UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

INTEL CORP. and
CAVIUM, INC.,

Petitioners,

v.

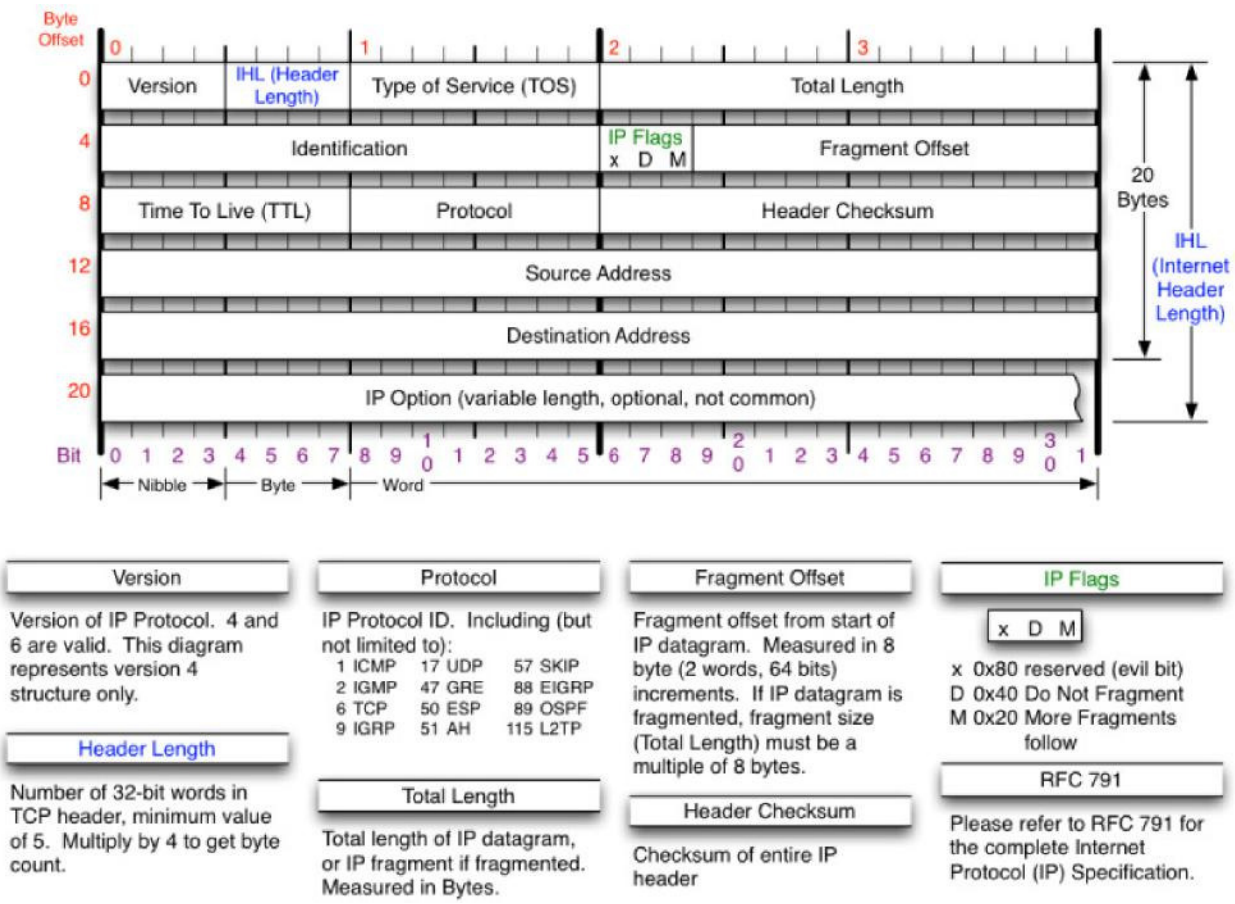
ALACRITECH INC.,

Patent Owner.

Case IPR2017-01391[1]
U.S. Patent 7,237,036

CORRECTED PATENT OWNER'S EXHIBIT 2026
DECLARATION OF KEVIN ALMEROTH, PH.D.

[1] Cavium, who filed a Petition in Case IPR2017-01718, has been joined as a petitioner in this proceeding.



(https://nmap.org/book/tcpip-ref.html, Ex. 2042.) I personally obtained this figure from the link above. This figure accurately depicts an IP header as of October 1997.

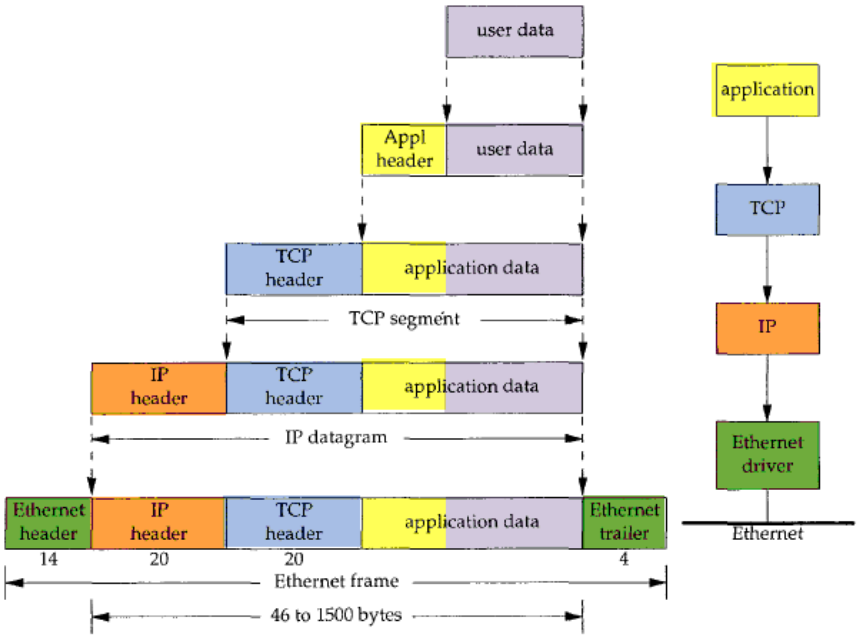
62. The Transmission Control Protocol, referred to as "TCP," is one of the main protocols used to send and receive information over the Internet. TCP is well known in the computer networking industry—one early TCP rule set was published as a Request for Comment (or "RFC") by the Internet Engineering Task Force ("IETF") in September 1981 (RFC 793). That rule set was based on an even earlier rule set published in December 1974 as RFC 675. TCP is an example of a

transport (layer 4) protocol in the OSI model. TCP is responsible for adding reliability and ordering to the stream of network information—for example, the packets of information sent using IP as the network-layer protocol may not arrive at the destination in the same order intended by the sender of the message. TCP sets rules for breaking up and transmitting the message so that the recipient is able to reliably receive and reassemble the message. Another common analogy from the physical world is the example of sending a multi-page letter through the mail by separately numbering each page and mailing it in its own envelope. IP, like the postal service, will route the envelope-like packets to the destination, but TCP (like the numbering of the individual pages) sets the rules to allow the recipient to verify that all of the pages have been received and to reassemble the pages in the right order.

63. TCP describes, for example, how two devices on the Internet may establish a connection over which TCP data packets may be communicated between them. By way of a negotiation process known as a three-way handshake, such a connection can be established between two nodes, and once that connection establishment phase completes, data transfer can begin. Typically, a TCP connection is managed by a device operating system so that applications such as a web browser or a web server like a CDN caching server can pass data to the operating system's TCP protocol "stack," and the operating system will manage

resulting in another combined data packet. The data resulting from combining the payload data, application layer header, and presentation layer header is then passed to the session layer, which performs required operations including attaching a session layer header to the data and presenting the resulting combination of data to the transport layer. This process continues as the information moves to lower layers, with a transport layer header, network layer header, and data link layer header and trailer attached to the data at each of those layers, with each step typically including data moving and copying, before sending the data as bit packets over the network to the second host. (*Id.* at 4:28-33.)

68. This process of adding a layer header to the data from the preceding layer is sometimes referred to as "encapsulation" because the data and layer header is treated as the data for the immediately following layer, which, in turn, adds its own layer header to the data from the preceding layer. Each layer is generally not aware of which portion of the data from the preceding layer constitutes the layer header or the user data; as such, each layer treats the data it receives from the preceding layer as some generic payload.



(Ex. 1008, Stevens at 1008.034, Figure 1.4 (adapted from Petition at 18).)

69. On the receiving side, the receiving host generally performs the reverse of the sending process, beginning with receiving the bits from the network. Headers are removed, one at a time, and the received data is processed, in order, from the lowest (physical) layer to the highest (application) layer before transmission to a destination within the receiving host (*e.g.*, to the operating system space where the received data may be used by an application running on the receiving host). (Ex. 1001 at 4:34-39.) Each layer of the receiving host recognizes and manipulates only the headers associated with that layer, since to that layer the higher layer header data is included with and indistinguishable from the payload data. "Multiple interrupts, valuable central processing unit (CPU) processing time

DOCKET ALARM

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts

Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research

With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips

Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS
Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS
Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS
Sync your system to PACER to automate legal marketing.