

如何配置 CSS 以负载均衡 DNS 服务器和使用 DNS 脚本保活

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简介

使用Cisco WebNS软件版本4.0和以上，客户有能力使用脚本Keepalive非标准或专门化的服务，例如域名系统(DNS)。

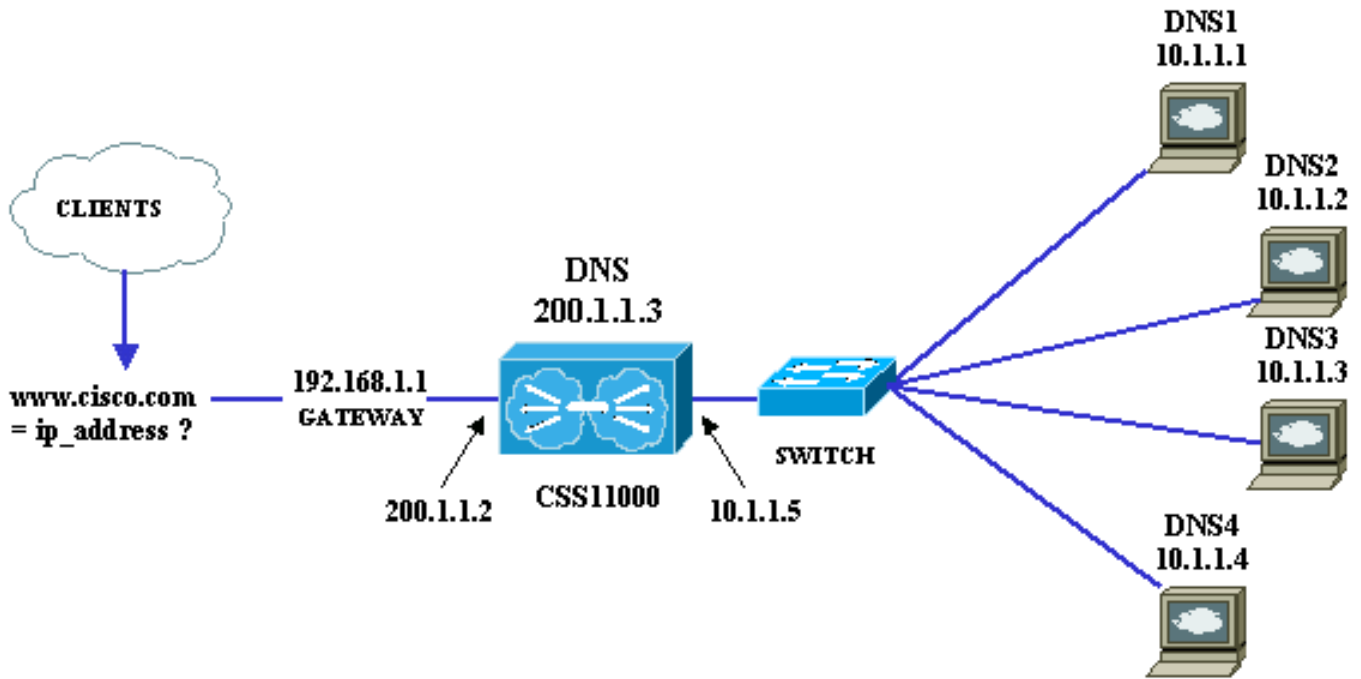
由于DNS查询是-基于的用户数据报协议(UDP)，您必须配置内容服务交换机(CSS)的源组，以便从DNS服务器的答复看上去来自查询最初被发送的同一个地址(很可能Virtual IP (VIP)地址)。当您激活此源组时，DNS脚本Keepalive比您最初发送请求的那个未起作用，因为对Keepalive查询的答复通过网络地址转换(NAT)，造成CSS收到从一个不同的IP地址的答复。

此配置使用下面软件和硬件版本开发并且被测试。

- 所有CSS平台(CSS 11000和CSS11500)
- Cisco WebNS软件版本5.0和以上(脚本Keepalive未被添加直到版本4.0)

本文档中的信息在特定实验室环境设备上创建。本文档中使用的所有设备最初均采用原始(默认)配置。如果在真实网络工作，请保证您了解所有on命令潜在影响使用它以前。

网络图



使用 DNS 脚本保活

提示为使用DNS脚本Keepalive :

- 对互联网域名系统根服务器的访问为DNS脚本Keepalive成功实施要求。
- 服务IP地址与DNS服务无关。所有地址可以被输入，并且不影响状态，然而，必须输入地址或"bad ip address "错误出现。
- 脚本的参数必须是IP地址或您要检查DNS服务器的主机名。它典型地是在服务配置的IP地址。
- 脚本硬编码解决www.cisco.com。不重要，如果DNS服务器能解析此地址或没有，只要DNS答复复原服务运行。此Keepalive只测试，如果DNS服务器能回应到查询，没有，如果能解析特定名称。从CSS的脚本查询到DNS内部服务器记录DNS服务器的可用性。

ap-kal-dns CSS脚本

```
!no echo
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
! Filename: ap-kal-dns
! Parameters: DNS_Server
!
! Description: !--- This script resolves a domain name from a specific DNS
!--- server. This builds a UDP packet based on RFC 1035 . !
! Failure Upon: !--- Not resolving the hosts's IP from the domain name.
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
if ${ARGS}[#] "NEQ" "1" echo
"Usage: ap-kal-dns \'Hostname\'" exit script 1 endbranch ! Defines: set HostName "${ARGS}[1]" !
Connect to the remote host set EXIT_MSG "Connection failed" socket connect host ${HostName} port
53 udp !--- This may require a little explanation. Since we just want to see
!--- if the DNS server is alive, we send a simple DNS Query. This
!--- query is hard-coded in hexadecimal and sent raw to the DNS server.
!--- The DNS request has a 12-byte header (as seen for the first 12 bytes
!--- of hex) and then a DNS name (for example, www.cisco.com).
!--- Lastly, it follows with some null termination and a few bytes
!--- representing query type. !--- See RFC 1035 for more information. set EXIT_MSG "Send:
failure" socket send ${SOCKET} "00020100000100000000000000377777057961686f6f03636f6d00000 10001"
raw !--- Receive an unexplained response, but it is not important because
!--- an unstable DNS server or a non-existent one would probably not send
```

```
!--- back any data at all. set EXIT_MSG "Receive: Failed to receive data" socket waitfor  
${SOCKET} "cisco" 4000 no set EXIT_MSG socket disconnect ${SOCKET} exit script 0
```

如果DNS服务器不能回应到查询，则需要创建与此逻辑的ACL：

- 从为CSS注定的其中一个来源的任何DNS服务器(电路虚拟LAN (VLAN) IP地址)绕过所有内容规则和源组。
- 从DNS服务器发出的其他流量通过已配置的源组。

配置

运行WebNS 4.01构建8的CSS 11150

```
!***** GLOBAL *****  
  
ip redundancy  
no restrict xml  
username predictive des-password xecchdhdhnglhueig5csfbe4fievhjg  
username admin des-password uezfqg6eoeic3e2d superuser  
acl enable  
ip route 0.0.0.0 0.0.0.0 200.1.1.1 1  
  
!***** INTERFACE *****  
  
interface ethernet-1  
bridge vlan 2  
phy 100Mbps-FD  
interface ethernet-2  
bridge vlan 3  
phy 100Mbps-FD  
  
!***** CIRCUIT *****  
  
circuit VLAN2  
redundancy  
ip address 10.1.1.5 255.255.255.0  
circuit VLAN3  
redundancy  
ip address 200.1.1.2 255.255.255.0  
  
!***** SERVICE *****  
  
service DNS1  
ip address 10.1.1.1  
keepalive type script ap-kal-dns "10.1.1.1"  
active  
service DNS2  
ip address 10.1.1.2  
keepalive type script ap-kal-dns "10.1.1.2"  
active  
service DNS3  
ip address 10.1.1.3  
keepalive type script ap-kal-dns "10.1.1.3"  
active  
service DNS4  
ip address 10.1.1.4  
keepalive type script ap-kal-dns "10.1.1.4"  
active  
service Router1  
ip address 200.1.1.1  
type redundancy-up
```

active

!***** OWNER *****

```
owner L3_Owner
content L3_Rule
vip address 200.1.1.3
add service DNS1
add service DNS2
add service DNS3
add service DNS4
active
```

!***** GROUP *****

```
group dns
vip address 200.1.1.3
active
```

!***** ACL *****

```
acl 20
clause 10 permit any any destination any
apply circuit-(VLAN3)
acl 10
clause 10 bypass any 10.1.1.1 255.255.255.255 destination 10.1.1.5 255.255.255.255
clause 20 bypass any 10.1.1.2 255.255.255.255 destination 10.1.1.5 255.255.255.255
clause 30 bypass any 10.1.1.3 255.255.255.255 destination 10.1.1.5 255.255.255.255
clause 40 bypass any 10.1.1.4 255.255.255.255 destination 10.1.1.5 255.255.255.255
clause 50 permit any 10.1.1.0 255.255.255.0 destination any sourcegroup dns
clause 60 permit any any destination any
apply circuit-(VLAN2)
```

show 命令的输出

show命令输出示例：

show Keepalive

```
52-css150-4# show keepalive Keepalives: Name: AUTO_nexthop00002 Index: 0 State: Alive
Description: Auto generated for service nexthop00002 Address: 200.1.1.1 Port: Any Type: ICMP
Frequency: 5 Max Failures: 3 Retry Frequency: 5 Dependent Services: nexthop00002 Name: AUTO_DNS1
Index: 1 State: Down Description: Auto generated for service DNS1 Address: 10.1.1.1 Port: Any
Type: SCRIPT ap-kal-dns Script Arguments: "10.1.1.1" Script Error: Script error in line: 41 !---
Note: This service has no access to root servers, which causes the error.
Script Run Time: 4 seconds Frequency: 5 Max Failures: 3 Retry Frequency: 5 Dependent Services:
DNS1 Name: AUTO_DNS3 Index: 2 State: Alive Description: Auto generated for service DNS3 Address:
10.1.1.3 Port: Any Type: SCRIPT ap-kal-dns Script Arguments: "10.1.1.3" Script Error: None !---
Note: This service has access to Internet root servers. Script Run Time: 0 seconds Frequency: 5
Max Failures: 3 Retry Frequency: 5 Dependent Services: DNS3 Name: AUTO_DNS4 Index: 3 State:
Alive Description: Auto generated for service DNS4 Address: 10.1.1.4 Port: Any Type: SCRIPT ap-
kal-dns Script Arguments: "10.1.1.4" Script Error: None Script Run Time: 0 seconds Frequency: 5
Max Failures: 3 Retry Frequency: 5 Dependent Services: DNS4 Name: AUTO_Router1 Index: 4 State:
Down Description: Auto generated for service Router1 Address: 200.1.1.1 Port: Any Type: ICMP
Frequency: 5 Max Failures: 3 Retry Frequency: 5 Dependent Services: Router1 Name: AUTO_DNS2
Index: 5 State: Down Description: Auto generated for service DNS2 Address: 10.1.1.2 Port: Any
Type: SCRIPT ap-kal-dns Script Arguments: "10.1.1.2" Script Error: Script error in line: 41
Script Run Time: 4 seconds Frequency: 5 Max Failures: 3 Retry Frequency: 5 Dependent Services:
DNS2 52-css150-4#
```

show keepalive-summary

```
52-css150-4# show keepalive-summary Keepalives: AUTO_nexthop00002 State: Alive 200.1.1.1
AUTO_DNS1 State: Down 10.1.1.1 AUTO_DNS3 State: Alive 10.1.1.3 AUTO_DNS4 State: Alive 10.1.1.4
AUTO_Router1 State: Down 200.1.1.1 AUTO_DNS2 State: Down 10.1.1.2
show service summary
```

```
52-css150# show service summary Service Name State Conn Weight Avg State Load Transitions
AUTO_DNS1 Down 0 1 2 0 AUTO_DNS3 Alive 0 1 2 1 AUTO_DNS4 Alive 0 1 255 1 AUTO_DNS2 Down 0 1 255
0
```

相关信息

- [视频、有线电视和内容交付产品支持](#)
- [技术支持和文档 - Cisco Systems](#)