

2. b. BGP.

A path attribute is a list of AS number that a route has passed through on its way to a destination. A path attribute is additional information connected with a prefix that is included in the UPDATE packet during the route exchange.

3.

4. show ip nat

1. a. CEF is primarily used to speed up packet switching by reducing the overhead and delays introduced by other routing techniques. In comparison to quick switching route caching CEF uses less CPU power layer 3 services like encryption might benefit from more CPU processing capacity.

When CEF ~~more~~ mode is activated, CEF gives full switching capability at each line card. In large dynamic network. CEF gives a degree of switching consistency and stability that is unparalleled. Fast switching cache entries are regularly ~~invalidated~~ invalidated by routing change in dynamic network. These changes may cause traffic to use the routing table for process switching instead of using the route cache for fast switching. Because the existence of FIB lookup table. route cache maintenance is not needed any more. Thus CEF can switch more efficiently.

2. a.

b.

1 b. In order to eliminate potential network loops, the spanning tree protocol is in charge of recognizing the links in the network and shutting down the redundant ones. All switches in the network communicate with one another using BPDU messages to determine the root bridge. Root-ports on non-root switches that have the cheapest path to the root bridge. These ports route traffic to the root bridge. designated-ports on the root and designated switches are designated. The root bridge's ports will all be designated.

Blocked - All other bridge or switch ports are in a blocked state. Access ports that connect to workstations or PCs are unaffected.

2.

2. a

OSPF routers go through multiple state modifications before establishing a neighbor relationship.

- ① Down state - the interface has not received any hellos. This is the initial state of all OSPF routers.
- ② Attempt state - neighbors must be configured manually. Only nonbroadcast multi-access networks employ this state.
- ③ Init state - A router has received a Hello message from another OSPF router but the two-way dialogue has yet to begin.
- ④ Two-way state - the neighbor receives the Hello message and responds with its own Hello message.