Taste of CDN – Workshop

Today we are going to setup a homepage and use a CDN solution to ensure consistent experience for all your users, independently of their location.

As well we will try to stream an image from the webcam and publish it online, using the same old, good CDN solution

Requirements

It is suggested to divide in groups of 2 people. A laptop with internet access is required for each group with your favourite IDE/Text Editor installed. It is suggested to have SSH client installed as well, if you want to provide load tests to your homepage.

It is advised to have FTP client installed as well. E.g. Filezilla or WinSCP

Activities

Activity #1 – Create your own webpage

- Access https://meetup.telia.lv:8080 for ISPConfig webhost access
- Login, using credentials provided
- Go To Sites Section and create a new website (Press Add New Website)
- Select the name for your webpage. If you acquire a domain name, you can use it, otherwise use a subdomain under domain name cloudycdn.services (e.g. mycdnpage.cloudycdn.services)
- Go To FTP-Accounts section and press Add new FTP user
- Select created website and fill in credentials. Save it
- If you have access to your own DNS server add an A record to it
- Otherwise use Telia CDN DNS server (NB! DNS Changes might take up to 60 minutes to update)
- After this you can browse your page by entering the domain name in your browser
- By default you will see a single page, with an image (6MB large .jpg) on it
- ???
- PROFIT

Activity #2 – Let's DDoS your page

Yay, Ubuntu 16.04 users – you have Siege preinstalled on your computer. What is Siege? It's a loadtesting/benchmarking application we wil use.

Install Siege

```
Apt-get install siege
Yum install siege
./configure
 make
 make install
```

Windows users

Uhmm…

I will create a Linux virtual machine with ~~Black Jack and…~~ Siege installed on it. Use Putty!

Open the Console

To benchmark the page enter the following command:

```
siege -c 10 -r 10 -b http://mycdnpage.cloudycdn.services/
```

The following sends a 10 requests across 10 concurrent connections for benchmarking (no delay between requests).

But this will only benchmark pure HTML download time. So let's gather all the assets

For this we will use sproxy

```
$ curl http://download.joedog.org/sproxy/sproxy-latest.tar.gz
 -o sproxy-latest.tar.gz
$ tar xvfz sproxy-latest.tar.gz
$ cd sproxy-1.02/
$ ./configure
$ make
$ sudo make install
```

Run sproxy process

```
sproxy -o /tmp/urls.txt
```

while sproxy is running (background or other ssh connection) gather all asset urls from the page you want and turn sproxy off

```
wget -r -o verbose.txt -l 1 -t 1 --spider --force-html -w 1 -e robots=on -e
"http_proxy = http://127.0.0.1:9001" http://yourcdnsite.cloudycdn.services
```

Afterwards you can use siege using the file urls.txt to load all the assets from the page

```
siege -c 10 -r 10 –f urls.txt
```

The output will look like something like this:

```
Transactions:                    100 hits
Availability:                 100.00 %
Elapsed time:                  14.33 secs
Data transferred:             120.96 MB
Response time:                  0.25 secs
Transaction rate:               6.98 trans/sec
Throughput:                     8.44 MB/sec
Concurrency:                    1.73
Successful transactions:         100
Failed transactions:               0
Longest transaction:            5.20
Shortest transaction:           0.02
```

Activity #3 – CDN protection with CloudFlare

- Login to CloudFlare. Register if you don't have an account - https://www.cloudflare.com/
- Press Add Site button
- Enter the name of your domain (e.g. artjoms.lv)
- Add subdomains you want as A, AAAA or CNAME records
- Update nameservers at your registar
  …
- Wait up to 24 hours for changes to take effect
  …
- Try to load the page or to access webpage with Developer Tools enabled in your browser to see the page load time. Notice that Server that serves content now is set to Cloudflare Node

Activity #4 – CDN protection with Telia / Cloudy CDN

- Go to Telia CDN - https://my.teliasoneracdn.com
- Login using the credentials provided
- Create a Customer Origin in HTTP Large Section
    - Enter directory name – unique identifier where static config will be coming from
    - Add Origin servers you will serve content from. By using Round Robin algorithm you will provide almost unbreakable load balancer for your dynamic content
    - Add the Host Header which matches your vhost on the Hosting
- Go to Edge CNAMEs and add an entry, by setting the desired webpage URL, selecting Customer Origin selector and selecting just created Customr Origin directory
- Last step would be setting up DNS for your website. Go To Route (DNS) section
- Add A CNAME pointing to your just created wpc.
- Wait for up to 1 hour for changes to take effect
  …
- Try to load the page or to access webpage with Developer Tools enabled in your browser to see the page load time. Notice that Server that serves content now is set to closest Telia CDN Node

Activity #5 – Web Streaming using Cloudy CDN

The killer feature of Cloudy CDN is ability to serve OTT Video to almost every corner of planet Earth.

Live Streams and VoD functionality is available as well as Video Transcoding functionality.

In the simplest scenario WebCam of the laptop can be published over the network and an embed code can be produced to set it on the page from Activity #1

The steps might differ based on the OS and the model of the laptop, so follow the lead of the presenter and repeat actions taking your environment into consideration

Useful Links

https://notepad-plus-plus.org/ - simple, yet effective Text Editor

http://www.putty.org/ - SSH and Telnet client

https://www.joedog.org/siege-home/ - Siege, a simple Load Test utility

https://filezilla-project.org/ - FTP client

https://www.cloudflare.com/ - Cloudflare CDN

https://my.teliasoneracdn.com - Telia CDN

https://cdnadm.cloudy.services/ - Cloudy CDN