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Recipe

This example is from the samples included with FreeSWITCH.

```
<extension name="rtp_multicast_page">
  <condition field="destination_number" expression="^pagegroup$|^7243">
    <action application="answer"/>
    <action application="esf_page_group"/>
  </condition>
</extension>
```

The default ports used when no arguments are given to the `esf_page_group` application are:

```
multicast ip address: 224.168.168.168
multicast port: 34567
multicast control port: 6061
```

You can change the default multicast ip address and port with arguments to the `esf_page_group`. The first argument is for the multicast ip address, 2nd is the port to use, and the 3rd, if used, is the control packet port for Linksys devices. For example to change the multicast ip to 224.65.66.67 and port to 34564 use:

```
<action application="esf_page_group" data="224.65.66.67 34564"/>
```

If you get really bad feedback because another phone is too close to the one you're doing the paging from, try setting the `jitterbuffer_msec` variable to 500 or 1000 before the channel is answered

Network Setup

Linux

If running Linux, you need to have a multicast route added to the network interface that your phones are on. For instance, if eth0.5 is a vlan interface (vlan5) that FreeSWITCH is bound to and it has an IP address of 192.168.5.2, then the correct route to add would be the following:

```
ip route add 224.0.0.0/4 dev eth0.5 src 192.168.5.2
```

You must have the iproute2 package installed to have the 'ip' command available. The src option is very important. Without it the packets will come out eth0 and not on the vlan.

FreeBSD

When running FreeBSD, and if your FreeBSD box is only using one Ethernet interface you will notice that things will work out of the box with the dialplan entry above. This is because FreeBSD supports multicast host operations by default and there would be no need to configure a route since the default multicast route is via the interface with the default route.

In the case in which you have more than one interface, you will still notice that multicast packets will go out through the interface with the default route, and if you need to force traffic to go out through a different interface then you need to setup a route.

A simple static route will suffice:

```
freebsd_box#route add -host 224.168.168.168 192.168.1.X
```

So please don't be confused with Multicast routing which is not enabled by default on a GENERIC kernel since the case being described does not need to forward this traffic from one interface to another.

TTL

The TTL value of the multicast packets is 1, which prevents it from passing over to the next router in your network. This could be fixed in the code

Note: Latest SVN releases have been updated to allow TTL to be set as the fourth data argument.
Example `<action application="esf_page_group" data="224.65.66.67 34564 34565 45"/>` Where 45 is the TTL

Codec

The packets sent are **always** converted to ULAW (8khz) because some phones (snom for example) won't accept other codecs via multicast.

Related

- [Dialplan Recipes](#)