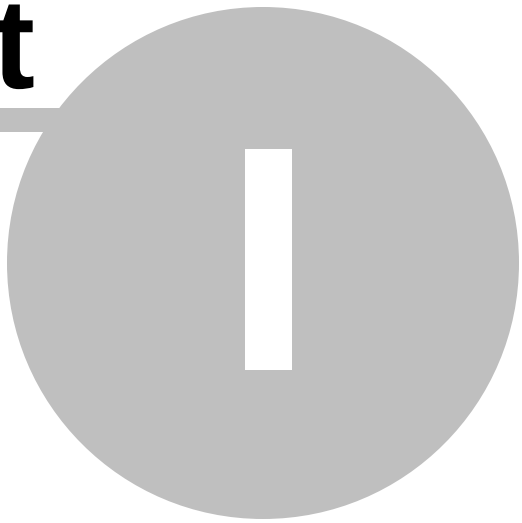
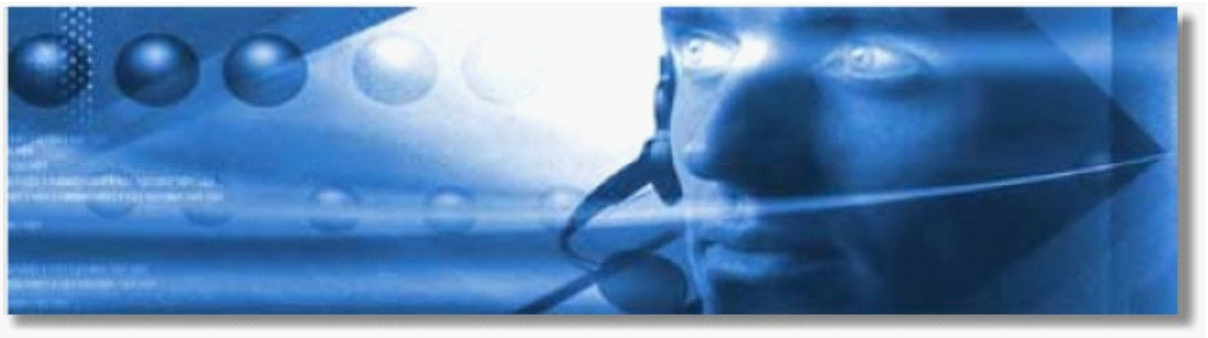
PBXware Installation Guide

Part



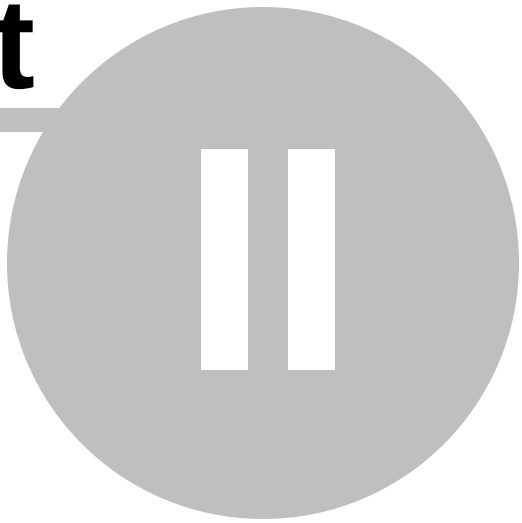
1 Introduction



PBXware Installation Guide

PBXware system is a scalable telephony solution featuring a range of traditional telephony and emerging VoIP technologies. The creation of a national/global voice networks in addition to a complete range of Analog, Digital, and VoIP channels, all fully supported. Functionality includes: Voicemail, IVR, ACD Queues, Real time all recording/monitoring, Conferences, Auto Provisioning, Music on Hold and much more.

Part



2 System Requirements

What is needed to get the PBXware up and running?

Server Hardware
- Standard x86-compatible server hardware
- 400MHz or faster CPU minimum (2000 MHz recommended)
- Compatible processors include: Intel®: Celeron®, Pentium® II, Pentium III, Pentium 4, Xeon™, AMD™: Athlon™, Athlon MP, Athlon XP, Duron™, Opteron™, Via C3, C7

Memory
- 64 MB minimum (256 MB or more recommended)

Display
- None required. (Exception is during the installation only)

Disk Drives
- Standard IDE or SCSI hard drives (CD ROM, Tarball installs only)
- Free space for installation—2GB for CD ROM install, 150MB for Tarball install
- Standard CD-ROM/DVD-ROM drive (CD ROM Install only)

Local Area Networking
- Any Ethernet controller supported by the operating system
- Network configured and fully setup with DHCP service

Optional:
- If the server is to operate from a private LAN IP then the firewall must be opened to the following ports: **TCP:** 80, 81, 443, 10001, 5060-5069, **UDP:** 4569, 5060-5069, 10000-20000

Linux Operating System

One of the following Linux operating systems is required (tarball edition ONLY)
- Red Hat Enterprise Linux (RHEL) 2.1, 3.0. 4.0
- Cent OS 3.0, 4.0
- Mandrake Linux 9.0, 10
- Gentoo 2004, 2005
- Red Hat Linux 7.2, 8.0, 9.0
- SUSE Linux 8.0, 9.0
- Debian 3.0
- Fedora (Core 3)

NOTE:
1. Operating system and all other necessary applications are supplied with PBXware CD ROM and appliance delivery methods..
2. If ZAPTEL hardware is to be used, it should be inserted into the server before installation as to ensure proper loading of the modules
3. X is not required
4. Any of the above distributions need to be installed with their default "server" installation making sure that bison, openssl and openssl-dev or libssl-dev, libnewt are installed
5. Kernel should be Linux 2.4.2x+ or 2.6.x+ with kernel sources and headers available.

Supported Browsers
System can be administered by using one of the following web browsers:

- Internet explorer 6.0+
- Firefox 1.0+

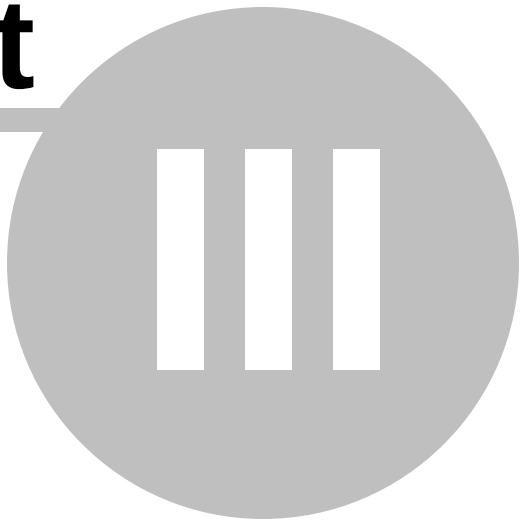
Support Requirements
In order to provide systems support we need from time to time access to the system server by SSH, HTTP/HTTPS protocols the following is required:

- Access to system server as user 'root'
- Networking setup and fully configured to port forward (or firewall opened) to ports 22, 80 and 443.

With 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 above requirements. We ask for understanding.

If not too sure how to install PBXware we offer a professional installation service. Please contact sales or visit our web site for full details.

Part



3 Appliances

In this chapter we will cover:
- miniWALL
- miniRACK
- maxiRACK
- megaRACK
- ftRACK
- hpRACK
- bladeRACK

Installation Guide:

1.Burn the following image to the flash card: http://pw-updates.bicomsystems.com:8080/cf/cf.img

NOTE: You can use attached program or your own utility.

Usage

physdiskwrite [-u]

...or just simply drag-and-drop the image file onto the physdiskwrite.exe icon

---

2. Insert the flash card into the server's compact flash card slot

3. Boot the server

3. Find out servers DHCP IP address or change IP address of a host on the network to 192.168.1.0 since another IP assigned to is **192.168.167.167**

5. Login to https://IPADDRESS:81
Username: root
Password: pbxware

6. Select 'Factory restore' option and wait until it finishes.

7. Proceed as normal with presented setup wizard.

PLEASE NOTE: Above supported only with approved appliances.

3.1 miniWALL

miniWALL delivers low noise perfomance for up to 32 extensions in a wall mount or desktop form factors.

Capacity
- 32 IP Extensions
- 8 Analog Extensions
- 8 Analog Lines
- 16 ISDN BRI Lines
- 30 ISDN PRI Lines
- 32 Concurrent Calls

Expansion Slots
- 2x Half Lenght 32bit/33MHz PCI Slots

Regulatory & Safety
- FCC, CE Regulatory & Safety Certification

Storage
- 128MB Compact Flash
- 40GB 2.5" Hard Disk Drive

Software Editions
- Business Edition
- Call Centre Edition

Form Factor
- Heavy Duty Steel Chassis
- Desktop/Wall Mount
- Industrial Grade Construction
- Low Noise

Processor(s)
- VIA C7 1.5GHz

Operating System
- Gentoo Linux

3.2 miniRACK

Capacity
- 32 IP Extensions
- 8 Analog Extensions
- 8 Analog Lines
- 32 ISDN BRI Lines
- 30 ISDN PRI Lines
- 32 Concurrent Calls

Expansion Slots
- 2x Half Lenght 32bit/33MHz PCI Slots

Regulatory & Safety
- FCC, CE Regulatory & Safety Certification

Storage
- 128MB Compact Flash
- 40GB 2.5" Hard Disk Drive

Form Factor
- 1 U Rackmount
- Heavy Duty Steel Chassis
- Industrial Grade Construction
- 282mm Rack Depth
- Low Noise

Processor(s)
- VIA C7 1.5GHz

3.3 maxiRACK

maxiRACK features up to 128 extensions with maximum flexibility in a rack mount format.

Capacity
- 128 IP Extensions
- 48 Analog Extensions
- 48 Analog Lines
- 32 ISDN BRI Lines
- 60 ISDN PRI Lines
- 64 Concurrent Calls

Expansion Slots
- 2x Full Lenght 32bit/33MHz PCI Slots

Regulatory & Safety
- FCC, CE Regulatory & Safety Certification

Storage
- 80GB 3.5" IDE Hard Disk Drive(s)
- 128MB Compact Flash

Software Editions
- Business Edition
- Call Centre Edition

Form Factor
- 1 U Rackmount
- Heavy Duty Steel Chassis
- Industrial Grade Construction
- 390mm Rack Depth

Processor(s)
- Intel Pentium 4 2.8GHz

Operating System
- Gentoo Linux

3.4 megaRACK

megaRACK scales up to 256 IP extensions featuring additional expansion capability and redundant hardware.

Capacity
- 256 IP Extensions
- 96 Analog Extensions
- 96 Analog Lines
- 64 ISDN BRI Lines
- 240 ISDN PRI Lines
- 128 Concurrent Calls

Expansion Slots
- 4x Full Lenght 32bit/33MHz PCI Slots

Regulatory & Safety
- FCC, CE Regulatory & Safety Certification

Power Source
- 300W Redundant Power Supply

Storage
- 2x 250GB, RAID1 3.5" IDE Hard Disk Drive(s)
- 128MB Compact Flash

Software Editions
- Business Edition
- Call Centre Edition

Form Factor
- 2 U Rackmount
- Heavy Duty Steel Chassis
- Industrial Grade Construction
- 442mm Rack Depth

Processor(s)
- 2x Intel® Xeon™ 2.8GHz

Operating System
- Gentoo Linux

3.5 ftRACK

ftACK system combine proven fault-tolerant, pair-and-spare architecture in servers that deliver 99.999% uptime right out of the box.

Every ftRACK server uses replicated, fault-tolerant hardware to eliminate single points of failure and protect data integrity. Major components - CPUs, memory boards, input/output controllers, buses, power supplies,

and fans - are duplexed and operate in lockstep. In the event of failure, the paired component continues normal operation.

This use technology eliminates the operational complexity and high costs inherent in high-availability alternatives. Hardware-based fault tolerance requires no failover scripting, repeated test procedures, or application modifications to ensure applications availability or smooth integration of systems into telecom environments.

ftRACK is widely deployed development and runtime software for applications in SS7, IP, and converged networks. Together these carrier-grade platforms bring you proven, affordable reliability, rapid time to market for new voice and data services, and lower development and operational costs.

Capacity
- 256 IP Extensions
- 128 Concurrent Calls

Expansion Slots
- 2x Full Lenght 64bit/33MHz PCI Slots

Regulatory & Safety
- FCC, CE Regulatory & Safety Certification

Storage
- External USB FDD Drive
- 24x Slimline EIDE 5.25” CDROM
- 2x 73GB Hotplug U160 SCSI Hard Disk(s)

Software Editions
- Enterprise Edition
- Business Edition
- Call Centre Edition

Form Factor
- Fault Tolerant Hardware
- 4 U Rackmount
- Heavy Duty Steel Chassis
- Industrial Grade Construction

Processor(s)
- 2x Intel® Xeon™ 2.4GHz

Operating System
- Fault Tolerant Linux

3.6 hpRACK

hpRACK delivers very high performance capable of sustaining many thousands concurrent calls. hpRACK delivers more real-world performance than any other system in its class, and provides breakthrough capabilities.
hpRACK scales from 256 to 2400 concurrent calls and up to 10,000 extensions just by adding additional CPUs, memory, storage, base and expansion units eliminating the costly "fork-lift" system upgrades.

Capacity
- 10,000 IP Extensions
- 192 Analog Extensions
- 192 Analog Lines
- 128 ISDN BRI Lines
- 1,920 ISDN PRI Lines
- 2,400 Concurrent Calls

Expansion Slots
- 2-8x Full Lenght 64bit/33MHz PCI Slots

Regulatory & Safety
- FCC, CE Regulatory & Safety Certification

Software Editions
- Enterprise Edition
- Business Edition
- Call Centre Edition

Form Factor
- 2-8 U Rackmount
- Heavy Duty Steel Chassis
- Industrial Grade Construction

Processor(s)
- 2-8x 1.6 GHz Intel Itanium 2

Operating System
- Fault Tolerant Linux

3.7 bladeRACK

bladeRACK delivers distributed, redundant solution scaling to unlimited number of extensions and trunks in a scalable form factor. bladeRACK includes redundant switches, fans and power supplies delivering applications and services using AMD Opteron blades. In addition, the bladeRACK offers remote management and system monitoring.

Capacity
- 64,000 IP Extensions
- 1,536 Analog Extensions
- 1,536 Analog Lines
- 1,024 ISDN BRI Lines
- 15,360 ISDN PRI Lines
- 9,600 Concurrent Calls

Expansion Slots
- 1-64 Full or Half Lenght 64bit/33MHz PCI Slots

Regulatory & Safety
- FCC, CE Regulatory & Safety Certification

Software Editions
- Business Edition
- Call Centre Edition

Form Factor
- 4-32 U Rackmount
- Heavy Duty Steel Chassis
- Industrial Grade Construction

Operating System
- Gentoo Linux

Part

4 Installation Guide

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

CD ROM
CD ROM installation method is used to install the PBXware onto a commodity PC/server hardware. The 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 the PBXware on hard disk and will erase all existing data, operating system and other files.

Tarball
Tarball is a Linux executable file that can be installed on most Linux distributions. This installation method is used where the system already has a Linux operating system installed possibly with other applications already installed and actively used hence the overwrite of the hard disk is not an option. Good examples are: hosted servers in data center, low usage servers, spare configured servers etc.

Virtual Server
Virtual private servers (VPS) technology allows a physical host to be partioned into many "virtual servers" from which PBXware will operate normaly with all features and functions as it were installed and operating from the host server.

Virtual Machine
Often referred to as a "runtime environment". VMware virtual machine is a machine completely defined and implemented in software rather than hardware. This method is suitable for testing of up to 3 extensions since the virtual machine technology performance is limited.

Any of the above formats will boot the machine and all necessary software allowing administrator to login with browser into this machine. The Administrator can then license the system by entering the licence number. The system will contact our licensing server for authorization. Upon successful licensing, systems can be used normally by logging into the system.

4.1 CD ROM

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

1. Insert the CD into system's CD ROM drive(download and burn the image from ' http://pw-updates.bicomsystems.com:8080/pbxware.iso' in case you have no disk at hand)
2. Boot up the system
3. Press "Enter" on boot up screen
4. The System will be installed and rebooted . A boot message "Starting Installation" will show on reboot. This process may take few minutes. Please be patient. Once the installer has finished, the root login prompt will show.
5. System login prompt will display the system's current IP ADDRESS. Please login into setup wizard with http://$IPADDRESS (For Example: **http://192.168.1.2**)

IMPORTANT:

- Setup wizard has security username/password in order to prevent unauthorized access. Defaults are: username: **root** , password: **pbxware .** Setup wizard will ask for the password to be changed in one of the setup steps. After it is changed, It is very important to remember this password since it is system root and setup wizard password.
- Before continuing please read system requirements.

4.2 Tarball

To install the system using the tarball do the following:

Download Site Manager and PBXware installation tarballs to /home directory as detailed in the license email.

Start the install from /home directory by issuing
cd /home && sh sm-install
cd /home && sh pbxware

Installation prompts:
a/ For ZAPTEL hardware installation, choose "yes" on "Install ZAPTEL/BRIstuff"
b/ Server administrator e-mail and password which will be used for accessing PBXware interface.

After installation point the browser to: http://IPADDRESS/admin/ or http://HOSTNAME/admin/
Login with the same server admin login details as supplied in the previous step.

IMPORTANT

- Install script will copy some of the system files located in the /etc folder and will embed the start-up scripts into the /etc/inittab file.The installation procedure will try to download and compile the ZAPTEL and BRIstuff packages, this might fail. The installation procedure will not break at this point but will continue. For resuming the ZAPTEL installation after, please run the following command (as 'root'): cd /home/pbxware && sh/mkzap
- Please make sure that system date and time zone are set correctly before executing the tarball installation script
- Before continuing please read system requirements.

4.3 Virtual Server

To install the system using the virtual servers do the following:

1. Download
Download the PBXware installation script to /home directory.

wget http://pw-updates.bicomsystems.com:8080/vserver/vserver-pbxware.sh

2. Execute

sh pbxware-stable.sh

3. Setup Wizard

Navigate to https://$IPADDRESS:81 as displayed on screen in order to enter Setup Wizard.

IMPORTANT

- Please make sure that system date and time zone are set correctly before executing the installation script
- Before continuing please read system requirements.
- The host must have vservers technology enabled. Please see: Gentoo VPS Host

4.4 Virtual Machine

To install the system using the virtual servers do the following:

1. Order SOHO PBXware edition making sure to select "VMware Image" in the checkout as delivery method

2. After completing the PBXware order you will receive a confirmation email with download URL and a license number

3. Download the PBXware VMware image from http://pw-updates.bicomsystems.com:8080/vmware/pbxware-vm.zip and extract it.

4. Download 'VMware Player' from http://www.vmware.com/products/player/ location and install it on your computer

5. Navigate to the extracted PBXware VMware image folder and double clicking on the "PBXware" file

6. VMware player will boot up the virtual machine and display IP address

7. Point your browser to displayed IP address. For example https://192.168.0.1:81.

8. Click on the 'Factory Reset' which will be displayed on the screen. This process will take few minutes.

9. After factory reset is done, standard Setup Wizard login screen will show.

IMPORTANT

- Please make sure that system date and time zone are set correctly before executing the installation script
- Before continuing please read system requirements.

4.5 Gentoo VPS Host

We currently support only Gentoo Linux based vservers. The instructions on preparing the host are found below or you can choose to purchase this service from us. Please contact sales for further details. In order to use virtual server technoloy, the host server Linux distribution needs vserver kernel and other tools patches applied.

1. Basic Gentoo Configuration

1.1 Setting the Date/Time

You need to check your date/time and update it. A mis-configured clock may lead to strange results when you run emerge --sync for example.

```
# date
Mon May 15 16:21:18 CEST 2006
```

If everything is ok with your time/date you can go to next step, if not set your date by entering date MMDDhhmmYYYY syntax (**M**onth, **D**ay, **h**our, **m**inute and **Y**ear). For instance, to set this date above you need to enter:

```
# date 051516212006
```

1.2 Updating the Portage tree

Next step is to update your Portage tree to the latest version. In order to do that just enter:

```
# emerge --sync
```

Or if you are using some terminal like serial console you can the --quiet option to speed up this process:

```
# emerge --sync –quiet
```

1.3 Timezone

You also need to select your timezone so that you system knows where isiti located. The list of timezones is located in /usr/share/zoneinfo, so to list it use:

```
# ls /usr/share/zoneinfo
```

After that, you need to copy appropriate time zone to /etc/localtime. Let say that we want to use GMT:

```
# cp /usr/share/zoneinfo/GMT /etc/localtime
```

1.4 System Logger

Unix and Linux have an excellent history of logging capabilities -- if you want you can log everything that happens on your system in log files. This happens through the system logger. Gentoo offers several system loggers to choose from. There are **sysklogd**, which is the traditional set of system logging daemons, **syslog-ng**, an advanced system logger, and **metalog** which is a highly-configurable system logger.

The following example installs syslog-ng:

```
# emerge syslog-ng
# rc-update add syslog-ng default
```

Command rc-update add syslog-ng default will add syslog-ng daemon to default runlevel, so its gonna run each time when your machine is rebooted by default.

1.5 Cron Daemon

A cron daemon executes scheduled commands. It is very handy if you need to execute some command regularly. We will install vixie-cron.

```
# emerge vixie-cron
# rc-update add vixie-cron default
```

1.6 File Indexing

If you want to index your system's files so you are able to quickly locate them using the locate tool, you need to install sys-apps/slocate.

```
# emerge slocate
```

2. Basic network configuring

2.1 Host name

First we will set the host name:

```
# nano -w /etc/conf.d/hostname
```

Set the HOSTNAME variable to your host name:

```
HOSTNAME=”yourboxname”
```

2.2 Domain name

Second we set the domain name:

```
# nano -w /etc/conf.d/domainname
```

Set the DNSDOMAIN variable to your domain name

```
DNSDOMAIN="yourdomain.com"
```

2.3 Network connection

Configure your network interface by opening /etc/conf.d/net with your favorite editor:

```
# nano -w /etc/conf.d/net
```

To enter your own IP address, netmask and gateway, you need to set both config_eth0 and routes_eth0:

```
config_eth0=( "$IPADDRESS netmask $NETMASK brd $BROADCAST" )
routes_eth0=( "default gw $GATEWATIP" )
```

For this information, please contact your network administrator.

To have your network interfaces activated at boot, you need to add them to the default runlevel:

```
# rc-update add net.eth0 default
```

3. Kernel

3.1 Install vserver sources

```
# emerge vserver-sources
```

There are two ways co configure your kernel: using make menuconfig or genkernel. We will explain both ways.

```
# cd /usr/src/linux-<KERNELVERSION>-vserver-<VSERVERVERSION>
# make menuconfig
```

After this, go to section Linux Vserver and chose: Disable Legacy Networking Kernel API, Enable Proc Security, Enable Hard CPU Limits:

```
Linux VServer --->
  [ ] Enable Legacy Kernel API
  [*] Disable Legacy Networking Kernel API
(Highly recommended)
  [*] Enable Proc Security
  [*] Enable Hard CPU Limits
  Persistent Inode Context Tagging (UID24/GID24)  --->
  [ ] Tag NFSD User Auth and Files
  [ ] Compile Debugging Code
```

Exit after making selection.

3.2 Select file systems

If you are using ReiserFS select Reiserfs support, ReiserFS extended attributes:

```
File systems  --->
  <*> Reiserfs support
  [*]   ReiserFS extended attributes
```

3.3 IP Tables Configuration

IPtables need to be configured as kernel module in order for PBXware to send QoS requests. To to that go to:

```
Networking  --->
            Networking options  --->
                        [ ] Network packet filtering (replaces ipchains)  --->
                                    --- Network packet filtering (replaces ipchains)
                        [ ] Network packet filtering debugging (NEW)
                                    Core Netfilter Configuration  --->
                                    IP: Netfilter Configuration  --->
                                    IPv6: Netfilter Configuration (EXPERIMENTAL)  --->
```

Then select all modules that you need such as modules for Mangle and DSCP. After that, save your configuration and continue with next step.

3.4 Build and install kernel

```
(Building the kernel)
# make
(Installing)
# make modules_install
#  cp  arch/<arch>/boot/bzImage  /boot/kernel-<KERNELVERSION>-vserver-<VSERVERVERSION>
(Edit bootloader config file as required and)
#  reboot
```

You can do this by using genkernel, also. We need to install it first:

```
#  emerge –av  genkernel
```

After this step all we have to do is to run:

```
#  genkernel –-menuconfig all
```

After this step, you need to follow instructions above for kernel configuring. Once done, please go to Exit and Save. Genkernel will build and install your kernel.

4. Vserver preparations

4.1 Update boot loader

Update your boot loader and finally reboot to see if the kernel boots correctly. If you are using grub you need to edit /boot/grub/grub.conf

```
# nano /boot/grub/grub.conf

title=Gentoo Linux kernel-<KERNELVERSION>-vserver-<VSERVERVERSION>
root (hd0,0)
kernel /boot/kernel-<KERNELVERSION>-vserver-<VSERVERVERSION>
init=/linuxrc ramdisk=8192 real_root=/dev/hda3 udev
initrd /boot/initramfs-<KERNELVERSION>-vserver-<VSERVERVERSION
```

After this step we have kernel configured.

4.2 Install vserver utils

```
# emerge util-vserver
```

You have to run the vprocunhide command after every reboot in order to setup /proc permissions correctly for vserver use. An init script has been installed by util-vserver. To use it you should add it to a runlevel:

```
# rc-update add vservers default
# /etc/init.d/vservers start
```

The vshelper script is used to restart virtual servers correctly. You have to tell the kernel where the vshelper script is located:

```
# echo 'kernel.vshelper = /usr/lib/util-vserver/vshelper' >> /etc/sysctl.conf
# sysctl -p
```

4.2 Download stage3 tarball

```
# cd /root
# wget $LINK
(Please see the full link in the order email received)
```

4.4 Create a vserver

```
# vserver-new vserverone --hostname vserverone --context 1253 --interface eth0:213.166.5.99/24 stage3
/root/gentoo.tar.bz2 x86
```

Above example will create a new vserver with:
Vserver Name: vserverone
Hostname: vserverone
Context: 1253
Network Interface: 213.166.5.99
VPS Distro: Gentoo

Please change above values to your requirement. Also the "Context" value must be different for each vserver.

Now your system is ready to install PBXware vservers.

4.6 Upgrades and Updates

STABLE VERSIONS:

Updating the system

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

1. Login into PBXware web interface

2. Navigate to Site Settings: Updates and click on Update and Restart

3. Enter update username=**pbxware** and password=**update** and wait until the system shows the interface again

NOTE: When doing an upgrade or update from 1.6 to 1.8 version for example, you are strongly encouraged to re-save at least one Extension/Trunk, one MOH(Music on Hold) and a Queue. But re-saving all settings is recommended.

Upgrading the system:

Upgrading the current license with additional features or functions is performed following these steps:

1. Login into PBXware web interface

2. Navigate to Site Settings: Upgrades

3. Enter the system root username and password

4. Enter upgraded system license number and press Save

DEVELOPMENT VERSIONS:

Development versions of PBXware is updated daily. In order to update PBXware to the development branch please do the following:

1. Login to PBXware via SSH

2. Stop all servers
/home/servers/sitemanager/sh/stop
/home/servers/pbxware/sh/stop
/home/servers/httpd/sh/stop

3. Modify:
'/home/servers/sitemanager/sh/update' by replacing 'PROJECT=sitemanager-sync' to 'PROJECT=sitemanager-dev-sync'
'/home/servers/pbxware/sh/update' by replacing 'PROJECT=pbxware-sync' to 'PROJECT=pbxware-dev-sync'
'/home/servers/httpd/sh/update' by replacing 'PROJECT=httpd-sync' to 'PROJECT=httpd-dev-sync'

4. Start all applications
/home/servers/sitemanager/sh/start
/home/servers/pbxware/sh/start
/home/servers/httpd/sh/start

5. Navigate to PBXware interface and login.

6. Re-save at least one 'SIP' and IAX' extension, 'MOH(Music on Hold)' and a 'Queue', but going through all options and re-saving them is recommended

Part V

5 Setup Wizard

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

In this chapter we will cover:
- EULA
- Administrator Details
- System
- Licensing
- Locality
- Music On Hold
- UAD
- Extensions
- Trunk
- Confirmation

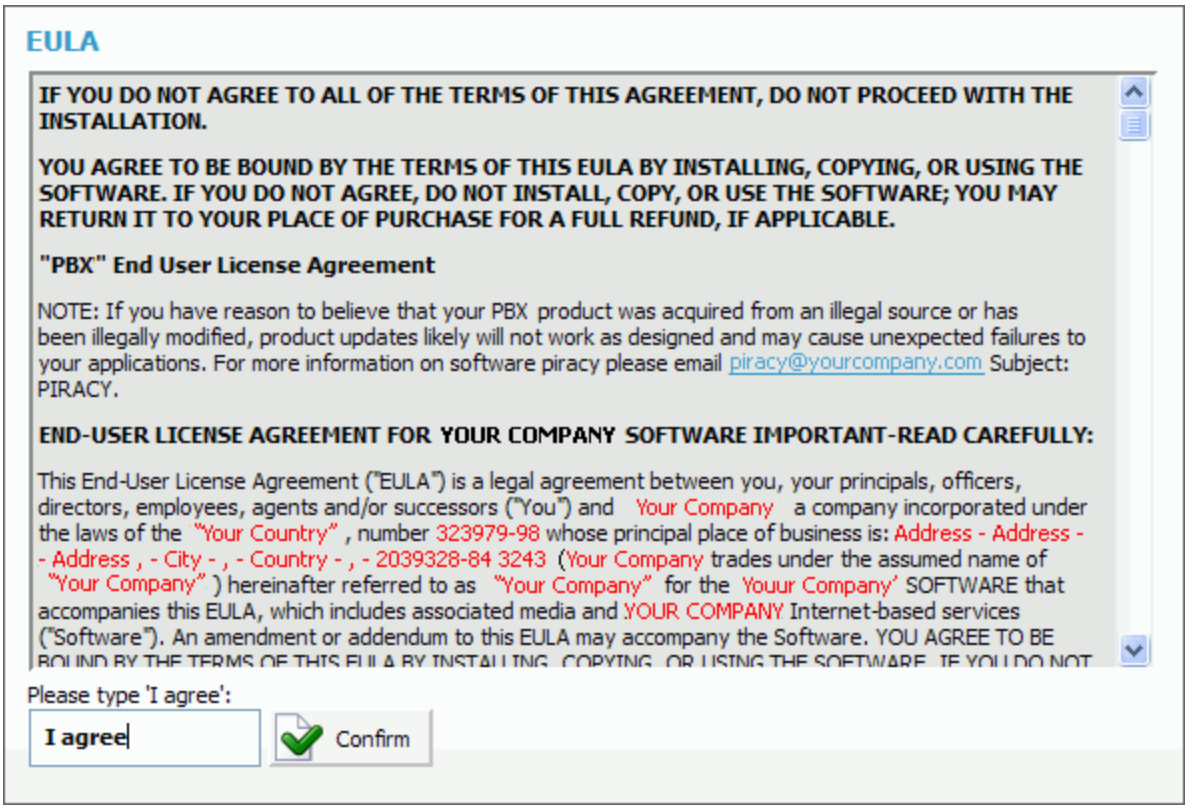
IMPORTANT:
Setup wizard has security username/password in order to prevent unauthorized access.
Defaults are: username: **root** , password: **pbxware .** Setup wizard will ask for the password to be changed in one of the setup steps. After it is changed, It is very important to remember this password since it is system root and setup wizard password.

5.1 EULA

IMPORTANT:
Setup wizard has security username/password in order to prevent unauthorized access.
Defaults are: username: **root** , password: **pbxware .** Setup wizard will ask for the password to be changed in one of the setup steps. After it is changed, It is very important to remember this password since it is system root and setup wizard password.

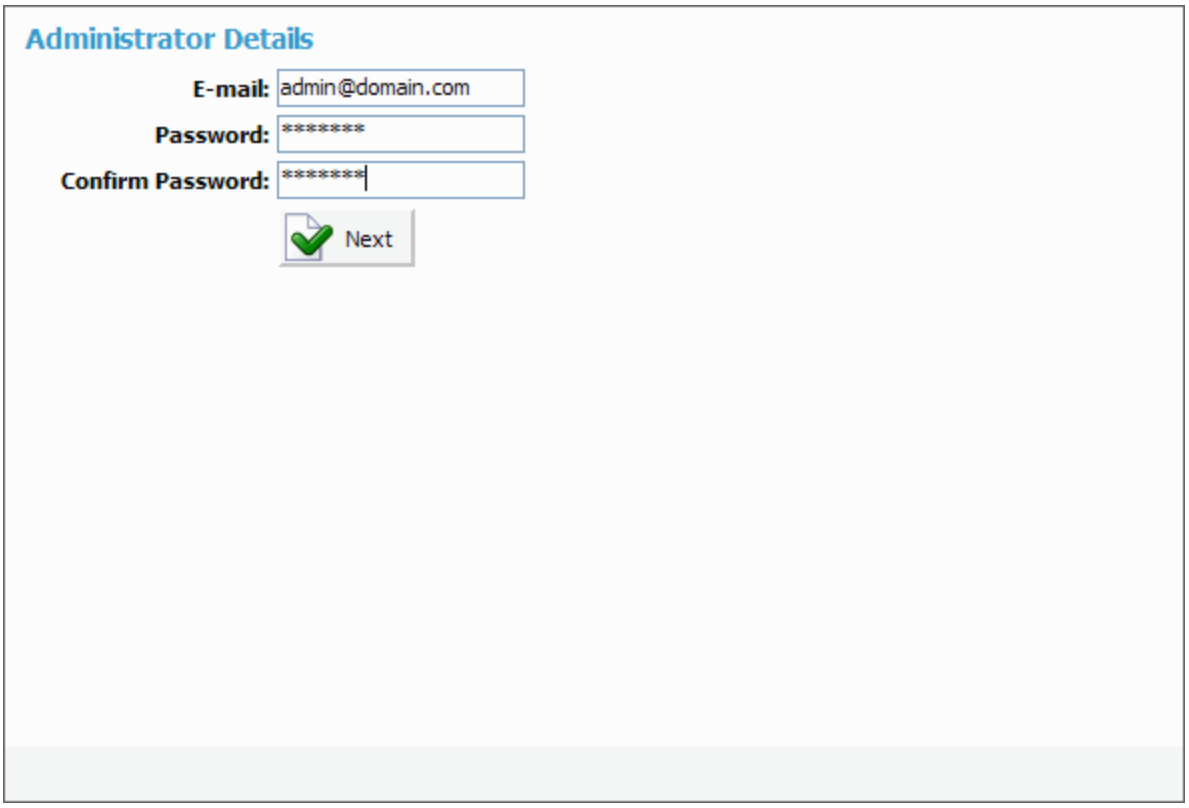
EULA (end user license agreement) is the first setup wizard step. Please read the EULA and type "**I agree**" to proceed.

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



5.2 Administrator Details

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

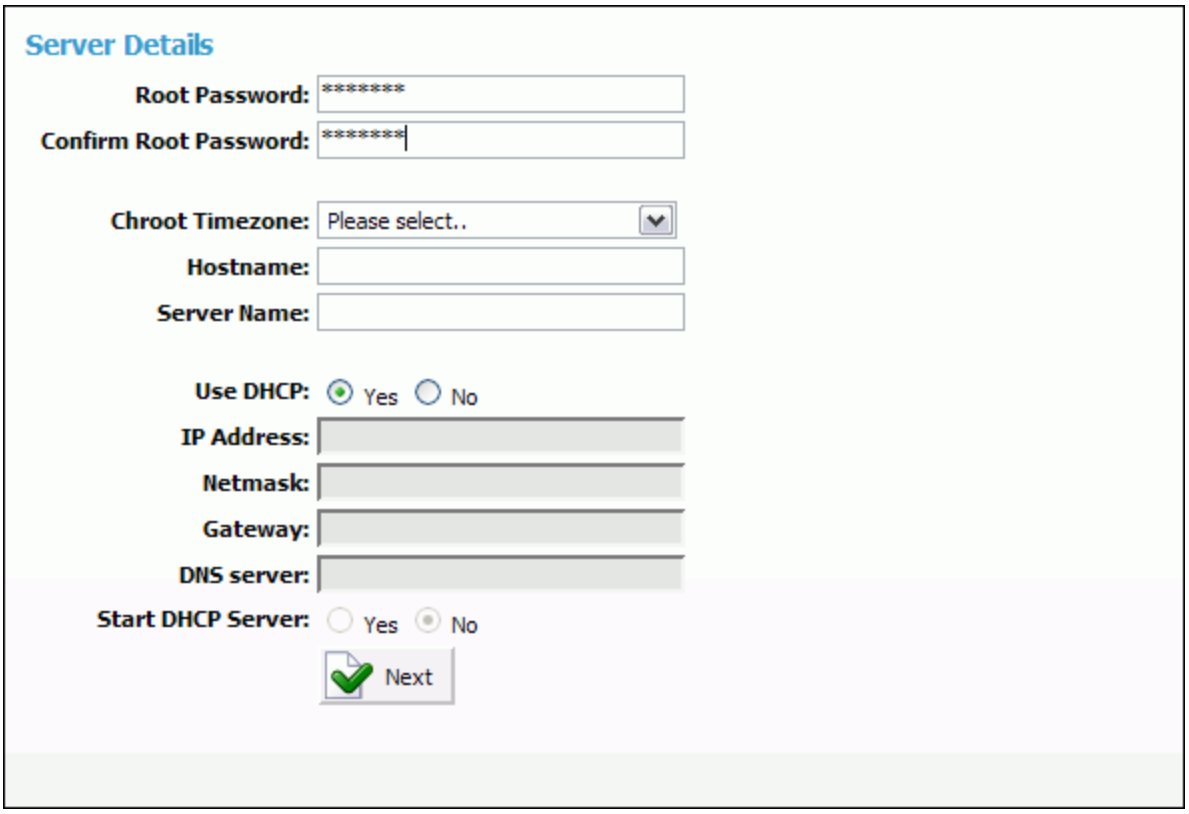


E-mail:
Administrator email address used for logging into PBXware interface
Example: admin@domain.com
Field Type: String, [0-9]

Password/Confirm Password:
Administrator password used for logging into PBXware interface
Example: adminpassword
Field Type: String, [0-9]

5.3 System Details

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



Root Password/Confirm Root Password:
System root password used when logging into system(root), setup wizard and licensing upgrades
Example: mypassword
Field Type: String, [0-9]

Chroot Timezone:
Time zone system is located or operated from
Example: USA/Eash-coast
Field Type: Select box

Hostname:
System hostname
Example: PBXware
Field Type: String

Server Name:
Custom server name that will appear in notification emails
Example: PBXware192.168.1.1
Field Type: String, [0-9]

DHCP (Yes/No):
Is the system going to obtain network details from available DHCP server
Example: Yes, No
Field Type: Option buttons

IP Address:
System static IP address on local network
Example: 192.168.1.8
Field Type: IP address

Netmask:
Applied netmask
Example: 255.255.255.0
Field Type: IP address

Gateway:
Network gateway IP address
Example: 192.168.1.1
Field Type: IP address

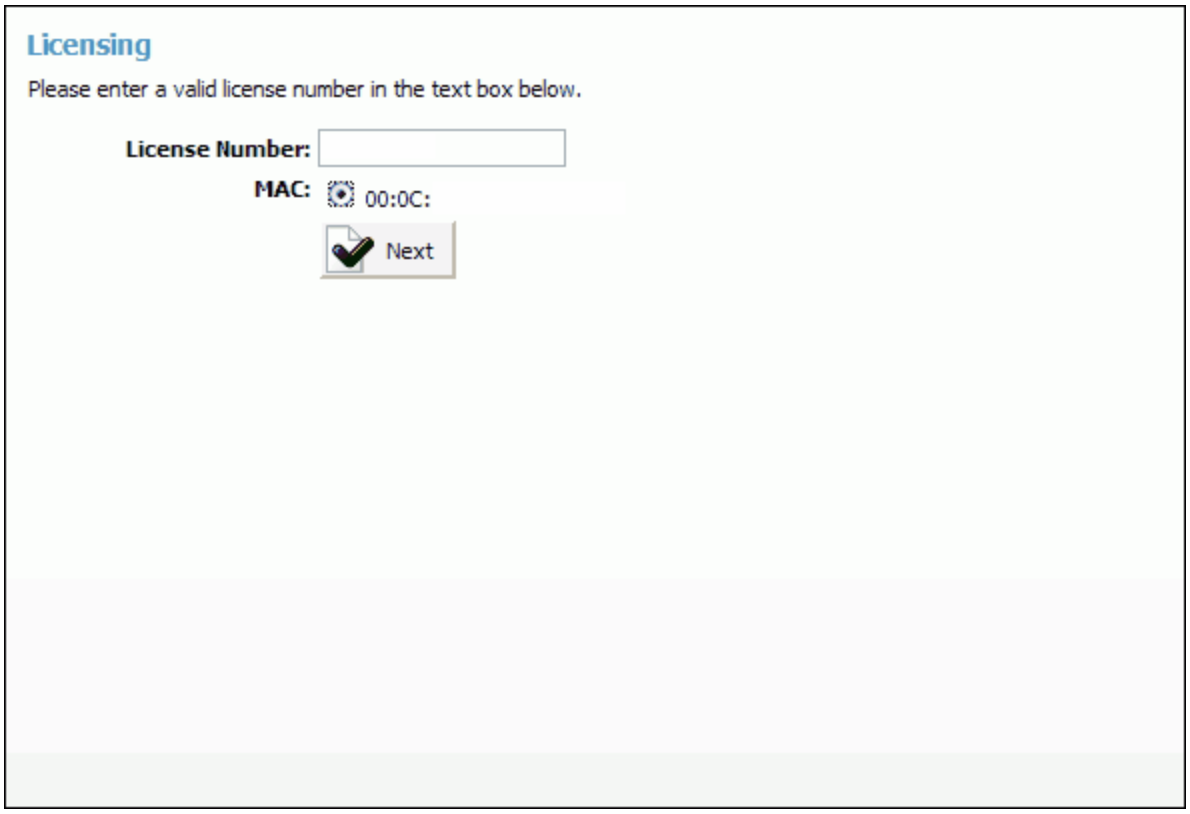
DNS server:
DNS server IP address.
Example: 192.168.1.1
Field Type: IP address

Start DHCP server:
Should PBXware act as a DHCP server. If enabled PBXware will have static IP 192.168.1.99 and will assign IP addresses from 192.168.1.100 and upwards. In this case provided static address in 'IP Address' field must be less then 192.168.1.99(In this case PBXware will be available via provided static IP address and 192.168.1.99)
Example: Yes, No
Field Type: Option buttons

NOTE: Start DHCP server option is available with appliances, mirco disk and compact flash delivery methods only. The network details (IP, Netmask, Gateway and DNS Server) field are not available with virtual server delivery method.

5.4 Licensing

Licensing offers entering of a valid non active license and displays MAC address to which license will be valid with. If the system has more then one network adapter all found MACs will be shown for selection.



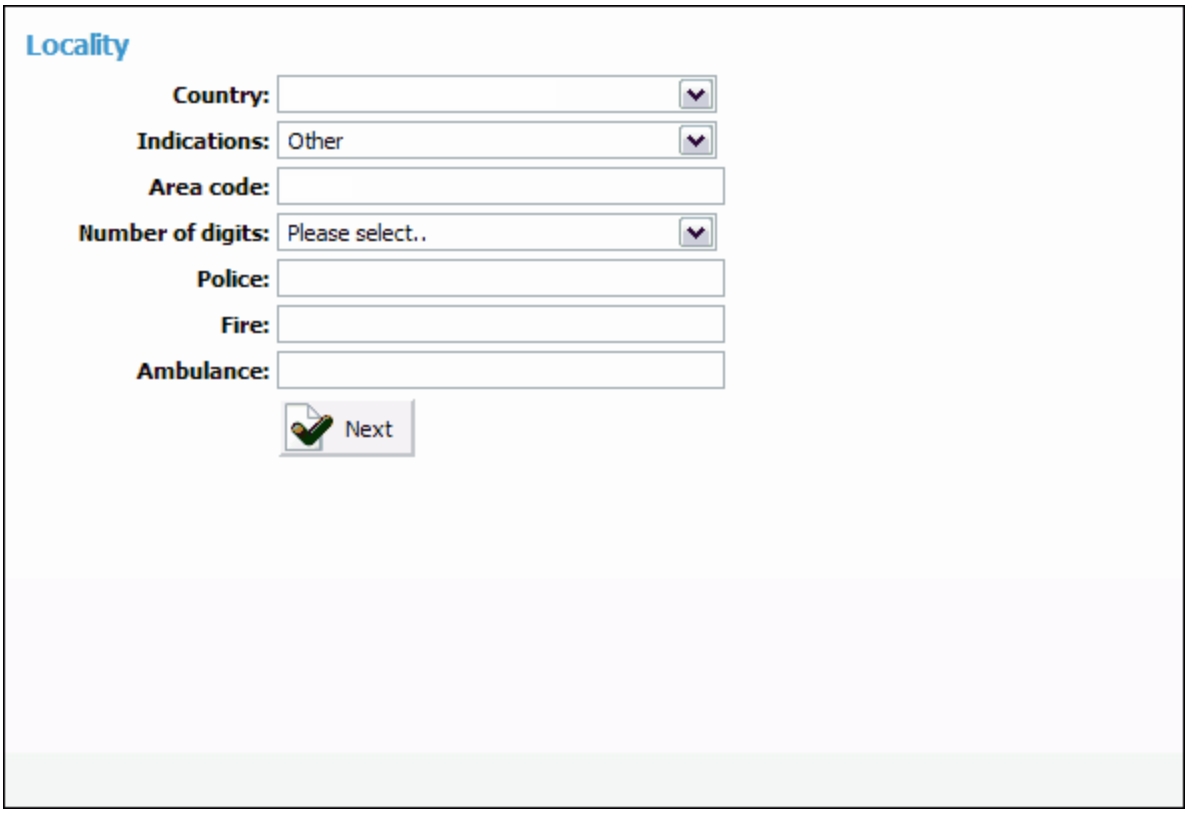
Licence Number:
Provide system licence number as received with the order confirmation.
Example: ABCDE123
Field Type: String, [0-9]

MAC:
If server has multiple MAC addresses, select the one PBXware will be registered with
Example: Select preferred MAC address
Field Type: Option buttons

NOTE: System must have access to fully operational Internet connection in order to license the system.

5.5 Locality

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



Country:
Country the system is located or operating from
Example: United States
Field Type: Select box

Indications:
Select sound tones to be used by the system. Usually as same as 'Country' field however if your country is not listed please select the nearest alternative.
Example: USA
Field Type: Select box

Area Code:
Area code where system is located or operating from
Example: (USA:Florida:Tampa: 813, United Kingdom: London: 0207)
Field Type: [0-9]

Number of Digits:
Number of digits used by the system for all of the local destinations: Extensions, IVRs, Queues, Voicemail boxes, Conferences etc.
Example: 2, 3, 4
Field Type: Select box

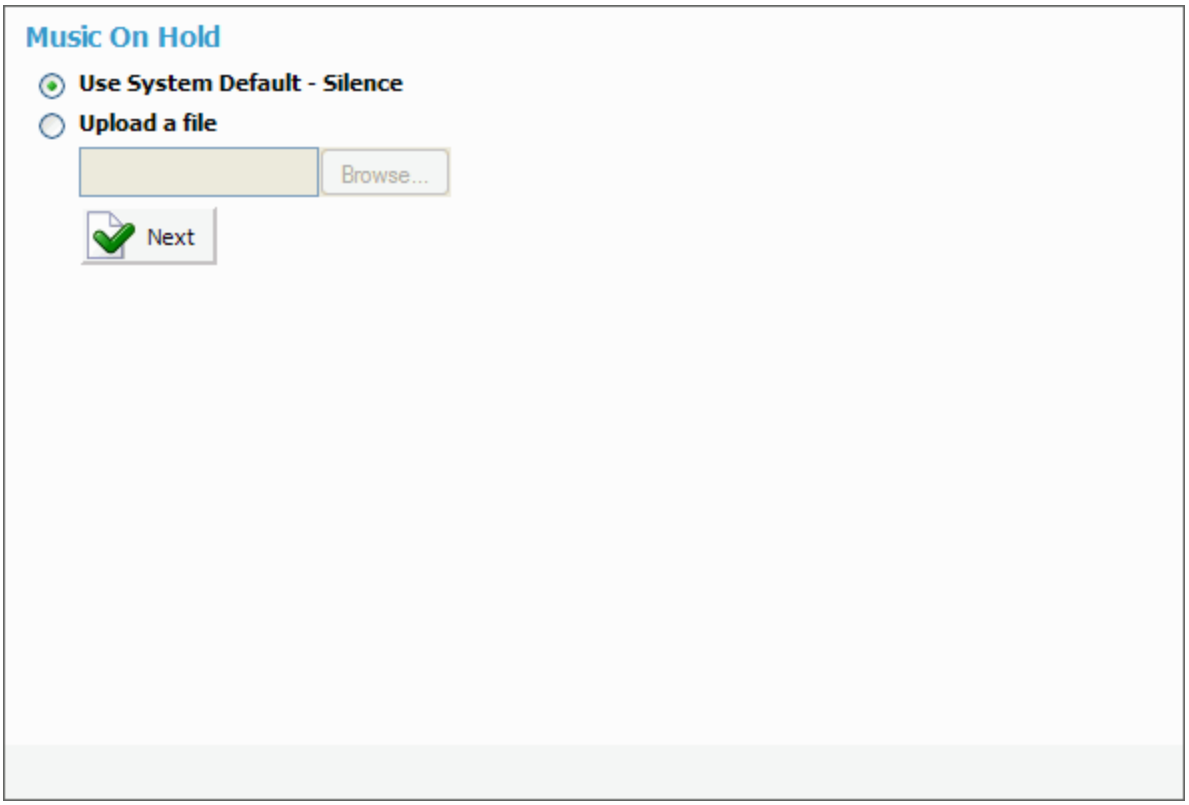
Police:
Local Police Department Number
Example: 911
Field Type: [0-9]

Fire:
Local Fire Department Number
Example: 911
Field Type: [0-9]

Ambulance:
Local Ambulance Service Number
Example: 911
Field Type: [0-9]

5.6 Music On Hold

System comes with default 'silence' music on hold sound file or custom sound file can be uploaded. This file must be in .wav, gsm or mp3 format and not bigger then 8MB.



Music On Hold:
Sound file that is to be played to users put on hold
Example:

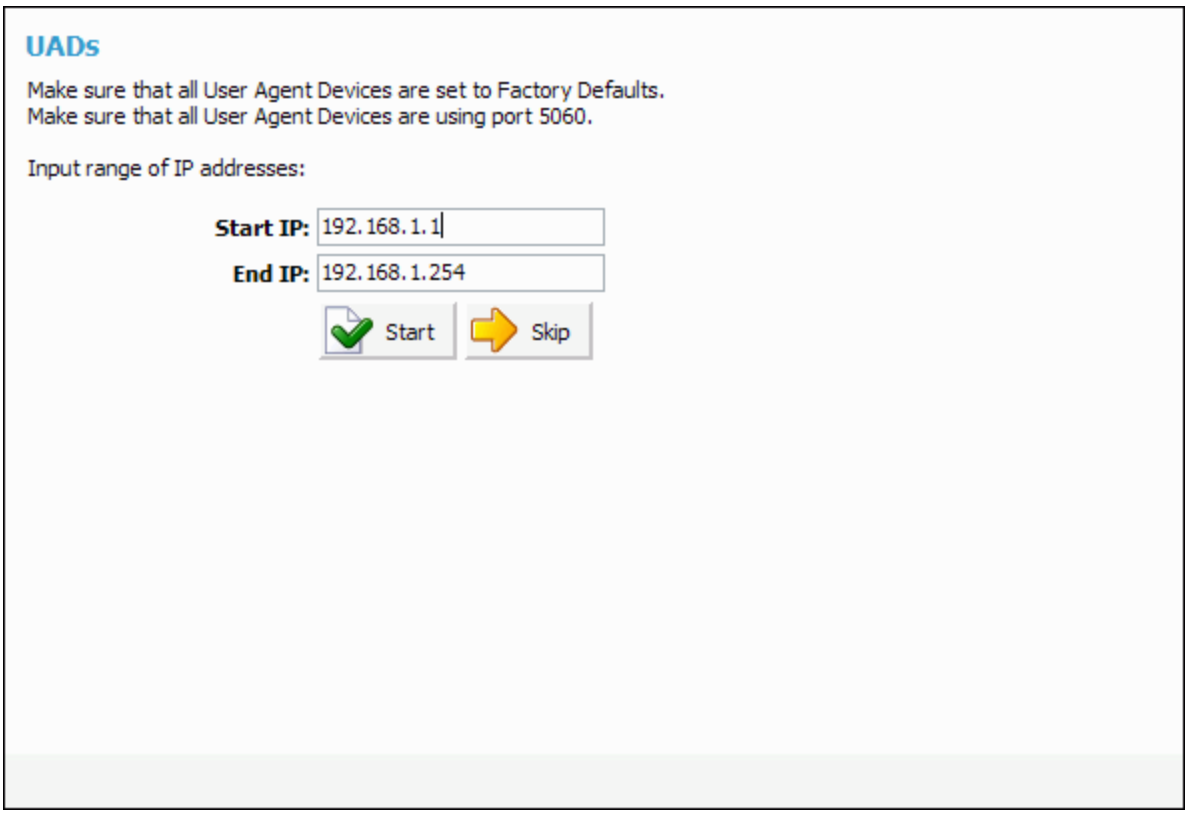
- Use System Default - Silence
- Upload a file(Click 'Browse' button to upload sound file from local computer')

Field Type: Option buttons

5.7 UAD

UAD step allows an installer to search the network for supported devices. PBXware will automatically scan the network, list all devices found and offer auto configuration

NOTE: Please make sure that all User Agent Devices are set to Factory Defaults and using port 5060 before continuing.



Start IP:
IP address from which search is started
Example: 192.168.1.1
Field Type: IP Address

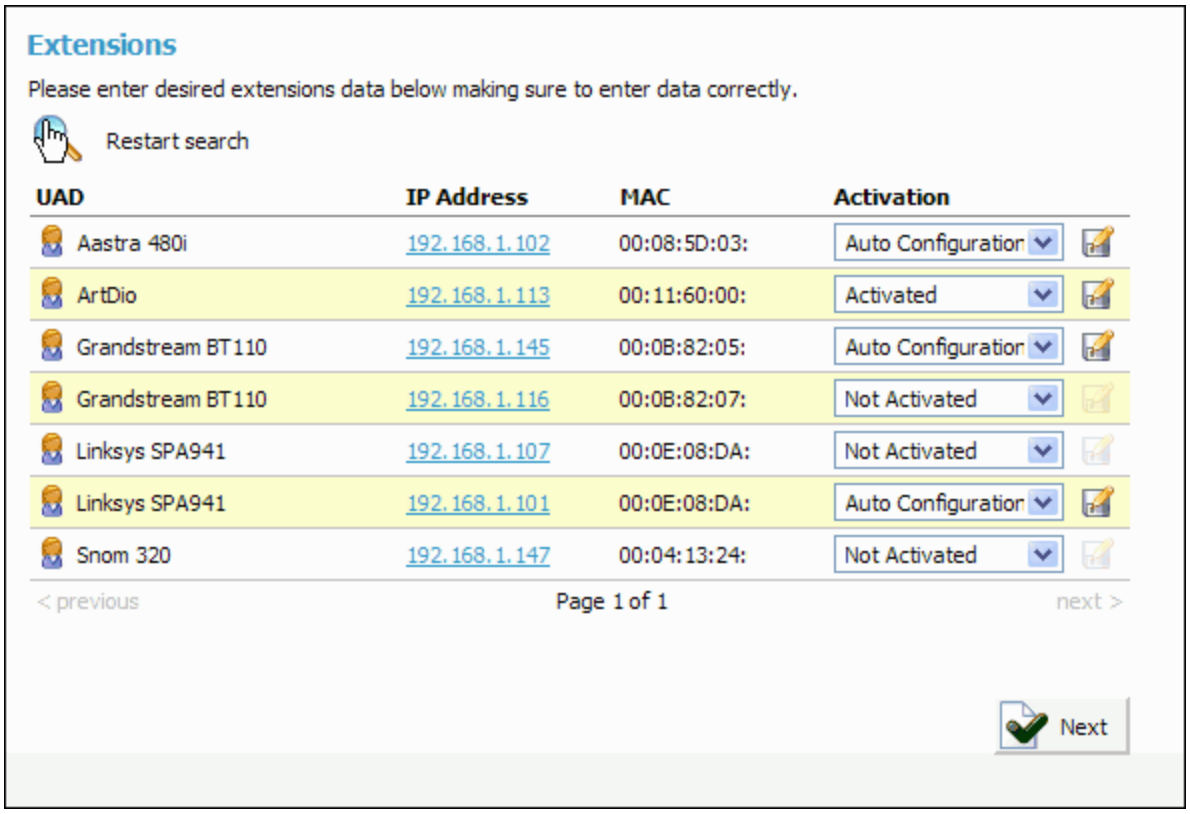
End IP:
IP address with which search is ended
Example: 192.168.1.254
Field Type: IP Address

Start:
Start UADs network search
Example: Click to start
Field Type: Button

Skip:
Skip UADs network search
Example: Click to skip the search step
Field Type: Button

5.8 Extensions

After selecting 'default' UAD this step offers extension fields in order to add multiple users extensions.



UAD:
User agent device name and type
Example: Linksys SPA941
Field Type: Display

IP Address:
UAD network IP address
Example: 192.168.1.102
Field Type: IP address

MAC:
UAD MAC address
Example:
Field Type: Display

Activation:
Select activation method
Example:

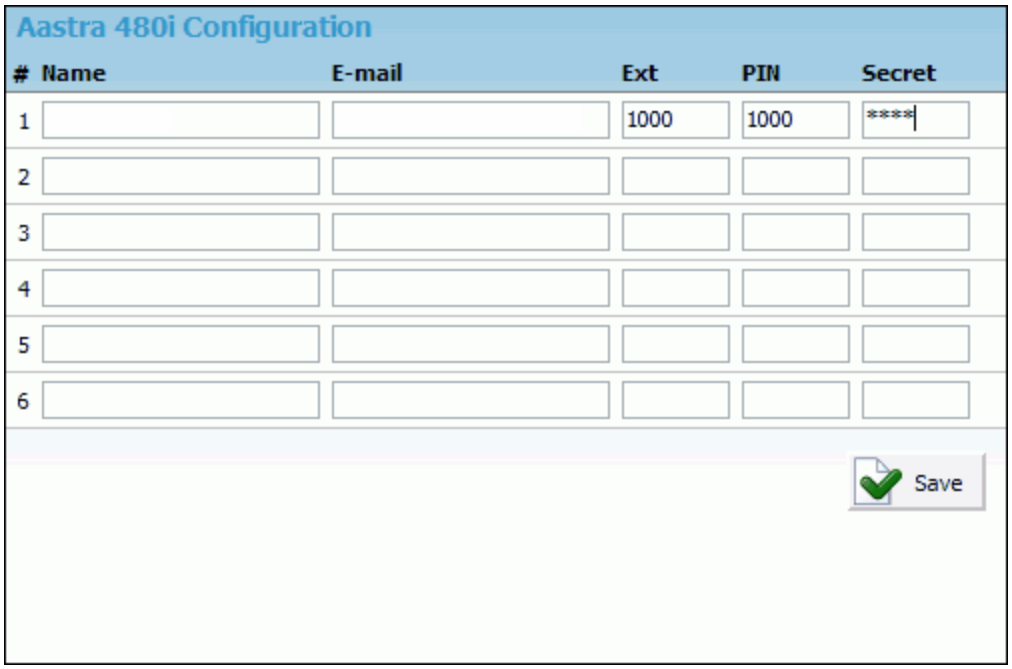
- Not Activated (Nothing happens)
- Activated (PBXware extensions are created only)
- Auto Provisioning (PBXware's TFTP server is used for configuration)
- Auto Configuration (PBXware 'enters the phone' and configures it)

Field Type: Display

Edits the UAD configuration
Example: Click to edit UAD configuration
Field Type: Button

5.8.1 Edit

Add system extension for all UAD lines from this location by filling in the following fields:



Name:
Name of the user who will be using the extension. This name will be displayed as Caller ID information
Example: John Smith
Field Type: Display

E-mail:
Email address associated with the extension. Used for system notifications, access to user self care etc.
Example: john@domain.com
Field Type: Display

Ext:
Extension number
Example: 1002
Field Type: Display

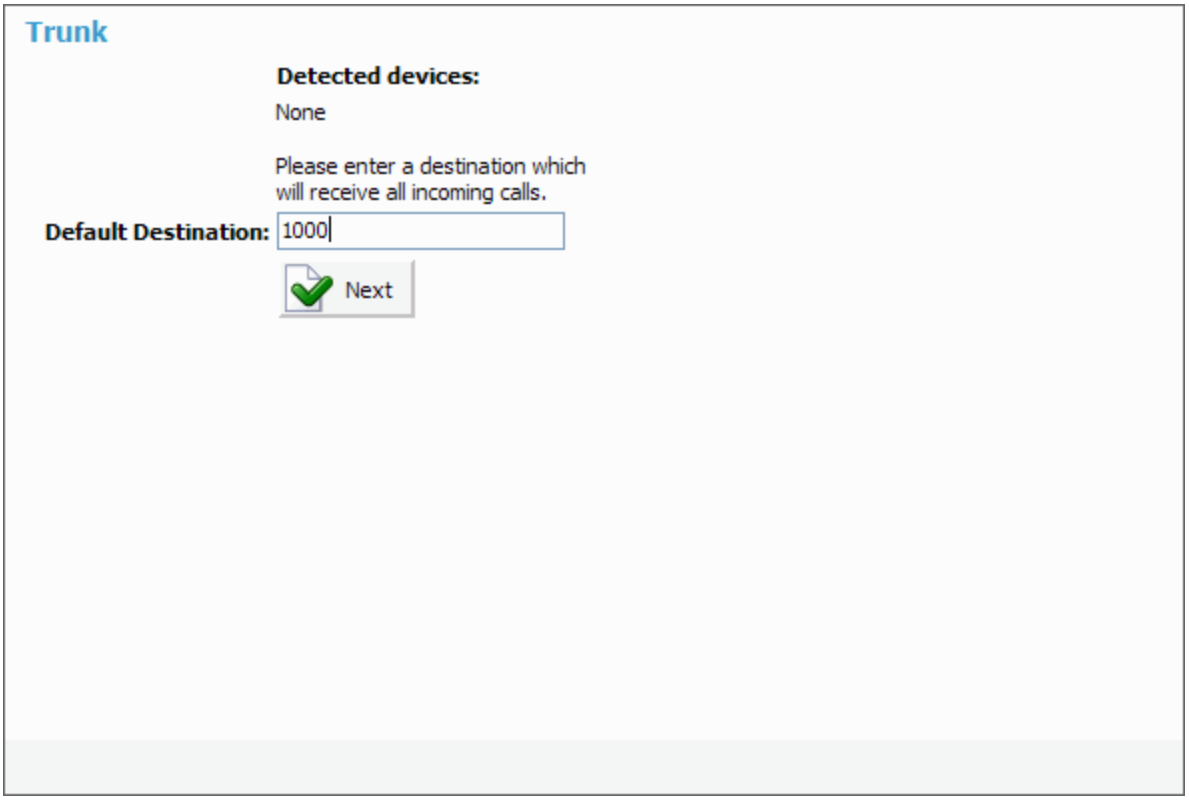
PIN (Personal Identification Number):
Auto generated (4 - four) digit number allowing access to voicemail, user self care and other additional services
Example: 5816
Field Type: Display

Secret:
8 auto generated characters used as password for UAD registration with the PBXware
Example: 1l2k3j4l
Field Type: String, [0-9]

NOTE: Number of extensions may vary from one phone to another

5.9 Trunk

Trunks step will try to detect supported trunk devices present on the system. Once detected, wizard will automatically create a trunk
based on most common configuration values. Please visit www.yourcompanyname.com/docs/uad/ for a list of currently suppored devices.

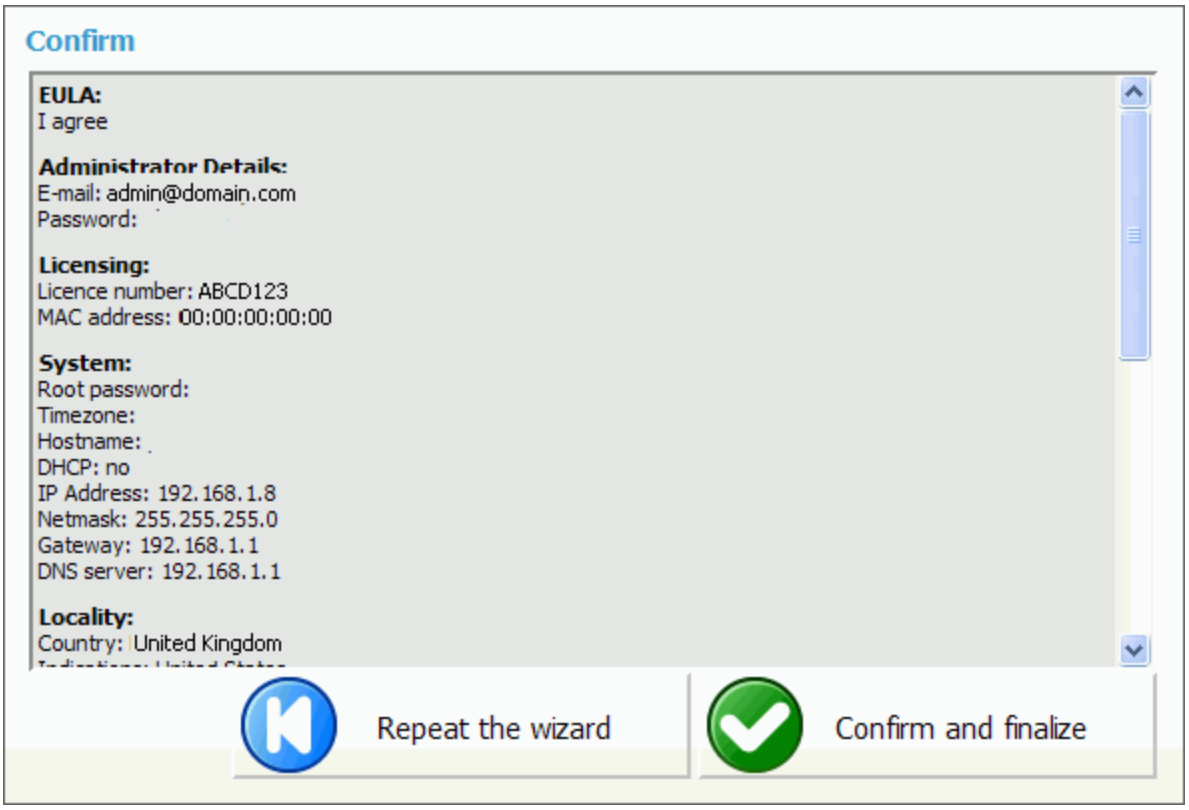


Detected devices:
If setup wizard detects any hardware devices there will be displayed here
Example: None
Field Type: Display

Default Destination:
Default destination where all incoming calls are redirected to in absence of DID configuration. This means that any incoming call with no DID available will be sent to this destination
Example: 1000
Field Type: [0-9]

5.10 Confirmation

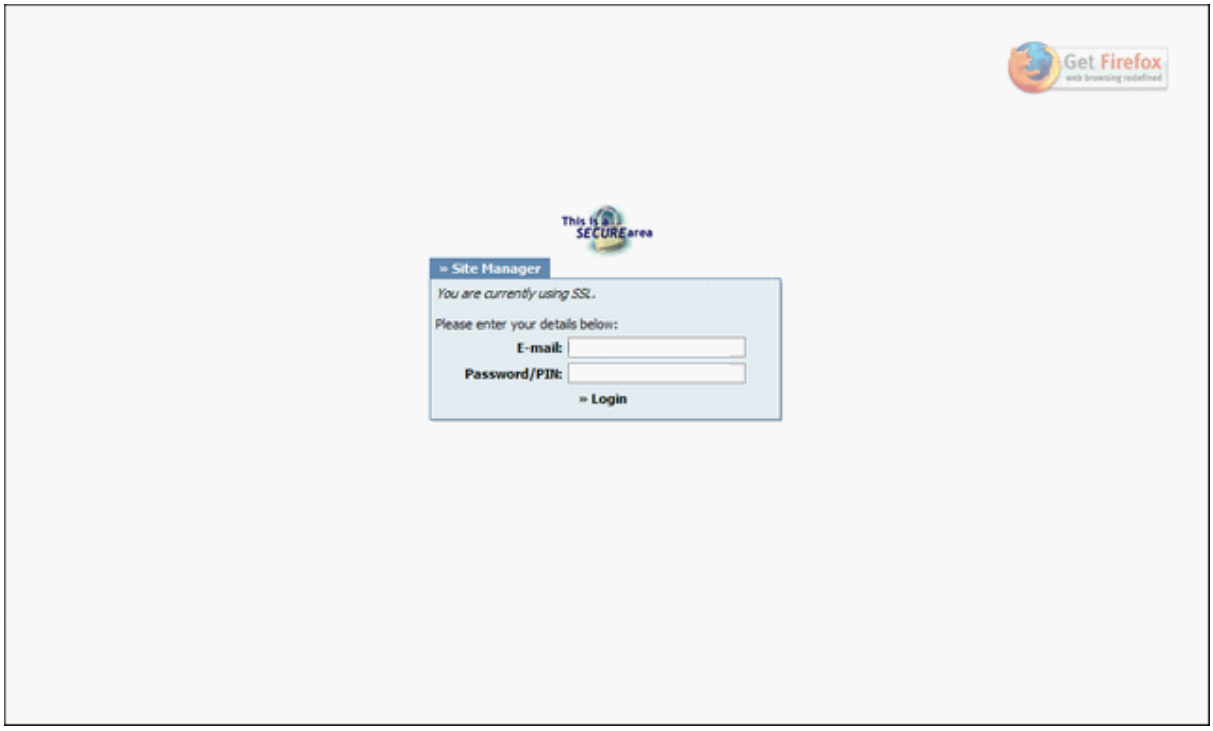
Finally, the confirmation step allows for all values to be revised and to either finish the wizard or start all over from the beginning. If 'Confirm and finalize' is clicked on, setup wizard will finish and browser will be redirected to system login screen.



Part

6 Loging into the system

In order to login into the system please point browser to:
http://$IPADDRESS/ (For Example:**http://192.168.1.2/**)



Email:
Administrator's email address
Example: john@domain.com
Field Type: String, [0-9]

Password/PIN:
System administrator password
Example: 2001
Field Type: [0-9]