SOFTWARE ENGINEERING

Operating system and system programming

Individual assignment

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Section: A

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1) installation of operating system

A, Introduction

Ubuntu 20.04 LTS , also known as Focal Fossa, it is a prominent release of the Ubuntu Linux operating system, launched in April 23, 2020. It designed with long-term stability and stands as a reliable option for both desktop and server environments. Its long-term support designation guarantees five years of standard security and maintenance updates, making it a durable choice for users who prioritize system stability over frequent feature updates.

Ubuntu 20.04 ships with the Linux kernel version 5.4, which includes various improvements in hardware support, security features, and performance optimizations. It is aimed at a wide range of users, from beginners to experienced developers and system administrators. Its stability and support make it suitable for servers, workstations, and personal computers.

B, Objective

The primary objective is to demonstrate the ability to install and configure Ubuntu, a widely used Linux distribution. This involves understanding system requirements, advantage and disadvantage of ubuntu, creating bootable media, navigating the installation process, and performing basic post-installation configurations. By successfully completing this assignment, one will gain practical experience with Linux system administration and a foundational understanding of Ubuntu's features and capabilities.

Historical background

Ubuntu is a popular Linux distribution that has undergone significant development since its initial release.

Ubuntu 4.10 (Warty Warthog) - Released in October 2004

This was the first official release of Ubuntu. It was aimed to provide a user-friendly Linux experience.

There are many releases up to ubuntu 22.04

Ubuntu adopted a predictable six-month release cycle, with new versions released in April and October each year. This allowed for a steady stream of improvements and new features. Each release was supported for a certain period, typically 18 months.

Ubuntu 20.04 LTS (Focal Fossa) - Released in April 2020

Brought improvements in performance, security features, and a refined GNOME desktop experience.

The development of Ubuntu 20.04 LTS was part of a long and evolving journey, building upon the successes and lessons learned from previous releases. The focus on stability, performance, and user experience made it a popular and widely adopted operating system.

In the feature the next anticipated LTS version is Ubuntu 24.04, scheduled for release in April 2024, continuing the tradition of regular updates and improvements to the Ubuntu ecosystem.

C, Requirements

I. Hardware Requirements:

Processor: 2 GHz dual-core processor or better. Intel Core i3 or AMD equivalent and above is recommended.

Memory (RAM): 4 GB RAM but 8 GB or more is recommended for better performance, especially if you plan to run resource-intensive applications.

Storage (Hard Drive): 25 GB of free disk space is needed but 50 GB for better experience . A solid-state drive (SSD) is highly recommended over a traditional hard drive (HDD) for much faster boot and application loading times.

Connectivity: A network adapter (Ethernet or Wi-Fi) for internet access (recommended for downloading updates and installing software).

Boot Media: A DVD drive or USB port for the installation media (DVD or USB drive).

II. Software Requirements:

Ubuntu 20.04 LTS ISO Image: You'll need to download the Ubuntu 20.04 LTS ISO image from the official Ubuntu website.

VirtualBox: You need VirtualBox installed on your host operating system (Windows, macOS, or Linux). This is the virtualization software that will run the Ubuntu VM