Computer Science Discussion Question

Student’s Name

Course Number

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Date

**How is the management of network security similar and different between on-perm and cloud environments?**

Almost everything in company nowadays is data-driven. For example, well studied data is frequently used to influence business and market decisions. Obtaining, interpreting, and preserving company information necessitates a significant amount of processing power. Here's where servers contribute; they are vast computers capable of processing and storing massive datasets. Firms must choose the precise models that better match their IT objectives because servers exist in an array of configurations and capabilities. Aside from the design, deciding whether to use on-premise or cloud-based servers is a crucial option. This is a vital consideration because various elements have to be reviewed when managing network security. These elements include cost, security and performance to name a few.

Both on-premises and cloud-based servers have their own set of advantages and disadvantages when compared and contrasted. An example is in deployment and cost. You've gathered all of the essential hardware and software and created a space to install the infrastructure when putting up an on-perm server system. You also have to deal with IT upkeep, fixes, and upgrading. Based on the size of the implementation, all of these expenditures actually amount. You don't have to spend a lot of money on pricey hardware and software when you use cloud servers (Johnson, Callaghan, Balasubramanian, Haq, & Spallek, 2019). The host itself has established the full infrastructure, covering telecommunication and network channels. Furthermore, the host is responsible for maintaining and servicing the systems. Several hosts additionally offer IT business solutions for constant customer service.

In an on-premise server environment, you have access to the complete system in terms of management. This ensures you have complete control over how the servers are configured and used. Contrastingly, cloud-based servers are managed by a third party, and major technological settings and specifics are mostly handled outside of the user's discretion. When using cloud-based servers, you must adhere to the host's t&cs, that may include safety procedures and other key system aspects. At the time, IT and cyber security are big worldwide concerns. For fears of cybercrime, a lot of organizations that handle confidential data choose to build up their own data centers and commit confidentiality to their own equipment. Many firms, however, are eager to use cloud approach to satisfy their IT safety needs. It's a bit of a mixed bag when dealing with safety. Cloud servers, on the other hand, are far more dependable when it comes to data backup and data restoration. Moreover, despite the fact that cybercrime is rampant, cloud providers are constantly improving their protection.

When managing the two network security solutions, there are particular aspects that are similar, for instance in workloads within the system. The cloud is known for its ability to provide limitless memory space, timely backup, and faster program startup times. In an on-premises setting, many of these services are available. Businesses with on-premise technology, use the cloud as a temporary fix for testing and implementing workloads. Consequently, cloud computing workloads can run within the network in on-premise environments. Furthermore, both on-premise and cloud solutions are created with a combination of tools. Processors and a user interface are included.

**Research Apple Home Pod. How does it interact with smart home devices? Alexa is now connected to smart home devices such as thermostats and microwaves. Find examples of other appliances that are connected to Alexa and write a report.**

The Apple HomePod is a smart speaker that can be used to play music, interact with Siri, control your smart home, and more (Matthews, 2021). Consider it Apple's answer to Amazon's Echo, Google's Home, and other smart speakers. It's a compact, Wi-Fi-enabled device with a set of strong speaker systems and mics that can broadcast high-quality music to any space. HomePod, about which Apple has been working for a long time, is intended to revolutionize the way music is experienced in the house, and, as per Apple, it accomplishes which no other firm has: it blends a smart speaker with excellent sound (Xiao, & Kim, 2018).

HomePod is compatible with Apple Music and has Siri built-in. The speaker can recognize Siri orders just about anywhere in the environment, even while loud music is playing, thanks to its six microphone array. According to Apple, Siri now has a better grasp of music-related searches and may assist consumers explore different stuff by acting as the in music critic. HomePod provided services for stereo sound, enables additional HomePods to be coupled jointly for more strong sound. It also features AirPlay 2, enabling it to be linked with other AirPlay 2 speakers. HomePod may now be utilized as comprehensive and multi audio system thanks to AirPlay 2. HomePod, similar to an Apple TV or iPad, acts as a HomeKit hub, allowing users to control HomeKit gadgets from afar. All HomeKit-connected smart gadgets can be controlled with Siri instructions, making the HomePod a unified house automation gadget.

Alexa is all over the place these days. Amazon's supreme voice assistant remains to be interwoven with our lifestyles and hardware in up-to-date and surprising methods, from smart speakers to thermostats, media gadgets, and kitchenware. Alexa offers additional features and engagement opportunities with each upgrade she gets. Below, we shall be reviewing appliances that are connected to Alexa. An example of the Alexa connected speaker and smart display is the Echo Dot (Beneteau, Guan, Richards, Zhang, Kientz, Yip, & Hiniker, 2020). This device offers Alexa functionality as well as the capacity to control your smart home device with your voice. It is a perfect choice because it’s economical and has a low profile. Furthermore, advanced options like the Echo Dot with Led clock shows the time, weather and a timer on front of the speaker.

Alexa-compatible lights for example the Philips Hue enables an individual to simply ask your speaker to turn them on and off at will. The Philips Hue is among the most multifaceted lighting systems and offers a variety of light colors. Additionally, you can access numerous degrees of brightness. Lastly, we have Alexa-compatible smart plugs which are perfect for turning non-connected appliances into remotely controllable things. For example, you can ask Alexa to turn off your reading lamp without moving.

**References**

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