

L3 Lead Examiner Report 1901

January 2019

**L3 Qualification in Information
Technology**

Unit 14: IT Service delivery

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Grade Boundaries

What is a grade boundary?

A grade boundary is where we set the level of achievement required to obtain a certain grade for the externally assessed unit. We set grade boundaries for each grade, at Distinction, Merit and Pass.

Setting grade boundaries

When we set grade boundaries, we look at the performance of every learner who took the external assessment. When we can see the full picture of performance, our experts are then able to decide where best to place the grade boundaries – this means that they decide what the lowest possible mark is for a particular grade.

When our experts set the grade boundaries, they make sure that learners receive grades which reflect their ability. Awarding grade boundaries is conducted to ensure learners achieve the grade they deserve to achieve, irrespective of variation in the external assessment.

Variations in external assessments

Each external assessment we set asks different questions and may assess different parts of the unit content outlined in the specification. It would be unfair to learners if we set the same grade boundaries for each assessment, because then it would not take accessibility into account.

Grade boundaries for this, and all other papers, are on the website via this link:

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Unit 14: IT Service delivery

Grade	Unclassified	Level 3			
		N	P	M	D
Boundary Mark	0	9	19	30	41

Introduction

- LE Report to be considered with the live external assessment and corresponding mark scheme
- Contextual introduction to the unit
- If the first external assessment, to include differences in specification

1901 is the second external assessment window for Level 3 BTEC Information Technology Unit 14: IT Service Delivery. This is an optional unit for learners studying the extended diploma.

The unit is a paper-based examination and is broken down into a two-part task. Part A contained material for the completion of the preparatory work for Part B and was to be taken over a maximum of 3 hours across a period of 2 weeks. No marks were awarded for Part A. Part B contained materials for the completion of the set task under supervised conditions, allowing a maximum two A4 sides hard copy research notes from Part A to be taken into the assessment.

Part B is broken down into five activities that cover different areas of the specification where learners are expected to apply knowledge and understanding of the IT service delivery requirements for the care home sector provided in the scenario.

The following section considers each activity on the paper, giving examples of responses and a brief commentary why the responses gained the marks. This section should be considered with the live external assessment and the corresponding mark scheme.

Introduction to the Overall Performance of the Unit

The overall performance of learners was good though we have nothing to compare to previous cohorts for this window because during the 1901 series due to a limited number of registrations.

The performance for each Activity varied with a very low number of blank responses, and some responses focusing on head office and the care home rather than just the care home. Activities 4 (evaluation) and 5 (implications) performed the least best.

Activity 4 – learners attempted to evaluate the solution but mainly focused on the future developments rather than the system as a whole, with most learners omitting to include alternatives.

Activity 5 – learners explaining what they have produced rather than giving implications to the organisation of introducing the IT system.

Individual Questions

The following section considers each activity on the paper and provides examples of learner responses. A brief commentary is included giving reasons why the responses gained the marks they did. This section should be considered with the live external assessment and the corresponding mark scheme.

Activity 1

(Outline IT service strategy)

An attempt has been made to provide a description of IT service/process requirements for the organisation but there are many inaccuracies and omissions, and although the learner has attempted to prioritise the IT service/process requirements are general rather than specific to the staff in the care home. General discussion given, but the learner has had no discussion on individual personnel needs for the care home. The learner work would fit into Band Mark 1 (1 – 3) in the mark scheme.

Organisational Needs	
IT Service Requirements	Explanation of priority (high, medium or low)
PC'S	PC'S are a high priority value to the overall organisation as it allows communication between the departments, within the carehome however the pcs do need upgrading to make communication faster and more reliable.
CCTV	CCTV is a high priority as it increases the security of the care home and ensure all residents are safe from outside threats and allows management of the care home to monitor the buildings activity.
Remote access to data and applications	This is of high priority as it ensures the care home can run as it is essential staff have access to client data and information so that they can provide the correct care for elders.
Up to date software for PC'S	This is of medium priority to the organisation as they can still operate with older software however upgrading the software would speed up the computer and make daily tasks faster and more time effective. on the new software the care home would also be able to do more tasks which they previously could.
Spreadsheet software	Medium priority this is quite important to the care home as it means the manager will be able to produce the monthly reports and budget reports much easier. and will allow them to produce as clear and overview.
Word processing software	Medium priority this is all so quite an important bit of software as it will allow employees to produce documents that can be used in the care home.
database software	High priority this allows the care home to store all the information on residents staying to make it easy to find out private information on

	residents such as what medicine they need and when also the contact information for their families.
Technical support staff	High priority this is a must have as the servers are stored in Cardiff if the care home runs in to any issues it is important that the staff can still operate they can call for IT help with any technical issues to ensure the care home can be back running properly as fast as possible

Customer/Client Needs	
IT Service Requirements	Explanation of priority (high, medium or low)
View invoices	This is of high priority as it allow customers to see their finances and get a clear idea of what it is costing to keep a resident in the care home, also it will allow customers to understand the costing process.
Access to Elearning	This is of medium priority as they are looking to implement this in the future it will allow customers to view learning materials both in the home and remotely this will improve the experience the care home offers to both residents and customers
Talk to residents	This is of medium priority as it will allow clients to talk to residents while they stay at the home this can be done over instant messaging within the home as clients may be else wear but need to talk, this improves relations with clients.

Learner has provided relevant information from the scenario and to produce a comprehensive outline strategy.

An accurate description of the IT service/process requirements for the organisation that meet their needs, with appropriately prioritised IT service/process requirements that is supported by a clear rationale. The learner has shown logical chains of reasoning and a full awareness of the scenario.

There is a discussion that includes hardware, software, communication requirements and legislation. The learner work would fit into Band Mark 3 (7 – 8) in the Mark Scheme.

Organisational Needs	
IT Service Requirements	Explanation of priority (high, medium or low)
PCs	High – The computers in the care home are necessary for the staff members who use them to access data files from the server, record and save data of the clients and also view reports. Without these computers, it would be difficult for the staff to carry out their duties, such as providing the correct medicine to the clients at the right time.
Printers/Scanner/Fax Machine	High – There are a lot of documents which are printed out on a regular basis which are needed by the organisation to function properly, such as the staff rota, payroll and monthly reports. The nurses and carers also use the fax machine to request medication from doctors in a promptly manner in order to get more medication for the clients. The printers in the care home are essential for the organisation.
Remote Server Access - VPN	High – The care home frequently accesses the central server in the head office for data and applications such as payroll, the care home's budget and monthly reports. These are documents which have to be filled out and handed in on time so that the care home can run as it is supposed to, and it also keeps all the staff members and clients satisfied with the service that is provided. Using a VPN is a secure method to access data as the connection is encrypted and hackers would not be able to see what you are doing.

CCTV Cameras	Medium – The CCTV cameras placed in the front and back entrance are recording live footage and also act as a deterrent for anyone who may want to break into the building. If any unauthorised personnel enter the building, the company would be able to look over the recorded footage to identify the culprit and then take further action. It is a benefit having the devices installed as it also increases security.
Projector & Screen	Medium – The projector and screen are used during training sessions, where a slideshow could be displayed on the screen whilst the trainer is giving his presentation. Having a projector removes the need for the trainer to use a board pen to make notes and the constant need to clean the board every once in a while, it saves time and makes the training process more efficient.
Two-Way Intercom System	High – This is the system that allows the receptionist to speak and listen to the person who would be standing outside the front or back door. Being able to identify the people coming in is important as deliveries, clients and other staff would like to get into the building quickly.
Microsoft Office	High – All the applications that are part of the MS Office package are needed by the staff who use computers on a regular basis. For example, Microsoft Word is used by the Manager to write reports that are important to the organisation.
Anti-Virus	High – The care home's computers have remote access to the central server in the main office, which holds a lot of sensitive information about the staff of the company as well as all the clients. In order to keep this information out of reach from hackers, a reliable anti-virus is needed to prevent the staff from downloading malware or spyware onto the computers of the care home unknowingly and potentially cause a leak of data. They can use AVG Free Anti-Virus

Windows 10 Pro	High – In order to interact with the computers and make use of them, they will all need an operating system, and the most user friendly and reliable operating system is Windows 10 Pro as it is compatible with the hardware that is currently being used at the care home, along with the software from the head office server.
Email	High – This is a form of communication that the Manager uses frequently to send files and documents to staff and clients and is reliant on. Without an email software, he would not be able to send his reports.

Customer/Client Needs	
IT Service Requirements	Explanation of priority (high, medium or low)
General Data Protection Act	High – All personal data and information about the clients should be kept secure so that no one manages to get a hold of it. It should also be processed fairly and not kept longer than it should be. Clients also have the right to ask and receive any data that the company currently holds about them as stated in the new act since 2018.
Computer Misuse Act	High – If computer files were accessed by others, there is a chance that data files of the clients could be deleted or altered for personal gain. This is why the Computer Misuse Act is important to follow and ensure that staff are always logging out from their computer after they are done so that others do not try to hack into an account and cause damage.
Telephone	Medium – The clients might be receiving phone calls from their relatives that they want to speak to, so having a robust system where calls can get to the client directly would be beneficial. A personal telephone in each client's room would make calling the client easier for relatives.
Website	Medium – Having a website for the care home would give clients in the care home, as well as relatives, a place to check any new information and updates to the care home, such as special events and gatherings that might be taking place that people should know about.

Activity 2

(Produce an IT service strategy)

An attempt has been made to produce an IT service catalogue using the templates provided, however there is limited information to show individual IT services for each function of the organisation. An attempt to identify IT service names and service descriptions, showing a limited understanding of the care home's requirements. The learner work would fit into Band Mark 1 (1 – 3) in the Mark Scheme.

Function	Service name	Service description
E learning materials for all parties within the care home.	E learning materials	E learning materials can have many functions for staff client and residents such as training or staff to aid new starters in learning methods and procedures also for clients so that they can learn about the special care the home provides it residents, finally for residents so they can learn new topics and interests.
Database software to store client information	Access	Databases so that all the residents information can be stored conveniently in one place that is easily accessible for staff and clients to access and manage also can have client contact information stored within the data base this makes it a lot more simple for staff to find data on residents.
Word processing software to produce important documents	Work/ google sheets	Word processing software allows the care home and employees to produce important documents such as the routes can be produced on word as it is simple for the employees also to make important email and create reports about the care home.
Spreadsheet software to track finance and report on budget	Microsoft spreadsheets	Spreadsheets to allow management to create budget report to clearly see where money is been spent and how it is been spent each month also can be used to create the schedule for employees of the care home. the spread sheets can also produce invoices for clients.
Instant messaging for clients and residents	Whats app/ facebook messaging	Instant messaging to improve communication between clients and residents and client and cares this will speed up communication process, improve relationships it allows residents to message loved ones where ever they want and keeps everyone in touch and closer together.

Invoice calculator that is sent to clients	Invoice	Invoice calculator or the use of spreadsheets so that an invoice for each individual client can be calculated by staff and the sent either electronically or by post the respective client so parent can be issued.
IT support for issues	IT technicians	IT technicians to provide aid and assist staff with any computer PC server related issues. and try to resolve them as fast and efficiently as possible.
CCTV	CCTV surveillance	CCTV surveillance allows monitoring of the building and allows staff to keep track of what goes on around the building, this adds security for residents and staff.
System to record small transactions and petty cash	Budgeting app/ spreadsheet	Looking into the future they can implement a spreadsheet system to keep track of small transactions and petty cash this is a simple yet effective solution to the issues as a spread sheet would allow them to break it down in to simple figure and track the spending, also would allow clients to track residents spending efficiently.
Computer controlled access systems	Pin pad/barcode scanner	Computer controlled access systems to tighten up security of the building pin pad or barcode scanner to protect areas so that access is restricted for only authorised personnel
Fax machine to send urgent important information to doctors	fax	Fax so that staff can send urgent messages to doctors about medicine they may be running low on, or are in desperate need of.
Remote access to services	servers	Allows the care home to remotely connect to head office server in Cardiff over a wireless connection, and allows them to access records on residents and clients, to have to appropriate information they need at anytime.
To process all medication and keep track of stock	Inventory calculator	And inventory calculator to track all the medication that goes in and out of the home on a daily basis it can be done by spreadsheet so that figures of stock are clear to employees can also be set up to alert staff when stock is low so proper action can be taken.

Learner has been produced an IT service catalogue that includes relevant information from the scenario. The learner has identified services that are appropriate for the business functions and have included accurate service names and descriptions, showing a sound understanding of the organisation's requirements. Descriptions included are clear and concise enabling a non-IT specialist to understand. The learner work would fit into Band Mark 3 (7 – 8) in the Mark Scheme.

Function	Service name	Service description
Customer/client relations	Data Protection Act 1998	When the care home processes personal data they must ensure that the data is only used for the stated purpose and is only kept for the necessary amount of time
	Computer Misuse Act	The care home must ensure that processed data is not used unlawfully
	Hospedia Bedside Unit	The residents who are disabled or struggle to be mobile will need a bedside unit. This is an interface that allows the user to access an entertainment system, contact the staff on site or make phone calls. This is convenient to them as they would struggle to do those tasks without any kind of help.
Staff management and support	Health and Safety Act	All members of staff that work long hours are entitled to have breaks, regular eye checks (if they have an office job) and safe work environments.
Marketing and sales	Website	This website will inform the public of the care home facilities and will encourage people in care who can't be looked after to apply to be a resident in the care home. This site will need dedicated staff in order to keep it updated, maintained and monitor traffic.
Manufacturing of products and delivering services	Hardware Requirements	
	Manager: 1 dedicated PC, Printer, Monitor, Mouse, Keyboard	The manager requires a PC as his/her job entails responding to emails, managing budgets and preparing monthly reports.

	Deputy Manager: 1 dedicated PC, Printer, Monitor, Mouse, Keyboard	The deputy manager will require a PC as he/she will record medical details of the residents and, if need be, order new medication for them. He/she may also require a PC in order to manage the staff rota
	Receptionist: 1 dedicated PC, Printer, Two-way intercom system, Monitor, Mouse, Keyboard	The receptionist will require a PC as they will have to keep records of petty cash. He/she will also keep a record of residential fees and the residents' personal allowances. These tasks can be done by using Microsoft Excel. The receptionist must also ensure that entrance is secure by operating a two-way intercom system, enabling him/her to lock or unlock the doors at the necessary times
	Administrators: 1 dedicated PC each, 1 Printer, 1 Monitor each, 1 Mouse each, 1 Keyboard each	The administrators will require a PC and a Printer as they will have to type up and print out legally binding contracts for all new residents. They will also need PC's to send monthly invoices to the residents' families for payment and send annual residential fees information, this could be done via email or they could print it out and mail it to them. They will need a PC to also administer the employees payroll, they will have all staff wages in their system and can allocate their pays accordingly.
	Nurses: 1 shared computer, Monitor, Mouse, Keyboard, Fax Machine, Secure Refrigeration area	The nurses require a PC as they have to manually update medication details in the system for all residents in the nursing unit. They will require a fax machine as if any requests for any additional medication are made, then they inform the doctors' surgery promptly using the fax machine. The nurses will also be in need of a secure refrigeration area in order to store medication.
	Senior Carers: 1 shared computer, Monitor, Mouse, Keyboard, fax machine	Senior carers in the residential and dementia unit will require a PC to manually update all medication details for all residents in the mentioned units. They will require a fax machine as if any requests for any additional medication are made, then they inform the doctors' surgery promptly using the fax machine.
	IT Technicians: A dedicated PC each, 1 Monitor each, 1 Mouse each, 1 Keyboard each	IT technicians ensure that all IT systems being used are always up and running, they also fix server issues, e.g. user account not working, and hardware issues such as a broken keyboard or monitor. They will require a PC as they can monitor the how the other PC's are being used and can resolve issues remotely from their own PC's. They also have to assign access rights to different employees, e.g. the nurses may not need access to the legal contracts that the administrators make for all new residents.
	Software requirements	

	Manager: Windows 10, Microsoft Office 2016, Skype for business, Google Chrome, Dropbox	The manager would need Microsoft Excel in order to manage budgets and prepare monthly reports. He/she may also need Microsoft PowerPoint to make presentations for meetings. Google Chrome will also be required as the manager will have to review and respond to emails.
	Deputy Manager: Windows 10, Microsoft Office 2016, Skype for business, Google Chrome, Dropbox	The deputy manager will require Microsoft Excel in order to keep track of the staff rota. They are also responsible for managing, recording and ordering all medication for the residents.
	Receptionist: Windows 10, Microsoft Office 2016, Skype for business, Google Chrome, Dropbox	The receptionist will need Microsoft Excel to manage petty cash, the residential fees and residents' personal allowances. They will need access to web browsing in order to update staff DBS registrations
	Administrators: Windows 10, Microsoft Office 2016, Skype for business, Google Chrome, Dropbox	Administrators will require Google Chrome as they may need to email the monthly invoices to the residents' families for payment and the annual residential fees information to families. They may require Microsoft Excel in order to allocate and administer the payroll
	Nurses: Windows 10, Microsoft Office 2016, Google Chrome, Dropbox	Nurses will require Microsoft Office as they will have to manually update the medication details for all the residents in the nursing unit.
	Senior Carers: Windows 10, Microsoft Office 2016, Google Chrome, Dropbox	Senior carers will require Microsoft Office as they will have to manually update the medication details for all the residents in the dementia and residential unit.
	IT Technicians: Windows 10, Microsoft Office 2016, Google Chrome, Dropbox	The IT technicians will require Google Chrome as they would need web browsing to order the best and most appropriate software and hardware for the care home's IT systems. They may also require Microsoft Office in order to keep records of all employees and potentially all residents. They will also require Dropbox as they would need a form of cloud storage in the case that a disaster occurs in which all data that

		they have on site gets lost/deleted, they would at least have up-to-date copies in another safe location.
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Activity 3

(Design an IT service delivery solution)

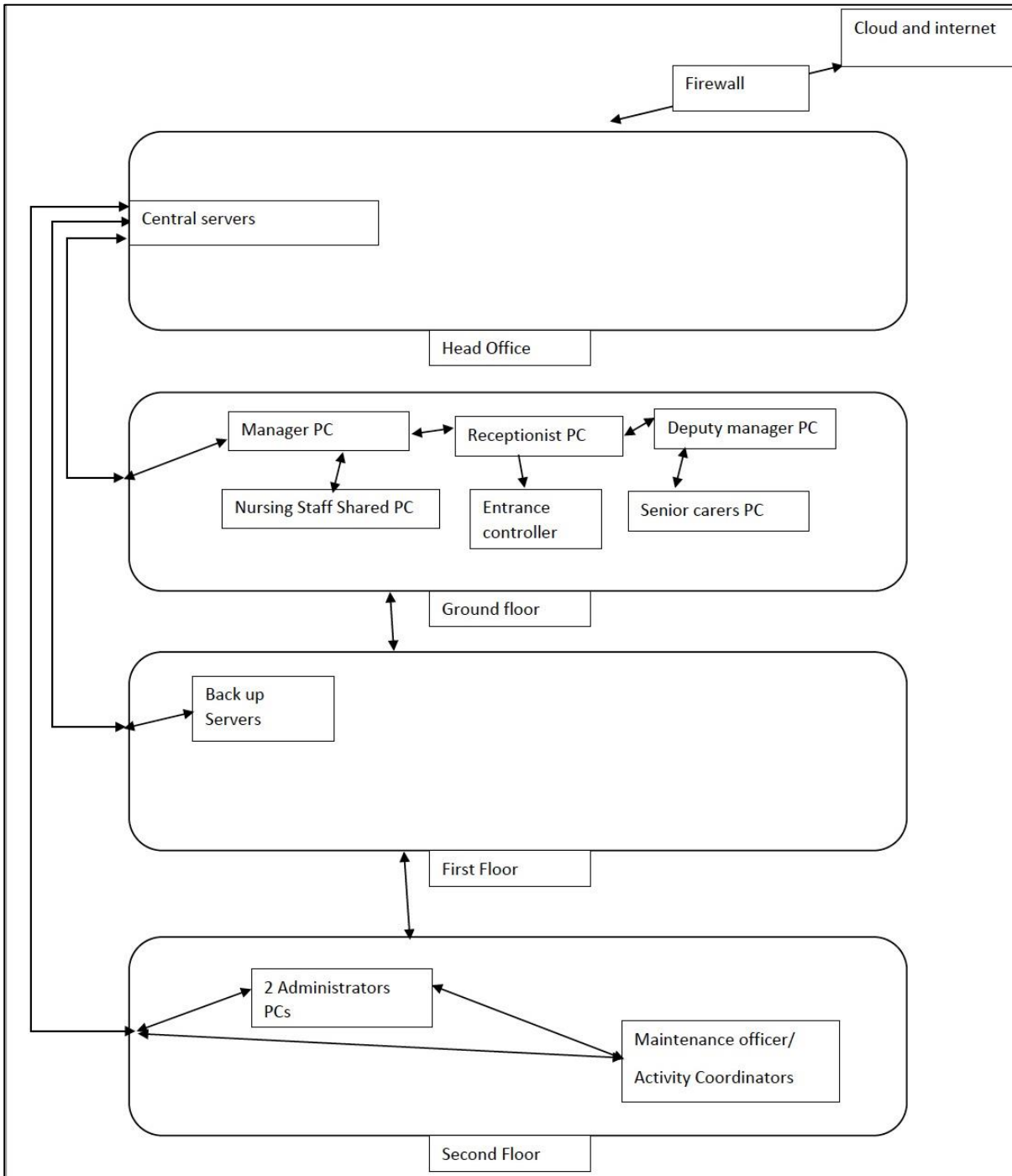
Learners are required to design an IT service delivery solution that meets the needs of the organisation, and this learner has provided limited mapping of the solution that demonstrates limited technical understanding of the solution. Learner discusses the three units in the care home rather than the systems.

An attempt has been made to include information and data requirements but the information covers basic requirements and demonstrates a limited technical understanding of how the solution works with omissions.

Although the learner has correctly identified the care home is housed on three floors, they have not indicated any software and only identified some hardware (PCs and servers). There is little understanding of how the hardware and software can be used to implement the system.

Data flow diagrams and a full infrastructure diagram could be used to illustrate requirements. The learner work would fit into Band Mark 1 (1 – 5) in the Mark Scheme.

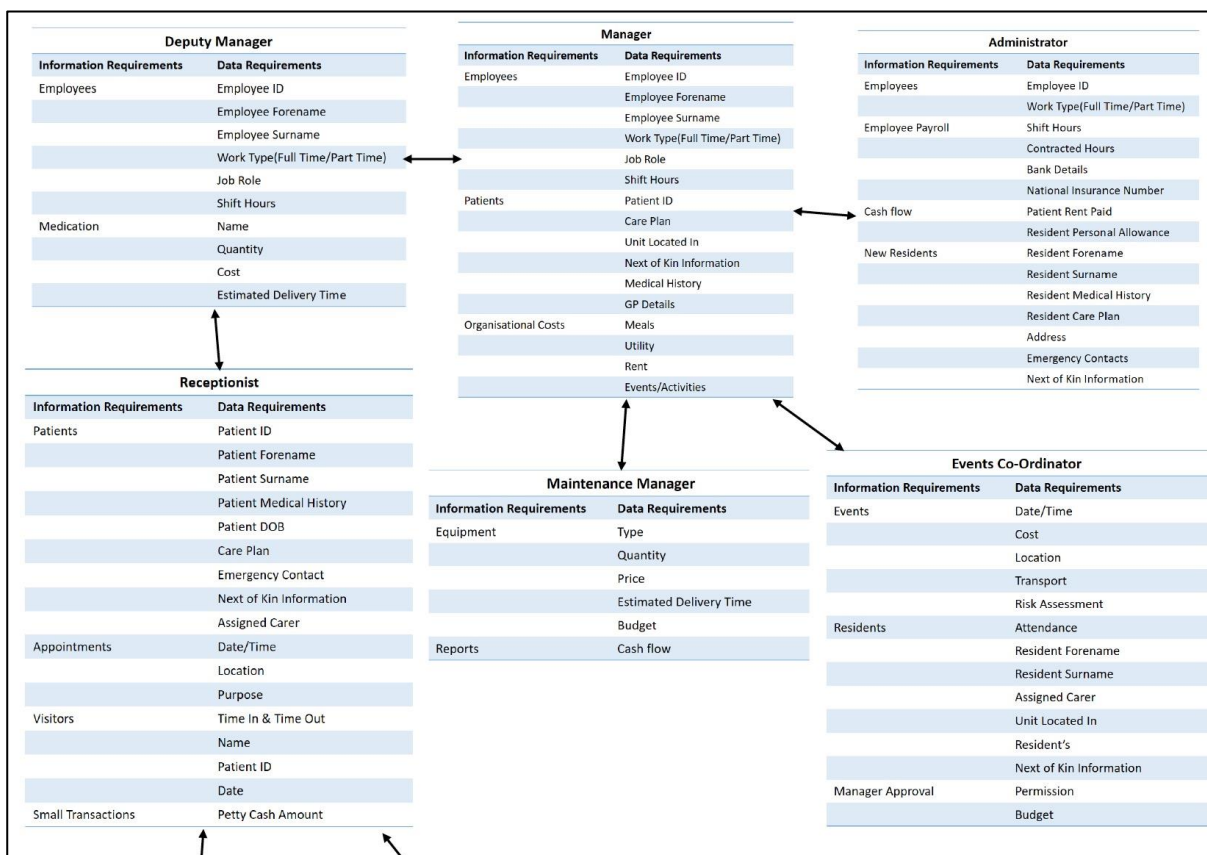
Unit Title	Data and information Requirements
<p>Nursing Unit</p>	<p>There is a large quantity of information that will be need to be taken care of and accounted for. The nurses will need to know specific personal information such as the patients name, address, age etc.</p> <p>Medical information is a vital part for the nursing unit for the simple fact that it is for nursing people. Such things as allergies and previous illnesses are necessities.</p> <p>Their health will be monitored and any fluctuations will be noted down within the memory data.</p> <p>Similar to the patients the nurses will need to make known their personal information, it will be the same as the patients with additional things like their qualifications.</p> <p>Other data required will be things like working Rota's.</p>
<p>Residential Unit</p>	<p>The residential unit will require key information about the residents such as the condition that they have, either physical, mental or both.</p> <p>Like the nursing unit both staff and client information will need to be accounted, it will likely be the same as listed above.</p> <p>The different beds that they are staying in will need to be on record so should they need to be found it is quick and efficient.</p>
<p>Dementia Unit</p>	<p>The dementia unit requires personal data for multiple reasons, first is like all the others and to understand the patients better, and also as a tool to help their memory loss.</p> <p>And of course like the previous two units the workers information is required</p>

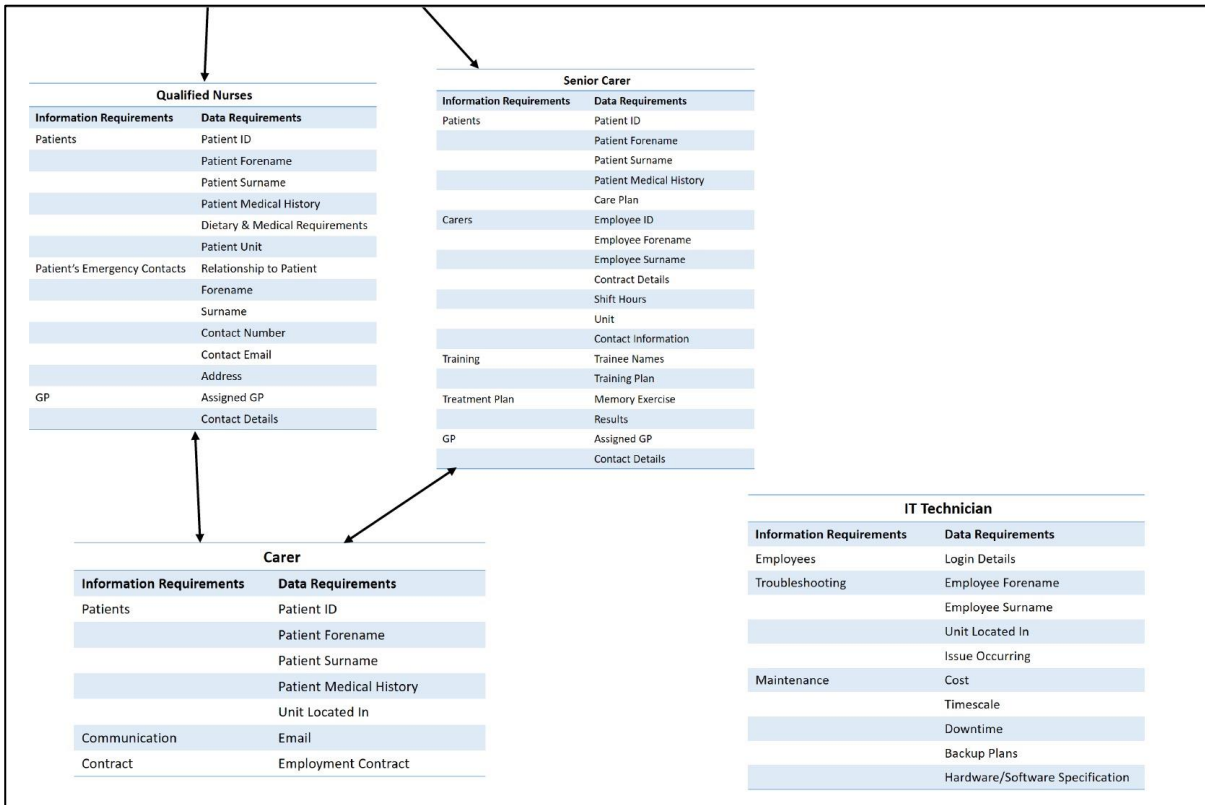


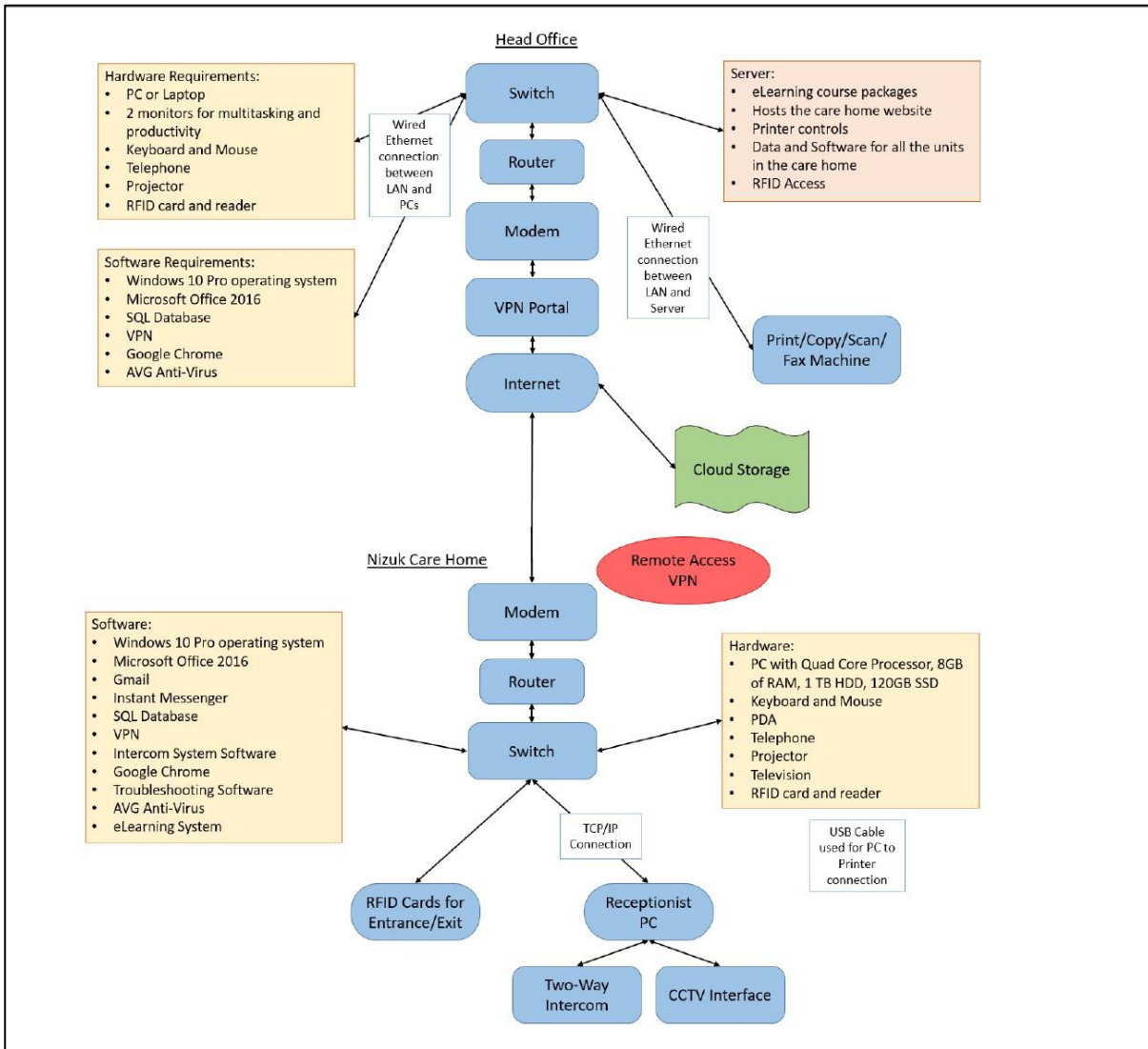
Learners are required to design an IT service delivery solution that meets the needs of the organisation, and this learner has fully mapped the IT service delivery solution for the organisation. They demonstrate accurate technical understanding of how the solution works, with minor inaccuracies (data flows).

The learner has included effective and comprehensive information and data requirements that meets the IT requirements. Learner has provided adequate coverage of how hardware and software can be used to implement the solution and support users (generalization of PCs).

Learner has shown a sound awareness of the scenario with minor inaccuracies. The learner work would fit into Band Mark 4 (16 – 20) in the Mark scheme.







Managing Infrastructure and Users

- Receptionist

Pick up telephone calls from potential clients or relatives of patients
 Provide information to all clients, such as copy of records
 Senior Carer can also assist in specialised information about medicine
 Printer can be used for client and other documents can be faxed to Senior Carers
 Booking of appointments and visits
 Writing and sending emails to head office or notifications for clients, such as upcoming events
 Processing new clients and keeping all records updated
 These data files can be backed up in the central server for organisational use

Residential Unit

- Senior Carer

Setting up activities for clients
 Overseeing all Carers on duty and assisting when needed
 Writing reports for the head office
 Manager would then look over these reports
 Organising and holding meetings with family or friends of the client to keep them updated

Dementia Unit

- Dementia Specialists

Conducting reports on patients and sharing information with Senior Carers
 Evaluating patient's condition through regular specialized memory tests

Nursing Unit

- Nurses

Create and follow specialised care plans for patients
 Files can be accessed from head office server
 Email the patient's GP for follow up information or questions
 Record any necessary information about patient's condition on PDAs, which will be saved on central server
 This data can then be reviewed by Senior Carers

- Network

Cable layout – Ethernet cables
 Router layout to allow Wi-Fi to reach all areas of the care home
 Online and physical servers
 Laptops
 Desktops
 Printers
 Smartphones
 PDA's
 Routers
 Switch
 Modem

- Users

Users are able to visit the company website in order to get contact details and any other information
 They can view the company history and services that are being provided
 Users can email any queries they might have

- Company Website

Register the domain name

Select an appropriate web hosting service

Create designs for the website banner

Hardware and software technologies that are being used

Web server and software available

Web authoring tools

Legislations:

GDPA 2018

Copyright, Designs & Patent Act

Company Misuse Act

- IT Technicians

Maintenance

Regular backup and restore procedure, saving user accounts

Finding bugs in the system

System testing, work logs

Security and threat detection

Firewall supervision, access rights, encryption methods

Maintaining physical security of computers

Activity 4

(Management report evaluating the solution)

Learners are required to evaluate the appropriateness of their IT service delivery solution for the requirements of the organisation, by reviewing requirements and making recommendations to discuss if the system recommended is effective and appropriate for the needs of the organisation. The learners should compare the recommended system to the initial organisation requirements, will it enable all staff to undertake their job roles more effectively, and are there any limitations. The evaluation report should recommend solutions to any limitations.

Learner has partially justified the appropriateness of the solution, however most of their justification is reiterating the scenario. Although the learner has omitted to identify any alternative solutions they have included a rationale that shows limited consideration of alternatives which are not sensible (backup server on first floor which is not need).

Report demonstrates limited reasoning and shows minimal awareness of the scenario.

The learner work would fit into Band Mark 1 (1 – 3) in the Mark Scheme.

My solution is a viable and effective one which will help aid the organisation with its IT systems. The solution is a simple to use and simple to implement way of successfully correcting the IT flaws of the previous system. Now from the information that I had received I made the solution that I see will work the best. The diagram of which I have made can look a bit complex initially however I will explain. One of the first things to be noticed is that the ground floor has a large amount of connected devices on it. The simple reason for this is that of the 8 PCs a total of 5 of them are on this floor. Alternatively, I could have moved some of the PC's onto a different floor that has more room, say for example floor 1. I chose against this because it would have meant moving more than just the PCs and moving the entire office, which isn't ideal. Plus, the business will work fine with the buildings layout being the same as it was previously.

As you can see there is each of the different job roles and the PCS that they are entailed to have. One that is different from the rest is the Nursing staff PC because it is shared between the staff. There was the ploy to add another PC to increase the work speed but it would have cost a considerable amount to keep up with the specifications of the rest. I decided that they would be able to cope with just the one shared computer. One other noticeable thing on the ground floor is the receptionist PC is the only one with a direct connection to the controller of the entrance. This is because, like previously, they control who enters and exits the building. Admittedly, I considered allowing that access to the manager and deputy manager yet chose against it because it is a job not needed for three people, one is plenty.

Moving on upwards to the first floor there is only one thing implemented that is of any interest is that I have said to put backup servers there. The reason I chose this is because if the servers go down or if there is a connection problem between the care home and the head office, then there is no way to get the data back, and there could be potentially unanticipated damage. However, if there is a backup server at the care home itself the data can be more safe than previously.

The second floor contains 3 PCs in total. Two for the administrators and a shared one for the Maintenance officer and Activity Coordinators. These are connected to each other and the central server as is illustrated. Other than the two PCs there isn't that much of significance there, primarily in the form of the IT systems.

Finally, in the head office the Central Servers will reside. These will connect to the internet with a firewall information. This firewall will protect the system from any damage externally, or at least

greatly lower the risk of it. The central servers are connected to everything, and they are connected to it. It is comparative to the heart of the system, allowing it to work well.

Learner has provided a developed and convincing justification of the appropriateness of the solution and has outlined appropriate alternatives for a range of aspects. Valid and supported rationales have been provided for alternatives discussed, and the report demonstrates coherent and logical chains of reasoning, that show a full awareness of the scenario. The learner work would fit into Band Mark 4 (10 – 12) in the Mark Scheme.

I have set in place multiple solutions for multiple problems in the care home. I will go over these choices and state why I believe my choice is better than the alternative. Firstly, I chose to put cameras on the premises instead of hiring some guards to work through the night and partially through the day. I think this would be a very overkill solution and would only complicate how we run things at the care home. Not only would this cost more money than simply installing cameras but it could also be potentially very frightening for our residents, and this is honestly the largest factor behind my decision. I will admit that the cameras will take up quite a large amount of storage space because of them running 24/7. However we have tried to combat this by only allowing the cameras to record at 720p. We also have methods of compression at the head office that will further negate this issue. Another Solution I have heard talk about was to simply reinforce the windows and doors with metal bars or just stronger glass. Both of these would work yes but the stronger glass would be very expensive and we simply don't have the funds to invest in such a thing. And the metal bars bring up the same issue as the guards, they would intimidate residents and scare off new comers. And we cannot afford that to happen.

The next debatable choice I have made was the choice to choose cat6 as our networking cable. I fully believe this decision makes perfect sense in the context of the care home. Yes, fibre optic would be vastly better, but most of the functions that our online devices are performing are very minimal on internet consumption. It would be very overkill for us to have such an expensive set-up for very little reason. Plus, most of the data we need to retrieve from the main office we get via VPN not cabling. A cheaper solution would have been a cat5 or older model cable which I do believe would also work. But I think the newer cat6 will allow to keep topped up for the future where we may need quicker speeds than what cat5 can offer. In the future however, we may be forced to update to fibre optic or Ethernet which I would then totally understand and by that point both alternatives will be much cheaper when this occurs.

Another issue to be brought to my attention would be with the care home managers desktop PC. People believe I have gone overkill with the specs of this computer. And in this case I agree. But I think it would save us future headaches if the manager was able to perform his duties with as little issue as possible for as long as possible. The alternative to this would be to give him lower specs such as an i5 and only 4 gigs of RAM. And this would mainly still allow the manager to perform his job quite well, the RAM would cause quite a large issue when he is working with AutoCAD. 4 gigs simply would slow down this software significantly and would drop the managers work rate a decent margin when using this software.

As I stated in my task 3 under the senior care staffs data requirements. I said that she would have the password to the medication storage closet, and this has been widely discussed. I have heard concerns over this closet simply being locked behind a password. However I think this is the perfect way to set up security. Biometrics would simply be too expensive at this point in time and could potentially be quite irritating for maintenance because our IT technicians have little to no experience with this kind of tech. However, when the alternatives are cheaper, we will gladly invest into this technology. Also, to further back up the security of a password, we have protocols set in place to replace the password every week. The document with the password in it is sent to the senior care

staff from the deputy manager. And this document automatically deletes itself after 2 hours. This makes sure no one other than the senior care staff are able to have this password at any one time.

Another issue that has been talked about is the VPN we will be using to access the main offices servers. Some people believe this is Insafe and we should just have a wired set up instead. And yes while this could be considered safer than a VPN, it would be insanely expensive seen as the main office isn't located very close the care home at all. So the VPN will be cheap, debatably safer and would require no maintenance since we rent out this VPN from a trusted third party. I would like to further dismantle the arguments that VPN's are unsafe by saying the ones we rent are ran using end to end encryption. This means it's still relatively easy for hackers to grab this data, but it means that the data will be heavily encrypted meaning it will be virtually impossible for the hackers to get anything out of what they just stole.

And the final query that has been raised been raised a few times has been how the nursing staff and senior care staff have to share their computers with each other. The alternative would be to give each one of these employees a personally computer to work with. This would mean 6 computers for the nurses and the same amount for the senior care. Not only is this unnecessary but these employees offices simply wouldn't fit this many PC's as well as everything else they work with. And to back up my point further for them having shared devices. All nurses and senior care staff use the same account anyway. No one has personal accounts expect the managers. This allows the nurses and carers to keep every bit of work stored neatly and together instead of spread out over multiple accounts. The lower amount of PC's also means less work load for the IT technicians and this allows them to work on my important things than just checking if the software is loading properly. And with the nurses this set up especially makes sense seen as how the nurses only have 2 on duty at a time. The senior care staff do have 4 on at a time, but all of them needing the PC for use almost never happens. And when it does a staff are intelligent enough to know how to quickly get what they need and leave as to increase work flow.

Activity 5

(IT service delivery implications report)

Learners are required to analyse the implications of managing IT service delivery for the requirements of the organisation, by considering how the implications will affect the organisation.

The report demonstrates limited reasoning that shows minimal awareness of the implications for the organisation; the learner has discussed the changes rather than any implications. The learner work would fit into Band Mark 1 (1 – 4) in the Mark Scheme.

Implementing your solution and delivering the organisation's services and products

Spate server:

In Nizuk Care, I would recommend to have a public server for the clients and some staff and a spate server where confidential files are located. As for the spate server, it will be safer because other people who have intention to attack or steal data will no longer be able to achieve the job. I suggest to have the spate server into a secured room which no one can access expect for the It technician and the public server into a different secure room with the same protection method for both and to access and enter is with a biometric scanner, by scanning the card and with touch ID. Having two different servers in the head office can be more beneficial than having one because someone may access the cloud and find confidential information and steal it or delete, with this implementation they will be unable to do the same thing because the files will not be as important.

Back-ups:

Back-ups are important and they can be used when the server is full or in case attacked. Moving all the data into a different server by backing up the data into the cloud. This is the safest thing to do to receive all of the public data and confidential data.

Telecommunication:

Telecommunication may not seem to be a big deal but there is always someone listening and Nizuk care home should not risk this by sharing confidential information over the telephone. The IT technicians should plan to create private live chats for the staff and no one can see the data including the IT technicians. This will be the best way for the manager to share private information in the live chat without worrying about a person spying over the line.

Managing and supporting staff

Staff members such as the receptionist may spend many hours looking at the monitor which causes constraints in the eyes and will give a permanent damage and the receptionist will no longer be able to see further distances than before and this is considered as a part of the health and safety act. Light filter screens are made to prevent injuries to the eyes. It is an accessory for computer screens and placed onto the screen to avoid further damage and the receptionist can work

for long hours with no problems or extra breaks.

The deputy manager will need personal details to make the staff members a timetable for work. However, the passed personal information to the deputy manager cannot be passed to anyone since it's a part of the GDPR act.

Managing and supporting the organisation's clients

Public WI-FI:

WI-FI for the clients is important because some of the customers may need to have an internet but they do not have and the best thing to do is providing the client a WI-FI connection to make calls or personal use.

GDPR:

As a client, I would expect my personal or private information to be private and not to be given to anyone unless I give my consent. This is known by the law and it is one of the legislations. Also, if the agreement is not met and the information has been exposed, I find this as a security issue and not trusting to give any information to the Nizuk care Home. And in order to support the client, Nizuk care home need to strictly enforce the security and this will have a big impact towards the staff because they will try to make sure their work is always sensible.

Computer misuse act:

Computer misuse act is how the user uses the computer for the wrong intention. As for the staff members who have a higher access than the clients have the ability to take an advantage of the client by accessing his files which is considered private for the client. And in order to support the client, there should be a monitored, recorded or a log for everyone while using the computer.

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Managing the organisation's IT assets

As for everything that I have mentioned for the devices, hardware, and software. It will give Nizuk Care Home a huge advantage and they will save enormous amount of money, even Nizuk Care Home will gain more customers than before. And with the saved money they can have enough money to spend on resources and pass the expected limit that they planned not to pass because they will make more profit. As for the integrated parts that I have mentioned will save Nizuk Care Home a lot of money because the computers come with integrated devices rather than buying the devices separately and wasting so much money.

Ability to respond to changes in the aims of the organisation, and the products and services it provides

If the changes that I requested has been granted then Nizuk Care Home will be in top of the chart compared to other companies because more clients will start to join in and take a part in the company. As for the products and services, they have a big deal and every product that I provided has a big factor and cannot be avoided. All of these request may need a lot of money to spend on but it would attract more and more people to join. As for the staff, the receptionist can work for longer hours, over time since the light filter screen will help the receptionist be at full speed at work and the work of the receptionist will be more effective since it does not cause eye strain.

The implications report demonstrates appropriate consideration of the implications of the solution, giving an understanding of the organisation's capacity to respond to

change. The report demonstrates logical chains of reasoning that shows an awareness of the implications for the organisation. The learner work would fit into Band Mark 3 (9 – 12) in the Mark Scheme.

Implementing your solution and delivering the organisation's services and products
<p>The implementation of my designed IT service delivery solution should be a task that does not take much time for full scale implementation and deployment. This is due to the wide use of portable devices opposed to the possibility of using a large volume of stationary computer systems. The solution I have proposed would be very successful in delivering the care homes IT service and product needs. The implementation of CCTV recording systems means that the security of the care home is maintained by having a constant timestamped visual record throughout the care home. Portable devices that can be used on the go to quickly access applications and data from the Head Office helps the care home by delivering access to data and applications whilst also remaining mobile. Staff are not restricted to the use of stationary desktop computers. The implementation of wireless access points means that the portable device are able to communicate with the head office and perform more functions such as medical records access which is tending the care homes requirements of service. Dedicated desktop computer systems for staff such as the manager that has multiple displays to allow the manager to perform required tasks of scheduling meetings, responding to emails and overseeing the running of the care home. My solution is successful in delivering the care home its required services and products to assist with the care, health and welfare of the residents they are caring for.</p> <p>There may be a drawback to the implementation of my IT solution however. The implementation of the solution could mean that there is down time for certain systems and assets such as the wireless access point of the care home. If changes are being made to the wireless access point or a related component such as the router, All services that are provided wirelessly such as cloud applications and data would become unavailable due to the connection of devices to the Head Office servers being interrupted by implementation or maintenance of the wireless access point or router. Changes to the configuration of the VPN software may also cause connection issues and delays in data access as these changes would have to be communicated to the care home and the login required for VPN access may have to be changed on all devices. This also has legal implications as the health of the residents must still be maintained even if data or applications are unavailable due to down time.</p>

Managing and supporting staff

The implementation of my IT service delivery solution is successful in supporting and managing staff due to the ease of use of the hardware solution. The implementation of portable hardware such as iPads is helpful in supporting staff due to the ease of use of the device. The touch display is easy to use and understand. Staff are easily supported by the availability of IT Technicians that are able to come on-site and assist staff with the use of devices and services. Staff are able to send IT Support tickets to the Head Office as well as contact the Head Office directly via phone call to receive support regarding the services and assets provided by the Head Office.

Due to the applications being provided to devices remotely by the Head Office, application requests from staff can be managed externally and customised applications as well as new applications upon request can be added to the devices and configured to properly support staff in the care home environment. Staff can be more easily managed by the way the devices will be configured. Devices such as Tablets and desktop computers will be configured to use applications and data hosted by the Head Office in Cardiff. Devices utilizing applications and data in this way also means that staff can be managed remotely from the Head Office to support and manage them.

To assist staff with the use of computer systems and the provided software, well known software packages such as Microsoft Office should be deployed on devices rather than less common software packages. This will help staff to be able to use spreadsheet and document software as it is well known and commonly used in many organisations and in homes. This also makes training of staff who do not know how to use office applications as the commonality of the software means that IT can directly train or find someone to help train staff into the use of the software package.

Another factor to consider when supporting staff is making sure that GDPR regulations are followed exactly with no exceptions involving private data. This could be achieved by making protocols such as scheduled password changes a requirement to use the computer systems in the care home and the services provided by the Head Office. By scheduling password changes for all user accounts, the chances of the password being guessed is decreased and if a password was exposed without knowledge, the password would eventually be changed making any exposed login details useless and invalid.

User accounts with specified permissions could be created that have been configured to include applications and services that the user requires. Administrator restrictions such as group policies should be put in place for user accounts that prevent staff from being able to delete files without permission and access off-limit files that may be dedicated to another unit within the care home. This supports staff in not making mistakes and keeps data from being accessed without permission or removed.

Managing and supporting the organisation's clients
<p>The implementation of the IT solution helps to manage and support residents in a variety of ways. The implementation of portable devices for nurses and carers has meant that medical records can be checked and verified on the go which means the administration of medical supplies to residents is quicker and accurate. This also means that if required, the care home is able to update the digital medical records from the portable devices available instantly rather than have to write up physical documentation and post the documentation which takes time to be updated.</p> <p>Information regarding the medication of a resident is also available more quickly with up to date information so the resident as well as the nurses and carers can be more informed on illnesses and the medication to help treat such illnesses. Information of special needs can also be obtained more quickly from specialists using the internet for research and emails rather than waiting on the delivery of physical documentation.</p>
Managing the organisation's IT assets
<p>The IT assets of the care home can be remotely managed by the Head Office. The Head Office can make configuration modifications to the devices located in the care home either by server settings in the office or by sending out IT Technicians on-site to manage the IT assets of the care home. The IT Technicians can help diagnose issues with the IT assets of the care home and attempt to repair, fix and manage issues with the services and assets. The Head Office is able to manage the available applications to the carer home remotely by changing what application are and are not allowed to be used in the care home. This also includes customised settings and configurations to the applications to make the applications more appropriate and better suited to the care home and their required tasks. The Head Office can also make changes to the available data on its servers and what data is available for the care home to be able to access.</p> <p>Managing things such as software updates is important for the computer systems of the care home as the updates improve stability and security of the operating system. Software such as Software Updates should be managed in a way so that interruption to the care homes functionality should be minimal. This could be achieved by having scheduled software update times and communicating with the care home when the best time for such schedules to take place. Scheduling should also be used for IT assets as well as software updates. If not urgently required, maintenance and modifications to hardware should be arranged and scheduled with the care home to minimise the impact of computers, systems and other services being unavailable due to the modifications and maintenance.</p>

The IT service delivery solution has the ability to respond to changes in the aims of the organisation. The IT solution is adaptable to required changes that the care home may experience or require by request. For instance, data that is accessed from the care home is stored in the Head Office on servers. The storage space available to the care home may need to be upgraded or decreased in order to meet the aims and requirements of the care home. This is possible as cloud storage space is scalable and allows the available size to an organisation to be modified by scaling up or down the allowed cloud storage space.

Portable devices can also be reconfigured to perform other tasks than they were originally configured to do for the care home. If the aim of certain devices has changed, then the devices can be made to fulfil those new aims which means money is saved by not having to purchase new devices and making the owned portable devices wasted by not being able to repurpose them. This is also possible with the dedicated desktop computers as they too can be configured to meet different aims and goals to what they were originally purposed to do. This means the managers dedicated computer used to oversee the operation of the care home can be repurposed as a medical storage recording computer system for the nurses and carers if it was a required change.

User accounts that are used for staff can also be reconfigured to allow staff to perform new or extended aims. If the user accounts require access to a specific area or service, the group policies managed by the Head Office can be modified to allow access to these new services depending on their appropriateness to the desired aim of the care home. If staff require access to higher level files and network areas, this can also be arranged with restrictions that prevent staff from making mistakes or causing issues on the staff area on computer systems.

Summary

Based on performance on this paper learners should:

- Ensure they cover all aspects of the scenario, such as care home personnel, to enable them achieve marks in the higher mark band ranges.
- Apply knowledge and understanding to a variety of sectors. The paper will always contain the same five activities with just a different sector.
- Learners should be encouraged to practice writing evaluative reports for other areas of study.
- Learners should develop a better understanding of 'implications' to ensure they do produce an evaluation instead.

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