

SIP Proxy Redundancy

If after reading the [SRST Application note](#) and the [SPA Phone Administration Guide SIP Proxy Redundancy](#) section, you find yourself needing additional help configuring redundant SIP proxies, then this application note is for you.

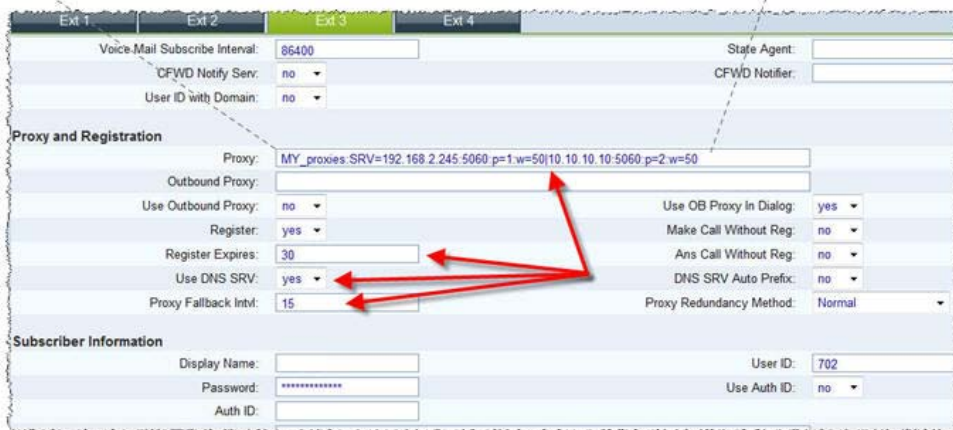
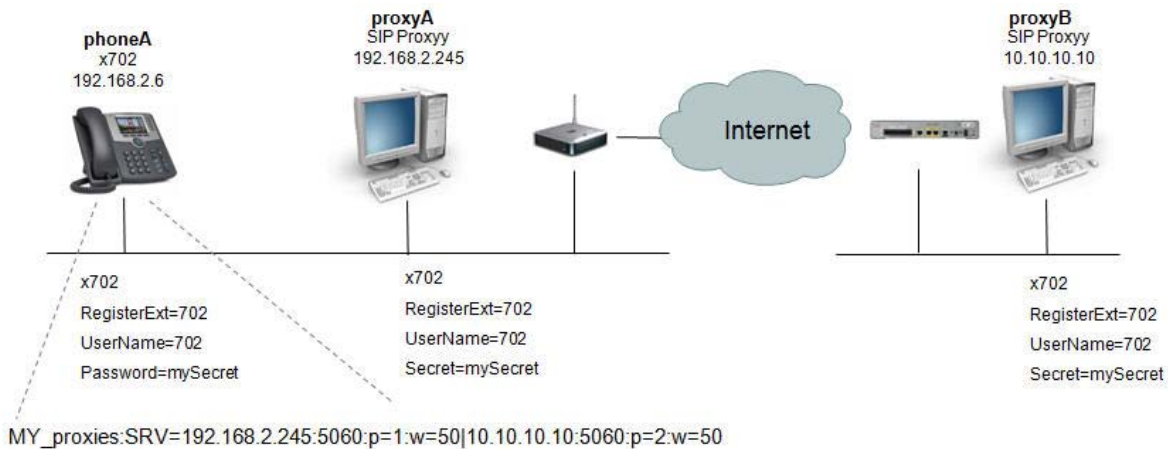
This Application Note describes how to configure SIP Proxy Redundancy on the Cisco SPA IP phones to provide resiliency in the event that the primary proxy or route to the primary proxy fails.

Scenario:

- PhoneA == 192.168.2.6 on ext702
- ProxyA == 192.168.2.245
- ProxyB == 10.10.10.10

Configuration Goal

PhoneA needs to be able to make calls in the event that the 2.245 proxy fails. A secondary proxy, 10.10.10.10 is available. The phone is configured to be aware of both proxies with 192.168.2.245 being primary, and 10.10.10.10 being secondary.



Configuring Redundant Proxies

If you are not interested in the details, this summary is what you need to do.

Each step is addressed in detail on the following pages.

1. Determine the IP address of the primary and secondary proxies
2. Verify that the phone can register successfully to each proxy [don't continue until you know that the phone can register to each proxy using the same credentials]
3. Configure the phone's Ext N tab > Proxy and Registration > Proxy: as follows:
 - a. **MY_proxies:SRV=192.168.2.245:5060:p=1:w=50 | 10.10.10.10:5060:p=2:w=50**
Where:
 - **My_proxies**—is an arbitrary name
 - **SRV=**—Implies a manual DNS SRV entry
 - **192.168.2.245:5060**—Defines the primary proxy and SIP registration port
 - **p=1**—Defines priority of the proxy, smaller numbers have higher priority
 - **w=50**—Defines the weight of the proxy, bigger numbers increase probability of being used. Refer to RFC2782 for additional information.
 - **|**—Separator character
 - **10.10.10.10:5060**—Defines the secondary proxy and SIP registration port
 - **p=2**—Defines this as the secondary proxy
 - b. Use DNS SRV: **yes**
 - c. Proxy Fallback Intvl: 15 [my example uses a short time for demonstration purposes default is 3600]
4. Submit All Changes on the phone.

Operational Overview

This section provides an overview of:

1. PhoneA registering and sending an INVITE while proxyA is operational.

No.	Time	Source	Destination	Protocol	Info
24	16:43:17.733498	192.168.2.6	192.168.2.245	SIP	Request: REGISTER sip:192.168.2.245
26	16:43:17.753685	192.168.2.245	192.168.2.6	SIP	Status: 200 OK (1 bindings)
62	16:43:49.933511	192.168.2.6	192.168.2.245	SIP/SDP	Request: INVITE sip:703@MY_proxies, with session description
63	16:43:49.934414	192.168.2.245	192.168.2.6	SIP	Status: 100 Trying
66	16:43:49.935986	192.168.2.245	192.168.2.6	SIP	Status: 180 Ringing

2. ProxyA failing [I suspended the proxy's process]

PhoneA still registered to ProxyA, now attempts to make the same call as earlier.

PhoneA determines that ProxyA is not responding so PhoneA registers to ProxyB and sends the INVITE.

The user experienced a short delay in the order of seconds before the target phone started ringing.

No.	Time	Source	Destination	Protocol	Info
100	16:44:22.945331	192.168.2.6	192.168.2.245	SIP/SDP	Request: INVITE sip:703@MY_proxies, with session description
102	16:44:26.834851	192.168.2.6	192.168.2.245	SIP	Request: REGISTER sip:MY_proxies
104	16:44:26.944989	192.168.2.6	192.168.2.245	SIP/SDP	Request: INVITE sip:703@MY_proxies, with session description

...

<many retries removed>

...

105	16:44:27.334441	192.168.2.6	192.168.2.245	SIP	Request: REGISTER sip:MY_proxies
118	16:44:35.540956	192.168.2.6	10.10.10.10	SIP/SDP	Request: INVITE sip:703@MY_proxies, with session description
119	16:44:35.624919	10.10.10.10	192.168.2.6	SIP	Status: 100 Trying
120	16:44:35.749864	10.10.10.10	192.168.2.6	SIP	Status: 180 Ringing

NOTE: Many details have been left out of the trace snippets, only relevant parts left in to demonstrate behavior.

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