

Choosing A Proxy Server

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Bryan Call

ATS Committer / Yahoo

About Me

- Yahoo! Employee
 - WebRing, GeoCities, Personals, Tiger Team, Platform Architect, Edge Team, Research, ATS and HTTP (HTTP/2 and TLS at IETF)
- Working on Traffic Server for 7 years
 - Since 2007
- Part of the team that open sourced it in 2009
- ATS Committer

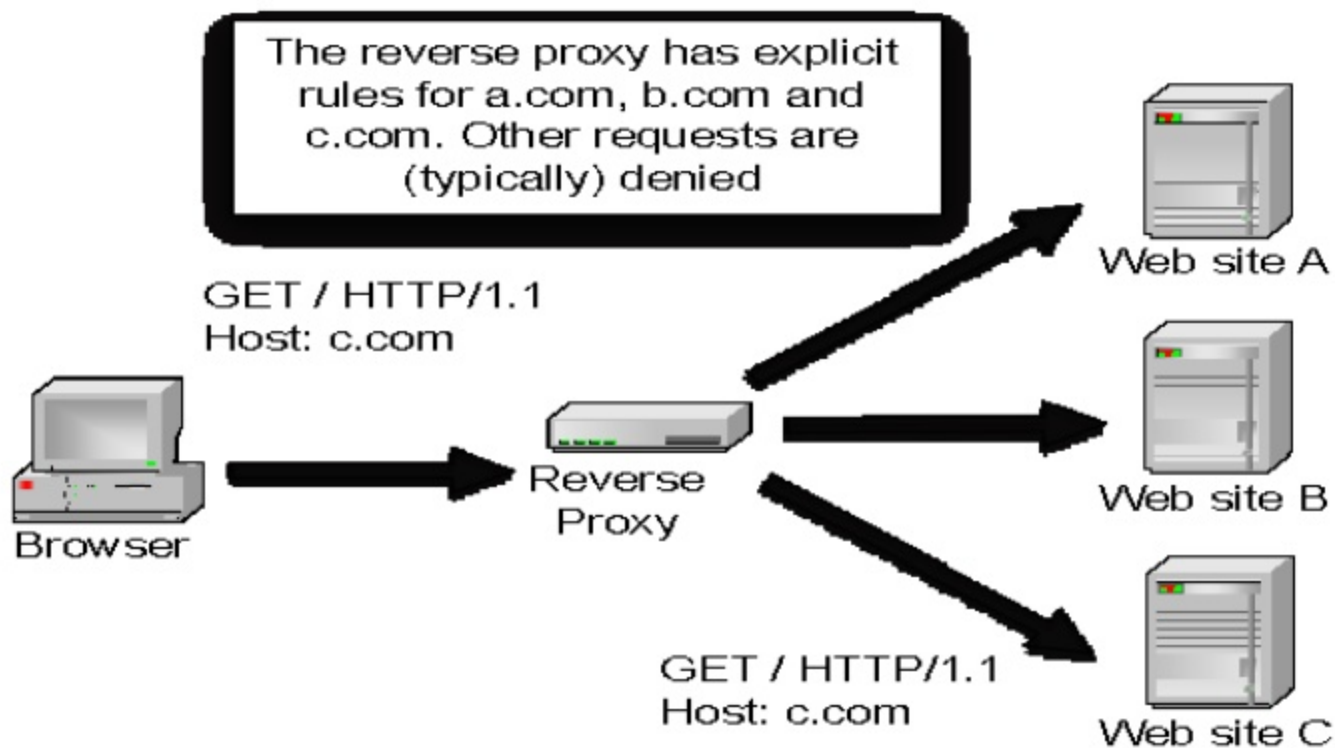
Overview

- Types of Proxies
- Features
- Architecture
- Cache Architecture
- Performance
- Pros and Cons

A pair of black Leatherman pliers is shown lying diagonally across a dark wooden surface. The pliers are partially open, revealing the internal mechanism. The brand name "LEATHERMAN" is embossed on the side of the handle. The lighting is soft, highlighting the texture of the wood and the metallic finish of the tool.

How are you going to
use a proxy server?

Reverse Proxy



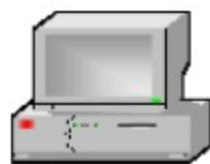
Reverse Proxy

- Proxy in front of your own web servers
- Caching?
- Geographic location?
- Connection handling?
- SSL termination?
- SPDY support?
- Adding business logic?

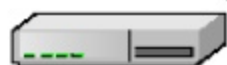
Forward Proxy

The browser (UA) is explicitly configured to use the FP server as a proxy

GET http://c.com/ HTTP/1.1



Browser



Forward Proxy



Web site A



Web site B

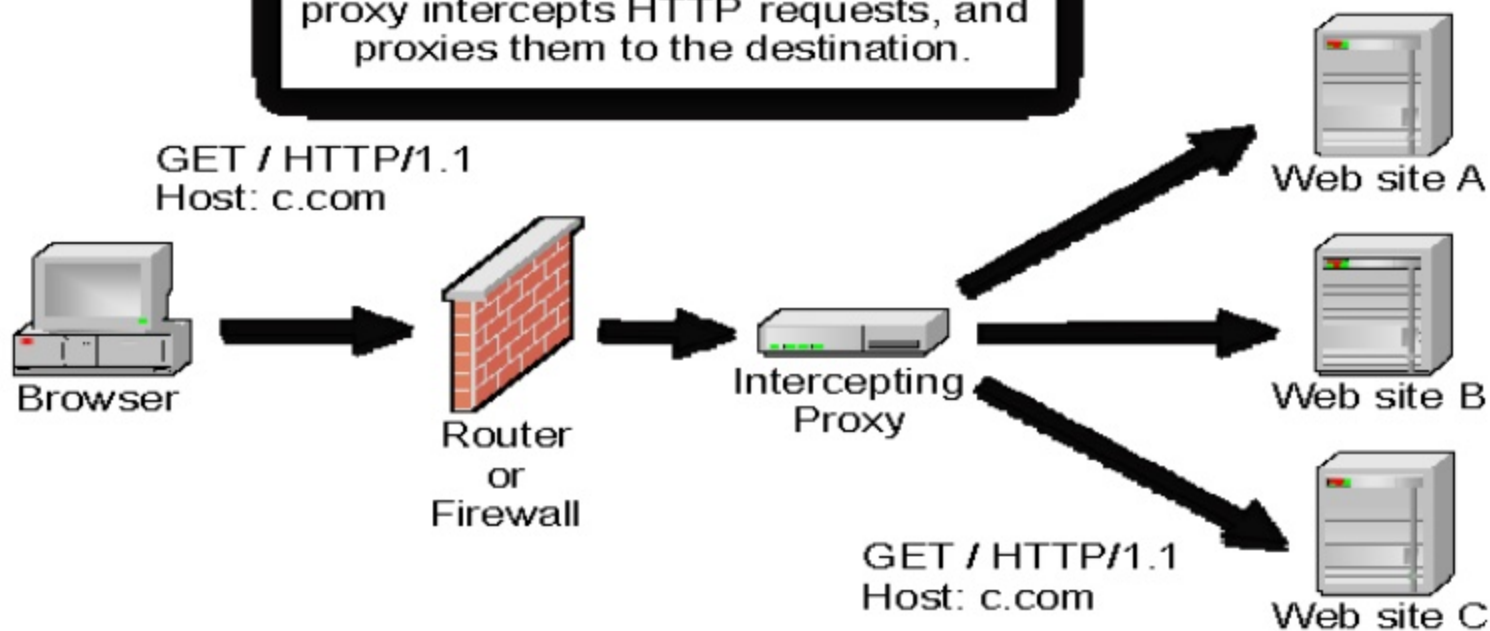


Web site C

GET / HTTP/1.1
Host: c.com

Intercepting Proxy

There are no explicit configurations in browser of proxy. The transparent proxy intercepts HTTP requests, and proxies them to the destination.



Forward / Intercepting Proxy

- Proxy in front of the Internet
- Configure clients to use proxy?
- Caching?
- SSL - CONNECT?
- SSL - termination?

A photograph of a gravel path in a forest. The path starts from the bottom center and splits into two paths that lead into a dense forest of tall trees with green foliage. The ground is covered with brown leaves and gravel. The word "Choices" is written in large white letters across the center of the image.

Choices

Plenty of Proxy Servers



PerlBal



Plenty of Proxy Servers



Features And Options

HYUNDAI 2012 AZERA Modern Premium Large Sedan with Efficient V6 Engine and Class-Leading Safety Features

BlueLink

Manufacturer Suggested Retail Price \$37,000.00

ADDED FEATURES:

- 19" Hammered Alloy Wheels w/ Protection Film \$4,000.00
- Panoramic 18-speaker Bose Sound System
- LED Headlighting
- New Parking Assistance System
- Integrated Bluetooth Audio System w/ Subwoofer & Amplifier
- Available Front Seats
- Driver's Seat Customization
- Power Rear Sunshade & Manual Side Window Sunshades
- Power-Adjustable 10 & Telescopic Steering Column
- Integrated Memory System (MS) for Seats
- Interior Ambient Lighting
- 4-speaker Premium
- 2-inch Net
- 2-inch Net
- 2-inch Net
- 2-inch Net

ENVIRONMENTAL PERFORMANCE

Protect the Environment, choose vehicles with higher scores:

Global Warming Score 7

Smog Score 5

GOVERNMENT 5-STAR SAFETY RATINGS

Overall Vehicle Score Not Rated

Frontal Crash Driver Not Rated, Passenger Not Rated

Side Crash Front seat Not Rated, Rear seat Not Rated

Rollover Not Rated

Star ratings range from 1 to 5 stars (*****), with 5 being the highest. Source: National Highway Traffic Safety Administration (NHTSA). www.safercar.gov or 1-888-327-4236

Features

	ATS	NGiNX	Squid	Varnish	Apache httpd mod_proxy
Reverse Proxy	Y	Y	Y	Y	Y
Forward Proxy	Y	N	Y	N	Y
Transp. Proxy	Y	N	Y	N	Y
Plugin APIs	Y	Y	partial	Y	Y
Cache	Y	Y	Y	Y	Y
ESI	Y	N	Y	partial	N
ICP	Y	N	Y	N	N
SSL	Y	Y	Y	N	Y
SPDY	Y*	Y	N	N	partial

* 5.0.0 (May 2014)

SSL Features

	Session identifiers	Session tickets	OCSP stapling	Dynamic record sizing	ALPN / NPN	Forward secrecy	SPDY & HTTP/2
Apache	yes	yes	yes	no	no*	yes	mod_spdy
ATS	yes	yes	no	static	yes	yes	spdy/3.1
HAProxy	yes	yes	no	dynamic	yes	yes	no
IIS	yes	yes	yes	no	yes	yes	no
NGINX	yes	yes	yes	static	yes	yes	spdy/3.1

Source: <https://istlsfastyet.com/> - Ilya Grigorik

What type of proxy do you need?

- Of our candidates, only three fully supports all proxy modes



A young girl with brown hair and a pink bow, wearing a pink jacket and purple skirt, stands on a sidewalk holding a large white E-collar collar. To her right, a black dog sits wearing a similar white E-collar collar. The scene is outdoors on a paved sidewalk with shadows cast by the subjects.

HTTP/1.1 Compliance

HTTP/1.1 Compliance

- Accept-Encoding - gzip
- Vary
- Age
- If-None-Match

How things can go wrong: Vary

```
$ curl -D - -o /dev/null -s --compress http://10.118.73.168/
```

```
HTTP/1.1 200 OK
```

```
Server: nginx/1.3.9
```

```
Date: Wed, 12 Dec 2012 18:00:48 GMT
```

```
Content-Type: text/html; charset=utf-8
```

```
Content-Length: 8051
```

```
Connection: keep-alive
```

```
Cache-Control: public, max-age=900
```

```
Last-Modified: Wed, 12 Dec 2012 17:52:42 +0000
```

```
Expires: Sun, 19 Nov 1978 05:00:00 GMT
```

```
Vary: Cookie,Accept-Encoding
```

```
Content-Encoding: gzip
```

How things can go wrong: Vary

```
$ curl -D - -o /dev/null -s http://10.118.73.168/
```

```
HTTP/1.1 200 OK
```

```
Server: nginx/1.3.9
```

```
Date: Wed, 12 Dec 2012 18:00:57 GMT
```

```
Content-Type: text/html; charset=utf-8
```

```
Content-Length: 8051
```

```
Connection: keep-alive
```

```
Cache-Control: public, max-age=900
```

```
Last-Modified: Wed, 12 Dec 2012 17:52:42 +0000
```

```
Expires: Sun, 19 Nov 1978 05:00:00 GMT
```

```
Vary: Cookie,Accept-Encoding
```

```
Content-Encoding: gzip
```

Note: no gzip request



EPIC FAIL!

