

A2B ????? Asterisk ??????????????????

1. A2B ? Asterisk ??????????
2. ??????????????????????????????
3. ????? FreePBX??? DB ??? A2B ? DB ??????????????????

?????????

????????? Linux ?????????? A?B?

?? A) A2B ??????

1. Ubuntu 12 + Asterisk 1.8.10 + A2B 1.9.4
2. A2B ??????
3. A2B ????
4. Asterisk (??? FreePBX????? A2B ? outbound/inbound trunk???????? FreePBX ????????)

???

- A2B ??? inbound/outbound trunks
- ?? A2B ? SIP account ??????

?? B) FreePBX ?? (????? FreePBX ??)

1. Ubuntu 12 + Asterisk 1.8.10 + FreePBX 2.9
2. FreePBX ????
3. Asterisk
4. A2B ? AGI ? dialplans

???

- FreePBX ? SIP account ?? account code ??????????
- ????????? A2B ? outbound trunk ??????

???A: A2B ??)

1. ?????Asterisk & A2B ?????
2. A2B ??????? **Real-Time** ??
 - ? Asterisk ?? 1.6.2 ?????????? A2B v1.9.4
 - ? ?? res_config_mysql.conf
 - ? ?? extconfig.conf
3. ?? A2B ??????????
4. ?? MySQL Server ?????? FreePBX ??????

5. ?? sip.conf????? SIP Outbound Trunk ??????????
6. ?? extensions.conf????????????????????
7. ? A2B ?AGI?????? FreePBX ???
 - ? /etc/asterisk/a2billing.conf
 - ? /etc/asterisk/extensions_a2billing_1_6.conf
 - ? /usr/src/a2billing/addons/sounds
 - ? /var/lib/asterisk/agi-bin
 - ? a2billing.php
 - ? a2billing_monitoring.php
 - ? lib/
8. ? A2B Admin UI ??????
 - ? Trunk:
 - ? Label: ccnet
 - ? Add Prefix: 991 <? extensions.conf ?????>
 - ? Provider TECH: SIP
 - ? Provider IP: <A2B ?? IP>
9. ?? Inbound DID (??)
 - ? ?? sip.conf????? SIP Inbound Trunk ??? DID ????
 - ? DID ????????? PSTN ?????? SIP URI ??? A2B SIP account

?? MySQL Server ??????????

?? /etc/mysql/my.cnf

?????

#bind-address = 127.0.0.1

???????

mysql -uroot -p <<-END_SQL

```
CREATE USER 'a2billinguser'@'%' IDENTIFIED BY 'a2billingpass';
GRANT ALL PRIVILEGES ON mya2billing.* TO 'a2billinguser'@'%';
flush privileges;
END_SQL
```

extensions.conf?

[out-all]

```
exten => _0011101XXX.,1,Noop(This is outbound call)
exten => _0011101XXX.,n,Dial(SIP/voxbeam/${EXTEN})
exten => _0011101XXX.,n,Hangup
```

[from-freepbx]

include => out-all

Notes:

???? FreePBX ?????????? 0011101 ?????? voxbeam??? prefix code ? voxbeam ?????

sip.conf?

1. ??? FreePBX ?????????????? A2B ??? Asterisk

```
;Inbound Trunks
; Incoming Calls from FreePBX
[PBX1]
type=peer
host=<FreePBX#1 ?? IP>
context=from-freepbx
qualify=yes
insecure=port,invite
canreinvite=no
nat=no
```

Tips:

???????? FreePBX ?????????????? SIP ????????? PBX2, PBX3,...

2. ????? SIP Provider ? Outbound Trunk

```
;Outbound trunks
;this is for test
[ccnet]
defaultuser=070XXXXXXXX
type=friend
secret=123456
port=7890
insecure=port,invite
host=210.202.244.130
qualify=yes
nat=yes
fromuser=070XXXXXXXX
context=no-incoming
```

3. [??] ??? Inbound DID ?? Inbound Trunk

```
; Inbound Trunk for DIDs from Voxbeam
;Voxbeam
[voxbeam-in-1]
type=peer
qualify=yes
```

```

nat=yes
insecure=port,invite
host=95.211.119.240
dtmfmode=rfc2833
disallow=all
context=a2billing-did
canreinvite=no
allow=alaw
allow=ulaw

```

??a2billing-did ? A2Billing ??? dialplan?

DID ????

A2B Admin UI > Inbound DID > Destination

DID ???????

1. ?? PSTN/????
 - ? Destination = <????>
 - ? VoIP Call = No
2. ?? SIP URI
 - ? Destination = <123@111.222.333.444>
 - ? VoIP Call = Yes
3. ??? A2B SIP account
 - ? Destination = <SIP/123456> 123456 ? A2B SIP account
 - ? VoIP Call = Yes
 - ? 123456 ??????? A2B ??????? FreePBX ???

???B: FreePBX)

?????

1. ??? FreePBX & Asterisk
2. ?? mysql ??????? A2B ? DB ??
 1. ?? mysql -ua2billinguser -p -h <A2B IP>
 2. telnet <A2B IP> 3306
3. ?? A2B AGI ??????
 - ? /etc/asterisk/a2billing.conf?????? /etc/a2billing.conf
 - ? /etc/asterisk/extensions_a2billing_1_6.conf
 - ? /var/lib/asterisk/agi-bin
 - ? a2billing.php
 - ? a2billing_monitoring.php
 - ? lib/
 - ? ??????????? asterisk ???
 - ? ?? A2B ???
4. FreePBX ?????? Asterisk **Real-Time** ??????? A2B ? SIP account ??????? A2B ????? FreePBX ???

?? extensions_custom.conf (? : ? FreePBX ??)

?????

;this is for A2B

```
#include extensions_a2billing_1_6.conf
```

```
?? /etc/a2billing.conf
```

?? A2B DB ?????

```
[database]
```

```
hostname = <A2B DB Host>
```

```
; port for postgres is 5432 by default
```

```
port = 3306
```

```
user = a2billinguser
```

```
password = <DB password>
```

```
dbname = mya2billing
```

```
; dbtype setting can either be mysql or postgres
```

```
dbtype = mysql
```

```
...
```

```
...
```

??A2B???

```
cd sounds/
```

```
sh install_a2b_sounds.sh
```

```
chown -R asterisk:asterisk /var/lib/asterisk/sounds/
```

```
?: ???????????? /var/lib/asterisk/sounds????? script ??
```

?? **Outbound**

```
?? extensions_custom.conf?
```

; this is for A2B

```
[macro-dialout-trunk-predial-hook]
```

```
exten => s,1,GotoIf("${OUT_${DIAL_TRUNK}:4:4}" = "A2B/")?custom-freepbx-a2billing,${OUTNUM},1:2)
```

```
exten => s,2,MacroExit
```

```
[custom-freepbx-a2billing]
```

```
exten => _X.,1,DeadAGI(a2billing.php,${OUT_${DIAL_TRUNK}:8})
```

```
exten => _X.,n,Hangup()
```

FreePBX Admin > Trunks > Add Custom Trunk

- Trunk Name = A2B
- Custom Dial String = A2B/3 (?: ? A2B ?????????? agi-conf3 ??? sip client ??)

FreePBX Admin > Outbound Routes > Add

- Route Name = Out_All
- Dial Patterns = 44.
- Trunk Sequence = A2B

?? FreePBX ??? SIP Extension???????? A2B ?????? account code?