## System information

Graphical user interface, text, application, email

Description automatically generated

Graphical user interface, text

Description automatically generated

Figure : Interface protocol for storage units

Text

Description automatically generated

Figure : Storage devices and size of storage devices

Graphical user interface, text

Description automatically generated with medium confidence

Graphical user interface, text

Description automatically generated with medium confidence

Graphical user interface, application

Description automatically generated

## Network information

Ping: [Understanding the Ping and Traceroute Commands - Cisco](https://www.cisco.com/c/en/us/support/docs/ios-nx-os-software/ios-software-releases-121-mainline/12778-ping-traceroute.html)

[What is a ping and how does it work? (techtarget.com)](https://www.techtarget.com/searchnetworking/definition/ping)

The ping-test utility is used for network testing and diagnostics. It uses the Internet Control Message protocol in the network layer to send Ip-Packets with an echo request. The echo request makes sure several packets are sent back and forth. This makes it possible to confirm if a host in a network is active, the speed/response -time of data travel, and the packet loss in the connection.

Graphical user interface, text

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Figure : Network devices?

MAC address: Text

Description automatically generated with medium confidenceFigure : MAC-Adress and IP-address

* As of writing this, the laptop is connected to the router via an ethernet adapter named *Ethernet Adapter Ethernet 3* accessed by Powershell with the command *ipconfig /all*.
* The logical address of the active network is 172.19.10.222 (My laptop is plugged into a dock at work, which connects it to the network over ethernet).
* Because of the IP-Address we can assume the connection is using the TCP/IP protocol. The first four bits in the IP-address tells us it’s a class B address, with the subnet-mask being 255.255.255.0. The ipconfig /all command also gives us the IP-address for the DHCP-server (Dynamic Host Configuration protocol), this implies that the address assigned to the ethernet adapter is dynamic.
* [Types of Network Protocols and Their Uses (w3schools.in)](https://www.w3schools.in/types-of-network-protocols-and-their-uses/) . [Types of Networking Protocols | Top Four Major Protocols of Networking (educba.com)](https://www.educba.com/types-of-networking-protocols/). UDP for real time data transferm pop for receiving emails, smpt sending emails, http/https for web use, FTP.
* If we look at the information provided by ipconfig /all in powershell, under *Ethernet adapter Ethernet 3* the IP6-adress is listed as Link-Local IPv6 address with the address being fe80::c4e5:e05f:7479:e7e2%21

## Wireless

* In figure 1.2 from the assignment paper. The first option seems to be the ideal one, with the wireless signal being the strongest, and having the fewest connections.
* From Figure 1.2, its unclear if a password is necessary. This is due to the Encryption being unknown for the network.
* In figure 1.2 from the assignment paper, there are no other networks shown because.
* Assume owners, location, security. In the list in Figure 1.3 in the assignment paper. We can assume Thamm is the name of the owner of the network, as it is a computer-to-computer connection. Due to the bad signal strength, we can assume there’s a significant distance between the nodes, we can also see that the connection is unsecured which is unwise, especially to a computer. The network CM have security, but not specified which type. The signal strength is very good, indication the access point is close. AB Stargate1 have the same properties as CM, with a lower signal strength. AB ext. and AB Stargate have the same properties as CM and AB Stargate1 but with a bad signal quality, indicating they are further away. AB Skywalker have a medium to low signal strength, and WPA security. WPA is better than the security of the other options, something like WPA2 should have been employed.
* [WPA vs WPA2: Which WiFi Security Should You Use? (pandasecurity.com)](https://www.pandasecurity.com/en/mediacenter/security/wpa-vs-wpa2/)
* A picture containing text

  Description automatically generated

## Network testing

* Text

  Description automatically generatedBy first pinging Aftenposten.no, we it has a good connection with a short response time of 2ms. Trying Alibaba.com (assuming the server is further away from this computers location). There’s also a good connection, but with a significant higher response time.

Text

Description automatically generated

Figure 5: Respons from ping application

Text

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Figure 6: The Nodes which the computer where able to ping

Graphical user interface, text, application, email

Description automatically generated

|  |
| --- |
| using System;  using System.Collections.Generic;  using System.Linq;  using System.Text;  using System.Threading.Tasks;  using System.Threading;  using System.Net;  using System.Net.NetworkInformation;  //  namespace PingUtility  {  class Program  {  /// <summary>  /// //////////////////////////////////////////////////////////////////////////////  static void Main(string[] args)  ///  /// Purpose: the main function in the application handling the ping()communication  ///  /// Version: 1.0: 8-JAN-17: NOS  /// </summary>  {  string host, data;  byte[] buffer;  int timeout;  Ping pingSender = new Ping();  PingOptions options = new PingOptions();  // Use the default Ttl value which is 128,  // but change the fragmentation behavior.  options.DontFragment = true;  // Create a buffer of 32 bytes of data to be transmitted.  data = "sitterpaatogettilbergenpaaenfred";  buffer = Encoding.ASCII.GetBytes(data);  timeout = 120;  // Name or address of node to access  host = "www.alibaba.com";  PingReply reply = pingSender.Send(host, timeout, buffer, options);  if (reply.Status == IPStatus.Success)  {  Console.WriteLine(" Ping communication status for {0}:", host);  Console.WriteLine(" ------------------------------------------");  Console.WriteLine(" Address: {0}", reply.Address.ToString());  Console.WriteLine(" RoundTrip time (mSec): {0}", reply.RoundtripTime);  Console.WriteLine(" Time to live: {0}", reply.Options.Ttl);  Console.WriteLine(" Dont fragment: {0}", reply.Options.DontFragment);  Console.WriteLine(" Buffer size: {0}", reply.Buffer.Length);  Console.WriteLine(" ------------------------------------------");  }  else  {  Console.WriteLine(" Error connecting to network address/name {0}", host);  }  Console.WriteLine(" Press CR or Enter to Quit the application");  Console.ReadLine();  }  }  } |