

Table of Contents

<u>Configuring HTTP Redirection to Different Servers Using the Same Directories and Files</u>	1
<u>Document ID: 44125</u>	1
<u>Cisco has announced the end of sale for the Cisco LocalDirector. For more information, refer to the LocalDirector 400 Series End-of-Life and End-of-Sale Notices and Product Bulletins.</u>	1
<u>Introduction</u>	1
<u>Prerequisites</u>	2
<u>Requirements</u>	2
<u>Components Used</u>	2
<u>Network Diagram</u>	2
<u>Conventions</u>	3
<u>Configure HTTP Redirection to Different Servers Using the Same Directories and Files</u>	3
<u>Configuration</u>	4
<u>Verify</u>	5
<u>Troubleshoot</u>	5
<u>Troubleshooting Commands</u>	5
<u>Related Information</u>	8

Configuring HTTP Redirection to Different Servers Using the Same Directories and Files

Document ID: 44125

Cisco has announced the end of sale for the Cisco LocalDirector. For more information, refer to the LocalDirector 400 Series End-of-Life and End-of-Sale Notices and Product Bulletins.

Introduction

Prerequisites

- Requirements
- Components Used
- Network Diagram
- Conventions

Configure HTTP Redirection to Different Servers Using the Same Directories and Files

Configuration

Verify

Troubleshoot

- Troubleshooting Commands

Related Information

Introduction

HTTP redirection is a reliable method used to implement persistent or sticky connections. HTTP redirection also allows LocalDirector to perform effective load balancing for secure socket layer (SSL) and non-SSL connections, as well as for connections to an Internet Service Provider (ISP) that pass through a proxy server.

This document provides a sample configuration of HTTP redirection to two servers using the same directories and files.

These parameters are used in this configuration:

- An "A" record created for test.testdomain.com <-> 172.18.124.216 virtual IP (VIP)
- An "A" record created for ns-ms1-dip.testdomain.com <-> 172.18.124.208 direct IP (DIP)
- An "A" record created for ns-ms2-dip.testdomain.com <-> 172.18.124.209 DIP
- An "A" record created for ns-ms1.cisco.com <-> 172.18.124.207 real
- An "A" record created for ns-ms2.cisco.com <-> 172.18.124.206 real
- 172.18.124.209 DIP virtual address for 172.18.124.206 real (s2)
- 172.18.124.208 DIP virtual address for 172.18.124.207 real (s1)
- **url s2 http://ns-ms2-dip.testdomain.com/%p 302**
- **url s1 http://ns-ms1-dip.testdomain.com/%p 302**
- 24-bit subnet mask

There are some limitations related to port-bound VIP addresses, direct IP (DIP) addresses, and real server public IP addresses. You need two IP addresses for each real server for outbound connections to the real servers. The two IP addresses allow safe VIP addresses with resets (RSTs) sent for bad ports. They also allow other calls to the DIP addresses to pass by the true addresses using an alternate IP address for the DIP's virtual address.

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

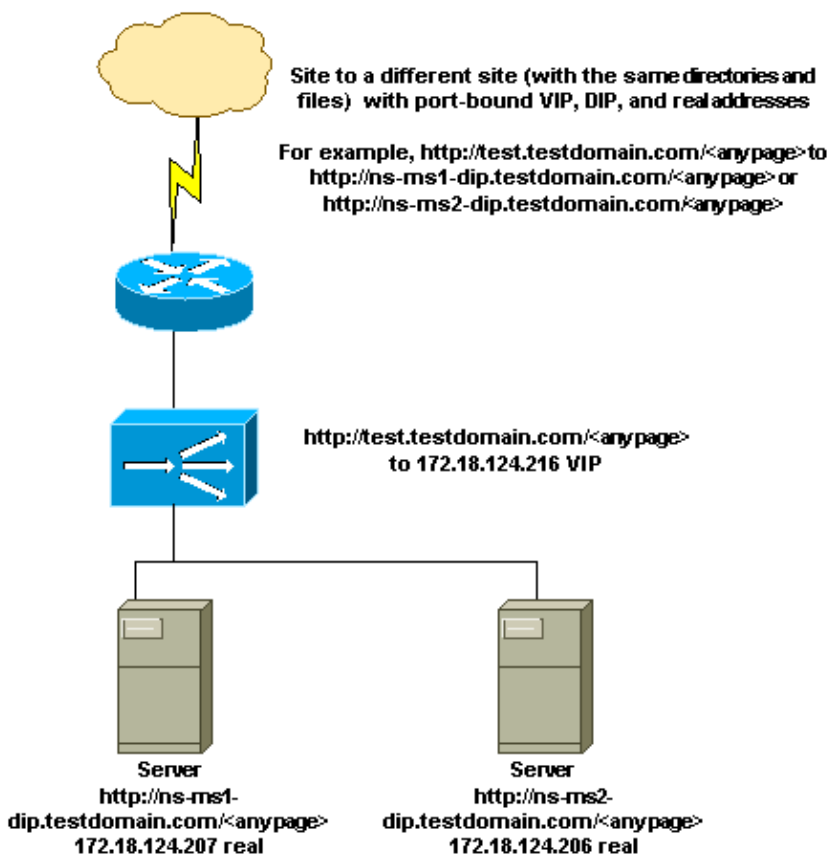
The information in this document is based on these software and hardware versions:

- LocalDirector 416
- LocalDirector Software Release 4.2.1
- Microsoft Internet Explorer 5.5
- Netscape Communicator 4.7

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.

Network Diagram

This document uses this network setup:



Conventions

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

Configure HTTP Redirection to Different Servers Using the Same Directories and Files

Use this procedure to configure HTTP redirection to different servers using the same directories and files.

1. Create a port-bound VIP address and enter it in the Domain Name System (DNS). For example:

```
virtual 172.18.124.216:80:0:tcp is
```

2. Create a DIP address for each real server that accepts calls for this VIP address. Use an extra IP address in the first part of the statement, as shown here:

```
direct-ip 172.18.124.209:80:0:tcp 172.18.124.206:80:0:tcp is
direct-ip 172.18.124.208:80:0:tcp 172.18.124.207:80:0:tcp is
```

The system creates this output:

```
real 172.18.124.207:80:0:tcp is
real 172.18.124.206:80:0:tcp is
bind 172.18.124.209:80:0:tcp 172.18.124.206:80:0:tcp
bind 172.18.124.208:80:0:tcp 172.18.124.207:80:0:tcp
```

3. Create a URL redirect for each real server.

These URLs are where the client is redirected when a VIP address is hit. For example:

```
url s2 http://ns-ms2-dip.cisco.com/%p
url s1 http://ns-ms1-dip.cisco.com/%p
```

4. Create a **backup** command for each DIP address to the common VIP address to solve potential bookmarking problems.

If a client bookmarks the URL of a DIP address and that DIP address (real server) is unavailable (FAILED), then the **backup** command is used to call the VIP address again.

```
backup 172.18.124.209:80:0:tcp 172.18.124.216:80:0:tcp
backup 172.18.124.208:80:0:tcp 172.18.124.216:80:0:tcp
```

Note: Secure Hypertext Transfer Protocol (HTTPS) redirection uses the **backup** command differently.

5. Bind the VIP address to each URL command. For example:

```
bind 172.18.124.216:80:0:tcp s2
bind 172.18.124.216:80:0:tcp s1
```

6. Create a **link** command for each URL to the first part of the DIP address.

This creates an association between the DIP address and the URLs associated with that nickname. The link ensures that LocalDirector does not redirect clients to a failed DIP address, which is mapped one-to-one with a real server. If a DIP address fails, do not redirect to the URL that sends a call to the failed DIP address.

```
link s2 172.18.124.209:80:0:tcp
link s1 172.18.124.208:80:0:tcp
```

Configuration

Cisco LocalDirector 416

```
!--- Configuration with syslog output 20.7 (debug level)
!--- and syslog console enabled:

LDIR-416(config)#syslog console
LDIR-416(config)#direct-ip 172.18.124.209:80:0:tcp 172.18.124.206:80:0:tcp is
LDIR-416(config)#direct-ip 172.18.124.208:80:0:tcp 172.18.124.207:80:0:tcp is

May 2 12:05:04 LD-NOTICE Real machine '172.18.124.206:80:0:tcp':
Newly created edited to In Service.
<165> May 2 12:05:04 LD-NOTICE Virtual machine '172.18.124.209:80:0:tcp':
Edited from Newly Created to In Service.
LDIR-416(config)#url s2 http://ns-ms2-dip.testdomain.com/%p 302
LDIR-416(config)#url s1 http://ns-ms1-dip.testdomain.com/%p 302
LDIR-416(config)#backup 172.18.124.209:80:0:tcp 172.18.124.216:80:0:tcp
LDIR-416(config)#backup 172.18.124.208:80:0:tcp 172.18.124.216:80:0:tcp

May 2 12:05:04 LD-NOTICE Real machine '172.18.124.207:80:0:tcp':
Newly created edited to In Service.
<165> May 2 12:05:04 LD-NOTICE Virtual machine '172.18.124.208:80:0:tcp':
Edited from Newly Created to In Service.
<165> May 2 12:05:04 LD-NOTICE Url 's2': Newly created edited to In Service.
<165> May 2 12:05:04 LD-NOTICE Url 's1': Newly created edited to In Service.
LDIR-416(config)#bind 172.18.124.216:80:0:tcp s2
LDIR-416(config)#bind 172.18.124.216:80:0:tcp s1
LDIR-416(config)#link s2 172.18.124.209:80:0:tcp
LDIR-416(config)#link s1 172.18.124.208:80:0:tcp
LDIR-416(config)#<162>May 2 12:05:04 LD-CRIT Switching
'172.18.124.216:80:0:tcp'from 'leastconns' to 'slowstart' show conf
: Saved
: LocalDirector 416 Version 4.2.1
syslog output 20.7
no syslog console
enable password dfeaf10390e560aea745ccba53e044 encrypted
hostname LDIR-416
no shutdown ethernet 0
no shutdown ethernet 1
shutdown ethernet 2
interface ethernet 0 auto
interface ethernet 1 auto
interface ethernet 2 auto
mtu 0 1500
mtu 1 1500
mtu 2 1500
multiring all
no secure 0
no secure 1
no secure 2
ping-allow 0
ping-allow 1
ping-allow 2
ip address 172.18.124.215 255.255.255.0
route 0.0.0.0 0.0.0.0 172.18.124.1 1
arp timeout 30
no rip passive
rip version 1
failover ip address 0.0.0.0
no failover
failover hellotime 30
```

```

password dfeaf10390e560aea745ccba53e044ed encrypted
telnet 172.18.124.0 255.255.255.0
telnet 64.0.0.0 255.0.0.0
snmp-server enable traps
snmp-server community public
no snmp-server contact
no snmp-server location
virtual 172.18.124.216:80:0:tcp is
real 172.18.124.206:80:0:tcp is
real 172.18.124.207:80:0:tcp is
direct-ip 172.18.124.208:80:0:tcp 172.18.124.207:80:0:tcp is
direct-ip 172.18.124.209:80:0:tcp 172.18.124.206:80:0:tcp is
url s1 http://ns-ms1-dip.testdomain.com/%p 302
url s2 http://ns-ms2-dip.testdomain.com/%p 302
backup 172.18.124.208:80:0:tcp 172.18.124.216:80:0:tcp
backup 172.18.124.209:80:0:tcp 172.18.124.216:80:0:tcp
bind 172.18.124.208:80:0:tcp 172.18.124.207:80:0:tcp
bind 172.18.124.209:80:0:tcp 172.18.124.206:80:0:tcp
bind 172.18.124.216:80:0:tcp s1
bind 172.18.124.216:80:0:tcp s2
link s1 172.18.124.208:80:0:tcp
link s2 172.18.124.209:80:0:tcp
LDIR-416#

```

Verify

There is currently no verification procedure available for this configuration.

Troubleshoot

This section provides information you can use to troubleshoot your configuration.

Troubleshooting Commands

Certain **show** commands are supported by the Output Interpreter Tool (registered customers only) , which allows you to view an analysis of **show** command output.

Note: Before issuing **debug** commands, please see Important Information on Debug Commands.

- **show real** Displays the real servers' statistics and states.
- **show virtual** Displays a list of virtual servers, their states, number of connections, and load-balancing algorithms.
- **show bind** Displays which real servers are bound to which virtual servers.
- **show connection** Displays the number of currently used, as well as the maximum used, proxy connection objects for content load balancing.
- **show statistics https** Displays HTTPS connection statistics.
- **show url** Displays connection information to the URLs.

This is the command output of the **show real** command.

```
LDIR-416(config)#show real
```

```
Real    Machines:
```

Machine	Connect	State	Thresh	Reassigns	Reassigns	Conns
				No Answer	TCP Reset	DataIn

```
(DIP) 172.18.124.207:80:0:tcp    0    IS    8    0    0    0
(DIP) 172.18.124.206:80:0:tcp    0    IS    8    0    0    0
```

This is the command output of the **show virtual** command.

```
LDIR-416(config)#show virtual
```

```
Machines:
```

Machine	Mode	State	Connect	Sticky	Predictor	Slowstart
(DIP) 172.18.124.209:80:0:tcp	directed	local	IS	0	0	leastconns r
(DIP) 172.18.124.208:80:0:tcp	directed	local	IS	0	0	leastconns r
172.18.124.216:80:0:tcp	directed	local	IS	0	0	leastconns r

This is the command output of the **show bind** command.

```
LDIR-416(config)#show bind
```

Virtual Machine(s)	Real Machines/Urls
(DIP) 172.18.124.209:80:0:tcp(IS)	
(DIP) 172.18.124.206:80:0:tcp(IS)	
(DIP) 172.18.124.208:80:0:tcp(IS)	
(DIP) 172.18.124.207:80:0:tcp(IS)	
	172.18.124.216:80:0:tcp(IS)
	s1(IS)
	s2(IS)

This is the command output of the **show connection** command.

```
LDIR-416(config)#show connection
```

Type	Currently Used	Max Used
Connections	0	3
Wildcards	6	10
Sticky	0	0
SSL Sticky	0	0
IP Frags	0	0
SSL Proxy	0	0
FTP Proxy	0	0
COOKIE Ins	0	0
COOKIE Pass	0	0

```

CLB Prox          0          0

HTTP Redir

Proxy             0          1

Total    Allocated = 40960 Total Allocatable = 135824

```

This is the command output of the **show statistics https** command.

```

LDIR-416(config)#show statistics https

                Real Machine(s)                Bytes      Packets    Connections

(DIP) 172.18.124.207:80:0:tcp                0           0           0
(DIP) 172.18.124.206:80:0:tcp                0           0           0

                Virtual Machine(s)            Bytes      Packets    Connections

(DIP) 172.18.124.209:80:0:tcp                0           0           0
(DIP) 172.18.124.208:80:0:tcp                0           0           0
                172.18.124.216:80:0:tcp        17949       161         10

LDIR-416(config)#

```

This is the command output of the **show url** command.

```

LDIR-416#show url
Urls:

      Id  Connect   Rcode  State      Url
      s1    0         302    IS    http://ns-ms1-dip.testdomain.com/%p
      s2    0         302    IS    http://ns-ms2-dip.testdomain.com/%p

```

This is sample output if you browse to <http://test.testdomain.com/page2.htm>, which redirects to <http://ns-ms2-dip.testdomain.com>, and use these troubleshooting commands.

If you use debugging commands:

```

LDIR-416#

<162> May 2 12:06:32 LD-CRIT   Switching '172.18.124.216:80:0:tcp'
      from 'slowstart' to 'leastconns'
<162> May 2 12:06:32 LD-CRIT   Switching '172.18.124.209:80:0:tcp'
      from 'slowstart' to 'leastconns'

LDIR-416#show dip
Direct IPs:

Virtual                Real                Conns  State  Predictor  Slowstart
172.18.124.208:80:0:tcp 172.18.124.207:80:0:tcp 0      IS    leastconns roundrobin*
172.18.124.209:80:0:tcp 172.18.124.206:80:0:tcp 1      IS    leastconns* roundrobin

LDIR-416#show virtual
Machines:

Machine                Mode                State  Connect  Sticky  Predictor  Slowstart
(DIP) 172.18.124.208:80:0:tcp directed local    IS       0       0      leastconns roundrobin
(DIP) 172.18.124.209:80:0:tcp directed local    IS       1       0      leastconns* roundrobin
      172.18.124.216:80:0:tcp directed local    IS       0       0      leastconns* roundrobin

```

These are sample outputs if you browse to <http://test.testdomain.com/page2.htm>, which redirects to <http://ns-ms1-dip.testdomain.com>, and use these troubleshooting commands.

```
LDIR-416# show url
Urls:
```

```
Id Connect Rcode State Url
s1 1          302   IS   http://ns-ms1-dip.testdomain.com/%p
s2 0          302   IS   http://ns-ms2-dip.testdomain.com/%p
```

```
LDIR-416# show statistics
```

```
Real Machine(s) Bytes Packets Connections
(DIP) 172.18.124.206:80:0:tcp 2077      8          2
(DIP) 172.18.124.207:80:0:tcp 2224      8          2
```

```
Virtual Machine(s) Bytes Packets Connections
(DIP) 172.18.124.208:80:0:tcp 2224      8          1
(DIP) 172.18.124.209:80:0:tcp 2077      8          1
      172.18.124.216:80:0:tcp 4101     42         4
```

```
LDIR-416# show virtual
Machines:
```

```
Machine Mode State Connect Sticky Predictor Slowstart
(DIP) 172.18.124.208:80:0:tcp directed local IS 1 0 leastconns* roundrobin
(DIP) 172.18.124.209:80:0:tcp directed local IS 0 0 leastconns* roundrobin
      172.18.124.216:80:0:tcp directed local IS 0 0 leastconns*
```

```
LDIR-416# show dip
Direct IPs:
```

```
Virtual Real Conns State Predictor Slowstart
172.18.124.208:80:0:tcp 172.18.124.207:80:0:tcp 1 IS leastconns* roundrobin
172.18.124.209:80:0:tcp 172.18.124.206:80:0:tcp 0 IS leastconns* roundrobin
```

Related Information

- [Cisco LocalDirector 400 Series End-of-Sales and End-of-Life Announcement](#)
- [Cisco LocalDirector 400 Series Product Bulletins](#)
- [HTTP Redirection Setup](#)
- [Cisco LocalDirector Documentation](#)
- [Product Support Pages Local Director 400 Series Content Switches](#)
- [Technical Support – Cisco Systems](#)

All contents are Copyright © 1992–2005 Cisco Systems, Inc. All rights reserved. Important Notices and Privacy Statement.

Updated: Jan 11, 2005

Document ID: 44125
