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# SIP Feature Server Deployment Guide

Configure Regional Voicemail Storage

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# Configure Regional Voicemail Storage

If any portion of your data center deployment lies in a geographic area where data is required to remain within that area, then you must configure regional restrictions on voicemail storage.

You can now comply with those restrictions by using replication options for regional voicemail keyspaces. With these options, Feature Server can specify that data storage and replication occur in data centers located in a particular region.

## Important

Do not use voicemail while you make these changes, to avoid errors.

### Cassandra-topology.properties file configuration

```
# Cassandra Node IP=Data Center:Rack
#Data Center One
999.999.99.99=us_west:RAC1
999.999.99.98=us_west:RAC2
#Data Center Two
999.999.99.97=us_east:RAC1
999.999.99.96=us_east:RAC2
#Data Center Three
999.999.99.95=eu_east:RAC1
999.999.99.94=eu_east:RAC2
#Data Center Four
999.999.99.93=eu_west:RAC1
999.999.99.92=eu_west:RAC2
# default for unknown nodes
default=us_west:RAC1
```

We'll continue to use us\_east and us\_west from the [Add a New Data Center example](#), (illustrated at left) and add two more for Europe: eu\_east and eu\_west. In this configuration:

- Voicemail messages that were processed in the U.S. data centers must be stored in the U.S., and those received in the European data centers must be stored in Europe.

- All voicemail messages must be accessible from any Feature Server nodes in the cluster, regardless of where the messages are physically stored.

This example satisfies the regional voicemail storage requirement by using separate and dedicated Cassandra keyspaces for storing voicemail messages. Your role is to configure the necessary replication options for those special keyspaces. You can follow these instructions, but substitute your installation's specifics (such as key space names) for the names used here.

```
#define keyspace name
regionalKeyspace = us_vm
regionalKeyspace = eu_vm

#number of replication options
regionalReplicationOptions = us_east=2,us_west=2
regionalReplicationOptions = eu_east=2,eu_west=2
```

The example continues. The general (global) keyspace contains these replication options:

```
us_east=2, us_west=2, eu_east=2, eu_west=2
```

Read below how to implement them.

- **regionalKeyspace** defines the keyspace name.  
Add these regional keyspace definitions to the TServer/Cassandra section in all Feature Servers of a region, to create two new regional keyspaces: us\_vm (which will hold voicemails for us\_east and us\_west) and eu\_vm (which will hold voicemails for eu\_east and eu\_west):  
regionalKeyspace = us\_vm  
  
and  
  
regionalKeyspace = eu\_vm
- **regionalReplicationOptions** defines the number of replication options.  
Add these replication option definitions to the TServer/Cassandra section of the master Feature Server and the confSync Feature Server of each region, to configure the number of replication options:  
regionalReplicationOptions = us\_east=2,us\_west=2  
  
and  
  
regionalReplicationOptions = eu\_east=2,eu\_west=2

### Important

You must set **regionalKeyspace** and **regionalReplicationOptions** when all the feature servers of a region are up and running, or before the first start of the feature servers.

- **replicationStrategyClassName** defines the replication strategy.  
Specify this option in TServer/Cassandra section of Confsync Feature Servers of each region before their first start, to set the replication strategy:  
`replicationStrategyClassName = NetworkTopologyStrategy`

Now, voicemail that is stored at particular location should be accessible from any Feature Server in a Cassandra cluster when all the Feature Servers in a particular region are down; then the voicemails stored in that region are not accessible by any Feature Server.