Video Tutorial - Traffic Characteristics (3 min)

Voice traffic and video traffic place a greater demand on the network and are two of the main reasons for QoS. There are some differences though between voice and video. Though they are both demanding, voice packets do not consume a lot of resources because they're not very large and they are fairly steady. The characteristics are smooth and benign in regards to the demand it places on the network, however, voice traffic is sensitive to drops and delays and therefore requires prioritization. Packet loss should be no more than 1% with voice traffic. Voice traffic requires at least 30 kilobits per second of bandwidth. Now video traffic is more demanding. The size of the packets that it sends across the network are more bursty and greedy. It consumes a lot more resources. It's also sensitive to drops and sensitive to delay. It requires no more than .1 to 1% loss of packets and requires at least 384 kilobits per second in bandwidth.

In this next graphic, you can see some of the differences. You can see that the audio samples of voice packets are fairly consistent at 20 milliseconds per sample. The size of the packets are very small. However, video packets, depending on the frame of the video, if there's nothing changing in a frame, then they might not have a lot of size, but if there's a lot of action, let's say in the video or in the movie, then the frames are going to be very greedy or very large. So you can see that it places a greater demand on the network.

Data traffic is different from voice and video traffic in that it's generally not as demanding. Also, a lot of data traffic is sent with TCP applications, which can re-transmit and are therefore insensitive to drops and delays. There are different types of data traffic. There is mission critical data traffic and non-mission critical data traffic, interactive traffic, and non-interactive traffic. If you have interactive mission critical traffic, like in bank transactions or purchases, then there is the expectation of a quick response time in the data. However, a lot of traffic is not interactive and not mission critical, let's say a standard webpage, and can therefore be the least prioritized.