CCNA: Introduction to Network

**Module 11 – 11.4: Network Segmentation**

**I. Broadcast Domains and Segmentation**

Broadcasts are used on Ethernet LANs for various purposes, like ARP (to find MAC addresses associated with IP addresses) and DHCP (to discover DHCP servers). Switches forward broadcasts out all their interfaces (except the one where the broadcast originated), meaning the broadcast reaches all connected devices. While sometimes useful, broadcasts can also be inefficient if the information is only relevant to a subset of users.

A diagram of a network

AI-generated content may be incorrect.

**II. Problems with Large Broadcast Domains**

Large broadcast domains, connecting many hosts, can lead to excessive broadcast traffic. This high volume of broadcasts can negatively impact network performance, slowing down both the network itself and individual devices, as each device must process every broadcast packet. The example of LAN 1 with 400 users illustrates this problem, where the large number of connected hosts could generate a problematic amount of broadcast traffic.

A diagram of a network

AI-generated content may be incorrect.

A diagram of a cloud computing network

AI-generated content may be incorrect.