Routing setup guide

About

With the Mizu softswitch you can build sophisticated routing scenarios. The routing is usually based on traffic direction and time. Load balancing, LCR and BRS and failowering are available.

For the **inbound routing** usually there are no special settings. You just have to create one or more traffic sender users and set its authentication properly. On incoming call the mizu voip server will do the followings:
-firewalling, dos attack protection checks and other maintenance works
-caller authentication
-if there is a local enduser match, than the call will be routed to it (or call forwarding, voicemail, etc)
-otherwise the call is sent to another voip server based on the outbound routing rules.

The outbound routing is influenced by the followings:
-User settings (max lines settings is the most important here. All other settings –like user priority- should be avoided on user level because almost all routing pattern can be defined using the "Routing" form)
-Routing settings (pattern match and the destination priority list/pattern)
-Load balancing, LCR or BRS for the directions with the same priority
-All prioritization can be overwritten by failowering on bad statistics conditions

Step by Step setup

1. First you need one or more servers (other carriers) where you will route your traffic. These are called '**SIP Servers**' (or H323 gateway if you are using the H323 protocol)

SIP Servers can be created and configured in the MManage -> Users and Devices -> SIP Server: Click on the 'sipserver_template' -> click 'New User' button -> popup window: click 'Yes'.
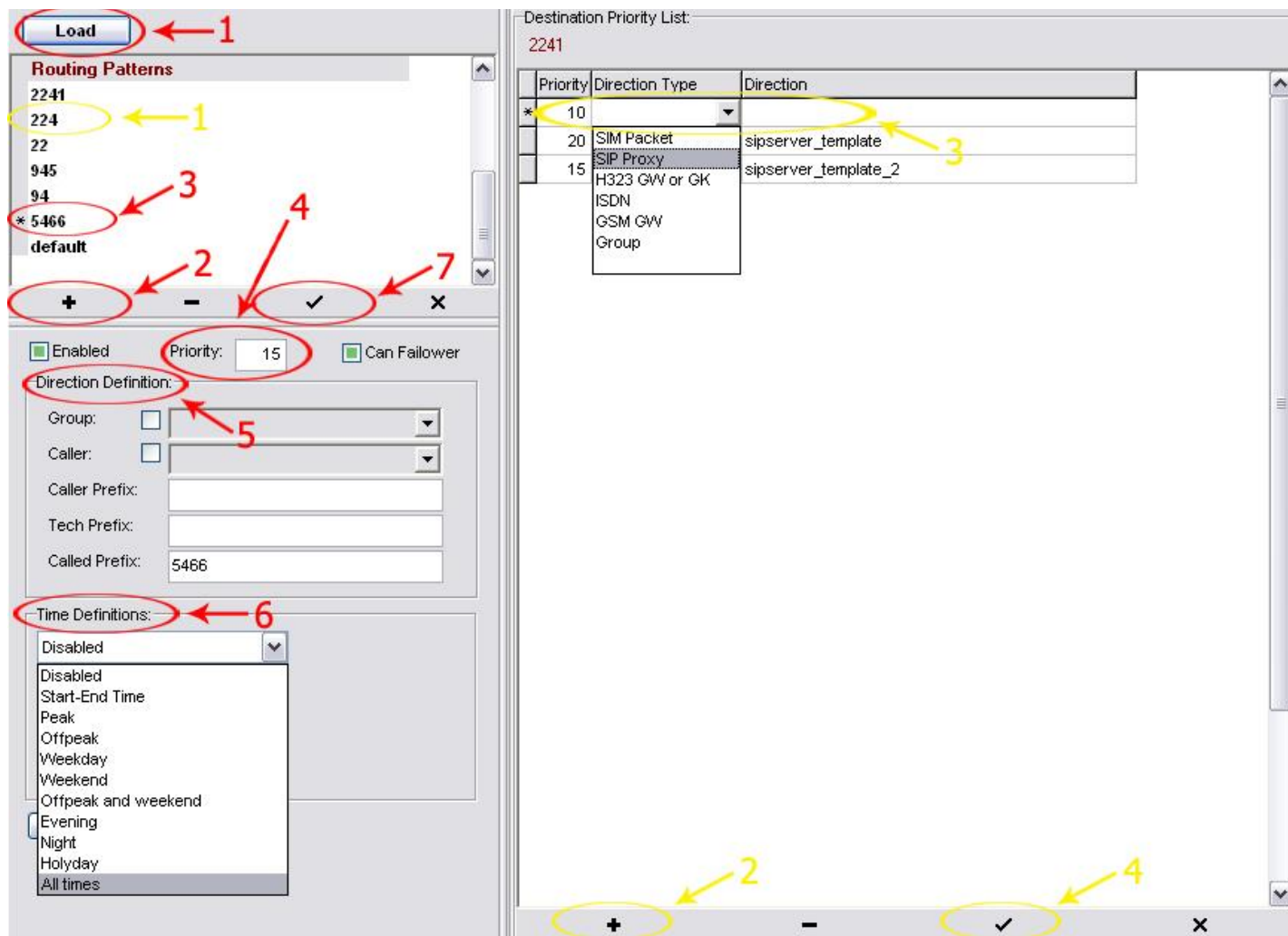
Now we have the new server in the 'edit' window, where we will configure it: fill in the 'Username' field accordingly and the most important, the 'IP' field, which is the address where the server will direct calls. This field can also contain a domain name instead of IP address. In most cases the rest of the settings are better to be left as they are. And finally save these settings.

2. When finished creating and configuring the SIP Servers, go to MManage -> Routing -> **Routing**.

On the left are the Routing Patterns and on the right the Destination Priority Lists. Every Routing Pattern has its own Destination Priority List.

When setting the priority for the routing patterns, for example if the routing is done by 'Called Prefix', then always assign higher priority to the 'longer ' prefix:

Ex. If we have three prefixes like: 2241, 224 and 22, assign the highest priority to 2241 and the second highest priority to 224 and the lowest to 22 between the three prefixes. If you would assign the highest priority to 22 between the three prefixes, then the other two patterns would have no sense, because the '22' pattern would route al called numbers with 2241 and 224 prefixes too.

1 – (re)load existing patterns
2 – click to add new pattern
3 – give it a suggestive name
4 – define its priority among the patterns
5 – set the direction definition; in our case it's the called prefix, but the direction could be: group, caller, caller prefix or tech prefix.
6 – set the time definition when the routing pattern is applied (in most cases 'All times')
7 – save this pattern

After a pattern is created, its destination priority list must be defined.

1 – select a pattern
2 – click to add a new destination
3 – set the Priority, Direction Type and Direction (most of the cases the direction type is 'SIP Proxy'. After you set this option, in the Direction field you can select from the SIP Servers created earlier.)
4 – click to save settings

Routing in the Priority List between servers can be done by setting different priorities(ex. 20, 15, 10…) or by setting same priority to all servers.

 If the priority in the list is the **same** for all servers, then the routing rule is defined by a global configuration option named 'brs_lcr'. This option can be set in the MManage -> Other-> Configurations.

Depending on the value of '**brs_lcr**' the routing rule is:

0 – Load balancing– in this case the Mizu server will try to send the same amount of traffic to each server

1 – only 'lcr' for not gsm ('lcr' = least cost routing – price lists most be set to work properly)

2 – lcr - least cost routing

3 – 'brs' for not gsm ('brs' = best route selection)

4 – brs - best route selection

5 – brs + lcr

To learn more about how the BRS works, open the BRS form and click on the "Show Demo" button.

The routing process can also be influenced by the **failowering** rules. If one route (SIP server) is set as failover, then its priority is lowered regardless of the routing priority. You can find the details about the failowering in the AdminGuide.

For more details use the Admin Guide or contact our support.

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