

Networking essay sample

[Business](#), [Management](#)



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Question 1

IPv6 status

The IPv6 is an internet protocol version that is intended to succeed IPv4. The IPv4 is the protocol that is commonly used currently to direct most of the internet traffic. The development of the IPv6 came as a result to address the operational challenges that were being experienced as a result of using the IPv4. The IPv6 implements some additional features which are not present in the IPv4 as it simplified the aspects of assigning addresses, router announcements and network renumbering. The deployment of the IPv6 is increasing highly and the US government has also been on the forefront in advocating for its acceleration. Most agencies cross the United States government have started planning for the embracing and the deployment of the IPv6 in response to the directive issued by the government. From the study carried out on the current status of the IPv6 deployment status, the following findings were established.

i. There is a core set of IPv6 standards that have stabilized and are there are some operationally feasible commercial implementations that are now emerging. As there are significant commercial implementations that are

emerging, broad vendor product lines on the other hand are at different levels of development and comprehensiveness. There is need for some time in order to define the de facto standard levels of the correctness and development in order to ensure that there is investor confidence.

ii. The security state of security for this version of the Internet protocol is lagging behind the ones for version 4. This has hampered its development and adoption especially with the high sensitive and confidential systems. The security agencies have therefore been reluctant to adopt this kind of technology.

iii. There are several IPv6 design issues that have remained unresolved thus making it very hard for the full implementation of the IPv6 protocol.

In general the IPv6 has not been completely exhausted by the government agencies and other civilian organizations due to the operational challenges and security issues that come alongside it.

Question 2

Load balancing solutions

The load balancing solution is one of the best ways to manage a workload in any congested network. The load balancer will distribute the workload across multiple computers and servers so that they can be handled adequately as they enter the network. In order to increase the reliability of the load balancing solution being implemented, it is essential that one uses multiple components which have the load balancing. The load balancing solutions can be implemented using dedicated software and some kinds of hardware like a multilayer switch and a Domain Name System Server. The hardware load balancers are usually of a much higher costs but very effective in the way

they perform their operations. The hardware load balancers use a network gateway to route the traffic of any network that they are operating in. One of the best ways for implementing the load balancing solutions is through the use of SSL acceleration which will offload the processor intensive public encryption. This will involve having a separate card installed into the PCI slot. The SSL accelerator performs a handshake whereby the SSL server and the SSL client agree on several parameters which are used to establish the security of the connection.

References

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