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From Bicom Systems Wiki

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System Requirements

What is needed to get PBXware up and running?

Server Hardware

- Standard x86-compatible server hardware
- 1.6 GHz or faster CPU minimum (2.6 GHz or more recommended)
- Compatible processors include:

Intel®: Celeron®, Pentium® II, Pentium III, Pentium 4, Xeon™, Core® series,

Core® 2, Core® iX, Atom

AMD™: Athlon™, Athlon MP, Athlon XP, Athlon X series, Duron™, Opteron™

Via: C3, C7

Memory

- 2 GB minimum (more is recommended)

Display

- None required (The exception is during installation only)

Disk Drives

- Free space required for installation:
- 15 GB minimum for CD ROM/USB Installation Method
- For PBXware in Vserver environment, please check the disk space requirements for Bicom Systems SERVERware
- Standard CD-ROM/DVD-ROM drive

Local Area Networking

- Any Ethernet controller supported by the operating system
- Network configured and fully setup with DHCP service
- Optional: If the server will operate from a private LAN IP, the firewall must be set up to open/forward some ports. Visit our HOWTO Port Forwarding When System Behind A Router/Firewall for the full list of ports.

Supported Browsers

The system can be administered by using one of the following web browsers:

- Internet explorer
- Firefox
- Opera
- Safari
- Chrome

Support Requirements

In order to provide system support, we need access to the system server by SSH, HTTP/HTTPS protocols. The following is required:

- Access to system server as user 'root'
- Networking setup and fully configured to port forward (or firewall opened) to ports 2020, 80, 81 and 443.

With the above in place, our technicians will be able to troubleshoot issues. We regret that we are not able to support systems that do not satisfy the above requirements.

If you are unsure how to install PBXware, we offer a professional installation service. Please contact sales or visit our web site for full details.

Installation Guide

PBXware can be installed by one of the following installation methods:

The **CD ROM** installation method is used to install PBXware onto a commodity PC/server hardware. This installation process installs a Linux operating system, PBXware, and all other necessary applications onto the system hard drive. Installation is easy, fast, and includes everything needed to successfully install and operate.

WARNING:

CDROM will install PBXware on the hard disk and erase all existing data, operating systems, and other files.

- The **USB** installation method is similar to the CD ROM method. The only difference is the boot medium which holds the PBXware installation files.
- **VIRTUAL SERVER** installation is a PBXware system contained within a VSERVER (also known as VPS) on Bicom Systems SERVERware installation.
- **VMware image** is pre-installed with PBXware so you can test it on your own computer without special hardware dedicated to this.

Any of the above formats will start the machine/Vserver/image and all necessary software, allowing the administrator to login to this machine/Vserver from a browser. The Administrator can then license the system by entering the license number or use it in FREE mode. The system will contact our licensing server for authorization. Upon successful licensing, the system can be used normally by logging into the system.

CD ROM

To install the system using a CD ROM, do the following:

1. Download and burn the CD image from <http://bicomsystems.com/download>
2. Boot up the system, wait for the installer to start and follow the on-screen instructions
3. The system will be installed and rebooted. Once the system is booted, the display will show the obtained IP address.
4. Please login to the Setup Wizard using your favorite web browser by navigating to [http://\\$IPADDRESS](http://$IPADDRESS) (For Example: <http://192.168.1.2>). The default username is "root". The default password is "pbxware"

IMPORTANT:

- Before continuing, please read the System Requirements.
- The setup wizard asks for a security username/password to prevent unauthorized access. The defaults are: username: root and password: pbxware. The setup wizard will ask for the password to be changed in one of the setup wizard steps. After it is changed, It is very important to remember this password since it is the system root and setup wizard password.

USB

Installing the system from USB is no different than using the CD ROM version. The only difference is how you put the downloaded image on the USB:

1. Download the USB image from <http://bicomsystems.com/download>
2. Download *PBXware image writer* from the downloads page

3. Copy the USB image to a USB drive using PBXware image writer
4. Set your machines BIOS to boot from the USB device
5. Boot the system from the USB device

After the image boots from the USB device, everything else is the same as a system booted from a CD ROM.

IMPORTANT:

- Before continuing, please read the System Requirements.
- The setup wizard asks for a security username/password to prevent unauthorized access. The defaults are: username: root and password: pbxware. The setup wizard will ask for the password to be changed in one of the setup wizard steps. After it is changed, It is very important to remember this password since it is the system root and setup wizard password.

Vserver installation

Installing PBXware in a Vserver environment is only different at the beginning of the installation process.

1. First create a Vserver in SERVERware. (See SERVERware documentation.)
2. After Vserver with PBXware is created, go to the Setup Wizard and configure your PBX system.

VMware image

To install the system from VMware image, you need to download PBXware 6.0 image for VMware from our official website <http://bicomsystems.com/download>

After the download is finished, extract the downloaded image to your disk and open the extracted folder. Open PBXware_5 file with VMware Player/Workstation/Fusion and run the virtual machine.

Since this is already installed PBXware system inside VMware image, you only need to go through Setup Wizard for initial configuration of the system and then you will be able to use it.

Image is made with bridged networking so the system should get its own IP address which you can access in any compatible web browser.

IMPORTANT:

- Before continuing, please read the System Requirements.
- The setup wizard asks for a security username/password to prevent unauthorized access. The defaults are: username: root and password: pbxware. The setup wizard will ask for the password to be changed in one of the setup wizard steps. After it is changed, It is very important to remember this password since it is the system root and setup wizard password.

Obtaining IP Address

The PBXware IP address can be obtained by:

- Connecting a monitor to the PBXware unit and obtaining the IP from the command prompt by entering the **ifconfig** command
- Installing the PBXware Finder on a Windows machine which is also connected to the same network. PBXware Finder can be obtained at:
http://downloads.bicomsystems.com/pbxware_finder/pbxware-finder-1.0.exe

- Obtaining it from the DHCP server

Setup Wizard

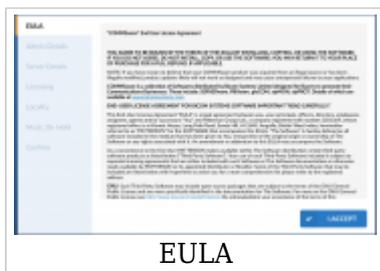
The Setup Wizard is designed to collect essential data in order to get the system up and running. After the setup wizard has finished, the system should be fully licensed, fully operational, and ready for use.

In order to login to the setup wizard, please point your browser to: `https://$IPADDRESS:81/` (For example: `https://192.168.1.2:81/`)

IMPORTANT:

The setup wizard asks for a security username/password to prevent unauthorized access. The defaults are: username: root and password: pbxware. The setup wizard will ask for the password to be changed in one of the setup wizard steps. After it is changed, It is very important to remember this password since it is the system root and setup wizard password.

EULA



EULA

The EULA (End User License Agreement) is the first step in the setup wizard. Please read the EULA and type "I agree" to proceed.

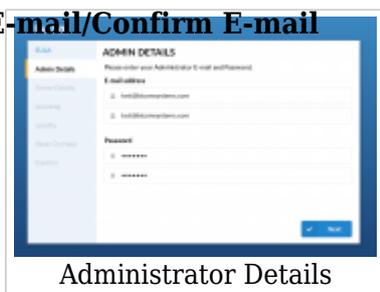
NOTE:

If you do not agree with the EULA, please remove the installation media and system software and return the issued license.

Administrator Details

Provide the details of the user who will administer the system. These values are used when logging into PBXware

- **E-mail/Confirm E-mail**



Administrator Details

The provided email address is used as a username for logging in
([a-z] [0-9] [@_.-])

- **Password/Confirm Password**

The provided password is used for logging in
([a-z] [0-9])

Server Details (CD ROM and USB Version)

These are system and network fields necessary for proper system operation.

▪ Root Password

PBXware prompts for this password during the system/ssh login and when accessing system services through the interface.

▪ Confirm Password

Re-type the Root Password entered in the field above

▪ Time Zone

Select the time zone in which PBXware is located.

▪ Hostname



Server Details

The name given to the machine which will identify the system on the network (E.g. "myhost")
([a-z] [0-9])

▪ Interface

The interface that PBXware uses (LAN/WAN). If PBXware is in the LAN interface, select it here. If PBXware is installed on appliances in WAN mode, select WAN here.
(Select box)

▪ Use DHCP

Whether PBXware is using DHCP or a static IP address. It is recommended to always set PBXware on a static IP address, in which case this option should be set to 'No'.
(Option buttons)

▪ IP Address

If PBXware is in a LAN interface, provide its static IP address here.
([0-9])

- **Netmask**

This field is calculated automatically and contains your IP address Netmask.
([0-9])

- **Gateway**

If PBXware is located in a LAN interface, set the gateway IP address here.
(E.g. 192.168.1.1)
([0-9])

- **DNS server**

If PBXware is located in a LAN interface, set the preferred DNS server IP address here.
(E.g. 192.168.1.1)
([0-9])

- **DHCP Server**

If there is no DHCP server on LAN, PBXware can start its own and provide UADs/Phones with this service. If you already have a DHCP server on your network, choose 'No'.
([0-9])

Server Details (Vserver Version)



Server Details (Vserver Version)

These are system and network fields necessary for proper system operation

- **Root Password**

PBXware prompts for this password during the system/ssh login and when accessing system services throughout the interface.
(E.g. do34ffjk)
([a-z] [0-9])

- **Confirm Password**

Re-type the Root Password entered in the field above.
(E.g. do34ffjk)
([a-z] [0-9])

▪ Time Zone

Select the the time zone in which PBXware is located, E.g. USA/East-coast.
(USA/East-coast)
(Select box)

▪ Hostname

The name given to the machine which will identify the system on the network, E.g.
myhost.
(E.g. myhost)
([a-z] [0-9])

▪ Server name

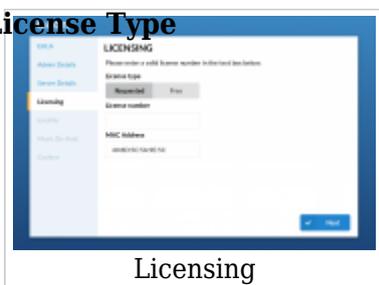
Virtually the same as the 'Hostname' field, only this name will appear during system notifications, sent emails, etc.
(domain.com)
([a-z] [0-9])

Licensing

Licensing allows you to enter a valid non-active license and displays the MAC address with which the license will be valid. If the system has more than one network adapter, all found MACs will be shown for selection.

NOTE: PBXware licensing in version 6.0 have been slightly changed and PBXware license now must have matching PBXware version number assigned. In case license does not have matching version assigned you will still be able to apply the license on this step but PBXware will not be able to start. Once you log in to GUI you will see the warning message informing you that license is not valid. In case this happens please contact your account manager.

▪ License Type



Select a system license type. The system comes with two license types: FREE license and 'Requested License'
(Select box)

▪ License Number

Enter the PBXware license number, select the MAC address if more than one is present, and click 'Next' to register PBXware.
([a-z] [0-9])

NOTE: PBXware 6.0 is also allowing you to relicense your PBXware from terminal.

To do that, use ssh to log in to your PBXware and execute these commands:

```
┌-----┐  
|cd /opt/pbxware  
|sh/license_refresh  
└-----┘
```

This will take your current license and check the licensing server for any changes that might be made to the license since it was applied.

In case you need to relicense your server with new license number uses these commands:

```
┌-----┐  
|cd /opt/pbxware  
|sh/license_refresh ABCD1234  
└-----┘
```

Make sure to replace ABCD1234 with the correct license number you would like to apply to the system.

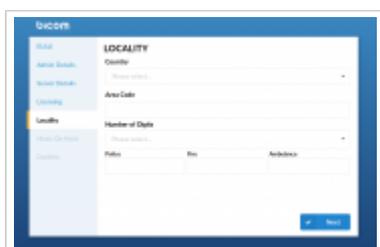
▪ MAC

The MAC address associated with PBXware.

NOTE: The system must have access to a fully operational Internet connection in order to license the system. If more than one MAC address is present, select the one you wish to associate with PBXware and click 'Next'.

(Select box)

Locality



Locality

Locality allows for the 'local' system values to be entered in order to setup all the necessary values for normal system operation.

▪ Country

Select the country in which PBXware is located, E.g. United Kingdom.

(Select box)

▪ Indications

Typical telephony sounds PBXware will use. A different signal is heard when the handset is picked up in different countries. This field will be set automatically. If your country is not on the list, select 'Other'.

(Select box)

▪ Area Code

The area code of the city where PBXware is located, for example, if PBXware is in New York, you would set '212' here.

([0-9])

▪ Number of Digits

The number of digits PBXware will associate with local extensions. If this field is set to '4', all local extensions will have a range from 1000-9999.

(0-9)

WARNING: After you create the first extension, queue, or agent on your system, you will no longer be able to change this setting.

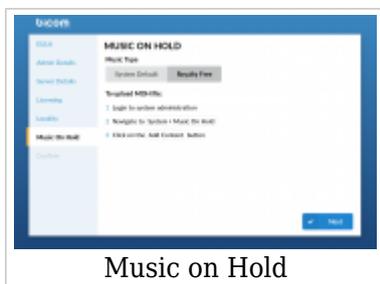
▪ Police/Fire/Ambulance

The phone number for Emergency Services in the area where PBXware is located. PBXware has an option to dial these emergency services through certain trunks. If all trunk channels are busy, an active call will get dropped in order to dial these numbers. (If in the USA, for example, set these fields to '911')

(Select box)

Music on Hold

The system comes with a default 'silence' sound file for Music On Hold. It can also be changed to a royalty-free music file.



Music on Hold

TIP:

This field is available for: Virtual Server, VMWare, CD, and Appliance PBXware packages

▪ Royalty Free Music on Hold

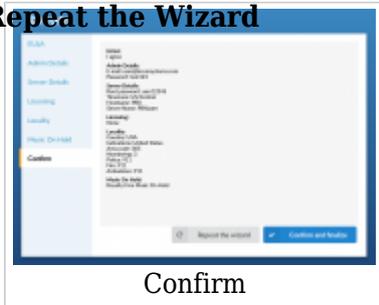
This will upload royalty-free music which can be used as the default for Music On Hold. It

can be changed again later.
(Option button)

Confirm

Finally, the confirmation step lets you double-check all values and either finish the wizard or start all over from the beginning. If you click "Confirm and finalize", the setup wizard will finish and the browser will be redirected to the system login screen.

▪ Repeat the Wizard



If you click this button, all of the provided details will be reset and you will go back to step one.

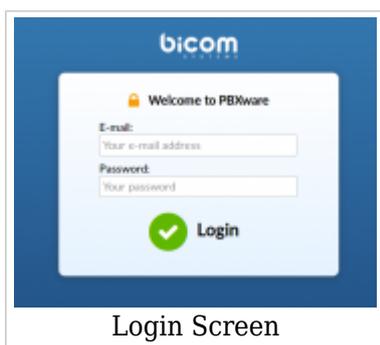
(Command button)

▪ Confirm and Finalize

Click this button to confirm the data provided in the setup wizard and finalize the installation. All provided details will be applied and the setup wizard will redirect you to the PBXware login screen.

(Command button)

Logging into the System



In order to login to the system, point your browser to: `http://$IPADDRESS/` (for example: `http://192.168.1.2/`)

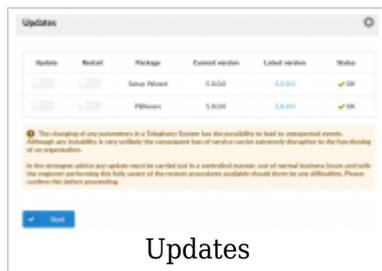
▪ E-mail

This is the administrator's e-mail address, the one you have set in the initial setup wizard.
([a-z] [0-9] [@_.-])

▪ Password/PIN

This is the administrator's password, the one you have set in the initial setup wizard.
([a-z] [0-9])

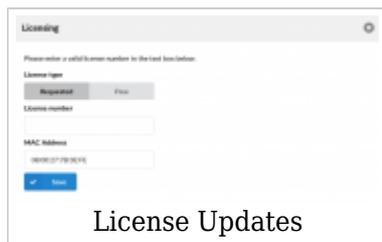
Updates



In order to update PBXware to the latest version, follow these steps:

1. Login to the PBXware web interface
2. Navigate to 'Admin Settings: Updates' and click on the 'Updates' button
3. Enter the system password
4. Click on 'Start' and wait until the system shows the interface again

License Updates



To upgrade your PBXware license, do as follows:

1. Login to the PBXware web interface
2. Navigate to 'Admin Settings: Licensing'
3. Enter the system password
4. Enter the license number in the 'License Number' field (e.g. 0A9DS8F7)
5. Click on the 'Save' button

Next -> 2. System Overview

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