Cps 706 - Final Assignment

Group #30 Members

- Frank Vumbaca
- Mitchell Mohorovich
- Yan Jedrasik

Application Overview

The application we developed provides a cli to launch different sub-applications:

- **client** to make requests and ultimately download a video file.
- **dns servers** to resolve host names.
- **web servers** to host content to be viewed/downloaded.

For each computer in the setup, it will run one or more of these sub-applications with a configuration.

> For usage information, refer to the `README.md` file

The Application Instances

Each machine has a slightly different configuration, but the whole system revolves around the same three sub-applications. Below are the specific configurations per machine.

> **NOTE:** All ports for the following applications are automatically read from `config.txt` at runtime. These ports are assumed to be consistent across all communicating servers as it defines the 'protocol ports' for our system.

Client

The client is a simple terminal interface that will make requests to our Web server applications. When the client is given a hostname that is not an IP, it will query the local DNS server for the ip.

The client can be run like this:

```
java Main client 141.117.232.X
```

Local DNS

The local DNS runs on its own computer. To run the server run the command:

`java Main dns localdns.txt`

The DNS record table for the local DNS contains:

Key	Type	Value
hiscinema.com	A	141.117.232.X
www.hiscinema.com	CNAME	hiscinema.com
hiscinema.com	NS	141.117.232.X
hercdn.ca	A	141.117.232.Y
www.hercdn.ca	CNAME	hercdn.ca
hercdn.ca	NS	141.117.232.Y

*Replace X and Y with the matching IPs for hiscinema.com and hercdn.ca respectivly

hiscinema.com

Runs both a DNS and web server. This host provides a web page to

- Web Server is configured and run like so:

  `java Main web index.txt`

  `index.txt` is the only content of this web server:

- The DNS server is configured and run like so:

  `java Main dns hisdns.txt`

  `hisdns.txt` provides the initial DNS records for *hiscinema.com*

Key	Type	Value
video.hiscinema.com	V	video.hercdn.ca

hercdn.ca

Runs both a DNS and web server. The web server serves video content. The available video files are
`F1.mp4` , `F2.mp4` , `F3.mp4` , `F4.mp4` , `F5.mp4` .

- Web Server is configured and run like so:

  `java Main web F1.mp4 F2.mp4 F3.mp4 F4.mp4 F5.mp4`

  > This web server server serves all the video files

- The DNS server is configured and run like so:

  `java Main dns herdns.txt`

  > `hisdns.txt` provides the initial DNS records for *hiscinema.com*

Key	Type	Value
video.hercdn.com	CNAME	hercdn.ca