Gateways Configuration

About

Small guide on how Gateways are configured in FreeSWITCH™.

Introduction

This has been a source of confusion for some, but it's really rather simple.

A bare-bones gateway setup for outbound calls with no username/pass (because you have ACL permission):

```xml
<include>
  <gateway name="provider">
    <param name="proxy" value="199.96.248.140"/>
    <param name="register" value="false"/>
    <param name="caller-id-in-from" value="true"/> <!--Most gateways seem to want this-->
    <param name="username" value="not-used"/>
    <param name="password" value="not-used"/>
  </gateway>
</include>
```

SIP gateways can be defined in the directory section _or_ the configuration section. In the default config, there are example gateways defined under the conf/sip_profiles/external/example.xml file, like so:
<include>

<!-- Shell provider account should work with most providers. -->

<user id="$$\{default_provider\}">

  <gateways>

    <gateway name="$$\{default_provider\}">
      <param name="username" value="$$\{default_provider_username\}"/>
      <param name="password" value="$$\{default_provider_password\}"/>
      <param name="from-user" value="$$\{default_provider_username\}"/>
      <param name="from-domain" value="$$\{default_provider_from_domain\}"/>
      <param name="expire-seconds" value="600"/>
      <param name="register" value="$$\{default_provider_register\}"/>
      <param name="retry-seconds" value="300"/>
      <param name="extension" value="$$\{default_provider_contact\}"/>
      <param name="contact-params" value="domain_name=$$\{domain\}"/>
    </gateway>

    <gateways>

    <params>
      <param name="password" value="$$\{default_provider_password\}"/>
    </params>

  </gateways>

</user>

</include>

and also in the user directory, conf/directory/default/example.com.xml as well as brian.xml
<include>
<!--
ipauth if you have an cidr= in the user attributes ie cidr="1.2.3.4/32"
see <node type="allow" domain="$$<domain>"/> in default acl.conf.xml
-->
<user id="brian" cidr="192.0.2.0/24">
  <!-- Outbound Registrations Related to this user -->
  <gateways>
    <!-- account username *required* -->
    <!-- auth realm: *optional* same as gateway name, if blank -->
    <param name="realm" value="asterlink.com"/>
    <param name="username" value="brian"/>
    <param name="from-user" value="brian"/>
    <param name="from-domain" value="asterlink.com"/>
    <param name="password" value="2007"/>
    <param name="caller-id-in-from" value="false"/>
    <param name="from-extension" value="cluecon"/>
    <param name="proxy" value="asterlink.com"/>
    <param name="register-proxy" value="mysbc.com"/>
    <param name="expire-seconds" value="60"/>
    <param name="register" value="false"/>
    <param name="register-transport" value="udp"/>
    <param name="retry-seconds" value="30"/>
    <param name="contact-params" value="tport=tcp"/>
    <param name="ping" value="25"/>
  </gateways>
  <params>
    <!-- omit password for authless registration -->
    <param name="password" value="$$<default_password>"/>
    <param name="vm-password" value="9999"/>%--if vm-password is omitted password param is used--
    <param name="email-addr" value="me@mydomain.com"/>
    <param name="vm-delete-file" value="true"/>
    <param name="vm-attach-file" value="true"/>
    <param name="vm-mailto" value="me@mydomain.com"/>
    <param name="vm-email-all-messages" value="true"/>
    <param name="a1-hash" value="c6440e5de50b403206989679159de89a"/>
    <param name="http-allowed-api" value="jsapi,voicemail,status"/>
  </params>
  <variables>
    <!-- all variables here will be set on all inbound calls that originate from this user -->
    <variable name="user_context" value="default"/>
    <variable name="effective_caller_id_name" value="Brian West"/>
    <variable name="effective_caller_id_number" value="1000"/>
    <variable name="process_cdr" value="true"/>
    <variable name="sip_secure_media" value="true"/>
    <variable name="rtp_secure_media" value="true"/>
    <variable name="process_cdr" value="true"/>
    <variable name="http-allowed-api" value="jsapi,voicemail,status"/>
    <variable name="rtp_secure_media" value="true"/>
    <variable name="http-allowed-api" value="jsapi,voicemail,status"/>
  </variables>
</user>
</include>
Clarification

So, why is it presented 3 different ways?

In a nutshell, the sip_profile declaration puts the gateway in the context of that sip_profile, insofar as when you stop/start/restart that sofia profile the gateway will stop/start/restart with it. In the second case, the default_provider example, the gateway comes up with the default directory (always). And in the final example, the gateway can be made to come up and down only when the user brian is registered.

Gateway Options

Params

Caller ID

If you want the caller ID to be in the "From:" which is CID type=none

<param name="caller-id-in-from" value="true"/>

Inbound Destination

By default, incoming calls on this gateway will go to the username.

If you want FreeSWITCH to respect the ${sip_to_user}, set the value to "auto_to_user". Be sure you have the context

<param name="extension" value="auto_to_user"/>

Registration

If this gateway is ONLY for outbound calling, then there's rarely a need to maintain a registration ahead of time.

<param name="register" value="false"/>
Variables

In addition to the parameters you can optionally set variables to set on either incoming or outgoing calls through this gateway. You set a direction, which sets it on both incoming and outgoing calls if omitted.

```xml
<gateway>
  ...params...
  <variables>
    <variable name="inbound_var_name" value="this is inbound" direction="inbound"/>
    <variable name="outbound_var_name" value="this is outbound" direction="outbound"/>
    <variable name="both_var_name" value="this on any direction"/>
  </variables>
</gateway>
```

IRC Discussions

So should gateways go in configuration or in directory?

This question was answered by anthm a while back on IRC, here is what he said:

```xml
<branchcut> me too ...
  <rpm> my gateway is defined in sofia.conf.xml not in directory.xml
  <branchcut> I'm kinda confused by the fact it can be defined in both places .. what's the difference?
  <anthm> enterprise vs shuttlecraft
  <[intra]lanman> lol
  <branchcut> heh
  <anthm> if you put them in a user tag in your directory you can then tell sofia to manage the whole domain and it will iterate all the users in that domain and reg the gateways
  <anthm> if you don't need that you can just put them in the sofia conf
</branchcut>
```

What I gather from this is that if you only want certain extensions to be registered with your voip provider when a specific user registers with free switch you should define gateways in the directory section rather than in the sofia configuration. Conversely, if you always want an extension registered with a provider you would define the gateway as part of the sip profile.

See Also

- Getting Started Guide
- Authentication