

## DID Billing - The need to know..

DID Billing has been one of the most sought how-to, yet there are very little articles on how to configure DID billing in a step by step manner.

In this step-by-step article, i'll try my best to explain the whole 9-yards, that even granny can bill for DIDs without disturbing grandpa..

### This How-To was written with the following assumptions:

1. You have a slight understanding of FreePBX and A2Billing
2. You already have ordered a DID
3. You already can receive incoming calls on that DID, configured in FreePBX before passing the Inbound call to A2Billing
4. You already have A2billing installed and functioning properly

### Step 1.

Goto FreePBX - Custom Destinations: your settings should look like relative to this:

#### Edit Custom Destination

Custom Destination:	<input type="text" value="a2billing-did,\${EXTEN},1"/>
Destination Quick Pick	<input type="text" value="(pick destination)"/>
Description:	<input type="text" value="A2B-DID"/>
Notes:	<div>To direct DID into A2Billing for onwards delivery and billing</div>

- *a2billing-did* = context that you'll be using in your extensions\_a2billing.conf (feel freely to use whatever name you want, but it must reflect the same name in your .conf file)

### Step 2 - context [extensions\_a2billing.conf]

Open your *extensions\_a2billing.conf* and add this context..

[a2billing-did]

.....

;Deliver DIDs and bill for them

;2009.03.05 last updated

exten => \_X.,1,Noop(a2billing-did \${EXTEN})

exten => \_X.,n,DeadAGI(a2billing.php|1|did)

exten => \_X.,n,Hangup

- *a2billing.php|1|did* ----> |1 declares which agi conf we'll be using in a2billing.conf; |did declares that we are setting up a DID

### Step 3 - a2billing.conf [agi.conf]

Define your agi-conf, this is my default agi-conf, and works fine for the incoming DIDs.

**DO NOT** use this agi-conf for DIDs that you'll be forwarding as a wholesaler to your clients, so they in turn can forward to their clients, **IT WILL NOT WORK**

Open your *a2billing.conf* and add the following [adjust accordingly especialy [agi-confX]], so you don't have a double entry

Most important settings for incoming DID billings are highlighted

[agi-confX]

.....

;2009.03.06 --> Last updated

;Default AGI for A2Billing

debug = 1  
asterisk\_version = 1\_4  
**answer\_call = YES**  
**play\_audio = YES**  
**say\_goodbye = NO**  
**play\_menulanguage = NO**  
force\_language =  
intro\_prompt =  
min\_credit\_2call = 0  
min\_duration\_2bill = 0  
notenoughcredit\_cardnumber = YES  
notenoughcredit\_assign\_newcardnumber\_cid = YES  
**use\_dnid = YES**  
no\_auth\_dnid = 2400,2300  
number\_try = 1  
force\_callplan\_id =  
say\_balance\_after\_auth = NO  
say\_balance\_after\_call = NO  
say\_rateinitial = NO  
say\_timetocall = NO  
auto\_setcallerid = YES  
force\_callerid =  
cid\_sanitize = CID  
cid\_enable = NO  
cid\_askpincode\_ifnot\_callerid = YES  
cid\_auto\_assign\_card\_to\_cid = YES  
cid\_auto\_create\_card = NO  
cid\_auto\_create\_card\_len = 10  
cid\_auto\_create\_card\_typepaid = POSTPAY  
cid\_auto\_create\_card\_credit = 0  
cid\_auto\_create\_card\_credit\_limit = 1000  
cid\_auto\_create\_card\_tariffgroup = 1  
callerid\_authentication\_over\_cardnumber = NO  
sip\_iax\_friends = YES  
sip\_iax\_pstn\_direct\_call\_prefix = 55  
sip\_iax\_pstn\_direct\_call = YES  
ivr\_voucher = NO  
ivr\_voucher\_prefix = 8  
jump\_voucher\_if\_min\_credit = NO  
extracharge\_did =  
extracharge\_fee =  
extracharge\_buyfee =  
international\_prefixes = 011,00,09  
dialcommand\_param = "|60|HRgrL(%timeout%:61000:30000)"  
dialcommand\_param\_sipiax\_friend = "|60|HRgirL(3600000:61000:30000)"  
switchdialcommand = NO  
failover\_recursive\_limit = 2  
maxtime\_tocall\_negatif\_free\_route = 5400  
send\_reminder = NO  
record\_call = NO  
monitor\_formatfile = gsm  
agi\_force\_currency =  
currency\_association = usd:dollars,mxn:pesos,eur:euros,all:credit  
file\_conf\_enter\_destination = prepaid-enter-dest  
file\_conf\_enter\_menuulang = prepaid-menuulang2  
callback\_bill\_1stleg\_ifcall\_notconnected = YES

## Step 4 - Trunk

Now that the foundation has been laid, we'll now jump into the A2Billing Admin Interface, and put on the roof on the house.

We shall now create a trunk for A2billing to forward the DIDs on.

Goto Trunk | Add trunk

<b>VOIP-PROVIDER</b>	<b>NOT DEFINED</b>
<b>LABEL</b>	<b>LOCAL-SIP</b> Unique and friendly name for the trunk
<b>ADD PREFIX</b>	Add a prefix to the dialled digits.
<b>REMOVE PREFIX</b>	2 in case of the voip provider or the gateway do
<b>PROVIDER TECH</b>	<b>SIP</b> Technology used on the trunk (SIP,IAX2,ZAP,
<b>PROVIDER IP</b>	%dialingnumber% Set the IP or URL of the VoIP provider. Altern %dialingnumber%, %cardnumber%, ie g2/16-
<b>ADDITIONAL PARAMETER</b>	Define any additional parameters that will be 'D(www%cardnumber%xxxxxxxxxx%dialingnum
<b>FAIL-OVER TRUNK</b>	<b>NOT DEFINED</b> You can define an other trunk in case of failo

<b>VoIP Provider :</b>	Not so important, but feel free to make a logical name, if you care about an organize structure.
<b>LABEL:</b>	This should be a clear name, that you can refer to in the next pages, choose a name that stands out for the purpose, I label mines as SIP and IAX so that i can use the relative trunk to dispatch a DID to SIP or IAx cardnumbers.
<b>Add Prefix:</b>	I this situation this was not needed, but if you need to add a prefix for whatever reason, feel freely to do so.
<b>Remove Prefix:</b>	This prefix was used in the RateCard in order for me to know who to charge per minute for this DID, but we now need to remove the prefix before sending it across the turnk
<b>Provider Tech:</b>	Mainly SIP or IAX, depending on the protocol used by the SIP/IAX Friend, so if your SIP/IAX Friend is IAX, then this should be IAX, if SIP, then this should be SIP.
<b>Provider IP:</b>	this should be a listed "%dialingnumber%", don't ask me why, have no clue what it means, but this is what i saw in many articles posted, and it works.

### Step 5 - DID Billing Group

Here we'll create the DID billing group, to add our DID in, this is then used later on in the Customer Cardnumber.

[Goto DID](#) | [Add DID Group](#)

NAME DID-1

Use a Name for the group that makes logical sense to you, that you can refer to later on.

In some articles I have read that you can create one DID Group for all your DID's, i haven't played much with this feature to see what's the logic behind it.

## Step 6 - DID

Now we'll let A2Billing be aware of this DID, by adding it to the A2Billing DataBase..

Goto DID | Add DID

DID	<input type="text" value="00441158170099"/> Insert DID
BILLING	<input type="text" value="Fix per month + dialoutrate"/>
START DATE	<input type="text" value="2009-03-05 23:09:12"/> Format YYYY-MM-DD HH:MM:SS. For instance, '2004-12-31 00:00:00'
EXPIRY DATE	<input type="text" value="2034-03-05 23:09:12"/> Format YYYY-MM-DD HH:MM:SS. For instance, '2004-12-31 00:00:00'
DIDGROUP	<input type="text" value="DID-1"/>
COUNTRY	<input type="text" value="United Kingdom"/>
ACTIVATED	Yes <input checked="" type="radio"/> - No <input type="radio"/>
MONTHLY RATE	<input type="text" value="15"/> currency : EUR

- DID: The DID assigned to you by your DID Provider
- Billing: Fix per month + dialoutrate
- DIDGroup: The DID Group you want to assign this DID to
- Country: Here i choose the country this DID refers to.
- Activated: Must be **YES**, else it won't work
- Monthly Rate: The monthly fee you want to charge for this DID

## Step 7 - DID Destination

Let's add the destination for this DID, in other words, to which Card (sip/iax friend) we want to deliver the incoming call to.

Goto DID | Add Destinaiton

DESTINATION	<input type="text" value="29113906400441158170099"/> Enter the phone number you wish to call, VoIP, the VoIP_Call must be set to yes.
ID CARD	<input type="text" value="82"/> Set the card number ID.
DID	<input type="text" value="00441158170099"/>
ACTIVATED	Yes <input checked="" type="radio"/> - No <input type="radio"/>
PRIORITY	<input type="text" value="1"/>
VOIP_CALL	Yes <input type="radio"/> - No <input checked="" type="radio"/>

Destination:	<b>2:</b> Prefix to be sent to the trunk in order to capture the correct RateCard <b>9XXXXX:</b> SIP/IAX friend that will be receiving the incoming call on this DID <b>/DID number:</b> Used in order to send CLID to the end device, if this is not done, the end device will be receiving the SIP/IAX friend card number as CLID; this is usefull for Wholesalers that wants to send DID's to their clients, so their clients can see the incoming DID and thereafter forward it to their registered client.
IDCard:	Should be the cardnumber of the the SIP/IAX Friend
DID:	DID Assigned to this destinaiton (client)
Activated:	Must be <b>YES</b> , else it won't work
Priority:	Have no clue, but leaving it at 1 worked.
VoIP Call:	This must be <b>NO</b> , else the DID won't be charged per minute, would be then a FLAT Fee DID.

**Step 8 - Rate Card**

We will now define the RateCard to be used for this DID

Goto Rate Card | Create New Rate Card

TARIFFNAME	INBOUND-DID
START DATE	2009-03-05 21:39:55 please respect the format YYYY-MM-DD HH:MM:SS,
EXPIRY DATE	2034-03-05 21:39:55 Format YYYY-MM-DD HH:MM:SS. For instance, '2004
TRUNK	LOCAL-SIP
DESCRIPTION	
DNID PREFIX	2 Set the DNID rules to choose the ratecard 'dnidpref: ratecard when the DNID is 900540540.
CALLERID PREFIX	all Set the CallerID rules to choose the ratecard 'calleri: this ratecard when the CallerID is 900540540.

- TariffName: Name for this RateCard
- Trunk: Use the trunk defined in Step 4
- DNID prefix: This is the prefix we using to identify this rate card with the DID when being called.

## Step 9 - Rate Sheet

In this step, we'll define the billing increments for this DID, as to how much the the cost per minute shall be.

Goto Rate Card | Add Rate

RATECARD	INBOUND-DID
DIALPREFIX	2 <small>Define the destination prefix, i.e. 441 for UK Landlines. Use 'defaultprefix' to setup a rate card. If you ADD a rate, NOT an EDIT, you can define a range of prefixes, 32484-32487 would match all dialled digits between 32484 and 32487, whereas prefixes 32484,32386,32488 would only match the individual prefixes listed.</small>
DESTINATION	did incoming <small>Name for this call destination, for example : UK, Belgium Landline, Spain Mobile Telefor</small>
<small>Define your purchase cost that you need to pay to your voip-provider to let your platform call this destination.</small>	
BUYING RATE	0 <small>Set the carrier cost, the price you pay for minutes.</small>
BUYRATE MIN DURATION	0 <small>Set the minimum duration charged by the carrier. (i.e. 30 secs)</small>
BUYRATE BILLING BLOCK	0 <small>Set the billing increment, in seconds (billing block), that the carrier applies. (ie 30 secs)</small>
<small>Define the selling cost for customers.</small>	
SELLING RATE	0.0175 <small>The retail rate; or the cost per minute to apply to the customer, e.g. 0.02</small>
SELLRATE MIN DURATION	6 <small>Set the minimum duration to charge the customer (ie 60 seconds)</small>
SELLRATE BILLING BLOCK	6 <small>Set the billing increment in seconds to bill your customer.</small>
CONNECT CHARGE	0 <small>Apply a connection charge</small>
DISCONNECT CHARGE	0 <small>Apply a disconnection charge</small>
<small>Define the period when this rating might be active.</small>	
START DATE	2009-03-05 21:41:12 <small>Format YYYY-MM-DD HH:MM:SS. For instance, '2004-12-31 00:00:00'</small>
STOP DATE	2019-03-05 21:41:12 <small>Leave empty to apply this rate indefinitely. Format YYYY-MM-DD HH:MM:SS. For instance</small>
START TIME	0 <small>Set the time and day of the week at the rate is first valid (ie Monday 00:00 is 0)</small>
END TIME	10079 <small>Set the time and the day of the week that the rate is no longer valid. (ie Sunday 23:59)</small>
TRUNK	LOCAL-SIP <small>Set the trunk to use for this destination, or NOT DEFINED to use the rate card trunk.</small>
USE FREE TIME TO CALL PACKAGE	No - Yes <small>Set to use this destination with the freetime to call package offer.</small>
CIDGROUP	NOT DEFINED <small>Set the Outgoing CID Group to use for this destination, or NOT DEFINED to use the rate</small>

Rate Card:	Select the RateCard created in Step 8
Dial Prefix:	Use the same prefix used in previous steps
Destination:	Country of DID, i used DID-Incoming, as this is what will be displayed in the CDR, then you will know that it was minutes charged for an incoming call.
Buying Rate:	Rate at which you are purchasing your DID, per minute
Sell Rate:	Rates at which your are selling your DID, per minute
Trunk:	Select the Trunk you created in Step 4
Use Free Time:	If you provide Free minutes in a package deal then this should be set to YES, if not, then set this to NO



Step 10 - Callplan

To round off the configurations, we now have to add the inbound DID RateCard to a callplan.

Goto RateCard | List Callplan

Select the desired call plan, and then add the INBOUD-RATECARD to this call plan.

NAME

WSALE-3000 Inbound

LC TYPE

LCR: According to the buyer price

PACKAGE

Set the Package offer if you wish to use one with this Call Plan.

REMOVE INTER PREFIX

Yes

No

Remove the international access prefix (00 or 011) before matching the dialled digits with the r  
0044 for a call to the UK, only 44 would be delivered.

RATECARD

RATECARD LIST

DELETE

DELETE

INBOUND-DID

DELETE

Step 11 - CDR Control

Once you have done that, feel free to make calls to the assigned DID, and in the CDR you can control if the call was charged or not.

Goto Call Report | CDR Report

Call Log	Calldate	Source	CalledNumber	Destination	Duration	CardUsed	Trunk	IC	Calltype	Buy	Sell	Margin	Markup
1.	2009-03-19 17:59:20	4465496923022	291139064/00441156170099	did incoming	01:21	91139064	LOCAL-STP	ANSWER	DID-CALL	0.000 eur	0.025 eur	100.00%	n/a