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Scenario Response

That is a good question. I understand why you would associate simplicity with flattening our network. In fact, traditionally, since the main concern for most organizations was to secure their network perimeter, they used a flat network design approach that employed a single network device to connect systems. The mechanism allowed them to reduce cost and maintenance for internal enterprise networks. Unfortunately, this network design introduces significant weaknesses. To understand this, think about our company network as a round cake you made at home. It is easy for family members to fight over a piece of cake or for anyone to mess up any part of the cake trying to get a bite. In the same manner, in a flat network, there is a high potential for collisions when two devices want to send data at the same time since they use a shared transmission channel. Additionally, the architecture of the network allows devices to communicate to each other directly, and a malicious actor who gets access to the network can compromise a single device in the network and move freely in any direction along the network to attack every single remaining device putting our critical assets at risk due to poor security. However, if you slice the cake into multiple pieces and give it to each family member, it is easier for you to know who has obtained a piece of cake and prevents family members from fighting over a portion or messing up the cake. Likewise, if we divide our company network into multiple small subnetworks, also known as a segmented network, we can assign each subnetwork explicitly to a single department such as HR, IT, etc. in an organized way. Additionally, the establishment of small subnetworks increases performance and reduces collisions. We can also deploy a networking device called router to control access from one subnetwork to another thereby establishing a single point of administration in the same way you could control who gets access to a piece of cake. Furthermore, this design enhances security and prevents an attacker from moving around in the network to compromise other devices since he/she must always go through the router to obtain approval to access a subnetwork. Hence, instead of flattening our network to make it simpler, we should segment it to simplify organization, increase security, and improve performance.