

Quobis[®]
leading your ITinerary



WebRTC Signaling



In a few words...

- We're all about interconnection and security in UC
- Strong expertise on WebRTC technology
- Founded in 2006, privately held, no VCs
- Markets: telco and enterprise UC solutions
- HQ in Spain, worldwide sales
- Recent awards:



About WebRTC & Quobis



Quobis plays a key-role in WebRTC industry, as is running 35+ PoCs in Tier1-2 telcos in EMEA, LATAM, US and APAC.



Co-authoring (V́ctor Pascual) the [RFC7118](#) standard for SIP over Websockets, SIPoWS



Authors of [QoffeeSIP](#), an opensource Javascript SIPoWS implementing RFC7118



Quobis' is co-chairing the SIP Forum [WebRTC Task Group](#), whose objective is to enable deployment of WebRTC for SIP-based domains

Quobis is member of the [ATIS DSI initiative](#), which is leading the [ORCA.js](#) opensource project



- ⚙ We are running around **30 PoCs**.
- ⚙ We are learning **valuable lessons** from them.
- ⚙ We used  +  to implement our demo platform.
- ⚙ ...but we also have to work with vendor solutions.

W3C does not define the Signaling to use for WebRTC applications



Many signaling protocols have been adopted by developers and vendors



Standard-based and adopted by Open Source community



SIP over Websocket: VoIP friendly, trickle ICE no direct to implement but doable, adopted by the main VoIP Open Source solutions.



XMPP over Websocket: Jingle over WS libraries, it also is used in Open Source solutions.

Proprietary/non-standard solutions adopted by vendors or specific developments.



JSONoWS: Web developer friendly, easy to implement trickle ICE, flexible (you have to invent everything)



REST API + (Websocket || Long-polling) for events: Web developer friendly, massively used in web environments.



Over Datachannel: used for in-dialog signaling, less latency

Drawbacks of signaling atomization

1. One application developed for a specific signaling does not work for a different one.

2. Web Developers should not care about the signaling used by the server/Gateway.



3. Signaling stacks offer a different API but they do similar things using different ways.

Any solution?



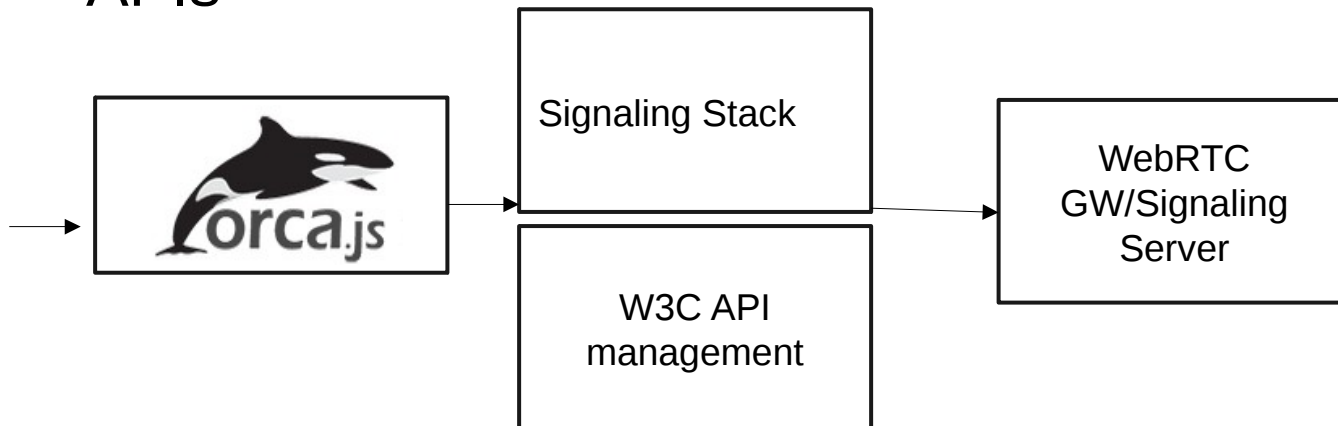
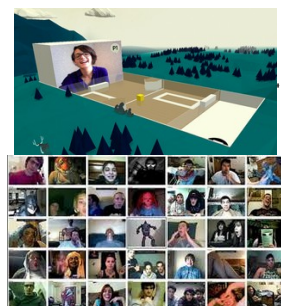
A standard API for WebRTC Apps
covering standard **use cases**



The idea is to provide a common API for Web Developers.

Each vendor can provide an orca.js compatible JS library.

SIPoWS stacks can offer orca.js compatible APIs





How it looks?:

```
session = createSession(userid, token, sessionConfig);
session.connect();
session.on(incomingcall, handle_incomingcall);
call = session.createCall(callee, video);
call.connect();
call.hold();
call.resume();
call.disconnect();
```

You can check the code at:

<https://github.com/orcajs/orca.js>

Example of app using orca.js compatible API



SIPPO GMAIL CONNECTOR

The screenshot displays a Gmail inbox with a Quobis overlay. The overlay is a dark blue bar at the top with the Quobis logo, a profile picture, and the text 'Call established'. Below this is a search bar and a red button with a white arrow. The Gmail interface shows a list of emails with the following details:

Sender	Subject	Time
Antón, Maha, Gwenhael (7)	CMAC/BYTEL - ... - Regarding ...	17:34
yo, Jim (3)	Re: ... - Some double ...	17:31
Byron .. GILLES, yo (14)	Re: ... - URGENT: ...	16:46
Sandra .. Jose, Antón (15)	Re: ... - ...	14:11
Marcos de Vera Piquer. (2)	[...]	13:43
yo, Iglesias, Fátima (6)	CMAC/KUS - Presentación Quobis - demo de SIPPO >>	13:36
Marcos de Vera Piquer. (2)	[...]	13:28
MANUEL .. Victor (96)	CMSEMEMES/MTID - Quobis-WebRTC - primer enseñarles SIPPO c...	13:23
operaciones (Confluence)	Re: ... - ...	13:23
yo, Ignacio (3)	CMVE/Onole - Ofertas ASCs con WebRTC ...	20 nov
Craig, yo (22)	CMDC/MS/Onole/ync - Re: Urgent request for info ...	20 nov
GILLES .. Victor, yo (50)	CMVE/MLM - ...	20 nov
Antón, Gwenhael (6)	CMAC/BYTEL - ...	20 nov
Victor Pascual	From: ... - ...	20 nov
Antón, Victor, Jim (4)	CMVE/...	20 nov

The right sidebar shows a contact list with names and status indicators:

- Andrés Estévez Costas
- Andrés Souto
- Anton Roman
- Fátima Gonzalez - 217
- guru
- Iago Prado
- Santiago Troncoso - ...
- Yudani Riobó - 223
- Andres Estévez
- Eloy Coto Pereiro
- Damián Franco
- Iago Soto
- @recuperándome
- Luis Fernandez
- Paulo Rodriguez
- Saretta Pérez
- Andrés Estévez

Click to call example



CLICK TO CALL

Click-to-call integration with IM and contextual information

The screenshot shows the VigoBank website with a chat interface overlay. The website header includes a navigation bar with "VigoBank | Home | Person" and a search bar. The main content area features a "Cash Back Bonus Offer" with a "3% cash back on gas" promotion. Below this are several promotional cards: "New account bonus" offering up to \$600, "Get Rewarded" offering up to \$100 a year, and "Fruitful thinking" promoting healthy snacking. A "Locations" section allows users to search by city, state, or ZIP code. The chat interface overlay, highlighted with a green border, includes a video call window showing an agent, a chat history, and a "Click to call" button. The chat history shows the agent asking "What's your question?" at 17:50 and the user replying "Hello, good morning!" at 17:51.

VigoBank | Home | Person

vigobank-chat.quobis.com

Cash Back Bonus Offer

Offer details

3% cash back on gas

Grocery/gas bonus rewards on \$1,500 in combined purchases each quarter.

Information for: Select a state Go

Website Ad Practices

New account bonus

\$600

Invest in a new Merrill Edge® account and get up to \$600.

Learn more »

Get Rewarded

Up to \$100 a year

Pay more than the minimum and on time to earn BankAmericard® Better Balance Rewards™ credit card bonuses.

Get started »

Fruitful thinking

Making office snacking healthy in San Francisco.

See how »

Locations

Enter city, state or ZIP Go

More search options

Other services

Select a service Go

Do you need help?

Need help with your home loan payments?

Your privacy & security

- Report phishing email
- Get McAfee® Internet Security
- View our security commitment
- Get Rapport® online fraud protection from Trusteer

Agent: What's your question? 17:50

me: Hello, good morning! 17:51

Some apps we are developing



CLICK TO CALL CONSIDERATIONS



The user is anonymous but we need to gather **interesting contextual information** to offer to the agent answering the call and for further **BI analysis**.



Open to DoS attacks. Click to call applications are likely to suffer **DoS and even fraud attacks**. It is important to mitigate this by avoiding too many simultaneous or consecutive calls from same IP/port.

You must **limit the whole number of calls** your customer can handle. This allows to minimize the impact of **DDoS attacks** and also to **collapse the call center with legitimate traffic**.

Some apps we are developing



CLICK TO CALL CONSIDERATIONS

This scenario can be implemented with Kamailio + Solution to handle media.



Contextual info can be easily transported by modifying a SIP over Websocket stack to send custom headers (use WSS for this, please). e.g. Geolocation (we can include the info provided by W3C geolocation API), `origin-url`, etc.

```
INVITE agent@customer1.quobis.com
...

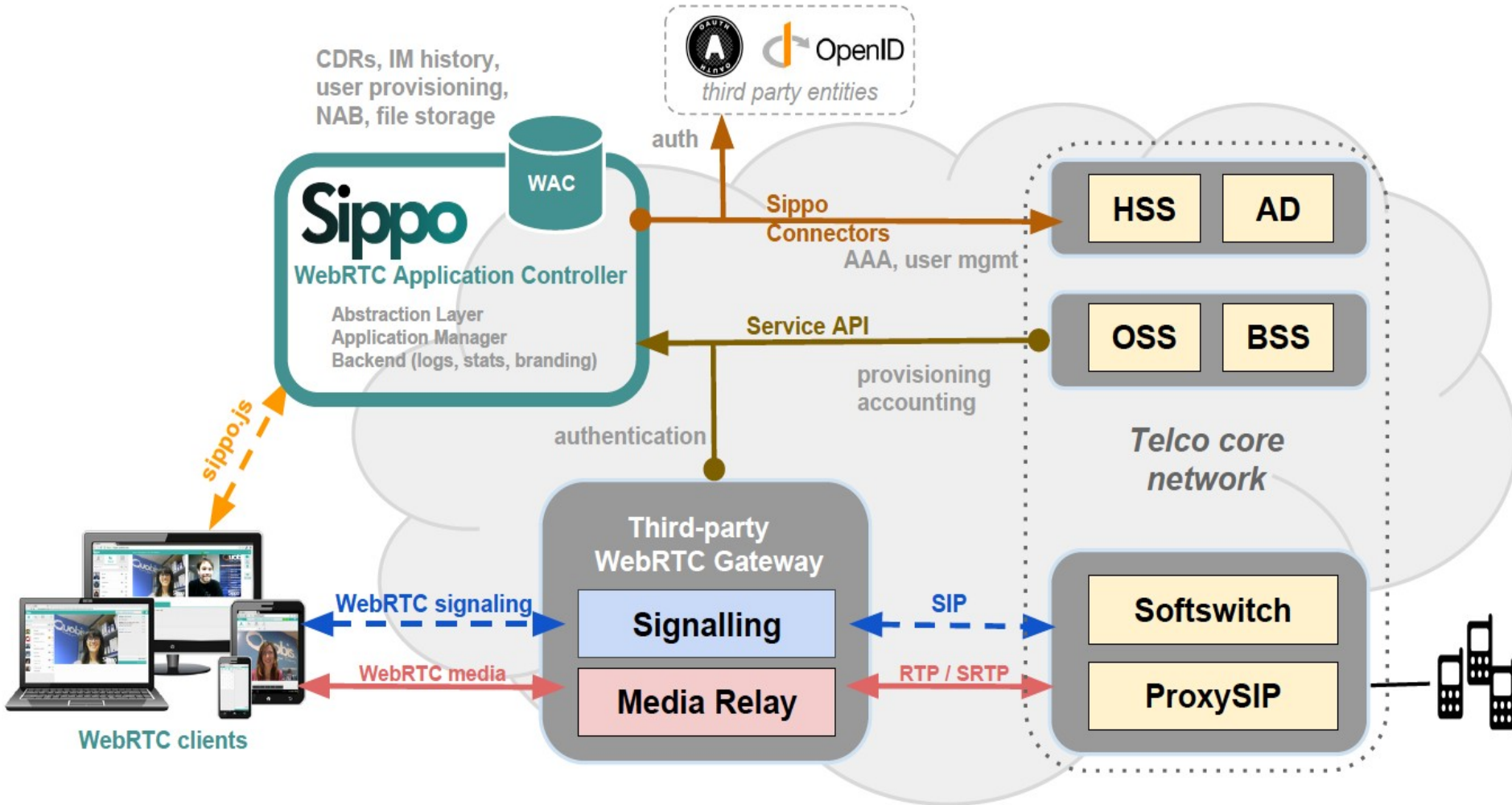
Geolocation: 52.52076229+13.40186559
Url: demo.quobis.com/c2c

...
```

We can get **source IP and port in Kamailio for CDRs** and to implement DoS protections.

We can store all this information in the **CDRs directly using Kamailio.**

Sippo WebRTC Application Controller



Quobis®
leading your ITinerary