Qos and sdn overview

1. QOS

Bandwidth
Latency
Jitter: the min and max variance of the package transmission time.

Packet Loss: Application layer: tcp resend;
Latency: within the minutes

What is QOS?
maintain or manage the traffic, prioritize the service that is supposed to be that within the bandwidth

We need to mark up the package

L2: class of service(3 bits)(cos) : 8 types of service that we can distinguish in layer 2
1-6 only we can use, 7-8 reserved
Best effort

L3: type of service(8 bits)(tos)
Map to layer 3.
dscp : 6 bit
Differentiated Services Code Point
Ip pres: 3 bit

Very useful in service provider. Good to know.
Study:
Priority queue
Ef, af1-af7

Class Map, Policy Map and Service Policy

From <https://www.omnisecu.com/ccna-security/c3pl-class-map-policy-map-and-service-policy.php>

Study In-Service Software Upgrade (ISSU)

2. Traffic engineering

Traffic engineering working with who has mpls backbone

Have p router, pe router

Pe routher is connected to multiple Ce routers

Pe and other p router is mpls backbone

Rsvp protocol create a tunnel reserved to avoid some line goes down. Service providers pay cisco a lot of money for this algorithm to calculate and predict traffic.

This is called **Fast re-route**

3. **Sdn**

Nework management tool with a big database is Connected to the management port of all the routers

It streams all the logs on the router and log them in the db

Ex: We can have

Time

Router name

Log

In the database

Every interface up or down, traffic drop…

All the information is stored in the db

How to extract the data in the database

Such as To get only information containing ospf protocol within some time in some router. (we can use sql to query the database)

Then we will know what happened

Search:Syslog server