

# Computer engineering glossary

*Edited by Matjaž Guštin - [matjaz.it](http://matjaz.it), 25 July 2016*

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## Computer

A device that can be instructed to perform some arithmetical and logical operations automatically.

## Software

Set of machine-readable instructions that directs a computer's processor to perform specific operations. It tells the computer what to do. Sometimes a synonym of **program** although has a broader meaning.

## Hardware

Physical electronic components of a computer.

*Examples: outside the case - mouse, keyboard, screen, printer, USB ports; inside the case - processor, memory, disk, network card, graphic card, sound card*

## System

Interconnected components that behave as one. Creates output from input. A system is anything we want to consider as one.

## Operating system

A software suite that manages computer hardware and software resources and provides common services for computer programs such as current time, network connections, windows and buttons. The core of the operating system is called the Kernel.

*Examples: Windows, OS X (macOS), GNU/Linux, \*BSD, Android, iOS*

## Computer network

A telecommunications network which allows computers to exchange data.

## Internet

The global system of interconnected computer networks. Is a network of networks. 2016: ~20 billion devices. 2020: ~50 billion (Cisco estimate).

## ISP

Internet Service Provider. The company that gives you access to the Internet (for money). Offers a telecommunication infrastructure and IP addresses.

## IP address

A unique (although may be temporary) identifier of each computer on a network (and on the Internet), just like a phone number.

*Examples: 216.239.32.10, 2001:0db8:0000:0000:0000:ff00:0042:8329*

## Domain Names

Names assigned to computers to be easier to remember than IP addresses. The Domain Name Service (DNS) translates names to IP addresses like a phone/address book.

*Example: matjaz.it = 94.141.20.79*

## Server-Client

A server is a computer program that provides functionality for other programs, called clients. Server and client may be on the same machine. Usually on different machines, connected using the Internet.

## World Wide Web, “The Web”

Set of documents and other resources identified by URLs interlinked by hypertext links. Can be accessed via the Internet. Basically whatever accessible by a browser.

## URL

Uniform Resource Locator. Informally termed a web address. Is a reference to a web resource containing its location on a computer network and a mechanism for retrieving it

*Example: <https://www.example.com/image.jpg>*

## Search engine

Software designed to search for information on the World Wide Web. Compares the searched terms with the content of web pages. Does not answer any question directly, only proposes related content.

## Net Neutrality

Is the principle that ISP and governments should treat all data on the Internet the same, so there is no discrimination/limiting by user, content, site, application, encryption etc.

## Cookies

A small piece of data sent from a website and stored in the user's web browser. For websites to remember the status of the user for authentication (login), shopping carts, purchase procedure steps etc. They are needed for a website to work properly, just like images or fonts. Tracking and advertisement cookies may be a privacy issue.