

# System requirements

## Server requirements

Webitel telecommunication platform is based on multi-protocol softswitch called [FreeSWITCH](#) along with [Docker](#) microservice architecture.

[More about architecture.](#)

- [Server requirements](#)
- [Software](#)
  - [Recommended distributions](#)
  - [File system](#)
- [Hardware](#)
  - [Up to 20 users](#)
  - [Between 20 and 50 users](#)
  - [Between 50 and 100 users](#)
  - [Between 100 and 500 users](#)
  - [More than 500 users](#)
- [Connection requirements](#)
  - [Local network](#)
  - [Internet connection](#)
- [Client-side requirements](#)

## Software

Webitel can be installed using any 64-bit Linux distribution that uses kernel version 3.16 and up, Docker 18.03 and up and docker-compose 1.20.

### Recommended distributions

- [Ubuntu](#) Server 18.04 LTS
- [Debian](#) Stretch 9

### File system

- **EXT4** - can be used as the primary file system for installations under 50 users
- **XFS** - recommended for use if the number of users is greater than 50

## Hardware

Webitel can be installed using both virtual machines and dedicated ( physical ) servers.

List of compatible (tested) virtual machines:

- Microsoft HyperV 2008 R2 and up
- Citrix XenServer 7.0 and up
- Amazon AWS
- Google Cloud Engine Instance
- [DigitalOcean](#)

Hardware requirements depend on a list of factors:

- Number of simultaneous calls
- Usage of call recordings
- Usage of Text-to-Speech feature
- Dialer usage

You may find the minimal requirements in the tables below. Please contact one of Webitel managers for more specific information.

### Up to 20 users

| Hardware          | Minimal requirements |
|-------------------|----------------------|
| Number of servers | 1                    |
| CPU               | Intel Core i3        |
| RAM               | 8 Gb                 |
| HDD               | 500 Gb               |

## Between 20 and 50 users

| Hardware          | Minimal requirements |
|-------------------|----------------------|
| Number of servers | 1                    |
| CPU               | Intel Core i5        |
| RAM               | 16 Gb                |
| HDD               | 500 Gb x 2 (RAID1)   |

## Between 50 and 100 users

| Hardware          | Minimal requirements           |
|-------------------|--------------------------------|
| Number of servers | 1                              |
| CPU               | Intel Core i7<br>Intel Xeon E5 |
| RAM               | 24 Gb                          |
| HDD               | 500 Gb x 2 (RAID1)             |

## Between 100 and 500 users

| Hardware          | Minimal requirements                       |
|-------------------|--|
| Number of servers | 1 - 2                                      |
| CPU               | Intel Xeon E5 or newer                     |
| RAM               | 32 Gb                                      |
| HDD               | 1000 Gb x 2 (RAID1)<br>500 Gb x 4 (RAID10) |

## More than 500 users

| Hardware          | Minimal requirements                       |
|-------------------|--|
| Number of servers | 3 - 5                                      |
| CPU               | Intel Xeon E5 or newer                     |
| RAM               | >= 24 Gb                                   |
| HDD               | 1000 Gb x 2 (RAID1)<br>500 Gb x 4 (RAID10) |

# Connection requirements

## Local network

- Proper routing configuration for PCs and SIP devices to the Webitel server;
- Port speed should be at least 100 Mbps;
- Average result of "ping" between user's PC and Webitel server should be below 150ms;
- Packet Loss should be below 5%;
- Jitter should stay lower than 80 ;
- LAN should not include equipment that blocks or modifies the network packets that transmit voice.

## Internet connection

- Requirements for ping, Packet Loss, Jitter are the same as the LAN ones;
- In order to set up proper sound quality using G.711, G.722, OPUS or speex codecs, each user needs to have access to full duplex channel with 88-256 kbps port speed;
- When using G.729A, G.726, GSM or iLBC codecs each user needs channel with 88-256 kbps port speed;

- Port speed should be between 256 and 2048 kbps in order to be able to use video conferences, depending on the video quality (codecs VP8, VP9, H263, H264).

## Client-side requirements