

EZPBX-2000 IP-PBX Installation Guide

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About EzVoiceTek



Ezvoicetek Co., Ltd. was founded by a team of specialist in the area of CTI, Contact Center, IVR, VOIP and Telecommunications. We concentrate to provide the IPV6+IPV4 SIP server farm solution including SIP proxy server, IP-PBX, SIP surveillance server and Qos Monitor to our partner, system integrator and value added reseller. All Ezvoicetek solutions are provided to support both IPV4 and IPV6 dual stack simultaneously. We provides a painless migration path from IPV4 to IPV6 network. EzVoiceTek Co., Ltd.

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1 CentOS 5.x Linux Installation

1.1 Installing CentOS 5.x

This is a tutorial for installing Centos on a server machine. For advance CentOS user, this chapter can be skipped. Please note that MYSQL is a must to be installed before you can do the installation.

Step 1: Insert CentOS DVD into server CDROM and power on the server. The following screen will appear.



Step 2: Press Enter key to start the installation. The following screen will appear,



Step 3: Normally, you can select *Skip* to continue the installation. The following screen will appear.



Step 4: Click *Next* button to continue. The following screen will appear.

CentOS	
What language would you like to use during the Installation process?	
Chinese(Simplified) (简体中文)	•
Chinese(Traditional) (繁體中文)	
Croatian (Hrvatski)	
Czech (Čeština)	=
Danish (Dansk)	
Dutch (Nederlands)	
English (English)	
Estonian (eesti keel)	
Finnish (suomi)	
French (Français)	
German (Deutsch)	
Greek (Ελληνικά)	
Gujarati (ગુજરાતી)	

Step 5: Select the language you are preferred. In our case, we select *English* language and click *Next* to continue. The following screen will appear.

Select the appropriate keyboard for the system. Sovenian Spanish Swedish Swiss French Swiss French Swiss French Swiss Comman
Select the appropriate keyboard for the system. Slovenian Spanish Swedish Swiss French Swiss French (latin1) Swise Gorman
Slovenian Spanish Spanish Swedish Swiss French Swiss French (latin1)
Spanish Swedish Swiss French Swiss French (latin1)
Swedish Swiss French Swiss French (latin1)
Swiss French Swiss French (latin1)
Swiss French (latin1)
Swiss Gorman
SWISS GEIMAN
Swiss German (latin1)
Tamii (Inscript)
Tamil (Typewriter)
Turkish
U.S. English
U.S. International
Ukrainian
United Kingdom

Step 6: Select the *Keyboard* type (in this case, we use U.S. English) and click *Next* to continue. The following screen will appear.

Select the appropria	Ite keyboard for the system.	
Slovenian Spanish Swedish Swiss French Swiss French (latin1 Swiss German Swiss German (latin Tamil (Inscript) Tamil (Typewriter)	Warning The partition table on device sda (VMware, VMware Virtual S 20473 MB) was unreadable. To create new partitions it must be initialized, causing the loss of ALL DATA on this drive. This operation will override any previous installation choices about which drives to ignore. Would you like to initialize this drive, erasing ALL DATA?	A
Turkish U.S. English U.S. International Ukrainian		=
Release Notes	Jack [

Step 7: Since it is a fresh installation, click $\ensuremath{\textit{Yes}}$ and continue the installation. The following screen will appear.

CentOS		
Installation requires partitioning of your hard drive. By default, a partitioning layout is chosen which is reasonable for most users. You can either choose to use this or create your own.		
Remove linux partitions on selected drives and create defa	JIT layout. 🗲	
Encrypt system Select the drive(s) to use for this installation. Sda 20473 MB VMware, VMware Virtual S		
Advanced storage configuration		
Advanced storage configuration Review and modify partitioning layout		

Step 8: Check "*Review and modify partitioning layout*" to view the partition layout and click *Next* to continue. The following screen will appear.

🏶 CentO	
Installation requires partitic By default, a partitioning la reasonable for most users.	ining of your hard drive. yout is chosen which is You can either choose
to use this or create	Warning
Remove linux partit Encrypt system Select the drive Sda 204	You have chosen to remove all Linux partitions (and ALL DATA on them) on the following drives: sda (VMware, VMware Virtual S 20473 MB) Are you sure you want to do this? <u>No</u> <u>Yes</u>
Advance	red storage configuration
Review and modify part <u>Belease Notes</u>	Itioning layout

Step 9: Click **Yes** to remove the existing partition (if there is any) and the following screen will appear.

Drive /dev/sda (20473 MB) (Model: VMware, VMware Virtual S) Image: State		
Drive /dev/sda (20473 MB) (Model: VMware, VMware Virtual 5) Image: State 20371 MB Image: State 2037		
Drive /dev/sda (20473 MB) (Model: VMware, VMware Virtual S) sda2 20371 MB New Edit Device Mount Point/ RAID/Volume Type Format Size Start Edit Device Mount Point/ RAID/Volume Type VolGroup00 20352 LogVol00 / ext3 ✓ LogVol01 swap Veland Drives ✓	🛞 Сег	
Drive /dev/sda (20473 MB) (Model: VMware, VMware Virtual S) sda2 20371 MB New Edit Device Mount Point/ Type Format Size RAID LVM LVM VolGroup00 20352 LogVol00 / ext3 4 18848 LogVol01 swap 1504		
Drive /dev/sda (20473 MB) (Model: VMware, VMware Virtual S) \$da2 \$20371 MB New Edit Device Mount Point/ Type Format Size Start Endit Device Mount Point/ Type Format Size Start End VolGroup00 20352 LogVol00 / ext3 4 LogVol01 swap Swap 1504		
sda2 20371 MB New Edit Device Mount Point/ Type Format Size Start Endit Value VolGroup00 20352 LogVol00 / ext3 ✓ 18848 LogVol01 x Hard Drives		Drive /dev/sda (20473 MB) (Model: VMware, VMware Virtual S)
New Edit Delete Reget RAID LVM Device Mount Point/ RAID/Volume Type Format Size (MB) Start End Image: Comparison of the start of the star		sda2 20371 MB
New Edit Delete Reset RAID LVM Device Mount Point/ RAID/Volume Type Format Size (MB) Start End ✓ LVM Volume Groups ✓ 20352 ✓ ✓ ✓ VolGroup00 20352 ✓ ✓ LogVol00 / ext3 ✓ 18848 LogVol01 swap ✓ 1504 ✓		
New Edit Delete Reset RAID LVM Device Mount Point/ RAID/Volume Type Format Size (MB) Start End Image: Constraint of the second se		
Device Mount Point/ RAID/Volume Type Format Size (MB) Start End ▼ LVM Volume Groups 20352 20352 18848 1 ✓ VolGroup00 / ext3 √ 18848 1 LogVol01 swap √ 1504 ✓	New	Edit Delete Reset RAID LVM
▼ LVM Volume Groups ■ ▼ VolGroup00 20352 LogVol00 / ext3 √ 18848 LogVol01 swap √ 1504 ▼	Device	Mount Point/ RAID/Volume Type Format Size (MB) Start End
▼ VolGroup00 20352 LogVol00 / ext3 √ 18848 LogVol01 swap √ 1504 ▼ Hard Drives ▼ ▼	▼ LVM Volume Grou	ups
LogVol00 / ext3 √ 18848 LogVol01 swap √ 1504 ✓ Hard Drives ✓	▼ VolGroup00	20352
LogVol01 swap 🖌 1504	LogVol00	/ ext3 🖌 18848
▼ Hard Drives	LogVol01	swap 🖌 1504
	✓ Hard Drives	
Hide RAID device/LVM Volume <u>G</u> roup members	Hide RAID device	/LVM Volume <u>G</u> roup members
	1 Release Notes	
	<u>Release Notes</u>	

Step 10: Modify the partition layout based on your requirement or you can keep it as default. Click *Next* to continue and the following screen will appear.

CentOS	
The GRUB boot loader will be installed on /dev/sda.	
O No boot loader will be installed.	
to boot from the list. To add additional operating systems, which change the operating system booted by default, select 'Default' t Default Label Device	are not automatically detected, click 'Add.' To by the desired operating system.
CentOS /dev/VolGroup00/LogVol00	
	Edit
	Delete
A boot loader password prevents users from changing options pails recommended that you set a password.	ssed to the kernel. For greater system security,
Use a boot loader password Change password	
Configure advanced boot loader options	

Step 11: Keep the default setting and click *Next* to continue. The following screen will appear.

Network Devices	
Active on Boot Device IPv4/Netmask IPv6/Prefix eth0 DHCP Auto	Edit
Hostname Set the hostname: <u>automatically via DHCP</u>	
<u>manually</u> <u>ezsipi6000svr1</u> Miscellaneous Settings	(e.g., host.domain.com)
Gateway: Primary DNS:	
Secondary DNS:	

Step 12: Select Hostname to manually and input the host name (e.g. ezsip6000svr1). Click *Edit* to setup the IP address for IPV4 and IPV6. The following screen will appear.

Step 13: Enable IPV4 and optional to enable IPV6 configuration. Input IP address for IPV4 and optional IPV6 as above picture. Click *OK* and the following screen will appear.

🏶 Co	
Network Dev	vices
Active on Bo	ot Device IPv4/Netmask IPv6/Prefix <u>E</u> dit
2	eth0 192.168.16.10/24 2001:1009::10/64
Hostname	
Set the hostna	ame:
O <u>a</u> utomatic	ally via DHCP
Imanually	ezsip6000svr1 (e.g., host.domain.com)
Miscellaneou	us Settings
<u>G</u> ateway:	192.168.16.254
Primary DNS:	168.95.1.1
Secondary DN	NS: 168.95.192.1
	tas A Back A Nevt

Step 14: Input IPV4 default gateway and DNS server settings as above picture. Click *Next* to continue and the following screen will appear.



Step 15: Select the time zone you are located. Click *Next* to continue and the following screen will appear.



Step 16: Enter the root password. Please don't use a strong password for security reason. Click *Next* and the following screen will appear.

CentOS		6
The default installation of CentOS includes a set of software applicable for general int usage. What additional tasks would you like your system to include support for?	ernet	
Desktop - KDE		
Server		
A STATE OF A STAT		
Server - GUI		
Server - GUI Virtualization Please select any additional repositories that you want to use for software installation	۱.	•
Server - GUI Virtualization Please select any additional repositories that you want to use for software installation Packages from CentOS Extras		
☑ Server - GUI ☑ Virtualization Please select any additional repositories that you want to use for software installation □ Packages from CentOS Extras ⓓ Add additional software repositories		•
 Server - GUI Virtualization Please select any additional repositories that you want to use for software installation Packages from CentOS Extras Add additional software repositories You can further customize the software selection now, or after install via the software management application. 		
 Server - GUI Virtualization Please select any additional repositories that you want to use for software installation Packages from CentOS Extras Add additional software repositories You can further customize the software selection now, or after install via the software management application. Customize later Customize later Customize now 		•

Step 17: Uncheck all and select only **Server** and **Server GUI** to minimize the server installation. Click **Customize Now** to customize the setting. Click **Next** and the following screen will appear.

)eskton Environments	GNOME Deskton Environment
Applications Development Servers Base System /irtualization Clustering Cluster Storage	KDE (K Desktop Environment
GNOME is a powerful, graphical user in icons, and a graphical file manager.	nterface which includes a panel, desktop, system 37 of 43 optional packages selected

Step 18: Click *Server* and the following screen will appear.

Applications Development ervers = S Development = S Development = S Development
rvers 👘 👘 Mail Server
lase System intrulization
Clustering
Cluster Storage

Step 19: Uncheck all except the following server modules.

- FTP Server
- Legacy Network Server
- MYSQL Database (must be included)
- Network Servers
- Server Configuration Tool

This is a recommendation only and you can select additional modules based on your requirements. Click *Next* and the following screen will appear.



Step 20: Click *Next* to start the installation and you will see the following installation in progress.



Step 21: After the installation, you will see the following screen.



Step 22: Click to *Reboot* to reboot the server. After the server reboot successfully, the following welcome screen will appear.



Step 23: Click *Forward* to continue the CentOS setup as follows.



Step 24: Set Firewall to *disabled* to turn it off. If you decide to turn it on, please make sure all the necessary ports are opened. Click *Forward* to continue and the following screen will appear.



Step 25: Set SElinux setting to disabled to turn it off. Click *Forward* to continue and the following screen will appear.



Step 26: Click *Forward* to continue and the following screen will appear.



Step 27: Create another normal user by input username and password. Click *Forward* to continue and the following screen will appear.



Step 28: Set the current date/time and set NTP server based on your network environment. Click *Forward* to continue and the following screen will appear.

Firewall SELinux		
Date and Time Create User > Sound Card Additional CDs	Click the "Play" button to hear a sample sound. You should hear a series of three sounds. The first sound will be in the right channel, the second sound will be in the left channel, and the third sound will be in the center. The following audio device was detected.	
	Selected card Vendor: Ensoniq Model: ES1371 [AudioPCI-97] Module: snd-ens1371 Sound test D D Stopped Repeat Volume settings Q Q	
CentOS-5	Device settings PCM device ES1371 DAC2/ADC 💠	prward

Step 29: Verify your audio device here if it is existed. Click *Forward* to continue and the following screen will appear.



Step 30: Click *Finish* to complete the installation. The system will reboot automatically.

1.2 CentOS Post Setup

After the installation of CentOS, the following login screen will appear.



Step 1: Login the system by using Username "root" and the root password you created. After success login, the following screen will appear.



Step 2: Verify and add the host name to /etc/hosts. The following is an example of / etc/hosts which server's host name is "ezsip6000svr1" and IP address assigned is "192.168.17.10". You can use vi or editor to change it.

Do not remove the following line, or various programs
that require network functionality will fail.
127.0.0.1 localhost
::1 localhost6
192.168.17.10 ezsip6000svr1

It must be done in order to make the mysql secure.

Step 3: Click **System -> Server Settings -> Services** as follows to change the default service setting.



Step 4: It is recommended to turn off those services you don't need. The following is the example and recommended to turn off *sendmail* service by uncheck it. Otherwise the booting might take long time to get into Linux. Click *Save* to save it.



Step 5: If your network is connected to Internet, you should see the **Updates Available** popup in the right upper corner as follows. If you don't see it, please check your network connections. It is recommended to update to the newest Linux patch for security reason.



Step 6: In the above picture, you can see there are more than 60 patches required to be updated. Click *View Update* and the following screen will appear.



Step 7: Click Apply updates and the following screen will appear.



Step 8: You can go to have a coffee and wait the update complete. The following screen will appear.



Step 9: Click *Reboot Now* to reboot the server. And then re-login to the system by using the root account.

2 RHEL 6 (CentOS 6) Linux Installation

This is a tutorial for installing Centos on a server machine. For advance RHEL 6 user, this chapter can be skipped. Please note that MYSQL is a must to be installed before you can do the installation.

Step 1: Insert RHEL 6 or CentOS 6 DVD into server CDROM and power on the server. The following screen will appear.



Step 2: Press Next key to start the installation. The following screen will appear,

Bulgarian (Български)	
Catalan (Català)	
Chinese(Simplified) (中文(简体))	
Chinese(Traditional) (中文(正體))	
Croatian (Hrvatski)	
Czech (Čeština)	
Danish (Dansk)	
Dutch (Nederlands)	
English (English)	
Estonian (eesti keel)	
Finnish (suomi)	
French (Français)	
German (Deutsch)	
Greek (Ελληνικά)	
Gujarati (ગુજરાતી)	
Hebrew (עברית)	
Hindi (हिन्दी)	

Step 3: Select the language you are preferred. In our case, we select *English* language and click *Next* to continue. The following screen will appear.

Romanian	
Russian	
Serbian	
Serbian (latin)	
Slovak (qwerty)	
Slovenian	
Spanish	
Swedish	
Swiss French	
Swiss French (latin1)	
Swiss German	
Swiss German (latin1)	
Turkish	
U.S. English	
U.S. International	
Ukrainian	
United Kingdom	

Step 4: Select the *Keyboard* type (in this case, we use U.S. English) and click *Next* to continue. The following screen will appear.

Please name this computer. The hostname identifies the computer on a network.		
Hostname: rhel-3		
Configure Network		
	B ack	▶ <u>N</u> ext

Step 5: Input the host name for the server and click "*Configure Network*" to continue. The following screen will appear.

Please name this cor hostname identifies t network. Hostname: rhel-3	nputer. The he computer on a	ork Connections		
	Wired Wireless Mame System eth0	Mobile Broadband 🔇 N Last Used never	VPN DSL Add Edit Delete	
Configure Network			<u>C</u> lose	▶ <u>N</u> ext

Step 6: Select the *Ethernet Interface* and *Edit* to configure the IP address.

ostname identifies		Editing System (eth0		4
Cor	nection <u>n</u> ame:	System eth0			
rhel-3	Connect <u>a</u> utomat	ically			
W	red 802.1x Secu	rity IPv4 Settings	IPv6 Settings]	
<u>N</u>	ethod: Manual			\$	SL
4	ddresses				P
	Address	Netmask Gatewa	у	Add	
	192.168.16.20	24 192.168	3.16.254	Delete	
		<u></u>			
	DNS servers:	168.95.1.1			
	Search domains:	168.95.192.1			E
	D <u>H</u> CP client ID:	e.			
Network	☑ Require IPv4	addressing for this	connection to o	complete utes	

Step 7: Add the server *IP address* and *DNS servers* and click *Apply*. Click *Next* and the following screen will appear.



Step 8: Select the *time zone* your city is located. Click *Next* to continue the installation.

The root account the system. Ente user.	is used for administering r a password for the root		
Root Password:	••		
Confirm:	••		
		Back	Next

Step 9: Enter the root password. Please don't use a strong password for security reason. Click *Next* and the following screen will appear.

0		12
O Database Server		
O Web Server		=
 Virtual Host 		1
🔿 Desktop		
 Software Development Workstation 		
Minimal		l.
lease select any additional repositories that y	ou want to use for software installation.	
High Availability		
□ Load Balancer		=
Red Hat Enterprise Linux		
		~
+ Add additional software repositories	Modify repository	
ou can further customize the software selectio	n now, or after install via the software	
ou can further customize the software selectio nanagement application.	n now, or after install via the software	

Step 10: Select *Basic Server* and *Customize Now* to customize the setting. Click *Next* and the following screen will appear.

Base System	🚔 🛛 🖻 🗖 Backup Client
Servers	🔘 🗹 Base
Web Services	🔘 🗆 Compatibility libraries
Databases	☑ ☑ Console internet tools
System Management	📱 湪 🗹 Debugging Tools
Virtualization	🖀 🗆 Dial-up Networking Support
Desktops	🔒 🗆 Directory Client
Applications	🔘 🗆 FCoE Storage Client
Development	Hardware monitoring utilities
Enables the system to attach to	a network storage
Enables the system to attach to	o network storage.
Enables the system to attach to	o network storage.

Step 11: Uncheck the following components from **Base System**: Java System Network File System Client Click Servers and the following screen will appear.

Base System	🔤 🗆 Backup Server
Servers	🕂 🗍 🕀 CIFS file server
Neb Services	Directory Server
Databases	🔯 🗆 E-mail server
System Management	■ FTP server
/irtualization	In the server Interver
Desktops	💮 🗆 Network Infrastructure Server
Applications	💮 🗆 Network Storage Server
Development	Print Server
Allows the system to act as a	n FTP server.
Allows the system to act as an	n FTP server.
Allows the system to act as an	n FTP server. Optional packages selected: 0 of 1
Allows the system to act as a	n FTP server. Optional packages selected: 0 of 1 Optional packages

Step 12: Add the following components into **Servers modules**. • FTP Server

This is a recommendation only and you can select additional modules based on your requirements. Click *Database* and the following screen will appear.

Base System Servers Web Services	 ✓ MySQL Database client ✓ MySQL Database server ✓ PostgreSQL Database client
Databases System Management Virtualization Desktops Applications	PostgreSQL Database server
The MySQL SQL database server, a	Ind associated packages.
	Optional packages selected: 0 of 2 Optional packages

Step 13: Select "*MySQL Database client*" and "*MySQL Database server*". It is a must to be selected.

Step 14: Click **Desktops** and add the following components into **Desktops**:

- Desktop
- Desktop Platform
- Fronts
- General Purpose Desktop
- General Administration Tools
- X windows System

Click *Next* to continue and following screen will appear.



Step 15: Register to RedHat Network and click *Forward* to continue.

Set Up Software	You must create a 'username' for regular (non-administrative) use of your system. To create a system 'username', please provide the information
Updates	requested below.
Create User	Username:
Date and Time	Full Nam <u>e</u> :
Kdump	Password:
	Confirm Password:
	Use Network <u>L</u> ogin
	If you need more control when creating the user (specifying home directory, and/or UID), please click the Advanced button.
	Advanced

Step 16: Create a regular user to enhance the security. Click *Forward* to continue the settings.



Step 17: Enable NTP time sync and click *Forward* until complete the server settings and reboot it.

3 EZPBX-2000 Installation

This chapter includes EZPBX-2000 installation procedure.

3.1 Download and Install

Before you can start the installation after server CentOS installation, first you need to get the firmware form Ezvoicetek. It is a zipped file and you need to copy to the CentOS either by using ftp or file sharing.

STEP 1: Prepare the information need for installation.

Before you can start the installation, for a regular version (non-HA release), please prepare the following information for installation:

MYSQL root password: _____

For installing a HA version, you need to have the following information prepared:

HA Server 1 Host Name:
HA Server 1 WAN IPV4 Address:
HA Server 1 LAN IPV4 Address:
HA Server 2 Host Name:
HA Server 2 WAN IPV4 Address:
HA Server 2 LAN IPV4 Address:
HA Linux (hacluster) Password:
HA Virtual IPV4 Address:
MYSQL Root Password:
MYSQL Replication Password:
<i>STEP 2:</i> un-compress it For non-HA version,

unzip ezpbx2000.xxx.install.zip

For HA version, unzip ezpbx2000ha.xxx.install.zip

STEP 2: In the directory of you un-compress it, you should see the following two files:

Regular (non-HA version)

- ezpbx2000.xxx.bin

- installezpbx2000.sh

HA Version:

- ezpbx2000ha.xxx.bin

- installezpbx2000.sh

STEP 3: execute the installezpbx2000.sh as follows ./installezpbx2000.sh

STEP 4: follow the prompt and input the prepared information to complete the installation.

STEP 5: After success complete the installation, you should see the following:

****** Finished EZPBX-2000 IP-PBX installation ******* (license.id) was crated in current directory... Please send the generated file (license.id) to sales @ezvoicetek.com for license.

Please get the license.id and send to Ezvoicetek for generating the required license.

STEP 6: reboot the server and login in the system by using *http://xxx.xxx.xxx.xxx.xxx: xxx:9200*

3.2 Startup Settings

Please refer to Administrative Guide to start the configuration.