CAMPUS QoS DESIGN
AT–A–GLANCE

QoS policies should always be enabled in Cisco Catalyst® switches—rather than router software—whenever a choice exists.

Three main types of QoS policies are required within the Campus:

1) Classification and Marking

2) Policing and Markdown

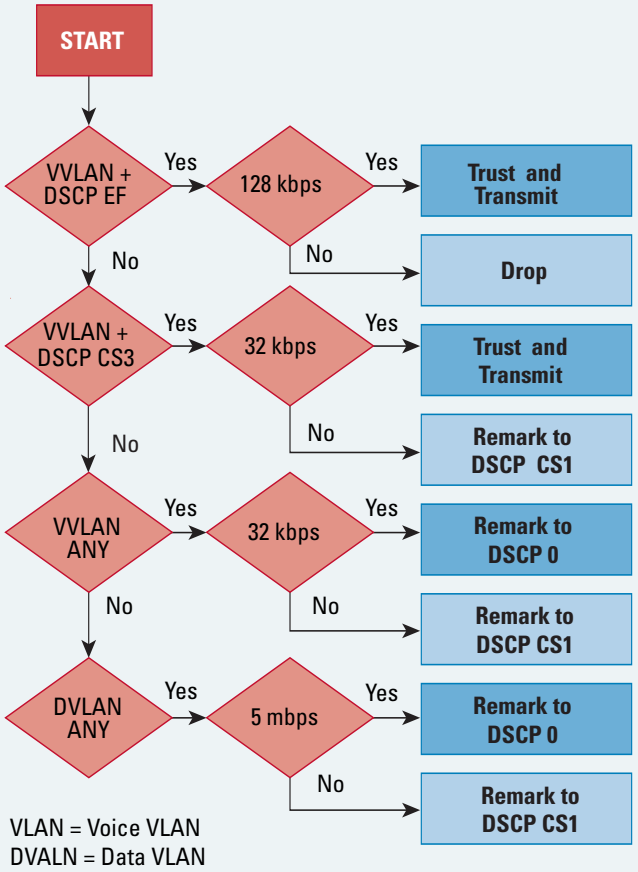
3) Queuing

Classification, marking, and policing should be performed as close to the traffic-sources as possible, specifically at the Campus Access-Edge. Queuing, on the other hand, needs to be provisioned at all Campus Layers (Access, Distribution, Core) due to oversubscription ratios.

Classify and mark as close to the traffic-sources as possible following Cisco QoS Baseline marking recommendations, which are based on Differentiated-Services standards, such as: RFC 2474, 2597 & 3246.

Application	L3 Classification PHB	DSCP
Routing	CS6	48
Voice	EF	46
Interactive-Video	AF41	34
Streaming Video	CS4	32
Mission-Critical	AF31	26
Call-Signaling	CS3	24
Transactional Data	AF21	18
Network Mgmt	CS2	16
Bulk Data	AF11	10
Scavenger	CS1	8
Best Effort	0	0

Access-Edge policers, such as this one, detect anomalous flows and remark these to Scavenger (DSCP CS1).

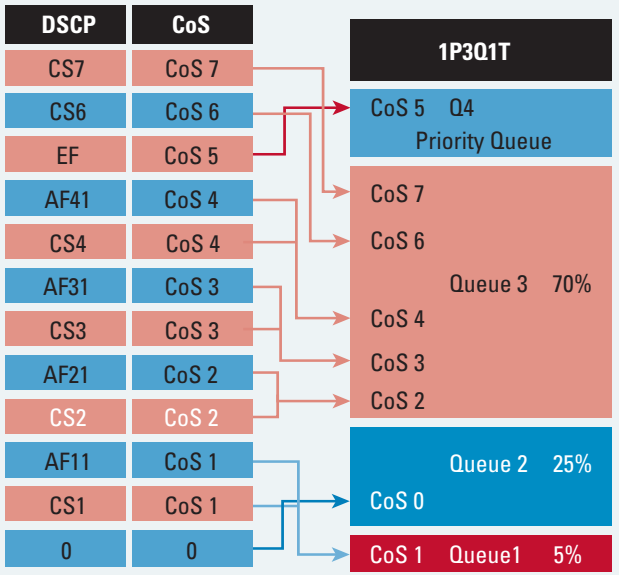


VLAN = Voice VLAN
DVALN = Data VLAN

Queuing policies will vary by platform:

E.g. 1P3Q1T

P = Priority Queue
Q = Non-Priority Queue
T = WRED Threshold



Campus Access switches require the following QoS policies:

- Appropriate (endpoint-dependant) trust policies, and/or classification and marking policies
- Policing and markdown policies
- Queuing policies.

Campus Distribution and Core switches require the following QoS policies:

- DSCP trust policies
- Queuing policies
- Optional per-user microflow policing policies (only on distribution layer Catalyst 6500s with Sup720s.)

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