ProxySG TechBrief – Implementing WCCP With ProxySG

What is WCCP?

The Web Cache Communication Protocol (WCCP) was developed by Cisco Systems and specifies interactions between one or more routers (or Layer 3 switches) and one or more Web caches. The purpose of the interaction is to establish and maintain a transparent redirection of selected types of traffic flowing through a router. The selected traffic is redirected to a Web caches such as the ProxySG with the aim of optimizing resource usage and lowering response times.

Today's networks require proxy services in order to secure inbound an outbound communications. Therefore, communications need to be intercepted by the proxy services in order to apply a secure policy.

Proxy services can be deployed in two modes:

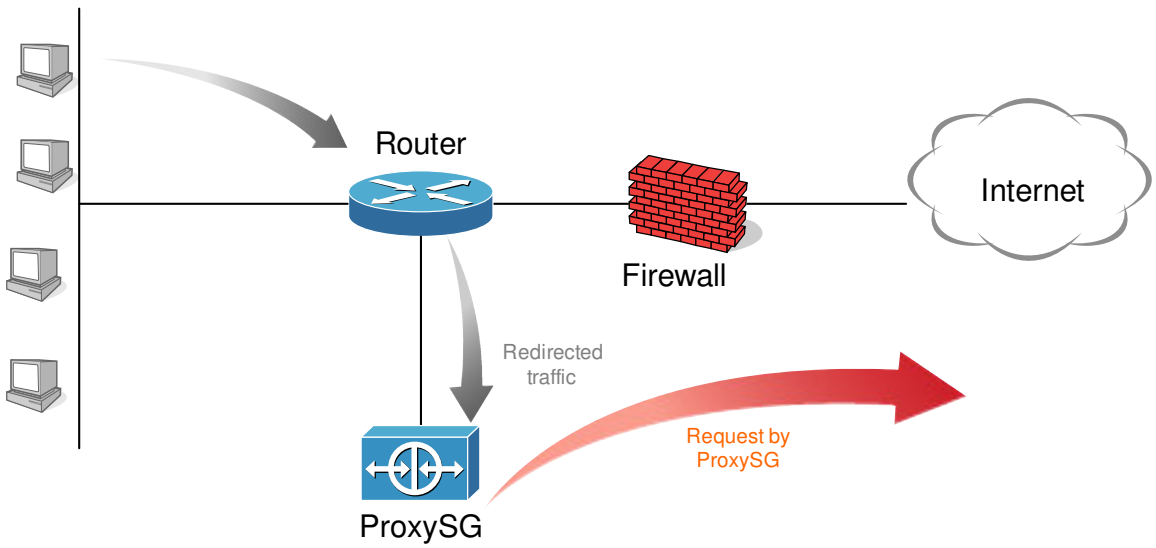
- Transparent mode
- Explicit mode

In Transparent mode, a user's browser does not require modification in terms of configuration. Requests are transparently intercepted.

In Explicit mode, a user's browser requires modification via setting the hostname of the ProxySG or via Proxy Autoconfig Client (PAC) files.

Cisco routers and IP-enabled switches offer utilize WCCP to enable transparent redirection of traffic to the ProxySG. This TechBrief describes how to set up a ProxySG to use WCCP.

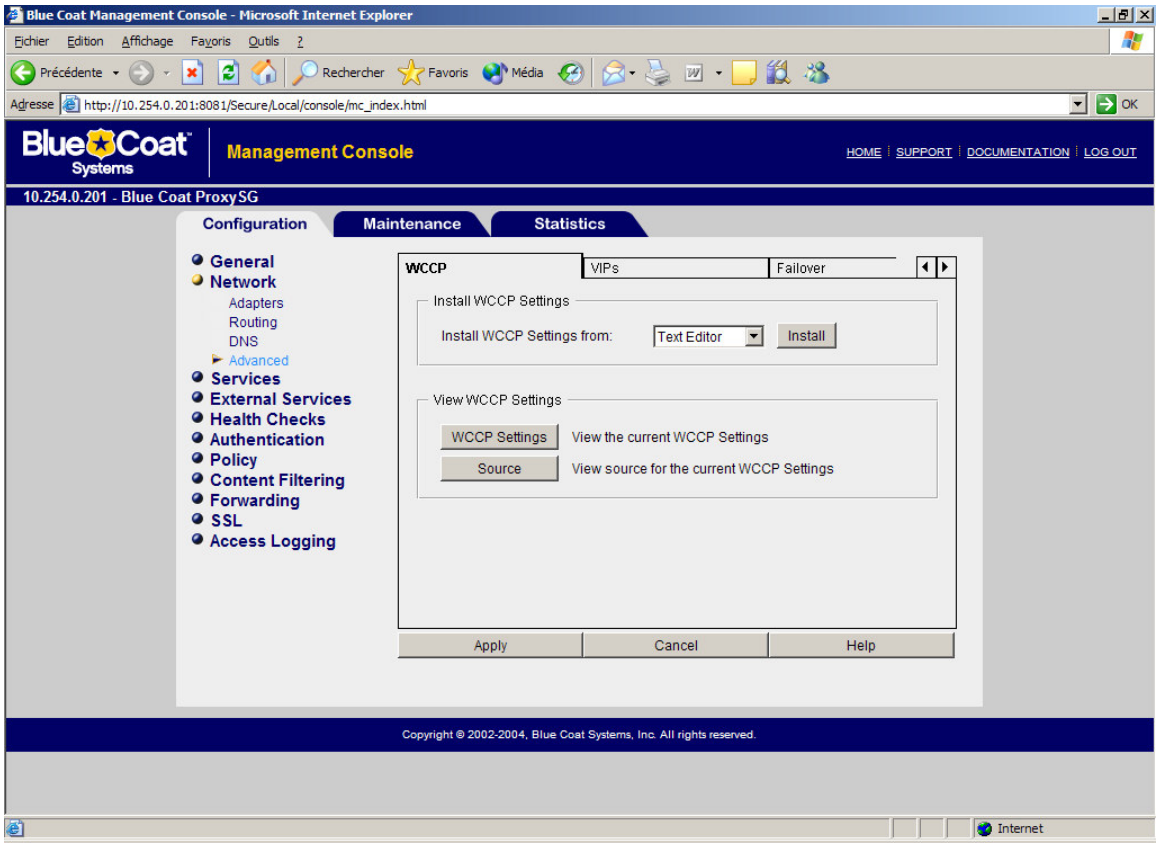
The following diagram presents the network design.



Implementing WCCP on the ProxySG

To implement the WCCP service, log on to the ProxySG management console (https://x.x.x.x:8082)

Go to the network section, click on Advanced and select Install WCCP Settings from Text Editor. Click on Install.



Redirecting HTTP only

To redirect HTTP traffic only, copy and paste the following commands to the WCCP settings editor on the ProxySG. An example of this screen is shown on the following page.

```
wccp enable
wccp version 2
service-group web-cache
home-router 10.254.0.193
interface 0
end
```

10.254.0.193 is the IP address of the Cisco router in this example. If you have more routers participating in the protocol, add their IP addresses with the following command:

home-router <ip_address>

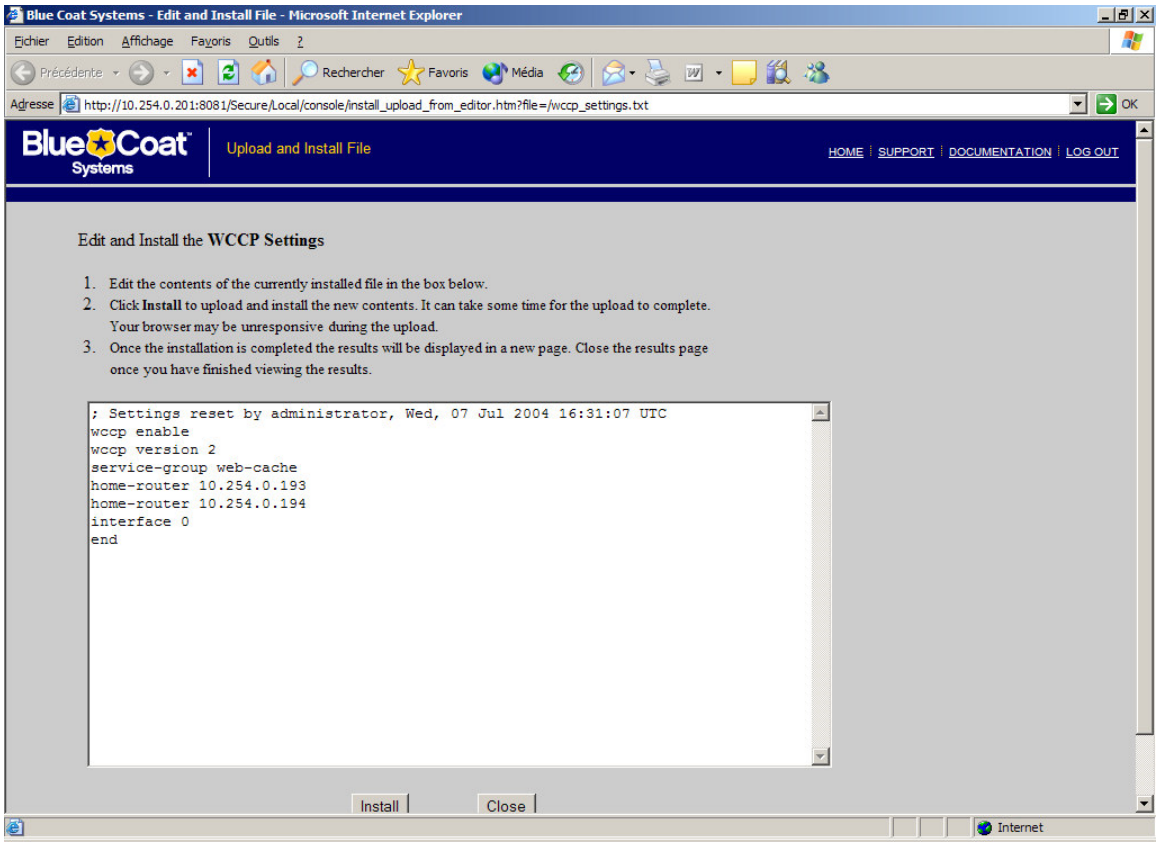
Hence, the configuration becomes:

```
wccp enable
wccp version 2
service-group web-cache
home-router 10.254.0.193
home-router 10.254.0.194
interface 0
end
```

In this scenario, we have the following Cisco routers participating in the WCCP protocol:

10.254.0.193
10.254.0.194

Copy and paste the configuration (with your IP addresses inserted) as shown below.



Click on Install to save and install the settings.

Redirecting HTTP and Streaming

To redirect HTTP and Streaming traffic, the following configuration is implemented on the ProxySG:

```
wccp enable
wccp version 2
service-group 10
priority 1
```

```
protocol 6
service-flags destination-port-hash
service-flags ports-defined
ports 80 554 1755 0 0 0 0 0
interface 0
home-router 10.254.0.193
home-router 10.254.0.194
end
```

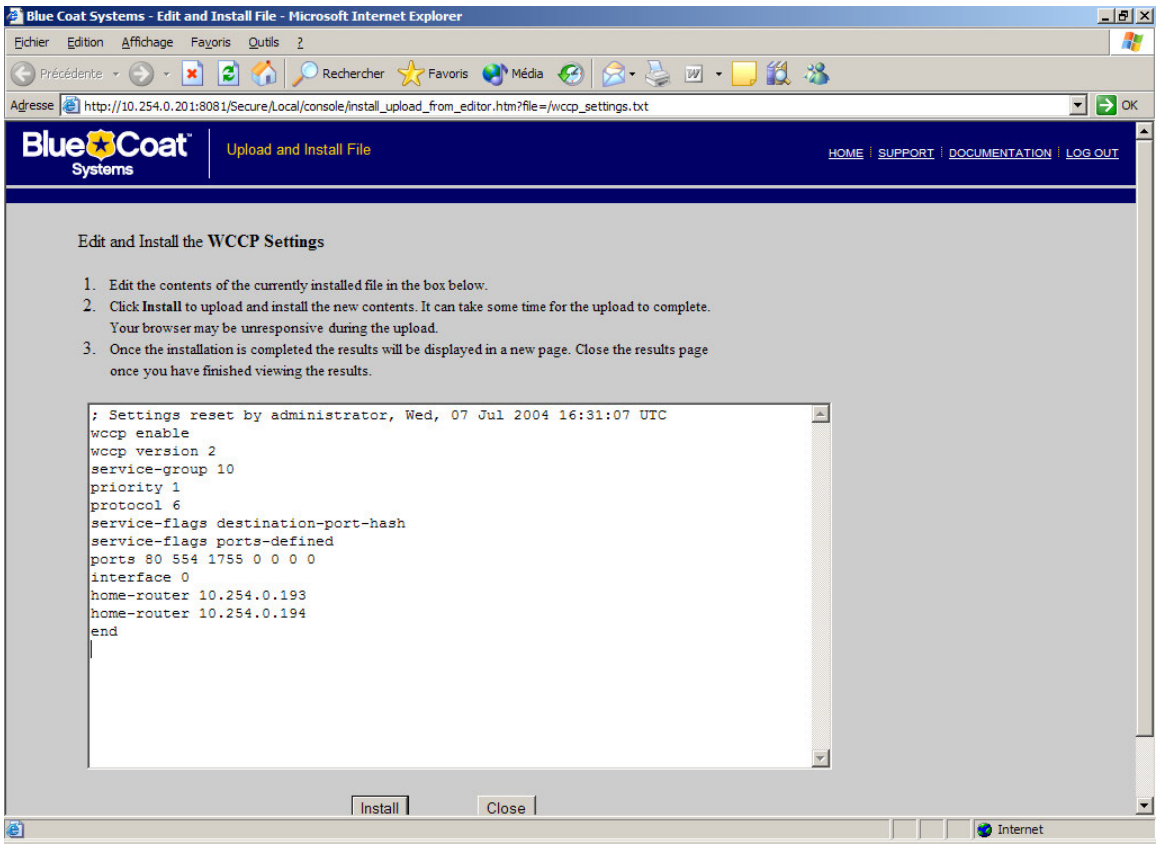
In this configuration, we are redirecting the following TCP ports:

80 (HTTP)
554 (Real Networks and Quick Time)
1755 (Windows Media Streaming)

And the following Cisco routers are participating in the WCCP protocol:

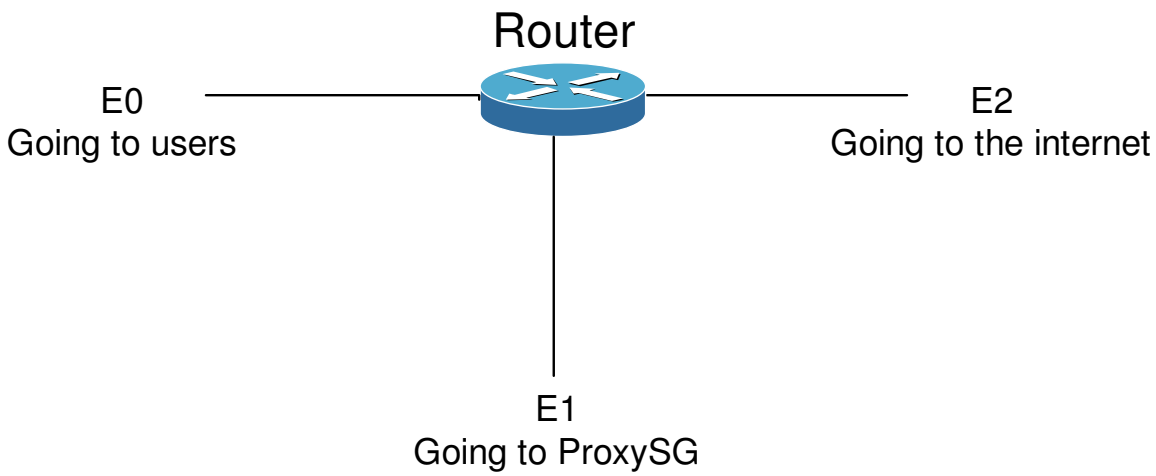
10.254.0.193
10.254.0.194

Copy and paste the previous command (with your IP addresses inserted) in the editor as shown below:



Implementing WCCP on Router

To implement the WCCP service on your router, log on in to the router using “enable mode”. See Blue Coat documentation for more information about using Blue Coat’s Command Line Interface and Enable Mode. For this TechBrief, the following interfaces are implemented on the router.



Redirecting HTTP only

To redirect HTTP traffic only use Cisco’s Command Line Interface (CLI) and enter the following commands at the command prompt:

```
conf t
ip wccp web-cache
interface 2
ip wccp web-cache redirect out
```

It is important to note that the ‘ip wccp web-cache redirect out’ command must be implemented on the outbound interface going to the Internet (e.g. interface E2).

Redirecting HTTP and Streaming

To redirect HTTP and streaming traffic use Cisco’s Command Line Interface (CLI) and enter the following commands at the command prompt:

```
conf t
ip wccp 10
interface 2
ip wccp 10 redirect out
```

It is important to note, the ‘ip wccp web-cache redirect out’ command must be implemented on the outbound interface going to the Internet (e.g. interface E2).

Monitoring WCCP on Router

To monitor traffic redirected via WCCP, log on to the router and use the following commands

Router# **show ip wccp**

Global WCCP information:

Number of web-caches:	2
Total Packets Redirected:	101
Redirect access-list:	none
Total Packets Denied Redirect:	88
Total Packets Unassigned:	0

The number of Total Packets Redirected will increment.

Conclusion

Web traffic can be transparently redirected to the ProxySG from a Cisco router allowing comprehensive Web policies to be implemented for the enterprise. Administrators can redirect HTTP traffic only or HTTP and streaming traffic. Minimal configuration is required on the ProxySG and on the Cisco router to enable this functionality. The ProxySG and router can be configured via the Blue Coat management console and the Command Line Interface (CLI).