely the tree topology and the bus topology. specifically for the engine room we use a bus topology for many reasons including:

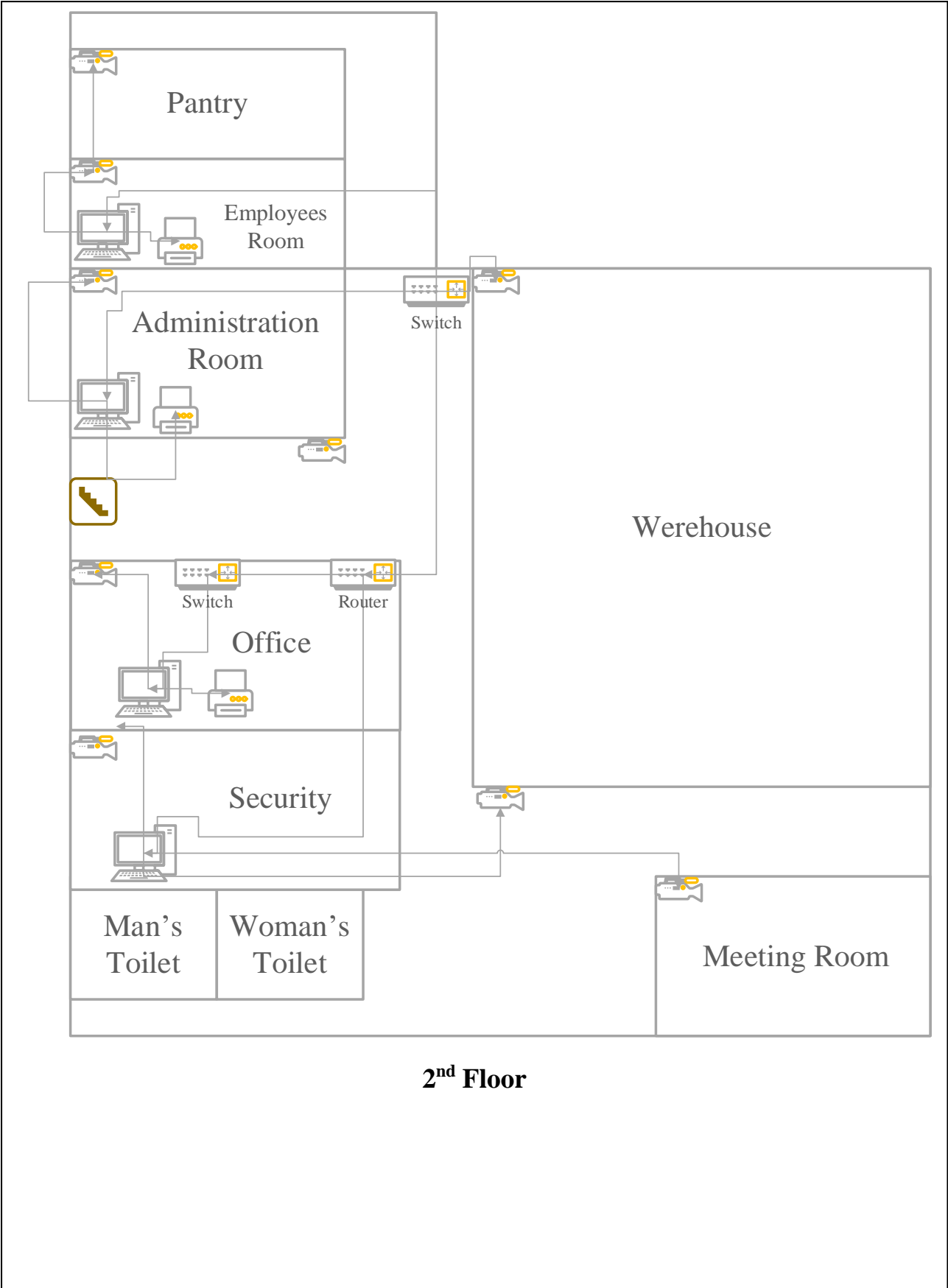
- Does not require a lot of cable resources
- The cost is also cheaper than other topologies
- Not too complicated if you want to increase network coverage
- Very simple



NETWORK TOPOLOGY DESIGN



NETWORK TOPOLOGY DESIGN



BUDGET

REQUIREMENTS DEVICE	
HARDWARE	
ITEM	PRICE
PC Package	
• Intel core i5-3470	Rp. 400.000
• Biostar H61 MLV3	Rp. 350.000
• Team Elite 2x4 GB DDR3	Rp. 350.000
• Seagate Baracuda 1 TB 7200 RPM	Rp. 300.000
• Zotac GTX 750ti 2GB 128Bit GDDR5	Rp. 1.200.000
• Aerocool United Power 500W 80+	Rp. 400.000
• Windows 10 Pro 64-Bit License	Rp. 20.000
• LG 19inch wide 19EN33	Rp. 750.000
• Aiogo Darkflash Aquarius Mesh ATX	Rp. 315.000
	+
Total 1 Computer	Rp. 4.085.000
Total 15 Computers	Rp. 61.275.000
TP-Link TL-SF1008D	Rp. 80.000
Tp-Link WR840N	Rp. 140.000
Bardi IP Camera PTZ Indoor	Rp. 470.000
Konica Minolta bizhub Press C7000	Rp 110.000.000.000
Mimaki JV-150-160 BS Digital Printing	Rp 310.000.000
Laminating Machine Dynamic 330	Rp 750.000
Pond Machine .45x80	Rp 3.300.000
Hotprint Emboss Machine 20x30	Rp 13.900.000
Epson L550	Rp 3.650.000
TOTAL	Rp 503.565.000

* All prices are listed in this table based Website and Tokopedia

BUDGET

SOFTWARE	
ITEM	PRICE
Windows 10 Pro License	Rp. 20.000
Adobe CC All Apps (1 year)	Rp 8.600.000
Microsoft Office Office 2019 License	Rp 30.000
MYOB RetailManager Ver12	Rp 3.450.000
CorelDRAW Graphics Suite 2021	Rp 11.250.000
TOTAL	Rp 23.350.000

* All prices are listed in this table based Website and Tokopedia

Total Overall Price for Maximum Requirements

HARDWARE	Rp 503.565.000
SOFTWARE	Rp 23.350.000
TOTAL	Rp. 526.915.00