

How to achieve the one-stage dialing

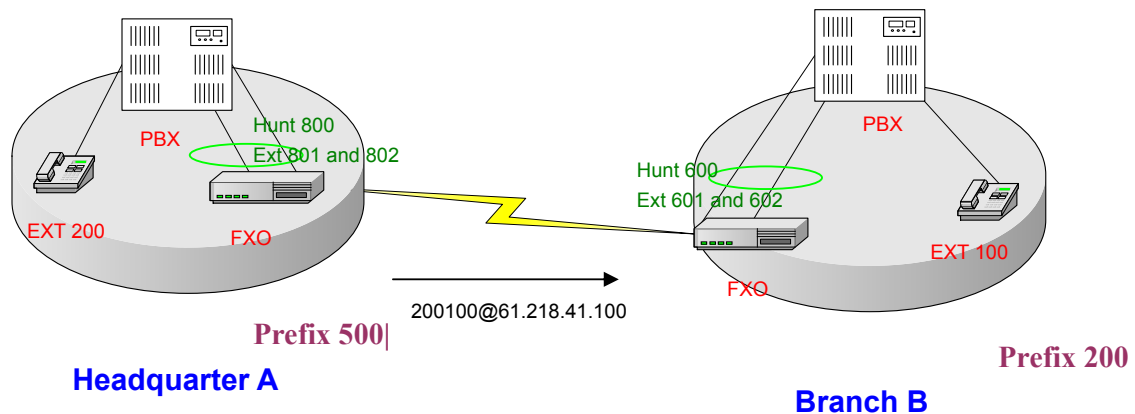
This application note is going to describe how to achieve one-stage dialing.

A. The behaviors of FXO device

When FXO got a number, it does below actions:

1. When FXO got a number, it will check the prefix table first.
2. After checking the prefix table, if the number is the local FXO sip number, then the FXO will pick up the call and user will hear the dial tone from PBX/ PSTN. He can re-dial the destination number. It named as two-stage dialing.
3. If the received number is not the local number, then it will check the routing table to decide how and where to forward the number automatically. It named as one^t-stage dialing.

B. One-stage dialing function between headquarter and branch with P2P mode.



● Test scenario:

A is Headquarter and B is Branch.

Now Headquarter A wants to dial the extension number to Branch B without two-stage dialing.

1. EXT 200 dials the hunting number 800 to FXO; then he will hear greeting from FXO.
2. Dial 200100 to branch B, the FXO in Branch B need to decide what to do, and

dial to EXT100 via the EXT line 601 or 602.

● Configuration:

Headquarter A

1. Set IP information
ifaddr -ip 61.218.41.100 -mask 255.255.255.0 -gate 61.218.41.254
2. Set SIP information
sip -mode 0 (set to p2p mode)
sip -line1 070000801 -line2 070000802 (set the SIP line number)
note: 070000801 and 070000802 are the local number of FXO device.
3. Set Pbook
pbook -add name branch ip 61.218.42.200 e164 200100
note: When EXT200 dial the number 200100, the call will be sent to FXO device of Branch B whose IP is 61.218.42.200.

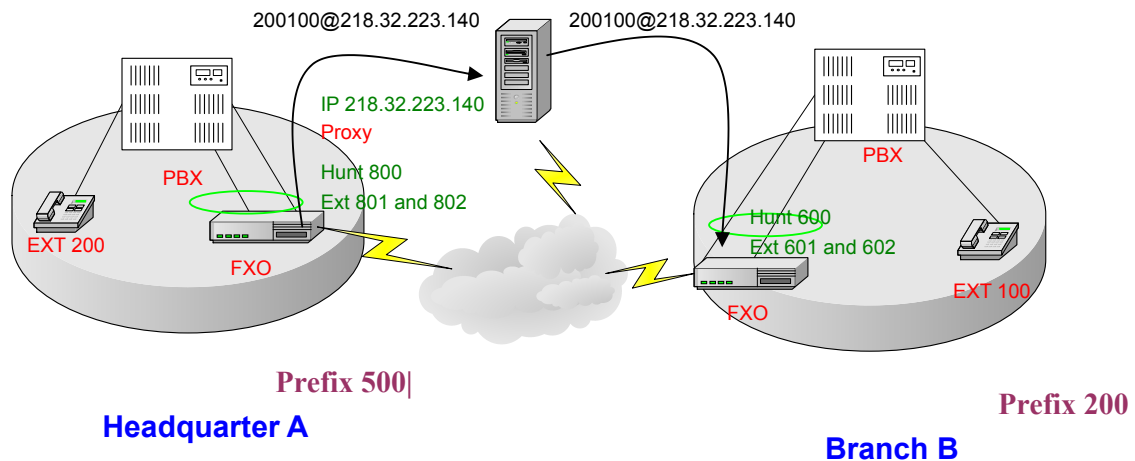
Branch B

Now, the FXO of Branch B has got the SIP invite message with line number 200100. It needs to drop the prefix 200 and dial to EXT100 automatically.

1. Set IP information
ifaddr -ip 61.218.42.200 -mask 255.255.255.0 -gate 61.218.42.254
2. Set SIP information
sip -mode 0 (set to p2p mode)
sip -line1 070000601 -line2 070000602 (set the SIP line number)
note: 070000601 and 070000602 are the local number of FXO device.
3. Set prefix table
prefix -add prefix 200 drop 1
note: the FXO will drop the prefix 200 when it got the line number 200100.
4. Set the default route
route -ip dst 1 (route all the IP incoming call to FXO, if it is not its local sip number)

note: A sent the invite message which contains line number 200100 to B, then B check the prefix table and drop prefix 200. So the line number becomes to 100, and B will route the number 100 to FXO according to the routing table.

C. One-stage dialing function between headquarter and branch with proxy mode.



● Test scenario:

A is Headquarter and B is Branch.

Now Headquarter A wants to dial the extension number to Branch B without two-stage dialing.

1. EXT 200 dials the hunting number 800 to FXO; then he will hear greeting from FXO.
2. Dial 200100 to proxy server, and proxy server needs to check the dialed number and forward this call to branch B, the FXO in Branch B needs to decide how to forward this call, and dial to EXT100 via the EXT line 601 or 602.

Your proxy must decide where and how to forward the called number. This is the most important point.

● Configuration:

Headquarter A

1. Set IP information
`ifaddr -ip 61.218.41.100 -mask 255.255.255.0 -gate 61.218.41.254`
2. Set SIP information
`sip -mode 1 (set to proxy mode)`
`sip -px 218.32.223.140 (set proxy server IP address)`
`sip -line1 070000801 -line2 070000802 (set the SIP registered line number)`
note: 070000801 and 070000802 are the local numbers of FXO device.

note: When EXT200 dial the number 200100, the call will be sent to proxy server and proxy server must forward this call to FXO device of Branch B.

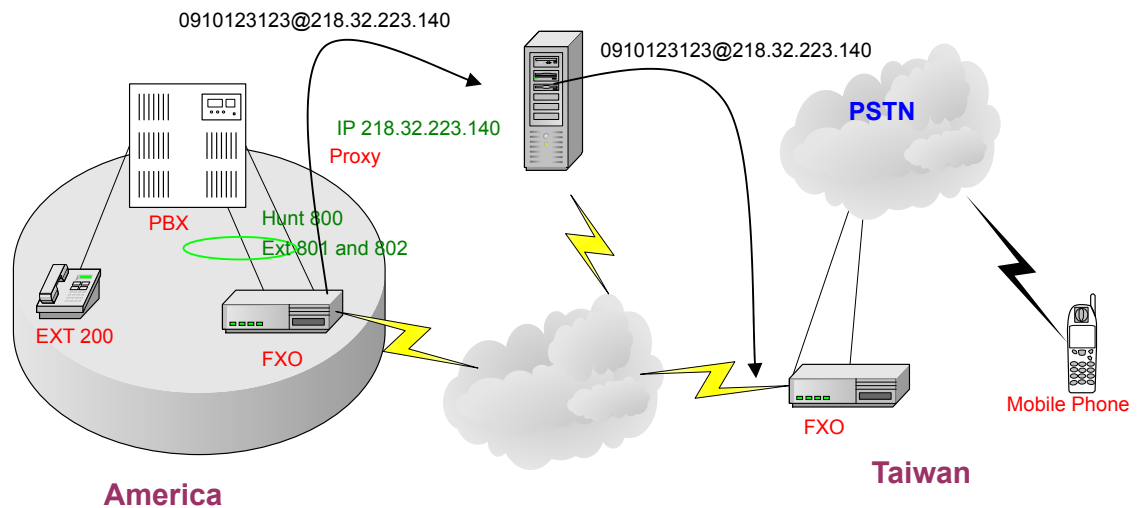
Branch B

Now, the FXO of Branch B has got the SIP invite message with line number 200100. It needs to drop the prefix 200 and dial to EXT100 automatically.

1. Set IP information
ifaddr -ip 61.218.42.200 -mask 255.255.255.0 -gate 61.218.42.254
2. Set SIP information
sip -mode 1 (set to proxy mode)
sip -px 218.32.223.140 (set proxy server IP address)
sip -line1 070000601 -line2 070000602 (set the SIP registered line number)
note: 070000801 and 070000802 are the local numbers of FXO device.
3. Set prefix table
prefix -add prefix 200 drop 1
note:
*** The FXO will drop the prefix 200 when it got the line number 200100.**
*** The prefix drop function can also be done by proxy server, server can check the prefix 200 and drop it, just sends the line number 100 to B.**
4. Set the default route
route -ip dst 1 (route all the IP incoming call to FXO, if it is not its local sip number)

note: A sent the invite message which contains line number 200100 to proxy, proxy check the prefix then forwards this call to B. B will check its prefix table and drop prefix 200. So the line number changes to 100, and B will route the number 100 to FXO according to the routing table.

D. Dialing PSTN with one-stage dialing- Proxy Mode



● Test scenario:

For example, user EXT 200 is in America, he wants to dial a Taiwan mobile phone number 0910123123 through a FXO gateway in Taiwan.

1. EXT 200 dials the hunting number 800 to FXO; then he will hear greeting from FXO.
2. Dial 0910123123 to proxy server, and proxy server needs to check the dialed number and forward this call to Taiwan's FXO device, the FXO devices need to decide how to forward this call, and dial to 0910123123 via the connected PSTN line.

Your proxy must decide where and how to forward the called number. This is the most important point.

● Configuration:

America

3. Set IP information
`ifaddr -ip 61.218.41.100 -mask 255.255.255.0 -gate 61.218.41.254`
4. Set SIP information
`sip -mode 1 (set to proxy mode)`
`sip -px 218.32.223.140 (set proxy server IP address)`
`sip -line1 070000801 -line2 070000802 (set the SIP registered line number)`
note: 070000801 and 070000802 are the local numbers of FXO

device.

note: When EXT200 dial the number 0910123123, the call will be sent to proxy server and proxy server must forward this call to FXO device of Taiwan.

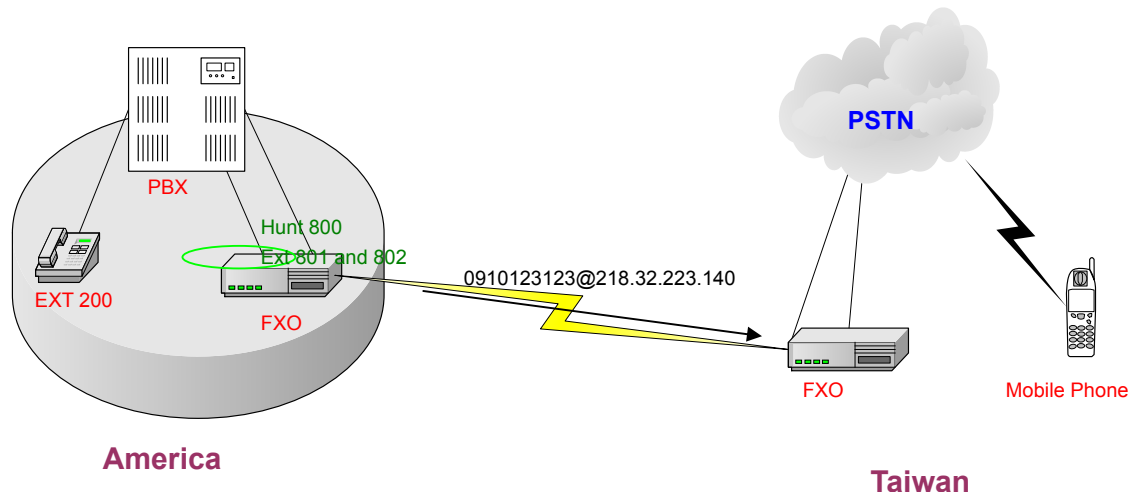
Taiwan

Now, the FXO of Taiwan has got the SIP invite message with line number 0910123123. It needs to route this call to FXO.

1. Set IP information
ifaddr -ip 61.218.42.200 -mask 255.255.255.0 -gate 61.218.42.254
2. Set SIP information
sip -mode 1 (set to proxy mode)
sip -px 218.32.223.140 (set proxy server IP address)
sip -line1 070000601 -line2 070000602 (set the SIP registered line number)
note: 070000801 and 070000802 are the local numbers of FXO device.
3. Set the default route
route -ip dst 1 (route all the IP incoming call to FXO, if it is not its local sip number)

note: A sent the invite message which contains line number 0910123123 to proxy, proxy check the prefix then forwards this call to B. B will check the routing table then forwards this call to FXO.

E. Dialing PSTN with one-stage dialing- P2P Mode



● Test scenario:

For example, user EXT 200 is in America, he wants to dial a Taiwan mobile phone number 0910123123 through a FXO gateway in Taiwan.

3. EXT 200 dials the hunting number 800 to FXO; then he will hear greeting from FXO.
4. Dial 0910123123 to Taiwan's FXO device, the FXO devices need to decide how to forward this call, and dial to 0910123123 via the connected PSTN line.

● Configuration:

America

5. Set IP information
ifaddr -ip 61.218.41.100 -mask 255.255.255.0 -gate 61.218.41.254
6. Set SIP information
sip -mode 0 (set to P2P mode)
sip -line1 070000801 -line2 070000802 (set the SIP line number)
note: 070000801 and 070000802 are the local numbers of FXO device.

note: When EXT200 dial the number 0910123123, the call will be sent to FXO device of Taiwan.

Taiwan

Now, the FXO of Taiwan has got the SIP invite message with line number 0910123123. It needs to route this call to FXO.

4. Set IP information
ifaddr -ip 61.218.42.200 -mask 255.255.255.0 -gate 61.218.42.254
5. Set SIP information
sip -mode 0 (set to P2P mode)
sip -line1 070000601 -line2 070000602 (set the SIP line number)
note: 070000801 and 070000802 are the local numbers of FXO device.
6. Set the default route
route -ip dst 1 (route all the IP incoming call to FXO, if it is not its local sip number)