

## Chapter 20

# Configuring Traffic Redirection with the SRC CLI

This chapter describes how use the SRC CLI to configure the redirect server for a C-series platform. Topics include:

- Configuration Statements for the Redirect Server on page 350
- Before You Configure the Redirect Server on a C-Series System on page 351
- Configuring the Redirect Server on page 351
- Configuring General Properties for the Redirect Server on page 352
- Configuring a Connection Between the Redirect Server and the Directory on page 353
- Defining Traffic to Transmit to the Redirect Server on page 354
- Changing the Number of Requests That the Redirect Server Accepts on page 354
- Specifying Extensions for Files That the Redirect Server Accepts on page 356
- Verifying Configuration for the Redirect Server on page 357
- Configuring the DNS Server for the Redirect Server on page 357
- Configuring the Redirect Server to Support HTTP Proxies on page 358
- Configuring a Redundant Redirect Server on page 359
- Configuring Logging for the Redirect Server on page 360
- Changing the Configuration for the Redirect Server on page 361
- Assessing Load for Redirect Server on page 361

For information about the redirect server, including information about what you should do before using the redirect server, see *Chapter 19, Redirecting Subscriber Traffic*.

## Configuration Statements for the Redirect Server

---

Use the following configuration statements to configure the redirect server at the [edit] hierarchy level.

```

redirect-server {
    tcp-port tcp-port;
    destination-url destination-url;
    proxy-support;
    proxy-destination-url proxy-destination-url;
    refresh;
    request-rate request-rate;
    request-burst-size request-burst-size;
    client-rate client-rate;
    client-burst-size client-burst-size;
    check-file-extensions;
    file-extensions file-extensions;
    redundancy;
}

redirect-server ip-redirect{
    interface interface;
    port port;
}

redirect-server ldap {
    url url;
    bind-dn bind-dn;
    bind-password bind-password;
    base-dn base-dn;
}

redirect-server dns {
    enable;
    tcp-port tcp-port;
    udp-port udp-port;
    forwarder forwarder;
    error-ip-address error-ip-address;
}

redirect-server monitor {
    redundant-host-ip-address redundant-host-ip-address;
    virtual-ip-address virtual-ip-address;
    real-ip-address real-ip-address;
    primary-server;
    check-interval check-interval;
    virtual-routers virtual-routers;
}

```

For detailed information about each configuration statement, see the *SRC-PE CLI Command Reference*.

## Before You Configure the Redirect Server on a C-Series System

---

Before you configure the redirect server on a C-series platform:

- Configure policies on a B-RAS to define which traffic to send to the redirect server; typically, a next-hop policy specifies a destination address that is the virtual IP address of the active redirect server.
- If you plan to configure a redundant redirect server, make sure that you are familiar with the network configuration required.

See *Chapter 19, Redirecting Subscriber Traffic*.

## Configuring the Redirect Server

---

The redirect server on a C-series platform manages IP layer redirection.

To configure the redirect server:

1. Configure general properties for the redirect server.

See *Configuring General Properties for the Redirect Server* on page 352.

2. Configure a connection from the redirect server to the directory.

See *Configuring a Connection Between the Redirect Server and the Directory* on page 353.

3. (Optional) Define traffic to be forwarded to the redirect server. In most cases you can accept the default values—traffic destined for port 80 (Web requests) and forwarded from all interface on a C-series platform.

See *Defining Traffic to Transmit to the Redirect Server* on page 354.

4. (Optional) Configure the number of requests that the redirect server accepts.

See *Changing the Number of Requests That the Redirect Server Accepts* on page 354.

5. (Optional) Configure the types of files for which the redirect server accepts requests.

See *Specifying Extensions for Files That the Redirect Server Accepts* on page 356.

6. (Optional) For a configuration to support HTTP proxies, configure DNS. You can configure the DNS server included with the redirect server, or another DNS server on your network. If you use another DNS server, you do not need to configure the DNS server included with the redirect server.

For information about configuring the DNS server included with the redirect server, see *Configuring the DNS Server for the Redirect Server* on page 357.

7. (Optional) Configure support for HTTP proxies.

See *Verifying Configuration for the Redirect Server* on page 357.

8. (Optional) Configure a redundant redirect server.

See *Configuring a Redundant Redirect Server* on page 359.

## Configuring General Properties for the Redirect Server

---

Use the following configuration statements to configure general properties for the redirect server:

```
redirect-server {
    destination-url destination-url;
    tcp-port tcp-port;
    refresh;
}
```

To configure properties for the redirect server:

1. From configuration mode, access the configuration statement that configures the redirect server.

```
user@host# edit redirect-server
```

2. Specify the URL to which to send subscriber traffic.

```
[edit redirect-server]
user@host# set destination-url destination-url
```

3. (Optional) Specify the TCP port on which the redirect server listens for requests.

```
[edit redirect-server]
user@host# set tcp-port tcp-port
```

4. (Optional) Specify whether the redirect server sends an HTTP 200 OK response with an HTML document that includes the < HTTP-Equiv = "Refresh" > header to a subscriber's browser in response to a captured request.

```
[edit redirect-server]
user@host# set refresh
```

If you do not use the **refresh** option, the redirect server sends an HTTP 302 Found response to a subscriber's browser in response to a captured request.

By setting the refresh option, the load on the Web server is decreased because non-browser (or non-HTML) client applications that use HTTP do not follow this refresh message; however, most client applications do follow HTTP 302 messages.

## Configuring a Connection Between the Redirect Server and the Directory

Use the following configuration statements to configure a connection between the redirect server and the directory:

```
redirect-server ldap {
    url url;
    bind-dn bind-dn;
    bind-password bind-password;
    base-dn base-dn;
}
```

To configure a connection between the redirect server and the directory:

1. From configuration mode, access the configuration statement that configures the connection.

```
user@host# edit redirect-server ldap
```

2. List the URLs for directories employed by the redirect server.

```
[edit redirect-server ldap]
user@host# set url url
```

For each URL, use the format:

```
ldap:// <host> : <portNumber>
```

where <host> is the IP address or hostname of the directory host and <portNumber> is the TCP port

3. Specify the DN that the redirect server uses to authorize connections to the directory.

```
[edit redirect-server ldap]
user@host# set bind-dn bind-dn
```

The DN must have authorization to read from *o = network*, *o = umc* in the directory.

4. Specify the password that the redirect server uses to bind to the directory.

```
[edit redirect-server ldap]
user@host# set bind-password bind-password
```

5. Specify the base DN that is the root of the directory tree.

```
[edit redirect-server ldap]
user@host# set base-dn base-dn
```

## Defining Traffic to Transmit to the Redirect Server

---

You can define traffic to be forwarded to the redirect server by identifying the destination port number (typically, port 80 for Web requests) for packets and the physical interface on a C-series system from which subscriber traffic is forwarded to the redirect server. In most cases you can accept the default values for configuration for IP redirection. If you do not specify an interface, traffic is accepted on all interfaces.

Use the following configuration statements to define traffic to transmit to redirect server:

```
redirect-server ip-redirect{
  interface interface;
  port port;
}
```

To change the values of the port for traffic and/or the C-series interface on which traffic is forwarded to the redirect server:

1. From configuration mode, access the configuration statement that configures IP redirection for the redirect server.

```
user@host# edit redirect-server ip-redirect
```

2. Specify one or more interfaces on which subscriber traffic is forwarded from the B-RAS to the C-series platform.

```
[edit redirect-server ip-redirect]
user@host# interface interface
```

If you do not specify an interface, the C-series platform system accepts traffic from all interfaces.

3. Specify the TCP port of the redirected traffic. If you do not specify a port, the redirect server uses port 80 (HTTP).

```
[edit redirect-server ip-redirect]
user@host# port port
```

## Changing the Number of Requests That the Redirect Server Accepts

---

If you want to change the number of redirection requests that the redirect server accepts, change the values for the request rates and the client rates.

Use the following configuration statements to configure the number of requests that the redirect server accepts:

```
redirect-server {
    request-rate request-rate;
    request-burst-size request-burst-size;
    client-rate client-rate;
    client-burst-size client-burst-size;
}
```

To configure the number of redirection requests that the redirect server can accept:

1. From configuration mode, access the configuration statement that configures the redirect server.

```
user@host# edit redirect-server
```

2. Specify the number of requests that the redirect server can accept per minute from all clients (global sustained rate).

```
[edit redirect-server]
user@host# set request-rate request-rate
```

3. Specify the maximum number of requests that the redirect server can accept from all clients (burst size).

```
[edit redirect-server]
user@host# set request-burst-size request-burst-size
```

This value should exceed the value for the request rate. If the value for the request rate exceeds this value, the redirect server drops the excess requests.

4. Specify the number of requests that the redirect server can accept per minute for a single client (per-client sustained rate).

```
[edit redirect-server]
user@host# set client-rate client-rate
```

5. Specify the maximum number of requests that the redirect server can accept for a single client (per client burst size).

```
[edit redirect-server]
user@host# set client-burst-size client-burst-size
```

This value should exceed the value for the client rate.

## Specifying Extensions for Files That the Redirect Server Accepts

---

If you do not specify the types of files that the redirect server accepts, the redirect server accepts all file types. You can identify file types by specifying the file extensions for the files that the redirect server is to accept.

Use the following configuration statements to configure the file extensions that the redirect server accepts:

```
redirect-server {
    check-file-extensions;
    file-extensions file-extensions;
}
```

To specify the extensions for the types of files accepted by the redirect server:

1. From configuration mode, access the configuration statement that configures the redirect server.

```
user@host# edit redirect-server
```

2. Specify whether the redirect server should accept only URLs that point to files that have standard file extensions— < empty > , .asp, .htm, .html, .jsp, .php, .shml, .shtml, and .xml.

```
[edit redirect-server]
user@host# set check-file-extensions
```

If you enable `check-file-extensions` and the file does not have a standard file extension, the redirect server returns an HTTP 403 Forbidden message.

3. List file extensions to augment the standard file extensions configured in Step 3. Precede each extension with a period. Make sure that you specify the correct case for each character; entries are case-sensitive.

```
[edit redirect-server]
user@host# set file-extensions file-extensions
```

Separate each file extensions by a comma. For example:

```
set file-extensions .cgi,.aspx
```



## Verifying Configuration for the Redirect Server

---

To verify the configuration for redirect server:

- At the [edit redirect-server] hierarchy level, enter the show command:

```
[edit redirect-server]
user@host# show
tcp-port 8800;
destination-url ;
refresh;
refresh-document etc/refresh.html;
user-name nobody;
request-rate 12000;
request-burst-size 18000;
client-rate 25;
client-burst-size 50;
```

For information about monitoring redirect server, see *SRC-PE Monitoring and Troubleshooting Guide, Chapter 9, Monitoring Redirect Server with the SDX CLI*.

## Configuring the DNS Server for the Redirect Server

---

A DNS server is required to support HTTP proxies to resolve the name of any HTTP proxy, even if the name is valid only in the private domain of the client. You can use an external DNS or the DNS server that is included with the redirect server for this purpose.

If you plan to use an external DNS server, you can skip this section. This section describes how to configure the DNS server that is included with the redirect server.

Use the following configuration statements to configure the DNS server that is included with the redirect server:

```
redirect-server dns {
  enable;
  tcp-port tcp-port;
  udp-port udp-port;
  forwarder forwarder;
  error-ip-address error-ip-address;
}
```

To configure DNS for the redirect server that is included with the redirect server:

1. From configuration mode, access the configuration statement that configures DNS for the redirect server.

```
user@host# edit redirect-server dns
```

2. Enable DNS for the redirect server.

```
[edit redirect-server dns]
user@host# set enable
```

3. Specify the TCP port on which the DNS server listens:

If you set the value to 0, no TCP socket is opened.

```
[edit redirect-server dns]
user@host# set tcp-port tcp-port
```

4. Specify the UDP port on which the DNS server listens.

```
[edit redirect-server dns]
user@host# set udp-port udp-port
```

5. Specify the IP addresses of DNS servers to which resolution requests are forwarded; use commas to separate addresses, but do not add a space after the comma.

```
[edit redirect-server dns]
user@host# set forwarder forwarder
```

For example:

```
[edit redirect-server dns]
user@host# set forwarder 192.0.2.24,192.0.4.25
```

If you do not specify DNS servers, DNS resolves incoming requests by using the normal DNS method.

6. Specify the IP address that is returned when a DNS request results in an unknown name (NXDOMAIN) error.

```
[edit redirect-server dns]
user@host# set error-ip-address error-ip-address
```

## Configuring the Redirect Server to Support HTTP Proxies

---

Support for proxy requests is an optional feature of the redirect server. If you configure proxy support, you must also have DNS configured. You can use DNS servers already installed on your network, or use the server included with the SRC software.

For information about configuring the DNS server included with the SRC software, see *Configuring the DNS Server for the Redirect Server* on page 357.

Use the following configuration statements to configure the redirect server to support HTTP proxies:

```
redirect-server {
  proxy-support;
  proxy-destination-url proxy-destination-url;
}
```

To configure the redirect server to support HTTP proxies:

1. From configuration mode, access the configuration statement that configures the redirect server.

```
user@host# edit redirect-server
```

2. Enable HTTP proxy support.

```
[edit redirect-server]
user@host# set proxy-support
```

3. Specify the URL sent as a response to proxy requests.

```
[edit redirect-server]
user@host# set proxy-destination-url proxy-destination-url
```

If you do not configure a value, then the URL defaults to the `redir.url` value. You can use this property to send proxy requests to a page different from the direct request page on the captive portal.

## Configuring a Redundant Redirect Server

---

Although configuration of a redundant redirect server is optional, we recommend that you configure redundancy to maintain high availability for the server.

Use the following configuration statements to configure redundancy for the redirect server:

```
redirect-server {
    redundancy;
}

redirect-server monitor {
    redundant-host-ip-address redundant-host-ip-address;
    virtual-ip-address virtual-ip-address;
    real-ip-address real-ip-address;
    primary-server;
    check-interval check-interval;
    virtual-routers virtual-routers;
}
```

To configure redundancy for the redirect server:

1. From configuration mode, access the configuration statement that configures the redirect server.

```
user@host# edit redirect-server
```

2. Enable redundancy for the redirect server.

```
[edit redirect-server]
user@host# set redundancy
```

3. Configure redundancy properties for the redirect server.

```
[edit redirect-server]
user@host# edit redirect-server monitor
```

4. Configure the IP address or hostname of the redundant redirect server.

```
[edit redirect-server]
user@host# set redundant-host-ip-address redundant-host-ip-address
```

5. Configure the virtual IP address of the redirect server.

```
[edit redirect-server]
user@host# set virtual-ip-address virtual-ip-address
```

6. Configure the real IP address of the redirect server.

```
[edit redirect-server]
user@host# set real-ip-address real-ip-address
```

When a primary redirect server is started, it dynamically establishes and maintains a static route on the client router to which it connects. The static route directs traffic destined for the virtual IP address of the server to the real IP address of the active redirect server.

7. (Optional) Set the system on which you enter the command as the primary redirect server.

```
[edit redirect-server]
user@host# set primary-server
```

8. (Optional) Set the interval at which the redirect server polls the redundant redirect server.

```
[edit redirect-server]
user@host# set check-interval check-interval
```

A shorter time in the range leads to faster detection of problems and results in higher consumption of CPU resources.

9. List of virtual routers to which the redirect server connects.

```
[edit redirect-server]
user@host# set virtual-routers vrName@routerName, vrName@routerName ...
```

## Configuring Logging for the Redirect Server

---

The redirect server logs incoming HTTP requests through syslog with a priority of INFO and log facility of LOCAL7.

## Changing the Configuration for the Redirect Server

---

When you change the configuration for the redirect server and commit that configuration, the redirect server is automatically restarted.

## Assessing Load for Redirect Server

---

You can view the number of requests sent to the redirect server, and whether the requests reach the configured limit for the server and for server users. You can then use this information to fine-tune the properties for redirect server.

To view statistics for redirect server:

```
user@host> show redirect-server statistics
Redirect Server
Uptime                        849767.841
Accepted requests            0
Rejected requests            0
Number of user limit leaky buckets 0
Number of user limits reached 0
Number of global limits reached 0
```

You can also obtain statistics for redirect server through SNMP. The name of the MIB for redirect server is Juniper-SDX-REDIRECTOR-MIB.

