System Administration Consultation

1. Learning Goals:

1. Use the systems administration concepts you learned in the course to provide technical improvements to current processes.
2. Implement solutions based on an organization's restrictions, like financial resources, number of users, etc.

Overview: You'll take what you learned in the System Administration and IT Infrastructure Services course and apply that knowledge to real-world situations.

Assignment: For this writing project, you'll be presented with three scenarios for different companies. You'll be doing the system administration for each company's IT infrastructure. For each scenario, present improvements to processes based on the company's needs and current restrictions. There's no right or wrong answer to your consultation, but your responses should explain the problem, the improvement, and the rationale behind them. Please write a 200-400 word process review for each company presented to you.

Scenario 1:

You're doing systems administration work for Network Funtime Company. Evaluate their current IT infrastructure needs and limitations, then provide at least five process improvements and the rationale behind those improvements. Write a 200-400 word process review for this consultation. Remember, there's no right or wrong answer, but make sure to provide your reasoning.

Software Company:

Network Funtime Company is a small company that builds open-source software. The company is made up of software engineers, a few designers, one person in Human Resources (HR), and a small sales team. Altogether, there are 100 employees. They recently hired you as a system administrator to come in and become their IT department.

When a new person is hired, the HR person purchases a laptop for them to do their work on. The HR representative is unfamiliar with what type of hardware is out there; if a new employee requests a laptop, the HR person will purchase the cheapest option for a laptop online. Because of this, almost everyone has a different laptop model. The company doesn't have too much revenue to spend, so they don't order laptops until someone gets hired at the company. This leads to a few days of waiting time from when someone starts to when they can actually work on a laptop.

The company doesn't label their computers with anything, so if a computer is missing or stolen, there's no way to audit it. There's no inventory system to keep track of what's currently in the fleet.

Once a computer is purchased, the HR person hands it to the new employee to set up. Software engineers that use Linux have to find a USB drive and add their preferred distribution to the laptop. Anytime someone needs something from HR -- whether it's office related or tech related -- they email the HR representative directly.

When a new employee gets a machine, they're given logins to use cloud services. They get a personal orientation with HR to make sure they can login. This requires the HR person to block off a few hours for every new employee. If an employee forgets the login to their machine, they have no way to retrieve a password, and they have to reimagine their machine. Employees don't have a strict password requirement to set for their computers.

The company currently has many of their services in the cloud, such as email, word processors, spreadsheet applications, etc. They also use the application, Slack, for instant communication.

My Answer:

The Network Funtime Company could use a lot of assistance managing their infrastructure.

First, HR's decision to purchase the cheapest laptop online for new employees without being familiar with their types of hardware is never a good idea. This could probably help save on revenue but lead to a loss in productivity and delays in work, especially for the new employees. All employees need a company laptop that suits their needs and specifications to be productive at work. I think having an improved

budget organization would allow the business to spend money more wisely on high-quality technology like computers, printers, and networking tools, which would increase income. Setting a value for each item to spend depending on employee levels within the company is one approach. For instance, officials in the company's hierarchy, such as the CEO, VP, and others, should be given laptops from the premium range. The second team, which includes software engineers, designers, and HR, should receive mid-tier laptops. Everyone else, including the small sales staff and newbies to the company, should obtain budget laptops as long as they fulfill the demands and requirements of both the employee and the employer. Additionally, the company could benefit from keeping one or two extra laptops on hand for unexpected situations.

Second, The company doesn't label their computers with anything. In the event that a corporate computer is damaged or lost, all computers must be inventoried, tagged, and recorded. The fleet-wide tracking of all computers is therefore possible.

Third, new employees don't have anyone to set up their computers when they are purchased. Instead, HR just hands the computer to the employee for setup. This can also lead to delays in time for the employee to do their work, especially if they have no idea how to set it up within the company. To reduce time and assist with computer setup, it is advisable to employ a technical support staff member.

Last, when a new employee gets a machine, they're given logins to use cloud services. If an employee forgets their login credentials for their machine, they have no way to retrieve a password. Also, employees don't have a strict password requirement to set for their computers. It's OK for the business's file services to be hosted on the cloud. However, because there is little to no security, they must be concerned about

hackers gaining access to their crucial company files. Installing a domain controller, like Microsoft's Active Directory, which is a server used for user authentication inside a domain, and a centralized management service, like OpenLDAP, which controls computers that are linked to the company's server, would be a solution. In the event of a data breach, this enables the business to manage user account credentials as well as read, create, update, or remove data on the server.

Scenario 2:

You're doing systems administration work for W.D. Widgets. Evaluate their current IT infrastructure needs and limitations, then provide at least five process improvements and rationale behind those improvements. Please write a 200-400 word process review for this consultation. Remember, there's no right or wrong answer, but make sure to provide your reasoning.

Sales Company:

W.D. Widgets is a small company that sells widgets. They're mostly made up of salespeople who work with lots of clients. You've taken over as the sole IT person for this company of 80-100 people.

When HR tells you to provision a machine for a new employee, you order the hardware directly from a business vendor. You keep one or two machines in stock, in case of emergency. The users receive a username that you generate for them. You then give them an orientation on how to login when they start. You currently manage all of your machines using Windows Active Directory.

The company uses only Windows computers. When a new computer is provisioned, you have to manually install lots of sales-specific applications onto every machine. This takes a few hours of your time for each machine. When someone has an IT-related request, they email you directly to ask for help.

Almost all software is kept in-house, meaning that you're responsible for the email server, local machine software, and instant messenger. None of the company's services are kept on the cloud.

Customer data is stored on a single file server. When a new salesperson starts, you also map this file server onto their local machine, so that they can access it like a directory. Whoever creates a folder on this server owns that folder and everything in it. There are no backups of this critical customer data. If a user deletes something, it may be lost for everyone.

The company generates a lot of revenue and is rapidly growing. They're expecting to hire hundreds of new employees in the next year or so, and you may not be able to scale your operations at the pace at which you're working.

My Answer:

Certain restrictions placed on W.D. Widgets prevent this business from growing and operating more efficiently.

First, when a new computer is provisioned, I have to install lots of sales-specific applications on every machine. This is very time-consuming for an IT Support Specialist to set up. The simplest way to handle this is to set up a GPO (Group Policy Object), which will allow these apps to be

installed on the PCs of the sales department staff automatically. I may create a GPO with the aid of Windows Active Directory so that it will install all necessary software on new PCs without my intervention. I'll create a group and apply it to the sales department.

Second, when someone has an IT-related request, they email me directly to help them. For any issues that could emerge and to save time, I can install a free corporate instant messaging program like Skype, Microsoft Teams, or Slack in place of contacting me directly.

Third, almost all software is kept in-house and none of the company's services are kept in the cloud. Instead of retaining all services on a local machine, I would migrate part of the services to the cloud as a more affordable approach to handling information within the company. For enhanced protection, I would install OpenLDAP in addition to the already-installed Active Directory centralized management server. I could always modify or delete the data that is stored on the server in the event of a data breach.

Fourth, customer data is stored on a single file server, and there are no backups of this critical customer data. To avoid unintentional data loss or theft, I would generate backups of these crucial files from both the file server and the cloud. It could also be a good idea to redistribute security groups and file permissions so that only domain administrators have full access to files and folders. All users may receive permissions based on their roles within the organization and the relevant GPOs.

Finally, the company generates a lot of revenue and is rapidly growing. They're expecting to hire hundreds of new employees in the next year or so, and I may not be able to scale my operations at the pace I'm working. I believe that since the company is planning on expansion and

since they are generating a lot of revenue, I would recommend to the company that they get extra help from at least two more IT members to keep my job running efficiently and effectively. While another member could perform the same duties as me in ensuring that all services are current and operating efficiently, one member could manage the helpdesk and provide any technical support that any employee requires.

Scenario 3:

You're doing systems administration work for Dewgood. Evaluate their current IT infrastructure needs and limitations, then provide at least five process improvements and rationale behind those improvements. Please write a 200-400 word process review for this consultation. Remember, there's no right or wrong answer, but make sure to provide your reasoning.

Non-profit Company:

Dewgood is a small, local, non-profit company with 50 employees. They hired you as the sole IT person in the company. The HR person tells you when they need a new computer for an employee. Currently, computers are purchased directly in a physical store on the day that an employee is hired. This is due to budgetary reasons, as they can't keep extra stock in the store.

The company has a single server with multiple services on it, including a file server, and email. They don't currently have a messaging system in place. When a new employee is hired, you have to do an orientation with them for login. You're also responsible for installing all the software they need on their

machine, and mapping the file server to their computer. The computers are managed through Windows Active Directory. When an employee leaves, they're currently not disabled in the directory service.

The company uses an open-source ticketing system to handle all internal requests as well as external non-profit requests. But the ticketing system is confusing and difficult to use, so lots of the employees reach out to you directly to figure out how to do things. In fact, so many things are difficult to find that employees typically ask around when they have a question.

There are nightly backups on the file server. You store this information on a disk backup and take it home with you every day to keep it safe in case something happens onsite. There's also a small company website that's hosted on a single server at the company. This website is a single HTML page that explains the mission of the company and provides contact information. The website has gone down many times, and no one knows what to do when it happens.

My Answer:

In terms of managing infrastructure, Dewgood undoubtedly needs assistance.

First, computers are purchased directly in a physical store on the day that an employee is hired. This is due to budgetary reasons, as they can't keep extra stock in the store.

Second, the company doesn't currently have a messaging system in

place. I can install a free instant messaging service for businesses such as Skype, Microsoft Teams, or Slack for any problems that may arise, and to minimize time consumption.

Third, I'm responsible for installing all the software a new employee needs on their machine, and mapping the file server to their computer. Since the company has Active Directory, I can install a GPO (Group Policy Object) within it, which will automatically install the software on the new employees' computers, as well as map the file server to their computer.

Fourth, when an employee leaves, they're currently not disabled in the directory service. I can use Active Directory to set up organizational units (OUs) to simplify and automate the process of adding and deleting users and groups.

Finally, there are nightly backups on the file server. I store this information on a disk backup and take it home with me every day to keep it safe in case something happens onsite. I can purchase and install a cloud backup service for businesses to ensure the added safety of the company's files. In addition to Active Directory being already installed, I would also install another centralized management service, such as OpenLDAP, for added security. In case of a data breach, I could always change or remove the data that's on the server.

Correct

Thank you for your submission!

An excellent response

1. **explains the problem or restrictions that the company faces in great detail.**
2. **lists five or more process improvements and explains how they plan to implement each of them.**
3. **thoroughly explains the rationale behind each improvement recommendation.**