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**PortaSwitch Handbook: Postpaid Billing, March 2007  
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## Preface

This document provides PortaBilling100 users with step-by-step instructions and examples for setting up various prepaid and postpaid services on a VoIP network.

### Where to get the latest version of this guide

The hard copy of this guide is updated at major releases only, and does not always contain the latest material on enhancements occurring between minor releases. The online copy of this guide is always up to date, and integrates the latest changes to the product. You can access the latest copy of this guide at: [www.portaone.com/support/documentation/](http://www.portaone.com/support/documentation/)

### Conventions

This publication uses the following conventions:

- Commands and keywords are given in **boldface**
- Terminal sessions, console screens, or system file names are displayed in fixed width font



**Caution** indicates that the described action might result in program malfunction or data loss.

**NOTE:** Notes contain helpful suggestions about or references to materials not contained in this manual.



**Timesaver** means that you can save time by performing the action described in the paragraph.



**Tips** provide information that might help you solve a problem.

# 1. ANI-based (PINless) Services

Post-paid ANI services enable Internet telephony service providers (ITSPs) to offer end users a more convenient way to use their services. A customer's phone number (or multiple phone numbers) is pre-registered in the system, so when he dials an access number from his phone the system automatically recognizes him and allows him to make an outgoing call without having to enter a PIN. This can also be used in conjunction with a carrier pre-select service, where the end-user simply dials a destination number with a short prefix and the call is forwarded to your network by his local telco.

PortaOne ANI services also allow customers to make calls from different (unregistered) locations. In this case, they have the option of entering their original phone number followed by a password (to prevent fraudulent service use).

## Setting up your network components

### Cisco NAS configuration guidelines

#### Obtain the ANI authentication script

The default Cisco ANI applications (which are bundled with Cisco IOS) do not provide call authorization or IVR, so they are not really suitable for deploying customer-oriented ANI services. The best way is to use the standard Cisco debitcard script, modified for ANI services. Cisco's default debitcard script is provided free of charge to all users with a valid Cisco support contract (CCO). Be sure to obtain the latest version of this script (2.0.2.8a).

Please contact PortaOne TCL support at [tcl-support@portaone.com](mailto:tcl-support@portaone.com) for assistance in implementing ANI-based features in your script.

**NOTE:** According to the Cisco licensing agreement, PortaOne may not distribute the Cisco debitcard application (neither the original nor a modified version). Please contact your Cisco representative to obtain the script.

Place the debitcard script and all the required prompts on your TFTP server. For your convenience, the TFTP server is already pre-configured in the `/tftpbboot` directory on the PortaBilling100 slave server. Do not send a copy of the script to PortaOne!

#### Basic router configuration

The latest telephony IOS and DSP firmware is highly recommended. It is also recommended that the hostname be the same as h323-id.

```
hostname <h323_id>
ip domain name <default domain>
```

**NOTE:** VSA h323-gw-id="hostname.domain"

#### NTP

**NOTE:** It is very important to have reliable time services. Also make sure that the time zone abbreviation is one of the standard ones supported by PortaBilling.

```
ntp server <name/IP>
.....
ntp server <name/IP>
ntp master 5
clock timezone <your time zone> 1
clock summer-time <your summer time zone> recurring <your
rules>
```

## AAA

```
aaa new-model
aaa authentication login h323 group radius
aaa authorization exec h323 group radius
aaa accounting connection h323 stop-only group radius
```

## VoIP interface

```
interface <your interface to the world>
h323-gateway voip interface
h323-gateway voip h323-id <h323_id of this gateway>
```

**NOTE:** If you want to use a virtual interface, then add the line:

```
h323-gateway voip bind srcaddr <IP>
```

## Outgoing SIP server

```
sip-ua
aaa username proxy-auth
sip-server dns:<hostname-of-your-PortaSIP-server>
```

## Enable gateway functionality

```
gateway
```

## Enable gateway accounting

For older IOS versions:

```
gw-accounting h323 vsa
```

For newer IOS versions (12.2T or 12.3):

```
gw-accounting aaa
acct-template callhistory-detail
```

**NOTE:** VSA does not work for all platforms.

## Radius

**IMPORTANT NOTE:** Ports 1645/1646 are the traditional Radius ports used by many vendors without obtaining an official IANA assignment. The official assignment is now ports 1812/1813, and users are encouraged to migrate to these new ports whenever possible.

### Cisco notes:

- "radius-server" commands will be available only after issuing the "aaa new-model" command
- UDP port for RADIUS accounting server – the default is 1646 (see note above)
- UDP port for RADIUS authentication server – the default is 1645 (see note above)

### Keep in mind:

- Default ports for Cisco are 1645/1646
- Defaults in /etc/ services are 1812/1813

```
radius-server host <name/IP> auth-port 1812 acct-port 1813
radius-server key <key>
radius-server vsa send accounting
radius-server vsa send authentication
```

voice-card

controller

voice-port

Depends on your hardware configuration.

call application voice & dial-peers

```
call application voice ani_service tftp://.../app_portaone_ani.tcl
call application voice ani_service pin-len 0
call application voice ani_service ani-authentication yes
call application voice ani_service card-authentication no
call application voice ani_service translate /^.+/ani&/
call application voice ani_service language 1 en
call application voice ani_service language 2 ru
call application voice ani_service set-location ru 0 tftp://.../tcl/prompts/ru/
call application voice ani_service set-location en 0 tftp://.../tcl/prompts/en/
!
dial-peer voice 201 pots
  application ani_service
  incoming called-number 201
  port 0:D
!
dial-peer voice 60 voip
  destination-pattern .T
  session protocol sipv2
  session target sip-server
!
```

## Setting up ANI-based Billing

Please refer to the [PortaBilling100 Web Reference Guide](#) for detailed instructions on how to navigate and operate the web interface, as well as detailed explanations of particular fields.

### Checklist

Print the following page and use it to check off the operations you have completed while performing system setup according to the instructions in this chapter. Please be sure to perform all of the operations (all of the boxes must be checked), otherwise the service will not work.

Operation	Done
<b>General configuration</b>	
Fill in company data in Company Info	[ ]
Specify base currency	[ ]
For any other currency you plan to use, specify the exchange rate source and define exchange rates	[ ]
Create all required destinations	[ ]
<b>Network configuration</b>	
Create a node for your gateway	[ ]
Configure your gateway	[ ]
<b>Rating configuration</b>	
Create a tariff A, which will apply to ANI-based customers	[ ]
Insert rates in tariff A for the destinations you plan to call	[ ]
Create a tariff B, which describes your termination costs	[ ]
Insert rates in tariff B for the destinations you plan to call	[ ]
Create your ANI product	
Create one accessibility entry for this product, using the node you created and tariff A	[ ]
Create a vendor	[ ]
Create a connection for this vendor using tariff B	[ ]
<b>Account provisioning</b>	
Create a customer class which will apply to your ANI-based customers	[ ]
Create a retail customer who will be using ANI-based services	[ ]
Create an account for this customer	[ ]
<b>Testing</b>	
Try to make a test call	[ ]

## General, Network, Rating Configuration

This is identical to the procedure described in the *Prepaid VoIP services* chapter in the **PortaSwitch Handbook: Prepaid Billing** document ; please follow the instructions provided there. See the instructions below for **Account Provisioning**.

### Create a Customer Class

Customer class provides the ability to define a group of parameters in a centralized way, then apply those parameters to many customers at once. (If you have already created a customer class that you can use for post-paid services, skip this step and go to the next one.)

1. In the Management section of the Admin interface, choose **Customer Classes**.
2. On the Customer Class Management page, choose **Add**.

3. Fill in the **Name** parameter; the other fields can be left empty for now.
4. Click **Save&Close**.

### Create a customer

A customer is an owner of accounts. The customer's contact information is used to distribute account usage information, call statistics, invoices, and so on.

In the Management section of Admin-Index, choose **Customers**.

1. On the Customer Management page, choose **Add**.
2. Fill in the **New Customer** form. Please note that there are several tabs with extra information available on the screen. The most important fields are:

#### Main form (top)

- **Name** – Short name for the customer object; will be used on the web interface.
- **Currency** – The currency in which this customer will be billed.
- **Opening balance** – Starting balance for the customer; the default is zero.
- **Type** – Choose **Retail** since we are creating an actual customer for the ANI service.
- **Customer Class** – Choose the customer class you created in the previous step

#### Address info tab

- **Email** – Email address for distribution of accounting information. After the billing period is over, a list of CDRs and other statistics will be sent to this address.
- **Bcc** - Delivery to the specified email address of your account representative a copy of every outgoing email sent to the customer; this may be used for debug and archiving purposes.
- **Send Statistics – Summary only** - Distribute a call summary only, and do not attach a details file; this might be useful in the case of a large amount of calls. Other options are **Full statistics** (attach a complete list of CDRs) or **Do not send** (no not deliver call statistics to this customer via email at all).

### Additional info tab

- **Billing period** – Frequency of accounting information distribution. See more details about the different available billing periods in **PortaBilling Administrator Guide**.

### Payment info tab


- **Credit limit** – If left empty, there is no credit limit for this customer.

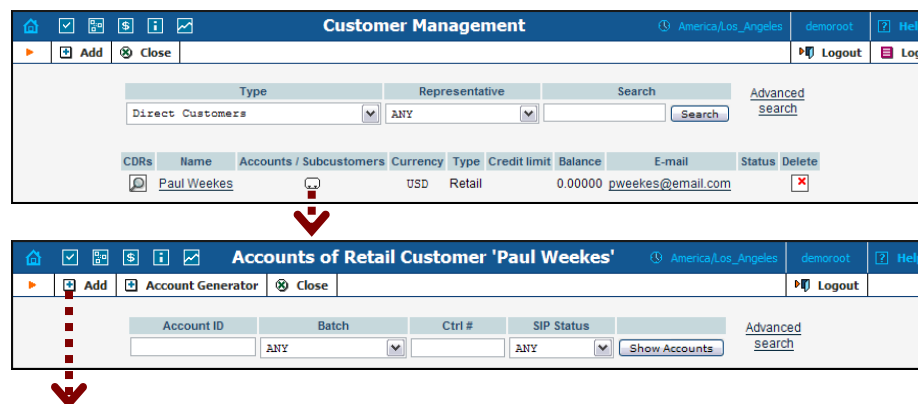
### User Interface tab

- **Time zone** – The time zone in which the customer will see his CDRs, and which will also define his billing period. For example, if you choose **America/New\_York** here and the billing period is **Monthly**, this means the billing period will start on the first day of the month at 00:00 New York time.
- **Web Interface Language** – The language to be used on the customer self-care web interface.

3. Click  **Save&Close**.

## Create Accounts

1. Go to the **Customers** screen (the screen which contains a list of customers). It should look like the screenshot below:
2. Next to the customer name, click on the  icon (the one in the **Accounts** column), which will take you to the account management for that customer.



The screenshot shows two screenshots of the PortaSwitch interface. The top screenshot is the 'Customer Management' screen. It features a search bar with 'Direct Customers' selected, a 'Representative' dropdown set to 'ANY', and a 'Search' button. Below the search bar is a table with columns: CDRs, Name, Accounts / Subcustomers, Currency, Type, Credit limit, Balance, E-mail, Status, and Delete. A row for 'Paul Weekes' is visible, with a small icon in the 'Accounts / Subcustomers' column. A red arrow points from this icon to the bottom screenshot. The bottom screenshot is the 'Accounts of Retail Customer 'Paul Weekes'' screen. It has an 'Add' button and an 'Account Generator' button. Below these is a search bar with 'Account ID', 'Batch' (set to 'ANY'), 'Ctrl #', and 'SIP Status' (set to 'ANY') fields, and a 'Show Accounts' button. A red arrow points from the 'Show Accounts' button to the bottom of the page.

The first screenshot shows the 'Add Account for Retail Customer' form for 'Paul Weekes'. The form includes fields for Account ID (ani16041234567), Product (USD - CT Product), Blocked (checkbox), Opening Balance (0), Type (Credit selected), Credit Limit (90), VoIP Password (stse5the), E-mail, and Batch (ANI-based). A red arrow points from the bottom of this form to the second screenshot.

The second screenshot shows the 'Accounts of Retail Customer' table for 'Paul Weekes'. The table has columns for CDRs, Account ID, Idle, days, Currency, Balance, Credit Limit, Type, Product, Batch, Status, and SIP. The table contains one row with the following data:

CDRs	Account ID	Idle, days	Currency	Balance	Credit Limit	Type	Product	Batch	Status	SIP
	ani16041234567		USD	0.00000	90.00000	Credit	CT Product	ANI-based		

3. Now click on **Add**.
4. Fill in the “Add account” form:
  - **Account ID** – Account identification in the form aniNNNN, where NNN is the actual ANI number, e.g. ani16041234567.

**NOTE:** Accounts for ANI services are created with a special prefix (ani, in this case) so PortaBilling will not confuse them with SIP accounts (where the account ID is identical to the actual phone number) and try to route calls accordingly.

- **Product** – Choose the product which you would like your accounts to use.
- **Blocked** – Check this if you want to create the account as initially blocked.
- **Opening balance** – The initial balance on the card. For credit accounts, the opening balance is normally zero.

#### Account info tab:


- **Account type** – Account type; select **Credit** for post-paid.
- **Credit limit** – Maximum allowed credit.
- **VoIP Password** – Password for authentication/authorization. For extra security use a random combination of digits as a password.
- **Batch** – A batch is a management unit for accounts. The batch name is alphanumeric. You can type a new name here, or use the existing name in order to generate more accounts for the same batch.

#### Life Cycle tab:

- **Activation date** – Account activation date.

- **Expiration date** – Account expiration date; since we are setting up a postpaid service, which should function for a long time, leave this field blank.
- **Lifetime** – Relative expiration date; since we are setting up a postpaid service, which should function for a long time, leave this field blank.

#### User Interface tab:

- **Login** – The login name this account will use to access the self-care pages. This can be the same as the account ID, or a different one may be chosen for increased security. This field is mandatory.
  - **Password** – Password for the self-care pages.
  - **Time zone** – When an account owner accesses the web self-care pages to see a list of his calls, the time will be shown in the time zone most appropriate for him.
  - **Web Interface Language** – The language to be used on the customer self-care web interface.
5. Click  **Save&Close**; a confirmation screen will indicate that the account has been created.
  6. Repeat steps 3-5 if the customer has more than one phone number he will be using.

# 2. Callshop services

# Callshop services

The callshop owner is your reseller. He pays you for all outgoing calls, and wants to keep track of calls made by individual accounts (phone booths) so that he can charge his customers. The only difficulty here is that many different customers will use the same phone booth (account) during the day, and each of them must receive his own bill.

First of all, make sure that the callshop functionality is enabled for this reseller (**Callshop enabled** checkbox on the **Additional Info** tab in customer info). After that, the administrator or reseller himself can turn on/off callshop functionality for specific subcustomers who represent individual callshops.

Thus the callshop owner will create an account for each of the phone booths. When a customer enters the booth, the callshop operator will activate the timer (this also unblocks the account).

Account ID	Batch	Ctrl #	SIP Status	Advanced search
019870001	ANY		ANY	Show Accounts
019870002				
019870003				
019870004				
019870005				

CDRs	Timer	Receipt	Account ID	Idle, days	Currency	Balance	Credit Limit	Type	Product	Batch	Status	SIP
			019870001		USD	14.00000		Credit	Callshop booth	callshop1	⊖	
			019870002		USD	17.14594		Credit	Callshop booth	callshop1	⊖	
			019870003		USD	0.00000		Credit	Callshop booth	callshop1	⊖	
			019870004		USD	116.07684		Credit	Callshop booth	callshop1	⊖	
			019870005		USD	0.00000		Credit	Callshop booth	callshop1	⊖	

Account ID	Batch	Ctrl #	SIP Status	Advanced search
019870001	ANY		ANY	Show Accounts
019870002				
019870003				
019870004				
019870005				

CDRs	Timer	Receipt	Account ID	Idle, days	Currency	Balance	Credit Limit	Type	Product	Batch	Status	SIP
			019870001		USD	14.00000		Credit	Callshop booth	callshop1	⊖	
			019870002		USD	17.14594		Credit	Callshop booth	callshop1	⊖	
	✓		019870003		USD	0.00000		Credit	Callshop booth	callshop1	⊖	
			019870004		USD	116.07684		Credit	Callshop booth	callshop1	⊖	
			019870005		USD	0.00000		Credit	Callshop booth	callshop1	⊖	

After the customer exits the booth, the callshop operator stops the timer for that booth. This blocks the account so that no one can use the booth unnoticed while the operator is dealing with the previous customer's payment.

Account ID	Batch	Ctrl #	SIP Status	Advanced search
019870001	ANY		ANY	Show Accounts
019870002				
019870003				
019870004				
019870005				

CDRs	Timer	Receipt	Account ID	Idle, days	Currency	Balance	Credit Limit	Type	Product	Batch	Status	SIP
			019870001		USD	14.00000		Credit	Callshop booth	callshop1	⊖	
			019870002		USD	17.14594		Credit	Callshop booth	callshop1	⊖	
	✓		019870003		USD	2.00000		Credit	Callshop booth	callshop1	⊖	
			019870004		USD	116.07684		Credit	Callshop booth	callshop1	⊖	
			019870005		USD	0.00000		Credit	Callshop booth	callshop1	⊖	

From	To	Country	Date/Time	Charged time, min:sec	Amount, USD
2006-05-07 00:00:01	2006-05-07 00:00:01		2006-05-07 09:00:01	20:00	2.00000
				<b>Total Charged Time, min:sec 20:00</b>	<b>Total Charged 2.00 USD</b>

Finally, by simply clicking the Receipt button, the operator can obtain a receipt containing a list of all the calls made by the customer and the total amount charged. This receipt can also be easily printed.



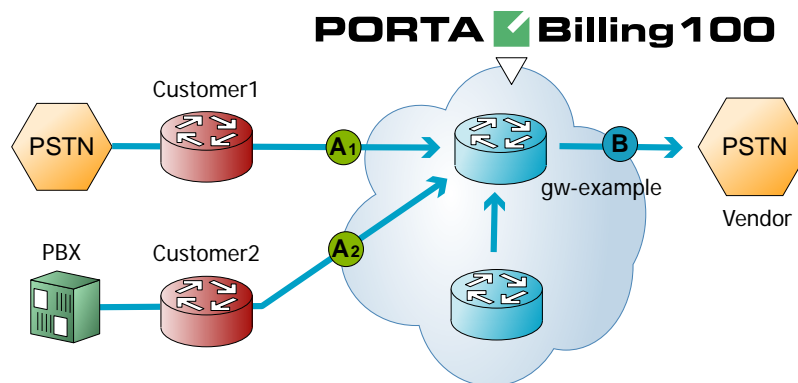
If a reseller (callshop owner) has several callshop operators, it is not advisable to give each one of them access to the reseller's self-care interface. Instead, each should be created as a CC Staff account, and should use the CC Staff interface to activate timers and so on.

# 3. Setting up a Wholesale IP Telephony Company

Wholesale voice is a growth market, with service providers building new capacities and launching new services. The primary wholesale service is long-distance transport and aggregation, with the key advantage being that country-specific features and domestic calling regulations are not required. The principal beneficiaries are developing countries, where, in many cases, the quality of VoIP is superior to that of traditional PSTN services.

## Typical business case

Central to the delivery of wholesale voice services are voice points-of-presence (POPs), which are interconnected to other service providers. The Minutes Aggregation and Resale service (including ASP Termination) allows wholesale network providers to collect traffic from multiple originating providers, then aggregate and deliver it to the termination providers they select.



The provider in this scenario is the owner of termination node (POP) gw-example1. This is a typical example of a VoIP network where customers pay the provider to terminate traffic at point (A<sub>n</sub>), while the provider himself pays the vendor for traffic at point (B). The provider makes his profit on the difference between:

- the tariff he charges his customer (A<sub>n</sub>), and
- the tariff he is being charged by the vendor (B).

The following configuration assumes that the service is provided using only PortaBilling and a termination gateway. Please consult the [PortaSwitch Handbook: SIP services](#) for an example of advanced wholesale VoIP services using PortaSIP.

# Setting up your network components

## Configuring the gateway

### Obtain the remote authentication script

The default Cisco remote IP authentication application (`app_remote_ip_authenticate.2.0.0.tcl`) is provided free of charge to all users with a valid Cisco support contract (CCO). Please note that this script does not support the extra features available in PortaOne's

**Advanced Remote Authenticate** script, such as:

- Ability to perform authentication by tech-prefix, ANI, DNIS, fixed string or SIP username, in addition to just an IP address
- Ability to translate the authentication ID in the script before sending it to RADIUS (e.g. remove the last part of the IP address after the dot)
- Ability to perform authorization (as opposed to only performing authentication)
- Ability to forward calls to an account's redirect number defined in the billing
- Using an authentication method different than the default (so that authentication requests from this script may go to a different RADIUS server)

You may obtain the **Advanced Remote Authenticate** script from [PortaOne's web store](#).

Place the authentication script on your TFTP server. For your convenience, the TFTP server is already pre-configured in the `/tftpboot` directory on the PortaBilling100 slave server.

### 1. Basic router configuration

It is highly recommended to use the latest telephony IOS and DSP firmware, and that the hostname be the same as the h323-id.

```
hostname <h323_id>
ip domain name <default domain>
```

**NOTE:** VSA `h323-gw-id="hostname.domain"`

### 2. NTP

**NOTE:** It is very important to have reliable time services.

```
ntp server <name/IP>
```

```
.....  
ntp server <name/IP>  
ntp master 5  
clock timezone <your time zone> 1  
clock summer-time <your summer time zone> recurring <your rules>
```

**NOTE:** It is important that you only use well-known time zone abbreviations which are supported by the billing engine. If unsure, use the UTC time zone.

### 3. AAA

```
aaa new-model  
aaa authentication login h323 group radius  
aaa authorization exec h323 group radius  
aaa accounting connection h323 stop-only group radius
```

### 4. VoIP interface

```
interface <your interface to the world>  
  h323-gateway voip interface  
  h323-gateway voip id <gatekeeper id> ipaddr <IP> <port>  
  h323-gateway voip h323-id <h323_id>
```

**NOTE:** If you want to use a virtual interface then add the line:

```
h323-gateway voip bind srcaddr <IP>
```

### 5. Enable gateway functionality

```
gateway
```

### 6. Enable gateway accounting

For older IOS versions:

```
gw-accounting h323 vsa
```

For newer IOS versions (12.2T or 12.3):

```
gw-accounting aaa  
  acct-template callhistory-detail
```

**NOTE:** VSA does not work for all platforms.

### 7. Radius

**IMPORTANT NOTE:** Ports 1645/1646 are the traditional Radius ports used by many vendors without obtaining an official IANA assignment. The official assignment is now ports 1812/1813, and users are encouraged to migrate to these new ports when possible.

#### Cisco notes:

- "radius-server" commands will be available only after issuing "aaa new-model" command.
- UDP port for RADIUS accounting server - default is 1646 (see note above)
- UDP port for RADIUS authentication server - default is 1645 (see note above)

#### Keep in mind:

- Default ports for Cisco are 1645/1646
- Defaults in /etc/ services are 1812/1813

```
radius-server host <name/IP> auth-port 1812 acct-port 1813
radius-server key <key>
radius-server vsa send accounting
radius-server vsa send authentication
```

## 8. voice-card

## 9. controller

## 10. voice-port

Depends on your hardware configuration

## 11. call application voice & dial-peers

```
call application voice remote_ip ftp://.../app_remote_authenticate.tcl
call application voice remote_ip authenticate-by ip
call application voice remote_ip authorize yes
```

```
!
dial-peer voice 10 pots
  destination-pattern .
  port 0:D
!
dial-peer voice 11 voip
  application remote_ip
  incoming called-number .
```

## Basic Wholesale Termination Service

Please refer to the [PortaBilling100 Web Reference Guide](#) PDF file for detailed instructions on how to navigate and operate the web interface, as well as detailed explanations of particular fields.

### Checklist

Print the following page and use it to check off the operations you have completed while performing system setup according to the instructions in this chapter. Please be sure to perform all of the operations (all of the boxes must be checked), otherwise the service will not work.

Operation	Done
<b>General configuration</b>	
Enter company data under Company Info.	<input type="checkbox"/>
Specify a base currency.	<input type="checkbox"/>
For any other currency you plan to use, specify the exchange rate source and define exchange rates.	<input type="checkbox"/>
Create all the required destinations.	<input type="checkbox"/>
<b>Network configuration</b>	
Create a node for your gateway.	<input type="checkbox"/>
Configure your gateway.	<input type="checkbox"/>
<b>Rating configuration</b>	
Create a tariff A, which will apply to customers who send you traffic for termination.	<input type="checkbox"/>
Insert rates in tariff A for destinations which will be covered by your termination service.	<input type="checkbox"/>
Create a tariff B, which describes your termination costs.	<input type="checkbox"/>
Insert rates in tariff B for destinations you will terminate to PSTN.	<input type="checkbox"/>
Create a wholesale product.	
Create one accessibility entry for this product, using the node you created and tariff A.	<input type="checkbox"/>
Create a vendor.	<input type="checkbox"/>
Create a connection for this vendor using tariff B.	<input type="checkbox"/>
<b>Account provisioning</b>	
Create a customer class which will apply to your customers.	<input type="checkbox"/>
Create a <b>retail</b> customer who owns the accounts representing remote gateways.	<input type="checkbox"/>
Create an account for each of this customer's remote gateways.	<input type="checkbox"/>
<b>Testing</b>	
Try to make a test call.	<input type="checkbox"/>

## Billing configuration

Please see the [PortaBilling100 Web Reference Guide](#) for detailed instructions on how to navigate and operate in the web interface and detailed explanations of particular fields.

## Initial configuration of PortaBilling

The following steps are normally performed only once, after the system has been installed. This includes:


- Visit **Company Info** from the main menu. Enter information about your company and set up a base currency. Of course this does not limit your operations to this currency only. However, on reports such as cost/revenue different currencies will be converted to the one you specify here.
- From the main menu, choose **Users** and create login entries for users who will be working with the system. It is not recommended that the default PortaBilling root user (**pb-root**) be used for any operations other than initial set-up.
- Make sure you are able to login as the newly-created user and change the password for the **pb-root** user.

**NOTE:** It is possible that you will require assistance from PortaBilling support personnel in the future. In order to provide support, they will need access to the web interface. Therefore, when you submit a problem report please either provide them with a new password for the **pb-root** user, or create a special user for them.

- If you plan to do billing in more than one currency, define these in **Currencies** and specify the exchange rates in **Exchange Rates**.

## Create destinations

This step is only required if you have not defined the necessary destinations before. There are two ways of entering new destinations into the system:

- One-by-one, using the  **Add** functionality on the web interface
- Bulk update, by uploading destinations from a file

**NOTE:** A file with the default destination set is supplied with PortaBilling. You can download it and then upload it to the server. However, it may be possible that your business requires different types of prefixes, so please check the data in the file before uploading.

### Creating destinations “one-by-one”:

1. In the Management section of Admin-Index, choose **Destinations**.

Prefix *	Country	Subdivision	Description	Delete
4202	CZECH REPUBLIC	Not Applicable	Prague	
4202	CZECH REPUBLIC		Prague	

2. Click on the **Add** button.
3. Fill in the required information. This includes the phone prefix and country. Country subdivision is optional. You can use the **Description** column to store some extra information about the destination (for example, if it is a mobile or fixed number).
4. Click **Save**.
5. Repeat steps 2-4 for each additional destination.

### Uploading a set of destinations from a file

1. In the Management section of Admin-Index, choose **Destinations**.
2. Click on **Get default set** to download a set of destinations as a CSV (Comma-Separated Values) file.
3. Open this file in Microsoft Excel or any other suitable program. Edit the data if required.
4. Save the file and close it in Excel.
5. Switch back to the PortaBilling web interface, and click **Upload** on the Destinations screen.
6. Type in the filename of the file you have edited, or click on the **Browse...** button and select the file.
7. Click **Save&Close**.

### Create Nodes

This step is only required if you have not entered your gateways into the system before. In this case, you must enter your gateways as nodes. PortaBilling requires some key information about your network equipment such as IP address, h323-id, Radius shared secret, etc.

**NOTE:** Only your own gateways have to be entered as nodes. Remote gateways which belong to the customer, or ones which legally belong to you but are used solely by your customer(s), are not considered nodes.

**Node Management** America/Vancouver demo-root Help

Add Close

H323-ID IP RADIUS Client

Yes  No  All

Name h323-id IP Manufacturer Type RADIUS Client Delete

**Add Node** America/Vancouver demo-root Help

Save Save & Close Close

Node Name

Node info

h323-id  Manufacturer  Type

VoIP Password   RTP Proxying

NAS-IP-Address  RADIUS Client

Hostname  RADIUS Key

Domain  RADIUS Source IP

Auth. Transl. Rule  RADIUS Dictionary



**Node Management** America/Vancouver demo-root Help


Add Close

H323-ID IP RADIUS Client

Yes  No  All

Name	h323-id	IP	Manufacturer	Type	RADIUS Client	Delete
<a href="#">cisco-gw</a>	cisco-gw.mydomain.com	192.168.0.99	Cisco	VOIP-GW	<input checked="" type="checkbox"/>	<input type="button" value="X"/>

1. In the Management section of the Admin-Index page, choose **Nodes**.
2. In the Node management window, click the **Add** icon.
3. Fill in the New Node form:
  - **Node name** – A short descriptive name for this node (will be used in the select menus).
  - **H323-ID** – h323-id (recommended hostname.domainname)
  - **VoIP Password** – If you plan to use the default Cisco remote IP authentication script, enter **cisco** here.
  - **NAS-IP-Address** – IP address of the gateway.
  - **Auth. Translation rule** – Leave this empty for now; see the *Translation Rules* section of the [PortaBilling Administrator Guide](#).
  - **Manufacturer** – Select **Cisco** or **Quintum**.
  - **Type** – VoIP node type: select **VOIP-GW**.
  - **RTP proxying** – Leave the default selection (Optimal); for more details regarding NAT traversal, see the [PortaSIP Administrator Guide](#).

- **RADIUS Client** – Select if this node will be communicating with the billing system.
  - **RADIUS Key** – If this node is a radius client, enter the shared secret here; must be the same as that configured in NAS as a **key** in the radius server configuration.
  - **RADIUS Source IP** – Unless your gateway has multiple network interfaces, the value here should be the same as the NAS-IP-Address.
4. Click  **Save&Close**.
  5. Repeat steps 2-4 until all of your nodes have been entered.


**NOTE:** There is some propagation delay between the database and the Radius server configuration file, but no more than 15 minutes.

## Create Tariff


A tariff is a single price list for call services. A tariff combines:


- conditions which are applicable to every call regardless of the called destination
- per destination rates.

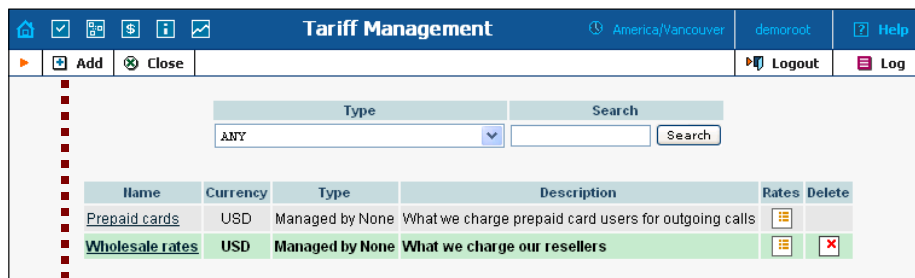
Normally you need a separate tariff for each of your customers.

1. In the Management section of Admin-Index, choose **Tariffs**.
2. On the Tariff Management page, choose  **Add**.
3. Fill in the **New Tariff** form:
  - **Name** – Short name of the tariff object. This is the name you will see later in the select menus.
  - **Currency** – Indicates in which currency the pricing information is defined. All pricing information for a single tariff must be defined in the same currency.





**NOTE:** The currency for the tariff is chosen only once, and cannot be changed later.

- **Type** – If you plan for this tariff to be used for your reseller's accounts, so that the reseller himself can edit rates in this tariff, choose "Managed by NNN", where NNN is the reseller's name. Otherwise, if this tariff is for the retail customer's accounts, or for your termination costs to the vendor, choose **Ordinary** here.
- **Off-peak Period** – Defines the off-peak period. Click on the Off-peak period wizard icon () to summon the wizard, which will help you construct the correct period definition. Click **Help** to get more information on period format definition. If you do not differentiate between peak and off-peak rates, just leave this field blank.
- **Off-peak Description** – Description of the off-peak period, automatically filled in by the off-peak period wizard. You do not have to fill in this field.

- **Destination Group Set** – If you wish to enter rates in the tariff not for each individual prefix, but for a whole group of prefixes at once, you should create a destination group set and destination groups beforehand. Leave this select menu empty for now.
  - **Free Seconds** – The number of free seconds granted for each call. In order to claim free seconds, the length of the call must be at least one billing unit (first interval; see the *Enter Rates* section above).
  - **Post-Call Surcharge** – Percentage of the amount charged for the call.
  - **Login Fee** – Amount to be charged immediately after the first user authentication (i.e. after the user enters his PIN).
  - **Connect Fee** – Amount to be charged for each connected call (with a non-zero duration).
  - **Round Charged Amount** – Instead of calculating CDRs with a 5-decimal-place precision, round up CDR amount values (e.g. XXXXX.XX000 means rounding to cents, so that 1.16730 becomes 1.17).
  - **Default Formula** – The default rating formula which will be applied to every new rate created in the tariff. If you leave this empty, “old-style” rating will be used.
  - **Short Description** – A short tariff description. This will be shown in the rate lookup on the admin interface and the self-care pages for your accounts and customers.
  - **Description** – Extended tariff description.
4. Click  **Save**.



The screenshot shows the 'Tariff Management' interface. At the top, there is a navigation bar with 'Tariff Management', 'America/Vancouver', 'demoroot', and 'Help'. Below this is a toolbar with 'Add', 'Close', 'Logout', and 'Log' buttons. The main content area features a search bar with a 'Type' dropdown set to 'ANY' and a 'Search' button. Below the search bar is a table with the following data:

Name	Currency	Type	Description	Rates	Delete
Prepaid cards	USD	Managed by None	What we charge prepaid card users for outgoing calls		
Wholesale rates	USD	Managed by None	What we charge our resellers		

A red dashed arrow points to the 'Wholesale rates' row.

**Add Tariff**

Name: Termination services      Currency: USD - US Dollar

Type: Ordinary

General Info

Off-Peak Period:

Off-Peak Description:

Destination Group Set:

Free Seconds:

Post Call Surcharge:  %

Login Fee:

Connect Fee:

Round Charged Amount:

Default Formula:

Short Description: Termination services

Description: What we charge our customers for calls they terminate on our network

**Edit 'Termination services' Tariff**

Name: Termination services      Currency: USD

Type: Ordinary

General Info    Web Upload & Download    Email Upload    Notepad

Off-Peak Period:

Off-Peak Description:

**'Termination services' tariff rates**

Effective From: Now      Destination:  Prefix Group Country

Edit	Destination *	Country	Interval, sec.		Price, USD/min		Effective From			Delete
			First *	Next *	First *	Next *				
	420		1	1	0.15	0.15	HH24:MI:SS * Immediately	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**'Termination services' tariff rates**

Effective From: Now      Destination:  Prefix Group Country




Edit	Destination *	Country	Interval, sec.		Price, USD/min		Effective From			Delete
			First *	Next *	First *	Next *				
							HH24:MI:SS *	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	420	CZECH REPUBLIC Proper	1	1	0.15000	0.15000	2006-10-23 07:49:55	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Enter Rates

Rates are per-destination prices. Please refer to the *System Concepts* chapter in the **PortaBilling Administrator Guide** for more details on billing parameters.

## Managing rates online



Managing rates online is very convenient for maintaining existing rate tables, as well as for reference purposes. In the case of new price lists or major updates, the offline method is better.

1. On the Tariff Management page you will see a list of available tariffs. Click the  **Rates** icon next to the name of the tariff. When you are in Tariff Management for a particular tariff, click on  **Rates** in the toolbar.
2. In the **Edit Rates** screen, click  **Add**.
3. Fill in the required information:
  - o **Destination** – The destination prefix may be entered directly, e.g. **47** for Norway, or you can access the destinations directory by clicking the **Destination** link (in the column header). Here you can find the desired prefix by country name.

**NOTE:** The phone prefix you are trying to create a rate for must already exist in Destinations.

- o **Interval First** – First billing unit in seconds.
- o **Interval Next** – Next billing unit in seconds.
- o **Price First** – Per-minute price for first interval.
- o **Price Next** – Per-minute price for next interval.
- o **Off-peak Interval First**– First billing unit in seconds for off-peak time.
- o **Off-peak Interval Next** – Next billing unit in seconds for off-peak time.
- o **Off-peak Price First** – Per-minute price for first interval of off-peak time.
- o **Off-peak Price Next** – Per-minute price for next interval of off-peak time.

**NOTE:** Off-peak fields appear only if an **off-peak period** has been defined for the tariff.

- o **Rate Formula Wizard**  – Launches the wizard for creating a custom rating formula
- o **Effective From** – If you want this rate to take effect sometime in the future, you can either type in a date manually, or use the calendar (click the DD-MM-YYYY link). Click on the  Stop Watch icon to make the rate effective **immediately**.

**NOTE:** When using the calendar, you can specify that the date you are entering is in a different time zone than your current one. PortaBilling will then automatically adjust the time.

The screenshot displays the 'Termination services' tariff rates management interface. At the top, there are navigation buttons: Add, Save, Close, and Tariff. Below these, there are input fields for 'Effective From' (set to 'Now') and 'Destination' (with sub-fields for Prefix, Group, and Country). The main area contains a table with the following data:

Edit	Destination	Country	Interval, sec.		Price, USD/min		Effective From
			First *	Next *	First *	Next *	
	4202	CZECH REPUBLIC Prague	1	1	0.15000	0.15000	immediately
	420	CZECH REPUBLIC Proper	1	1	0.15000	0.15000	2006-10-23 07:49:55
	4202	CZECH REPUBLIC Prague	1	1	0.15000	0.15000	2006-10-23 08:10:21

On the right side, a 'Calendar' widget is open, showing the month of October 2006. The calendar grid shows days from 1 to 31, with the current date (October 23) highlighted in yellow.

- o **Hidden, Forbidden** or **Discontinued** flags are optional
4. Click the **Save** button in the toolbar, or the icon on the left end of the row.
  5. Repeat if you need to enter more rates.

### Managing rates offline

**NOTE: Templates** are available in PortaBilling – a powerful tool for uploading rates from custom format data files. However, in this particular example we assume that you are preparing data in the default PortaBilling format.

The rates table may be prepared using a spreadsheet processor (i.e. Microsoft Excel) and easily imported into PortaBilling. This is very convenient if you wish to make many changes. For example, you might increase all prices by 10%.

1. If you are not in Tariff Management for your tariff, go to the main menu, click on **Tariffs**, and then click on the tariff name.
2. In the Edit Tariff window, move the mouse over the **Download** button and hold it there until a popup menu appears. Choose the **Now** menu item and click on it. This will download the current set of rates (empty), and will also provide you with an overview of the file structure.
3. You will see the **File Download** dialog and be prompted to save the file or open it from its current location. We recommend that you first save the file to the folder you will be using in the future to store tariff data files, then open it in Excel.
4. You should see something similar to the screenshot below:

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Name	Currency	Description											
2	(An) Termination	USD	What we charge our customers for their calls we terminate											
4	Off-peak P	Free Seconds	Post Call S	Login Fee	Connect Fee									
5	0	0	0	0	0									
7	Destination Country	Description	Interval 1	Interval N	Price 1	Price N	Off-peak In	Off-peak In	Off-peak P	Off-peak P	Forbidden	Hidden	Discontin	Effective From
8	420	CZECH REPUBLIC	Proper	1	1	0.05	0.05	1	1	0.05	0.05			12-12-03 03:33

- Edit the file by adding more rows with rate data, so that it looks like the screenshot below.
- Note that the columns **Country** and **Description** are for reference purposes only, and are ignored during import. Also, when using the default template you must fill in the data in the **Off-peak** columns even if your tariff does not have an off-peak period (use the clipboard to easily copy values for the four peak columns).
- Also note that you may only use those phone prefixes which you have already defined as destinations (see **Create Destinations** above).

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Name	Currency	Description											
2	(An) Termination	USD	What we charge our customers for their calls we terminate											
4	Off-peak P	Free Seco	Post Call S	Login Fee	Connect Fee									
5	0	0	0	0	0									
7	Destination Country	Description	Interval 1	Interval N	Price 1	Price N	Off-peak In	Off-peak In	Off-peak P	Off-peak P	Forbidden	Hidden	Discontin	Effective Fr
8	420	CZECH RE	Proper	1	1	0.05	0.05	1	1	0.05	0.05			
9	420602	Mobile	1	1	0.09	0.09	1	1	0.09	0.09				



- Save the file in Excel. You will probably get a warning from Excel that your file “*may contain features that are not compatible with CSV (Comma delimited)*”. Ignore this, and choose **Yes** to retain CSV format.
- Close the file in Excel. If you performed step 6, then disregard the message “*Do you want to save the changes you made?*”, as this is only due to the fact that your format is not the native Excel XLS format.
- Go back to the PortaBilling web interface and the **Edit Tariff** screen.
- Click on the **Upload** button.
- Either enter the name of your file manually, or click **Browse...** and choose the file.
- Click **Save&Close**. You should return to the **Edit Tariff** screen, where a message will inform you of the status of the import. Also, you will receive an email confirmation about the tariff upload. If any operation failed, you will receive the portion of data which was not uploaded as an attachment, so you can try to import it later.

You can verify your work using the **Edit Rates** feature. After you have done so, go to the **Main Menu** (by clicking on the **Home** icon).

## Create all required tariffs




Repeat the **Create Tariff** and **Enter Rates** steps until you have created:

- A tariff for each account's billing scheme. For example, if you plan to have two types of service packages (Termination-Easy and Termination-Gold) with different rates, you will need to create two separate tariffs.
- A tariff with the termination costs for each termination partner you have.
- If you have resellers, also create tariffs that you will use for charging each of them. Do not create tariffs which will be applied to your resellers' subscribers yet. First create customers and then return to this step. Make sure that, when creating these subscriber tariffs, you choose *Managed by NNN* in the **Type** menu, where *NNN* is the name of the corresponding reseller

## Create Product

Each of the remote customer gateways will be represented as an account and billed accordingly. Hence we need to create a product for this account in order to have a defined way of billing it. If you have per-customer specific rates/tariffs, then you will need a product for each customer.

1. In the Management section of the Admin-Index page, choose **Products**.
2. On the Product management page, click the  **Add** icon.
3. Fill in the "Add product" form:
  - **Product name** – Product object name.
  - **Currency** – Product currency. Only tariffs which have the same currency will be permitted in the accessibility list.
  - **Managed by** – If you plan for this product to be used for your reseller's accounts, so that the reseller himself can change the parameters of this tariff and create new accounts with this product, choose the customer's name from the menu. Otherwise choose **Administrator Only** here.

### General Info tab:

- **Breakage** – This parameter is typically used only for prepaid accounts, so leave it empty.
- **Account default ACL** – The access level assigned by default to new accounts created with this product. The ACL determines which operations may be performed by accounts on the self-care pages. The default value is "Account self-care" (pre-defined ACL), which allows all possible operations.
- **Default Discount Plan** – Leave **None** as the selected entry if you do not plan to offer discounted rates based on call volume.

Please refer to the description of volume-based discounts in the [PortaBilling Administrator Guide](#) for more details.

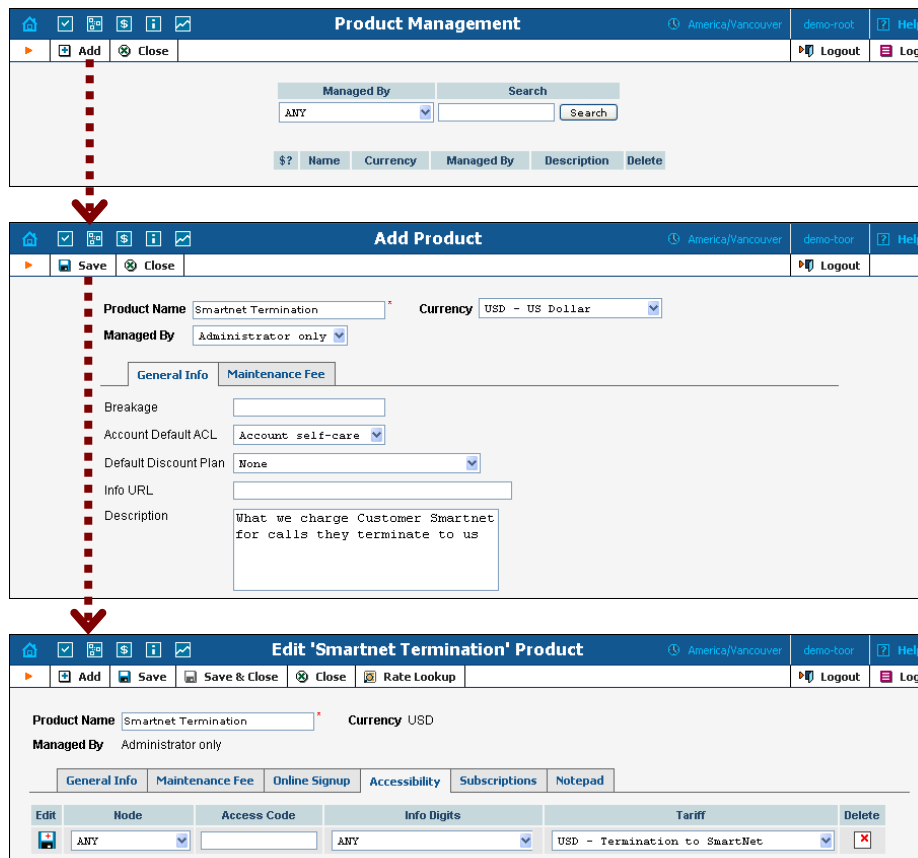
- **Info URL** – If you have an external server with a description of product features, enter the URL here (e.g. <http://www.myproduct.com>). Your customers will be able to go there from their self-care page.
- **Description** – Your description of the intended use of this product.

#### Maintenance Fee tab:

- **Period** – Surcharge application interval; will be shown in call history as a separate line each time it is charged. **None** disables the maintenance fees.
- **Fee** – Surcharge amount.
- **Effective from** – Apply the specified maintenance fee only after a certain date (no fees assessed until then); choose **Immediately** to start applying charges as soon as possible.

4. Click  **Save**.

Click on the **Accessibility** tab to edit this product's accessibility.



The first screenshot shows the **Product Management** interface with a search bar and a table header: **Managed By**, **Currency**, **Name**, **Description**, **Delete**.

The second screenshot shows the **Add Product** form. The **Maintenance Fee** tab is active. Fields include: **Product Name** (Smartnet Termination), **Currency** (USD - US Dollar), **Managed By** (Administrator only), **Breakage**, **Account Default ACL** (Account self-care), **Default Discount Plan** (None), **Info URL**, and **Description** (What we charge Customer Smartnet for calls they terminate to us).

The third screenshot shows the **Edit 'Smartnet Termination' Product** interface. The **Accessibility** tab is active. Fields include: **Product Name** (Smartnet Termination), **Currency** (USD), **Managed By** (Administrator only). Below are tabs for **General Info**, **Maintenance Fee**, **Online Signup**, **Accessibility**, **Subscriptions**, and **Notepad**. A table is visible with columns: **Edit**, **Node**, **Access Code**, **Info Digits**, **Tariff**, and **Delete**. The table contains one row with values: ANY, [empty], ANY, USD - Termination to SmartNet.

## Enter node and tariff into the product's accessibility list

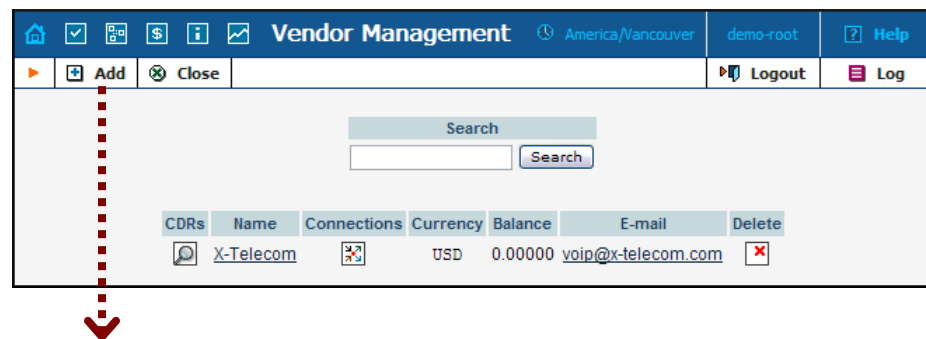
For incoming VoIP traffic we normally do not really need different accessibility entries, as just one row with **ANY** node and tariff should be enough. However, if, for example, you want to let a customer send traffic to your gateway A but not gateway B, this can be achieved by using accessibility entries.

1. When the Accessibility tab is selected, click on the **Add** icon.
2. Choose **ANY** as node, choose the tariff with which you want to bill your customer, and leave the **Access Code** field empty.
3. Click **Save** to save this accessibility entry.

## Create Vendors

This step is only required if you have not entered information about your vendors into the system before. Vendors are your termination partners or the providers of incoming toll-free lines.

1. In the Management section of the Admin interface, choose **Vendors**.
2. On the Vendor Management page, choose **Add**.



The screenshot shows the Vendor Management interface. At the top, there is a navigation bar with icons for home, check, settings, currency, information, and a graph. The title is "Vendor Management" and it includes user information: "America/Vancouver", "demo-root", and "Help". Below the navigation bar, there are buttons for "Add", "Close", "Logout", and "Log". A search bar is present with a "Search" button. Below the search bar is a table with the following columns: CDRs, Name, Connections, Currency, Balance, E-mail, and Delete. The table contains one entry for "X-Telecom" with a balance of 0.00000 and email voip@x-telecom.com. A red dashed arrow points from the "Add" button to the "X-Telecom" entry.

CDRs	Name	Connections	Currency	Balance	E-mail	Delete
	X-Telecom		USD	0.00000	voip@x-telecom.com	

The screenshot shows the 'Add Vendor' form in the PortaSwitch web interface. The form is titled 'Add Vendor' and includes a navigation bar with 'Save', 'Save & Close', 'Close', and 'Logout' buttons. The main form area has three tabs: 'Address Info', 'Additional Info', and 'User Interface'. The 'Address Info' tab is active, showing fields for 'Vendor Name' (SPT Telecom), 'Currency' (USD - US Dollar), and 'Opening Balance' (0). Below these are fields for 'Company Name', 'Mr./Ms./...', 'First Name', 'Last Name', 'Address', 'Province/State', 'Postal Code', 'City', and 'Country/Region'. The 'User Interface' tab shows fields for 'Contact', 'Phone', 'Fax', 'Alt. Phone', 'Alt. Contact', 'E-mail', 'BCC', 'Send Statistics', and 'Description'.

3. Fill in the **New Vendor** form. Please note that there are two tabs available on the screen. The most important fields are:

#### Main form (top)

- **Vendor Name** – Short name for the vendor object; will be used on the web interface.
- **Currency** – The currency in which this vendor charges you.
- **Opening balance** – Starting balance for the vendor; default is zero.

## Additional info

**Add Vendor** America/Vancouver demo-root Help

Save Save & Close Close Logout

Vendor Name  Currency  Opening Balance

Address Info **Additional Info** User Interface

**Categorizing and Defaults**

Billing Period

**Bilateral Traffic Exchange**

Offset Balance With Customer  Minimum Amount To Offset  USD

- **Billing period** – Split period for vendor statistics.

## User-Interface

**Add Vendor** America/Vancouver demo-root Help

Save Save & Close Close Logout

Vendor Name  Currency  Opening Balance

Address Info Additional Info **User Interface**

Login  Time Zone  Password   Web Interface Language  Access Level

**Output Format**

Date   Time   Date & Time

**Input Format**

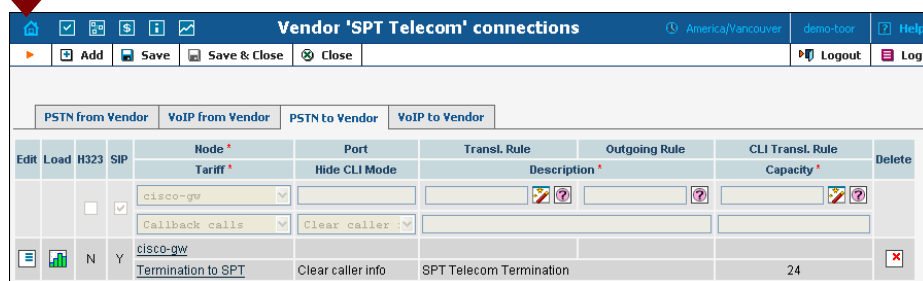
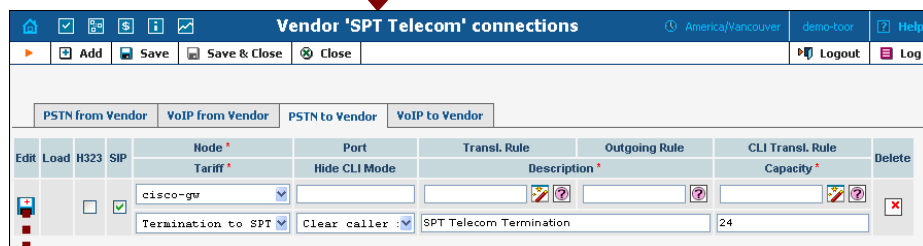
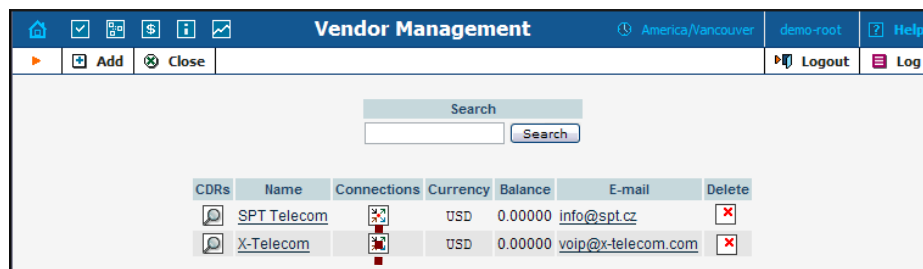
Date   Time

- **Time zone** – The time zone which the vendor uses for his billing period. Statistics will be divided into periods according to this time zone.

4. Click .
5. Repeat steps 2-4 to add all of your vendors.



## Define connections

This step is only required if you have not entered information about your vendors into the system before. Vendors are your termination partners or the providers of incoming toll-free lines.




1. In the Management section of the Admin interface, choose **Vendors**.
2. Click on the **Connections** icon next to the vendor name.
3. Choose the connection type **PSTN to Vendor**, **VoIP to Vendor**, etc., by clicking on the corresponding tab.
4. Press **Add** to add a new connection.
5. Fill in the connection information. If you send traffic to the vendor via telephony, choose the node and enter an optional port pattern. If you send traffic via VoIP, enter the remote IP address. Choose the tariff which defines your termination costs for this connection/vendor. **Description** and **Capacity** are mandatory for all connection types.
6. The **translation rule** is necessary if you send calls to the vendor in a format different from the one you use (e.g. the number 420296111222 is sent to the vendor as 004202111222), so that you can convert the phone number to the correct format. **Outgoing rule** is only present if

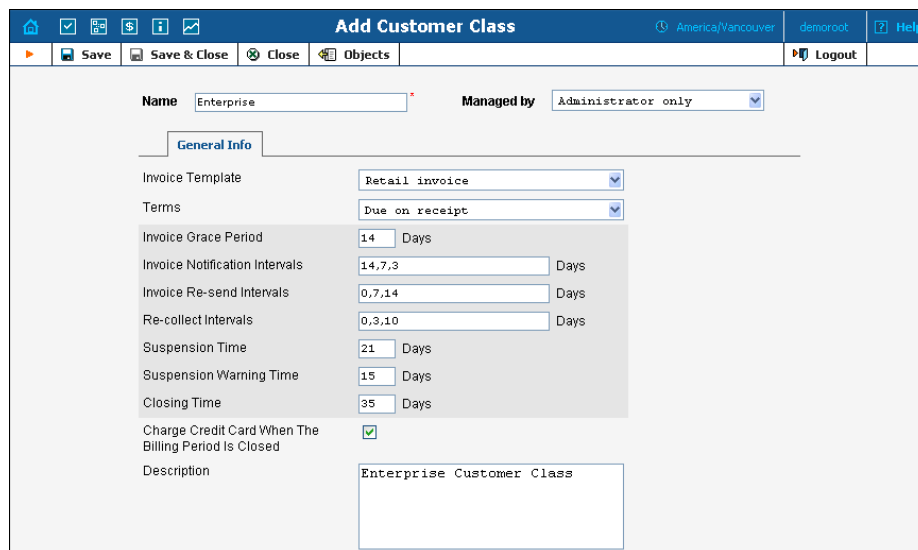
PortaSIP is installed, and is used to convert the number into the vendor-specific format.


7. Click  **Save**.
8. Repeat steps 3-7 to add more connections to the same vendor, then click  **Close** in order to exit to the **Vendor Management** screen.
9. Repeat steps 2-7 to add connections for other vendors.

## Create a Customer Class

Customer class provides the ability to define a group of parameters in a centralized way, then apply those parameters to many customers at once. (If you have already created a customer class that you can use for prepaid card distributors, skip this step and go to the next one.)

1. In the Management section of the Admin interface, choose **Customer Classes**.
2. On the Customer Class Management page, choose  **Add**.



3. Fill in the **Name** parameter; the other fields can be left empty for now.
4. Click  **Save&Close**.

## Create a Customer

A customer is an owner of accounts. The customer's contact information is used to distribute account usage information, call statistics, invoices, and so on.

1. In the Management section of Admin-Index, choose **Customers**.
2. On the Customer Management page, choose  **Add**.

- Fill in the **New Customer** form. Please note that there are several tabs with extra information available on the screen. The most important fields are:

**Customer Management** America/Vancouver demo-root Help

Type	Representative	Search	Advanced search
Direct Customers	ANY	jh@smartcall	<input type="button" value="Search"/>

CDRs	Name	Accounts / Subcustomers	Currency	Type	Credit limit	Balance	E-mail	Status	Delete
	John - Prepaid		USD	Retail		0.00000	jh@smartcall.com		<input type="button" value="X"/>

**Add Customer** America/Vancouver demo-root Help

Customer Name: 
 Currency:

Blocked: 
 Opening Balance:

Type: 
 Customer Class:

Company Name: <input type="text" value="SmartNet Ltd."/> Mr./Ms./...: <input type="text"/> First Name: <input type="text"/> M.I.: <input type="text"/> Last Name: <input type="text"/> Address: <input type="text" value="7500 25th Street"/> Province/State: <input type="text" value="WA"/> Postal Code: <input type="text" value="90154"/> City: <input type="text" value="Seattle"/> Country/Region: <input type="text" value="USA"/>	Contact: <input type="text"/> Phone: <input type="text"/> Fax: <input type="text"/> Alt. Phone: <input type="text"/> Alt. Contact: <input type="text"/> E-mail: <input type="text" value="info@smartnet.com"/> BCC: <input type="text"/> Send Statistics: <input type="text" value="Full Statistics"/> Description: <input type="text"/>
---	--

America/Vancouver demo-root Help
Add Customer

Save Save & Close Close
Logout

Customer Name  \*      Currency

Blocked       Opening Balance

Type  ↓      Customer Class

Address Info
Additional Info
Payment Info
User Interface
Call Features

Routing Plan

Discount Plan

Subscription Discount Rate  %

**Categorizing and Defaults**

Billing Period

Invoice Template

Representative

Tax ID

Callshop Enabled

America/Vancouver demo-root Help
Add Customer

Save Save & Close Close
Logout

Customer Name  \*      Currency

Blocked       Opening Balance

Type  ↓      Customer Class

Address Info
Additional Info
Payment Info
User Interface
Call Features

Credit Limit

Balance Warning Threshold

**Add Customer** | America/Vancouver | demo-root | Help

Save | Save & Close | Close | Logout

Customer Name: SmartNet | Currency: USD - US Dollar  
 Blocked:  | Opening Balance: 0  
 Type: Retail | Customer Class: Wholesale

Address Info | Additional Info | Payment Info | **User Interface** | Call Features

Login: smartnet | Time Zone: Europe/Prague  
 Password: smart123 | Web Interface Language: en - English  
 Access Level: Retail

Periodic Payments Management Enabled  
 Dialing Rules Management Enabled

**Output Format**

Date: YYYY-MM-DD | 2003-12-31  
 Time: HH24:MI:SS | User Defined  
 Date & Time: YYYY-MM-DD HH24:MI:SS | User Defined

**Input Format**

Date: YYYY-MM-DD | 2003-12-31  
 Time: HH24:MI:SS | User Defined

**Add Customer** | America/Vancouver | demo-root | Help

Save | Save & Close | Close | Logout

Customer Name: SmartNet | Currency: USD - US Dollar  
 Blocked:  | Opening Balance: 0  
 Type: Retail | Customer Class: Wholesale

Address Info | Additional Info | Payment Info | User Interface | **Call Features**

Max number of simultaneous calls: 10  
 Set CLI to Account ID: No  
 Hide CLI: No  
 Call Parking: No  
 Voice VPN: No  
 Voice VPN Distinctive Ring: No  
 Legal Intercept: No  
 First Login Greeting: No

Music On Hold: No Frills Columbia (c) 2001 Kevin

Enable Dialing Rules | Dialing rules wizard

Load Sample: E.164  
 Your country code:   
 Your area code(s):   
 Always dial the area code as a part of the number:   
 Prefix for accessing the outside phone network:   
 Prefix for domestic calls, but outside of your area code (e.g. 1, 0):   
 International dialing prefix (e.g. 011, 00, 0011):   
 Emergency numbers (e.g. 911, 112): 911  
 Exceptions (e.g. \*98):   
 Local dialing number length:   
 Convert ANI (CLI) for incoming calls into this dialing format:

Main form (top)

- **Name** – Short name for the customer object; will be used on the web interface.
- **Currency** – The currency in which this customer will be billed.
- **Opening balance** – Starting balance for the customer; the default is zero.
- **Type** – Since this customer will be sending you traffic and paying for it, he is a **Retail** customer.

- **Customer Class** – Choose the customer class you created in the previous step.

#### Address info tab

- **Email** – Email address for distribution of accounting information. After the billing period is over, a list of CDRs and other statistics will be sent to this address.
- **Bcc** – Delivery to the specified email address of your account representative a copy of every outgoing email sent to the customer; this may be used for debug and archiving purposes.
- **Send Statistics – Summary only** – Distribute a call summary only, and do not attach a details file; this might be useful in the case of a large amount of calls. Other options are **full statistics** (attach a complete list of CDRs) or **do not send** (no not deliver call statistics to this customer via email at all).

#### Additional info tab

- **Billing period** – Frequency of distribution of accounting information. For more details about different available billing periods, see the [PortaBilling Administrator Guide](#).
- **Subscription Discount Rate** – Amount of discount applied by default to all subscriptions of this customer (assigned either directly to a customer or to one of his accounts).

#### Payment info tab

- **Credit limit** – If left empty, there is no credit limit for this customer.
- **Balance Warning Threshold** – Customer can be notified by email when his balance is dangerously close to the credit limit and his service will soon be blocked. Here you can enter the value for the warning threshold as follows:
  - As a percentage (e.g. 90%). A warning will be sent when the customer's balance exceeds this percentage of his credit limit. Thus, if his credit limit is \$1000.00 and the threshold is 90%, a warning will be sent as soon as the balance is over \$900.00. This is only applicable when the customer has a positive credit limit.
  - As an absolute value. A warning will be sent as soon as the balance exceeds the specified value.

#### User Interface


- **Time Zone** - This parameter serves two purposes. First of all, it defines in which time zone the customer will see his CDRs. It also defines which time zone will be used to divide the customer's billing periods. For example, if you choose America/New York

with a monthly billing period here, the customer's invoice will cover the period starting at 00:00 EST on the 1st of every month.


- **Web Interface Language** - The language to be used on the customer self-care web interface.

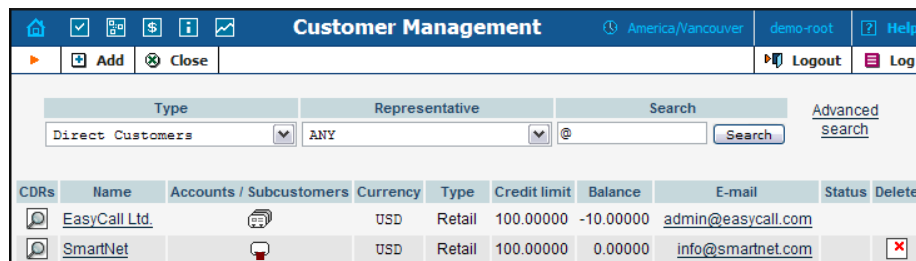
### Call Features

- **Max no. of simultaneous calls** – Only allow a specific number of concurrent calls for accounts of this customer.
- The other settings on this tab control various IP Centrex features which are available when using PortaSIP. Leave them as is, since they are not applicable in the case of termination services provided directly on a Cisco gateway.

Click  **Save&Close** to save your work. See the [PortaBilling Administrator Interface](#) for more information.

### Create Accounts






1. Go to the **Customers** screen (the screen which contains a list of customers). It should look like the screenshot below:
2. Next to the customer name, click on the  icon (the one in the **Accounts** column), which will take you to the account management for that customer.

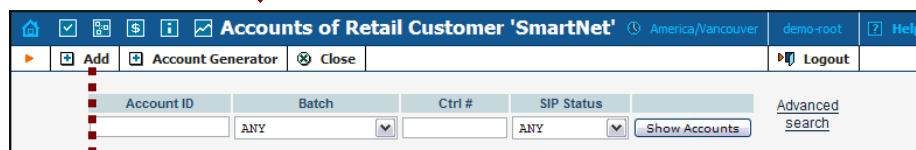


**Customer Management** America/Vancouver demo-root Help

Add Close Logout Log

Type: Direct Customers Representative: ANY Search: @ Search Advanced search

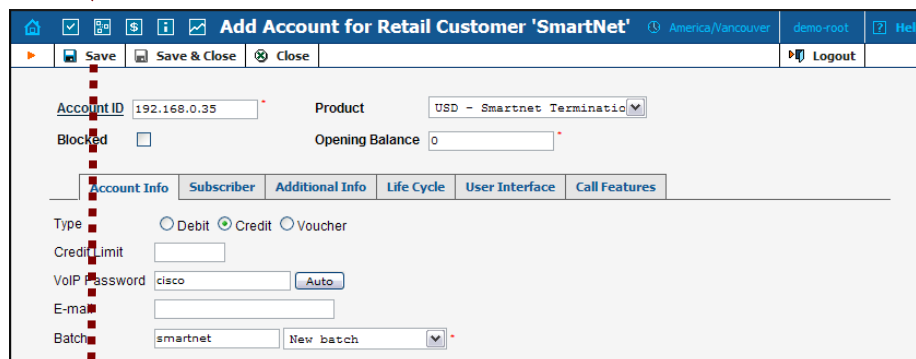
CDRs	Name	Accounts / Subcustomers	Currency	Type	Credit limit	Balance	E-mail	Status	Delete
	EasyCall Ltd.		USD	Retail	100.00000	-10.00000	admin@easycall.com		
	SmartNet		USD	Retail	100.00000	0.00000	info@smartnet.com		



**Accounts of Retail Customer 'SmartNet'** America/Vancouver demo-root Help

Add Account Generator Close Logout

Account ID: Batch: ANY Ctrl #: SIP Status: ANY Show Accounts Advanced search



**Add Account for Retail Customer 'SmartNet'** America/Vancouver demo-root Help

Save Save & Close Close Logout

Account ID: 192.168.0.35 Product: USD - Smartnet Termination

Blocked:  Opening Balance: 0

Account Info Subscriber Additional Info Life Cycle User Interface Call Features

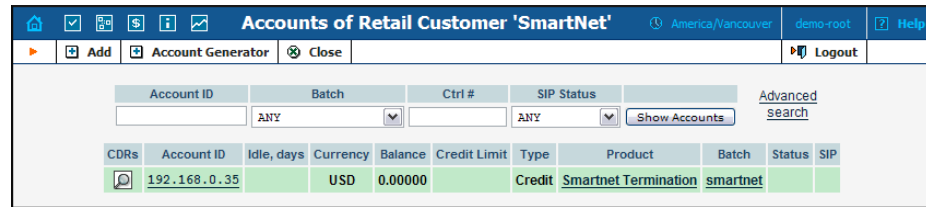
Type:  Debit  Credit  Voucher


Credit Limit:

VoIP Password: cisco Auto

E-mail:

Batch: smartnet New batch



CDRs	Account ID	Idle, days	Currency	Balance	Credit Limit	Type	Product	Batch	Status	SIP
	192.168.0.35		USD	0.00000		Credit	Smartnet Termination	smartnet		

3. Now click on **Add**.
4. Fill in the “Add account” form:
  - **Account ID** – Identification of the account (value to be sent in the **User-Name** attribute). For an account which represents a remote gateway, this is normally an IP address.
  - **Product** – Choose the product which you would like your accounts to use.
  - **Blocked** – Check this if you want to create the account as initially blocked.
  - **Opening balance** – The initial balance on the card. For credit accounts, the opening balance is normally zero.

#### Account info tab:


- **Account type** – Account type; select Credit.
- **Credit limit** – Maximum allowed credit.
- **VoIP Password** – Password for authentication/authorization. If you are using the default Cisco remote\_ip\_authenticate script, put **cisco** here.
- **Batch** – A batch is a management unit for accounts. The batch name is alphanumeric. You can type a new name here, or use the existing name in order to generate more accounts for the same batch.

#### Life Cycle tab:

- **Activation date** – Account activation date.
- **Expiration date** – Account expiration date; since we are setting up a postpaid service, which should function for a long time, leave this field blank.
- **Lifetime** – Relative expiration date; since we are setting up a postpaid service, which should function for a long time, leave this field blank.

#### User Interface tab:

- **Login** – The login name this account will use to access the self-care pages. This can be the same as the account ID, or a different one may be chosen for increased security. This field is mandatory.
- **Password** – Password for the self-care pages.

- **Time Zone** – When an account owner accesses the web self-care pages to see a list of his calls, the time will be shown in the time zone most appropriate for him.
  - **Web Interface Language** – The language to be used on the customer self-care web interface.
5. Click  **Save&Close**; a confirmation screen will indicate that the account has been created.
  6. Repeat steps 3-5 if the customer has more than one remote gateway.

# 4. Charging for Value-added Services

When providing VoIP calling services, quite often you will have to charge your customers for some additional services rendered: IP phone rental, voicemail service, “bundled” free minutes, and so on. The PortaBilling subscription module allows you to efficiently manage these charges.

## Setting up Subscription Services

Please refer to the [PortaBilling100 Web Reference Guide](#) for detailed instructions on how to navigate and operate the web interface, as well as detailed explanations of particular fields.

### Checklist

Print the following page and use it to check off the operations you have completed while performing system setup according to the instructions in this chapter. Please be sure to perform all of the operations (all of the boxes must be checked), otherwise the service will not work.

Operation	Done
<b>General configuration</b>	
General and network configuration has already been performed according to the instructions in the previous sections.	[ ]
<b>Rating configuration</b>	
Create a subscription plan A which will be bundled with your product.	[ ]
Create any optional subscription plans you may require.	[ ]
Associate subscription plan A with your product.	[ ]
<b>Account provisioning</b>	
Create a retail customer who will be using your services.	[ ]
Create an account for this customer.	[ ]
If required, assign some subscriptions directly to the account.	[ ]
<b>Testing</b>	
Verify that the subscriptions are visible under the account.	[ ]

## General, Network, Rating Configuration

This is identical to the procedure described in the previous chapters; please follow the instructions provided there.

## Create Subscription Plans

A subscription plan defines the charges associated with a particular service.

1. In the Management section of the Admin interface, choose **Subscription Plans**.
2. On the Subscription Plan Management page, choose **Add**.

3. Fill in the required information:

### Main form (top)

- **Name** – Name of the subscription plan which is to be used on the Admin interface.
- **Currency** – Indicates in which currency pricing information is given. A subscription plan can only be applied to a product, account or customer with this same currency.



**NOTE:** The currency for the subscription plan may be chosen only once, and cannot be changed later.

- **Managed By** – If you want this subscription plan to be used for your reseller’s accounts, so that the reseller himself can change the parameters of the plan and apply it to his accounts, choose a customer name from the menu. Otherwise, choose **None** here.



### General Info

- **Invoice Line Description** – A subscription plan description to be included on every invoice line visible to the customer (for instance, it may be in a language different than English).
- **Subscription Is Activated** – Defines when the subscription will be considered active (and charges will begin to apply): either simply from the date it is entered into the system, or you may postpone it until the date when the customer actually uses the account for the first time.
- **Activation Fee** – Enter the value charged for every new subscription upon startup; leave this field empty to waive the activation fee.
- **Minimum Subscription Period** – Time (in months) during which the customer must keep the subscription plan active in order to avoid penalties. Leave this field empty to create a subscription plan that can be closed at any time.
- **Early Cancellation Penalty** – The fee applied if the minimum subscription period condition is not met.
- **Subscription Charges Applied** – The default method is “At the end of the billing period”, so that subscription charges are applied to the account/customer balance when the billing period is closed. The alternative is to apply charges “progressively” – every day a small portion of the total subscription fee is applied, so that the balance grows gradually.
- **Round Charged Amount** – Leave the default value unchanged if you want to calculate charges with the maximum available precision; otherwise, see the [PortaBilling100 Web Reference Guide](#) for more details about setting up rounding.
- **Description** – Your comments about the intended purpose of this subscription plan.

## Periodic Fees

By default, only one type of pricing is available: this is the default fee which will be applied to the subscription. Click the  icon to edit it, then click the  icon after you have finished entering all the information. There are four column groups (monthly, bi-weekly, weekly and daily billing), each of which allows you to specify fees for every billing period separately.





Edit	Up/Down	Default/promotional rate	Monthly Billing		Bi-weekly Billing		Weekly Billing		Daily Billing		Delete
			N *	Fee, USD *	N *	Fee, USD *	N *	Fee, USD *	N *	Fee, USD *	
		Default Rate	unlimited	2.99000	unlimited	1.69000	unlimited	0.79000	unlimited	0.14900	
<b>Monthly Billing</b>			<b>Bi-weekly Billing</b>		<b>Weekly Billing</b>		<b>Daily Billing</b>				
1..unlimited: 0 USD			1..unlimited: 0 USD		1..unlimited: 0 USD		1..unlimited: 0 USD				

- **N** – Duration of the promotional period (not available for the default fee).
- **Fee** – Full amount of subscription fee to be applied during the billing period.



The periodic fees table includes an automatic calculation feature, simplifying the entry of values into the four column groups; e.g. if you enter 2.00 as the value of the monthly fee, while the fields for fees for other periods remain empty, these will be populated with pro-rated values (1.0, 0.46667 and 0.06667, respectively). Of course, you may change the actual values afterwards, e.g. make weekly billing more expensive by setting the fee to 0.49. The same applies to defining the length of promotional periods, e.g. if you enter 2 as the duration (in months) of the promotion, the other empty fields will be populated with 4, 9 and 60, respectively.

If you want to add more promotional periods (e.g. for the first three months) click the  **Add** button in the toolbar to insert a row into the pricing table, then click the  icon when you have entered all the required information.

**Add Subscription Plan**

Name: Follow-me Currency: USD - US Dollar  
 Managed By: Administrator only

General Info | Periodic Fees

Edit	Up/Down	Default/promotional rate	Monthly Billing		Bi-weekly Billing		Weekly Billing		Daily Billing		Delete
			N *	Fee, USD *	N *	Fee, USD *	N *	Fee, USD *	N *	Fee, USD *	
		First N billing periods	1	0	2	0	4	0	30	0	
		Following N billing periods	6	0.99000	12	0.49900	26	0.24000	180	0.04000	
		Default Rate	unlimited	2.99000	unlimited	1.69000	unlimited	0.79000	unlimited	0.14900	

Monthly Billing		Bi-weekly Billing		Weekly Billing		Daily Billing	
1 month(s):	0 USD	1..2 bi-week(s):	0 USD	1..4 week(s):	0 USD	1..30 day(s):	0 USD
2..7 month(s):	0.99000 USD	3..14 bi-week(s):	0.49900 USD	5..30 week(s):	0.24000 USD	31..210 day(s):	0.04000 USD
8..unlimited:	2.99000 USD	15..unlimited:	1.69000 USD	31..unlimited:	0.79000 USD	211..unlimited:	0.14900 USD

The screenshot above defines a product which:


- will be free for the first month,
- will have a monthly fee of \$0.99/month for the next six months,
- will have a normal subscription fee of \$2.99/month afterwards.

A reference table is provided for your convenience at the bottom of the screen, so that you can clearly see when a change in the subscription fee is to occur. You may also change the order of the promotional periods by moving them up and down using the and icons.



4. Click **Save&Close** to finish the subscription plan definition and save it to the database.
5. Repeat steps 2-4 to create any other additional subscription plans

## Bundle Subscription Plans with a Product

You can create subscription plans as bundled with a product, so that they will apply to every account using this product.

1. In the Management section of the Admin interface, choose **Products**.
2. On the Product Management page, click on the name of a specific product.
3. Select the Subscriptions tab and click the  **Add** icon.
4. Select the subscription plan from the select menu.




5. Click the  **Save** button in the toolbar, or the  icon on the left end of the row to save the data.
6. Repeat steps 3-5 to include more than one mandatory subscription with the product.

## Check the Subscription Plan Assignment



After a subscription plan has been bundled with a product, every new account created with this product will automatically be assigned this subscription.

Edit	Subscription	Start Date *	Activation Date	Billed To	Finish Date	Obligatory	Close	Delete
	SuperCall	2006-07-15				!		



The  icon indicates that this subscription forms part of the product definition, and is therefore mandatory (cannot be canceled).

## Manually Assign a Subscription

You may also assign some additional, optional subscription plans to an account.


1. Go to the **Customers** screen (the one containing a list of customers).
2. Next to the customer name, click the  icon (the one in the **Accounts** column) to enter account management for this customer.
3. Perform an account search and, when the required account is displayed, click on the account ID.
4. On the Account Info page, click on the **Subscriptions** tab.
5. Click the  **Add** icon.

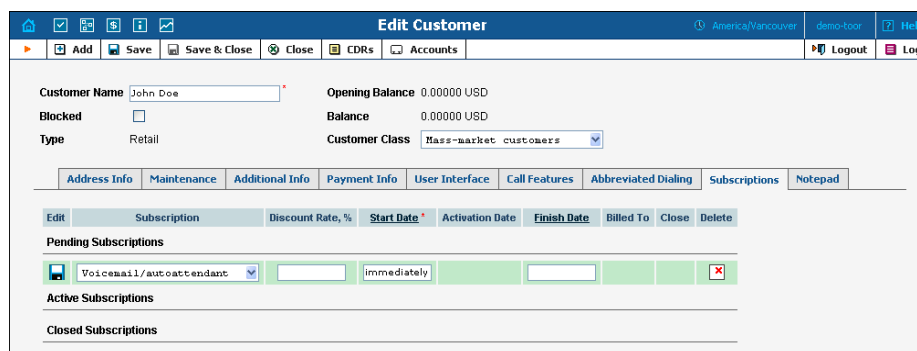
Edit	Subscription	Discount Rate, %	Start Date *	Activation Date	Finish Date	Billed To	Mandatory	Close	Delete
	Follow-me		immediately				!		
	SuperCall		2007-03-02				!		



6. Select the subscription plan from the select menu. You may also specify a start date for the subscription (by default, it will be activated on the day you create it).
7. Click the  **Save** button in the toolbar, or the  icon on the left end of the row to save the data.
8. Repeat steps 5-7 to add more subscriptions to this account.

## Manually Assign a Subscription to a Customer (optional)

You may also assign some additional, optional subscription plans to an account or customer.

1. Go to the **Customers** screen (the one containing a list of customers).
2. Click on the customer name.
3. On the Customer Info page, click on the **Subscriptions** tab.
4. Click the  **Add** icon.



5. Select the subscription plan from the select menu. You may also specify a start date for the subscription (by default, it will be activated on the day you create it).
6. Click the  **Save** button in the toolbar, or the  icon on the left end of the row to save the data.
7. Repeat steps 4-6 to add more subscriptions to this customer.