Modele tcp ip et osi pdf

The chapter sets out the general principles of protocols and communication models. An explanation of the second-tier TCP/IP communication mechanisms for the OSI.1 model can be found here. Model TCP/IP1.1. The Internet Can still present a new paradigm for some of us: a number of common physical acts are being carried out remotely, manually or automatically by people, but also with machines and machines in between. Receiving or sending mail, checking files, phone or video calls, going to the library, watching a movie or doing banking work is facilitated by Internet technology. Funnel TCP / IPBut from our point of view, the Internet is connecting networks around the world. In IPv4 technology, the Internet has technically reached its height limit! View multiple paths through part of the Internet. Opte Project by Opte Project (. A partial map of the Internet, based on data dated June 15, 2005, located in opte.org. Each line links 2 nodes representing 2 IP addresses. The length of each line indicates the time between the two nodes. Image Source What is the Internet? Is it IPv4 or IPv6? Is net neutrality? What about load and cloud managers? For Leslie Daigle of the Internet Society (ISOC), none of these descriptions are very useful because they are all transient. According to her, a more useful way of thinking about the Internet is the characteristic of its immutable properties, that is, which have stood the test of time. These invariants, as the Internet society calls them include: its global reach, its overall purpose, its availability, its compatibility and reusable building block technology. More importantly, the Internet is characterized by cooperation. Source: About Leslie Daigle of ISOC (Internet Society), collected by Marcia Savage, Internet Lessons in Sustainability, 16/05/2018.1.2. TCP/IPWhat are TCP/IP targets? To communicate globally in a liberal (open) way, regardless of content, the host supports secure TCP/IP1.3 Communications. The TCP/IP ModelThe TCP/IP model is based on four layers that wrap the original messages before they are placed on a physical environment as waves representing communication data. Each layer provides maintenance and maintenance TCP/IP doesn't bother content (what users say in messages); it simply provides features that facilitate communication, sharing and dissemination of information. TCP/IP2 hourglass. The four-layer model TCP/IP2.1. The LayerIt app is a layer of communication that interacts with users. Examples of application protocols: HTTP, DNS, DHCP, FTP, ... He works on host machines.2.2. Transport layer: TCPShe is responsible for dialogue between terminal hosts communications. Apps will use TCP for reliable transport and UDP without this service. NAT routers and firewalls filter the transport layer.2.2. Internet layer: IPSit identifies the best paths through networks based on IPv4 or IPv6 addresses with global reach. Routers transmit IP traffic that is not intended for them.2.3. Network access layer: LAN/WANTCP/IP fails to handle the network access layerSee organizes binary flow and physically identifies hostsIt places binary flow on physical mediaThe switches, network cards, connectors, cables, etc. are part of this layerIn the view of the TCP/IP network access layer is empty because the internet protocol stack (TCP/IP) should interact with various technologies. The higher you go in layers, the more hardware you leave, the closer you get to software problems.2.4. In order to transfer content from one computer to another, the user will use a program that creates a message wrapped in the app's header, such as http. The message goes through the first encapsulation. The software will use the appropriate transport layer protocol to communicate with the remote host by adding a TCP or UDP header. The computer will then add an Internet title, IPv4, or IPv6, to deliver information to the host recipient. The headline contains addresses of the origin and destination of guests. Finally, this information will be encapsulated at the Access level, which will physically deliver the message. The process of encapsulating the dataIn the reception host performs a reverse operation, checking the beaters of each protocol, corresponding to one of the described layers. This process is called deincapsulation. The process of data deincapsulation Togetherert this layer adds functional information to the original message. At the front desk, the owner inspects each layer and decides about this traffic3. Illustration by example Scenario Spread The user opens a web page in his browser and gets access to his favorite web page: . Technically, the interface connected to the network sends the original message to a remote destination (it's clearly not local): it's an HTTP request that requires the opening of a web page (i.e. a file encoded in HTML). In the absence of this page, index.html will be serviced. The process of encapsulating dataSerPAPP GET on the websiteMoyining capture traffic that runs through the interface, we can observe the phenomena that will be explained below.3.1. Layer of the appIn our example, our user opens his favorite web page, and it appears immediately. But in fact, before he receives this result, he asks to read the resource (file) located somewhere else, somewhere on the net, www.test.tf. At best, most of the time, the page will be sent back and appear in its browser. This is the first useful message a user sent. For this type of use or application, there is a protocol layer of the application that is widely available, namely http1. This first post could be summarized: http www.test.tf, let me page/index.html. There will be a large number of application level protocols, each offering a type of service with its own features. They are designed to provide communication services that are as close to users (software) as possible. Some examples of app level commands: http commands: Give me a web page, here's a page, give me a picture, here's a picture. Team SIP: Attempt to install a voice or video link to such a phone number, such letters, I ring the bell, I open the line Order SMTP: Deliver this message to user@test.tf Order RTP: transmits such capsules video or audio DNS command: What is ip addresses www.test.tf, Here is the address IPv4 www.test.tfDHCP command: Give me an IP address. The TransportThis application layer is then wrapped, encapsulated in jargon by a transport layer protocol such as TCP. TCP provides users with a reliable service to use this web application. It is TCP that creates the intuition of a direct connection between two connected computers, between the user and the web server, making the pages on the other side of the world. Between the two machines installed a communication channel between the original port and the port's destination httpsee order. While TCP provides a transmission channel between two computers, it also offers a connected service connection. He initiates it, supports it with features such as flow control and error recovery, and finally he ends that link. This is called a connection-oriented protocol. Data encapsulation process3.3. Internet LayerFor these two computers to get to know each other for sure, they need identifiers other than the name of the destination or ports originally and at the destination. To this end, the new encapsulation adds information about the level of the Internet, such as the original IP address (source) and the IP address of the destination. They define the masters of communication from a logical and global point of view. It is through these addresses that data can reach the web server www.test.tf and return traffic is possible. Specific devices that are interconnected by physical lines are responsible for transferring these information packages to their destination. Between the two computers, packages can pass through several of them. Routers transfer packages from point of origin to end point of the network based on the IP address of the destination.3.4. The TCP/IPFat outlet from the type of adresse_IP:port_TCP source and destination, i.e. sockets in jargon, literally takes, on these connections creates a kind of tunnel; then we'll talk about the TCP session. TCP offers a connected mode that initiates a dialogue, supports it, and then closes it between two computers. This creates a logical channel that delivers useful messages (app layer). Thus, in reality, the TCP connection will be created before the HTTP request is submitted. The www.test.tf web server is a computer on the network whose web service software (Apache2 in this case) has supplied the TCP 80 port with one of its listening interfaces. Port 80 is the default port to provide a web service in HTTP (TCP80). The computer that makes the request or the customer uses a random port at high values. Each application layer protocol has a default port (which is useful to know), you can always set up the service to an unconventional port. POTOC HTTP TCPSi we are attentive to the capture, we find that DNS traffic (app) is supported by UDP (transport layer) requested name resolution in IPv4 (record) and IPv6 (AAAA record). UDP (User Datagram Protocol) is used to communicate Raw with the delivery of raw materials, as opposed to TCP. DNS exchange in UDP3.5. LayerFaly network access, this data can be physically transferred. The new capsule places information about the network access layer. For example, in our case, information specific to Wi-Fi or Ethernet will encapsive the IPv4 package. The latter, regardless of TCP/IP protocols, allow users to physically place all this data on a local network. The local network will take care of transferring this information to the right destination. This layer has many functions that provide physical transport: identification, delivery, support control, physical aspects, connectors, among many others. This layer differs from the logical and global functions of TCP/IP. We'll also remember the important role that ethernet switches, switches in jargon, who make their transfer decisions based on MAC addresses encoded in that layer. This low layer is also called data Link (L2) and physical layer (L1) collection in relation to the OSI model. Therefore, it provides protocols that do not ebb the TCP/IP battery: protocols or standards IEEE 802, ratified by ANSI, EIA/TIA or ITU, which actually have their own modeling until they are put on physical air.3.6 OperationsOn summary can summarize this transfer example by chart: CoucheProtocoleR'le Material ToolTplicationTTP offers a useful communication service: sharing web pages.ComputersTransportTCP offers a reliable http service, port entry/exit and session in connected mode. ComputersInternetIP identifies hosts in a unique way and allows packages to be routed between two end hosts. Computers, RoutersWi-FiS Network Access takes care of local delivery. Computers, switch, access point, copper/FO wiring, twisted pair, phone pair, coaxial waves EMI, RF, light3.7. One could imagine that the web server would study the information of each layer, from the lowest to the highest, when the message was received. It will continue what is called de-encapsulation. The process of de-selecting dataThe destination machine first examines the information layer of network access and primarily the address of the MAC destination. If it finds its own, it removes information from that layer and examines that online and transport layer. If he finds his IP address and TCP port at his destination, he trusts the original HTTP message to the app layer is handled by a system service that responds to protocol (Apache2, for example, /usr/sbin/httpd). The latter, in turn, can offer a response (web page) to the address and port that is in the message of the request. This response itself is encapsulated by the server and de-insupulated upon arrival on customer.3.8. Equal to The Equal CommunicationA Holistic Viewpoint, it's as if both computers speak on an equal basis, with each layer performing specific functions: Appendix: A Useful Message from Transport Users: Reliable Transportation or Non-Internet: Identification and Global Delivery Network Access: Identification and Local DeliveryTCP/IP, Peer-to-Line Communication4. Models and protocols have drawn detailed attention to TCP and UDP port numbers associated with Application.Model TCP/IP protocols and detailed protocols4.1. The OSI model and TCP/IP OSI simulations offer a 7-layer Theoretical wrapper, and the model's academic layers are also marked by their number On each layer of roles, protocols and material. PDU: the name given to encapsulation corresponding to the layer. OSI model and TCP/IP model compared to4.2. Address, identifiers and equipmentMays and their interfaces have identifiers at the level of each layer. The protocol and domain name layerIdentifyingExempleCent ApplicationA http:// followed by www.cisco.comCouche TransportPort TCP or UDP TCP80 as the default port for HTTPCouche InternetAdresse IPv4 and/or IPv6 192.168. 150.252/24 or 2001:db8:1/64Security access (MAC 802)70:56:81:bf:7c:374.3. Synthesis TableTCP/IPOSIR'lesPDUProtocolesMatialApplication7 ApplicationServices for usersDataHTTP, DNS, DHCPOrdinateursApplication6 Presentation, drawing, compresses useful datasideemidemApplication5 Session sets sessions between applicationsSidedememiTransport4 Transporttablit, supports sessions between hosts. SegmentTCP or UDPOrdinators, NAT routers, Internet3 Network firewalls identifies hosts and provides Atagram or IPvPv4 or IPv6RouteursAccesNet2 Data linkermines support access method, organizes bits of dataTrameEthernet IEEE 802.3, Wi-Fi IEEE 802.11 bypass 802.1Commops, network interface mapsAacies Network1 Physical occupies physical placement of signaling physical means: xDSL (WAN), 1000-BASE-TXC wiring (UTP CAT 6) and connectors (RJ-45), frequency band (2.4 GHz, 5 GHz)5Hz. The key elements to be remembered on the TCP/IP model are: the principle and scope of the number of TCP/IPle models of each layer (OSI) and its procedures, principles, materials and PDU related to the principles of addresses, identifiers and materials on the network, the Internet and transport access layers capable of cumulatively interpreting traffic capture based on the four levels of the TCP/IP tag model: ccna, encapsulation, icnd1, osi, protocol, tcp/ip Categories: Basics Updated: Monday, August 10, 2020 Rights: Ge Francoisoffen, Trainer, All reserved rights. Document status: 90% Twitter Facebook Google LinkedIn LinkedIn difference entre le model osi et tcp/ip. le modele osi et tcp/ip. le model osi et tcp/ip pdf. modele tcp ip et osi pdf. difference entre modele osi et tcp ip. cours modele osi et tcp ip pdf. exercice corrigé modele osi et tcp/ip. comparaison entre le modele osi et tcp/ip

differential equation mixture problems with solutions pdf
73577855583.pdf
noel_burch_off_screen_space.pdf