

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
SHERMAN DIVISION**

COMMUNICATION INTERFACE  
TECHNOLOGIES, LLC,

Plaintiff.

v.

CAPITAL ONE FINANCIAL  
CORPORATION

Defendant.

Civil Action No. \_\_\_\_\_

**JURY TRIAL DEMANDED**

**COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiff Communication Interface Technologies, LLC (“CIT” or “Plaintiff”), for its Complaint against Defendant Capital One Financial Corporation, (referred to herein as “Capital One” or “Defendant”), alleges the following:

**NATURE OF THE ACTION**

1. This is an action for patent infringement arising under the patent laws of the United States, 35 U.S.C. § 1 *et seq.*

**THE PARTIES**

2. Plaintiff CIT is a Limited Liability Company organized under the laws of the State of Delaware with a place of business at 3107 Boardwalk, Atlantic City, NJ 08401.

3. Upon information and belief, Capital One is a corporation organized and existing under the laws of the State of Delaware, with a place of business at 1680 Capital One Drive McLean, VA 22102, and can be served through its registered agent, Corporation Service Company, 251 Little Falls Drive Wilmington, DE 19808. Upon information and belief, Capital One sells, offers to sell, and/or uses products and services throughout the United States,

including in this judicial district, and introduces products and services into the stream of commerce that incorporate infringing technology knowing they would be sold in this judicial district and elsewhere in the United States.

### **JURISDICTION AND VENUE**

4. This is an action for patent infringement arising under the patent laws of the United States, Title 35 of the United States Code.

5. This Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).

6. Venue is proper in this judicial district under 28 U.S.C. §1400(b). On information and belief Capital One has committed acts of infringement in this District and has a regular and established place of business within this District.

7. This Court has personal jurisdiction over Defendant, because Defendant has sufficient minimum contacts within the State of Texas and this District, pursuant to due process and/or the State of Texas Long Arm Statute, Tex. Civ. Prac. & Rem. Code § 17.042 because Defendant purposefully availed itself of the privileges of conducting business in the State of Texas and in this District, because Defendant regularly conducts and solicits business within the State of Texas and within this District, and because Plaintiff's causes of action arise directly from Defendant's business contacts and other activities in the State of Texas and this District.

Venue is also proper in this district because Capital One has a regular and established place of business in this district. Capital One has several bank branches, a corporate office, and other established places of business in this judicial district. For example, Capital One has a corporate office located at 7933 Preston Rd, Plano, TX 75024. *See, e.g.,*

<https://www.capitalone.com/about/corporate-information/corporate-offices/> (last visited Apr. 12, 2020); <https://www.capitalonecareers.com/office-locations-plano> (last visited Apr. 12, 2020).

## **BACKGROUND**

### **The Invention**

8. Eric Morgan Dowling and Mark Nicholas Anastasi are the inventors of U.S. Patent Nos. 6,574,239 (“the ’239 Patent”), 8,266,296 (“the ’296 Patent”), and 8,291,010 (“the ’010 Patent”). A true and correct copy of the ’239 Patent is attached as Exhibit 1. A true and correct copy of the ’296 Patent is attached as Exhibit 2. A true and correct copy of the ’010 Patent is attached as Exhibit 3.

9. The ’239 Patent, the ’296 Patent, and the ’010 Patent resulted from the pioneering efforts of Dr. Dowling and Mr. Anastasi (hereinafter “the Inventors”) in the late 1990s, in the area of quickly-resumed client-server communication sessions. These efforts resulted in the development of methods and apparatuses for virtual connection of a remote unit to a server and methods and apparatuses for application-layer evaluation of communications received by a mobile device.

10. At the time of these pioneering efforts, the most widely implemented technology that was in use involved client-server communication sessions that could be instantiated and torn down. If communications between client and server were needed again, the widely implemented technology would simply instantiate a brand new session between the same client and server. Secure Sockets Layer (SSL) is an example of the earlier technology. Unlike Transport Layer Security (TLS), SSL did not allow session reactivation, and instead required a new session to be negotiated from scratch after an older session was deactivated (torn down).

11. Creating a new session required the renegotiation of a set of session keys that included computation of new cryptographic keys. This process required significant start up times and computational resources. The invention encompassed by the patents-in-suit, instead of tearing down an old session and instantiating a new session, places the old session into an

inactive state, and then reactivates the old session to place it back into the active state using a much shorter renegotiation sequence that makes use of saved session parameters. The saved session parameters include pre-computed client-server encryption keys that are used to quickly and efficiently reactivate the inactive sessions. Some embodiments allow the session layer connection between the client and server devices to be reactivated without the need to create a new session by negotiating new session parameters and session keys. (See Exhibit 1 at Figs. 1A, 2, 3:45-63, 8:34-9:14, 9:54-60.) Other embodiments additionally or alternatively allow the application layer session to be reactivated without the need for the user to enter his/her user authentication credentials at the time of each session reactivation.

12. The Inventors first conceived of the inventions claimed in the '239 Patent, the '296 Patent, and the '010 Patent as a way to shorten the connection time of the dialup modems in use back in the 1990s. Each time a new dialup modem connection needed to be reestablished, there would be a several-second period (typically around 10-12 seconds) during which the user would hear audio modem tones and hissing sounds while the modems reconnected and negotiated a new data session. The virtual session inventions allowed the modems to reconnect by remembering the previously negotiated modem parameters, thereby greatly shortening this renegotiation time to being almost unnoticeable. (See Ex. 1 at 13:42-43, 17:50-58.)

13. While developing their invention, the inventors contemplated that virtual sessions would also be very useful in wireless applications (*see, e.g.*, Ex. 1 at Fig. 2, 9:32-35, 13:4-8) to allow a client-side remote unit to maintain a virtual presence with a remote server. The inventors taught that virtual sessions could be layered over wireless connections to allow remote units such as wireless Internet devices to be virtually connected to one or more server-side application programs running on one or more remote server systems without wasting wireless physical layer

resources to maintain the one or more session layer connections. (*See* Ex. 1 at 9:28-60.) The physical layer could be inactive, while the virtual session layer connections could be maintained without using wireless resources. (*See* Ex. 1 at 3:45-49, 8:56-58, 9:7-10.) When the client-side remote unit needed to communicate with the server, or when the server needed to send newly received information to the remote unit, the virtual session could be reactivated without the need to tediously set up and authenticate a new secure cryptographic session with the server. (*See* Ex. 1 at Fig. 1A, 9:53-60, 13:48-14:17.)

14. For example, the Inventors developed methods for controlling virtual sessions between a server-side program and a client-side application program. (*See* Ex. 1 at 14:32-43.) When the virtual session is not needed, it is placed into an inactive state (like a sleep state). (*See, e.g.*, Ex. 1 at 3:45-49, 10:6-11:22; Ex. 2 at 3:56-60.) In this state, no communication resources are used. (*See* Ex. 1 at 3:37-44, 17:36-45.) When a virtual session is needed again, for example when the server receives new information for the client-side application program, the server can, for example, send a message that causes the client-side application program to resume the virtual session with the server. (*See* Ex. 1 at 3:60-63.) This session resumption is accomplished using saved session parameters instead of going through the full session authentication and negotiation process, as was needed in the prior art. In modern day parlance, the client-side application program is typically called an “App.”

#### **Advantage Over the Prior Art**

15. The patented inventions disclosed in the '239 Patent, the '296 Patent, and the '010 Patent provide many advantages over the prior art, and in particular improved the operations of communications between remote units such as wireless computing and communications devices and remote servers. (*See* Ex. 1 at Figs. 1, 2; Ex. 2 at 3:48-4:39; Ex. 3 at 3:48-4:39.) One

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