Windows Server Deployment Proposal

Student Name

University

Abstract

Windows Server 2012 is the latest server provided by Microsoft. It is more efficient, especially when compared to Windows Azure. A company dealing with the advertisement will find it useful as it does manage not only all activities of the company but also creates a swifter and more secure way of dealing with issues as they arise. Microsoft's focus has moved to "cloud first" methodology because of its ability to operate efficiently with large scale organizations. To incorporate the server into the system, secure networking and security mechanisms need to be established. This proposal deployment focuses on the server installation, configuration, and services.

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Organization Background / Overview

As an advertising company, it is necessary for Global Advertising Inc. (GAI) to implement the Windows Server 2012 for their network infrastructure. GAI is starting its operations in two locations and in the process of hiring new staff in the two locations. It is important for the company to consider the quality of the servers for fault tolerance, consistency and scalability as this will ensure that the server can perform the intended purpose. Windows Server 2012 Server Code will be effective for the company because it will create a more secure environment. Also, it will help the company in managing the locations that it is working on. Windows Server 2012 efficiency coupled with its cost effectiveness will offer the best solution to implement GAI IT services. Notably, the company has already established security measures which include IPsec security mechanisms to ensure authenticity, data integrity and confidentiality of the organization. Given that the management is also concerned with the cost of the servers, it is important to carefully consider the best implementation practices that will be viable to the business regarding performance and cost for the GAI Corporation.

Introduction

The proposal offers an inclusive solution for the GAI Corporation structure advancement and will provide a suitable disposition of Windows Server 2012 R2 that will ensure an efficient server environment. This proposal will discuss in detail how GAI will be able to design, implement the new network infrastructure through the installation of the right server that is able to maintain a secure network using the Windows server environment.

The new network to be obtained includes the Windows Server 2012 R2 edition that will be implemented in the two sites while not forgetting the correct hardware that will run optimally with the server. Windows discontinued the 32-bit software, and it made Windows

Server 2012 R2 edition to work only with a 64-bit processor. GAI is a new company starting its operations with 90 employees with an option of increasing the number because of the ongoing hiring process. Because of the number of staff and the expected increase more than one Active Directory domain will be needed for future organizational needs. However, currently the company will need only one Active Directory Domain, and all the user information will be duplicated to the major controllers through the Virtual Private Network (VPN). To ensure that it is possible, each location in the company will use a fully editable domain controller with organizational units.

The human resource structure of the organization will determine how these units will be structured. The VPN will provide organizational units for different departments such as Accounts, Human Resource, Marketing among others. This will increase efficiency in the company. The users of the organizational units will be automatically mapped to network sources such as shared folders and printers based on what their Active Directory accounts are assigned to. This will be useful as it will ensure that the users can access the resources they require without a big struggle but also prevents the users from accessing the resources that are not permitted to unauthorized users. This will be important to departments such as human resources one which may hold sensitive personal information.

Impressively, the proposed infrastructure is that the Windows Server 2010 will ensure that the company manages the services well and works together with the site active directory to be able to access the services offered by the Server efficiently. Also, it will provide the company with cost effective and manageable solution that enables the existing network to thrive with more robustness and scalability. The deployment of the Windows servers on various sites will establish the field controllers with Windows Server 2012 AD services. This solution will provide the company with a lot of technique required in managing its resources by utilizing the AD services.

The AD services are offered by the Server deployment and the newly updated network design structures (Stanek, 2013). Through the server, the company will improve its efficiency and will be more flexible when performing its operations that would have been performed by Windows Server 2008 edition which has proven to be less reliable and slow in implementing the AD services and the domain controller within the network. The structure of the network comprises of Virtual Machine Manager Services (VMSS) which has an automated DNS name resolution service arrangement and a DHCP facility to the whole network of the company because it incorporates with the other GAI position effortlessly by the field service.

DHCP configuration of the AD assists the company by providing the dynamic address apportionment like the automated transmission of IP addresses to each PC Zone or workshops, as well as servers at each of the site of the company. The efficiency of the servers will be improved by positioning the three services in the given area, one for Active Directory, DHCP and DNS, while another one for a Web Server (IIS), and one as a file and print server. The Active Directory server will be Windows Server 2012 Server Core, since Server Core gives a secure surrounding. Server 2012 Standard Edition is, therefore, the most ideal for the other servers.

Notably, the active directory services can be offered by the network server infrastructure design with the Windows Server 2012 on each workstation and server that is placed in the network design and arrangement that improves the performance and enables a timely and cost-effective solution to the company (Tulloch, 2014). Also, it offers an accessible group policy management and active directory topology. This management and topology are entailed in the designing of the AD in the different office sites of GAI.

This design will result in promoting a secure and protected remote access brought about by the crucial and the significant features of the deployed Windows network. This will

enable employees to access information from the servers remotely with the help of VPN. The suitable domain supervisors to the GAI AD services at the remote site will be managed by the network design and the installed Windows Server 2012. This will result in an increase in compatibility of direct and multi-site remote access while providing site-to-site secure VPN access to the organization.

Windows Server 2012 New Features

When compared with the previous versions of servers, Windows Server 2012 comes many improved features that makes it a way better option to the other previous servers. It has a manager that permits one administration console to manage multiple servers, whether local or remote. Another feature is the Hyper-V Manager which allows for the administration of virtual machines and networks. The other feature is the Windows PowerShell 3.0 which permits administration by forming a command line and protects against a possible interruption by using Robust Session Connectivity (Stanek, 2013). Finally the most important feature is that it allows for the IP address management. To elaborate further, the IP address of the entire company can be managed from a single console. Below are the additional innovative features of Windows Server 2012:

I. Desired State Configuration

The feature is assembled into Windows Server 2012 R2 edition to make sure that the components of the data have a configuration that is correct. The desired state makes the data to programmatically form a baseline of characters and roles which is then updated to any system that will counteract the wanted state. The desired state, PowerShell 4.0, is created which enables the delivery of camlets to finish the administration and monitoring of the exact states. It creates the desired state that necessitates "PowerShell 4.0" that delivers many novel camlets to finish the monitoring and the administration of the exact states.

II. Work Folders

The functionality of featured drop box to business servers is carried by the work folders in the servers. This functionality enables the Windows Server 2012 R2 to offer a fully designed secure network suitable for businesses.

III. Storage Tiering

One of the most impressive features in the Windows Server 2012 R2 is the Storage tiering capabilities. Storage Tiering can indifferently move huge amounts of stored data concurrently with dissimilar programs of storage. This feature enables information duplication which makes the server superior to its predecessors (Stanek, 2013). However, one feature that the system cannot implement is to reduplicate executing virtual machines.

Server and Deployment Editions

The two servers of the Windows Server 2012 R2 edition will be used by the GAI Company for the placement at the two sites where the single forest domain AD will have configured settings. Designing the new network for the company demands that the outdated and legacy servers that are configured with the active domain administrators removed and will be replaced with the Windows Server 2012 R2 edition. A single core location has to be established to locate the Standard Enterprise Edition of the Windows Server 2012. The server core is also integrated and used at one site of the company.

The data center edition of the server will be placed in another cite (Tulloch, 2014). The server 2012 will then be employed in each of the servers with the data centre. After that, the Windows Server 2012 edition will be attached along with the Windows Server 2008 with the active directory services on each workshop. The secondary office will have to configure the domain controller fitted with the AD services fitted in the server in the primary office. The AD services in the main office should be activated to allow access by the AD services in the secondary office securely but efficiently (Tulloch, 2014). The environment in which the company deploys the Server on each machine in the different sites is different while

upgrading the existing ones. The available infrastructure should be able to handle services such as DHCP, print, DNS and File Services.

These services must also be configured in each of the server domain controllers by placing these controllers in both the company sites. Through the new infrastructure, a handling mechanism of services and roles will be provided. The handling mechanism will include the dynamic host arrangement settings and the domain name purpose. The two servers at the sites of the company will be organized by the WSUS updating service automatically. The server can be used as the refurbishment hotspot for different WSUS servers inside of the arrangement. A redesign source (WSUS) server is called an upstream server.

Active Directory

The most systematized way of dealing with Active Directory plan is to make venture scale catalog administration arrangement clear and straightforward. This aide unites business and specialized direction to minimize the time and energy required to execute the Active Directory administration. The business will also pick the proper domain model for the configuration of Active Directory for the installed server in its working deployment.

GAI Single Domain Model

A single domain model method is the easiest to control and the least costly to keep up. The method is comprised of a domain that comprises a solitary domain gathering accounts in the domain. A solitary domain model diminishes administrative complication by providing the several advantages. They include the fact that the domain supervisor can validate any client in the domain and that every domain controller can be global inventor, so the company has to get ready for the inventory server management (Lencse & Soós, 2016). In any single

space domain, all registry info is reconstructed to every solitary geographic area that host area controllers.

Although this model is considered to be least demanding, it makes the most duplication movement of the two space models (Panek, 2015). Allotting the catalog to many spaces brings about more authoritative overhead while restricting the replication of items to a particular geographical area. Minimizing the quantity of domain space conveyed in the company's domain becomes superior. The quality of sending information is increased while decreasing expenses associated with proprietorship.

Forest Root Domain

A forest root space is a principal domain that is conveyed in an Active Directory woodland. It remains as a "forest root domain" for the complete cycle of the AD DA arrangement. It is important to note that it comprises of enterprise admin and schema admin bunches which form gatherings aiming to oversee backwoods level operations such as evacuation and expansion of space. Selecting the forest domains includes figuring out whether the Active Directory areas in the space configuration can efficiently work as the backwoods root space.

RODC Considerations and Domain Controller Placement

It is important to consider how the Read just space controller (RODC) will recreate planned overhauls of the area segment from just a writable space controller running and simultaneously running Windows Server 2008. It is important to note that a DODC cannot be assumed to be the original domain field controller for some other domain space since it cannot perform outbound duplication. It is important for the space allotment from a writable area controller running the server to be imitated by RODC (Lencse & Soós, 2016). Moreover, one should regularly place a writable area controller running the Windows Server in the closest site in the system topology to create space to the RODC.

Active Directory Back-Up Plan

The Windows Server 2012 bears many new elements to an Active Directory of which two of the elements considerably distress the company's support and restoration arrangement. The innovative Windows Server Backup utility and the capability to bring and work with Capacity Shadow Copy Service previews of Active Directory (Panek, 2015). The AD services has configuration settings which are elaborated in this paper below.

Group Policy Settings Reinforcements

It is important to note that the Windows Server Backup offers a few Group Policy settings, thus offering the company some regulated control over how to take a shot at the servers. With these support approaches, the risks associated with individuals accessing unauthorized information increases. The choices include:

- to disallow network as backup target: where the moving down to any system share is not permitted by the settings;
- to disallow run-once backups: once this is achieved, the Windows Server backup will not run unscheduled, impromptu reinforcements; it will only run reinforcements mapped through the Windows Server Backup MMC snap-in;
- to disallow optical media as backup target: to prevent Windows Server backup from going down to any optical gadget when it is set.

FSMO Roles Placement

The FMSO (Flexible Single-Master) roles placement portrays the position of Active Directory (FSMO) parts in the domain space along with processes that are best accomplished on a single area controller. The default state in a registry with numerous area controllers may not be the best for the company's system because it is less demanding to monitor FSMO parts if you have them on fewer PCs. Furthermore, some parts on area controllers have to be granted access to particular parts, especially on the adequately directed systems.

DNS and DHCP

DHCP is a vital administration tool on a company network system because without it customers cannot acquire IP locations and data such as DNS servers. Without it, most of the servers would be irrelevant as the networks will fail to function well. It is important to understand that these services are required for even most basic connections. DNS is used to translate the Uniform Resource Locator (URL) to an IP address. On the other hand, DHCP allows the workshops to get the IP addresses dynamically, thus eliminating the importance of managers spending time trying to configure the workstations. Notably, the Host IP address is handled by DHCP with a lease of 24 hours, and it is implemented using a distributing scope across the company's locations. Consequently, it will improve the DHCP performance and provide a fault tolerance system, thus improving efficiency. The network resources that will be configured with the IP address will ensure the availability and administration of the resources.

Citing its importance, DHCP is usually sent in an outstandingly accessible way, so that if one server is down, the other assumes control (Lencse & Soós, 2016). Designing the highly available DHCP provides the company with two advantages; first, it offers the vibrant DHCP services at each instant. In case the DNS server fails or the complete absence of it, it enables the clients to upsurge their charter by associating with another DHCP server to make up for the DHCP failure or fault that occurred in the downed server. When scheming an extremely obtainable DHCP solution, the company will have to make a decision between split-scope DHCP and failover clustering.

Split scope authorizes activities to be among contributing servers while giving the access to local and remote users in the case one of the two servers come up short. The DHCP reaction should be acknowledged by users. Due to this fact the company cannot guarantee the servers from which the users will get a DHCP reaction (Lencse & Soós, 2016). If the servers

are over the system limit, the company will have to develop a DHCP hand-off operator, then offer a deferral to keep the auxiliary server from responding before the essential server to maintain the required DHCP database; one will have to restore and back up the database.

The interoperability of DHCP offers the connotation between DHCP as well as other technologies such as Active Directory Routing and Remote Access, Network Access Protection (NAP), Domain Services (AD DS), and other interrelated technologies. The DHCP server can update both pointer (PTR) record and the host addresses (A) record for the client user (Lencse & Soós, 2016). Failover clustering enables both servers to allot DHCP data by taking the same DHCP database on a mutual hoarding area. The DHCP arranges the reaction of the server to the customers by utilizing joint layer MAC address.

Similarly, duplication with split degree will be accommodated by the DHCP server as separate part in Windows Server 2012. The other accommodations by DHCP server include failover through burden sharing, and failover bunching. The server is then able to assume control if any of the other servers come up short. The load-sharing failover endows both servers to allot DHCP data, some share of System Center Operations Manager, the DHCP Management Pack, and empowers checking and reporting of the DHCP management service. DHCP customers can record dynamic changes in the DNS access records after getting an address placement. The DHCP database is placed away on the file framework and should be accommodated intermittently to abandon stale sections. Consequently, the company can effectively back-up and restore the DHCP database. It will be achieved through the actions of the DHCP manager. Network devices like printers can, therefore, be managed with DHCP solution.

One has to remember several things when planning a complicated name resolution procedure at the company level. It incorporates organizing security while giving a solid and

powerful outline for the connotation (Panek, 2015). Several features of Windows Server 2012 can be used to make the reliable and robust design and configuration.

When the company enlists the DNS names through an Internet recorder, the company should resolve their space sooner over the life span of the company's Active Directory Forest. DNSSEC is used to set up a sequence of trust with a trust grapple at the root zone. This root zone enables a chain of worthiness that can guarantee trustworthy reactions. When wanting to utilize DNSSEC, one has to make a decision on where the area for the trust stays.

Moreover, such actions imply that the legality of the personal records can be confirmed, as well as the genuine server can be checked just like the ultimate server. The DNS service handles configurations that improve on security comprising of DNSSEC, DNS socket pool, and cache locking. Moreover, DNS socket pool effectively randomizes the source or base port for cache shutting DNS queries, prohibits cached accesses from being over-poised for a given percentage of their Time to Live (TTL) value. Moreover, Microsoft's DNS execution also supports different namespaces in the variation in the suffixes which varies from the Active Directory Domain Services (ADDS) domain name suffix. The DNS Zone allocation enables a dislike server to control a specified zone.

Attached to the application divisions and zone hierarchy, it permits difficult name service designs for an organization. DNS (domain name framework) is a plan for the different proof of PCs and system administrations which is pre-arranged into appropriate order. Basic and standard server center is required to interface characteristic branches of the organization. The DNS would be utilized in the naming and addressing section of the outline plan of the organization. The Domain Name System (DNS) is a different leveled spread naming framework for PCs, managers, or any asset that is connected to a private system network or the Internet.

Application Services of Windows Server 2012

Implementing Share Quotas on Windows Server

It is used to bind the disk storage space allocated for that case through using FSRM to create a quota, usually for a size or file. The borderline allowance smears to the complete file sub-tree. To have control of what happens with the quota boundary methods, the company can plan notification beginnings. In some bags, the need for the script to be routed by the influence increases the allowance edge routinely when a verge is stretched.

Decision on Whether the DFS (Distributed File System) Will Be Implemented

It is important to note that by executing DFS, associations of any size, with any number of record servers, can make profit. If the following conditions exist, DFS will be predominantly used for connections with them.

- ➢ Customers experience delays amid top use periods when accessing document servers.
- ➢ Customers need constant access to record servers.
- ➢ The connotation arrangements to combine existing servers or send extra document servers.
- ➢ The connotation has information put on servers in various endpoints and needs customers to interface with the nearest servers.

Without quickly planning its whole namespace, the company can prepare arrangements to execute DFS. It will not have to send DFS all at one time but can include as much or as meager of the association's physical stockpiling as it has to the DFS namespace. This association is achieved at a pace that is acceptable to the company’s movement.

FSRM Configuration

Sections of the records in the server will be secured and administered using the GAI FSRM. File Server Resource Manager which is an arrangement of components that permit the company to order data that has been put away on record servers. FSRM integrates the accompanying components for the company through the storage report which is used by the

company to show some indication of patterns in cycle use and how information is grouped. The record administration errands enable the company to apply an obstructive plan or activity to the documents because of their groupings. The situation of a record management errand incorporates the document area, the last altered date of the record, the date the document was made, the order properties, and the last time the document was gotten to.

Group Policy for Application Deployment

Group Policy is considered to be a manager's best tool for client management in an Active Directory environment, especially in the Windows Server 2012 as it offers more material answering to find organization issues. The Group Policy is a submission framework that permits the company to determine designs for customers through Group Policy settings and Group Policy Inclinations and is available for this setting. One can utilize the Local Group Policy and Editor Design Group Policy settings that influence a neighbor PC or client. The company can supervise Group Policy Preferences and the Group Policy settings in an Active Directory Domain Amenities (AD DS) surrounding the Group Policy Management Console (GPMC) (Lencse & Soós, 2016). The application software collections that are applied with the Windows Server 2012 include the Virtual Desktop, VMWare applications and Windows Server applications with the assistance of group policy settings.

Printer and File Sharing

The company's file and print services will incorporate progressions that will offer some help with overseeing many record servers, which are servers that offer focal areas on the company's system where one can store records and present them to clients (Panek, 2015). If client needs access to the records and applications, or if carried together document administration and reinforcement are imperative to your association, the company should set up many servers as a document server by presenting the file services as part to the server.

Conclusion and Recommendations

Through the Windows Server 2012, GAI Company is provided with detailed information that will be essential in the deployment of solutions that are considered to be technical to the company. It will not only increase efficiency in the company but also increase the profits as the server is more cost efficient, especially when compared with Windows Server 2012. Although it appears complicated, with good IT experts the company will manage to incorporate the server completely to each system, hence increasing efficiency.

References

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