Horizontally Scaling SIP2SIP.info

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AG Projects
Blink
SylkServer
MediaProxy
CDRTool
Active SIP accounts/month
SCALABILITY

Over 9000 reqs/sec!
Requests per second
Tickets per day
Steaks per week
Conferences per year
Resiliency

Fault tolerance

Maintenance

Downtime
SIPThor
Horizontally scalable
Self-Organizing
P2P
Network Overlay
Distributed
SIP Thor

Self-organizing SIP Infrastructure

Self-organizing
Horizontally scalable
Built-in disaster recovery
No single point of failure
Maintenance free

Multiple Roles
SIP Proxy/Registrar
RTP Media relay
Presence Agent
XCAP server
Voicemail server
Rating server
Provisioning server
WebRTC gateway
XMPP gateway

SIP User Agents
User agents need only RFC3263 support
(locating SIP services using DNS lookups)

Self-provisioned DNS

Dynamic updates

_node_0.example.com 0 1 proxy1
_node_0.example.com 0 1 proxy2
_node_0.example.com 0 1 proxy3
_node_0.example.com 0 1 proxy4
_node_0.example.com 0 1 proxy5
_node_0.example.com 0 1 proxy6
_node_0.example.com 0 1 proxy7

New nodes are provisioned with a valid TLS certificate to be accepted by the network

Node 1
Node 2
Node 3
Node 4
Node 5
Node 6
Node 7

Internet

RTP
SIP
NAT
NAT

DNS server
DNS server
DNS server

Bootstrap
DNS lookup

All nodes are in active mode, can be distributed in multiple datacenters and any of them can handle requests from any subscriber
$ dig NAPTR sip2sip.info

;; DiG 9.8.3-P1 ;; NAPTR sip2sip.info
;; global options: +cmd
;; Got answer:
;; HEADER opcode: QUERY, status: NOERROR, id: 13130
;; flags: qr rd ra; QUERY: 1, ANSWER: 3, AUTHORITY: 0, ADDITIONAL: 0

;; QUESTION SECTION:
sip2sip.info. IN NAPTR

;; ANSWER SECTION:
sip2sip.info. 3565 IN NAPTR 10 100 "s" "SIP+D2T" "_sip._tcp.sip2sip.info.
sip2sip.info. 3565 IN NAPTR 30 100 "s" "SIP+D2U" "_sip._udp.sip2sip.info.
sip2sip.info. 3565 IN NAPTR 5 100 "s" "SIPS+D2T" "_sips._tcp.sip2sip.info.

;; Query time: 25 msec
;; SERVER: 8.8.8.8#53(8.8.8.8)
;; WHEN: Tue May 10 00:33:23 2016
;; MSG SIZE rcvd: 185
dig SRV _sips._tcp.sip2sip.info

; <<>> DiG 9.8.3-P1 <<>> SRV _sips._tcp.sip2sip.info
;; global options: +cmd
;; Got answer:
;; ->>>HEADER<<- opcode: QUERY, status: NOERROR, id: 64689
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 0

;; QUESTION SECTION:
_sips._tcp.sip2sip.info. IN SRV

;; ANSWER SECTION:
_sips._tcp.sip2sip.info. 2677 IN SRV 100 100 443 proxy.sipthor.net.

Query time: 19 msec
SERVER: 8.8.8.8#53(8.8.8.8)
WHEN: Tue May 10 00:36:17 2016
MSG SIZE rcvd: 78
```bash
$ dig A proxy.sipthor.net

; <<>> DiG 9.8.3-P1 <<>> A proxy.sipthor.net
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 4863
;; flags: qr rd ra; QUERY: 1, ANSWER: 3, AUTHORITY: 0, ADDITIONAL: 0

;; QUESTION SECTION:
;proxy.sipthor.net.

;; ANSWER SECTION:
proxy.sipthor.net. 15 IN A 85.17.186.7
proxy.sipthor.net. 15 IN A 81.23.228.150
proxy.sipthor.net. 15 IN A 81.23.228.129

;; Query time: 16 msec
;; SERVER: 8.8.8.8#53(8.8.8.8)
;; WHEN: Tue May 10 00:38:25 2016
;; MSG SIZE  rcvd: 83
```
SIP Thor

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SIP User Agents

User agents need only RFC3263 support (locating SIP services using DNS lookups)
User Lookup
saghul@sip2sip.info

DHT_lookup(resource)

Node X
Distributed storage
Accounting
Registration expiring