Assignment

Scenario 1

- You work as a consultant for System Force, an IT company that specialises in maintaining technology systems in Gloucestershire.

- For this scenario, the client, 'Michael Page', is a small company with employees who use technology systems with a traditional method. It is employment agency who places potential employees into suitable job roles. They have two banks of customers, prospective employers and their possible employees. Their role is to match candidates to vacancies. They need to maintain client data, have good communication systems and provide both sets of customers with relevant information (both electronic and hard copy).

- Their systems are running slower as the company is growing and are considering system upgrade.

- Before the **'Michael Page' company** decides whether to buy a brand-new system, they would like some advice from you about repairing and maintaining their two existing systems. They will also request an installation and maintenance of their systems.

Scenario 2

- In **Michael Page's** annual report, it has been decided to decommission the old systems. Therefore, they will donate them to **IT Schools Africa,** which is now your second client, a charity that uses computer technology to teach in Africa.
- Most of the computers are i5 Dual core processor desktops with 4GB of RAM and Windows 10 recently installed. They have Office 2007 installed as well as Python version 3.7. Some of the computers are older laptops upgraded with 100 GB SSD and 2GB of RAM. These at present have no **operating system** installed.
- It has been suggested that the Linux Ubuntu version operating system be installed on these so that they could be used for general note-taking and as spare computers for teaching Python programming.

Current Status - CEO Office

- Machines - 1 Personal computer
- Printer – 1 ink-jet (Epson Stylus Colour 440)
- Network Status – Stand-alone
- Processor Type – Intel
- Processor Speed – 3.5ghz
- RAM Type – DDR2
- RAM Size – 2x2GB
- Video Card – No
- Connectivity – SATA
- Monitor – 27 inch benQ
- Storage Capacity – 250GB
- Storage Type – Solid State
- Optical Drive – DVD R/W
- USB Drives – x4 2.0
- Fire-Wire Connection – None
- Operating System – Windows 10
- Peripheral Devices – Mouse - Keyboard

Current Status - General Office

- Machines - 18 Personal computers
- Printer – 1 ink-jet (Epson Stylus Colour 440)
- Network Status – Stand-alone – Network ports available in office infrastructure
- Processor Type – Intel
- Processor Speed – 3.5ghz
- RAM Type – DDR2
- RAM Size – 2x2GB
- Video Card – No
- Connectivity – SATA
- Monitor – 27 inch benQ
- Storage Capacity – 250GB
- Storage Type – Solid State
- Optical Drive – DVD R/W
- USB Drives – x4 2.0
- Fire-Wire Connection – None
- Operating System – Windows 10
- Peripheral Devices – 18 Mouse - 18 Keyboards

Benefits of Installing and Maintaining Hardware and Software

Installing a network interface card into both systems will allow them to communicate with each other and to clients using email, instant messaging or video conferencing and so they can easily share resources, data and access the internet. Installing Office will give people access to many tools that can help with work like Word or Excel which will allow you to make documents for client data.

Maintaining and removing unnecessary software will increase security, improve productivity and performance as computer can also be filled up with unnecessary data.

Including a headset and microphone will allow employees to talk with clients over the internet making communication faster with little delay which means clients don't need to travel, increasing productivity and profitability.

Upgrading the RAM from DDR2 to DDR3 as it is more up-to-date and faster and will make the systems more efficient and improve the performance. However the motherboard may not be compatible with DDR3 as they are different sizes. Increasing the size of the RAM from 2GB to 4GB while keeping it the same type will also improve the system and increase productivity as more RAM allows your computer to do more at the same time.

Replacing the SSD to a HDD or adding a HDD to support the SSD to allow more data to be processed faster which is essential for a company that would be storing large amounts of data.

Connecting all the general office systems to the printer would allow employees to make hard copies for their clients.

Benefits of Installing Hardware

Installing new hardware can provide many benefits such as having more compatibility with higher quality components which will enhance performance as new hardware will be quicker and more productive than your existing hardware.

Another benefit is increased security because they will have less exploits with newer systems. Newer systems will also reduce downtime in the long run as they will be more reliable compared to older systems.

Installing new hardware can increase your ability to communicate as it can support heavier software requirements. It will your make your employee jobs easier and more productive.

Benefits of Maintaining Hardware

Regular hardware maintenance can help your business avoid unforeseeable issues like hardware damage and significant data loss and allows you to uphold your operational integrity and maintain a reliable IT infrastructure.

Another benefit is saving money as it will cost less for maintenance than having to pay when something crashes. As computer equipment can be an expensive investment, the better you care for your equipment, the longer it will last which will also reduce costs and increase profits.

Reasons for new Technology Systems

There are many reasons why organisations want to improve and develop technology systems. One is for a competitive advantage, for example, making products better or faster, or making use of internet technology like setting up a server to hold lots of data or a network to connect all their computers with a Local Area Network (LAN) or across different buildings or countries with a Wide Area Network (WAN).

Another reason is reduced costs which can be done by developing the system so that fewer people are needed to operate it or to save time by making processes faster and tasks can be made easier which could make staff happier.

Lastly is improved performance of the business which can be done by making technology systems more efficient, deliver results more quickly, making it easier for staff to use the systems and by providing a more satisfying experience for customers.

Alternative ideas for installing and maintaining hardware and software that have been discarded.

I have chosen to replace the old computers with new ones except the hard drive as a 250gb SSD is good enough to still be useable as it has a decent amount of storage and an SSD will be faster than a HDD as it has no moving parts. I decided on getting new computers as they will have a warranty and will last much longer as they will be brand new. The new computers will perform better and will be able to handle much more intensive software which will increase productivity as they have up-to-date and better components. They will also require less maintenance as they will have less issues and faults as they will be new. It will also be easier to replace later on if something breaks as all the parts are newer and will have higher compatibility. Replacing all the components will also be easier as you will not have to replace some of the individual parts into the correct slot.

An alternative would be to replace the parts but I have chosen to discard this idea as the upgraded computers will not last as long and there will be more constraints on the compatibility on the components as they are old and outdated and won't be compatible with new parts. There will also be more constraints on the software that can be run on old hardware such as the RAM as It will be unable to handle many tasks or newer software and operate slower which would also lower productivity. They will also require more maintenance as they will be old and buggy.

Add more about what and why…

Benefits of Installing Software

Installed software offers a better UX as everything has been designed and tailored to suit the device you're working from. This means the experience of using the software is richer, smoother and its functionality is drastically improved.

Related data is more meaningful & powerful when it is pulled together in one application. Analysis of multiple data sources is better handled by bringing the data together where trends and conclusions can be drawn much sooner.

Managing the security of your data within one unified system application is much easier than managing multiple systems of data. By integrating the management, backup and administration, tasks are simplified.

The ability to access customer information quickly and easily is vital for maintaining good relationships, integrating your CTI and CRM software will enable you to assist customers more effectively.

Integrating systems that streamline any element of your end-to-end sales process and improve your order fulfilment rate will have a positive impact on your overall sales potential.

Benefits of Maintaining Software

Software maintenance is any type of activity related to the optimization of a software product.

If your products or services are well-maintained it also means that the cost of adding a new feature or offering a new business value will be easier and cheaper.

Software maintenance processes are also about the increased security of your data and to make sure your more prepared for any issues that happen.

Maintenance

You will need to maintain regular maintenance monthly to minimize the chances of your hardware components failing. You will also need to backup the data on your machines before you start maintenance.

Why do hardware components fail?

- Heat
  - Accelerates aging
  - Causes glitches
- Dust build up prevents heat dissipation
- Dust can short out components
- Unstable power causes crashes and failures
- Static electricity can destroy components

Maintenance - What can be done to minimise these issues

Monthly Inspection

- Look for dust and dirt
- Check safe installation
- Overloaded power sockets
- Trailing cables
- Food and drink
- Listen for unusual sounds

Cleaning

- Use an air blaster to remove dust and debris
- Use approved products to clean screens
- Use an approved vacuum to remove dust from ventilation slot

Implications of Installation and Maintenance of Hardware

If you do not have the right hardware, the software will not work as intended. So, it is important to know what kind of hardware you need to accomplish tasks.

Maintenance of hardware should be done by someone who is trained to handle it, either from an external company or an employee that has had proper training to avoid damaging the hardware.

They need to consider whether the IT employee has the tools they need to perform installations or repairs as without them they can not do their job. Before performing repairs, the employee will need to know about possible problems they might encounter and how to prevent or manage them.

Before replacing and installing hardware you need to check the compatibility of the components with the motherboard. An incompatible component could cause damage to both the component and the motherboard.

The employee can also get injured during installation and maintenance and will have to stop to perform first aid while blood getting on the hardware could damage the components.

Service Level Agreement

A service level agreement (SLA) is a contract between a service provider (either internal or external) and the end user that defines the level of service expected from the service provider.

SLAs are output based in that their purpose is specifically to define what the customer will receive.

What should be included in it?

What the provider is promising.

How the provider will deliver on those promises.

Who will measure delivery and how.

What happens if the provider fails to deliver as promised?

How the SLA will change over time.

Benefits of a SLA

A good SLA will help your organization to promise what is possible to deliver and deliver what is promised.

SLAs are not a commitment to deliver the impossible.

A service level agreement can be as informal as a performance target or as rigid as a committed time to restore a system to operation backed by penalties.

In either case, the SLA serves as a basis for establishing a shared understanding of the service relationship.

When properly developed, SLAs offer a win-win situation for both the service provider and the customer.

Down Time

What is Down time?

Time during which a machine, especially a computer, is out of action or unavailable for use.

A failure of a critical application can lead to a few types of losses:

Loss of the application service - the impact of downtime varies with the application and the business.

Loss of data - the potential loss of data due to a system outage can have significant legal and financial impact.

Down Time - Costs

On average, the businesses surveyed said they suffered 14 hours of IT downtime per year.

Half of those said IT outages damage their reputation and 18% described the impact on their reputation as 'very damaging. Headlines about IT failures certainly don't help.

Down time in the UK costs.

The average cost of data centre downtime across industries was approximately £3,00 per minute.

The average reported incident length was 90 minutes, resulting in an average cost per incident of approximately £300,000.

For a total data centre outage, which had an average recovery time of 134 minutes, average costs were approximately £420,000.

For a partial data centre outage, which averaged 59 minutes in length, average costs were approximately £160,000.

Decommissioning

Decommissioning is a general term for a formal process to remove something from an active status.

It comprises different administrative and technical activities whose purpose is to remove or to minimize the residual hazards in the facility after it is shut down. Decommissioning a laptop or desktop allows you to securely wipe out data from all folders that inSync protects.

When you decommission you will need to consider backing up your data so you do not lose any important information like your clients records. The people handling the decommissioning will need to keep a log of the IT equipment. The log should include the identification of all destroyed equipment, the decommissioned date, and the process taken during the destruction. It is also important to follow industry regulations such as PCI DSS, HIPAA, FERPA, and FISMA which require companies to accurately log every asset from purchase to disposal/destruction.

Regulations

These are some regulations you will have to know and follow for your company. They are for the safe disposal of your machines and health and safety.

- WEEE - Waste Electrical and Electronic Equipment - The WEEE Regulations ensure electrical and electronic equipment (EEE) is recycled in a sustainable way when it reaches end of life.

- DSE - Display Screen Equipment - As an employer, you must protect your workers from the health risks of working with display screen equipment (DSE), such as PCs, laptops, tablets and smartphones. The Health and Safety (Display Screen Equipment) Regulations apply to workers who use DSE daily, for an hour or more at a time.

- HSE - Health and Safety Executive - As an employer, you must make a 'suitable and sufficient assessment' of risks to your employees' health and safety, and risks to others because of your work.

Compatibility

What does the term Compatibility mean? “the ability of one computer, piece of software, etc. to work with another”

Before installing you will need to check the compatibility of the components and the requirements of the software you will be using.

Motherboard - CPU - RAM

CPU - Operating system

Proprietary software e.g. Mac OS

Applications software hard drive space?

Strengths and Weaknesses of Current System

Processor – An intel 3.5ghz sounds good as the higher the number the faster the processor speed, but as you have DDR2 RAM it is likely your processor is an older generation which means it likely has less cores and is not as powerful. Having more cores means that a computer can do more things at the same time but will come at a higher cost. It will also perform slower and will have a lower compatibility with other components. An older processor will also have issues running new software as it will barely or won't meet the hardware requirements for it. Using new software is also risky as it could cause your processor to overheat and damage it.

RAM – RAM makes processing more efficient. As you have a DDR2 your motherboard will be old and incompatible with the latest hardware. It will be unable to handle many tasks or newer software with higher hardware requirements and would lower productivity. It also significantly affects your computer's start-up speed. More RAM allows your computer to do more at the same time.

Hard Drive – A SSD is faster than an HDD and more reliable and longer lasting with less risk of being damaged by having no moving parts. HDDs are cheaper while having a larger storage capacity but have moving parts so they are at more risk of being damaged and can be noisy. An SSD allows for computers to start-up faster as it doesn't to spin up which also means it makes less noise. 250GBs is a bit small for keeping all your data on them so adding an HDD alongside it will give you more storage while being cheaper and having the operating system on the SSD is what will allow you to start-up your computer.

Monitor – A 27-inch monitor is alright, but it would be better to get a newer and larger monitor as it can fit more on the screen and have a faster refresh rate with higher quality graphics.

Operating System – Windows 10 is very good as it has more support than most other operating systems but with Windows 11 being released support will be focused there, so I would recommend upgrading to windows 11 if possible. If not, Windows 10 still has a lot of useful apps available like Task Scheduler, Event Viewer, Performance, Device Manager, Disk Management, Disk Defragmenter for various tasks and will run more optimally than most operating systems as it improves upon the previous version with various new features along with things like making the interface more user-friendly and highly customizable. It also supports new software like DirectX 12 and performance is usually better on Windows 10 due to all sorts of software optimizations. Windows 10 does have lots of processes happening in the background as it is designed for more modern computers.

Connectivity – A SATA connection cable has fast transfer speeds

Optical Drive – Having an optical drive can be useful for making physical backups of data and they are cheap to replace but will require physical space to store them.

Video Card – Not having a video card will mean the computer will not function as efficiently or effectively which will affect productivity as it affects the speed of the computer because the CPU will be doing all the processing. A video card is a processor which boosts graphics capabilities and processes graphical data much more efficiently than a CPU which will leave the CPU to focus on other things.

Purpose and Client Requirements of Installing and Maintaining Hardware and Software

The Michael Page company have the responsibility of matching candidates to vacancies. They need to maintain client data, have good communication systems and provide both sets of customers with relevant information (both electronic and hard copy). Their systems as are running slower as the company is growing and are considering system upgrade. Before the 'Michael Page' company decides whether to buy a brand-new system, they would like some advice from you about repairing and maintaining their two existing systems. They will also request an installation and maintenance of their systems.

They need to produce a large number of documents.

Hold records of clients within the database.

Require access to a printer.

Print out work.

Have lots of storage for files.

Ensure their clients data is protected.

Follow the legislations

System Investigation, Analysis and Solutions

As we do not have the internal expertise to upgrade and install their internet they are hiring a third party company to do the job. We could train employees to do this but this will take time and cost more initially however it would save money long term.

As a third party company is installing Ethernet cables throughout the offices and to connect the cabling to a switch and a router to upgrade their communications through the use of email and the establishment of a website.

This may cause constraints as both parties work can clash so it is necessary to communicate with each other to prevent this from happening which will prevent any delay and means the work can be finished faster.

For computers to access the internet they will need a network interface card that the computers do not have. A network interface card will allow a computer to be connected to the printer and other computers and their network which will allow them to transfer data to each other.

System Investigation, Analysis and Solutions - 2

A slow boot-up and speed of opening applications is likely caused by how old the motherboard is as motherboards that support DDR2 RAM are not used any more and the RAM is only 4GB which is small and likely slowing the processing speed.

The optical drive not reading data correctly would need testing to see if it can be fixed or needs replacing. The unknown fault with the hardware will have to be diagnosed and fixed.

To scan hand written documents it is better to replace the old one with a all-in-one printer which can scan, print and photocopy and will save space. It will cost more but will be more convenient as you can connect to it over the internet and would not have to plug anything in or buy multiple of like with a handheld scanner.

Copying data from one optical disc to another could be solved by installing software that would allow them to but as Windows 10 can already do this it may be unnecessary.

Email to Manager

Hi Will,

I am writing this email to summarise the requests of the client Michael Page. The CEO has issues with his computer such as slow boot up, slow to open applications, an optical drive will not read data from discs properly and an unknown hardware fault. He has also asked to be able to transfer data from disc to disc and scan handwritten documents and upgrade their ability to communicate using the internet with a email and website.

To deal with the CEOs computer I think replacing the computer except the monitor and storage would be best as the motherboard would be too old and not be able to keep up with increasing hardware requirements. The optical drive might just need cleaning but if that does not fix it, it may be a software issue and need to be checked in device manager.

For transferring data from one disc to another they would go into My Computer and save and the data from one disc and transfer the files onto a blank disc.

So they can scan documents I went with a all-in-one printer as it will be more convenient, save space and can be done over the internet which would need a network interface card installed in their computers.

The internet, website and email will be handled by a third party company that will install ethernet cables to a switch and router in their office. We will need to communicate with this company so there are not any disruptions meet our timeframe.

Kind regards,

Chris Merrett

BIOS

BIOS – Basic Input/output System is the program a computer's microprocessor uses to start the computer system after it is powered on. It also manages data flow between the computer's operating system (OS) and attached devices, such as the hard disk, video adapter, keyboard, mouse and printer.

Computer Management - BIOS

Information – Shows the specifications of your machine

CPU Temperature – Shows the temperature of your CPU

CPU Core Voltage – Shows how many volts are running through the CPU

Motherboard Temperature – Shows the temperature of the motherboard

DRAM Status - Dynamic random access memory – Shows the status of your RAM

X.M.P. - Extreme Memory Profile - allows users to easily overclock memory

Fan Profile – Shows the speed of the fans

CPU Fan – Shows the speed of the CPUs fan

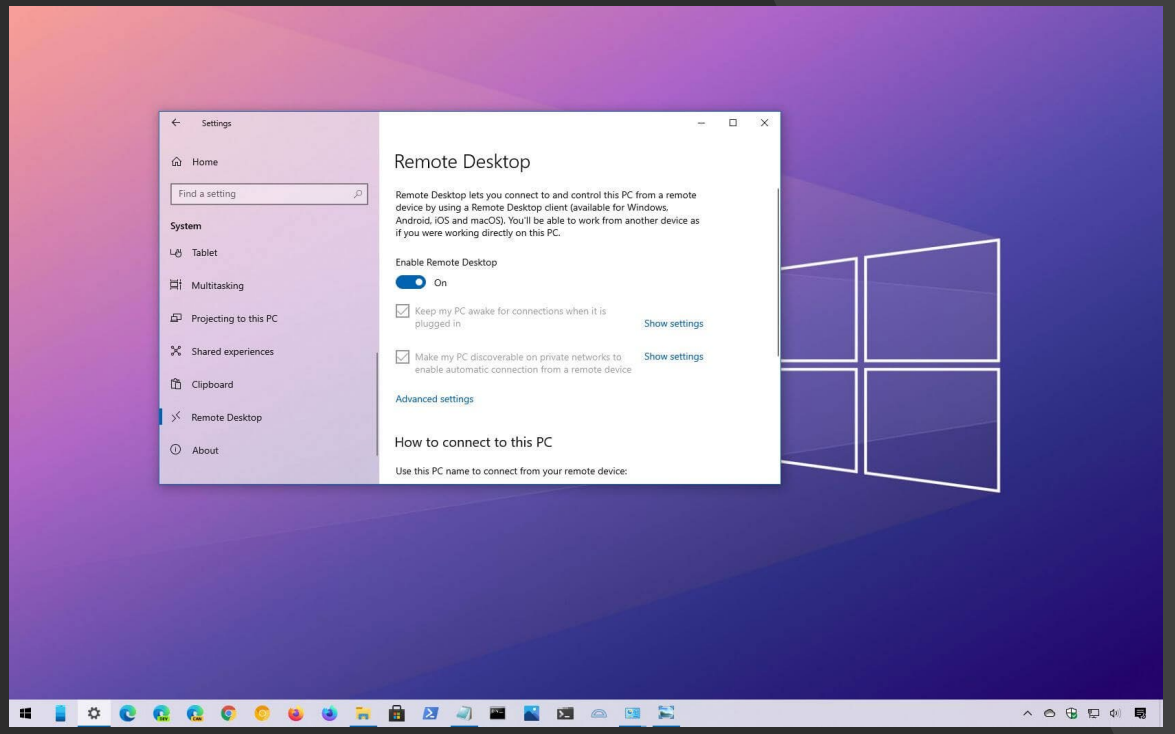
EZ System Tuning – To specify your preferred system settings

SATA Information – Shows your hard drive information

Boot Priority – Change the order of what is being booted

Repair – Remote Desktop

Remote desktop will allow the specialist to connect to and control your machine with their device remotely so they can use software tools to scan and find the faults on your machine.



Computer Management Tools

Task Scheduler – Create and manage common tasks that your computer will carry out automatically at the times you specify.

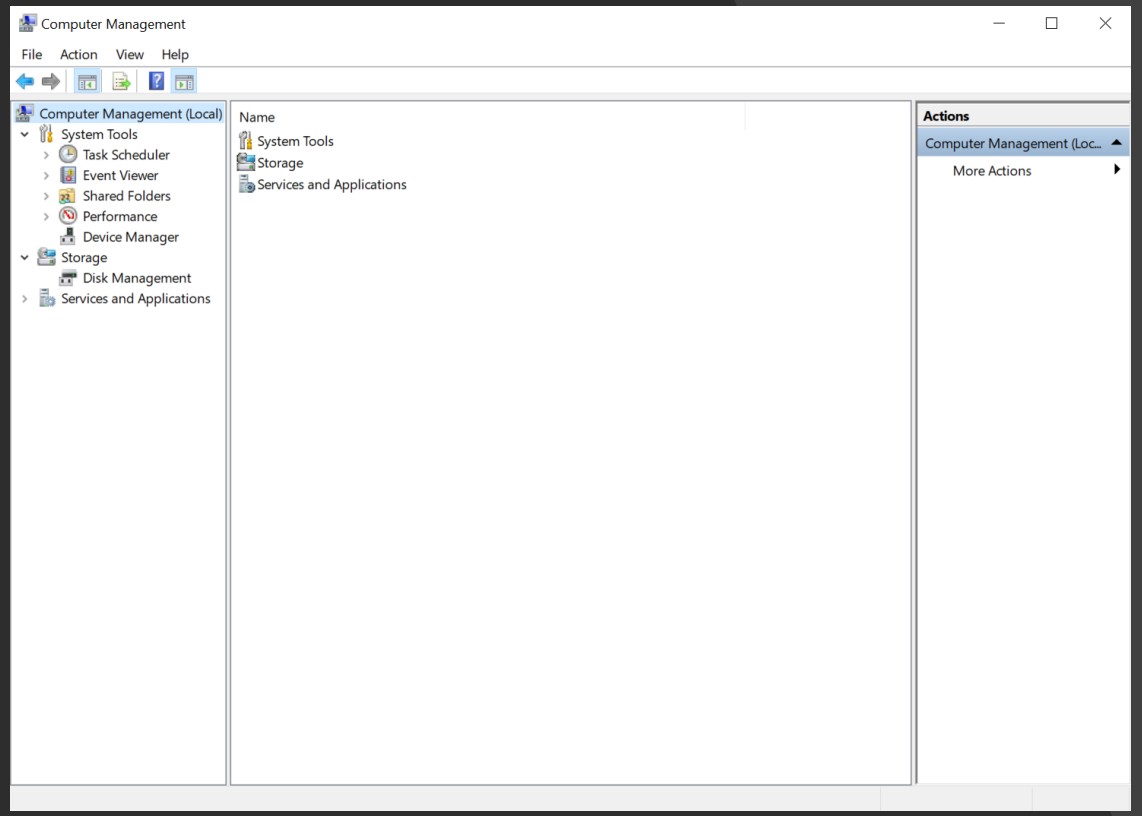
Event Viewer – To view events that have occurred on your computer.

Performance – View performance data either in real time or from a log file.

Device Manager - View and control the hardware attached to the computer.

Disk Management - Enables you to perform advanced storage tasks.

Disk Defragmenter (defrag) – Rewrites the order of the files and puts them back together to make the hard disk drive run faster.



List of installation and maintenance activities

Old computers removed + SSD

New computers installed + add SSD + add HDD

Specialist card to be installed - Network Interface Card

Computers set up

Printer installed.

Printer set up.

Update software.

Install anti-virus software.

De-fragmentation.

System testing

Hardware and software components and devices and software resources required for an upgrade

Case

Motherboard

CPU

HDD

RAM

USB with Ubuntu

Anti-virus software

Printer

Task Scheduler

Event Viewer

Performance

Device Manager

Disk Management

Storage area (OneDrive)

Computer settings

File Explorer

Blank disc

Tools Required

Screwdrivers

Pliers

Electrostatic discharge (ESD) wristband

Screw Tray

Wire strippers

Wire cutters

Cleaning products

Compressed air

Action Plan - how and why

Action	Techniques	Expected Outcome	Constraints	Additional measures	Time require (days/hours)
Backing up the data on the computers	Following manufacturer guidelines, Communication	Prevented loss of data	Financial impact – Storage space – Down time	If data is lost the company could lose business. Need to make sure there is enough storage space of all the data. The company can't work while data is being backed up.	5 Hours
Removing the SSD from the old computer to the new ones	Following manufacturer guidelines, Communication	Safely removed SSD	Potential damage	When the SSD is being removed it could be damaged and have to be replaced.	1 Hour
Installing in the HDD to the new computers	Following manufacturer guidelines, Communication	Safely installed HDD	Potential damage	When the HDD is being installed it could be damaged.	1 Hour
Removing old computers and installing new ones	Following manufacturer guidelines, Communication	Increased performance	More training – More to decommission	The staff will need training on operating the new systems. The old computers will have to be decommissioned.	5 Hours
Installing NIC card into the new computers	Following manufacturer guidelines, Communication	This should connect the new computers to the new network	Security	Once the computers are connected they will be at risk of cyber attacks.	1 Hour
Installing software	Communication	Increased productivity	Licences	They will need to think about which licences for the software they need. Office 365	3 Hours

Action Plan - how and why

Action	Techniques	Expected Outcome	Constraints	Additional measures	Time require (days/hours)
Installing printer	Following manufacturer guidelines	The printer should be able to scan documents and print them	More training	The staff will need to be trained to operate the new printer	2 Hours
Fixing the optical drive	Following manufacturer guidelines, Observation, Fault logging	Working optical drive	Optical drive state	The optical drive may only need to be cleaned to fix it but if it has a broken piece, it may be easier to replace it.	TBC
Installing anti-virus	Communication	Increased protection	Licences	They will need to think about which anti-virus they want and which licence.	2 Hours
Insert a disc with data on it and copy it to a folder, then burn the data onto a blank disc	Communication	Data should be copied from the disc to the folder and burned onto a blank disc	Tools	They will need a blank disc to transfer the data onto.	1 Hour
Using diagnostic tools to find the fault	Observation, Fault logging	Hardware fault found and fixed	More time – 3 hours maximum then recommend replacing	It could take time to find the fault instead of just replacing it.	TBC
Training staff on the new systems so they know how to operate them	Communication	Staff can operate new system	Down time	They will be unable to work while they are learning to use the new system.	2 Days

Test Plan

What to Test	How to Test	Expected Output
If the new computers are working correctly	Boot up the computer by pressing the power button and check device manager if all the components are registering or if there are any issues	Computer should boot up and all the components should register and there should not be any issues
If the peripherals are working correctly	Check the keys of the keyboard work, check the mouse by moving it and clicking and checking the headset for audio input and output	They should all be working fine
If the optical drive is working properly	Inserting a disc into the optical drive and play it	The cleaned/fixed or new optical drive should be able to read the disc without issue
If the new computers can connect to the network	Insert Ethernet cable into the computer and connect computer to the network and open a web browser to search something	The computer should connect to the network without any problems
If the computer can copy and transfer data using discs	Insert a disc with data on it and copy it to a folder, then attempt to burn the data onto a blank disc	The data should be burned onto the blank disc and should not be changed in any way

Test Plan

What to Test	How to Test	Expected Output
If the printer can scan and print a document	Start the printer and scan a document and print it	The printer should scan and print the document
Software applications open and function correctly	Open an application and test out some of the features and then save the document	The software should be working as intended and saved the document correctly
User account settings have not changed	Open the User Accounts in the settings and check if all the information is correct and unchanged	All personal data should remain unchanged as it was before
Email and instant messaging software is working	Send and receive an email or message through the software applications	The messages should be sent and received with little to no delay

Email to Client

Dear Michael Page,

After going over your brief we have planned a set of installation and maintenance tasks to perform.

To fix the optical drive we will first clean it as this may be all it needs, if not we will check if it is a software issue. If these options do not work, we will have to replace the drive. With the problem on the PC, we will replace it except the monitor and storage as the motherboard you are using is too old to keep up with increasing hardware requirements. We will also add an HDD alongside your SSD to increase storage space and speed as you will need more storage space for your documents. Cloud computing is something you could get in the future as you would not need much storage space on your computer and can access data from anywhere there is an internet connection.

The request for better communication can be fulfilled by installing a network interface card into all your computers which would allow access to the internet along with the installation of the network infrastructure done by the third-party company. Connecting to the internet will allow you to communicate online using email, instant messaging and means you can access the tools to make your website.

We have decided on an all-in-one printer as it will be more convenient, save space and can print files over the internet so employees will not have to move around as much which will improve productivity.

For the matter of copying data from disc to disc, Windows should already let you copy data from a disc to an empty folder, then burn onto a blank disc.

We will also set up anti-virus software onto your computers to protect your company's systems and client's data from viruses and hackers.

Kind regards,

System Force

Report for Manager

This report entails my final decisions based on the requests of the client. The CEO of the company asked us to fix some hardware issues with his computer. He has reported that his computer is slow, optical drive is not reading discs and the system also has an unknown hardware fault.

I have decided to fix these issues by replacing the computer exempt for the monitor, storage and optical drive as we can add an HDD alongside the SSD to increase storage space and speed while I can clean the optical drive first and check for if it is a hardware or software issue but if this does not fix the problem, I will replace it as our timeframe is very limited.

The CEO has also asked us to improve his general office computers with the ability to communicate through email and create a website, be able to scan handwritten documents and copy data from one disc to another.

For communication I plan to install a NIC card into their computers for internet access for the infrastructure that will be installed.

To scan their documents, I have selected an all-in-one printer as it will be more convenient, save space and can be done over the internet.

For their request to copy and transfer data on discs I have advised the use of built-in disc burning features of windows.

Finally, I have decided to install anti-virus software to protect their systems and keep their client's data safe.

Implications of Installation and Maintenance of Software

There are dangers that can happen when installing or maintaining software either due to lack of experience, attention or following instructions correctly.

If you do not backup your data, you could lose client data if you accidently delete the wrong thing while cleaning the computer of unwanted data so it is important to have training before attempting so you know what to delete and what not to.

Another danger is software updates as after some updates there can be bugs that could risk your data and make it unrecoverable or affect other software so you should wait for news to see if the update is safe.

Factors to Consider When Installing/Upgrading Software

Hardware – Is the spec enough for the new software?

Accessibility Features – Will it be used by users with additional needs?

Compatibility – Will it work with preferred applications and hardware?

Security Features – Does it include firewalls, malware management such as anti-virus, setting user permissions, user support?

Speed – Is it fast enough, especially if it is new software run on older hardware, which affects efficiency and user experience?

Cost – Does the cost include the licence, set-up, training, maintenance?

Off-the-shelf VS Custom-made Software

Off-the-shelf software is software that can be purchased by anyone online or in shops. The specific program is the same for everyone.

Custom-made software (Also known as bespoke) is specially designed and created for a particular purpose.

Advantages of Off-the-shelf software

- Usually cheaper
- Well tested and bug-free
- Good support available from books and the internet and companies who make the product

Advantages of Custom-made software

- Specific to a particular function and company – does exactly what the company wants it to do

Operating Systems

An operating system is the software that links the hardware with the software.

What does an operating system do?

File Management – Controls where data is saved and allows users to copy, rename, delete files and use folders.

Hardware Management – Loads programs, allocates resources to different programs, uses drivers to link specialist hardware (such as graphics).

Resource Allocation – Sends keyboard/mouse inputs to programs, as well as accessing other resources such as the printers and the hard disk drive.

Security – Creates backups and access to files if there are multiple users.

Benefits of an Open-Source Operating System

Open-source software is software whose source code is openly shared with anyone. This means that anyone can freely access, distribute and modify such software.

There are little to no upfront costs for open-source software so if you do not want to spend money this is the best option.

Open-source software is highly reliable. Usually, thousands of expert developers work on making and constantly improving the open-source software. This means there’s a greater chance that someone will notice a flaw or a bug and fix it in no time.

Reasons and Benefits to Upgrading Software

Upgrading your software is important to make sure your computer works properly while fixing the bugs of previous versions and newer versions have more features and are easier to use which will improve productivity, stability and reduce the risk of losing data. Updating software will also patch any security flaws from the previous versions. Updates may add new features and remove old ones that are no longer necessary. It will also ensure your software is compatible with the latest technology.

Updating anti-virus software will provide increased security which is important to prevent viruses and hackers as they will be able to deal with new viruses and methods used by hackers.

Your computer can also be filled up with unnecessary data that can affect the performance of your computer. There are programs like Ccleaner and some anti-virus have a built-in feature which will clear your cache and remove any corrupted or unnecessary data freeing up your computers storage.

On your current system you have Office 2007 which is outdated software and it would be much better to upgrade to Office 365 which is more up-to-date with more and better features but will cost money. There are alternative software like Libre Office or Open Office which are open-source and free.

Software like D 365 is used by companies a lot these days as it can manage customer accounts, organize lead contacts, collect business opportunities, maintain daily operations, and so on. My proposed system will run software such as D365 this is something the company may consider for the future and my proposed system will run this software.

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Linux OS – Strengths and Weaknesses

Strengths

Linux is a free open-source operating system, which means its source code is accessible, that runs fast and smooth with a modern desktop environment and is more secure, private and reliable with its built-in security and does not need anti-virus software. It is also frequently updated to deal with any bugs or vulnerabilities. It's great for people who want to use their knowledge to modify and improve the code or just see how it works.

Weaknesses

The main weakness is that there is no single official version of Linux and makes finding distributions where you have vendor support difficult while much of the commercial desktop software does not run on Linux with a bit of a learning curve as the interface is very different to Windows which can deter people. There are alternatives to some of these programs but installing them on Linux is more complicated and will have to learn to use the different software.

Linux OS Vs Windows 10

Resource Requirement: Ubuntu Vs Windows 10

Resource	Ubuntu 18.04	Windows 10
CPU	2 GHZ dual core processor	1 GHZ or faster processor
RAM	2GB	1GB for 32 bit and 2 GB for 64 bits
Hard disk requirement	25 GB of hard disk	16 GB for 32-bit OS, 20 GB for 64-bit OS
GPU	1024X768 screen resolution	800x600 pixels output resolution

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https://www.softwaretestinghelp.com › ubuntu-vs-windows

Ubuntu Vs Windows 10 - Which Is A Better OS

Notes

- Electrostatic discharge
- Add speaker notes
- Bootstrap
- Start up
- Glossary or explain what the terms are
- Action plan – include email
- Propose schedule for work
- Review operating systems
- Upgrading reason – competitive
- Network interface card – Install
- Suggest cloud computing in future
- Consider office standard printer