Assignment 4
Dr. Perigo,

Transitioning from a traditional network to a software defined network can provide a host of benefits to a client's network infrastructure. SDN enables programmability, scale, and the ability to dynamically shape global traffic based on client needs [1]. There are many ways to transition from a traditional network to a SDN and that is dependent on the current network infrastructure, cost, and customer needs. I will be explaining the best practices on transitioning to a SDN while taking these factors into account.

Managing the Network as one Entity

- The goal of unifying the network is to allow for the client to manage the network as one large entity. [2]
- Start to incorporate automated routine tasks like software updates and health checks on devices via an NMS. [2]
- Incorporate zero touch provisioning to new devices and failed units.

Slowly Integrate OpenFlow

- Enable OpenFlow on compatible devices to allow for VLANs and ports to be controlled by the standard. [2]
- Integrate OpenFlow in a set of stages to ensure compatibility in the network. [3]
- Start by enabling it on some edge switches and configure certain attributes like limiting bandwidth through the software.

Convert Resources and Virtualize

- For any network hardware that is not being fully utilized, convert these boxes into vSwitches to be used in the infrastructure layer. [3]
- Logically centralize and physically distribute any virtualized software/hardware that is compatible to do so.
- For devices that are EOL, determine whether the hardware can handle the bandwidth that your network needs, and convert accordingly.

When transitioning to an SDN, the process can either be seamless or happen in a series of stages. It comes down to a handful of factors, one notable aspect being the type of devices within the network. Having incompatible hardware or hardware that does not offer enough bandwidth can be a roadblock towards achieving a software defined network. But with these transition practices I mentioned above, thinking about converting to a SDN can be reasonable and cost effective in the long run.

Best Regards,
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Sources:
[1] Lecture – SDN & NFV Overview-2.pdf
[2] https://www.alliedtelesis.com/us/en/white-paper/migration-path-software-defined-networking-sdn-enterprise-network#:~:text=Conclusion-,Transitioning%20from%20a%20traditional%20network%20to%20one%20that%20is%20based,and%20thus%20provides%20a%20benefit.
[3] https://www.transformingnetworkinfrastructure.com/topics/virtualization/articles/436965-top-5-considerations-transitioning-software-defined-networking-sdn.htm