EXHIBIT 4

DOCKET A L A R M Find authenticated court documents without watermarks at <u>docketalarm.com</u>.

Case 4:20-cv-00307-SDJ Document 1-5 Filed 04/13/20 Page 2 of 27 PageID #:

Analysis of Infringement of U.S. Patent No. 6,574,239 by Capi (Based

Analysis of Infringement of U.S. Patent No. 6,574,239 by Capital One Financial Corpora (Based on Public Information Only)

Communication Interface Technologies, LLC ("CIT") provides this preliminary and exemplary infringement and infringement of U.S. Patent No. 6,574,239, entitled *Virtual Connection of a Remote Unit to a Server* ("the '239 patent") Corporation ("Capital One"). The following chart illustrates an exemplary analysis regarding infringement by Capital C device application(s) including the Capital One Mobile App, the Capital One CreditWise App, Capital One T&Easy app Mobile app, and the Capital One Mobile app for Apple Watch, along with any hardware and/or software for provisionin application (collectively, the "Accused Instrumentalities"). Upon information and belief, the exemplary version herein a Accused Instrumentalities distributed prior to expiration of the patents-in-suit operated materially in the same manner.

The analysis set forth below is based only upon information from publically available resources regarding the Ac Capital One has not yet provided any non-public information.

Unless otherwise noted, CIT contends that Capital One directly infringes the '239 patent in violation of 35 U.S.C offering to sell, making, using, and/or importing the Accused Instrumentalities. The following exemplary analysis demo

Unless otherwise noted, CIT believes and contends that each element of each claim asserted herein is literally me provision of the Accused Instrumentalities. However, to the extent that Capital One attempts to allege that any asserted met, CIT believes and contends that such elements are met under the doctrine of equivalents. More specifically, in its in the Accused Instrumentalities, CIT did not identify any substantial differences between the elements of the patent claims features of the Accused Instrumentalities, as set forth herein. In each instance, the identified feature of the Accused Inst least substantially the same function in substantially the same way to achieve substantially the same result as the corresp

CIT notes that the present claim chart and analysis are necessarily preliminary in that CIT has not obtained subst One nor has Capital One disclosed any detailed analysis for its non-infringement position, if any. Further, CIT does not construction or expert discovery. CIT reserves the right to supplement and/or amend the positions taken in this prelimin infringement analysis, including with respect to literal infringement and infringement under the doctrine of equivalents, further information obtained by CIT, including but not limited to information adduced through information exchanges b discovery, claim construction, expert discovery, and/or further analysis.

Case 4:20-cv-00307-SDJ Document 1-5 Filed 04/13/20 Page 3 of 27 PageID #:

Analysis of Infringement of U.S. Patent No. 6,574,239 by Capi (Based

	Claim 7	Capital One Mobile App Service
7	For use in controlling a virtual session on a server, a method comprising:	A method is specified for controlling a virtual session on a server. The session is described section 7a below.
7a	establishing a virtual session with a remote unit, the virtual session being instantiated to support at least one application layer program;	Wireless push notification messages are sent over Transport Layer Sec the remote server and the client side application establish a separate TI client-server communications. For example, a Capital One server establish Capital One application program (application layer program) running of tablet (remote unit).
		TLS session use a full handshake sequence that is used to establish con abbreviated handshake sequence that is used to resume the TLS session dormant state to an active state whereby new payload data can be sent again.
		See Endnote #2 for a discussion of the virtual session aspects of TLS.
		See Endnote #5 for a discussion of Wireless push email services such a wireless push notification packets from a Gmail server.
		<i>See</i> Endnote #2 for a discussion of how wireless push notification serves Security (TLS) connections that constitute virtual sessions implemented below the application layer.
		Mobile applications communicate with their application server via TLS connections are established at the time the app is installed or launched time using a session token. <i>See</i> Endnote#2 for a discussion of TLS.
		https://www.ibm.com/support/knowledgecenter/en/SSHS8R_8.0.0/com. _enforce_TLS.html
		"From iOS 9, Transport Layer Security (TLS) protocol version 1.2 mu

DOCKET

Case 4:20-cv-00307-SDJ Document 1-5 Filed 04/13/20 Page 4 of 27 PageID #:

Analysis of Infringement of U.S. Patent No. 6,574,239 by Capi

(Base

		"Apple App Transport Security (ATS) is a new feature of iOS 9 that enconnections between the app and the server. By default, this feature enconnections that improve security. These include client-side HTTPS r certificates and connection ciphers that conform to Transport Layer Security forward secrecy."
		See https://www.icir.org/johanna/papers/conext17android.pdf - Andro secure connections between client app and server are ubiquitously used
		See https://developer.android.com/training/articles/security-ssl – "The (SSL)—now technically known as <u>Transport Layer Security (TLS)</u> —is for encrypted communications between clients and servers."
		The Capital One application and the Capital One server communicate of to provide secure communications between the client app and the serve
		See https://datatracker.ietf.org/doc/rfc5077/ - Note that session resump does not appear to have been available in SSL and earlier versions, esp November of 1998.
7b	placing the virtual session in an inactive state;	<i>See</i> Endnote #2. Note when the application data phase is finished, the the inactive state. Hence the end of application data marker is the sign into the inactive state.
7c	sending a signal indicative of an incoming communication request and an application-program identifying packet	Capital One server causes a push notification message (incoming comm Capital One application running on the user's smartphone or tablet dev
	to said remote unit, said application- program identifying packet identifying	In the Capital One application, for example, a push notification contain purchase notifications, etc.
	an application program that needs to resume a virtual session and	See https://www.capitalone.com/applications/mobile/
	communicate with said remote unit; and	

Case 4:20-cv-00307-SDJ Document 1-5 Filed 04/13/20 Page 5 of 27 PageID #:

Analysis of Infringement of U.S. Patent No. 6,574,239 by Capi (Based



Find authenticated court documents without watermarks at docketalarm.com.

DOCKET



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.

