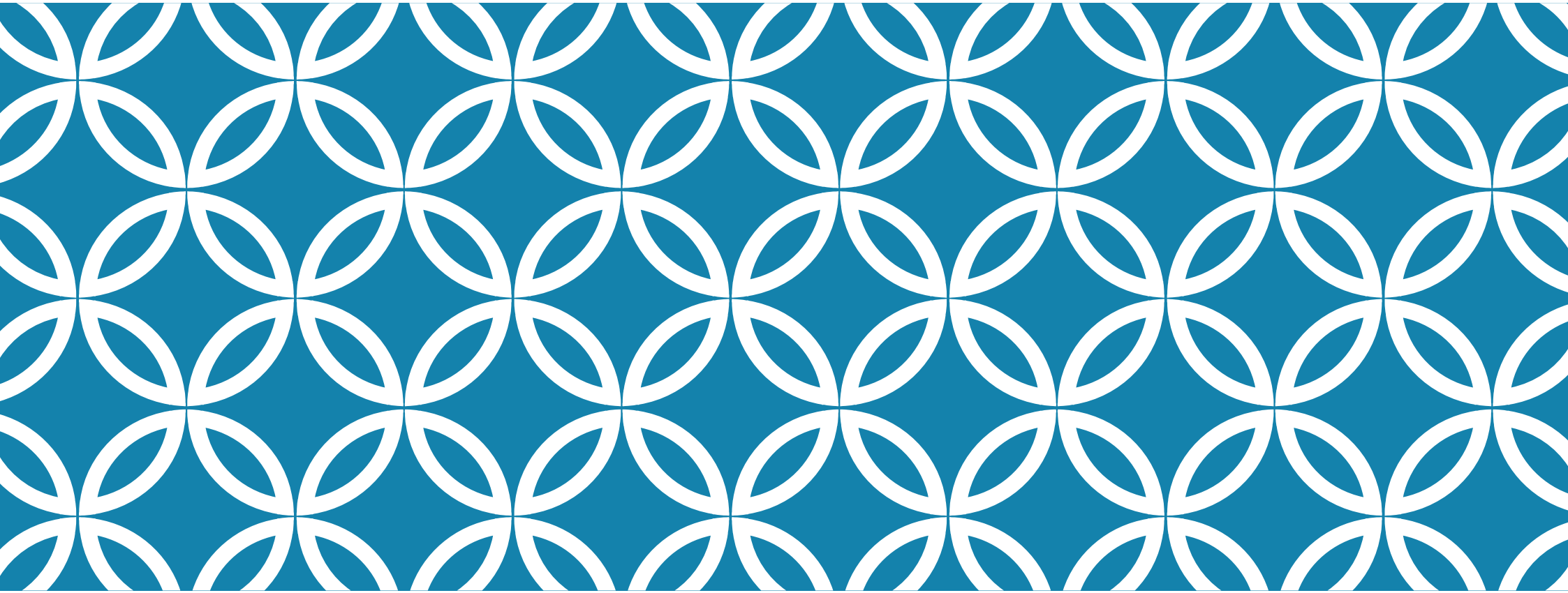
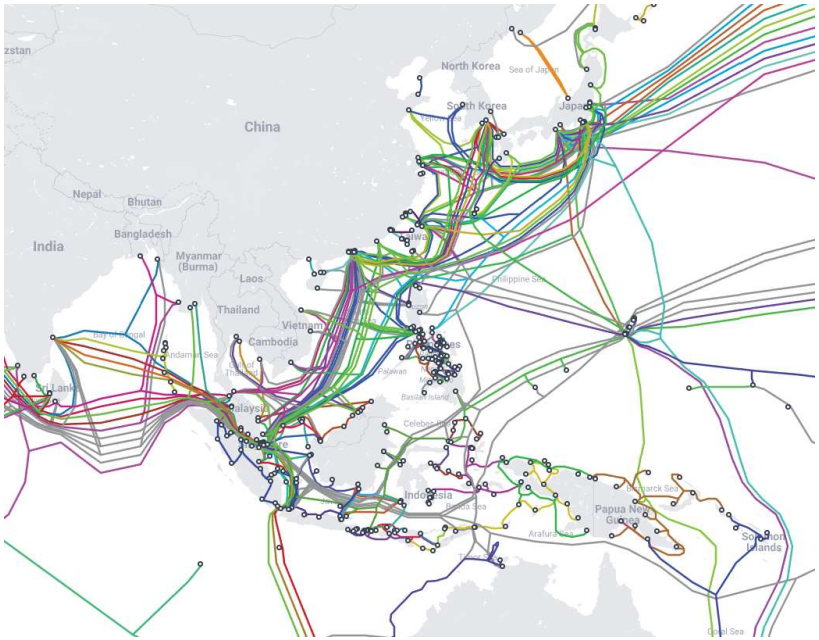


THE INTERNET AND ITS USES

Chapter 5

THE DIFFERENCES BETWEEN THE INTERNET AND THE WORLD WIDE WEB

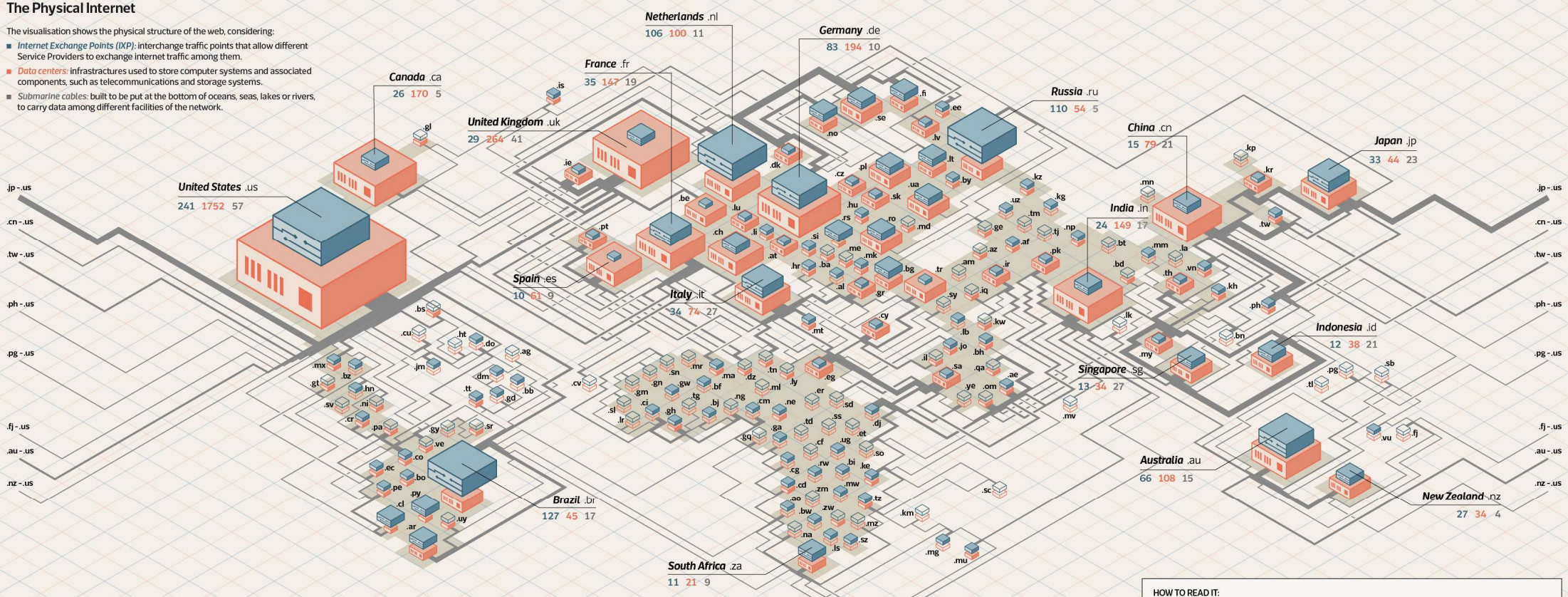
- Internet
  - It is a massive infrastructure that enables various technologies and services to communicate with each other
  - Interconnected Network
  - Network of networks
  - Use TCP/IP for transferring data

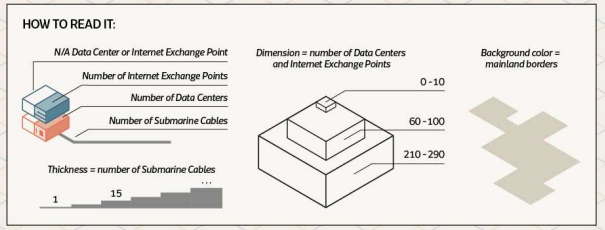


The Physical Internet

The visualisation shows the physical structure of the web, considering:

- *Internet Exchange Points (IXP):* interchange traffic points that allow different Service Providers to exchange internet traffic among them.
- *Data centers:* infrastructures used to store computer systems and associated components, such as telecommunications and storage systems.
- *Submarine cables:* built to be put at the bottom of oceans, seas, lakes or rivers, to carry data among different facilities of the network.





INTERNET DOMAINS

A .ae United Arab Emirates – .af Afghanistan – .ag Antigua and Barbuda – .al Albania – .am Armenia – .ao Angola – .ar Argentina – .at Austria – .az Azerbaijan – **B** .ba Bosnia and Herzegovina – .bb Barbados – .bd Bangladesh – .be Belgium – .bf Burkina Faso – .bg Bulgaria – .bh Bahrain – .bi Burundi – .bj Benin – .bn Brunei – .bo Bolivia – .bs Bahamas – .bt Bhutan – .bw Botswana – .by Belarus – .bz Belize – **C** .cd Dem. Rep. of Congo – .cf Central African Rep. – .cg Republic of Congo – .ch Switzerland – .ci Cote d'Ivoire – .cl Chile – .cm Cameroon – .co Colombia – .cr Costa Rica – .cu Cuba – .cv Cape Verde – .cy Cyprus – .cz Czech Republic – **D** .dj Djibouti – .dk Denmark – .dm Dominica – .do Dominican Republic – .dz Algeria – **E** .ec Ecuador – .ee Estonia – .eg Egypt – .er Eritrea – .et Ethiopia – **F** .fi Finland – .fj Fiji – **G** .ga Gabon – .gd Grenada – .ge Georgia – .gh Ghana – .gl Greenland – .gm Gambia – .gn Guinea – .gq Equatorial Guinea – .gr Greece – .gt Guatemala – .gw Guinea-Bissau – .gy Guyana – **H** .hn Honduras – .hr Croatia – .ht Haiti – .hu Hungary – **I** .ie Ireland – .il Israel – .iq Iraq – .ir Iran – .is Iceland – **J** .jm Jamaica – .jo Jordan – **K** .ke Kenya – .kg Kyrgyzstan – .kh Cambodia – .km Comoros – .kr South Korea – .kw Kuwait – .kz Kazakhstan – **L** .la Laos – .lb Lebanon – .li Liechtenstein – .lk Sri Lanka – .lr Liberia – .ls Lesotho – .lt Lithuania – .lu Luxembourg – .lv Latvia – .ly Libya – **M** .ma Morocco – .md Moldova – .me Montenegro – .mg Madagascar – .mk North Macedonia – .ml Mali – .mm Myanmar – .mn Mongolia – .mr Mauritania – .mt Malta – .mu Mauritius – .mv Maldives – .mw Malawi – .mx Mexico – .my Malaysia – .mz Mozambique – **N** .na Namibia – .ne Niger – .ng Nigeria – .ni Nicaragua – .no Norway – .np Nepal – **O** .om Oman – **P** .pa Panama – .pe Peru – .pg Papua New Guinea – .ph Philippines – .pk Pakistan – .pl Poland – .pt Portugal – .py Paraguay – **Q** .qa Qatar – **R** .ro Romania – .rs Serbia – .rw Rwanda – **S** .sa Saudi Arabia – .sb Solomon Islands – .sc Seychelles – .sd Sudan – .se Sweden – .si Slovenia – .sk Slovakia – .sl Sierra Leone – .sn Senegal – .so Somalia – .sr Suriname – .ss South Sudan – .sv El Salvador – .sy Syria – .sz Eswatini – **T** .td Chad – .tg Togo – .th Thailand – .tj Tajikistan – .tl Timor-Leste – .tm Turkmenistan – .tn Tunisia – .tr Turkey – .tt Trinidad and Tobago – .tw Taiwan – .tz Tanzania – **U** .ua Ukraine – .ug Uganda – .uy Uruguay – .uz Uzbekistan – **V** .ve Venezuela – .vn Vietnam – .vu Vanuatu – **Y** .ye Yemen – **Z** .zm Zambia – .zw Zimbabwe

THE DIFFERENCES BETWEEN THE INTERNET AND THE WORLD WIDE WEB

- WWW
  - www allows users to access multimedia content (such as text, images, videos, and interactive elements) through hyperlinks. When you use a web browser like Google Chrome, Mozilla Firefox, or Microsoft Edge to access websites, you are interacting with the World Wide Web
  - It is a subset of services that are available on the Internet
  - Collection of webpages
  - Use http (hyper text transfer protocol) for transferring data
  - Webpages are written in html (hyper text markup language)
  - URL(uniform resource locator) is used to locate webpages

UNIFORM RESOURCE LOCATORS (URLS)

- URL (Uniform Resource Locator)
  - IP address is not good for human to remember
  - URL is used to represent IP address
  - DNS matches URL with correct IP address

protocol://website address/path/filename

Protocol is usually http or https

Website address is

- domain host (www)
- domain name (name of website)
- domain type (.com, .org, .net, .gov, and so on)
- (sometimes) a country code (.uk, .de, .cy, .br, and so on).

WEB BROWSERS

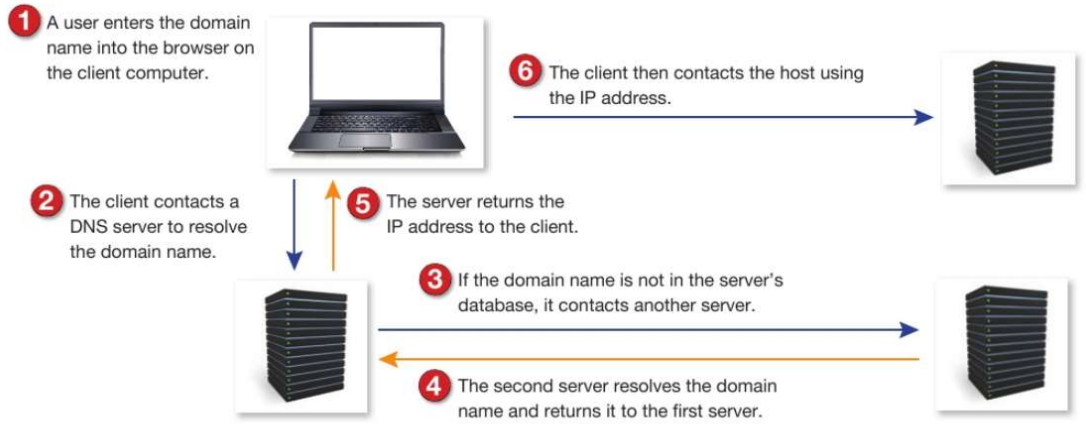
- Web browser
  - It is a software that allow a user to access and display web pages on their device screens
  - Browsers interpret (translate) the HTML from websites and show the result of the translation
  - It has some features:
    - they have a home page
    - they can store a user's favourite websites/web pages (referred to as bookmarks)
    - they keep a history of websites visited by the user (user history)
    - they have the ability to allow the user to navigate forwards and backwards through websites/web pages already opened
    - many web pages can be open at the same time by using multiple tabs
    - they make use of cookies (see Section 5.1.6)
    - they make use of hyperlinks that allow navigation between websites and web pages

INTERNET SERVICE PROVIDER

- A company that provides a connection to Internet
  - Monthly fee
  - Mobile carrier

RETRIEVAL AND LOCATION OF WEB PAGES

- Domain names
  - This is part of the URL for a resource on the internet
  - Domain name will be converted to the correct IP address by DNS
  - IP is a unique number identifying each computer in a network
- Doman Name Service (DNS)
  - Humans use URL because it is easy to remember
  - But computers in a network using IP address for identifying each computer
  - DNS convert domain name to correct IP address



▲ Figure 5.8 Domain name service (DNS)

QUESTION

An example of a URL is given.

https://www.cambridgeassessment.org.uk/index.html

Complete the table to identify the name of each section of the URL.

URL section	Name
https	
cambridgeassessment.org.uk	
/index.html	

QUESTION

- What are differences between www and Internet