

Case scenario essay

[Business](#), [Industries](#)



Case Scenario You have recently been appointed as Corporate Information Management for Justafye Industries a large service based organisation in a major metropolitan area.

Justafye Industries has been operating for over 20 years and currently has a staff of 375. Most of their systems are highly technologically efficient. Until your appointment individual staff was responsible for maintaining organizational records of their own activities and no centralized guidelines existed for managing information. All staff were cautioned to ‘ keep everything for three years – just in case it may be needed – then destroy – and make sure you have a hard copy’. All space within the building occupied by Justafye is currently occupied with the exception of a small area in the basement which has flooded on a number of occasions in recent years.

Understandably you have much work to do in bringing some order into the information stored by Justafye Industries and in convincing staff of the need to improve systems for records/information management. You are required to prepare a report comprising approximately 3500 words for the Board of Directors of Justafye Industries explaining the changes you believe should be made to the records/information division and its systems and making specific recommendations for bringing about such change as soon as possible.

Essay The scenario that has been presented above represents a case where technology is being given limited use and hence the computers that have been installed in different departments of Justafye Industries has been made an isolated unit with sole purpose being storing data despite the fact that this device can have more than thousand different usages. The under use of the device have clearly shown that the Company as a whole which includes

its staff and the Board of Directors have very limited knowledge of computer and IT.

Hence before installing a new data storage and retrieval system, the need of the hour is to provide IT literacy to the various units of the company. The paper begins with the communication, tools of communication, computers and its usage as tool for implementing communication system and what changes it has actually brought to the world. Introduction This world has got a huge physical presence. The different habitats were inaccessible due to natural gap of distance with problems supplemented by water bodies. All these led to isolation of mankind.

Later on it's the industrial revolution which helped Europeans to find something other than Asia, Europe and Africa. They discovered America and Australia. Different modes of transportation made travelling easy and the gap between the places are now diminishing. The communication technology made this gap reduced to a phone call. But in the last century, this physical world saw the creation of another world on this world itself.

It is none other than the virtual world also called as Cyber World. This is an electronically generated world getting into existence with the help of computers connected to each other through suitable wires. Now words like cybercafé, cyber chat, cyberspace, cyber shopping, etc. have started making rounds. People can send electronic mails to far off places within seconds.

Details and information are getting transferred within few seconds. People in Shanghai and New York are just seconds away. Transferring data in

electronic form is actually the fastest way to transfer things. This sort of transfer has now been called as transmission. There are virtual shopping malls with websites offering you a range of products ranging from computer peripherals to groceries. Companies are now providing details of their product through their website and are accepting customers' requests of information and now even orders for products are being accepted. Everything is available.

Money transfer can easily be done through wire transfer techniques. The world in virtual form doesn't believe in distance. Everything can be achieved within minutes if not seconds. People do not wait.

This world is not ruled by armed soldiers or any nuclear weapon. It's the information which rules. The physical world just has to react on the outcome.

Its role is just for receiving and sending. This high performing virtual world has made significant change in the performance of the actual world (Tanenbaum, 2003). Things in real world are now easier to comprehend. Outsourcing has helped in accessing low cost labor in far off Asian nations like India and China. Multinational companies like Microsoft, IBM, GM., GE etc.

have offices in almost in each part of the world with performance of each of these units can be monitored from any of its offices. Their offices have been networked through LANs i. e., Local Area Network and WANs i. e.

, Wide Area Network. They have virtually made themselves available to their customers any time anywhere and just a click away (Tanenbaum, 2003).

Computer in a NetworkA Computer Network can be defined in a very simple way as a network of computers (Princeton). But giving full importance to all factors getting into act when we talk about network, the definition which actually makes complete sense is none other than the two or more computers connected together to share hardware, software and data and has been implemented according to some topology (Tanenbaum, 2003). The network can have all peripherals located within an office or building. This arrangement is often termed as Local Area Network or LAN (Tech, 2006). If the same is achieved in a wide area i. e.

, computers connected to the network are located at places as diverse as countries in different continents, we can call the same as Wide Area Network or WAN (Cisco, 2006). Calling all computers and other intelligent parts of it as nodes, the term network topology can be defined as patterns of links connecting a pair of nodes of a network. Topologies are generally meant for making LANs. WANs are just a network with lots of LANs within its large structure (Cisco, 2006). Different topologies define different LANs.

A LAN is distinguished by three characteristics: its size, transmission technology, and its topology (Tech, 2006). The two types of transmission technology that are in widespread use are the broadcast links and point-to-point links. The Broadcast technology has a single communication channel with all machines sharing it (Tanenbaum, 2003). Messages in form of packets are received by all those connected in the network but are accepted only by the machine for which the message was intended.

It's just like calling a person by name at a crowded place. Though everyone listens but the person who reacts is the one whose name has called. But the point-to-point network comprises of connections between individual pairs of machines. The message packet has to travel many intermediate machines before reaching its destination (Tanenbaum, 2003). So in a smaller geographic area, broadcasting technology is used while point-to-point is used in larger network.

So LANs are mostly broadcasting but WANs are established through point-to-point connection between different LANs while considering a LAN as a single node in its wide spread span. Starting with LAN and topologies associated to it, we can have computers connected according to ring topology, star topology, and bus topology (Physinfo, 2006) Ring Topology with peripherals connected in form of ring. Star topology with all personal computers connected through a device which is also a computer and is named as switch. Bus topology with all devices including printer and scanner connected through a Router. The purpose of router is to establish way for connecting other networks.

Peer-to-peer network architecture is the simplest form of LAN network with equal responsibilities being shared by participating computers. But in case of client-server model, there is one computer with the purpose of serving rest of the participating computers (Tanenbaum, 2003). Computers as peers are connected to each other through a hub which is just a connector. Computers connected to a local server with server managing information exchange between the participating computers or workstations. Topology to be

implemented in establishing network within Justafye Industries. The topology which has to be implemented to network the different offices of Justafye Industries will be a hybrid architecture yet very simple to implement and understand. Concentrating on everything present in the building where various departments and offices are located. A peer-to-peer architecture will be most suitable for the process of enabling a network in various sections. The word section here refers to different departments of Justafye Industries within the same building.

A simple peer-to-peer network is implemented in such way that all peripherals of the department get connected. Once this sort of network gets established in each department then the hub or switch of each of these departments is connected to a LAN server. This local network server serves all PCs of the network (Tanenbaum, 2003). The main issue which will enable people in Justafye is the sharing of resources and how can the employees manage to have round the clock access to the company main server. Looking into the similar needs of different people present in Justafye, it is very much clear what ever changes that is to be proposed in form of a new network system should provide complete solution to the information or data handling as well as optimum use of the given resources. The Justafye people have no idea of using this developed form of network system as another medium to communicate within the company as well as with their current and future collaborators. The current requirement in Justafye is to develop a centralized data storage system as well integrating itself with the outer world.

The active use of WWW and the power of online marketing can make it not just a major local player but also a global one. The efficient network technology can help it in acquiring not just new customers but also new places to acquire. The network architecture will appear very much like the diagram shown above.

The server will be used to cater the need of each of the department's local network. So the current business environment demands efficient use of IT in maintaining transparency within the company and at the same time active use of WWW in getting into new markets and opportunities. The system which has been proposed will help the Justafye in maximum possible use of network by making everything available at all PCs connected to the network and at the same time gives option of accessing the same through WWW to have remote access. With company's website, new people will come to know about Justafye and at the same time the expected collaborators will also be made aware of the importance Jusatafye gives to latest technology including IT. Security in the network can be maintained through the authentication system.

Any access to the network or server will require approval from the firewall. Firewall is basically a system which checks the access right of the user. The access rights are assigned by the system administrator and the firewall compares the access right of the client intending to get into the network with the list or database already provided to it by the administrator. This technology makes the network secure and also gives option to authorized users to access the network through proper channel at either end of the

network. The Internet and World Wide WebThe Internet is a distributed network system. The main feature of this system is that though it is a network and a collection of wired computers with the clients being independent computers. But still the whole system appears as a single coherent system. And the concept of World Wide Web is that the whole information and data it possesses has been made public in form of document.

Things can be accessed through a website. The website is being connected through servers with the purpose of reciprocating according to the need of user or client. A web page can be active as well as passive. Passive web pages just contain information while the active ones are interactive. Web pages like that of e-mail service providers are active. It gives option of login and then accessing data that may inform of file and mails.

The same WWW can be used for remote access. The server which is for the purpose of serving the local networks of Justafye will be able to serve through company's website. A web server will be carved of the same and will be registered as global server. A domain name will be registered through entitled authorities. A global IP or address will be assigned so as make the server accessible any publicly available network and computer. The website will be of great help to sales executive who can get information of new prices and at the same time update the head office of all details of sales and maintenance. Similarly even customers can access company's website to get information of the product and at the same time can place orders. Providing

internet facility to the PCs present in the network is to be achieved through sharing the net connection.

The LAN server will serve the requests made by clients or work stations.

Request for a particular website can be forwarded to the external network by server and if the server receives the acknowledgement and data from the external network for the computer which has asked for the same then the server broadcasts this message packet with the address of the PC which had actually made the request. Once the packet is received by the client, it will get displayed on the monitor. To internettwo way trafficTo internalLANTo

internalLANTo internalLANThe Centralized Data Base management

TechnologyThe database technology implementation will solve all problems of file access. The management system will take care of all access right and processes like updating details and different access rights mainly of read and write. The implementation will require a back end and a front end. Back end will be responsible of storing data and all information like access rights and users both permanent and temporary. Accessing a back end will require a front end.

Designing of front end can be done in technologies like ASP DOT Net and J2EE. For the purpose of back end support, products from Oracle Corporation will be very useful. The back end should be installed on the server and the front end should be on every PC present in the network. The back end should also support requests made through website i. e.

, http protocol (Garretdimon, 2006). Implementing network system: The hardwareAll wired connection has to done through copper CAT5e or CAT6

cables. This type of cables has got approval from Telecommunications Industry Association and ISO. The CAT5 or category 5 cable is a 4-pair high performance cable consisting of twisted pair conductors. CAT5e is an enhanced CAT5 cable with performance meeting the speed of 100Mbps i. e., 100 mega bits per second.

CAT6 cables have a bandwidth of 200 MHz and can support Gigabit Ethernet transmission using 2 pairs (Gardiner, 2005). Other option is the use of Fiber Cable. They are available in three types with data networking being 50/125mm multimode fiber, 62.5/125mm multimode fiber and 9/125mm single mode fiber respectively (Cisco, 1997). The numbers 50mm, 62.5 mm and 9 mm refers to the diameter of the glass core in which the light travels while the number 125mm is for the diameter of the glass outer cladding (Gardiner, 2005). Comparing the costs of copper cables and fiber cables, it will be very much clear that the copper cable costs half of the cost of fiber. Since CAT6 cables are industry standards so going for fiber cables is of no use (Gardiner, 2005).

The PCs that are present in administrator's cabin and sales can be used in implementing the new network. The company will have to buy licenses of Windows XP or Windows NT for fulfilling the operating system requirement from Microsoft Corporation and at least Oracle 9i from Oracle Corporation. The hardware should have at least Pentium III processors and hard drive of at least 20 GB. A standard server with high random access memory and several fire wire ports and have Redundant Array of Inexpensive Disks or RAID hard drives. Once the network gets established, a new department may

be named as “ Network Department” should be carved out and all matters related to maintenance, installation and replacement should come under this one. A network administrator with at least two assistants should always be present to check out the performance of the network.

There had been cases that the computer present in Administrator’s cabin is not reliable because of software mishandling issues, so the authority of installation and all other software and hardware issues should now be addressed by the network department. The room of this department should have proper security features so that no rogue element should make an attempt to cause any harm to the network. The main servers are going to be installed in this room only and the room can be called as server room. The connectivity issues

The bandwidth is the amount of data that can be transmitted in a fixed amount of time (Webopedia, 2006). For local network, LAN cards and cables used will provide proper bandwidth and will be sufficiently high. But for VPN, the high speed infrastructure integrated VPN supplied by Cisco Systems can be installed. It can deliver up to 1.

9 Gbps speed with data security through 3DES encryption technique (Cisco, 2001). Conclusion

The network is very useful system with purpose being data sharing, resource sharing and communication purpose. It can make far off places accessible as if it’s just in the next block or location. Physical distance has become immaterial. The technology over which it is being implemented is very simple with cost being recovered with great improvement in over all performance of the firm. The company can be managed from any location of the branch with detail being regularly updated.

The world has now become a very small place with message transfer taking just few seconds. It has made the companies as near as our desktop with everything from house hold items to banking services being provided online. ReferencesPrinceton. <http://wordnet.princeton.edu/perl/webwn>Tanenbaum, A. S.

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