



Demystifying CDN

October 14th, 2015 | Vadim Getmanshchuk

What is CDN

- A thing that makes your site respond faster
- By beating the speed of light... by caching
- How?
- Finding a closest Point of Presence (POP)
- Directing traffic to the POP (DNS and/or Anycast)



Reasons to use CDN

1. Latency sucks

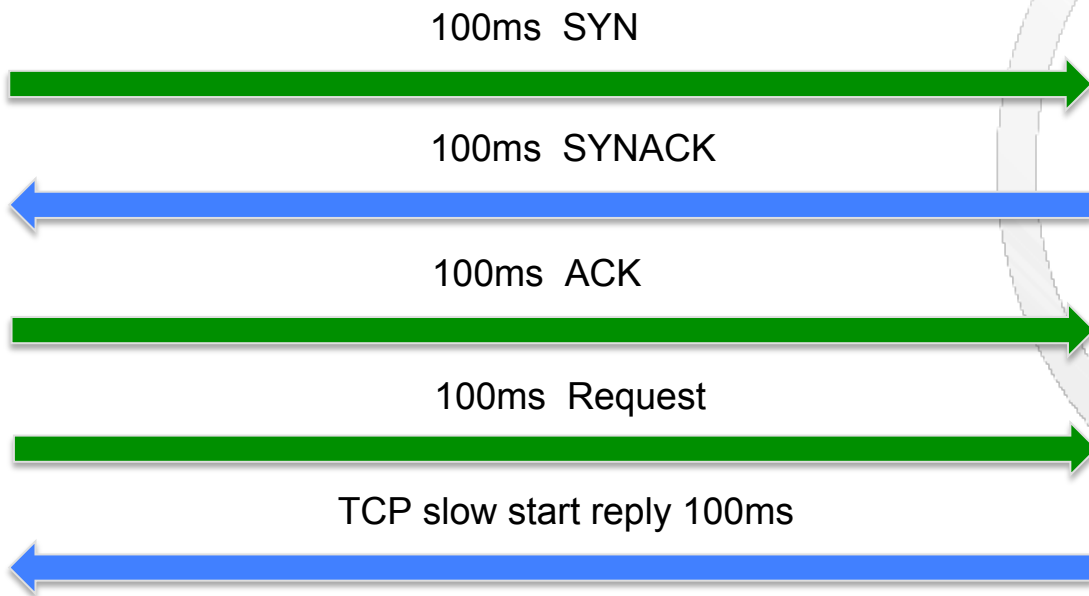
Your customers are global, but your site is not

2. 1s delay in page load will cost you \$\$\$\$. Google it (homework)
3. Your backend is slow
4. Your hosting provider is slow
5. Your bandwidth usage spikes, a lot
6. ...especially while they DDOS your site
7. ...and doing other nasty things
8. You want to scale and do cool stuff at the Edge



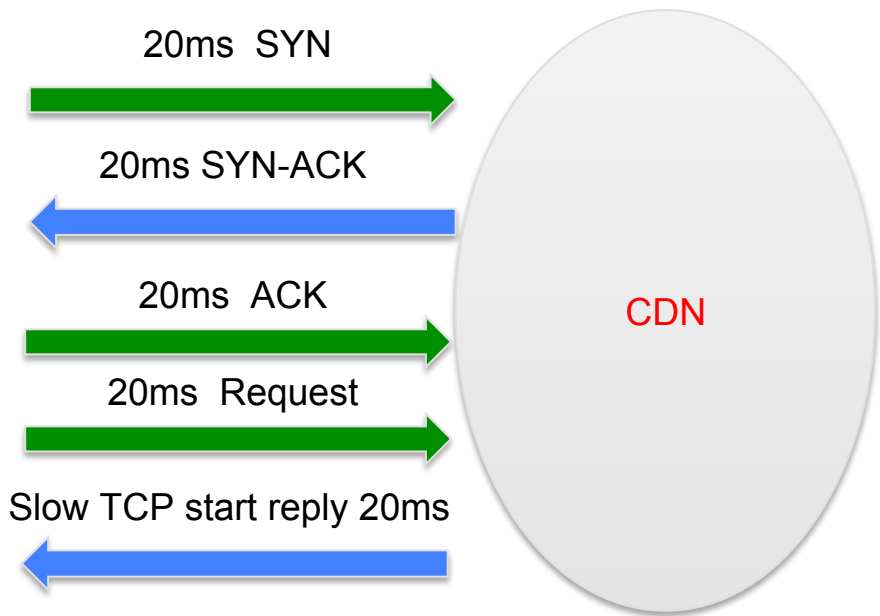
Why does it matter

- Latency.
- Assuming 200 ms for a roundtrip AMS to SJC



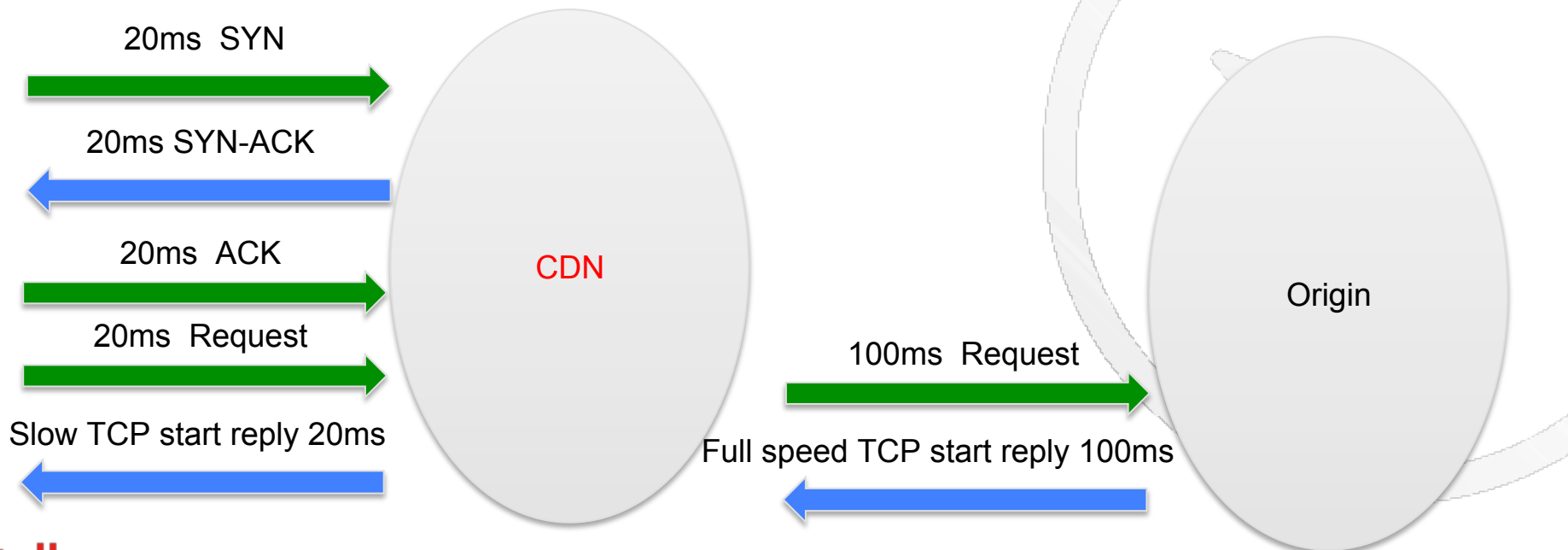
Why does it matter

- The same with CDN



Why does it matter

- What if it's uncachable or a miss

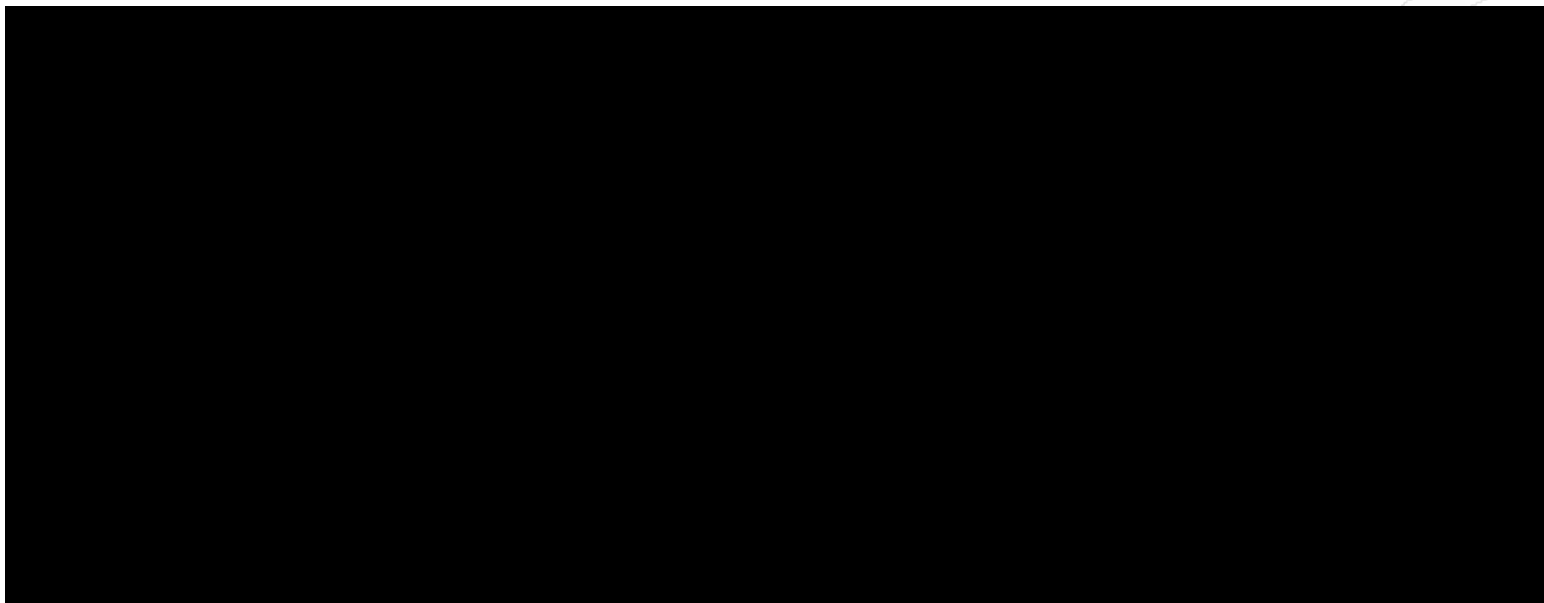


Why does it matter

- Time to first byte savings
 - 400 ms no CDN
 - 240 ms with CDN
 - 600 ms with SSL no CDN
 - 280 ms with CDN SSL



How it works, yesterday



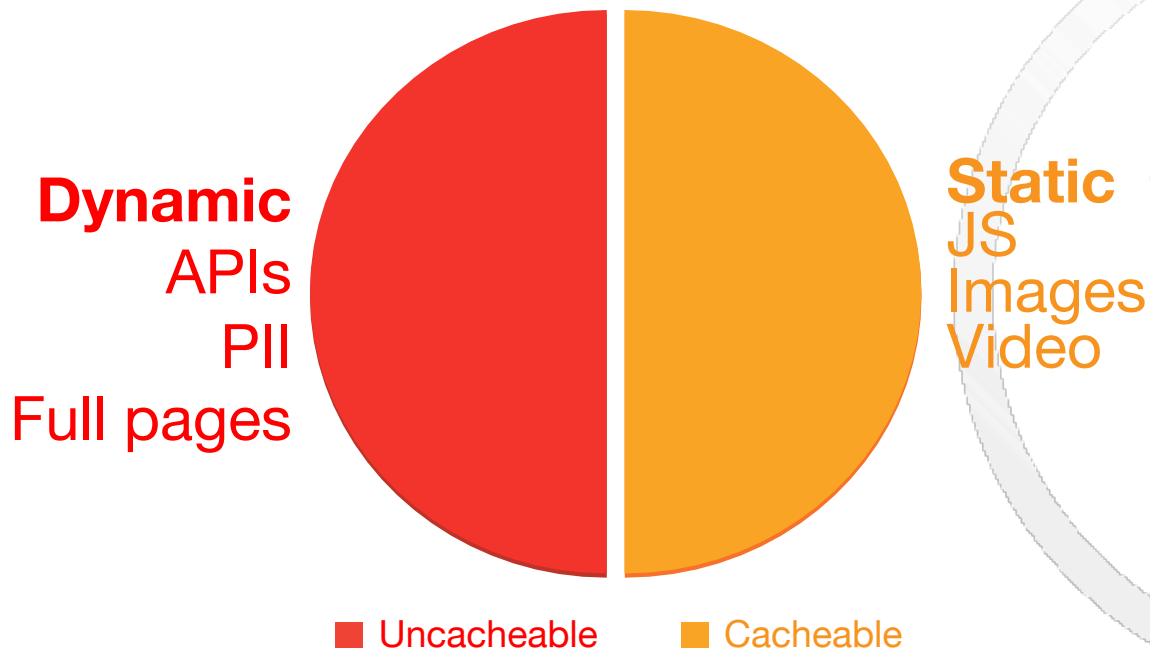
That's it. A big black box. No control of the content, no visibility.

What is CDN today

- Maintain visibility of your content
 - Real-time log streaming
 - Real-time configuration push
- Keep control of your content
 - Instantly purge and change your content
- Caching more content
 - Truly dynamic or event-driven?
- Do more at the Edge
 - Detect mobile devices, browsers, redirects at Edge, GeoIP, synthetic responses, beacon logging, ...



How traditional CDNs treat your content today



How Fastly treats your content

Dynamic
**Event-driven
content**



Static

■ Uncacheable
(DSA only)

■ Cacheable

Power of Varnish: Write you own Edge Modules

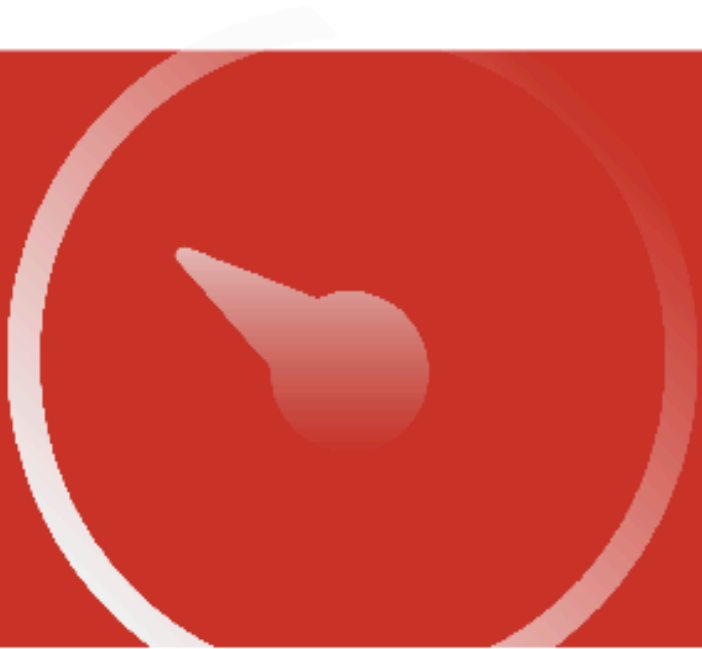
Generated VCL

```
# Do country specific redirection
if (req.http.Cookie ~ "(?i)SelectedEdition") {
    # Allow cookie based override
    set req.http.SelectedEdition = regsub(req.http.Cookie, "(?i).*SelectedEdition=([^;]+);??.*", "\1");
}
if (req.http.SelectedEdition == "www") {
    # Do nothing, stay on current page
} elseif (req.http.SelectedEdition == "southamerica" || geoip.country_code ~ "(?i)(AR|BO|BR|CL|CO|EC|PA|MX|PY|PE|UY|VE|") {
    if (req.url == "/" || req.url == "/index.html") {
        || error 302 "http://southamerica.example.com";
    }
} elseif (req.http.SelectedEdition == "international" || (geoip.country_code != "US" && geoip.country_code != "CA")) {
    error 302 "http://international.example.com" req.url;
}
```

How to measure a CDN

- Use cedexis
- Use catchpoint
- AppDynamics
- Measure yourself





Thank you!