Quality of Service (QoS) is designed to deliver a certain Quality of Experience (QoE) by ensuring that network elements apply consistent treatment to traffic flows as they traverse the network. Multiple factors contribute to user’s experience of voice:

- Network Quality—Availability, latency, jitter, packet loss, and QoS changes.
- Voice quality—Objective quality measures such as MOS, R-Factor, scaled to individual customer needs.
- Signaling paths—Availability, Least Busy Route, Least Sustained rate, Post Gateway Ringing Delay (PGRD), Call Setup Delay, Call Tear Down Delay, SIP Registrars, etc.

**Media and Signaling QoS KPI Profiles**

The SBC Core uses two profiles to measure the signaling QoS parameters against IP trunk groups and provide input back to the control system to provide better perceived QoE.

- Media Qos KPI Profile—From a voice quality perspective, this profile allows the user to set the R-Factor threshold KPI to filter out IP trunk group routes exceeding this threshold.
- Signaling Qos KPI Profile—Calculates signaling-based KPIs to facilitate better routing decisions. Trunks meeting KPI criteria are considered preferred trunks by the SBC.

To set egressIpAttributes of Signaling Qos KPI Profile in IP Signaling Profile:

```shell
% set profiles signaling ipSignalingProfile <ipSignalingProfile_name> egressIpAttributes signalingQosKpiProfile <QosKpiProfile_name>
```

To enable QoS-based routing for an IP Signaling Profile:

```shell
% set profiles signaling ipSignalingProfile <ipSignalingProfile_name> egressIpAttributes flags qosBasedRouting enable
```

To enable QoS-Based routing on a global level:

```shell
% set global qoeCallRouting mediaQosBasedRouting enable
% set global qoeCallRouting signalingQosBasedRouting enable
```

For a full description of commands, please see [Media QoS KPI Profile - CLI](#), [Signaling QoS KPI Profile - CLI](#), [Signaling Profiles - Signaling Qos Kpi Profile](#) (EMA), and the [EMA User Guide](#).

**DSCP Pass-Through**

Differentiated services Code Point (DSCP) is a networking architecture specifying a simple and scalable mechanism for classifying and managing high-priority network traffic and providing quality of service (QoS) on modern IP networks. DSCP prioritizes certain packets in a stateless fashion.
scales well and does not require many processing cycles.

The SBC Core supports passing through DSCP values where multiple DSCP values are used based on the session. The DSCP pass-through capability applies to audio, video, image/T38, RFC 2833 RTP pay load, transcoded, pass-through, RTCP, SRTP, GW-GW and H.323 media streams. This applies to both IPv4 and IPv6 media streams.

DSCP pass-through is configurable using Packet Service Profile flag "dscpPassthrough". See Packet Service Profile - Flags (EMA) or Packet Service Profile - CLI for configuration details.

Configurable DSCP Value for MSRP

The SBC Core supports using preconfigured DSCP values for egressing audio and video packets (configured separately for audio and video). Prior to 5.0.0R0 release, the audio DSCP value was also applied for MSRP packets.

The SBC is enhanced to support setting a MSRP DSCP value for egressing MSRP packets for a specific Packet Service Profile (PSP). This configurable value, msrpDscp, applies to egress MSRP packets only, and does not rely on the values configured for audio/video streams.

<table>
<thead>
<tr>
<th>CLI Syntax</th>
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<tr>
<td>* set profiles media packetServiceProfile &lt;unique profile name&gt; qosValues msrpDscp &lt;0-255&gt;</td>
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</table>

For configuration details, see Packet Service Profile - CLI or, System Provisioning - Packet Service Profile (EMA).