

# Teh Intarw3bs

Or becoming better informed users of the Internet

# Networks

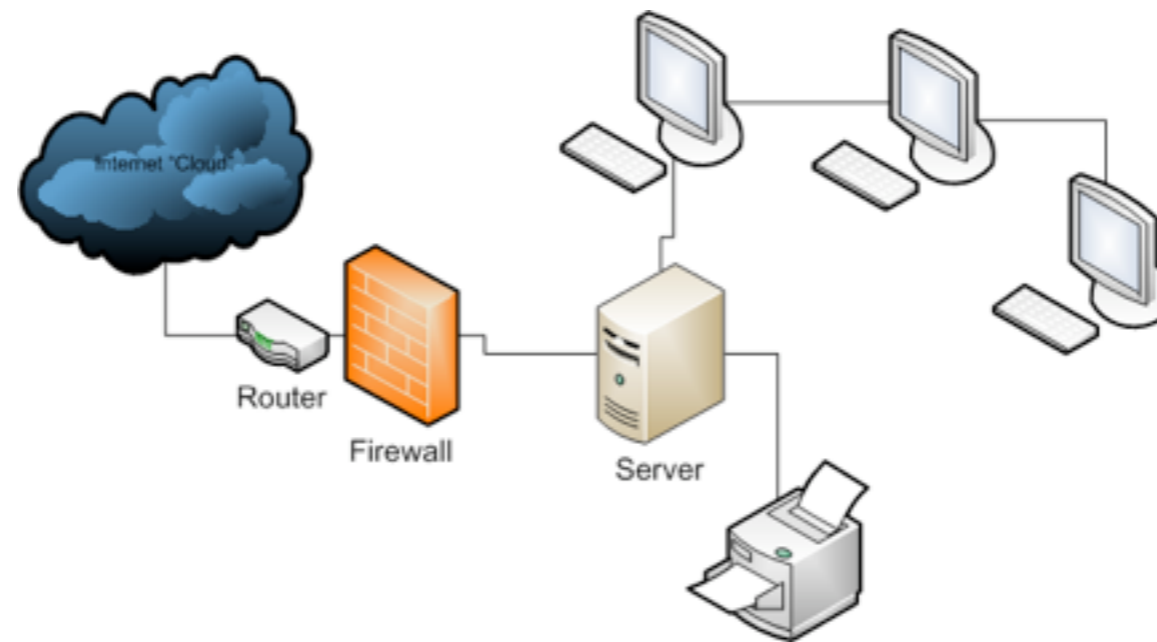
- 146 BC - Greeks use torch signals
- 1830s - Electric telegraph
- 1870s - Telephone
- 1920s - AM radio
- 1930s - Television
- 1960s - FM radio
- 1970s - Computer networks

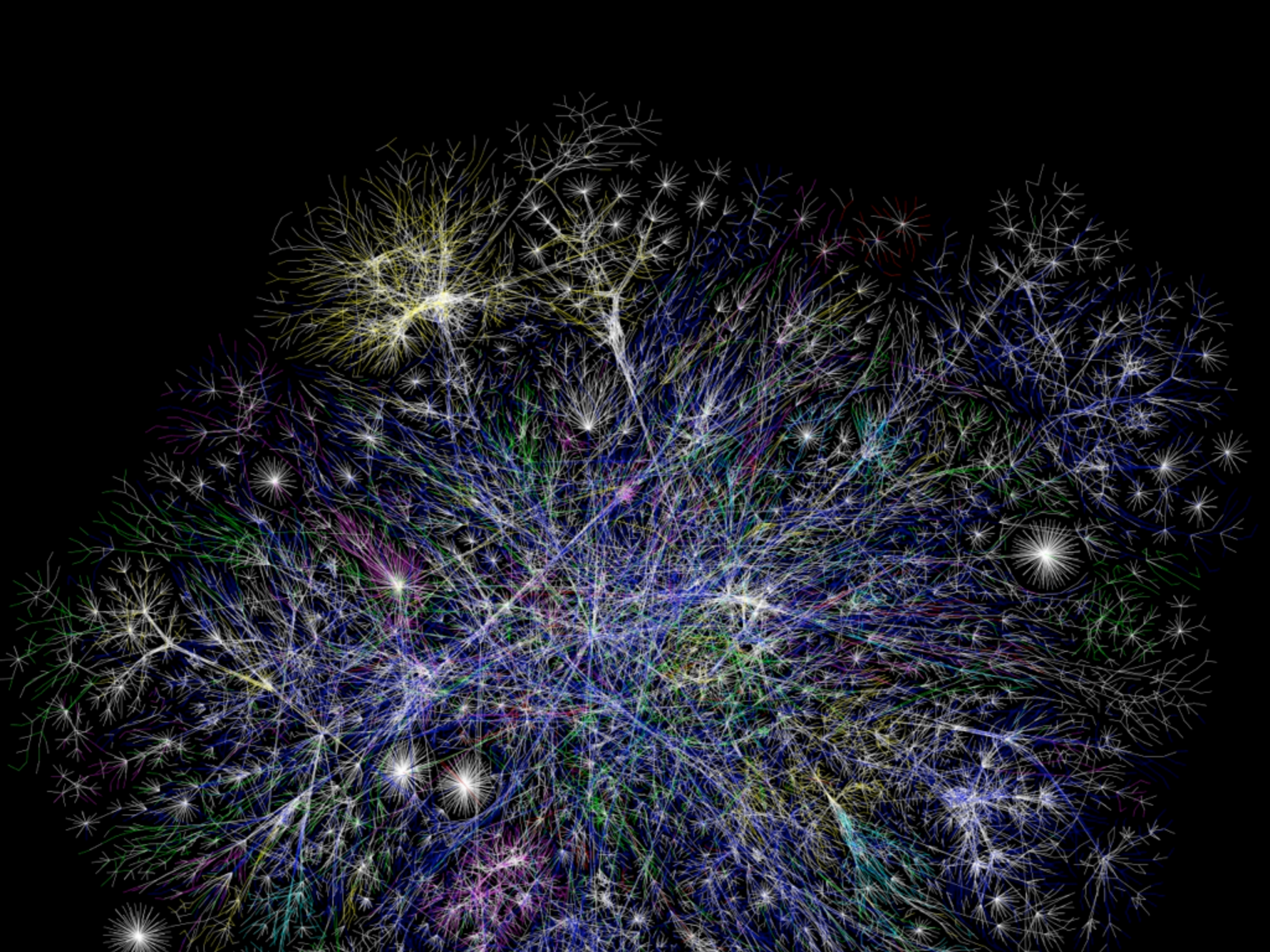
# The Internet?

- A network of networks
- Companies, schools have their own networks
- E-mail, the World Wide Web, FTP are ways of sending info over the Internet

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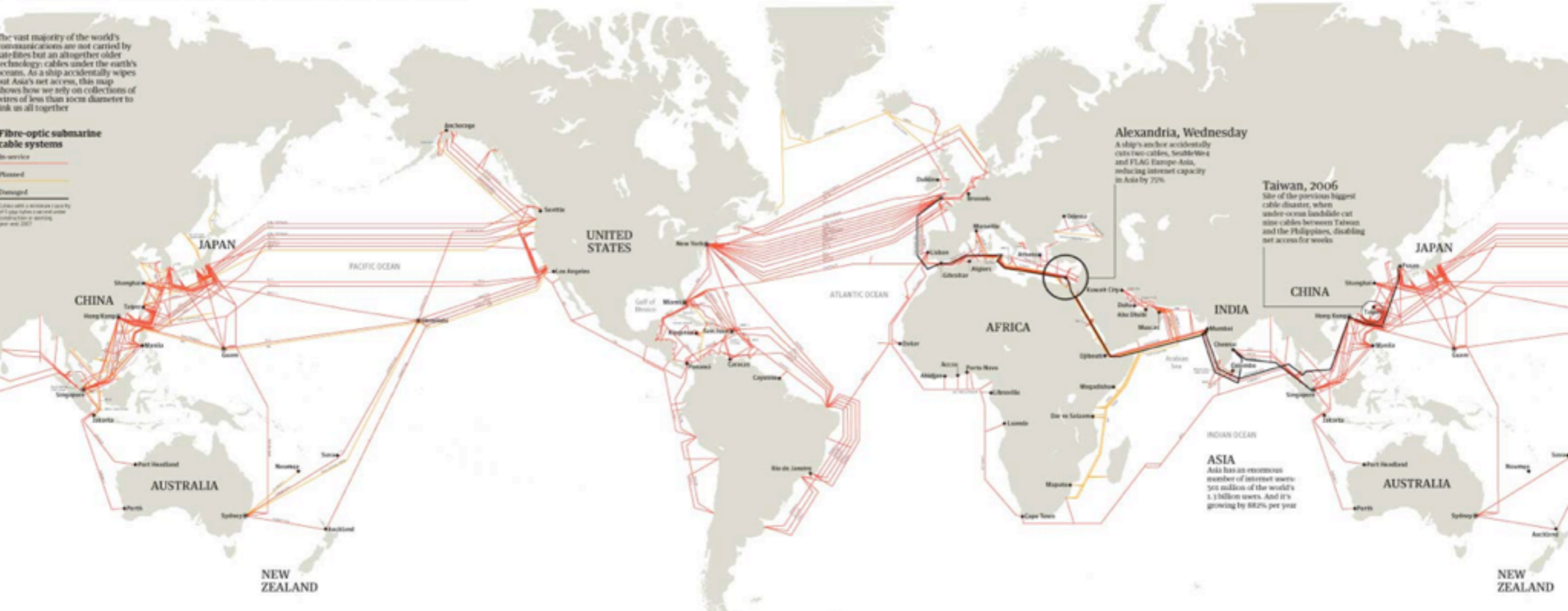




# The internet's undersea world

The vast majority of the world's communications are not carried by satellites but an altogether older technology: cables under the earth's oceans. As a ship accidentally wipes out Asia's net access, this map shows how we rely on collections of wires of less than 10cm diameter to link us all together

**Fibre-optic submarine cable systems**  
 In service  
 Planned  
 Damaged



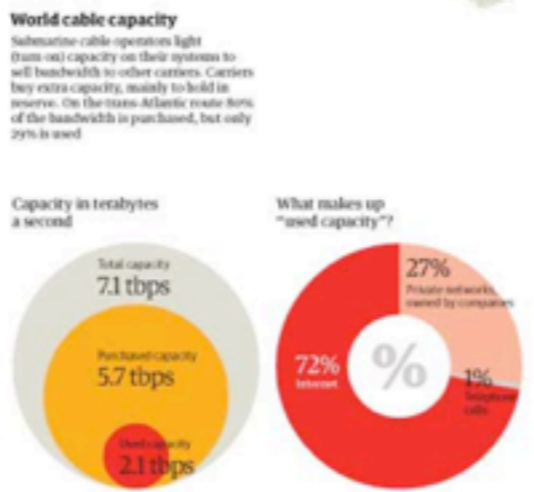
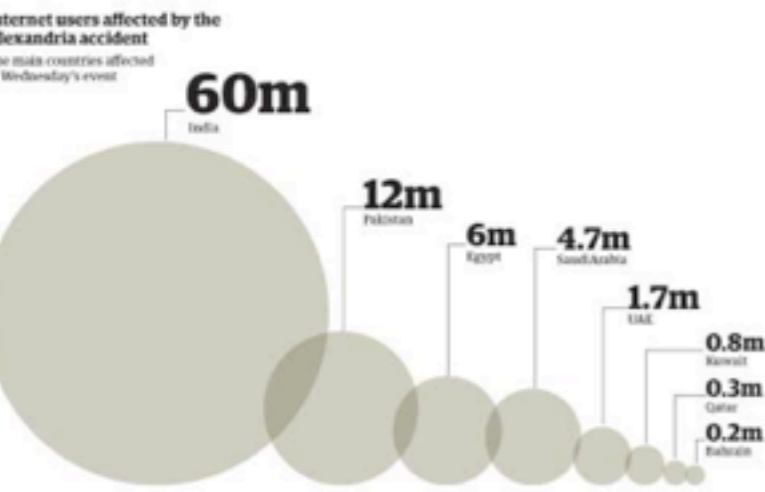
## Alexandria, Wednesday

A ship's anchor accidentally cuts two cables, SouthWest and FLAG Europe-Asia, reducing internet capacity in Asia by 75%

## Taiwan, 2006

Site of the previous biggest cable disaster, when under-ocean landslide cut nine cables between Taiwan and the Philippines, disabling net access for weeks

**ASIA**  
 Asia has an enormous number of internet users: 500 million of the world's 1.1 billion users. And it's growing by 88% per year



## The longest submarine cables

The Seafibre-3 system from Norden in Germany to Kyeju, South Korea connects 32 different countries with 30 landing points

Seafibre-3	30,000 km
Southern Cross	30,500 km
China-US	30,475 km
FLAG Europe-Asia	26,000 km
South America-1	25,000 km

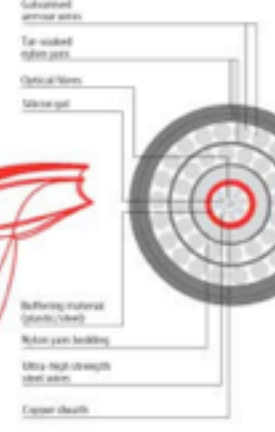
## The world's cables in bandwidth

The first intercontinental telephony submarine cable system, TAT-1, connected North America to Europe in 1956 and had an initial capacity of 640,000 bytes per second. Since then, total trans-Atlantic cable capacity has soared to over 7 trillion bps



## Cross-section of a cable

Cables of this strength are typically 60 mm in diameter and weigh over 10,000 kilograms a kilometer. In deeper waters, lighter and less insulated cables are used



# Why the Internet?

- Military: ARPANET 1969
- First version of “today’s Internet” in 1983



**How does it work?**



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- (A server is any computer that can send out data in response to a request)

# HTML?

- Hypertext Markup Language
- Defines the structure of a web page

```
<h1>This is a heading</h1>
```

```
<h2>A sub-heading</h2>
```

```
<p>This is a paragraph!</p>
```

# Blue Scholars on MySpace



[www.myspace.com](http://www.myspace.com)

# Blue Scholars on MySpace

Let's check out the Blue Scholars' MySpace page



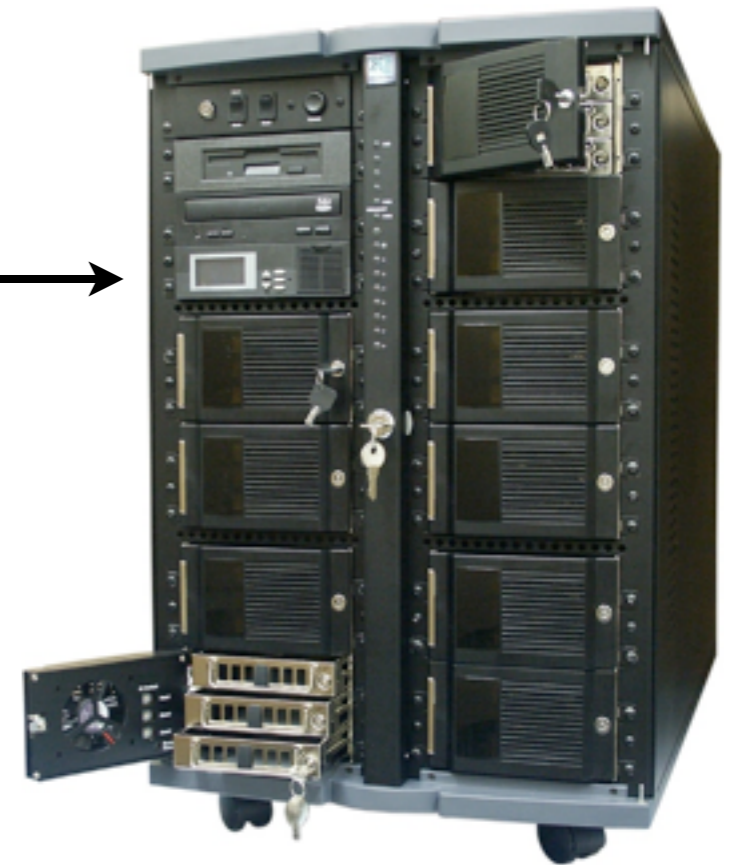
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Give me the Blue Scholars' page!



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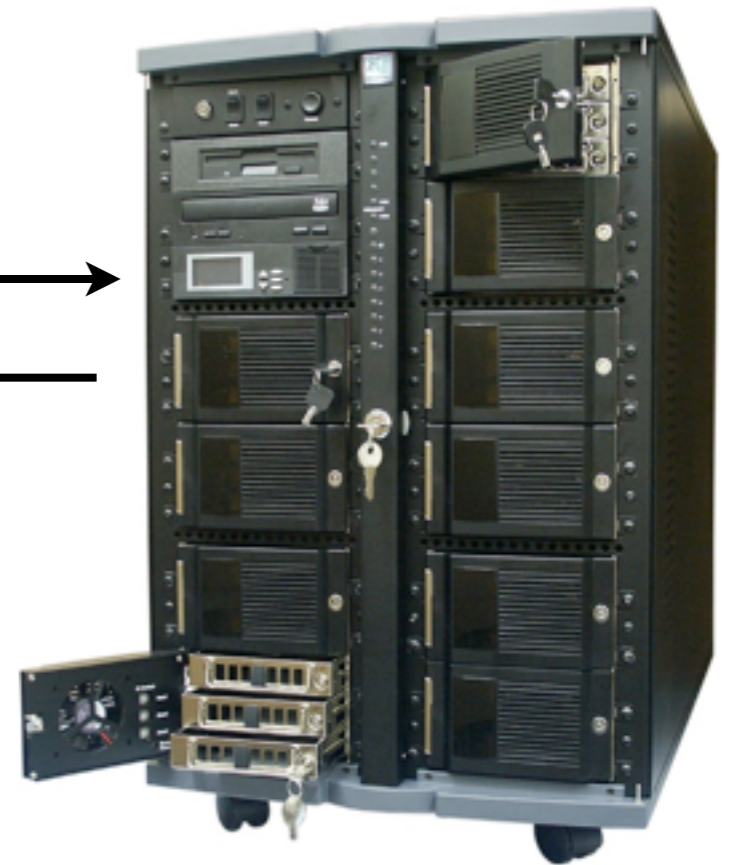
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Give me the Blue Scholars' page!



Ok here it goes:



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Ok here it goes:



```
<!-- ProfileVI NH-->
<html xmlns:myspace="http://x.myspacecdn.com/modules/sitesearch/static/rdf/
profileschema.rdf#">
<!-- UserProfile -->
<head><meta http-equiv="X-UA-Compatible" content="IE=EmulateIE7" />
<script type="text/javascript">
    //
var MySpace = {};
var MySpaceRes = {};
MySpaceRes.Common = {"Yes":"Yes","No":"No","Ok":"Ok","Attention":"Attention"};
MySpaceRes.Header = {"Cancel":"Cancel / Cancelación","Continue":"Continue /
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<!-- UserProfile -->
<head><meta http-equiv="X-UA-Compatible" content="IE=EmulateIE7" />
<script type="text/javascript">
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var MySpace = {};
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Let's check out the Blue Scholars' MySpace page



Cool, thanks!

Ok here it goes:

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<!-- ProfileVI NH-->
<html xmlns:myspace="http://x.myspacecdn.com/modules/sitesearch/static/rdf/
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<!-- UserViewProfile -->
<head><meta http-equiv="X-UA-Compatible" content="IE=EmulateIE7" />
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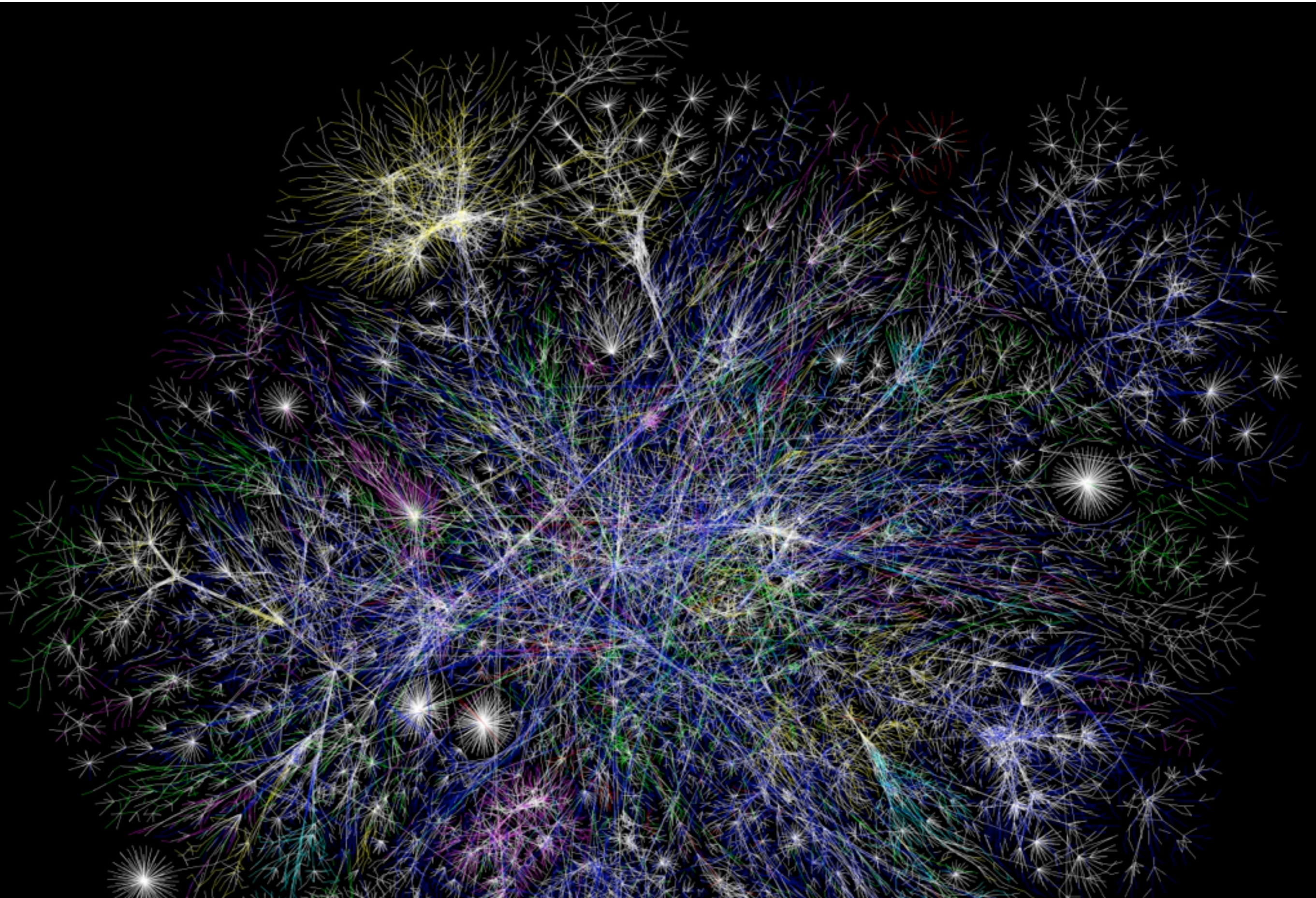
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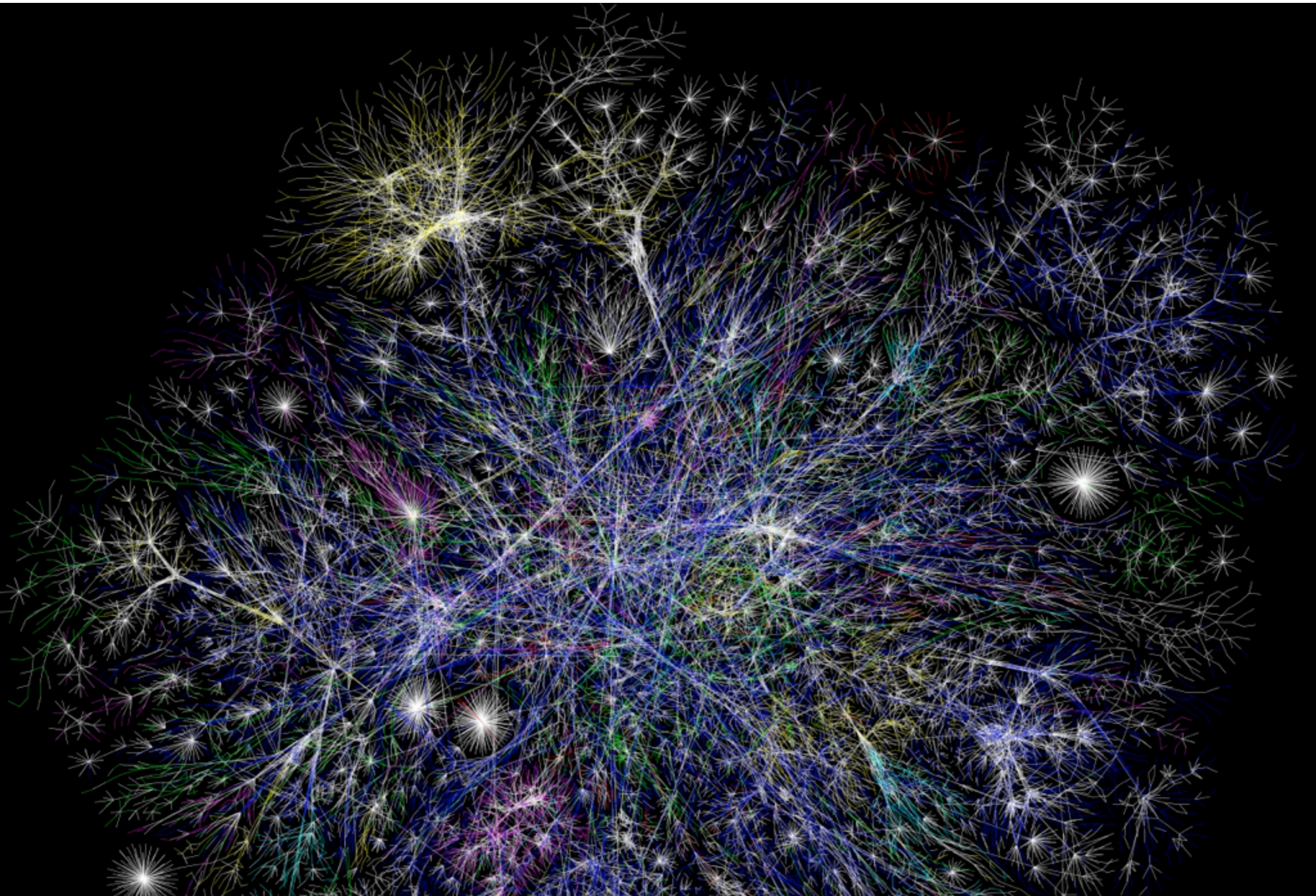




<http://www.myspace.com/bluescholars>



myspace blue scholars





<http://www.myspace.com/bluescholars>



myspace blue scholars



Where's MySpace?!



# IP addresses

- Every computer on the Internet has a unique address (ex.: 74.125.67.100)
- Domain Name Servers (DNS) map names to addresses



DNS server: 208.67.222.222



You: 67.171.16.158

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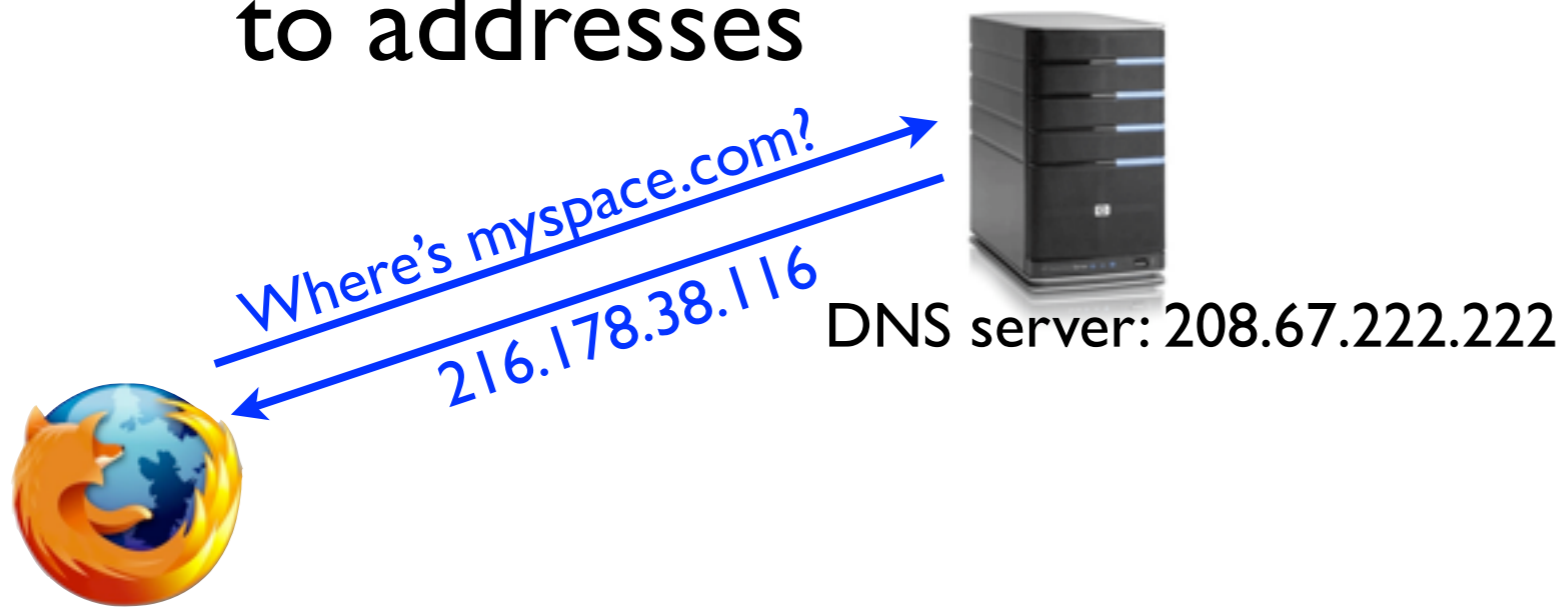
*Where's myspace.com?*



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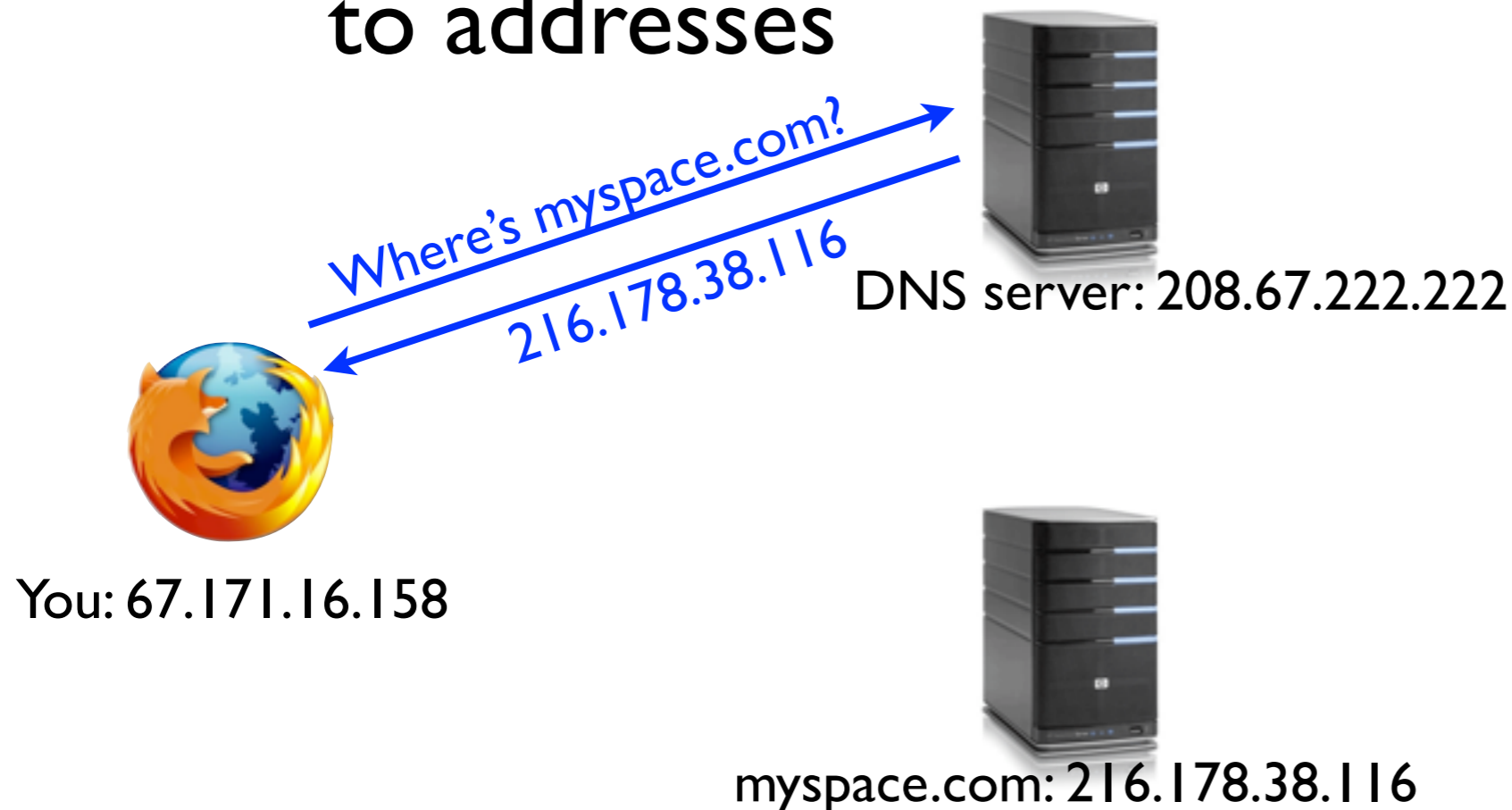
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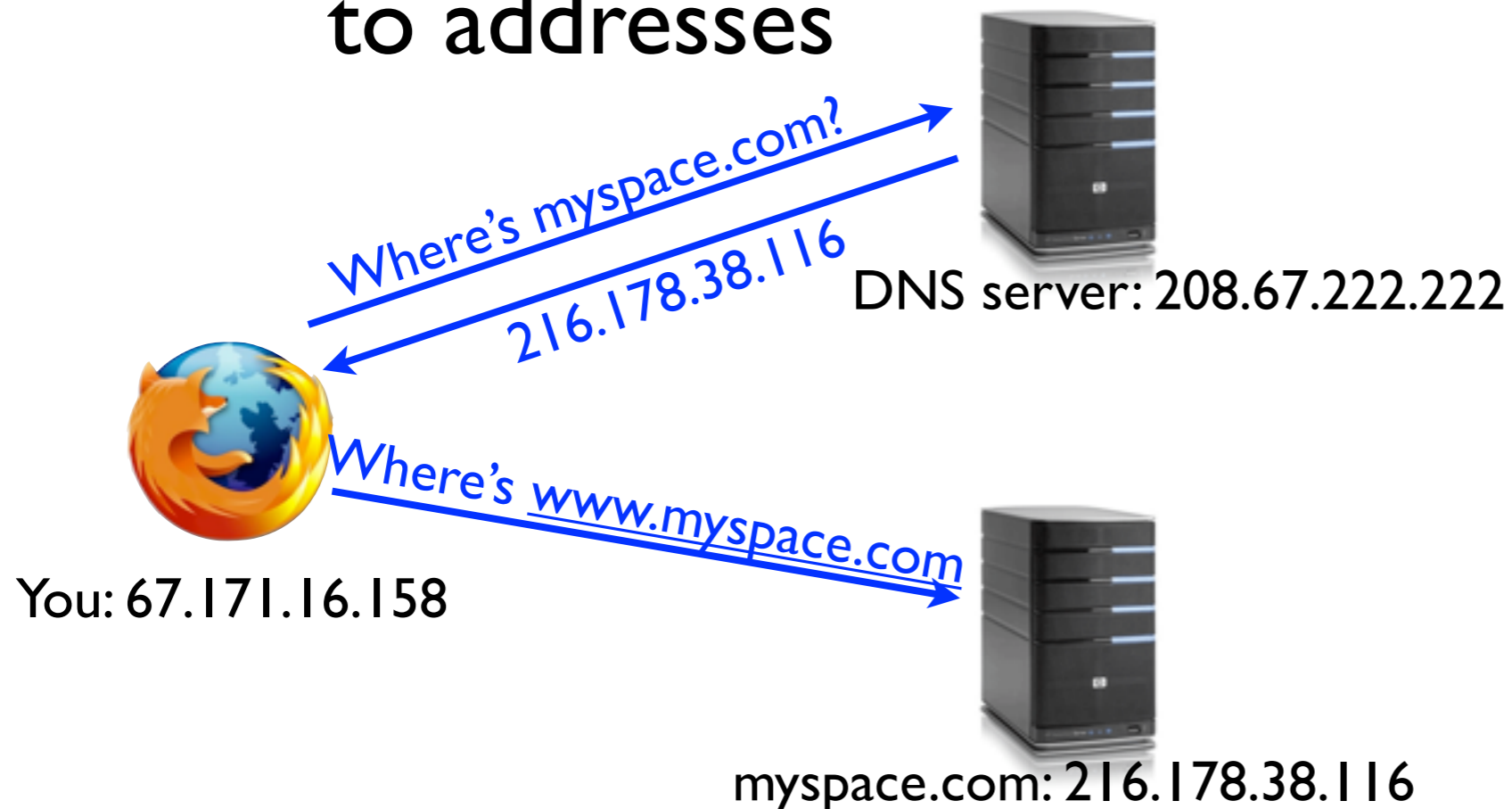
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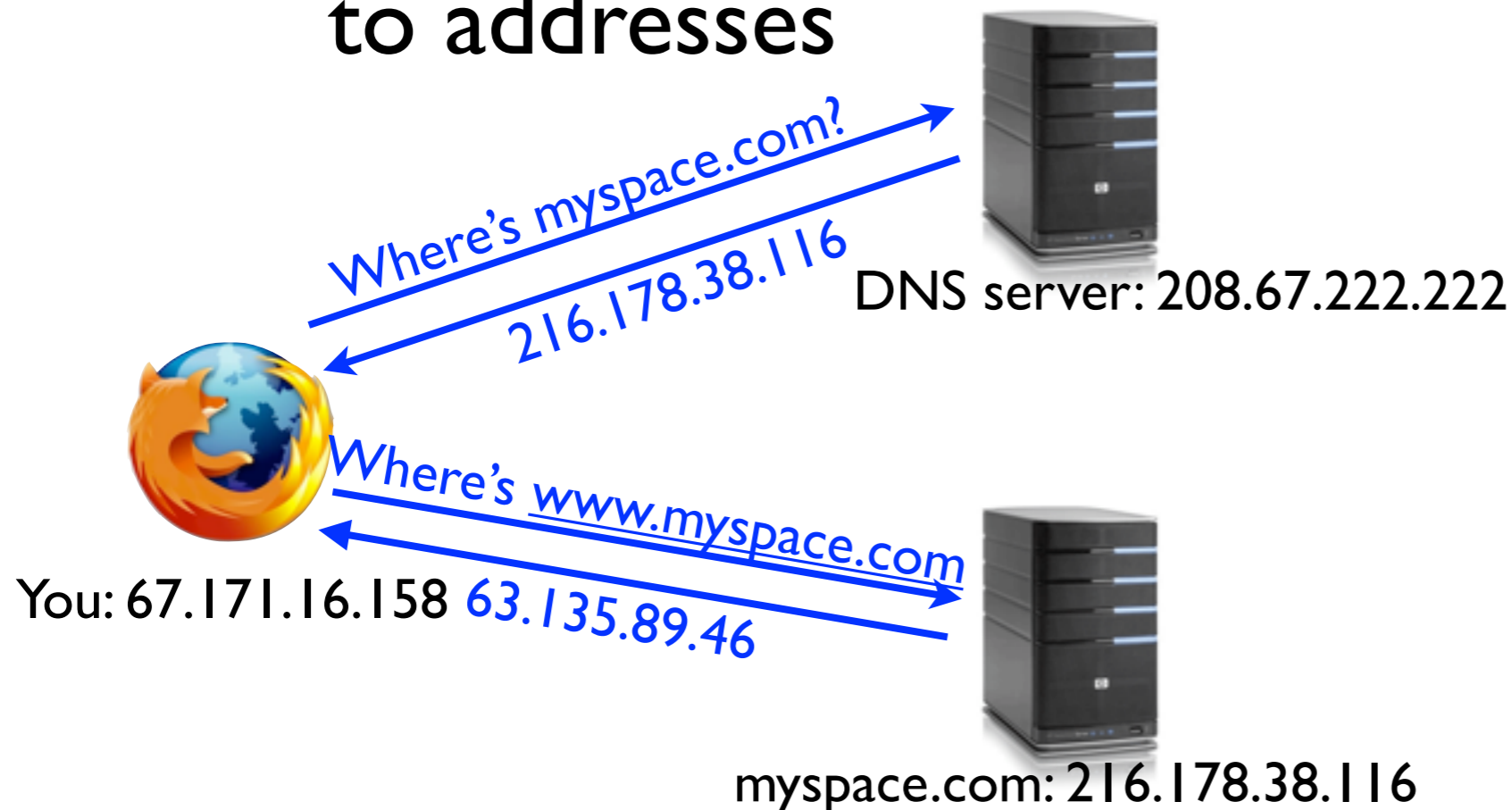
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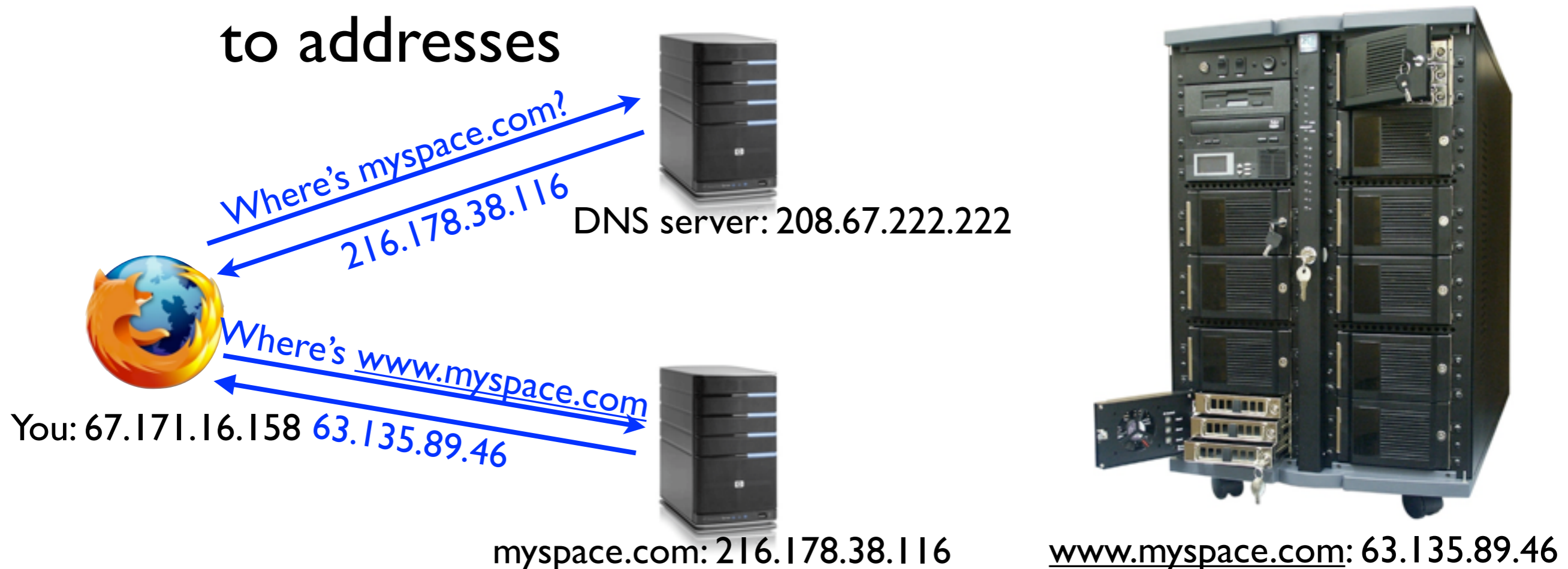
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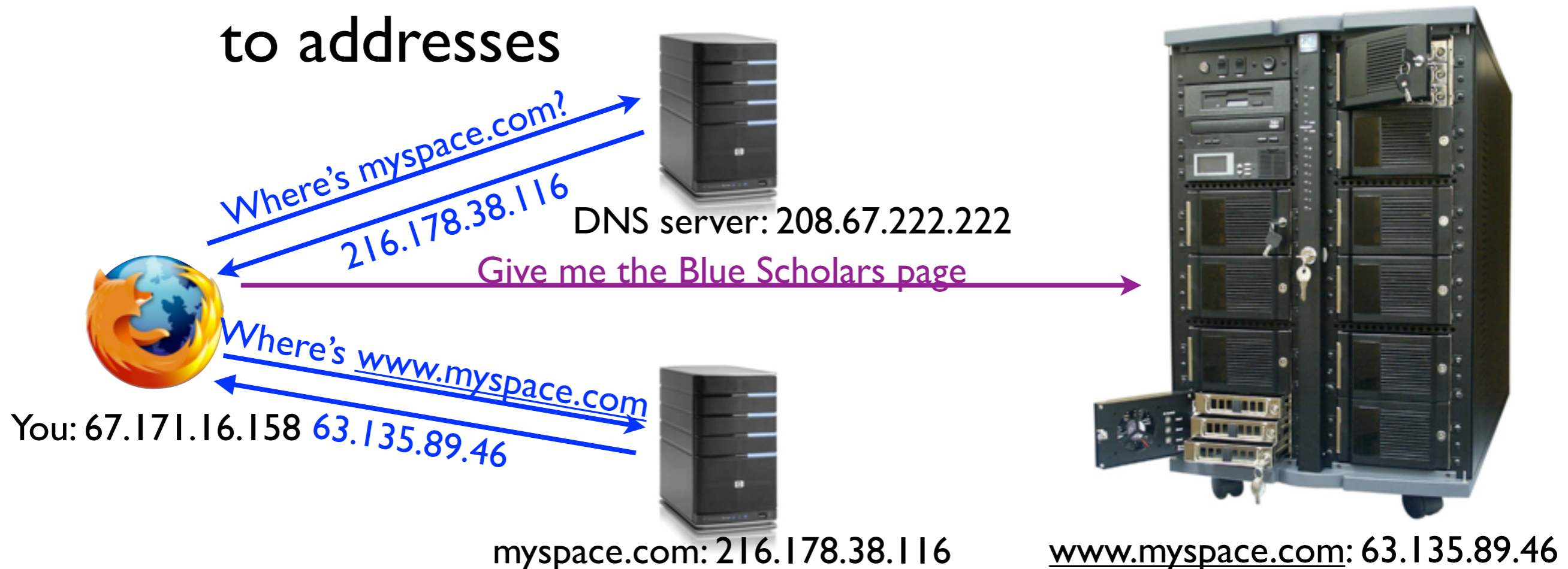
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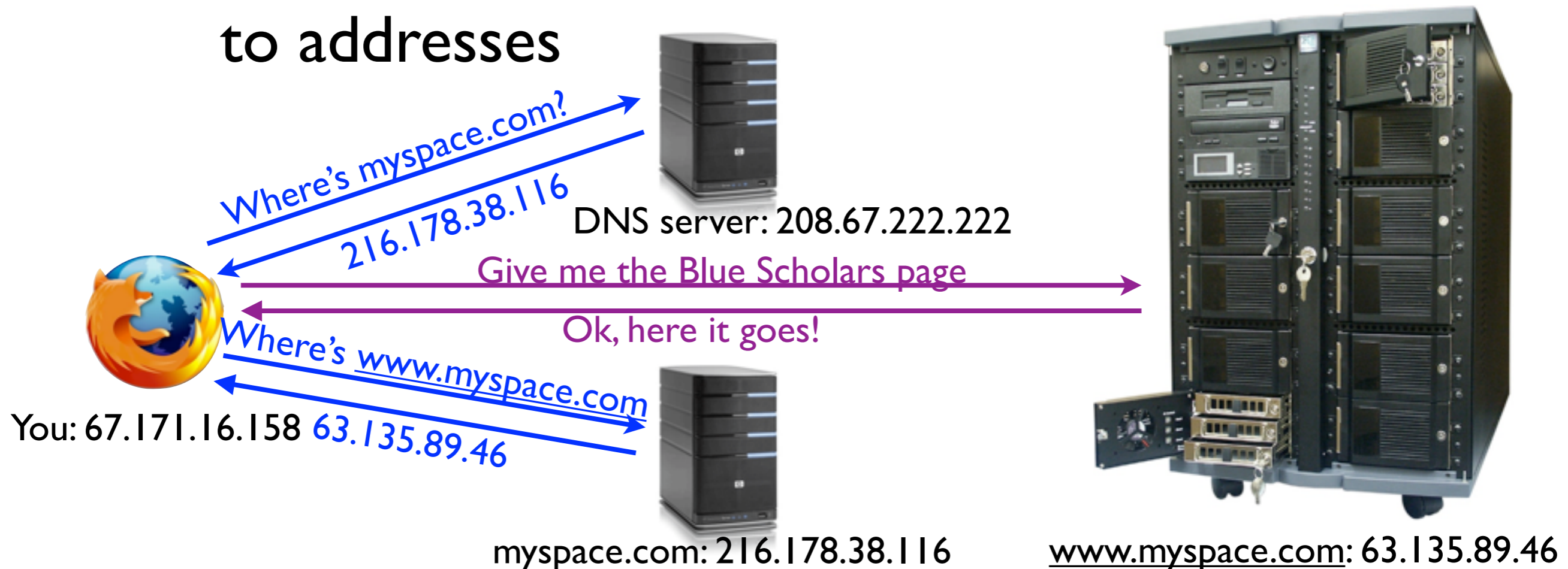
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# Searching



<http://www.myspace.com/bluescholars>



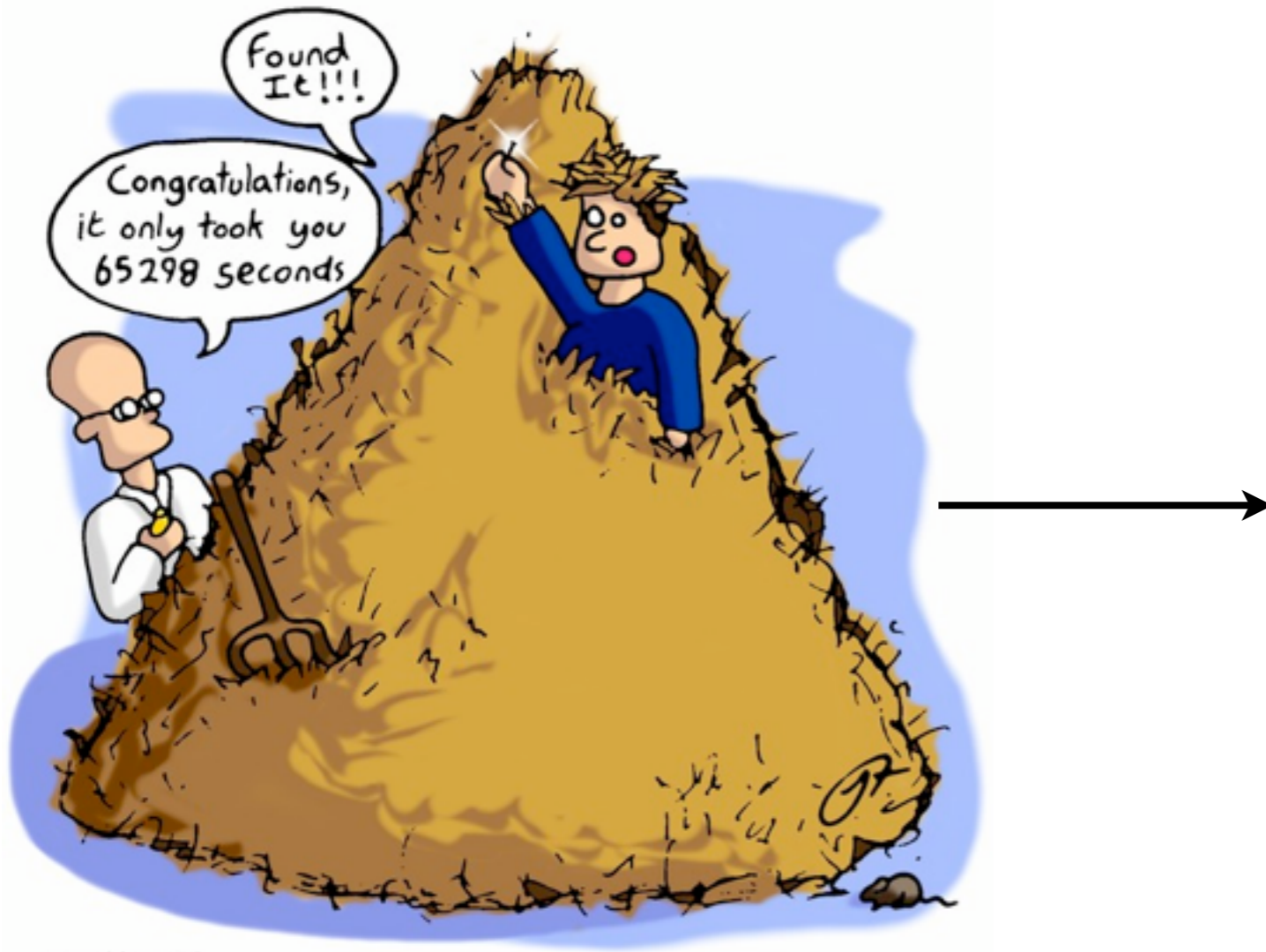
myspace blue scholars



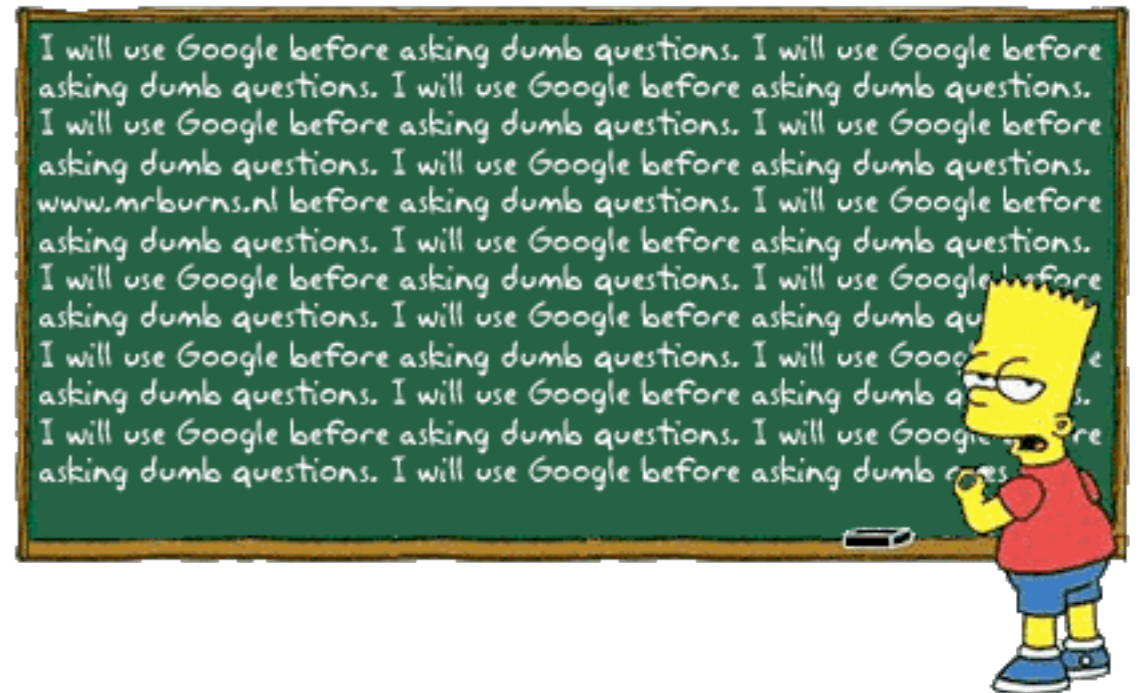
# Searching



# Searching



# Searching



# A bunch of links and words

- “Crawlers” or “spiders” look at pages
- Extract all words and links
- Stores them in a table, much like the index of a book
- When you make a query, it’s looked up in the table

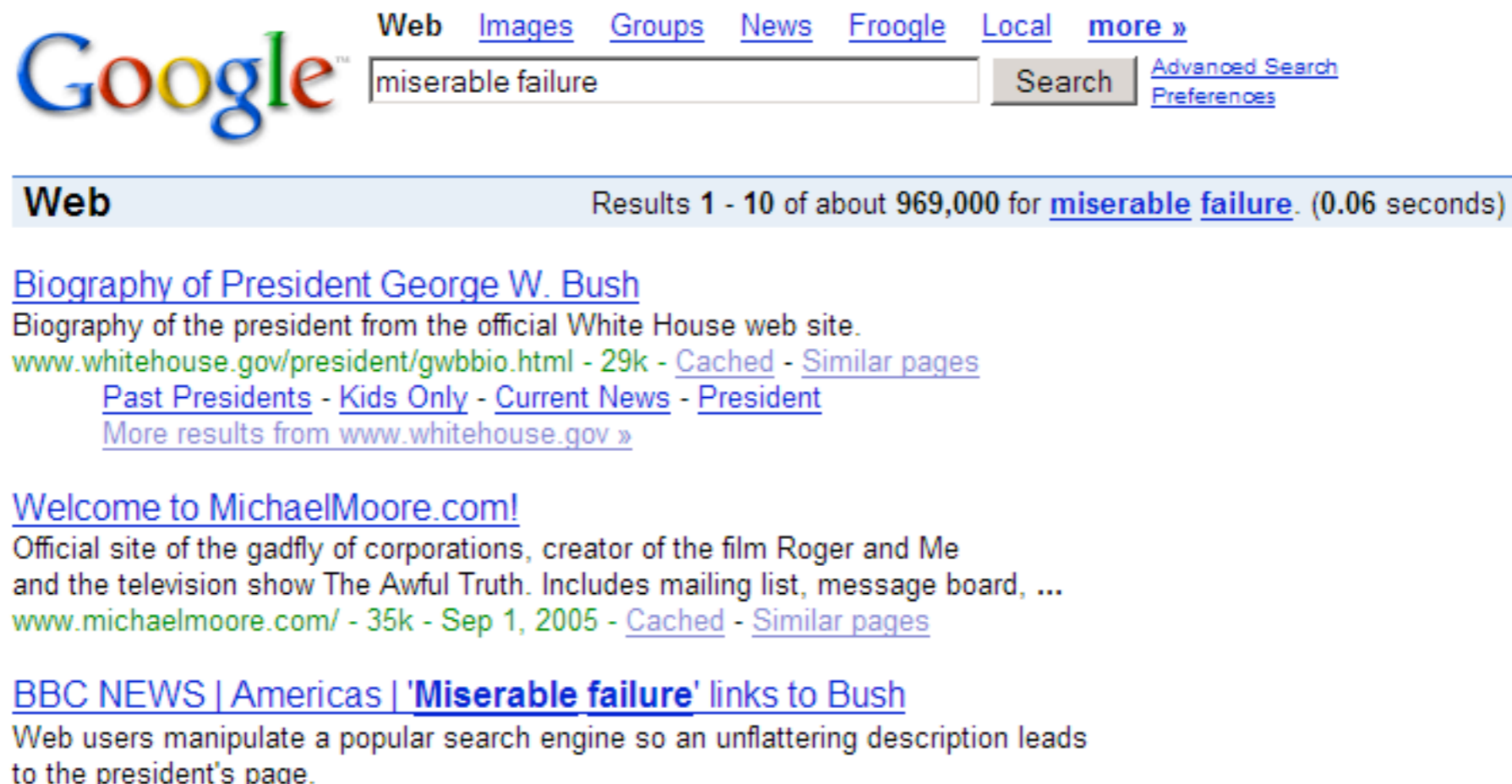


# Page Ranking

- A page is important if a lot of important pages link to it
- Entire Internet gets to “vote”

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The image shows a screenshot of a Google search interface. At the top, the Google logo is on the left, and navigation links for 'Web', 'Images', 'Groups', 'News', 'Froogle', 'Local', and 'more »' are on the right. Below the logo is a search input field containing the text 'miserable failure', followed by a 'Search' button and links for 'Advanced Search' and 'Preferences'. Below the search bar, a horizontal bar indicates 'Web' and 'Results 1 - 10 of about 969,000 for miserable failure. (0.06 seconds)'. The first search result is titled 'Biography of President George W. Bush' and includes a description, a URL, and additional links. The second result is titled 'Welcome to MichaelMoore.com!' and includes a description and a URL. The third result is titled 'BBC NEWS | Americas | 'Miserable failure' links to Bush' and includes a description.

Google™ [Web](#) [Images](#) [Groups](#) [News](#) [Froogle](#) [Local](#) [more »](#)

[Advanced Search](#)  
[Preferences](#)

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**Web** Results 1 - 10 of about 969,000 for [miserable failure](#). (0.06 seconds)

[Biography of President George W. Bush](#)  
Biography of the president from the official White House web site.  
[www.whitehouse.gov/president/gwbbio.html](http://www.whitehouse.gov/president/gwbbio.html) - 29k - [Cached](#) - [Similar pages](#)  
[Past Presidents](#) - [Kids Only](#) - [Current News](#) - [President](#)  
[More results from www.whitehouse.gov »](#)

[Welcome to MichaelMoore.com!](#)  
Official site of the gadfly of corporations, creator of the film Roger and Me and the television show The Awful Truth. Includes mailing list, message board, ...  
[www.michaelmoore.com/](http://www.michaelmoore.com/) - 35k - Sep 1, 2005 - [Cached](#) - [Similar pages](#)

[BBC NEWS | Americas | 'Miserable failure' links to Bush](#)  
Web users manipulate a popular search engine so an unflattering description leads to the president's page.