Title:
Cisco CCNA Certification: The (Many) Different Kinds Of Switching

Word Count:
309

Summary:
CCNA candidates know what switching is, but what about the differences between
packet, frame, cell, and circuit-switching? Learn how to keep these terms
straight and pass the CCNA exam in this article from Chris Bryant, CCIE #12933.

Keywords:
Ccna, intro, icnd, switching, 640-801,640-811,640-
821,pass,free,exam,osi,model,isdn,Bryant,chris,advantage,12933,packet,frame,cell
,circuit

Article Body:
When you're studying for your CCNA exam, whether you're taking the Intro-ICND
path or the single-exam path, you're quickly introduced to the fact that
switching occurs at Layer 2 of the OSI model. No problem there, but then other
terms involving switching are thrown in, and some of them can be more than a
little confusing. What is "cell switching"? What is "circuit switching"? Most
confusing of all, how can you have "packet switching"? Packets are found at
Layer 3, but switching occurs at Layer 2. How can packets be switched?

Relax! As you'll see in this article, the terms aren't that hard to keep
straight.   Packet switching, for example, describes a protocol that divides a
message into packets before they're sent. The packets are then sent
individually, and may take different paths to the same destination. Once the
packets arrive at the final destination, they are reassembled.

Frame switching follows the same process, but at a different layer of the OSI
model. When the protocol runs at Layer 2 rather than Layer 3, the process is
referred to as frame switching.

Cell switching also does much the same thing, but as the name implies, the
device in use is a cell switch. Cell-switched packets are fixed in length. ATM
is a popular cell-switching technology.

The process of circuit switching is just a bit different, in that the process of
setting up the circuit itself is part of the process. The channel is set up

between two parties, data is transmitted, and the channel is then torn down.
The circuit-switching technology most familiar to CCNA candidates is ISDN.

Don't let these terms confuse you. The four different terms are describing much
the same process. The main difference is that they are occurring at different
levels of the OSI model, and using a different transport method to get the data
where it needs to go.