

## WebRTC Quality of Service (QoS) for internal/private networks

This article is an introduction to the way of implementing QoS L3 packet marking (DSCP) for Softphone

### Where it works

It works only for private and internal networks. It does however not work over the Internet because the DSCP priority will be removed by the ISP.

#### Note

There is no QoS over the Internet!

### Where WebRTC QoS needs to be implemented

On internal networks with complicated routing and priorities. This will help to shorten the delays, reduce jitter and package loss on lifetime traffic

### How it works

- The company IT administrator need to configure different traffic priority queues based on the different packet markers in the DSCP field.
- By default the WebRTC traffic FROM agent browser is marked like: *DSCP: Unknown* or *DSCP: CS0*

569	2022-01-18	10:51:34.520056	10.10.10.138	212.89.56.182	UDP	224	62772	→	36392	Len=182
▼ Internet Protocol Version 4, Src: 10.10.10.138, Dst: 212.89.56.182										
0100 .... = Version: 4										
.... 0101 = Header Length: 20 bytes (5)										
▼ Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)										

#### Warning

It works only on Chromium based browsers and does not work on Firefox and Safari.

Till now, Chrome is supporting 4 types of priorities. The markers implemented by Google are as follow:

- high → CS7
- medium → CS7
- low → CS0 (like default value)
- very-low → CS1

Puzzel's Softphone is using the Chromium browser library mechanism and does not have control to change type of the makers or priority in the DSCP field.

### How to enable QoS functionality in Puzzel admin

Navigate to "Users → Products → Agent Application" and find the property called "Softphone - Network priority (high|medium|low|very-low)".

The screenshot shows the 'Agent Application' configuration page. It features a search bar for users/user groups, and three columns for configuration: Company (Kristian (KHA)), User Group (Admin), and User (Farre). Each column has an 'Inherit' checkbox and a 'Value' input field. The 'Softphone - Network priority (high | medium | low | very-low) (Chrome only)' property is set to 'high' for all three. The 'Inherit' checkbox is checked for the User Group and User, and unchecked for the Company. Below the configuration table are 'Save Changes' and 'Undo changes' buttons.

	Inherit	Value	Inherit	Value	Inherit	Value
Softphone - Network priority (high   medium   low   very-low) (Chrome only)	<input type="checkbox"/>	high	<input checked="" type="checkbox"/>	high	<input checked="" type="checkbox"/>	high

The accepted input values are as follows:

- high
- medium
- low
- very-low

The property can be set for the whole company, user group or for a specific agent, which enables flexibility to set different priorities for different parts of the same organisation.

## Important

The Puzzel Softphone QoS, is available only for internal/private networks on which a local IT administrator has a control over in order to configure different network queue priorities based of the DSCP field.

The traffic direction goes from Agent browser to Public network. For the opposite traffic direction (from public network to Agent browser), the traffic is marked by Puzzel's SBCs with CS7, but since it is being received via public network it can be also be set to unknown or removed. In order to prioritise the public network to Agent traffic, the best option will be based on Puzzel source IP addresses which is described in the basic requirements found [here](#).