

EXHIBIT I

Apple's Invalidation Contentions Under Patent Rule 3-3
Exhibit E-14

INVALIDITY OF U.S. PATENT NO. 9,749,829 (the "'829 patent")

by

FORCE XXI BATTLE COMMAND, BRIGADE AND BELOW ("FBCB2")

As explained in the cover pleading to Apple's invalidity contentions, Plaintiff has not and cannot demonstrate that the '829 patent is entitled to a priority date earlier than October 31, 2014, the effective filing date of Appl. No. 14/027,410. On information and belief, the FBCB2 system (including at least FBCB2 software versions 3.2, 3.3, and 3.4 and hardware made by Litton and Paravant) was in public use and/or available to the public no later than March 21, 2003, and was made available by the U.S. Army. The FBCB2 system, as set forth in this chart, anticipates the asserted claims of the '829 patent at least under pre-AIA 35 U.S.C. §§ 102(a) and (g)(2) (and AIA 35 U.S.C. §§ 102(a)(1)), and/or renders the asserted claims obvious under 35 U.S.C. § 103 either alone, in combination with the general knowledge of one of ordinary skill in the art, and/or in combination with the references identified in Apple's invalidity contentions, including as set forth in this chart. On information and belief, the FBCB2 system is described at least in the following documents and other materials cited in this chart:

- *Force XXI Battle Command Brigade and Below-Blue Force Tracking (FBCB2-BFT). A Case Study in the Accelerated Acquisition of a Digital Command and Control System during Operations Enduring Freedom and Iraqi Freedom*, by James L. Conatser and Vincent E. Grizio, dated December 2005 and retrieved from <http://www.dtic.mil/dtic/tr/fulltext/u2/a443273.pdf> on November 21, 2017 ("FBCB2-1") (APL-AGIS_00012804 - APL-AGIS_00012876).
- *Blue Force Tracking The Afghanistan and Iraq Experience and Its Implications for the U.S. Army*, by Richard J. Dunn, III, stamped with a copyright dated 2003 and retrieved from <http://www.northropgrumman.com/AboutUs/AnalysisCenter/Documents/pdfs/BFT-Afghanistan-and-Iraq-Exper.pdf> on November 21, 2017 ("FBCB2-2") (APL-AGIS_00012877 - APL-AGIS_00012896).
- *FORCE XXI BATTLE COMMAND, BRIGADE AND BELOW (FBCB2)*, retrieved from <https://web.archive.org/web/20170204113146/http://www.dote.osd.mil/pub/reports/FY1999/pdf/army/99fbc2.pdf> on November 21, 2017 ("FBCB2-3") (APL-AGIS_00012800 - APL-AGIS_00012803).
- *FBCB2-BFT Family of Products*, Northrop Grumman Space & Mission Systems Corp. (2003) ("FBCB2-4") (SIEGEL000001-SIEGEL000002)
- *FBCB2 Blue Force Tracking* (Promotional Video), Northrop Grumman (2004) ("FBCB2-5") (SIEGEL000003)
- Pamela Bowers, *The TRW Tactical Systems Division Builds the Next Generation of Tactical Army Operations Systems*, *CrossTalk: The Journal of Defense Software Engineering* (January 2002). ("FBCB2-6") (SIEGEL000004-SIEGEL000008)

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- T. Trent Gegax, *Wired for Battle*, Newsweek (March 3, 2003). (“FBCB2-7”) (SIEGEL000009-SIEGEL000010)
- Vernon Loeb, *Digitized Battlefield Puts Friend and Foe in Sight*, Washington Post (March 3, 2003) (“FBCB2-8”) (SIEGEL000011-SIEGEL000013)
- Lieutenant Colonel Marc LeGare, *Battle Command and Visualization*, Military Review (September-October 2002) (“FBCB2-9”) (SIEGEL000014-SIEGEL000019)
- Neil Siegel, *Organizing Complex Projects Around Critical Skills, and the Mitigation of Risks Arising from System Dynamic Behavior*, Ph.D. Dissertation, University of Southern California (August 2011) (“FBCB2-10”) (SIEGEL000020-SIEGEL000300)
- *Personal User Data Terminal*, TRW Systems Ltd. (February 7, 2001) (“FBCB2-11”) (SIEGEL000301-SIEGEL000302)
- *Force XXI Battle Command Brigade-and-Below (FBCB2)*, TRW Systems Integration Group (1997) (“FBCB2-12”) (SIEGEL000303 - SIEGEL000308)
- *Information Dominance for Combat Power – Force XXI Battle Command Brigade and Below*, TRW Systems & Information Technology Group (2000) (“FBCB2-13”) (SIEGEL000309-SIEGEL000312)
- *The World's Only Existing Tactical Internet: The US Army's Force XXI Battle Command Brigade and Below*, Neil Siegel (Presentation at SMi Defense Conferences: Designing and Deploying Tactical Internets (May 24 1999) (“FBCB2-14”) (SIEGEL000316-SIEGEL000332)
- U.S. Patent No. 6,212,559 (“FBCB2-15”) (SIEGEL000333-SIEGEL000358)
- *US Army shares radios to avoid Gulf fratricide*, Kim Burger, Jane's Defence Weekly (March 12, 2003) (“FBCB2-16”) (SIEGEL000359-SIEGEL000361)
- *US Army expands battlefield digitization*, Scott Gourley, Jane's Defence Weekly (September 25, 2002) (“FBCB2-17”) (SIEGEL000362-SIEGEL000364)
- *Soldiers in Afghanistan to Receive New Blue Force Tracking System*, Emily Hsu, Inside the Army (October 28, 2002) (“FBCB2-18”) (SIEGEL000365-SIEGEL000366)
- *Technology Seeks to Erase Friendly Fire*, David McGuire, Newsbytes (March 27, 2003) (“FBCB2-19”) (SIEGEL000367-SIEGEL000368)
- U.S. Patent No. 5,672,840 (“FBCB2-20”) (SIEGEL000369-SIEGEL000376)
- U.S. Patent No. 6,904,280 (“FBCB2-21”) (SIEGEL000377-SIEGEL000399)

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- U.S. Patent No. 7,278,023 ("FBCB2-22") (SIEGEL000400-SIEGEL000417)

U.S. Army Brings Digital Future to Persian Gulf, Frank Tiboni, Defense News (November 11, 2002) ("FBCB2-23") (SIEGEL000418)

Apple reserves the right to further supplement its contentions and evidence concerning the FBCB2 system as discovery proceeds, including by citation to additional materials or other evidence describing the operation of the system.

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Limitation	Prior Art Disclosure
<i>Claim 1</i>	
<p>A computer-implemented method comprising:</p> <p>performing, by one or more server devices:</p>	<p>FBCB2 discloses a computer-implemented method that can be performed by one or more server devices:</p> <p><i>See, e.g.,</i> FBCB2-1 Figs. 8, 9, 11</p> <p><i>See, e.g.,</i> FBCB2-1 at 28-29 “Within each battalion task force headquarters, one each located in Bosnia and Kosovo respectively, a Command Center Server (CCS) and an Enhanced Information Server (EIS) were installed.⁶⁴ The CCS utilized QUALCOMM provided OmniTRACS QTRACS software and the EIS utilized the current version of FBCB2 software.⁶⁵ The CCS facilitates communications between the command centers, the satellite hub, and the individual vehicle platforms. The EIS aggregates the position location reports of individual vehicle platforms and passes this information to the CCS, which broadcasts it to all operational systems. Data brokers are connected to secure networks through the use of trusted guards and provide worldwide dissemination of the information through web browsers. EIS software provides the capability to maintain a vehicle’s own position location, maintain the vehicle locations of other EIS equipped vehicles, compose, send and receive text messages, and maintain battlefield geometry information through the use of graphic control measures displayed on digital overlays.⁶⁶”</p> <p><i>See, e.g.,</i> FBCB2-1 at 29 “Lastly, QUALCOMM installed a Command Center Server at the USAREUR Headquarters, located in Heidelberg, Germany.⁶⁷ This system provides position location information to GCCS-A for inclusion in the COP.⁶⁸ This information represents the various patrol locations in both Bosnia and Kosovo. On 11 January 2001, BDI successfully transmitted ground force position information to the GCCS Common Relevant Operational Picture.⁶⁹ Figure 9 depicts the satellite architecture of the Balkan Digitization Initiative. Figure 10 provides a view of a BDI equipped vehicle. Although the implementation of BDI was successful in its own right, the true impact of the BDI technical solution would not be realized</p>

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