

Permissions for WebRTC

This document uses the formalism of the Permissions API (<http://www.w3.org/TR/permissions/>, <https://w3c.github.io/permissions/>) to define the various permissions that are defined as part of the WebRTC API suite, which includes WebRTC-1.0 <ref> and “Media Capture and Streams” <http://w3c.github.io/mediacapture-main/getusermedia.html> , as well as “Audio Output Devices API” <http://w3c.github.io/mediacapture-output/> , but does not include screensharing (which has its own set of special features).

The permissions enum is augmented with the following permission strings:

“camera” - permits capturing media from a camera.

“microphone” - permits capturing media from an audio input device such as a microphone.

“speaker” - permits switching between audio output devices

These three permissions are qualified with a device ID, indicating that this permission pertains to the specified device; the name + the device ID together form the identifier of the permission.

The associated PermissionDescriptor for all three permissions is:

```
dictionary DevicePermissionDescriptor: PermissionDescriptor {  
    DOMString deviceId;  
}
```

“all-cameras”, “all-microphones” and “all-speakers” - as above, but covers all devices of their respective class, including devices that are added in the future.

“device-info” - permits getting names and capabilities of available input and output devices.

The following permissions are defined by the access levels of draft-shieh-rtcweb-ip-handling:

“network-defaultaddress” - permits using the default network address (implementation-defined) for communication and for address probing via STUN.

“network-localaddresses” - permits using all host addresses that have “local” scope, but does not permit using them for probing via STUN.

“network-alladdresses” - permits using all host addresses for STUN.

All permissions may, but need not, be persisted for a given origin.

Default permissions

The recommended default setting is that no device permissions are given, but “network-defaultaddress” is given. This may be altered by browser configuration. The “speaker” permission for the default audio output device is always given, to align with long established browser usage.

Acquiring permissions

`getUserMedia()`, if successful, adds permission to use the camera and/or microphone that is attached to the `MediaStream` returned. This permission **MUST** be rescinded automatically when the devices are released, unless persisted permanently, as described in <http://w3c.github.io/mediacapture-main/getusermedia.html#mediastreamtrack>

We call this granting of permission a “permission grant event”. When the permission grant event happens:

- The browser grants “speaker” permission for all audio output devices that are in the same group as one of the granted input devices.
- The browser grants the “device-info” permission. This is not rescinded on device close, but if it is not persisted, it will be rescinded at context close.
- The browser grants the “network-defaultaddress” and “network-localaddresses” permission.

NOTE: The above granted permissions are part of the W3C specification, and **MUST** be granted as part of a permission grant event. The implementation **MAY** grant more permissions.

For example, the browser **MAY** cause “all-cameras”, “all-speakers” and “all-microphones” to be granted, following appropriate user interaction.