Distributed SIP clusters with OpenSIPS

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Founder OpenSIPS Project
OpenSIPS Solutions
Open

- GPL, Open Source project
- tens of contributors, community of tens of thousands
- used from SMB to enterprises and grade-carriers

SIP

- SIP RFC 3261 + tens of SIP extensions
- SBC, trunking, billing, ITSP, router, call center

S

- Server (registrar, proxy, LB, B2BUA, SIMPLE, NAT, apps)
- 12000 cps, millions of parallel calls and subscribers
- Programmable and flexible (scripting with > 100 modules)

OpenSIPS builds and glues SIP infrastructures.
OpenSIPS EcoSystem

More than just code:

- **OpenSIPS eBootcamp training**
  
  [http://ebootcamp.opensips.org](http://ebootcamp.opensips.org)

- **OpenSIPS Development training**
  
  [http://opensips.org/Training/DevelCourse](http://opensips.org/Training/DevelCourse)

- **OpenSIPS Security Alerts service**
  
  [http://opensips.org/Resources/AlertsMain](http://opensips.org/Resources/AlertsMain)
Cool stuff in OpenSIPS 1.8

- cache DB interface – cassandra, redis, memcached
- DNS caching
- Internal data sharing between instances
- RabbitMQ, LUA, HTTP integration
- enhanced SIP validation, complex SIP capturing
- more powerful dialog support
- Dynamic Routing – enhanced, added carriers
- GRUU support
- Troubleshooting support

→ www.opensips.org/Main/Var180
Distributing OpenSIPS in a cluster
Why distributing?

Geographical (coverage, QoS)
- Cover the map
- Best quality everywhere

Load (balancing, scaling)
- Millions of concurrent calls
- Tens of millions of subscribers

Redundancy (HA)
- Having a backup is a good idea
- For the 5 of nines you need more than 100%
Why distributing?
Multiple OpenSIPS instances to act as a whole by **sharing internal data** (calls, registration, counters, statistics) or **runtime external data** (limits, credits, caches)

=> cache DB support (Key-Value databases) to link everything together; modules using the cacheDB interface to communicate and share
OpenSIPS Cluster

CacheDB Cluster

OpenSIPS Nodes

Aug 6-9 Distributed SIP clusters with OpenSIPS - ClueCon 2012 Chicago, US
Demo time
Trunking - 2 active-active

**UAC1**
- 10 cps

**UAC2**
- 10 cps

**Redis Cluster**
- Shared CPS limit: 30 cps

**OpenSIPS**

**UAS**
Demo 2 – distributed LB

LB - 2 active-active

Shared dialog state →

UAC1
12 calls

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REDIS CLUSTER

UAS1
8 calls

UAC2
6 calls

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8 calls

12 calls

16 calls

6 calls

UAS2

Chicago, US
Demo 3 – shared credit

proxies - 2 active-active

UAC1
20 calls

UAC2
10 calls

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Shared credit limit → 3000

REDIS CLUSTER

OpenSIPS

UASs
Thank you for your attention
You can find out more at www.opensips.org
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www.opensips-solutions.com

Questions are welcome