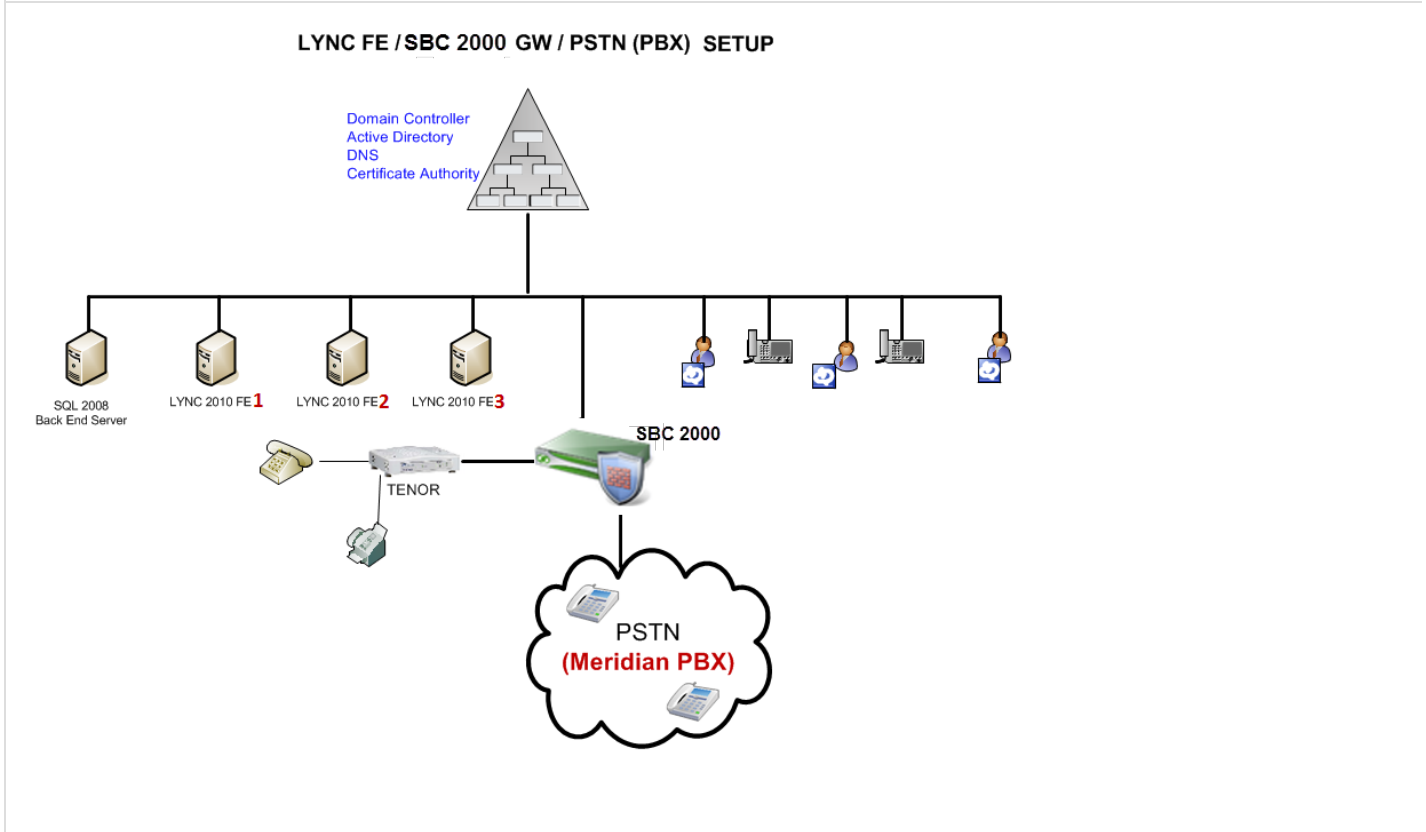


# Configuring SBC Edge for DNS Load Balancing

In this article we describe how to configure the Sonus SBC Edge to use a server pool to accomplish DNS load balancing using a pool of Lync Mediation Servers.

For the purpose of this article, we assume that the the **PBX - SBC Edge - Microsoft Lync 2010** topology is in place and employs multiple front end servers, as shown below.



Perform a Name Server (NS) Lookup on one of the Lync 2010 Pool (cspool.mylync.com) with three front end servers.

Figure 1: NS Lookup

```
134.56.225.212 - PuTTY
admin@uxtest212:~$ nslookup cspool.mslync.com

Name:      cspool.mslync.com
Address:  134.56.227.43
Name:      cspool.mslync.com
Address:  134.56.227.41
Name:      cspool.mslync.com
Address:  134.56.227.44
admin@uxtest212:~$
```

The FQDN *cspool.mylync.com* resolves to three separate IP Addresses:

- Front End Server 1: 134.56.227.43
- Front End Server 2: 134.56.227.41
- Front End Server 3: 134.56.227.44

On this page:

- Configuration
  - SIP Server Table
  - Signaling Group
- Example of Round Robin Load Balancing

## Configuration

Configuration for this functionality is straight-forward and relatively simple. It involves two basic steps"

- Creating SIP Server Table and/or entry.
- Assigning that SIP Server Table and specifying the Load Balancing Method in a Signaling Group.

## SIP Server Table

Create a new SIP Server Table and entry as shown below.

⚠ Use the **FQDN of the Lync pool** as shown.

Figure 2: SIP Server Table

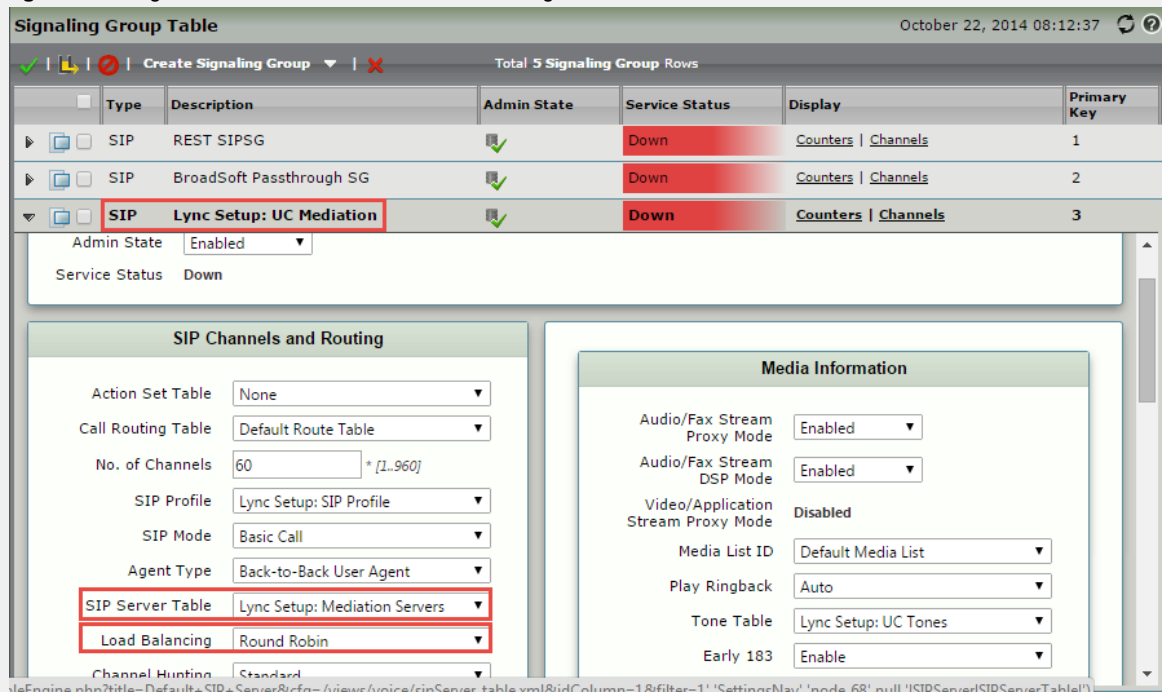
The screenshot shows the Sonus SBC 2000 configuration interface. The top navigation bar includes 'Monitor', 'Tasks', 'Settings', 'Diagnostics', and 'System'. The left sidebar shows a tree view with 'SIP' expanded, containing 'Local Registrars', 'Local / Pass-thru Auth Tables', 'SIP Profiles', 'SIP Server Tables', 'Default SIP Server', and 'Lync Setup: Mediation Servers'. The 'SIP Server Tables' and 'Lync Setup: Mediation Servers' items are highlighted with red boxes. The main content area displays 'Lync Setup: Mediation Servers' with a table showing one SIP Server Row. The table has columns for Host / Domain, Server Lookup, Port, Protocol, Display Counters, and Primary Key. The row contains the value 'cspool.mslync.com' in the Host / Domain column, 'IP/FQDN' in the Server Lookup column, '5067' in the Port column, 'TLS' in the Protocol column, 'Counters' in the Display Counters column, and '1' in the Primary Key column. The 'cspool.mslync.com' value is also highlighted with a red box.

Host / Domain	Server Lookup	Port	Protocol	Display Counters	Primary Key
cspool.mslync.com	IP/FQDN	5067	TLS	Counters	1

## Signaling Group

Create a new, or modify an existing, SIP Signaling Group and configure the SIP Server Table and Load Balancing options as shown below.

Figure 3: Configure SIP Server Table and Load Balancing



### Example of Round Robin Load Balancing

In the Sonus SBC 1000/2000 to Lync direction call scenarios in this setup, Sonus SBC 1000/2000 load balances outbound calls among the multiple IP addresses to which the FQDN resolves. The following screenshot depicts the multiple calls received by the Sonus SBC 1000/2000 and how they are sent to different Front End Servers in a round robin fashion.

Figure 4: Calls Received by Sonus SBC 1000/2000

```
..... CALL # 1 .....
[2011-06-09 16:19:02,667] com.net.u.x.sip DEBUG (CallSession.cpp:5009) - {SG(2):28 0x26b4b0 0x26b430 [1:0:0:0]} HandRecvCSeq: Received IE_CALLED_NUMBER +15105741111
[2011-06-09 16:19:02,667] com.net.u.x.sip DEBUG (sipSignalingGroupConfig.cpp:1372) - getHostAddress: getHostAddress 134.56.227.44:5067
[2011-06-09 16:19:02,667] com.net.u.x.sip DEBUG (sipSignalingGroupConfig.cpp:1271) - FindConnection: Found CONNECTION: 0x26c24379 Remote = 134.56.227.44:5067

[2011-06-09 16:19:02,686] com.net.u.x.sip INFO (Transaction.cpp:646) - 0x29e4c8 sending from [134.56.225.212]:24577 to [134.56.227.44:5067] 1019 bytes over OTLS5-24577 attempt(1) (if:0):
INVITE sip:+15105741111@cspool.mslync.com:5067;user-phone SIP/2.0
Allow: notify, options, Publish, Refer, Register, Subscribe, Info, update
call-id: call-35CA0A00-0000-0010-0c13-4
.....

..... CALL # 2 .....
[2011-06-09 16:20:05,467] com.net.u.x.sip DEBUG (CallSession.cpp:5009) - {SG(2):34 0x26d000 0x26ad60 [1:0:0:0]} HandRecvCSeq: Received IE_CALLED_NUMBER +15105741111
[2011-06-09 16:20:05,467] com.net.u.x.sip DEBUG (sipSignalingGroupConfig.cpp:1372) - getHostAddress: getHostAddress 134.56.227.41:5067
[2011-06-09 16:20:05,467] com.net.u.x.sip DEBUG (sipSignalingGroupConfig.cpp:1271) - FindConnection: Found CONNECTION: 0x26c24379 Remote = 134.56.227.41:5067

[2011-06-09 16:20:05,486] com.net.u.x.sip INFO (Transaction.cpp:646) - 0x2668c8 sending from [134.56.225.212]:24578 to [134.56.227.41:5067] 1019 bytes over OTLS6-24578 attempt(1) (if:0):
INVITE sip:+15105741111@cspool.mslync.com:5067;user-phone SIP/2.0
Allow: notify, options, Publish, Refer, Register, Subscribe, Info, update
call-id: call-A6F20C00-0000-0010-0c13-5
.....

..... CALL # 3 .....
[2011-06-09 16:21:10,867] com.net.u.x.sip DEBUG (CallSession.cpp:5009) - {SG(2):41 0x267438 0x267288 [1:0:0:0]} HandRecvCSeq: Received IE_CALLED_NUMBER +15105741111
[2011-06-09 16:21:10,867] com.net.u.x.sip DEBUG (sipSignalingGroupConfig.cpp:1372) - getHostAddress: getHostAddress 134.56.227.43:5067
[2011-06-09 16:21:10,867] com.net.u.x.sip DEBUG (sipSignalingGroupConfig.cpp:1271) - FindConnection: Found CONNECTION: 0x26c24379 Remote = 134.56.227.43:5067

[2011-06-09 16:21:10,886] com.net.u.x.sip INFO (Transaction.cpp:646) - 0x2741c8 sending from [134.56.225.212]:24579 to [134.56.227.43:5067] 1019 bytes over OTLS31-24579 attempt(1) (if:0):
INVITE sip:+15105741111@cspool.mslync.com:5067;user-phone SIP/2.0
Allow: notify, options, Publish, Refer, Register, Subscribe, Info, update
call-id: call-17180F00-0000-0010-0c13-6
.....

..... CALL # 4 .....
[2011-06-09 16:21:21,567] com.net.u.x.sip DEBUG (CallSession.cpp:5009) - {SG(2):49 0x2e4348 0x267c30 [2:0:0:0]} HandRecvCSeq: Received IE_CALLED_NUMBER +15105741111
[2011-06-09 16:21:21,567] com.net.u.x.sip DEBUG (sipSignalingGroupConfig.cpp:1372) - getHostAddress: getHostAddress 134.56.227.44:5067

[2011-06-09 16:21:21,692] com.net.u.x.sip INFO (Transaction.cpp:646) - 0x2e4c8 sending from [134.56.225.212]:24580 to [134.56.227.44:5067] 1021 bytes over OTLS84-24580 attempt(1) (if:0):
INVITE sip:+15105741111@cspool.mslync.com:5067;user-phone SIP/2.0
Allow: notify, options, Publish, Refer, Register, Subscribe, Info, update
call-id: call-88431100-0000-0010-0c13-7
.....

!!!!!!!!!!!! SO ON and SO FORTH..! !!!!!!!!!!!!!
```

**i** the load balancing also works if the multiple IP addresses are configured in same SIP Server Table instead of a FQDN. In other words, if IP addresses of 134.56.227.43, 134.56.227.41, and 134.56.227.44 are listed in the server table instead of cs pool.mylync.com, the load balancing still occurs in the outbound SIP Signaling Groups that use this server table.