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=070XXXXXXX
type=friend
secret=123456
port=7890
insecure=port,invite
host=210.202.244.130
qualify=yes
nat=yes
fromuser=070XXXXXXX
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?