

# What's New in VoipNow 3.5.0

VoipNow 3.5.0 comes with more than 300 improvements all the way from architecture down to UX. This list covers only the high impact improvements, but more details are available in the [Release Notes](#).

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## Big Data, Search and Analytics Engine

The new Big Data, Search and Analytics engine is able to index virtually any information in order to be searched and analyzed. In VoipNow 3.5, we started the migration of the call records to the new engine. This makes it possible to perform complex queries on billions of call records in real-time, without any performance degradation. Call records are also stored in MariaDB database for convenience, but the MariaDB storage will be slowly transitioned in the future to a buffer-role only. During the upcoming iterations, more events will reach the new engine, for example the events generated by call queues.

## Worker Engine

The Worker Engine introduces the ability to offload resource consuming tasks to a dedicated layer. This is beneficial for multiple reasons:

- allows for better infrastructure scaling by taking complex tasks from core components
- makes the system more responsive, as processing does not have to happen in sync
- allows us to add features that have been previously impossible to integrate due to their high resource requirements

For example, all call records are indexed into the Big Data, Search and Analytics Engine with the help of a worker task.

## WebRTC over SIP

WebRTC over SIP with audio and video support on all desktop and mobile browsers makes device-independent phone experience possible. The new WebRTC stack provides all features available on normal phones, simplifying access to telephony functions and opening the gate for interesting new features.

While the WebRTC client is part of Hubgets, we will provide a development library to allow our customers to integrate WebRTC into their applications.

## Audio and Video Codecs

On the audio side, we added support for Silk, Siren and Opus codecs. Opus codec implements FEC (Forward Error Correction) and provides exceptional voice quality, even on poor wireless network connections.

As far as video goes, we added support for VP8. Audio transcoding paths have been improved in order to reduce the CPU usage and reduce latency.

VoipNow Mobile 2.0 will support audio Opus (FEC) and VP8.

## Media Encryption

We simplified the call encryption setup and we made substantial improvements in order to extend VoipNow encryption support. The media encryption supports SDDES and STLS-SRTP standards.

Encryption is vital for call security and provides additional benefits as well. For example, it makes it very hard for wireless carriers to block VoIP traffic.

## STUN and ICE Support

The NAT traversal capabilities have been improved with STUN and ICE support. We also deployed a geo-distributed STUN infrastructure that can be used with no additional costs by all VoipNow service providers.

## RHEL7 / CentOS 7 Support

VoipNow 3.5 introduces support for Red Hat Enterprise Linux 7 Update / CentOS 7.1, which has become the operating system of choice for new deployments. While we will provide packages for RHEL 6 and CentOS 6 in the next years, we highly recommend to switch to the new OS as it provides better performance especially on busy I/O environments.

## SELinux and Firewall

There are many security improvements in VoipNow 3.5, but two of them have a more significant impact: we added SELinux support, which enables the host security system, and an integrated network firewall that protects all services from network threats based on the node role.

## Higher Quality Recordings

Not only are sounds shipped with VoipNow HD quality, but recordings and voicemails too sound much better as long as the voice is transmitted through channels that use wideband codecs.

## Better Conferencing

We refactored the conferencing function in order to improve its performance with many participants. We took the first steps towards enabling video conferencing, which will be available in a future update.

## Faster Backups

We have refactored and improved the backup functions to make them easier to use and more reliable. The MySQL backup has been dramatically improved, so you should not experience performance degradation during the database backup, even when you have a large database.

## New Password Management

We improved UI and password validation in order to increase the strength of VoipNow passwords without frustrating users with crazy password requirements. This is an important security measure considering that a lot of attacks on VoIP stack are based on password guessing techniques.

## Better UX

We changed the look of the web management interface, made it more consistent and nicer. Five different color themes are provided.