

DNS Probes on the Content Switching Module Configuration Example

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Introduction

This document provides a sample configuration of DNS probes on the Content Switching Module (CSM). DNS probes are used to query DNS servers for specific domain names. DNS probes check the response against a preconfigured value to determine whether or not the CSM should continue to use the server.

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

The information in this document is based on the CSM version 3.x or higher .

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Conventions

For more information on document conventions, refer to the Cisco Technical Tips Conventions.

Configure

In this section, you are presented with the information to configure the features described in this document.

Note: To find additional information on the commands used in this document, use the Command Lookup Tool (registered customers only) .

Configurations

Content Switching Module

```
module ContentSwitchingModule 4
!
vlan 499 client
ip address 192.168.10.97 255.255.254.0
gateway 192.168.10.1
!
probe DNSTEST dns
name www.yahoo.com

!--- The probe is configured for the CSM to request the IP address
!--- associated with the domain name www.yahoo.com.

address 216.109.117.107

!--- The expected response is configured as 216.109.117.107.
!--- Multiple addresses can be entered. If the response matches any
!--- one of the configured address, the server is considered alive.

port 53

!--- Configuration of the DNS port is recommended, even if the default port
!--- of 53 is being used.

!
probe DNSTEST2 dns
name www.yahoo.com
address 216.109.117.107

!--- To demonstrate the importance of the port command, the same probe
!--- as above is used without the port.

!
serverfarm DNS1
nat server
no nat client
real 144.254.10.123
inservice
probe DNSTEST
!
serverfarm DNS2
nat server
no nat client
real 144.254.10.123
inservice
probe DNSTEST2

!--- This probe has a problem because the CSM cannot determine which port to use.

!
serverfarm DNS3
nat server
no nat client
real 144.254.10.123 53
inservice
```

```

probe DNSTEST2

!--- This is the same serverfarm as above, but now the CSM can determine which port
!--- to use, as specified in the real server definition.

!
vserver DNS1
  virtual 192.168.1.1 tcp 53
  serverfarm DNS1
  persistent rebalance
  inservice
!
vserver DNS2
  virtual 192.168.1.2 any
  serverfarm DNS2
  persistent rebalance
  inservice
!
vserver DNS3
  virtual 192.168.1.3 any
  serverfarm DNS3
  persistent rebalance
  inservice
!

```

Verify

This section provides information you can use to confirm your configuration is working properly.

- **show module csm slot probe name NAME detail**
- **show module csm slot real**

This demonstrates that the probe is functioning properly.

```

cpu0#sho mod csm 4 probe name dnstest det
probe          type    port  interval  retries  failed  open  receive
-----
DNSTEST        dns     53    120       3        300     10
DNS Info: www.yahoo.com
DNS Expected IP address:
  216.109.117.107
real          vserver  serverfarm  policy  status
-----
144.254.10.123:53  DNS1    DNS1        (default)  TESTING

```

As noted in the configuration, it is recommended that the DNS port be configured, even if the default port of 53 is used. This is due to the fact that the CSM does not use a default destination port for the DNS probes. If the CSM cannot determine the port, the probe is not enabled.

This command output is an example of what is displayed when the CSM fails to determine the destination port for the probe. Packets are not being sent. In this state, the CSM does not mark the service down, but instead stays operational; the problem might go undetected.

```

cpu0#sho mod csm 4 probe name dnstest2 det
probe          type    port  interval  retries  failed  open  receive
-----
DNSTEST2      dns     120   3         300     10
DNS Info: www.yahoo.com

```

```
DNS Expected IP address:
216.109.117.107
```

```
real                vserver            serverfarm         policy            status
-----
144.254.10.123:53   DNS3               DNS3               (default)        FAILED
144.254.10.123:0   DNS2               DNS2               (default)        ???
```

Also, notice that the probe DNSTEST2, when associated with serverfarm DNS2, has a status of ????. This is because the CSM failed to determine the destination port to use for sending the probes. In serverfarm DNS3, the real server port is specified; there were no problems running the probes.

```
cpu0#sho mod csm 4 real
```

```
real                server farm        weight  state            conns/hits
-----
144.254.10.123      DNS1               8       PROBE_FAILED     0
144.254.10.123      DNS2               8       OPERATIONAL      0
144.254.10.123:53  DNS3               8       PROBE_FAILED     0
```

When the probe fails to run (indicated by a status of ???), the real server remains operational.

Troubleshoot

There is currently no specific troubleshooting information available for this configuration.

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