

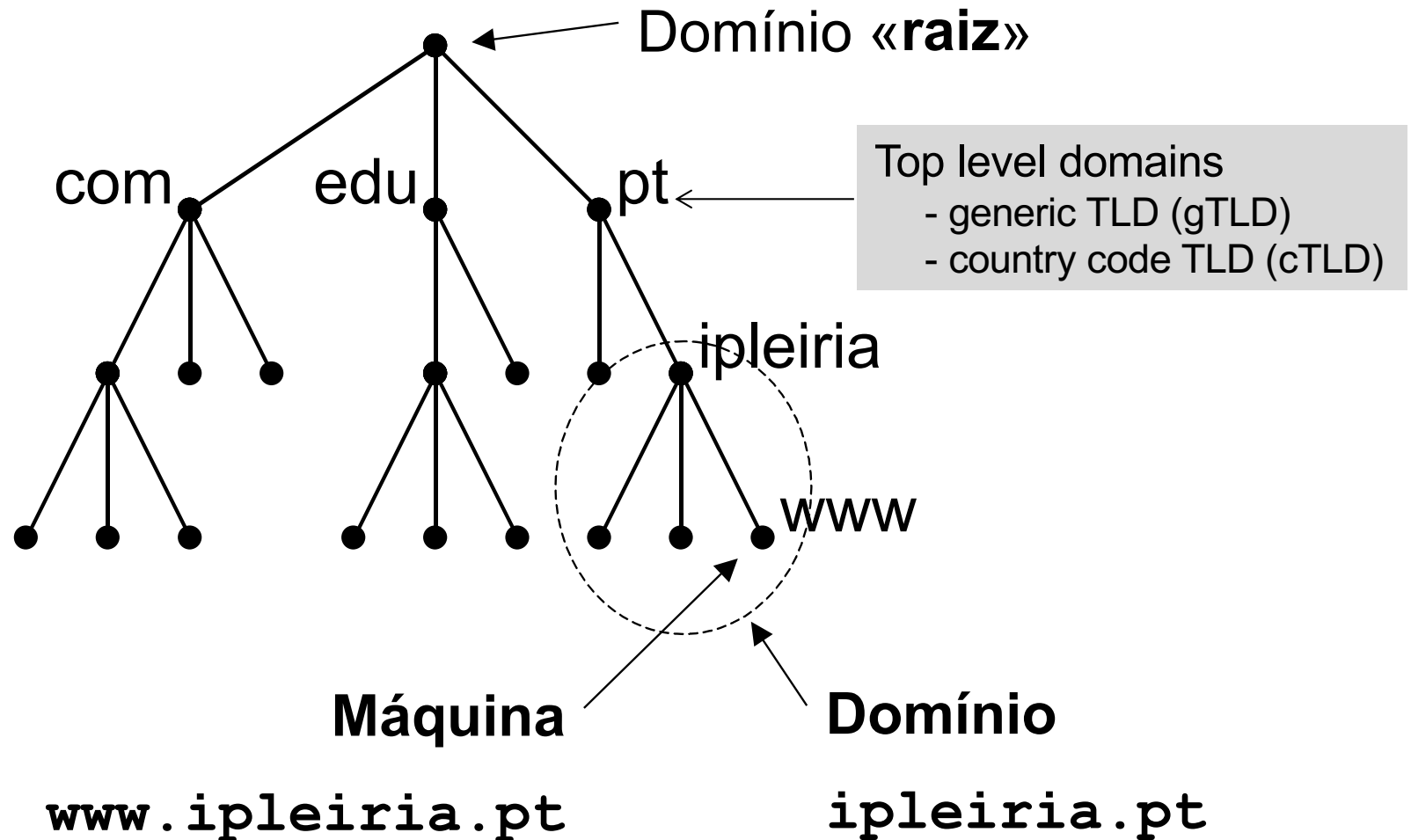
# **REDES DE COMPUTADORES**

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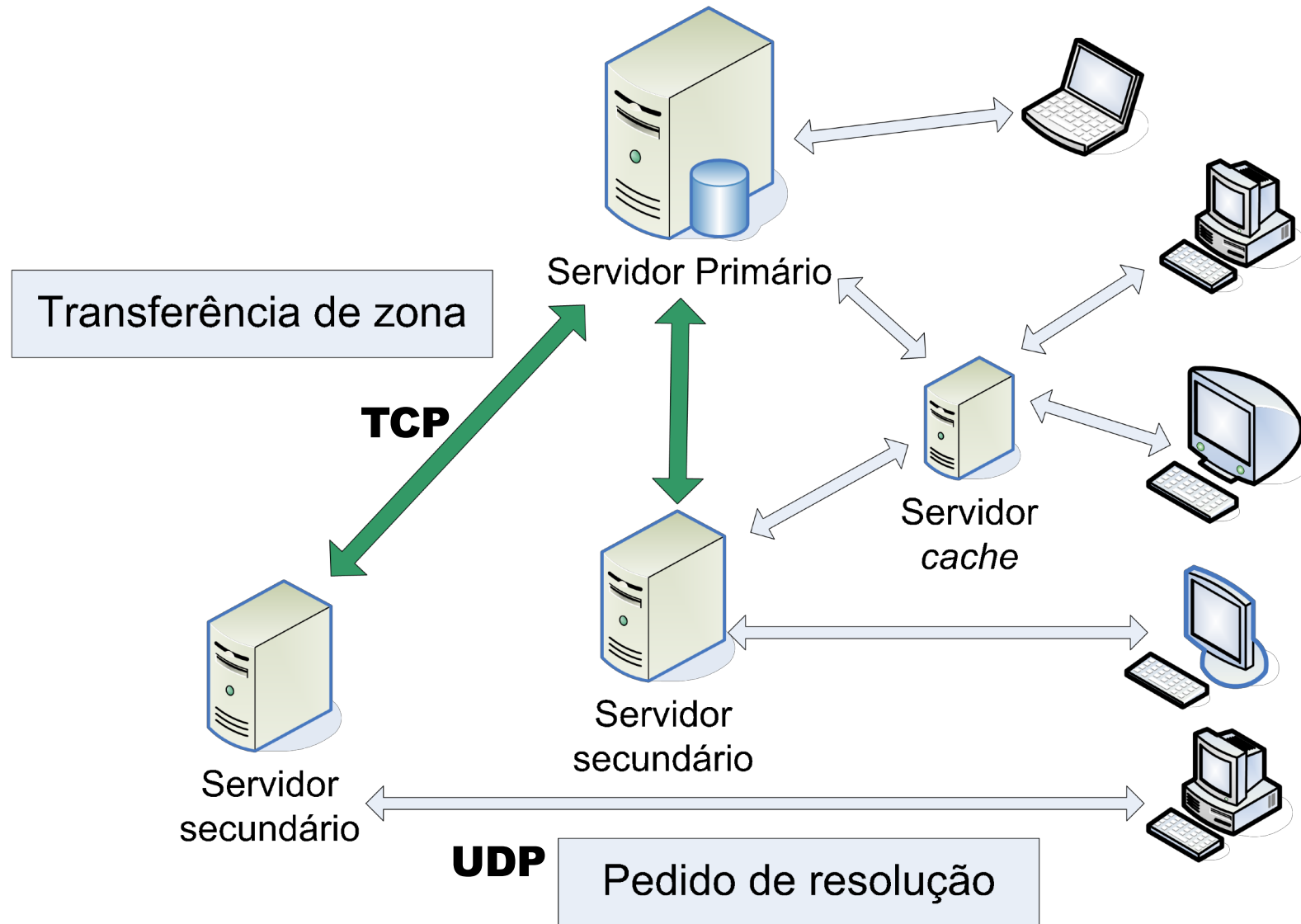
**Janeiro de 2019**

# Hierarquia DNS

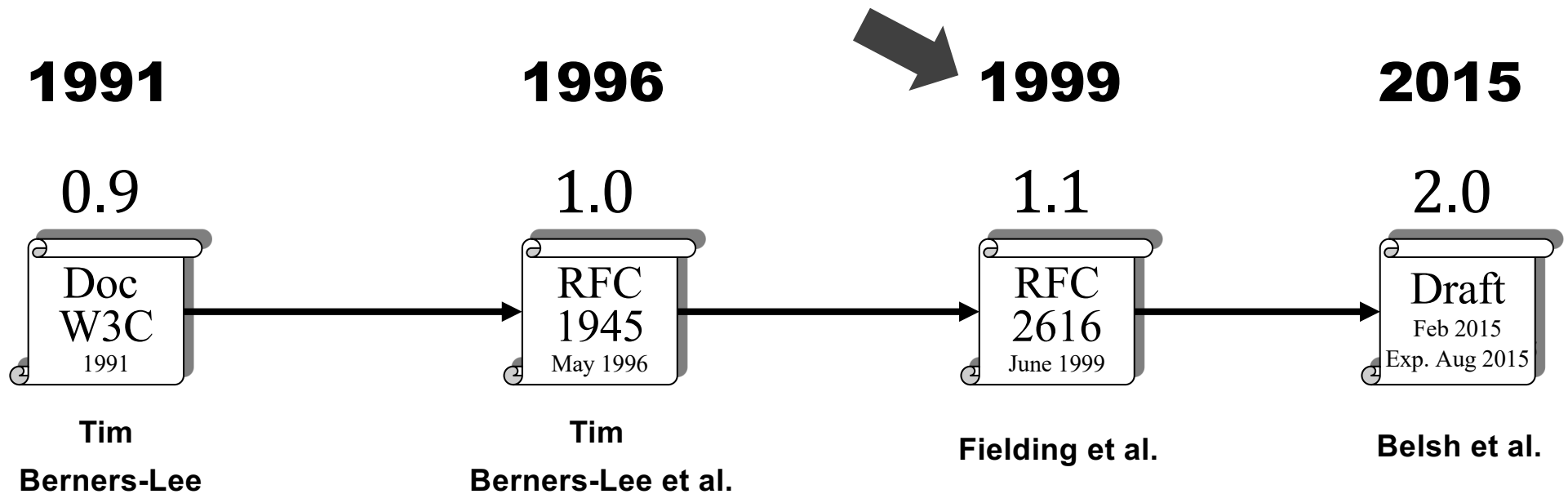


<http://www.iana.org/domains/root/db/>

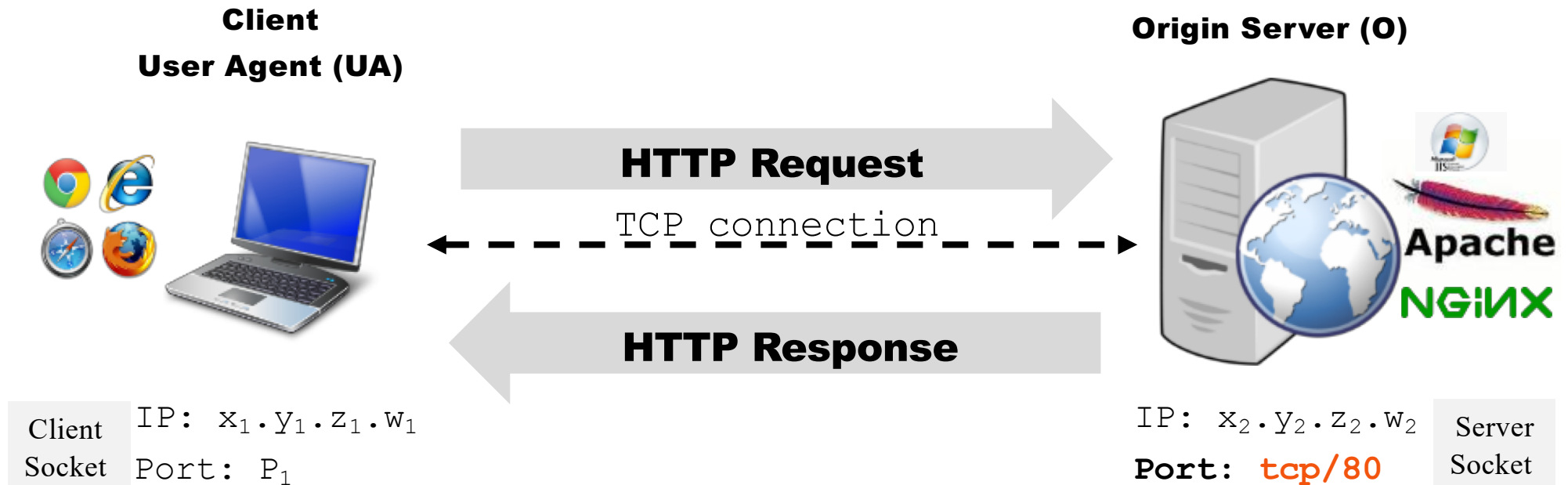
# Serviço de Nomes



# Versões HTTP



# Terminologia



**http URL =** `"http:" "://" host [":" port] [abs_path ["?" query]]`

`http://www.upm.es:80/etsisi/index.html`

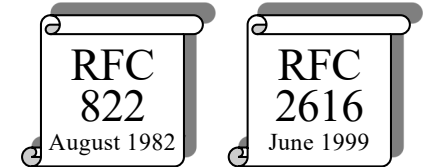
`http://www.upm.es/etsisi/index.html`

`http://www.ipleiria.pt/?xyz`

`http://www.ipleiria.pt/~test`

# Mensagem HTTP

## Especificação de uma mensagem



start-line
message-header
CRLF
message-body

Request | Response

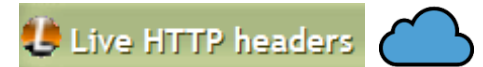
General header

Request and response headers.  
One line per header field.

CRLF (\r\n)

Optional. Message content  
which depends on the HTTP  
message type (HTML, php,  
file, ...)

# HTTP Request



**GET / HTTP/1.1** ←

```
Host: www.ipleiria.pt
Connection: keep-alive
Accept: text/html,application/xhtml+xml,application/xml;q=0.9
User-Agent: Mozilla/5.0 (X11; Linux x86_64) Chrome/41.0.2272.118
Accept-Encoding: gzip, deflate, sdch
Accept-Language: en-US,en;q=0.8,pt;q=0.6
```

← \r\n

[RESPONSE]

## Request-line

message-header  
field-name: value

CRLF

## Outros métodos HTTP/1.1

HEAD	POST
PUT	DELETE

# HTTP Response

[REQUEST]

**HTTP/1.1 200 OK**

```
Date: Tue, 14 Apr 2015 10:19:07 GMT
Server: Apache
X-Powered-By: PHP/5.4.16
Link: <http://www.ipleiria.pt/>; rel=shortlink
X-UA-Compatible: IE=edge
Vary: Accept-Encoding
Content-Encoding: gzip
Cache-Control: max-age=600
Expires: Tue, 14 Apr 2015 10:29:07 GMT
Content-Length: 10376
Keep-Alive: timeout=5, max=100
Connection: Keep-Alive
Content-Type: text/html; charset=UTF-8
\r\n
<HTML> ... </HTML>
```

**Status-line**

message-header  
field-name: value

CRLF

message-body



# HTTP Connections

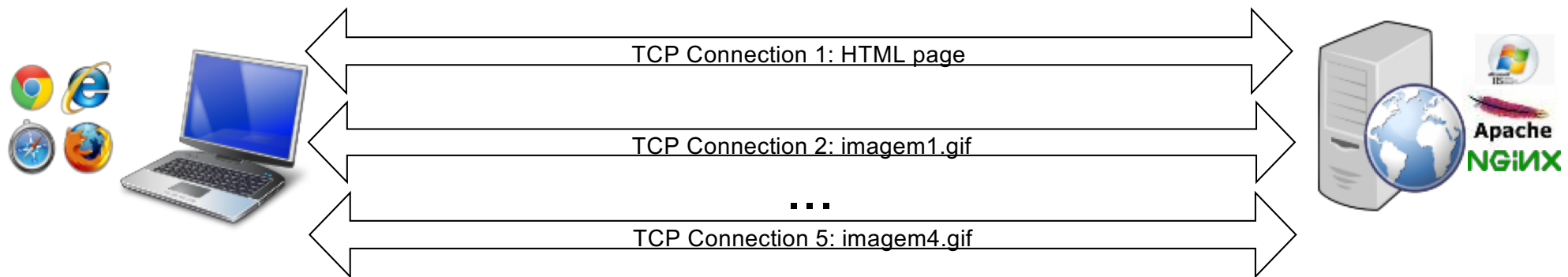
## Versões 0.9 e 1.0

- Uma ligação por cada HTTP Request

Uma página HTML  
Com quatro imagens

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0 Transitional//EN">

<html>
<head><title>HTTP 1.0</title></head>
<body>
  <div></div>
  <div></div>
  <div></div>
  <div></div>
</body>
</html>
```



# HTTP Connections

## Versão 1.1

- Ligações persistentes – HTTP transactions
- Pedidos e respostas HTTP podem usar apenas uma ligação
- Poupa CPU e reduz latência.

**HTTP/1.1 200 OK**

Date: Tue, 14 Apr 2015 10:19:07 GMT

Server: Apache

[...]

**Connection: Keep-Alive**

[...]

\r\n

<HTML> ... </HTML>

**Connection: close**