

这里的Voip系统纯属于自架，您拥有绝对的控制权，如果购买了其他国家的trunk线路（欧洲大概是10欧元包月），打起国际长途来就更省钱了！！！平时在家也可以使用voip，绝对的省钱啊。

说一下需要的硬件：

1. 计算机一台，越破越好。这里用的是台破586，512内存。
2. xp100语音卡一块，淘宝可以买到，大概100元。
3. belkin无线路由器一台，淘宝也可以买到，大概130左右，推荐7231。
4. E71手机一个，推荐港行，大概2350，亚太的2100多，绝对不要买什么大陆行货，被阉割了wifi功能，voip是绝对无法用的。

Original X100P 原装卡 Trixbox(Asterisk)

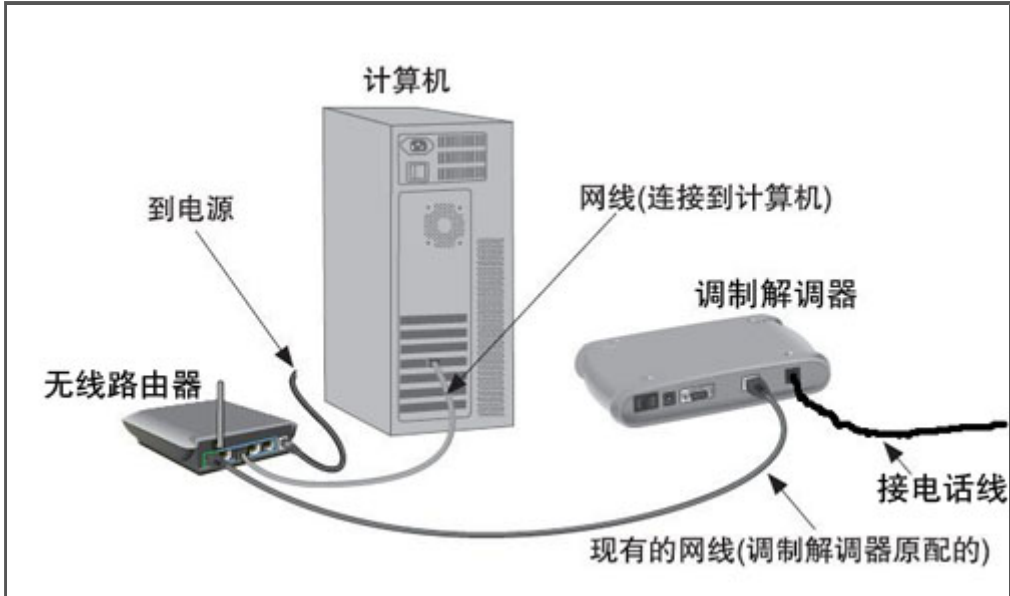




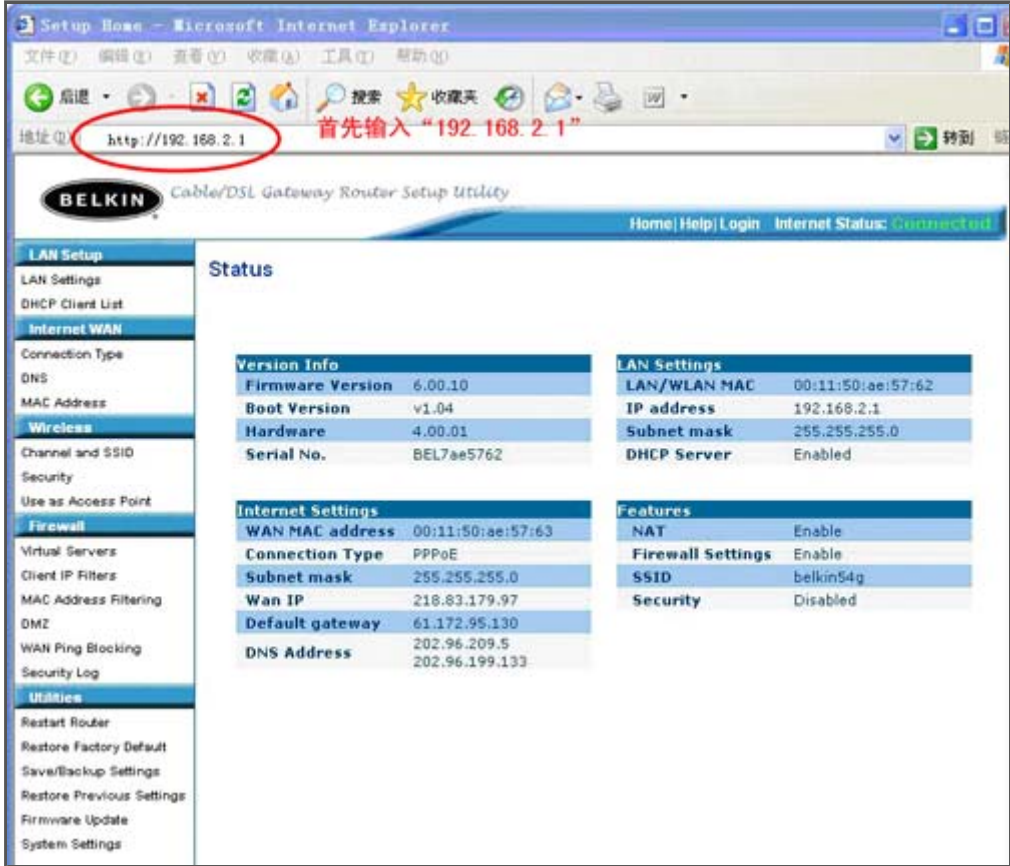
本文分为四大部分

一、家庭内部Belkin无线路由器的设置:

首先把电脑与路由器连接好，如下图：



然后将你的电脑上的本地网卡或者无线网卡的IP改成自动获到IP和DNS，接下来在在 I E 地址栏输入192.168.2.1，进入路由器设置页面



一般的adsl宽带接入选择pppoe，需要设定账号和密码



## PPPOE拨号宽带设置示范图一

Home | Help | Logout | Internet Status: **Connected**

**LAN Setup**

- LAN Settings
- DHCP Client List
- Internet WAN**
- Connection Type
- DNS
- MAC Address

**Wireless**

- Channel and SSID
- Security
- Use as Access Point

**Firewall**

- Virtual Servers
- Client IP Filters
- MAC Address Filtering
- DMZ
- WAN Ping Blocking
- Security Log

**Utilities**

- Restart Router
- Restore Factory Default
- Save/Backup Settings
- Restore Previous Settings
- Firmware Update
- System Settings

### WAN > Connection Type

Select your connection type:

- ☐ **Dynamic**  
Dynamic type of connection is the most common. If you use a cable modem, then most likely you will have a dynamic connection. If you have a cable modem or you are not sure of your connection type, use this.
- ☐ **Static**  
A Static IP address connection type is less common than others. Use this selection only if your ISP gave you an IP address that never changes.
- ☒ **PPPoE** **第二步，选择PPPoE**  
If you use a DSL modem and/or your ISP gave you a User Name and Password, then your connection type is PPPoE. Use this connection type.
- ☐ **PPTP**  
[European Countries Only]. This type of connection is most common in European countries. If your ISP has specifically told you that you use PPTP and has supplied you with the proper PPTP information, then use this option.
- ☐ **Telstra BigPond**  
[Australia Only] Users of Telstra BigPond Cable or DSL will use this option to configure the connection.

**Next >** **第三步，按NEXT，然后看示范图二。**

## PPPOE拨号宽带设置示范图二

Home | Help | Login | Internet Status: **Connected**

**LAN Setup**

- LAN Settings
- DHCP Client List
- Internet WAN**
- Connection Type
- DNS
- MAC Address

**Wireless**

- Channel and SSID
- Security
- Use as Access Point

**Firewall**

- Virtual Servers
- Client IP Filters
- MAC Address Filtering
- DMZ

### Login

Before you can change any settings, you need to log in with a password. If you have not yet set a custom password, then leave this field blank and click "Submit."

**Password**

Default = leave blank

**Clear** **Submit**

**当出现这个界面的时候大家只要直接按圈起来的按钮可以了，会跳过这个界面的**

## PPPOE拨号宽带设置示范图二

Home | Help | Logout | Internet Status: **Connected**

**LAN Setup**

- LAN Settings
- DHCP Client List
- Internet WAN**
- Connection Type
- DNS
- MAC Address

**Wireless**

- Channel and SSID
- Security
- Use as Access Point

**Firewall**

- Virtual Servers
- Client IP Filters
- MAC Address Filtering
- DMZ
- WAN Ping Blocking
- Security Log

**Utilities**

- Restart Router
- Restore Factory Default
- Save/Backup Settings
- Restore Previous Settings

### WAN > Connection Type > PPPoE

To enter your PPPoE settings, type in your information below and click "Apply changes". More Info

**User Name >**  **这里输入你的宽带帐户名**

**Password >**

**Retype Password >**  **这里输入你的宽带密码，2行都要输。**

**Service Name (Optional) >**

**MTU (1440-1454) >**

Do not make changes to the MTU setting unless your ISP specifically requires a different setting than 1454. [More Info](#)

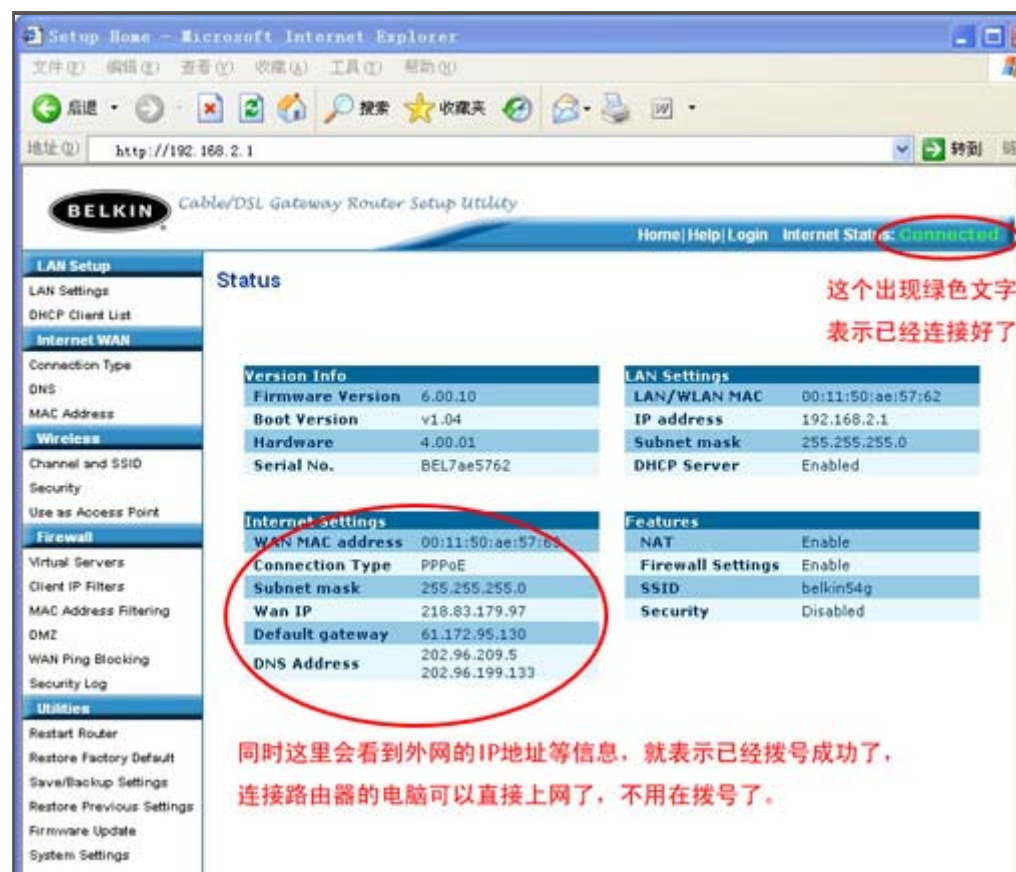
☐ Disconnect after  minutes of no activity.

[More Info](#)

**最后按APPLY按钮保存**

**Clear Changes** **Apply Changes**

看到状态栏显示已经连上及相关的ip\DNS信息就表明已经可以连上adsl了。



无线加密是必须得，也需要配置一下：

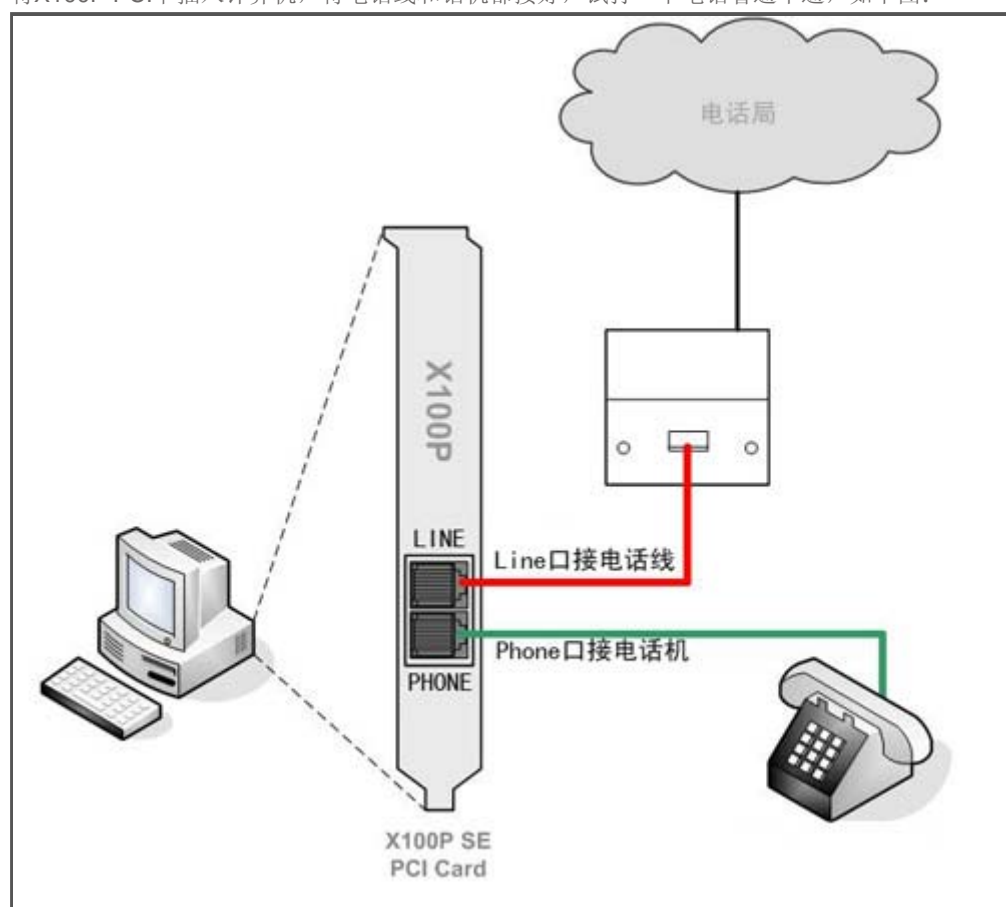


OK，最后别忘了在System Setting部分把路由器的密码改掉，省的被非法冒用，贝尔金部分就配好了。

## 二、Elastix安装:

比较流行的系统有trixbox和elastix，我都尝试了一下，感觉Elastix包括的东西比较多而且很新。所以就用Elastix了：首先下载 [Elastix-1.5.2-stable-i386-bin-31mar2009.iso](#)，并刻录成光盘。

将X100P PCI卡插入计算机，将电话线和话机都接好，试打一下电话看通不通，如下图：



从刚刻录下来的Elastix CD 引导启动你打算安装PBX的老破服务器

到出现如下提示画面时，输入linux text并回车，注意：以后的界面中可以用TAB键来切换选择。



- To install or upgrade in graphical mode, press the <ENTER> key.
- To install or upgrade in text mode, type: linux text <ENTER>.
- Use the function keys listed below for more information.

[F1-Main] [F2-Options] [F3-General] [F4-Kernel] [F5-Rescue]  
boot: linux text\_

安装语言选English

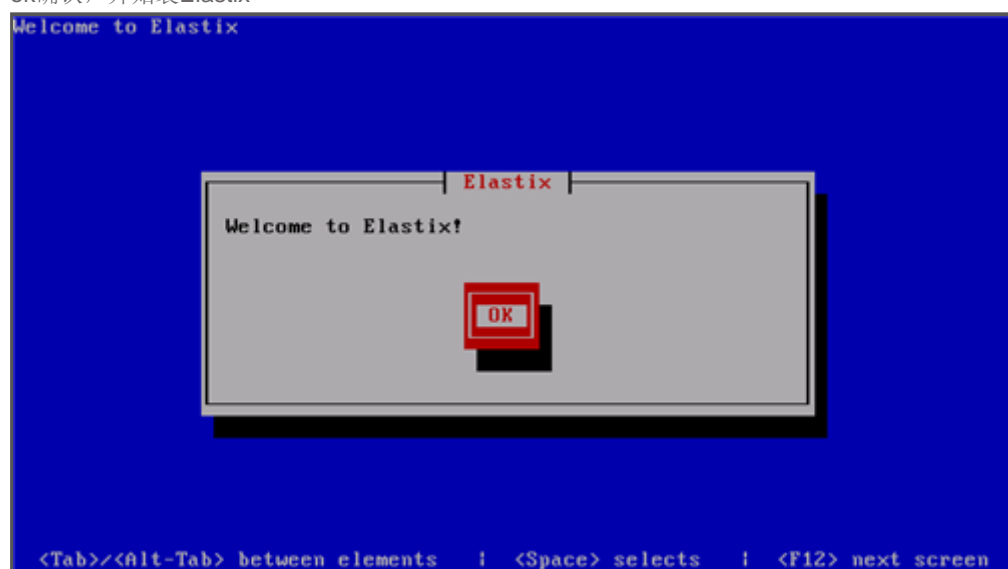




键盘类型选择us



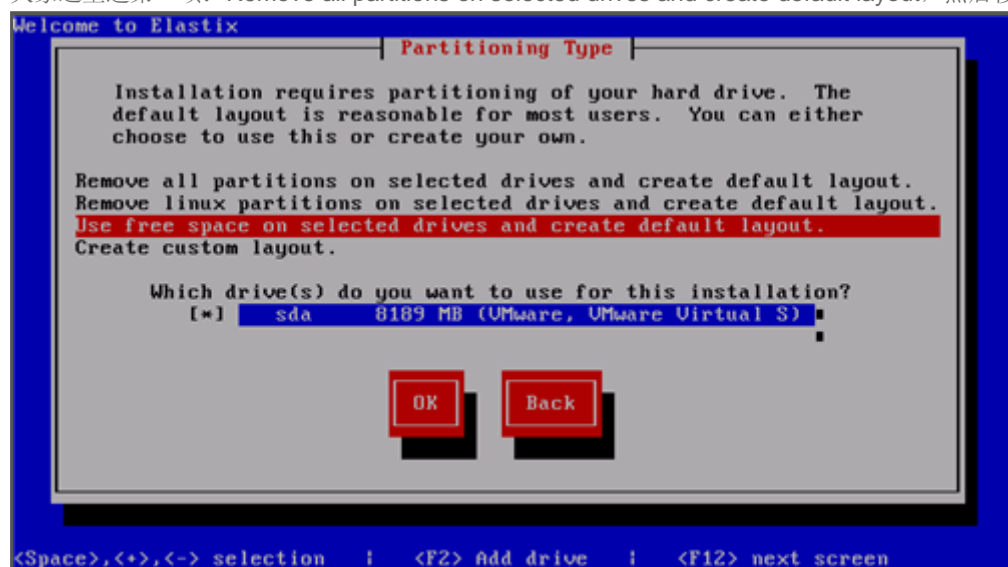
ok确认，开始装Elastix



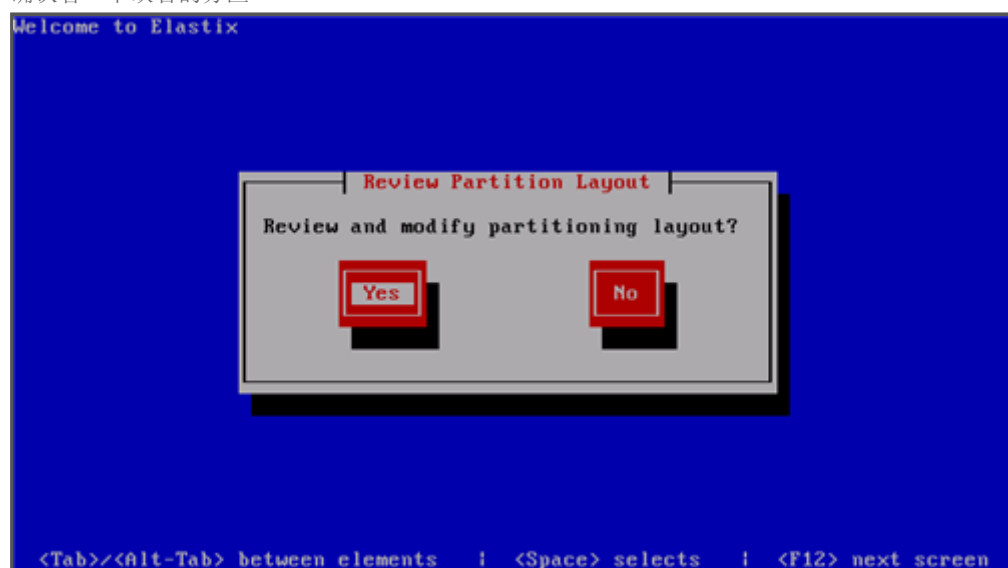
警告信息，安装Elastix会把整个盘都给格式掉，小心啊小心。



大家这里选第一项：Remove all partitions on selected drives and create default layout，然后移动到OK



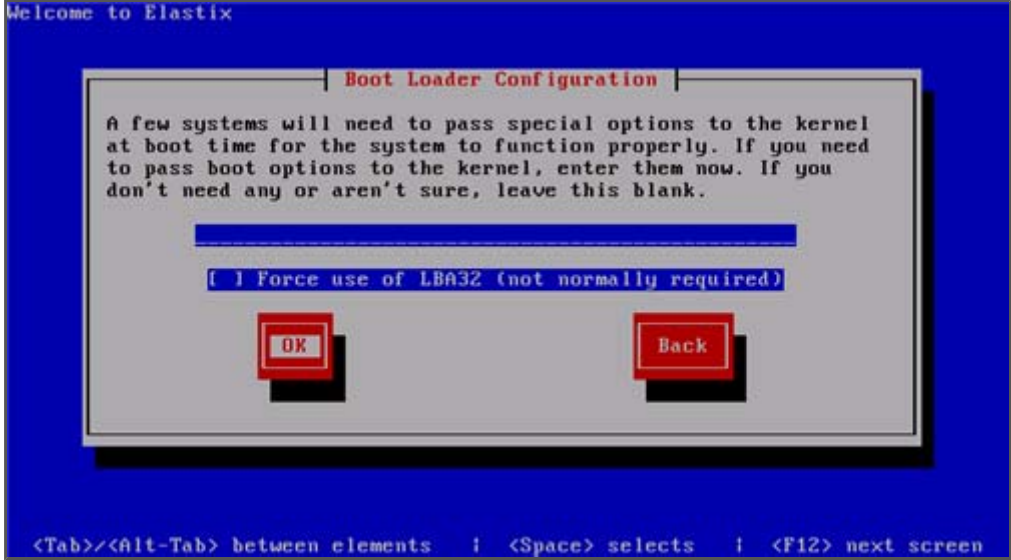
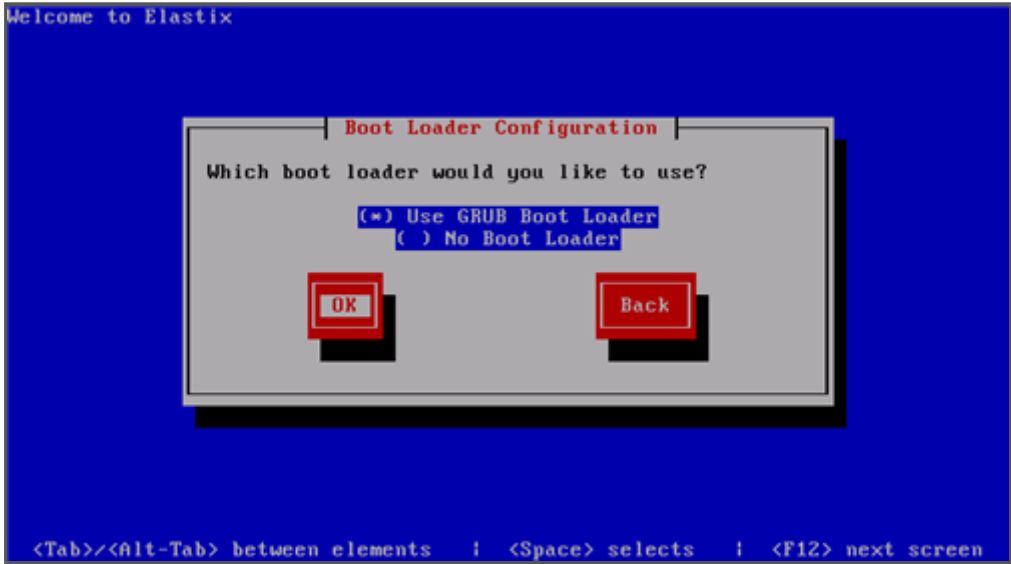
确认看一下缺省的分区

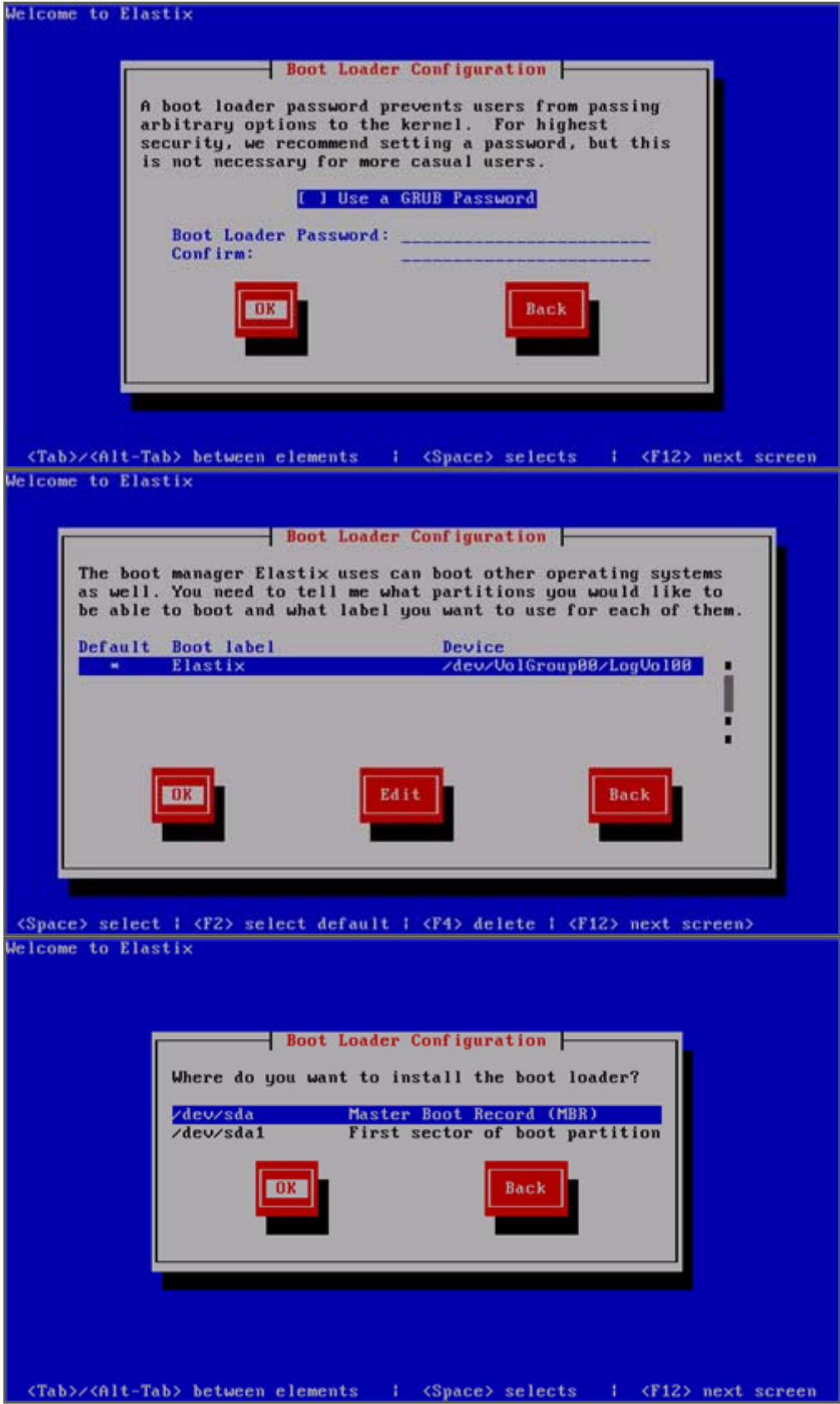






Boot loader缺省，统统按OK即可

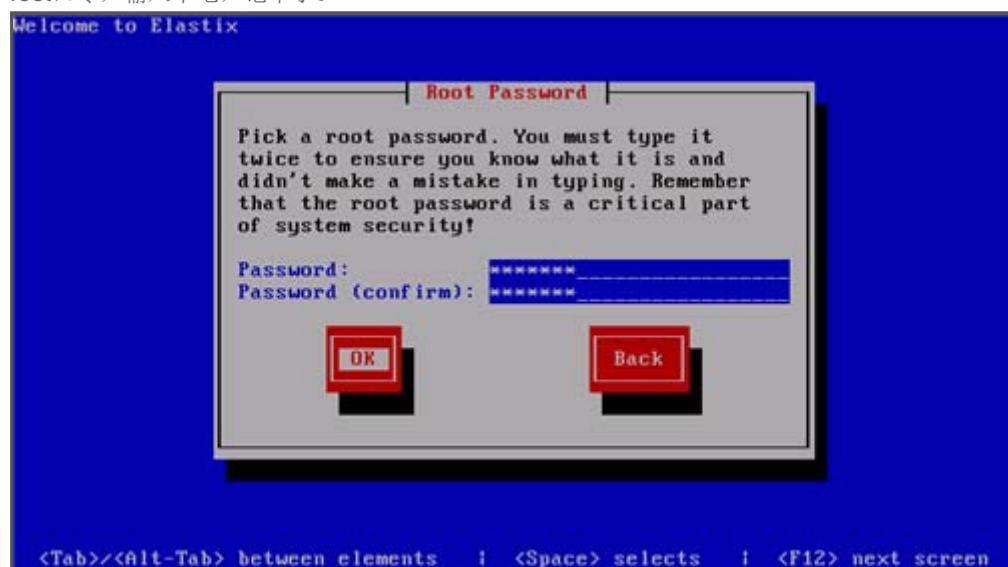




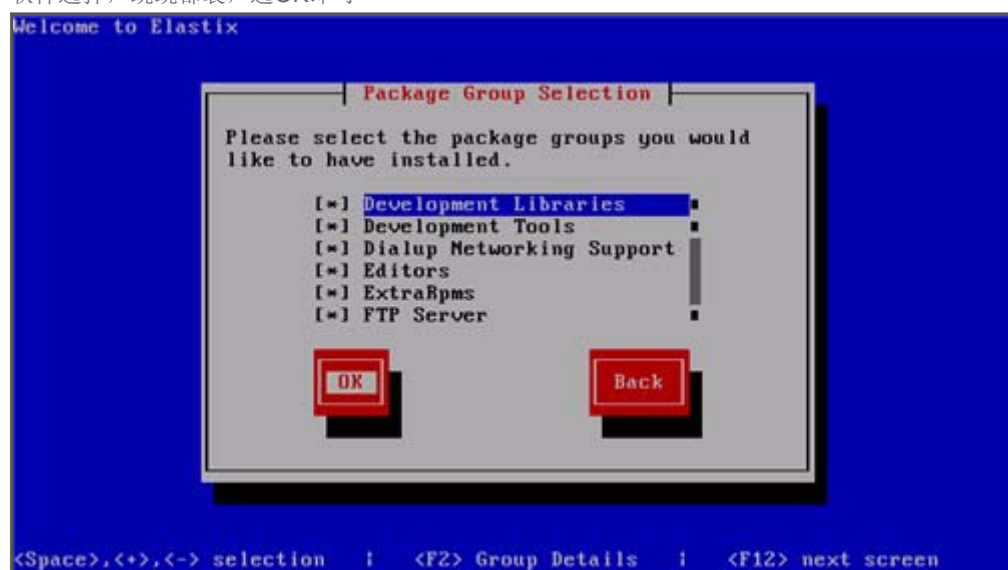
时区选择，选中System clock uses UTC，和Asia/Shanghai



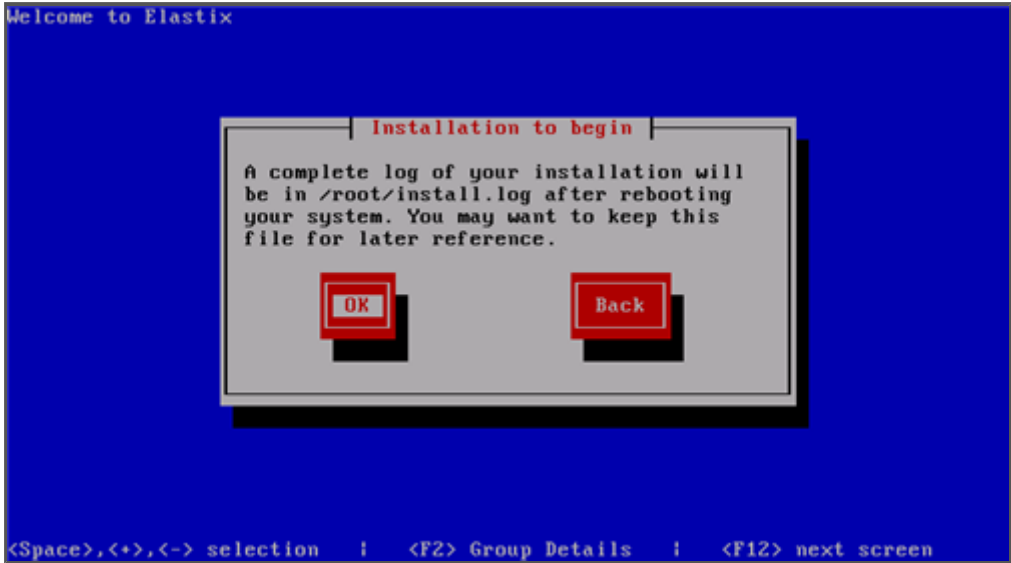
root口令，输入个吧，记牢了。



软件选择，统统都装，选OK即可



开始安装，选OK即可



安装开始了啊.....等待吧



安装完成后，取出CD-ROM，重启：



```
CentOS release 5.2 (Final)
Kernel 2.6.18-92.1.22.el5 on an i686

elastix login: _
```

恭喜啊，系统安装完成。！！！！

### 三、Elastix配置：

缺省Elastix居然用的是DHCP，靠，这谁能找到它到底是在哪啊，改成静态IP：

用root登陆

```
vi /etc/sysconfig/network
NETWORKING=yes
NETWORKING_IPV6=no
HOSTNAME=elastix.example.com
GATEWAY=111.111.111.111
```

```
vi /etc/sysconfig/network-scripts/ifcfg-eth0
DEVICE=eth0
BOOTPROTO=static
HWADDR=00:15:E9:B1:32:AF
IPADDR=222.222.222.222
NETMASK=255.255.255.0
ONBOOT=yes
```

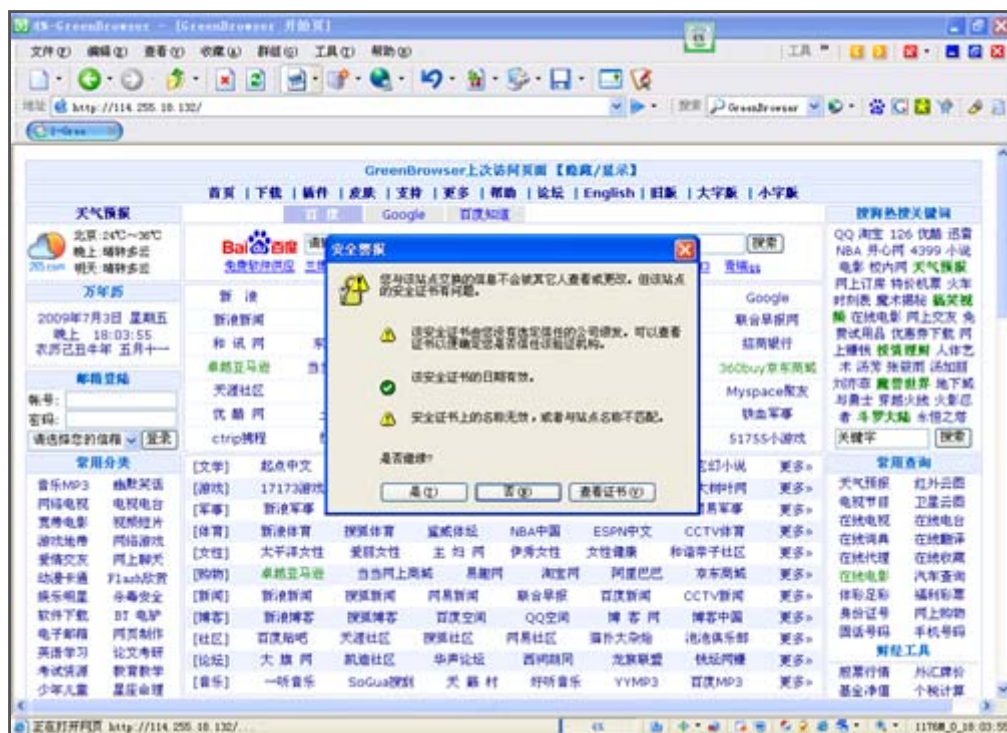
```
reboot
```

注意：这里的配置是网关是:111.111.111.111，IP是222.222.222.222。

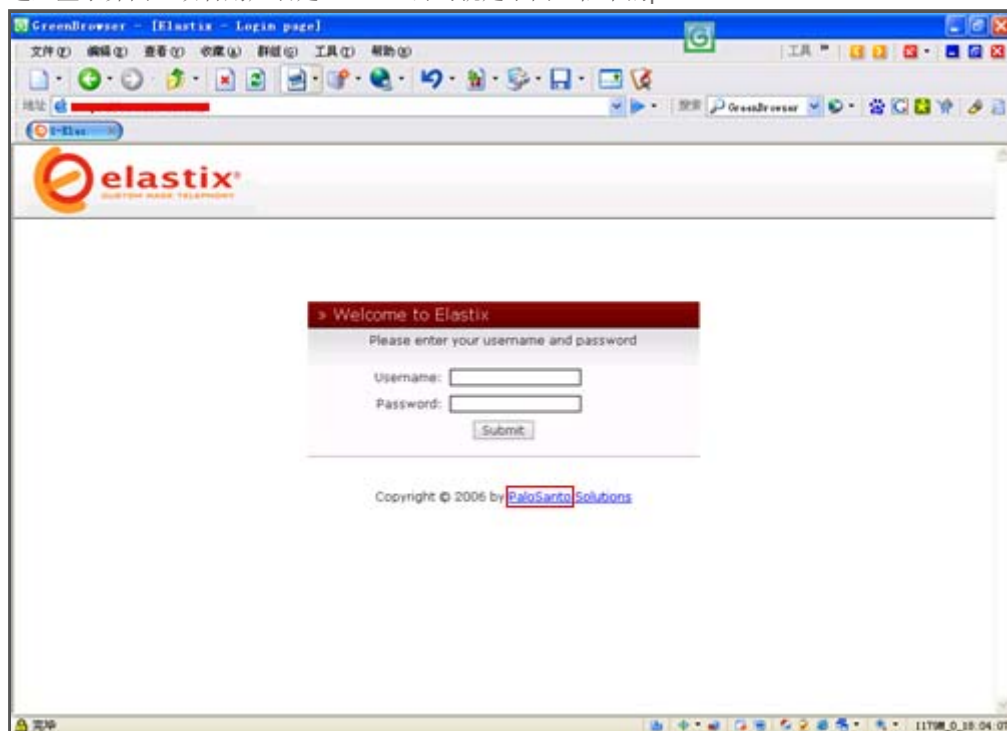
注意：这里的IP最好是真实的IP，而不是192.168或者172.16或者10打头的内网IP，如果使用内网IP并在网关做NAT映射，我这里的实验结果是E71电话可以打通，但是互相听不见声音，查查资料，原来是因为voip的SIP协议很类似FTP，有两个通道，通讯通道和数据通道，做NAT的时候跟FTP一样难做，经常是通讯通道通，而数据通道不通，所以就只听见铃响，接起来听不见声音。这也直接导致后来的IMAX协议的诞生，数据通道和通讯通道都在一个端口上，就不会有NAT的问题了。

Elastix的Web配置：

登陆<http://222.222.222.222>，缺省会跳转到<https://222.222.222.222>，选择继续：



进入登录界面，缺省用户名是admin，密码就是下面红框中的palosanto:



把所有密码都写一下，备查

登录界面：admin / palosanto

mysql root 密码 eLaStIx.2oo7

内嵌freepbx 密码：admin/admin

To access SugarCRM use:

Username: admin

Password: password

To access A2bill use:

Username: admin

Password: mypassword

To access Flash Operator panel (Since 0.6 version)

username: admin

Password: eLaStIx.2oo7

To access Freepbx (Un-embedded) use:

Username: admin

Password: admin

To access vtigerCRM use:

Username: admin

Password: admin

To access A2Billing

Username: admin

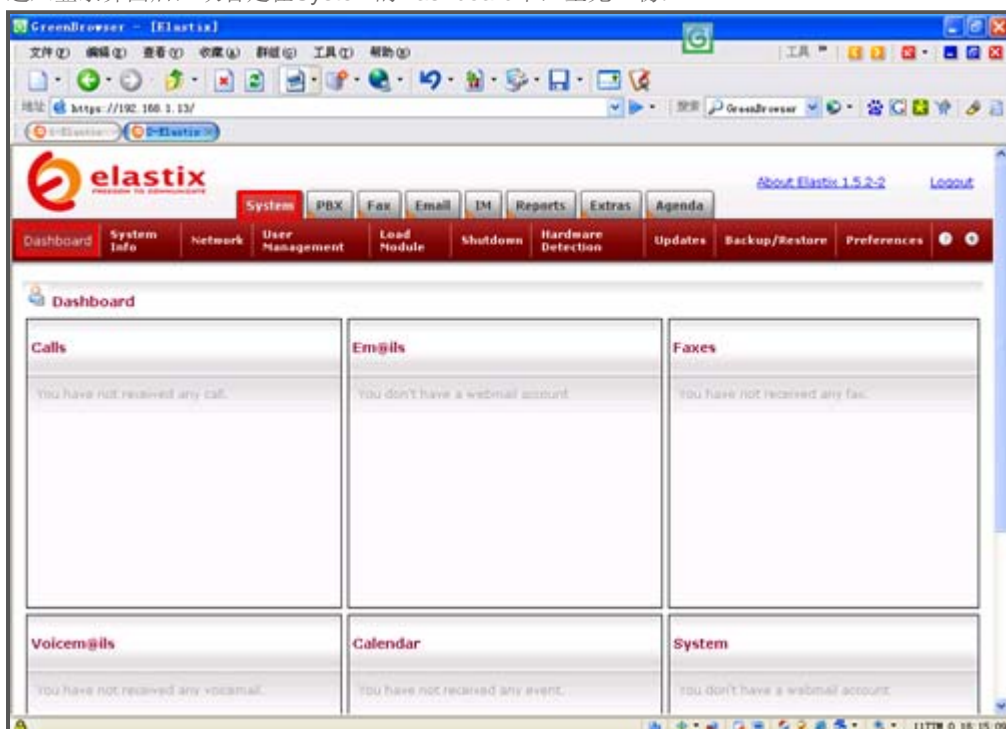
Password: mypassword

To access Openfire

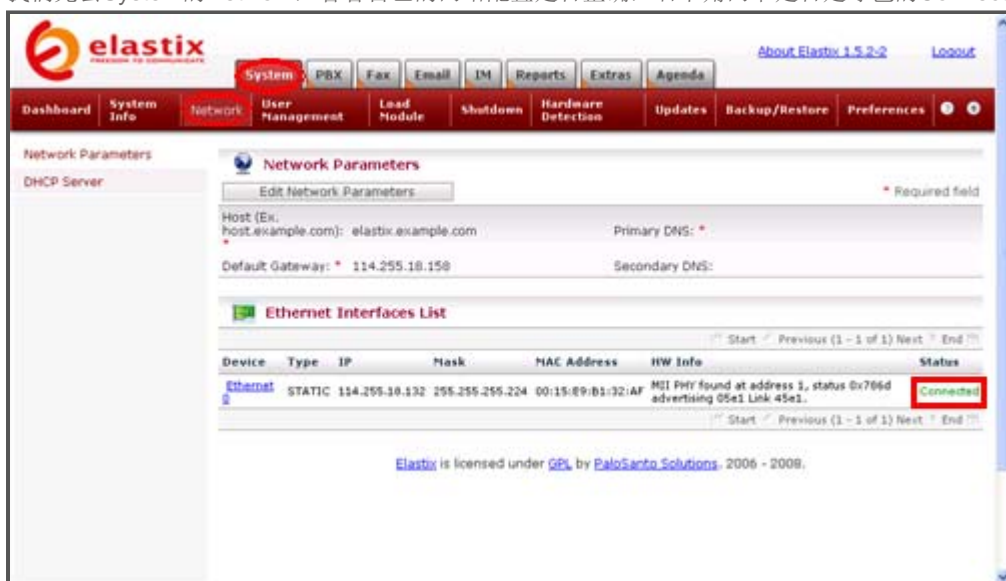
Username: admin

Password: Whatever set at instal

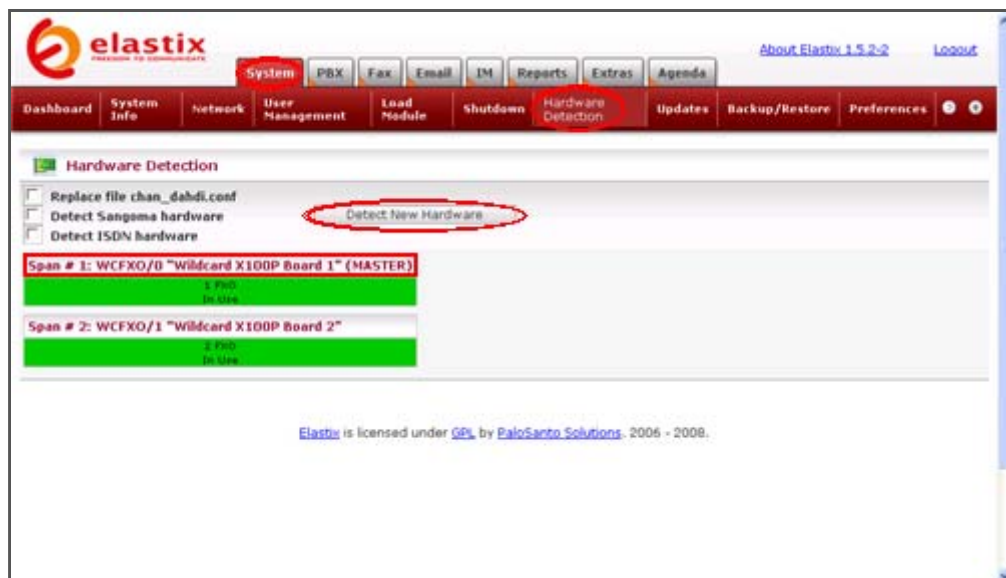
进入登录界面后，缺省是在System的Dashboard下，空无一物：



我们先去System的Network，看看自己的网络配置是否正确，右下角网卡是否是绿色的Connected:

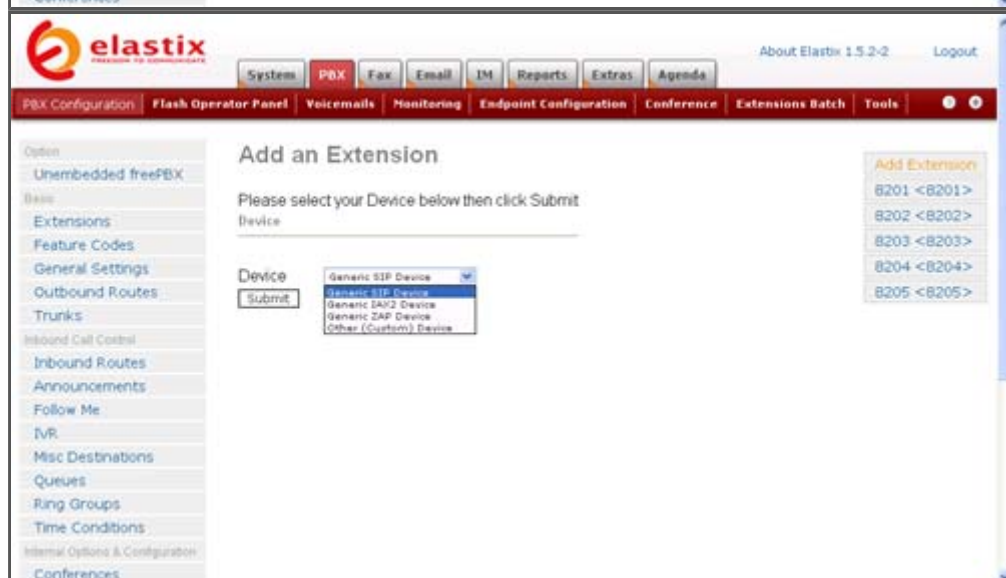
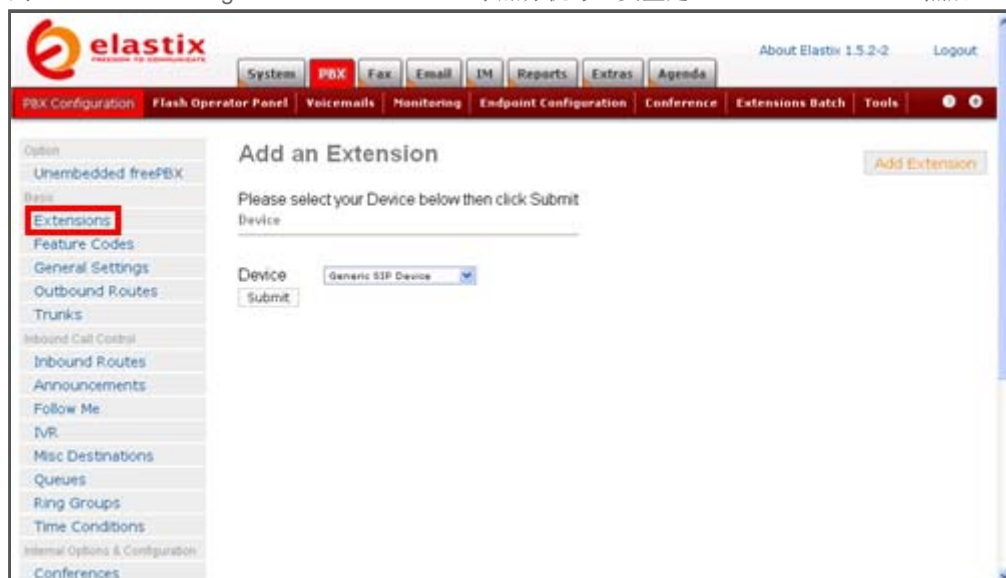


然后去System的Hardware Detection，按下Detect New Hardware，检测一下自己的x100p卡，找到就OK:



如果网卡和x100p卡都没问题，我们开始配置asterisk的分机：

到PBX-->PBX Configuration-->Extensions，添加分机号，类型是Generic SIP Device，然后Submit:



接下来的表单中，只需填写三个地方，


User Extension: 8206

Display Name: 8206

secret: 8206

就是三个字段，分机号/显示名/密码





elastix  
FREE PBX FOR COMMUNITARIANS

System

PBX

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Email

IM

Reports

Extras

Agenda

About Elastix 1.5.2-2

Logout

PBX Configuration

Flash Operator Panel

Voicemails

Monitoring

Endpoint Configuration

Conference

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Inbound Call Control

Inbound Routes

Announcements

Follow Me

IVR

Misc Destinations

Queues

Ring Groups

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Add SIP Extension

Add Extension

User Extension

Display Name

CID Num Alias

SIP Alias

Extension Options

Outbound CID

Ring Time

Call Waiting

Call Screening

Emergency CID

Assigned DID-CID

DID Description

Add Inbound DID

Add Inbound CID

Device Options

This device uses sip technology

secret

dtmfmode

Dictation Services

Dictation Service

Dictation Format

Email Address

Language

Language Code

Recording Options

Record Incoming

Record Outgoing

Voicemail & Directory

Status

Voicemail Password

Email Address

Pager Email Address

Email Attachment

Play CID

Play Envelope

Delete Voicemail

VM Options

VM Context

VmX Locator

VmX Locator™

Use When:

Voicemail Instructions:

Press 0:

Press 1:

Press 2:

Submit

Add Extension

8201 <8201>

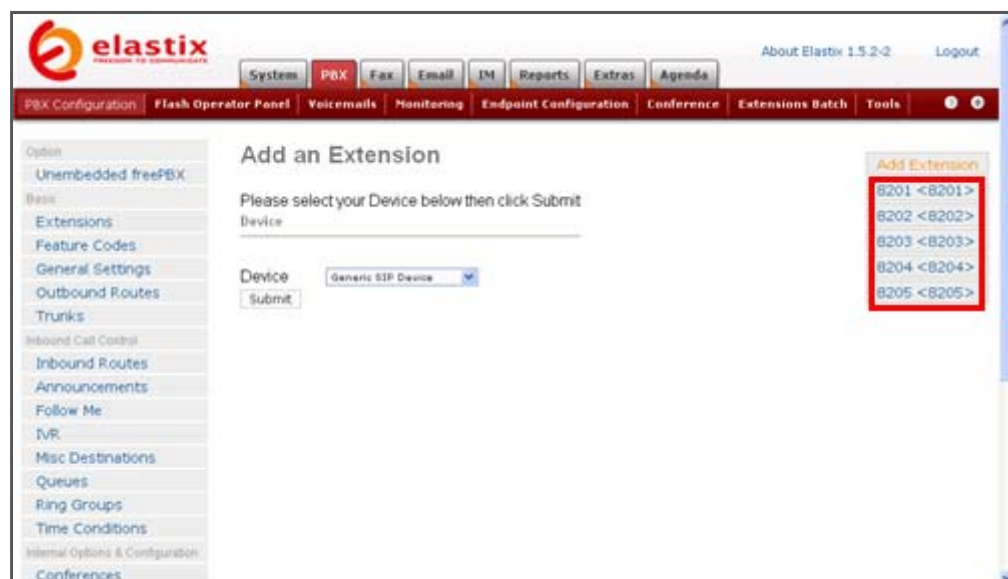
8202 <8202>

8203 <8203>

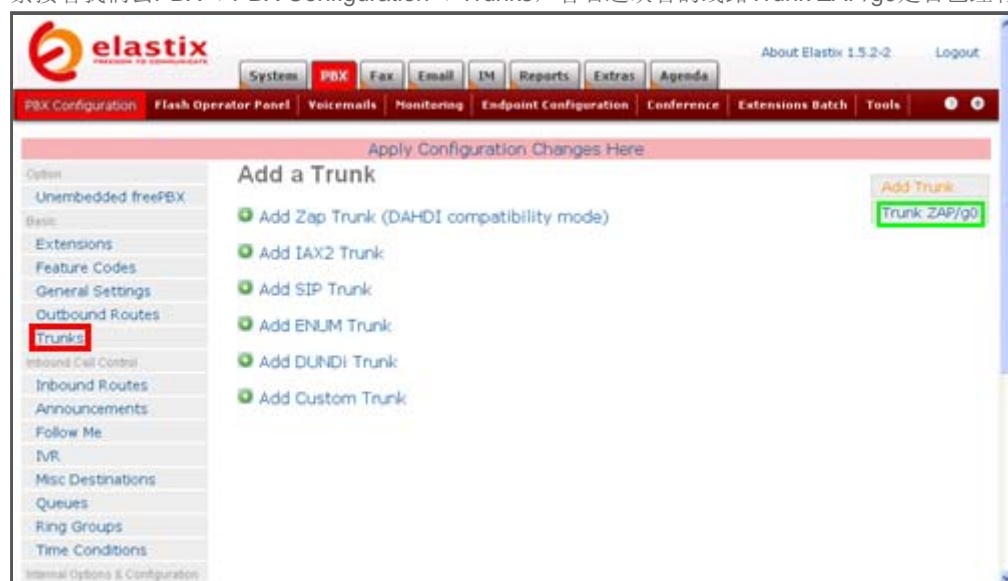
8204 <8204>

8205 <8205>

添加好了以后，右边就显示出已添加的分机：

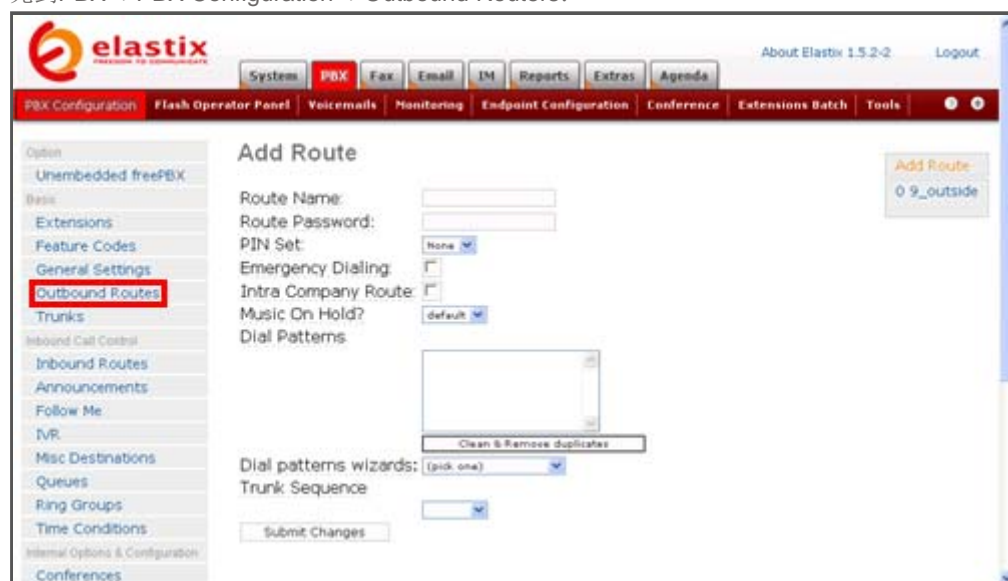


紧接着我们去PBX-->PBX Configuration-->Trunks，看右边缺省的线路Trunk ZAP/g0是否已经有了，有了就OK：



最后，我们去设置一下拨外线的号码，缺省是拨9打外线，我是改成拨0打外线：

先到PBX-->PBX Configuration-->Outbound Routes：



点击右边的0 9\_outsie，看到Dial Patterns是9|.：



将9|改成0|:



到这里就将Elastix配完了。我们实际需要检验一下我们的配置:

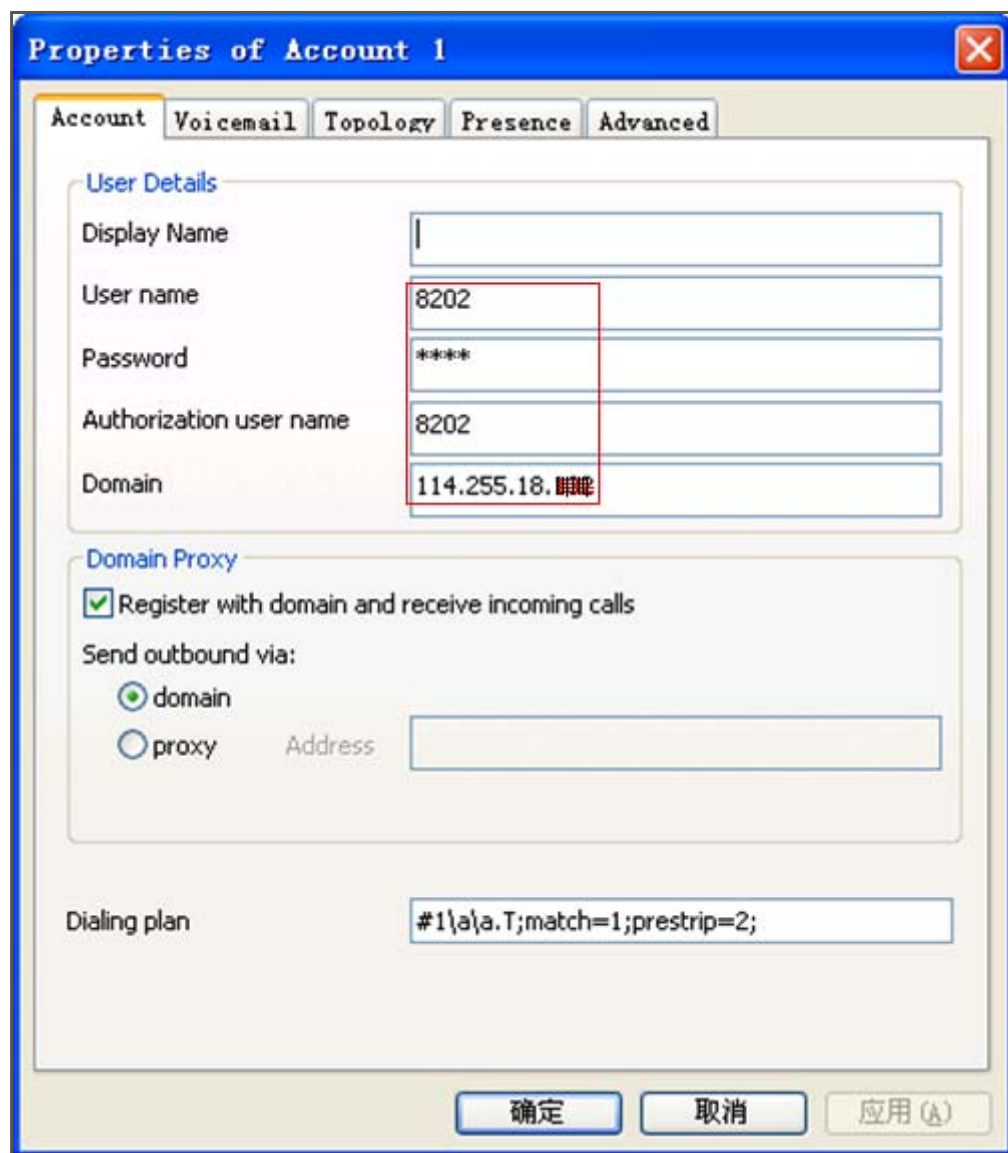
去 <http://www.counterpath.net/x-lite.html&active=4> 下载VOIP软件 X-Lite\_Win32\_1103d\_53117.exe

安装好X-LITE, 添加一下登陆账号:



就填四个地方:

User name就是显示名, 用分机号, 然后密码, 登陆名(也是分机号), Domain写上服务器的地址:



**Properties of Account 1**

Account Voicemail Topology Presence Advanced

**User Details**

Display Name

User name 8202

Password \*\*\*\*

Authorization user name 8202

Domain 114.255.18.114

**Domain Proxy**

☒ Register with domain and receive incoming calls

Send outbound via:

☒ domain

☐ proxy Address

Dialing plan #1\a\a.T;match=1;prestrip=2;

确定 取消 应用 (A)

配好后返回，会显示Ready, Your username is: xxxx的字样，这样就表示成功了：





OK，现在你可以用X-LITE拨一下1234，7777，888，555这几个号码，就能听见提示了，表示一切正常。