

# Glossary

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|       |   |   |
|-------|---|---|
| ISP   | Internet Service Provider                           |   |
| IXP   | Internet Exchange Point                             |   |
| RFC   | Request for Comments                                |   |
| FTP   | File Transfer Protocol                              |   |
| HTTP  | HyperText Transfer Protocol                         |   |
| SMTP  | Simple Mail Transfer Protocol                       |   |
| TCP   | Transmission Control Protocol                       |   |
| UDP   | User Datagram Protocol                              |   |
| RTT   | Round-Trip Time                                     |   |
| TLD   | Top-Level Domain                                    | .com, .edu, .sg,  |
| TTL   | Time-To-Live  | 1. Number of hops an IP datagram can go<br>2. The time to expiry in DNS cache   |
| RDT   | Reliable Data Transfer (Protocol)                   |   |
| UDT   | Unreliable Data Transfer                            |   |
| ACK   | Acknowledgement                                     |   |
| NAK   | Negative Acknowledgement                            |   |
| FSM   | Finite State Machine                                |   |
| MSS   | Maximum Segment Size                                | MTU - (minus) Header Length   |
| MTU   | Maximum Transfer Unit                               | Link-level capacity<br>MTU for an ethernet frame is the maximum size of the data field.   |
| MSL   | Maximum Segment Lifetime                            | The time a transport layer segment can be in the network  |
| SDN   | Software-Defined Networking                         | SDN attempts to centralize network intelligence in one network component by disassociating the forwarding process of network packets (data plane) from the routing process (control plane). |
| CIDR  | Classless InterDomain Routing                       | CIDR allows subnet masks of variable length.  |
| ICANN | Internet Corporation for Assigned Names and Numbers | Organisation that distributes IP addresses to ISPs.   |
| DHCP  | Dynamic Host Configuration Protocol                 | Automatically assigns IP addresses and other communication parameters to devices connected to the network using a client-server architecture.   |
| GBN   | Go-Back N   |   |
| SR    | Selective Repeat                                    |   |
| RIR   | Regional Internet Registries                        | Nonprofit corporations that   |

|             |  |   |
|-------------|--|---|
|             |  | administer and issue Internet Protocol (IP) address space and Autonomous System (AS) numbers within a defined region.   |
| sp          | Space  |   |
| cr          | Carriage Return  |   |
| lf          | Line Feed  |   |
| URI         | Uniform Resource Identifier                            | E.g., ISBN, passport number   |
| URL         | Uniform Resource Locator                               | The path to a resource  |
| AF          | Address Family   |   |
| rwnd        | receive_window   |   |
| AS          | Autonomous Systems                                     | An Autonomous System (AS) is a set of Internet routable IP prefixes belonging to a network or a collection of networks that are all managed, controlled and supervised by a single entity or organization.                        |
| WAN         | Wide Area Network                                      |   |
| LAN         | Local Area Network                                     |   |
| NAT         | Network Address Translation                            |   |
| BGP         | Border Gate Protocol                                   |   |
| RIP         | Routing Information Protocol                           |   |
| OSPF        | Open Shortest Path First                               |   |
| IS-IS       | Intermediate System - Intermediate System              | The IS-IS protocol is one of a family of IP Routing protocols, and is an Interior Gateway Protocol (IGP) for the Internet, used to distribute IP routing information throughout a single Autonomous System (AS) in an IP network. |
| ICMP        | Internet Control Message Protocol                      |   |
| NIC         | Network Interface Card<br>Network Interface Controller |   |
| EDC         | Error Detection and Correction                         |   |
| CRC         | Cyclic Redundancy Check                                |   |
| PPP         | Point-to-Point Protocol                                |   |
| SLIP        | Serial Line Internet Protocol                          |   |
| TDMA        | Time Division Multiple Access                          |   |
| FDMA        | Frequency Division Multiple Access                     |   |
| CSMA        | Carrier-Sense Multiple Access                          |   |
| CSMA/<br>CD | Carrier-Sense Multiple Access/Collision Detection      |   |
| MAC         | Media Access Control<br>Message Authentication Code    |   |
| ROM         | Read-Only Memory                                       |   |
| ARP         | Address Resolution Protocol                            |   |

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| PnP  | Plug-and-Play                          | In computing, a plug and play (PnP) device or computer bus is one with a specification that facilitates the recognition of a hardware component in a system without the need for physical device configuration or user intervention in resolving resource conflicts. |
| RSA  | Rivest-Shamir-Adleman                  |  |
| CA   | Certification Authority                |  |
| DoS  | Denial of Service                      |  |
| DDoS | Distributed Denial of Service          |  |
| ACL  | Access Control List                    |  |
| OTT  | Over-The-Top                           |  |
| AWS  | Amazon Web Services                    |  |
| CDN  | Content Distribution Network           |  |
| CBR  | Constant Bit Rate                      |  |
| VBR  | Variable Bit Rate                      |  |
| ADC  | Analog-to-Digital Converter            |  |
| DAC  | Digital-to-Analog Converter            |  |
| RTP  | Realtime Transport Protocol            |  |
| RTSP | Realtime Transport Streaming Protocol  |  |
| VoIP | Voice over IP                          |  |
| EWMA | Exponentially Weighed Moving Average   |  |
| FEC  | Forward Error Correction               |  |
| PCM  | Pulse-Code Modularization              |  |
| GSM  | Global System for Mobile Communication |  |
| DASH | Dynamic Adaptive Streaming over HTTP   |  |
| VoD  | Video on Demand                        |  |
| ABR  | Adaptive BitRate Algorithm             |  |
| MPD  | Media Presentation Description         |  |

Application layer: Message

Transport layer: TCP segment, UDP datagram

Network layer: IP datagram

Data link layer: frame

Physical layer: Has no packets, bits and Bytes.