



Going beyond gzipping

Velocity 2009

Tony Gentilcore
tonygentilcore [at] gmail

Disclaimer: This content does not necessarily reflect the opinions of my employer.

Let's review: Importance of gzipping

Save bandwidth:

~70% reduction in transfer size

Faster load time:

~50% improvement for DSL

~60% improvement for dialup

(Averages based on testing Alexa's top 10 websites in IE7)

Thanks. I did that 8 years ago, can I go now?



So what's the issue?

Roughly 15% of users get uncompressed responses!

Doesn't include bots.

Too high to be due to old browsers:

Netscape ≤ 4 – 0.1%

Opera < 4 – 0.0%

IE < 4 – 0.01%

Another quick review

Browsers indicate support for compression in HTTP request:

Accept-Encoding: gzip, deflate

Server recognizes that and responds with compressed HTTP response marked by:

Content-Encoding: gzip

What goes wrong? Logs have a clue

These requests have missing or obfuscated Accept-Encoding headers

Accept-EncodXng: gzip, deflate

X-cept-Encoding: gzip, deflate

XXXXXXXXXXXXXXXXXXXX: XXXXXXXXXXXXXXXXXXXX

-----: -----

~~~~~: ~~~~~

Proxies & client software

Software	Accept-Encoding modification
Ad Muncher	Stripped
CA Internet Security Suite	Accept-EncodXng: gzip, deflate
CEQURUX	Stripped
Citrix Application Firewall	Stripped
ISA 2006	Stripped
McAfee Internet Security 6.0	XXXXXXXXXXXXXXXXXXXX: ++++++
Norton Internet Security 2005	-----: -----
Novell iChain 2.3	Stripped
Novell Client Firewall	Stripped
WebWasher	Stripped
ZoneAlarm Pro 5.5	XXXXXXXXXXXXXXXXXXXX: XXXXXXXXXXXXXXXX

The background of the slide features a series of curved, glowing light trails in shades of orange, red, and white, suggesting motion and speed. The text is centered in the middle of the frame.

**Client software is out of my control,
there's nothing I can do. Right?**

1) Be a smart shopper

When choosing firewalls, proxies, filters, etc. verify that they don't inhibit compression

Consider upgrading old, offending products – could save \$\$\$ in bandwidth

2) Optimize uncompressed size

Tried out techniques on Alexa's top 10:

Event delegation (5% savings)

Relative URLs (3% savings)

Strip whitespace, quotes, etc. (4% savings)

Avoid inline styling (1% savings)

Alias JavaScript names

Combined savings 12% (not additive)

Not quite gzip's 70% reduction

3) Educate users

If Accept-Encoding is missing, display help message:

Your Internet connection is slowed because it does not allow compression.

"Fix this" "Hide"



4) Guerrilla warfare: Direct detection

Test for gzip support in hidden iframe with careful setup

1. Caching disabled
2. Always compressed
3. Sets session cookie when loaded

Subsequent pages can be compressed if cookie is present

Be careful, test, measure

Can't risk a single false positive



Thank you!

