



wac

RELEASE NOTES

Sippo wac

About this document

This document describes new features, bug fixes, corrections and upgrade procedures of a Sippo wac instance, along with other pertinent release information.

Version 4.0 – September 2019

Introduction to this version

This release includes a large refactor of the internal architecture and a number of new modules in order to comply with stricter customer requirements for security, scalability and control.

The previous monolithic architecture has been split into two modules: Sippo Application Server (Sippo AS) and Sippo Media Server (Sippo MS). At the same time, the internal architecture has been decoupled into a microservices-oriented architecture in order to scale to higher levels and taking advantage of the new virtualization and container technology.

The most relevant features included in this release are:

- Improved control on user capabilities, permissions and policies
- New methods to better integrate into existing SIP networks
- Added built-in PBX functionalities for PBX-less scenarios
- Enterprise-grade messaging capabilities
- Native mobile SDKs for iOS and Android
- Kubernetes based deployment for better scalability and resilience
- Sippo manager, a web-based user management and monitoring application

Please check the sections below for more detailed information.

Related documentation

The related documentation for this release is located in the Quobis documentation site: <https://doc.quobis.com> Extra information about Quobis and its solutions can be found also at <https://www.quobis.com>

Upgrade notes

As this release has major architectural changes, there is no standard migration path

available for customers running previous versions. Please contact your Quobis representative for a customized migration strategy.

Component version

This release is composed by the following internal components. Please note that “sippo-server” is the former “wac” service.

Sippo AS	
sippo-server	19.2.0
qss	4.3.0
oaut2-proxy	1.11.0
xmpp-server	1.0.2
message-broker	3.7-management
database	4.0
reverse-proxy	1.14.2
web-server	1.14.2
sfu-dispatcher	1.0.2

Generic	
sipposdk-js	24.2.0
sipposdk-android	0.14.0
sipposdk-ios	0.21.0
sipposdk-cpp	0.1.0
webphone	5.3.0
sippo-manager	1.1.0

Sippo MS	
sfu	0.6.3
sfu-wrapper	1.6.1
audiomixer	16.3.0
ami-wrapper	1.0.0
turn-server	4.5.1.1

Deployment	
sippo-k8s	1.2

What's new

Overview

The list below shows the overview of the main features added since the previous version at each category.

A detailed list is provided in the next subchapter.

Category	What's new
global	<p>The internal architecture has been separated into Sippo AS and Sippo MS. Besides that, new features have been implemented as a number of microservices -interconnected by a high performance message broker- to improve resilience and scalability.</p> <p>On the client side, two new mobile SDKS have been added for iOS and Android operating systems.</p>
auditing	<p>Sippo manager has been released to provide better logging and monitoring capabilities. Logs can also now be sent to an external ElasticSearch server for analytics and troubleshooting.</p>
authentication	<p>Added delegated authentication against Microsoft ADFS servers and upgraded Google oAuth to work with newer Google versions</p>
conferences	<p>Added a number of PBX-like features such as ringing groups, attended transfer, unattended transfer, onHold, etc... That means that Sippo wac can provide signalling capabilities on its own, without requiring a third-party PBX o SIP backend.</p> <p>A new service named "conferencelog" allows also to retrieve the conferences where a user has participated, including those where multiple participants are joining and leaving during the conference and also including low-level information on invited participants, rejected and accepted invites, transferred users, etc..</p> <p>On the other hand, Integration with external SIP backend has been also improved with a "SIP parallel leg" approach. That means that service providers can easily add collaboration to exiting voice-only networks.</p> <p>Room management is more powerful in this version, as it's possible to mix and match PSTN users, Sippo users and guest users in the same room. We've also change the associated logic so room ownership is now handled in a more efficient way.</p> <p>This version also improves session management when the user has more than one device and enables real multi-ringing scenarios.</p>
contacts	<p>Phonebook service has been added to better handle shared contacts and group contacts. In addition to personal contacts and domain contacts, administrators can now defined a set of contacts that are assigned to specific users or groups. Users can also manage their own private phonebooks in addition to the ones created by the administrator. Improved mobile and directory synchronization of contacts is also included in this version.</p>
deployment	<p>Deployment over Docker infrastructure is now fully supported and it's the recommended deployment choice for trials and PoCs. Automation has been done with Ansible scripts that don't require any manual installation. On the other hand, deployment over Kubernetes infrastructure is now the default choice for production environments. Deployments over public cloud are now also supported in Amazon AWS and Microsoft Azure.</p> <p>On the testing side, a number of load testing scripts and functionality testing scripts are available using third-party QA tools, in order to test the deployment before production.</p>
media	<p>Sippo MS has been included into the architecture so a third-party WebRTC media server is now an optional choice. This media server can handle H264, VP8 codecs and is also able to interact with traditional voice networks using G711 codecs.</p> <p>This version also enables screen sharing from Chrome and Firefox without requiring a plugin (desktop only).</p>
meetings	<p>Meetings have been refactored to make them more flexible and manageable, so that they can have a DDI assigned to access the meeting from PSTN or PBX (dial-in).</p>
messaging	<p>This version incorporates a completely redesigned messaging service, that allows to have</p>

	permanent chat between users, personal chat rooms, predefined chat rooms and other improvements. It also adds new user capabilities so administrators can allow or disallow messaging functions to users and user groups. That means for example that some user can have chat functions or are able to create groups, while others cannot do that.
notifications	Mobile notification have been improved both on iOS Callkit and Android Callservice, with deeper integration with the existing javascript SDK and the new native SDKs. One to one Incoming chat messages are also notified with a push message.
recording	This version allows to configure recording layouts and specify container and codec specifications for stored recorded file. In addition, new integration options with storage services allows to actively notify about a file ready to be stored (or share with participants)
users	Users can now be classified into groups. That allows new use case such as to define ringing groups to call all participants of a predefined group, and also to have predefined phonebooks.

Detailed features

Find below a complete list of new features included in this release:

Key	Summary
ROAD-57	Connector to AD/LDAP for OAuth authentication
ROAD-78	Ability to delegate authentication with Google OAuth
ROAD-580	Ability to delegate authentication with MS ADFS
ROAD-102	Domains can have default contacts that are searchable to every domain user
ROAD-192	Added abstraction layer to support different database schemas
ROAD-239	Ability to distribute Sippo AS and MS microservices into several hosts
ROAD-407	Ability to customize recording layout
ROAD-407	Ability to customize recording video container
ROAD-395	Recording support for h264 and vp8
ROAD-318	Added "SIP parallel leg" functionality to interop with SIP networks
ROAD-320	Sippo manager: user management (create, edit, update, delete)
ROAD-320	Sippo manager: dashboard with business KPI and system status graphics
ROAD-325	Native iOS SDK
ROAD-417	Native Android SDK
ROAD-337	Send audio and video clips
ROAD-386	Ability to send DTMFs on the SIP channel on conferences (RFC2833 and RFC4733)
ROAD-400	Added "Agent assigner" service to interact with external services in contact-center scenarios.
ROAD-452	Toggle camera support for SippoSDK-JS and SippoSDK-iOS
ROAD-469	Ephemeral chat group for anonymous rooms
ROAD-499	Support for getNativeDisplayMedia: Firefox, Chrome
ROAD-395	Recording support for H264 and VP8
ROAD-505	REST conference status exposition
ROAD-507	Support to transfer of PSTN calls to other Sippo users or PSTN
ROAD-537	Improved security login mechanism
ROAD-576	Improved signalling headers to identify "to" field in parallel-SIP environments
ROAD-596	OAuth2 tokens can have now a expiration time and argument name
ROAD-597	Support to remote logging into an Elastic Search instance
ROAD-598	User alias enhances: editable by waccli and allow dots in users' aliases regular expression

SDK improvements

Javascript SDK – version 24

The Javascript SDK (sippo.js) has been redesigned in this version, thanks to an internal refactor that has eliminated all the previous QoffeeScript code and which results now in all the code begin ECMAScript-based.

The SDK incorporates new methods in order to provide access to the new backend functionalities, specially around “conferences” and “messaging” categories. Typescript type definitions are also included since this version. Please note that this version add as new requirement to include the additional library “adapter.js”, please check this [URL](#) for more information.

Please check the SippoSDK JS documentation for more information.

iOS SDK – version 0.21

Sippo wac 4.0 includes the first public native iOS SDK version. That means that customers can now develop native iOS applications in addition to hybrid applications (that can still be developed with the Javascript SDK and Cordova framework).

Native applications have a better performance that hybrid applications, less latency, better usability and also provide a more integrated access to the operating system functionalities without the need of plugins.

Key features supported on this first version are:

- One to one audio and video calls
- Multi-party audio and video calls
- Messaging (1-to-1 and groups)
- Contact management
- Group management
- Meetings management
- Presence

These are the most relevant requisites:

- iOS Version: iOS 10 or higher
- Devices supported: any device running iOS 10 or higher
- XCode version: 10.2.x or higher

As relevant elements:

- Code is developed with Swift5
- An API is exposed for callbacks and/or ReactiveExtensions (RxSwift)
- This SDK was not tested on other devices such wearables and smartTVs. Some limitations could be found.

More information can be found on the iOS SDK documentation site.

Android SDK – version 0.14

Sippo wac 4.0 includes with the first public native Android SDK version. That means that customers can now develop native Android applications in addition to hybrid applications (that can still be developed with the Javascript SDK and Cordova framework).

Native applications have a better performance than hybrid applications, less latency, better usability and also provide a more integrated access to the operating system functionalities without the need of plugins.

Key features supported on this first version are:

- One to one audio and video calls
- Multi-party audio and video calls
- Contact management

These are the most relevant requisites:

- Minimum Android version: 5.0 Lollipop
- API level: 21 or higher
- Devices supported: any device running Android 5.0 or higher

As relevant comments:

- This SDK was not tested on other devices such as wearables and smartTVs. Some limitations could be found.

More information can be found on the Android SDK description site. A detailed list of new functionalities added in this release can be found in section "Detailed list".

Detailed list

Not all the SDKs have the same coverage of the backend functionalities, being the Javascript SDK the most complete. The following link includes a complete feature matrix of every feature supported on the current release for each SDK.

REST API improvements

This version of the REST API has a number of new methods in order to allow external systems to interact with the new backend functionalities available in this release, specially around conference management, user management and phonebook management.

More information can be found on the REST API documentation site

Resolved issues

Find below a table with all the Sippo WAC related bugs detected and fixed from previous version on the current 4.0 release.

Key	Summary
QA-404	Call history shows a regular expression instead of group name
QA-423	Sippo WAC crashes when a user associates a phone number
QA-427	Every PSTN participant in a room is kicked out when a PSTN participant is kicked out by the room owner.
QA-430	A wrong error code 500 is returned when trying to create an already existing domain
QA-431	Some invites are not deleted under specific situations
QA-438	Mobile devices don't receive displayName in the push notification from an anonymous call
QA-445	Accepted calls from PSTN are not being logged into CDRs
QA-447	All the calls from PSTN to a group are saved in database as part of the same conference entry
QA-458	Cannot remove pendingMessage

QA-459	Dispatcher gets restarted when user try to call
QA-462	cancelPendingMessage shows an uncaught error
QA-463	Send two invites to the same conference and user causes it to finish abruptly
QA-469	Incoming multimedia chat messages do not generate a push notification
QA-470	Update the date of a meeting doesn't update the auto elimination date
QA-476	Call doesn't finish for the callee when the caller press the hangup button on the thumbnails
QA-478	Two session registrations are stored when a user installs and uninstalls the app with the same push ID.
QA-483	The edition of a meeting is not notified to the participants
QA-488	Unexpected behavior in consecutive conferences with multiples participants
QA-490	Call history does not resolve the user of established incoming calls by link
QA-491	sippo-server fails to start/restart due to parsing an error from message-broker
QA-497	No error is replied when a non-existing wac-address is added to usersGroup
QA-508	A notification with text "nil" is received when a mobile app is killed on mobile devices
QA-509	Some notifications arrive twice (double notifications) in mobile devices
QA-511	Mobile devices stop receiving push notifications after a reboot
QA-524	Slow queries and memory leak in sippo-server related to callControl service
QA-525	Read messages are notified again as unread
QA-527	Messages received with the app in background aren't displayed into the chat
QA-528	Calls keeps ringing in Callkit after cancellation by the caller
QA-533	Xmpp-server fails to retrieve authentication configuration with fcm and apns (push notifications)
QA-539	Calls keeps ringing in callkit after be accepted in a different device
QA-542	The Sippo-API method "OAuth2 - Revokes a bearer token" is not working
QA-544	Calls to PSTN not hanging up correctly if the caller hangs up before the callee answers
QA-545	Meetings and consecutive conferences with multiples participants aren't compatible
QA-551	Users get blocked after being in a meeting and leaving abruptly
QA-553	Meeting's access code doesn't allow users to join the same meeting room as system users
QA-554	Restore session does not check if the session is still valid
QA-555	Caller remains alone inside the room when calling a not available user,
QA-561	A logged user in mobile app is still candidate for push notification when he/she is in call
QA-563	Domains' defaults do not include the chat service
QA-565	Caller remains in "Disconnecting" state when canceling a call
QA-568	The message-broker doesn't reconnect properly with other services after a restart
QA-571	Microphone permission is not requested when you try to establish a call
QA-573	Chats are not notified neither displayed when you pass the app to foreground having two sessions active (on two devices)
QA-607	Attached files on group chats disappear when you reload the app
QA-609	Chat order is not persistent after application restart
QA-610	Chat does not go to the first place in the list when a user sends a message
QA-623	Conference log entry doesn't exist after calling a group where every candidate is in the background
QA-624	Sent chat messages aren't synced between devices with the same login account in chat groups
QA-650	SIPoWS stops working on iOS devices because of JS promise deprecations
QA-651	Calls received with the app in background can not be established
QA-678	Sippo-server won't boot with phonebook service enabled and usersgroup disabled

QA-686	Chats notifications disappear and never are displayed again when the app is closed and opened again
QA-688	Own messages are not received in other connected devices in group chats
QA-743	Group chats are deleted if the connection to the server is broken
QA-767	SIP users keep in connecting status while trying to join a conference in a parallel-SIP environment
QA-768	SIP invite is rejected with User Busy instead of User Not Found when user is not available in parallel-SIP environments

Version 3.1 – December 2017

Introduction to this version

It has been over a year since the last release, but Sippo is now a complete mature RTC framework. Not only is it able to handle several use cases, this new release comes with the expansion to multiple platforms, some new signalling engines and a robust backend that makes it a serious global actor on the RTC solutions. Also the SDK has matured being able to cover more platforms and signalling schemas.

Sippo WAC provides now a complete clustering structure and the ability to be broken down into multiple services, making it a more flexible tool on the architecture design. Not only does this make it easier to adapt to existing infrastructures, it also provides the ability to scale horizontally thanks to the integration of a message broker software. Thanks to all of this, Sippo will be able to support thousands of concurrent calls.

Another important improvement is the QSS (Quobis Signaling Server) addon, an internal signalling server abstraction made to simplify the multiple signalling paradigms proposed by different vendors. The specific vendor signalling is still required on the client side, but this addon allow us to keep the same SippoSDK application running on the call-oriented paradigms and also on the API room-oriented scenarios. This addon also allow Sippo to abstract the push notifications issues to interconnect PSTN/VoIP networks with the WebRTC world on terms of synchronism.

And last but not least, the Safari 11 support. With the inclusion by default on iOS 11, Apple browser is now in the WebRTC game, and Sippo is ready to join into the party. Now full support is available without plugins or native applications on iOS. It works directly on the default Mac OSX and iOS browsers. Safari 11 is now in the race.

New features

- Ability to create multi-service architectures
- QSS module: SFU / MCU / call abstraction
- Tokbox and Janus SFU support

Improvement

- WAC clustering and HA improvements
- WAC load balancing (tested with thousands of concurrent calls)
- Safari 11: SippoSDK is now adapted to support Mac OSX and iOS default browser natively
- SippoSDK AngularJS adaptation

Version 3.0 – September 2016

Introduction to this version

Sippo WAC was evolved to a solid rock engine. New developments, refactoring, redesign the old ones... This version advances on scalability and robustness without stop launching new features.

The big new step in this release, is the S-API, on the previous versions, it was more focused on per-service specs, now a complete S-API is used based on the OAuth2 server introduced at 2.3. This increases the options of the WAC including media engines handling, SMS backbones, authentication backends, etc.

The result is a solid application server, where the applications now have better features and specs available.

New features

- Abstraction for MCU or SFU integration for recording and static rooms
- Room events storage
- SMS backend
- Docker based deployment system

Improvements

- Improved HA and scaling architecture
- Improved token-based authentication
- Improved WAC users internal architecture

Version 2.4 – February 2016

Introduction to this version

This version takes a big new step in order to provide advanced contact center features: recording, form completion and recover, multi-conference support, 3rd party call IDs, more robustness tests and a complete review of web interface for the WAC console.

But the WAC is still a multi-purpose tool, so meetings and collaborative actions are improved, increasing the possible use cases. Whiteboard with image sharing, REST interface for meetings, and the multi-conference are examples of the collaborative use case improvement.

New features

- Conference recording support based on 3rd party Media Server
- Form recovery, to retrieve previous call feedback information for same customer
- REST interface to manage Meetings
- admin user logs for administration audit
- DoS (failed login) detection
- Push notifications for mobile applications

Improvements

- WAC Console web interface review
- Improved log structure
- Improved anonymous login and flexibility
- Token authentication improved

Version 2.3 – June 2015

Introduction to this version

This version provides general improvements on security (token interchange, QoS storage, temporary credentials, oAuth) and system operation, along with some new server-side services such as multi-party chat, contextual info and enhanced network address book.

New features

- Tools for managing different user profiles
 - Server mode to Data Pipe to deliver the message throughout the WAC instead of using Data Channels
 - Support of OAuth authentication
 - Call re-hydration
 - Ability to activate or deactivate campaign
 - REST interface to manage form templates
-

Improvements

- Method to provision users automatically via CLI
- Expose summary of QoS stats via service API
- Possibility to retrieve CDR without filtering by user
- Expose call feedback through the service API
- Provide a mechanism to check the authenticated user's profile and authorize a request or not based on its roles
- Improved search box including filters
- General improvement of Sippo administration portal

Version 2.2 – May 2015

Introduction to this version

This version provides general improvements on security (token interchange, QoS storage, temporary credentials, oAuth) and system operation, along with some new server-side services such as multi-party chat, contextual info and enhanced network address book.

New features

- Ability to set up on/off policies for non-authenticated scenarios based on hour/day parameters
- Network Address Book service now supports the integration with Google contacts
- Extend orca.js methods in sippo.js to support Logger, File-sharing and Call history
- Improved CLI commands to manage contacts and enable external apps to provision the WAC using the Service API
- A new type of “guest” user can be provisioned on the WAC with temporary credentials, this is very useful to create invitations that are only valid for a specific timeframe.
- Docker support available as a deployment platform
- Chat group availability in the “Chat” service.
- Contextual info for both parties in a call is now stored in the WAC and can be consumed from the applications when set as a capability.
- Security: User with a digital certificate can now auto-login using the certificate credentials.
- Identity: Added oAuth 2.0 protocol support (server-based role) as described in RFC6749
- Authentication server integration with selected WebRTC gateways (token-based)
- Improved support for different vendor-proprietary stacks and SDKs

Improvements

- VU-meter bar is now available for any signalling vendor stacks, not just for SIPoWS
- Improved CLI commands to manage contacts and enable external apps to provision the WAC using the Service API
- A new interface “wiface” (“WAC interface”) has been added to the controller, which gives greater flexibility to assign WAC services to different IP, ports or wiface IDs
- File transfer capability can be done through the WAC using the sippo.js API (uploading via WAPI, downloading via HTTPS) in addition to peer-to-peer transfers.

Bug fixing

- Mute/unmute only worked in the first call of every session
- Contact header was missing in reINVITES

- Fixed an issue in the SDP description with "a=rtcp:" including invalid IP
- Fixed a bug that created echo for the caller under several circumstances

Version 2.1 – December 2014

Introduction to this version

This version has a “Service Oriented Architecture” with the introduction of “services” and “backends” as a modular approach to better adapt to customer requirements. In addition, all WAC configuration is moved to a single file “wac.ini” for simplicity and easiness of use.

New features

- Added a new system interface, WAPI (WAC-API), for reliable bi-directional communication between the WAC and the WebRTC clients
 - Added support for Genband SPiDR platform (via WAC Abstraction Layer)
 - Added support for BroadSoft BroadWorks platform (via WAC Abstraction Layer)
 - Existing modules are integrated into services and backends: Aggregator, Auth, CallDirection, CallLog, Capabilities, Chat, CLI, Contacts, Credentials, FileTransfer, LDAP, IM, Log, Login, Presence, SAPI, Selfcare, Sessions, Storage, WAPI, Webserver.
 - New services developed for this version: Aggregator, Capabilities, Chat, CLI, GroupManagement, Rooms, Stats.
 - Improved Auth service with “anonymous authentication” feature
-

Improvements

- Ability to use the same port and different paths for both WSS in the API and for HTTPS
 - Ability to link an IP interface to a specific backend or to a service
 - Added CORS support to prevent cross-domain issues with the reporting API
 - Added unique identifiers to WAPI messages for better troubleshooting
-

Bug fixing

- Fixed a bug that prevented file sharing when using a SSL-secured site
 - Fixed a bug that was ignoring the -P parameter in the “wac-cli” command
 - Several other minor bugs fixed
-

Version 2.0 – June 2014

Introduction to this version

This is the first version written on top of sippo.js, which is major change from the previous versions which were developed for specific vendor's API. In addition, sippo.js is a ORCA-compliant API.

New Features

- Added support for the RCS API when using Alcatel-Lucent gateways
 - Ability to receive WebRTC stats for post-processing
 - Added a bidirectional comms channel between web clients and the WAC using Websockets and REST.
-

Bug fixing

- Several errors and bugs fixed

Version 1.2 – April 2014

Introduction to this version

Minor version, improved support for Alcatel-Lucent gateway and improved logs support.

New Features

- Added support for Alcatel Lucent gateway (SIPoWS) and New Conversation API for advanced features
 - Added CallLog module to perform a log of all the calls send/received
 - Added JSON-backed credentials backend
 - Added NoSQL-backed credentials backend
-

Improvements

- Logs are integrated into the WAC logging backend for enhanced troubleshooting
-

Bug fixing

- Several minor bugs fixed

Version 1.1 – December 2013

Introduction to this version

Minor version, improved support for contact management features.

New Features

- Support for LDAP connections in the NAB module
 - Support for Active Directory in the NAB module
 - Added support for Ericsson WCG gateway (proprietary API)
-

Bug fixing

- Several minor bugs fixed

Version 1.0 – March 2013

Introduction to this version

This is the first stable version of the Sippo WAC, which has been submitted to several customers for lab testing.

New Features

- NAB supports default contact for all users (non deletable)
 - File transfer support (websocket transport)
 - Default contact creation in the Network Address Book module
-

Bug fixing

- Several minor bugs fixed

Version 0.2 – April 2013

Introduction to this version

Draft version showcased at several industry events along with first version of Sippo WebCollaborator. This version supports only SIPoWS gateways.

New Features

- Integrated HTTP server
- Integrated local-based Network Address Book
- Integrated 1-to-1 presence server (using SIPoWS messages)
- Integrated 1-to-1 messaging server (using SIPoWS messages)

Version 0.1 – December 2012

Introduction to this version

Initial draft version, only for internal usage and some lab PoCs.