

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ERICSSON INC. AND
TELEFONAKTIEBOLAGET LM ERICSSON,
Petitioner,

v.

INTELLECTUAL VENTURES I LLC,
Patent Owner.

Case IPR2018-00727
Patent 6,628,629 B1

Before KRISTEN L. DROESCH, BRIAN J. McNAMARA, and
DAVID C. McKONE, *Administrative Patent Judges*.

McNAMARA, *Administrative Patent Judge*.

DECISION
Institution of *Inter Partes* Review
35 U.S.C. § 314(a)

BACKGROUND

Ericsson Inc. and Telefonaktiebolaget LM Ericsson (collectively, “Petitioner”) filed a Petition, Paper 1 (“Pet.”), to institute an *inter partes* review of claims 1–4 (the “challenged claims”) of U.S. Patent No. 6,628,629 B1 (“the ’629 patent”). 35 U.S.C. § 311. Intellectual Ventures I LLC (“Patent Owner”) timely filed a Preliminary Response, Paper 5 (“Prelim. Resp.”), contending that the Petition should be denied as to all challenged claims. We have jurisdiction under 37 C.F.R. § 42.4(a) and 35 U.S.C. § 314, which provides that an *inter partes* review may not be instituted unless the information presented in the Petition “shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” Having considered the arguments and the associated evidence presented in the Petition and the Preliminary Response, for the reasons described below, we institute *inter partes* review on all challenged claims.

REAL PARTIES IN INTEREST

The Petition identifies Ericsson Inc. and Telefonaktiebolaget LM Ericsson as real parties-in-interest. Pet. 1. Patent Owner identifies itself as the real party-in-interest. Paper 3.

RELATED PROCEEDINGS

The Petition states that the ’629 patent is asserted in *Intellectual Ventures I LLC v. T-Mobile USA, Inc. et al.*, Case No. 2:17-cv-00577-JRG (E.D. Tex.). Pet. 1

THE '629 PATENT (EXHIBIT 1001)

The '629 patent concerns telecommunications and, more specifically, “implementing a [quality of service] QoS aware wireless point-to-multi-point transmission system.” Ex. 1001, 2:43–47. The Specification describes the invention “in the context of a point-to-multi-point network,” but states that “the invention is equally applicable to a point-to-point network environment.” *Id.* at 41:21–24.

According to the '629 patent QoS “can be thought of as a mechanism to selectively allocate scarce networking, transmission and communications resources to differentiated classes of network traffic with appropriate levels of priority” where “the nature of the data traffic, the demands of the users, the conditions of the network, and the characteristics of the traffic sources and destinations all modify how the QoS mechanism is operating at any given instant.” *Id.* at 13:40–51.

According to the '629 patent, in a known circuit switched network, the QoS mechanism provides a circuit for a user’s exclusive use, i.e., QoS is achieved by dedicating an end-to-end circuit for each connection or service, whether it be voice or data. *Id.* at 13:60–64. This approach dedicates the circuit, all circuit associated transmission channels, and the transport media to a single user for the duration of the session. *Id.* at 13:64–67. In this context, QoS “implied the ability to carry asynchronous (i.e., transmission of data through start and stop sequences without a common clock) as well as isochronous (i.e., consistent timed access of network bandwidth for time-sensitive voice and video) traffic.” *Id.* at 13:56–60. Circuit switched connections allocate bandwidth between communication nodes whether or not traffic is being transferred constantly between the nodes. *Id.* at 3:4–7.

The '629 patent states that in known Asynchronous Transfer Mode (ATM) networking, virtual circuits are established for data transmission sessions regardless of the data application or whether data is being transmitted at the moment. Ex. 1001, 14:27–29. A circuit-centric QoS mechanism is provided by establishing permanent virtual connections (PVCs) and switched virtual connections (SVCs) in a manner analogous to legacy voice circuit mechanisms. Ex. 1001, 14:13–21. A permanent virtual connection, such as a virtual path (VPC) or virtual channel connection (VCC), is for indefinite use; a switched virtual connection is a logical connection between endpoints established by an ATM network on demand, based on signaling messages received from the end user or another network. *Id.*

The '629 patent discloses that known packet-switched data communications do not dedicate a circuit to a particular data communications session. Ex. 1001, 14:43–45. Packet switching breaks up traffic into packets that can be transported from a source node to a destination node for reassembly, so that the bandwidth can be shared efficiently by many sources and destinations. *Id.* at 3:10–15.

The '629 patent discusses the differences between ATM networks that set up virtual circuits between source and destination nodes and packet-centric networks, such as those using the Transfer Control Protocol/Internet Protocol (TCP/IP), that do not use dedicated circuits. *Id.* at 32:13–64. “TCP/IP performs a packetization of user data to be sent between and among various systems on the IP network.” *Id.* at 32:24–25. When a packet is prepared for transmission across a medium, IP places a header on the packet, but does not route the call across a specific channel or act further to assure

delivery or accuracy of the packet. *Id.* at 32:31–45. Instead, the network routes outbound packets from source to destination over various routes, with IP decrementing a counter each time the packet passes through a node until the counter expires, when the packet is discarded to prevent undeliverable packets from looping around the network. *Id.* at 32:45–51.

TCP works with IP to assure a reliable data stream is sent and delivered. *Id.* at 32:52–53. “TCP is a standard protocol for segmenting traffic into packets, transmitting, reassembling and retransmitting packets of information between a source and destination IP address.” *Id.* at 47:54–57. “At the sending end, TCP puts a byte count header on information to be delivered to the IP protocol layer and encapsulates it as part of the packet.” *Id.* at 32:53–56. The receiving end re-sequences the packets and sends a byte count acknowledgement or non-acknowledgement message to the sending end, prompting the sending end to resend bytes necessary to fill in any missing portions of the packet flow. *Id.* at 32:58–62.

The challenged claims of the ’629 patent concern a system and method for assigning future slots of a transmission frame to a data packet in the transmission frame for transmission over a wireless telecommunication network system. Ex. 1001, Abstract. In providing discrete slots for data transmission, a reservation algorithm assigns future slots to data packets based on priority of IP data flow with which the packet is associated. *Id.* at 58:36–38, 61:37–40.

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