

DNS SRV for TelePresence Video Communication Server

Presenter:

Date:

What is a DNS record?

- Consists of different record types
- Common used record types are A, AAAA, SRV

Record Type	Signaling Route
'A' (address record)	used to pass the IPv4 address for machines associated with the domain name
'AAAA' (address record)	used to pass the IPv6 address for machines associated with the domain name
'SRV' (service record)	used to provide multiple address records with weight, priority and IP port
'NAPTR' (service record)	Used to provide an ordered list of SRV records for different service types. In other words NAPTR records provide a mechanism for the called domain to specify the preference order of protocols for SIP, e-mail, etc. messaging to use.

Benefits of using DNS SRV record...

- **Redundancy**
Allows multiple VCS host IP addresses by using single SERVICE DNS host name.
- **Location awareness**
Allow to configure the DNS servers so that they return IP address priority / weighting based on host location.
- **Flexibility**
Allow to modify the IP address of VCS more flexible while using DNS record
- **Security**
FQDN (DNS name) of a device is used in certificates

DNS SRV record

- VCS support DNS SRV, RFC2782

`_Service._Protocol TTL Class SRV Priority Weight Port Target`

Parameter	Definition
Service	The symbolic name of the desired service (i.e. h323ls., sip., etc.)
Protocol	The symbolic name of the desired protocol (i.e. TCP, UDP, etc.)
Priority	Fields is used to provide a combination of load balancing and backup service. The priority of this target host. A client MUST attempt to contact the target host with the lowest-numbered priority it can reach; target hosts with the same priority SHOULD be tried in an order defined by the weight field.
Weight	Fields is used to provide a combination of load balancing and backup service. A server selection mechanism. The weight field specifies a relative weight for entries with the same priority. Larger weights SHOULD be given a proportionately higher probability of being selected. Weight 0 SHOULD be used when there isn't any server selection to do

DNS SRV record

- VCS support DNS SRV, RFC2782 (continue)

_Service._Protocol TTL Class SRV Priority Weight **Port** **Target**

Parameter	Definition
Port	The port on this target host of this service.
Target	The domain name of the target host. There MUST be one or more address records for this name

DNS SRV record

- Example of service type with protocol and port number

`_Service._Protocol` TTL Class SRV Priority Weight **Port** Target

Service	Protocol	Port	Definition
h323ls	UDP	1719	Location Service, entity supporting H.225.0 LRQ
H323rs	UDP	1719	Registration Service, entity supporting H.225.0 RRQ
H323cs	TCP	1720	Call Signaling, entity that performs H.225.0 call signaling
sip	UDP	5060	SIP signal over UDP
sip	TCP	5060	SIP signal over TCP
sips	TCP	5061	SIP / SIPS signal over TLS

Comparison of DNS SRV vs. DNS RoundRobin

- Endpoint controlled vs. server controlled
- Both support multiple records
- Challenge of DNS caching on RoundRobin

DNS Lookup from Cisco Products

- DNS lookup test function now support from Web GUI on VCS X7.0 release and TelePresence Conductor XC1.0 release.
- Support A Record, AAAA Record, SRV Record and NAPTR Record lookup

The screenshot displays the Cisco TelePresence Conductor Web GUI. The main interface shows a 'DNS lookup' section with a search bar containing 'tandberg.com' and a dropdown menu for 'Query type' set to 'All'. Below this is a table of results:

Query type	Name	TTL	Class	Type	Response
A	tandberg.com.	900	IN	A	69.20.64.85
SRV	_h323ls_udp.tandberg.com.	172800	IN	SRV	0 50 1719 emeagwvcs1.tandberg.com.
SRV	_h323ls_udp.tandberg.com.	172800	IN	SRV	0 50 1719 emeagwvcs2.tandberg.com.
SRV	_h323ls_udp.tandberg.com.	172800	IN	SRV	10 50 1719 nagwvcs1.tandberg.com.
SRV	_h323ls_udp.tandberg.com.	172800	IN	SRV	10 50 1719 nagwvcs2.tandberg.com.
SRV	_h323cs_tcp.tandberg.com.	172800	IN	SRV	0 50 1720 emeagwvcs1.tandberg.com.
SRV	_h323cs_tcp.tandberg.com.	172800	IN	SRV	10 50 1720 nagwvcs1.tandberg.com.
SRV	_h323cs_tcp.tandberg.com.	172800	IN	SRV	10 50 1720 nagwvcs2.tandberg.com.
SRV	_h323cs_tcp.tandberg.com.	172800	IN	SRV	0 50 1720 emeagwvcs1.tandberg.com.
SRV	_sips_tcp.tandberg.com.	172800	IN	SRV	10 50 5061 nagwvcs1.tandberg.com.
SRV	_sips_tcp.tandberg.com.	172800	IN	SRV	10 50 5061 nagwvcs2.tandberg.com.
SRV	_sips_tcp.tandberg.com.	172800	IN	SRV	0 50 5061 emeagwvcs1.tandberg.com.

A second screenshot shows a zoomed-in view of the 'DNS lookup' section with the search bar containing '_h323ls_udp.tandberg.com.' and the 'Query type' dropdown set to 'SRV (SIP and H323 servers)'. Below this is a table of results:

Query type	Name	TTL	Class	Type	Response
SRV	_h323ls_udp.tandberg.com.	172693	IN	SRV	0 50 1719 emeagwvcs1.tandberg.com.
SRV	_h323ls_udp.tandberg.com.	172693	IN	SRV	10 50 1719 nagwvcs2.tandberg.com.
SRV	_h323ls_udp.tandberg.com.	172693	IN	SRV	10 50 1719 nagwvcs1.tandberg.com.
SRV	_h323ls_udp.tandberg.com.	172693	IN	SRV	0 50 1719 emeagwvcs2.tandberg.com.

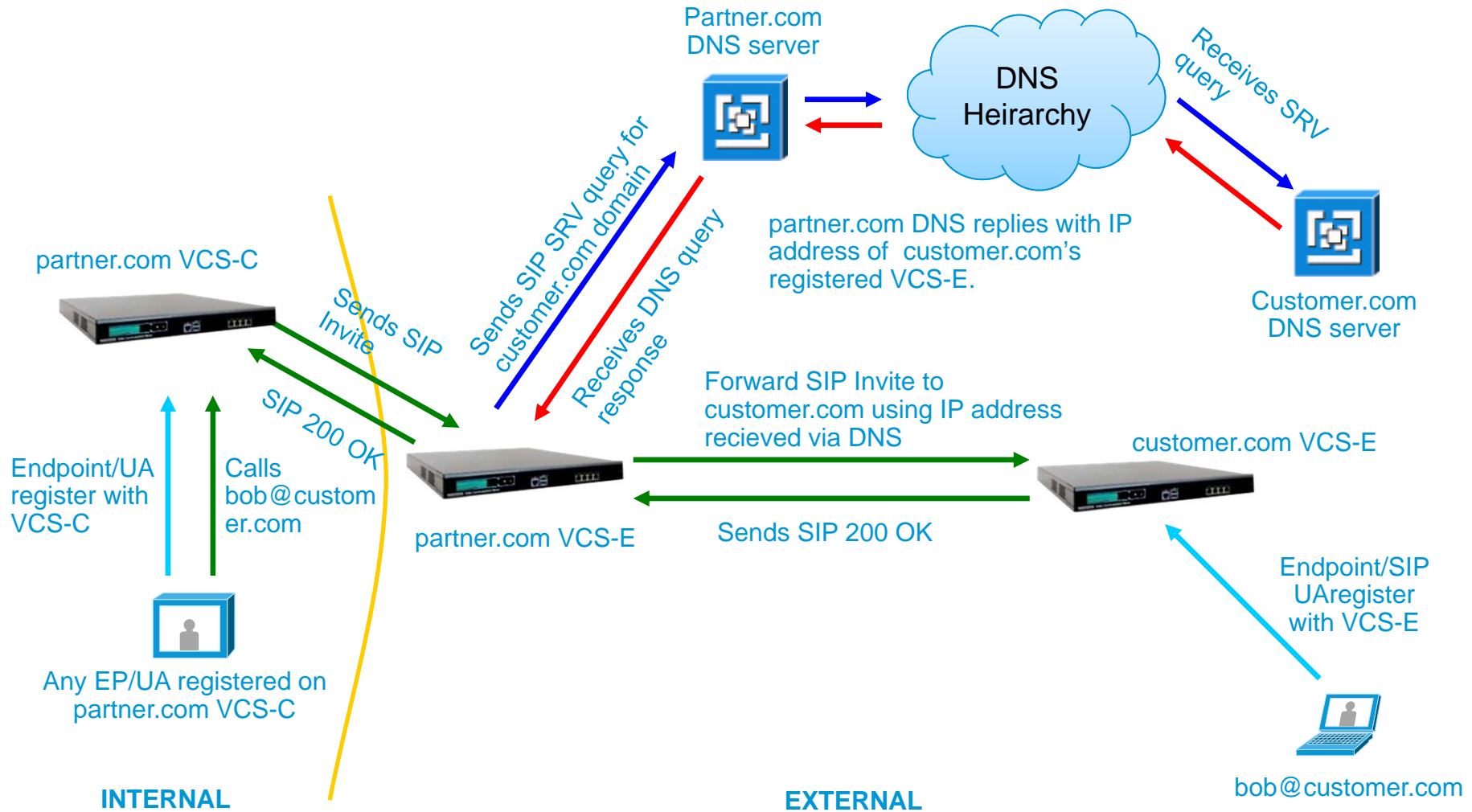
DNS Lookup by command line

- Example SRV record lookup by “nslookup” command

```
nslookup -querytype=srv_h323ls._udp.customer.com
_h323ls._udp.customer.com SRV service location:
  priority    = 0
  weight      = 0
  port        = 1719
  svr hostname = vcse1.customer.com
_h323ls._udp.customer.com SRV service location:
  priority    = 10
  weight      = 0
  port        = 1719
  svr hostname = vcse2.customer.com
```

```
nslookup -querytype=srv _sip._udp.customer.com
_sip._udp.customer.com SRV service location:
  priority    = 5
  weight      = 0
  port        = 5060
  svr hostname = vcssp.customer.com
_sip._udp.customer.com SRV service location:
  priority    = 10
  weight      = 0
  port        = 5060
  svr hostname = vcse1.csutomer.com
```

URI dialing with DNS - example with SIP call



Further reading

- www.cisco.com VCS Support
 - Read the release notes and administrator guide for any special instructions.
 - Read the cluster deployment guide.



Question?



