

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

**PLANO ENCRYPTION TECHNOLOGIES,  
LLC,**

Plaintiff,

v.

**SHUTTERFLY, INC.,**

Defendant.

**Case No. 2:16-cv-01053-JRG**

**JURY TRIAL DEMANDED**

**FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiff Plano Encryption Technologies, LLC, by and through its attorneys, alleges as follows:

**PARTIES**

1. Plano Encryption Technologies, LLC (“Plano Encryption”) is a limited liability company organized and existing under the laws of the State of Texas, with its principal place of business at 903 E. 18th Street, Suite 224, Plano, Texas 75074.

2. Upon information and belief, Defendant Shutterfly, Inc. (“Defendant” or “Shutterfly”), is a corporation organized and existing under the laws of Delaware, with its principal place of business at 2800 Bridge Parkway, Redwood City, CA 94065.

**JURISDICTION AND VENUE**

3. This is an action for patent infringement arising under the patent laws of the United States, Title 35 of the United States Code. This Court has jurisdiction over the subject matter of this action under 28 U.S.C. §§ 1331 and 1338(a).

4. This Court has personal jurisdiction over Defendant for at least the following reasons: (i) Shutterfly regularly does business or solicits business, engages in other persistent courses of conduct, and/or derives substantial revenue from the use and/or sale of its products and/or services provided to its customers in this District and in this State; (ii) Shutterfly has committed acts of patent infringement and/or induced acts of patent infringement by others in this District and this State and continues to do so, acts that include, but are not limited to, one or more acts of using, licensing, distributing and/or promoting the use of infringing products and systems, and/or providing service and support to Defendant's customers for such infringing products and systems in this District and this State; (iii) Shutterfly has purposefully established substantial, systematic and continuous contacts with this District and this State and expects or should reasonably expect to be subjected to this Court's jurisdiction.

5. Venue is proper in the Eastern District of Texas under 28 U.S.C. §§ 1391(b) and (c) and 1400(b) because Defendant has conducted and continues to conduct business in this judicial District, the claims alleged in this Complaint arise in this District, and/or the acts of infringement have taken place and are continuing to take place in this District.

#### **BACKGROUND**

6. Plaintiff Plano Encryption is the owner by assignment of United States Patent No. 5,991,399 ("the '399 Patent"), issued November 23, 1999, for "Method for Securely Distributing a Conditional Use Private Key to a Trusted Entity on a Remote System." A true and correct copy of the '399 Patent was previously attached to the Original Complaint as Exhibit A.

7. Plano Encryption is the owner by assignment of United States Patent No. 5,974,550 ("the '550 Patent") entitled "Method for Securely Authenticating Another Process in a

Different Address Space.” The ‘550 Patent issued on October 26, 1999. A true and correct copy of the ‘550 Patent was previously attached to the Original Complaint as Exhibit B.

8. Plano Encryption holds all right, title and interest in the ‘399 Patent and the ‘550 Patent (collectively, the “Asserted Patents” or “Patents-in-Suit”), including all rights to bring suit and recover for all past, present and future infringements thereof.

9. The invention of the ‘399 Patent relates to methods used to secure communications between parties. The ‘399 Patent represents fundamental technology in the field of encryption and secured online data communications. The ‘399 Patent has been referenced hundreds of times by other patents and patent applications. Nearly every computer company of any prominence has cited the patent more than once during prosecution of their own patents, including leaders in the field of software and computing, such as Microsoft (more than 75 citations) and IBM (more than 20 citations). The patent has also been cited as prior art by U.S. Patent Examiners more than 150 times during the prosecution of other patents.

10. The invention of the ‘550 Patent also relates to methods and apparatuses used to secure communications between parties. The ‘550 Patent has also been cited many times by leaders in the fields of software and computing.

11. Various terms of the Asserted Patents were construed by this Court on July 22, 2016. *Plano Encryption Techs., LLC v. Am. Bank of Tex. et al.*, Case No. 2:15-cv-1273-JRG, (lead case), Dkt 104. For purposes of this complaint, the claims have been interpreted in light of those constructions.

12. On information and belief, Shutterfly is in the business of selling photo products and services, and in connection with that business, makes, uses, sells, offers for sale, markets,

licenses and distributes software, including iOS, Android and Fire OS compatible mobile applications software products and services.

13. Shutterfly's mobile software application products and services including by way of example, but not limited to, at least its Shutterfly -- Prints, Photo Books, Gifts and Unlimited Storage for iPhone and Android apps, located at <https://itunes.apple.com/us/app/shutterfly-prints-photo-books/id309465525?mt=8> and <https://play.google.com/store/apps/details?id=com.shutterfly&hl=en> (references accessed September 21, 2016) and Shutterfly Amazon Appstore apps (for Android and Fire OS), located at <https://www.amazon.com/Shutterfly-ThisLife/dp/B00FMFQ25K> and <https://www.amazon.com/Shutterfly/dp/B00NIWS1GM/> (references accessed on September 22, 2016) ("mobile applications", "mobile apps" or "Accused Products") are specifically developed, used, sold, offered for sale, marketed, licensed and distributed by Shutterfly to be downloaded onto Apple iOS mobile or tablet devices, Android mobile or tablet devices, and/or Fire OS mobile or tablet devices. Upon information and belief, Shutterfly is liable for directly infringing the Asserted Patents because it forms a joint enterprise with Apple, Google and Amazon respectively with respect to building and distributing its mobile apps, such that to the extent that any infringing steps are performed by Apple/Google/Amazon, these acts are attributable to Shutterfly.

14. Upon information and belief, there are numerous express and implied agreements between Shutterfly and Apple regarding its mobile apps. *See*, Apple Developer Agreement, [https://developer.apple.com/programs/terms/apple\\_developer\\_agreement.pdf](https://developer.apple.com/programs/terms/apple_developer_agreement.pdf); *see also*, iOS Developer Program License Agreement,

[https://developer.apple.com/programs/terms/ios/standard/ios\\_program\\_standard\\_agreement\\_20140909.pdf](https://developer.apple.com/programs/terms/ios/standard/ios_program_standard_agreement_20140909.pdf).

15. Upon information and belief, there is a common purpose between Shutterfly and Apple regarding its mobile apps, namely to develop and distribute mobile apps for use by customers of Apple's smartphone products.

16. Upon information and belief, Shutterfly and Apple share a community of pecuniary interests in the development and distribution of mobile apps. For example, upon information and belief, there are express revenue sharing provisions in certain circumstances, as set forth in the agreements between the two companies. *See*, iOS Developer Program License Agreement

[https://developer.apple.com/programs/terms/ios/standard/ios\\_program\\_standard\\_agreement\\_20140909.pdf](https://developer.apple.com/programs/terms/ios/standard/ios_program_standard_agreement_20140909.pdf). Upon information and belief, both Shutterfly and Apple derive financial benefit from the development and distribution of Shutterfly's mobile apps.

17. Upon information and belief, both Shutterfly and Apple have an equal right to a voice in the direction of the enterprise, which gives an equal right of control. Pursuant to the agreements between the parties, Shutterfly has the right to control the mobile app, since the mobile app cannot be built or uploaded without Shutterfly's consent. Shutterfly also has the right to remove the mobile apps from Apple's distribution network pursuant to the terms and conditions of their agreements. *Id.* Likewise, upon information and belief, Apple has the right to remove its mobile apps, including Shutterfly's, from its distribution network. *Id.* Indeed, upon information and belief, Apple has purged thousands of mobile apps from its app store "that no longer worked as intended or didn't follow guidelines from the App Store." *See* <http://www.digitaltrends.com/mobile/apple-app-store-purge-beginning/#ixzz4QNeOkqbD>.

18. Upon information and belief, even if Apple and Shutterfly are not found to be in a joint enterprise, equity would demand liability for the acts of the other given their close and pervasive express and implied agreements, common interest, shared pecuniary interest and shared control over the mobile apps.

19. Alternatively, upon information and belief, Shutterfly is liable for the acts of Apple with respect to its mobile apps, since upon information and belief, Shutterfly has expressly agreed that Apple serves as its agent for purposes of marketing and distributing its mobile apps, and has agreed that Shutterfly is responsible for infringement of any third party intellectual property rights with respect to Shutterfly's mobile apps. *See, e.g.*, Schedule 1, iOS Developer Program License Agreement,

[https://developer.apple.com/programs/terms/ios/standard/ios\\_program\\_standard\\_agreement\\_20140909.pdf](https://developer.apple.com/programs/terms/ios/standard/ios_program_standard_agreement_20140909.pdf).

20. Similarly, on information and belief, there are numerous express and implied agreements between Shutterfly and Google concerning the development and distribution of Shutterfly's mobile apps. Shutterfly must sign in and register with Android Developer Console, enter into a Developer Distribution Agreement with Google, and pay a registration fee in order to develop and distribute mobile apps through the Google Play Store for download by users onto an Android mobile device or tablet. *See, e.g.*, Google Play Developer Console Signup Webpage, <https://play.google.com/apps/publish/signup/>; and Google Developer Distribution Agreement, <https://play.google.com/about/developer-distribution-agreement.html>.

21. Upon information and belief, there is a common purpose between Shutterfly and Google regarding its mobile apps, namely to develop and distribute mobile apps for use by customers of Google's Android smartphone products.

22. Upon information and belief, Shutterfly and Google share a community of pecuniary interests in the development and distribution of mobile apps. For example, upon information and belief, there are express revenue sharing provisions in certain circumstances, as set forth in the agreements between the two companies. *See*, Google Developer Distribution Agreement, <https://play.google.com/about/developer-distribution-agreement.html>. Upon information and belief, both Shutterfly and Google derive financial benefit from the development and distribution of Shutterfly's mobile apps.

23. Upon information and belief, both Shutterfly and Google have an equal right to a voice in the direction of the enterprise, which gives an equal right of control. Pursuant to the agreements between the parties, Shutterfly has the right to control its mobile apps, since its mobile apps cannot be built or uploaded without Shutterfly's consent. Shutterfly also has the right to remove its mobile apps from Google's distribution network pursuant to the terms and conditions of their agreements. Likewise, upon information and belief, Google has the right to remove Android compatible mobile apps, including Shutterfly's, from its distribution network. *See id.*

24. Upon information and belief, even if Google and Shutterfly are not found to be in a joint enterprise, equity would demand liability for the acts of the other given their close and pervasive express and implied agreements, common interest, shared pecuniary interest and shared control over the mobile apps.

25. Alternatively, upon information and belief, Shutterfly is liable for the acts of Google with respect to its mobile apps, since upon information and belief, Shutterfly has acknowledged and agreed that Google acts on behalf of Shutterfly for purposes of building,

displaying, marketing and distributing its mobile apps, and that Shutterstock is responsible for infringement of any third party intellectual property rights. *See id.*

26. On information and belief, there are numerous express and implied agreements between Shutterstock and Amazon concerning the development and distribution of Shutterstock's mobile apps. At the Amazon Developer Portal, Shutterstock must register for an Amazon Developer Account to participate in the Amazon Mobile App Distribution Program. *See, e.g.,* [https://developer.amazon.com/public/support/faq#account\\_permissions](https://developer.amazon.com/public/support/faq#account_permissions). Once registered, Shutterstock must enter into a Mobile App Distribution and Services Agreement with Amazon, in order to develop and distribute mobile apps through the Amazon Appstore for download by users onto a mobile device or tablet. *See, https://developer.amazon.com/public/support/legal/da.* Through the Developer Portal, Shutterstock can submit its apps and track their approval status, access its developer profile, payment information, application submission and management tools, and sales, payment, and earning reports. *See, e.g., https://developer.amazon.com/public/support/faq#account\_permissions.* On information and belief, Shutterstock and Amazon also enter into a program materials license when Shutterstock uploads an app for publication on the Amazon Appstore. *See, https://developer.amazon.com/public/support/pml.html.*

27. Upon information and belief, there is a common purpose between Shutterstock and Amazon regarding its mobile apps, namely to develop and distribute mobile apps for use by customers of Amazon's Fire devices and other customers using Amazon's Appstore to download mobile apps for their Android devices.

28. Upon information and belief, Shutterstock and Amazon share a community of pecuniary interests in the development and distribution of mobile apps. For example, upon



information and belief, there are express revenue sharing provisions in certain circumstances, as set forth in the agreements between the two companies. *See*, Mobile App Distribution and Services Agreement, <https://developer.amazon.com/public/support/legal/da>. Upon information and belief, both Shutterfly and Amazon derive financial benefit from the development and distribution of Shutterfly's mobile apps.

29. Upon information and belief, both Shutterfly and Amazon have an equal right to a voice in the direction of the enterprise, which gives an equal right of control. Pursuant to the agreements between the parties, Shutterfly has the right to control its mobile apps, since its mobile apps cannot be built or uploaded without Shutterfly's consent. Shutterfly also has the right to remove its mobile apps from Amazon's distribution network pursuant to the terms and conditions of their agreements. Likewise, upon information and belief, Amazon has the right to remove mobile apps, including Shutterfly's, from its distribution network. *See*, <https://developer.amazon.com/public/support/legal/da>.

30. Upon information and belief, even if Amazon and Shutterfly are not found to be in a joint enterprise, equity would demand liability for the acts of the other given their close and pervasive express and implied agreements, common interest, shared pecuniary interest and shared control over the mobile apps.

31. Alternatively, upon information and belief, Shutterfly is liable for the acts of Amazon with respect to its mobile apps, since upon information and belief, Shutterfly has acknowledged and agreed that it is responsible for any legal claims relating to its mobile apps. *See id.*

32. On information and belief, Shutterfly has been aware of the Patents-in-Suit at the very least as of the date the Original Complaint was served. Thus, upon information and belief, Shutterfly has had notice and actual or constructive knowledge of the Patents-in-Suit.

33. Moreover, upon information and belief, Shutterfly's joint enterprise partners and/or contractual agents Apple and Google were certainly aware of the Asserted Patents prior to the filing of this complaint. Upon information and belief, the website [www.google.com/patents](http://www.google.com/patents) is owned and run by Google. Upon information and belief, according to that website, the '399 Patent has been cited over 800 times by other patents and patent applications during prosecution.

34. Upon information and belief, the '399 Patent has been cited by either Google or the examiner in patents or patent applications owned or assigned to Google approximately fifty times. Upon information and belief, many of these patents and applications were related to encryption and/or distribution of encrypted information or software. Upon information and belief, the '399 Patent has been cited by either Apple or the examiner in patents or patent applications owned or assigned to Apple approximately 8 times. Upon information and belief, some of these patents and applications were related to encryption and/or distribution of encrypted information or software.

35. Upon information and belief, the acts, knowledge and intent of Google and Apple as alleged herein and detailed further below, should be imputed to Defendant since Google and Apple are agents or act on behalf of Defendant for purposes of building, distributing and marketing Defendant's mobile apps.

36. Furthermore, upon information and belief, Defendant as the developer of its mobile apps is permitted by contract to notify Apple and/or Google of any intellectual property claims regarding mobile apps, and to request the take-down of its apps from the app store when

subject to an infringement claim, but apparently has not done so. Moreover, as previously alleged, Shutterfly has agreed to be responsible for infringement of any intellectual property right with respect to its mobile apps distributed on the Apple/Google/Amazon platforms. Upon information and belief, in light of Defendant's knowledge and awareness of the Patents-in-Suit and PET's infringement claims, its ongoing infringement has been willful.

37. For all the above reasons, Shutterfly has been and continues to willfully infringe the '399 patent.

38. Even if Shutterfly is not somehow liable for direct infringement, upon information and belief, Apple/Google/Amazon condition both the manner and timing of the performance of steps by Shutterfly in building and distributing its mobile apps, and is thus liable for direct infringement of the '399 patent, as set forth below.

39. Upon information and belief, even if not liable as a direct infringer, Shutterfly is liable for inducing Apple/Google/Amazon's infringement.

40. Upon information and belief, prior to uploading its mobile apps to the Apple/Google/Amazon platforms, and before Shutterfly can distribute its mobile apps on the Apple/Google/Amazon app stores for download on mobile or tablet devices, Shutterfly must follow certain mandatory developer guidelines, procedures, terms and conditions as set forth and dictated by Apple/Google/Amazon respectively. In this way, on information and belief, Apple/Google/Amazon conditions participation in, and the receipt of the benefit namely, the ability to distribute Shutterfly's apps on their respective app stores, upon compliance with certain procedures and guidelines for the development, building and uploading of Shutterfly's apps. *See e.g.*, App Developer Program, <https://developer.apple.com/programs/> and App Distribution Guide,

<https://developer.apple.com/library/content/documentation/IDEs/Conceptual/AppDistributionGuide/Introduction/Introduction.html>.

41. By way of example, and on information and belief, in order to participate as an Apple Developer, Shutterfly must enroll in the Apple Developer Program, agree to the terms and conditions of the Apple Developer Agreement and pay Apple an annual non-refundable program fee to participate in the Apple Developer Program, as consideration for the rights and licenses granted to Shutterfly by Apple. *See, e.g.,* Apple Developer Agreement, [https://developer.apple.com/programs/terms/apple\\_developer\\_agreement.pdf](https://developer.apple.com/programs/terms/apple_developer_agreement.pdf). By agreeing to the terms and conditions of the Apple Developer Agreement, Shutterfly receives certain developer benefits and resources provided by Apple, that are necessary for the development of iOS compatible apps including software, documentation, tools, and licenses thereto, for app development and testing, and such other content, materials, resources and services including application programmer interfaces (APIs) for iOS technologies such as Wallet, Apple Pay, in-App Purchases, Data Protection, Background Modes, etc., developer guides, API references, and technical notes as provided on the Apple developer website.

42. On information and belief, in order to release its apps on the Apple App Store for distribution to end users, Shutterfly must further enter into additional agreements with Apple including but not limited to an iOS Developer Program License Agreement. *See, https://developer.apple.com/programs/terms/ios/standard/ios\_program\_standard\_agreement\_20140909.pdf*. On information and belief, Shutterfly must also meet Apple's Documentation and Program Requirements, which may be modified from time to time by Apple, before it can submit its mobile apps for consideration by Apple for distribution via the App Store. On information and belief, Shutterfly must also further agree pursuant to the iOS Developer Program License

Agreement that Apple may cease distribution of Shutterfly's mobile apps at any time. On information and belief, pursuant to Schedule 1 of the iOS Developer Program License Agreement, Shutterfly designates Apple as its agent for the marketing and end-user download of its mobile apps in the United States. *Id.*

43. Similarly, on information and belief, Shutterfly must sign in and register with Android Developer Console, enter into a Developer Distribution Agreement with Google, and pay a registration fee in order to develop and distribute mobile apps through the Google Play Store for download by users onto an Android mobile device or tablet. *See, e.g.*, Google Play Developer Console Signup Webpage, <https://play.google.com/apps/publish/signup/>; and Google Developer Distribution Agreement, <https://play.google.com/about/developer-distribution-agreement.html>. On information and belief, any mobile apps distributed through Google Play Store, must adhere to Google's Developer Program Policies and follow the procedures and guidelines for developing, uploading and distributing mobile apps dictated by Google as set forth in the Android Developer Console. Google further reserves the right to take down Shutterfly's mobile apps, under certain conditions at its discretion. *See* Google Developer Distribution Agreement, <https://play.google.com/about/developer-distribution-agreement.html>.

44. Additionally, on information and belief, Shutterfly must sign in and register with Amazon Developer Portal in order to participate in the Amazon Mobile App Distribution Program. *See, e.g.*, [https://developer.amazon.com/public/support/faq#account\\_permissions](https://developer.amazon.com/public/support/faq#account_permissions). On information and belief, once registered, Shutterfly must enter into a Mobile App Distribution and Services Agreement with Amazon, in order to develop and distribute mobile apps through the Amazon Appstore for download by users onto a mobile device or tablet. *See*, <https://developer.amazon.com/public/support/legal/da>. Through the Developer Portal, Shutterfly

can submit its apps and track their approval status, access its developer profile, payment information, application submission and management tools, and sales, payment, and earning reports. *See, e.g.,* [https://developer.amazon.com/public/support/faq#account\\_permissions](https://developer.amazon.com/public/support/faq#account_permissions). On information and belief, Shutterfly and Amazon also enter into a program materials license when Shutterfly uploads an app for publication on the Amazon Appstore. *See, https://developer.amazon.com/public/support/pml.html*.

45. On information and belief, any mobile apps distributed through Amazon Appstore, must adhere to Amazon Developer Program Policies and follow the procedures and guidelines for developing, uploading and distributing mobile apps dictated by Amazon as set forth in the Amazon Developer Portal. Amazon further reserves the right to take down Shutterfly's mobile apps, at its discretion. *See, https://developer.amazon.com/public/support/legal/da*.

46. Once selected by Apple/Google/Amazon for distribution on their respective app stores, Shutterfly's mobile apps may be downloaded onto mobile devices for use by its customers. Shutterfly actively distributes and promotes its mobile applications for use by consumers on their mobile or tablet devices. Once downloaded onto mobile devices for use by consumers, Shutterfly's mobile apps allow consumers to access, engage and complete business transactions from the consumers' mobile or tablet devices.

47. Accordingly, on information and belief, any steps or acts performed by Shutterfly, are attributable to Apple/Google/Amazon respectively, who condition participation in and the receipt of a benefit, namely, the distribution of Shutterfly's mobile apps through their respective app stores, upon compliance with certain mandatory procedures and guidelines dictated by Apple/Google/Amazon respectively in the building and upload of Shutterfly's mobile apps, and

Shutterfly induces infringement by Apple/Google/Amazon respectively in the building, marketing and distribution of Shutterfly's mobile apps.

48. With knowledge of the Patents-in-Suit, Shutterfly intentionally makes, sells, offers to sell, licenses and distributes its mobile applications, whether directly, or through intermediaries, to consumers in the Eastern District of Texas with the intention that its mobile apps are to be downloaded for use on Android, iOS and Fire OS operating systems as found and used in smart phones and tablets.

49. On information and belief, Shutterfly has been, among other things, purposefully, actively, and voluntarily making, selling, offering for sale, using, licensing and/or distributing infringing products and services, including but not limited to, its mobile applications products and services, with the expectation that they will be distributed, licensed and/or used by consumers after downloading the same onto their mobile devices. Shutterfly's mobile applications have been and continue to be used, licensed and distributed in the Eastern District of Texas, and downloaded and used by consumers both in and outside of the Eastern District of Texas. Shutterfly has thus committed and/or induced acts of patent infringement within the State of Texas and in this District and continues to commit and/or induce acts of patent infringement. By purposefully and voluntarily distributing one or more of its infringing products and services, Shutterfly has injured Plano Encryption and is thus liable to Plano Encryption for infringement of the Patents-in-Suit at issue in this litigation.

50. On information and belief, through its actions Shutterfly has infringed the Asserted Patents and actively promoted others to infringe the Patents-in-Suit, is currently infringing and inducing acts of patent infringement by others through its use, sale, offer for sale,

licensing, sending and distribution of products and services, including but not limited to, its mobile applications.

51. On information and belief, Shutterfly has been and now is directly infringing in the State of Texas, within this judicial district, and elsewhere in the United States, by, among other things, making, using, selling, offering to sell, licensing, sending and distributing its mobile applications, which infringe one or more claims of the Patents-in-Suit, including at least claims 1 and 34 of the '399 Patent and claims 10 and 20 of the '550 Patent. Defendant is thus liable for infringement of the Patents-in-Suit pursuant to 35 U.S.C. § 271. Shutterfly not only makes, sells, offers to sell, leases, licenses and distributes software solutions practicing these claims, it continues to induce infringement through the sale, offer for sale, licensing, sending and distribution of software downloaded and used by its consumers.

52. Plaintiff Plano Encryption has been and will continue to suffer damages as a result of Defendant's infringing acts.

53. Plaintiff Plano Encryption seeks monetary damages and prejudgment interest for Defendant's past and ongoing infringement of the Patent-in-Suit.

54. The allegations set forth herein with respect to each asserted patent claim, each accused product, and each specific accused feature are exemplary. Plaintiff Plano Encryption reserves the right to assert additional claims, accuse additional products, and accuse additional features.

### **COUNT ONE**

#### **INFRINGEMENT OF U.S. PATENT NO. 5,991,399**

55. Plaintiff Plano Encryption realleges and incorporates herein the preceding paragraphs of its Complaint.



56. On information and belief, by the acts complained of herein, and by making, using, selling, offering for sale, licensing, sending, distributing and/or promoting the use, sale, offer for sale, licensing and distribution of instrumentalities practicing and/or embodying the invention, Defendant has in the past, does now, and continues to infringe one or more claims of the '399 Patent, including at least, by way of non-limiting example, claims 1 and 34, pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, in connection with its mobile applications, as described in more detail herein.

57. Defendant's infringement is and has been willful, deliberate and intentional. On information and belief, Shutterfly continues to act in disregard of the high likelihood that its actions constitute direct and indirect infringement of a valid patent, and knows or should know of that objectively high risk.

58. Defendant directly infringes and/or continues to knowingly induce Apple/Google/Amazon, and/or users of mobile devices (in each case depending on the asserted patent claim) to infringe one or more claims of the '399 Patent, including, at least, and as an example, claims 1 and 34, by intentionally developing, making, marketing, advertising, providing, sending, distributing and licensing its mobile applications software, documentation, materials, training or support and aiding, abetting, encouraging, promoting or inviting use thereof.

59. As set forth above, on information and belief, to the extent any steps identified herein are performed by Apple/Google/Amazon, such acts are attributable to Shutterfly (i) because Shutterfly works together with Apple/Google/Amazon respectively in a joint enterprise in the building and distribution of its mobile apps, or (ii) because Apple/Google/Amazon distribute and market Shutterfly's mobile apps under the direction and control of Shutterfly, or

act as agents, or on behalf of Shutterstock, in the building, marketing and distribution of Shutterstock's mobile apps.

60. Alternatively, on information and belief, any steps or acts performed by Shutterstock, are attributable to Apple/Google/Amazon respectively, who condition participation in and the receipt of a benefit, namely, the distribution of Shutterstock's mobile apps through their respective app stores, upon compliance with certain mandatory procedures and guidelines dictated by Apple/Google/Amazon respectively in the building and upload of Shutterstock's mobile apps, and Shutterstock induces infringement by Apple/Google/Amazon respectively in the building, marketing and distribution of Shutterstock's mobile apps.

61. Claim 1 requires "generating an asymmetric key pair having a public key and a private key." Upon information and belief, Shutterstock in certain instances and Apple/Google/Amazon, in other instances, generates and/or uses generated asymmetric key pairs that have a public key and a private key. Shutterstock both generates and uses key pairs generated by Apple/Google/Amazon both to securely send data related to its mobile app, and to digitally code-sign its mobile app to make it resistant to modification.

62. Claim 1 further requires "encrypting predetermined data with the generated public key." This step is performed, for example, at least, when predetermined data, such as the pre-master secret, is encrypted with a public key matching a private key held by, for example, Apple/Google/Amazon as part of the process for uploading Shutterstock's mobile apps onto Apple/Google/Amazon servers securely by SSL/TLS. To make a secure SSL/TLS connection to an HTTPS URL, the requesting device (for example, a computer used to build mobile apps) must first perform an SSL handshake with the HTTPS server. This SSL handshake requires predetermined data such as the pre-master secret to be encrypted with a public key that matches a

private key held at the server hosting the HTTPS URL. If the predetermined data encrypted by the public key did not match the private key at the server, the server could not decrypt the predetermined data used to build the mobile app securely.

63. Claim 1 further requires “building an executable tamper resistant key module identified for a selected program, the executable tamper resistant key module including the generated private key and the encrypted predetermined data.” For example, each of Shutterfly’s mobile apps is an executable tamper resistant key module at least in part because it is designed to work with other software, namely the iOS/Android/Fire OS operating system as well as other applications or programs installed on a user’s mobile device; because the mobile app is resistant to observation and modification, as explained below; and because in building each Shutterfly mobile app on the Apple/Google/Amazon platforms, each app during SSL transmission includes at least the claimed generated private key and the encrypted predetermined data such as the pre-master secret encrypted with the claimed generated public key when the mobile app is securely uploaded onto the Apple/Google/Amazon servers.

64. On information and belief, Shutterfly and/or Apple/Google/Amazon builds each mobile app to be tamper resistant, in particular resistant to both observation and modification. On information and belief, Shutterfly’s mobile apps are resistant to observation, for example and at least in part, since Shutterfly compiles its mobile app source code before submitting the app to Apple/Google/Amazon – and uploads the binary output of the compilation process rather than the source code itself.

65. On information and belief, Shutterfly builds mobile apps that are made further resistant to observation, for example and at least in part, because the mobile app is securely sent by SSL/TLS to Apple/Google/Amazon as part of the building process. Both iTunes Connect

portal (<https://itunesconnect.apple.com>), Android Developer Console (<https://play.google.com/apps/publish/>) and Amazon Developer Portal (<https://developer.amazon.com/>) establish SSL/TLS communications when uploading Shutterfly's apps onto these respective platforms, as evidenced by the "https" in their URLs. Sending the mobile app code by SSL/TLS is necessary to keep the code from being observed in transit from the code developer to Apple/Google/Amazon. This step is required by each of Apple/Google/Amazon in order to upload Shutterfly's mobile apps onto the Apple/Google/Amazon app stores.

66. On information and belief, Shutterfly builds each mobile app so that it is resistant to modification, at least in part and by way of example, because the app binary is code signed. Both Apple and Google require that each developer code sign each mobile app submission with his/her asymmetric developer key that certifies that the app has not been modified by a third party. In case of Amazon, Shutterfly's Amazon Appstore apps are code-signed with a signature that Amazon creates specifically for Shutterfly and is unique to Shutterfly. .

67. On information and belief, Shutterfly's mobile apps contain files such as the file `_CodeSignature/CodeResources` in Shutterfly's iOS apps and the files `CERT.SF` and `CERT.RSA` in Shutterfly's Android apps – all of which are generated during the code signing process. Similarly, Shutterfly's Amazon platform apps contain files such as `APKSIGNE.RSA` and `APKSIGNE.SF` which are created when Amazon code-signs Shutterfly's apps with the unique signature that Amazon creates specifically for Shutterfly..

68. On information and belief, asymmetrical key cryptography and hashing algorithms are used to create the unique digital signature for the mobile apps. On information and belief, the digital signature is used to sign the resources in an application package, including

the binary file. On information and belief, the private key of an asymmetric key pair that is generated for the digital code signing is used to code sign the app.

69. On information and belief, Shutterfly and/or Apple/Google/Amazon builds each mobile app comprising a tamper resistant key module where each app includes several keys “used for secure communications” including, by way of example, at least the following: (1) the claimed private key used to upload Shutterfly’s mobile apps onto the Apple/Google/Amazon servers; (2) the claimed public key used to encrypt predetermined data during the upload of Shutterfly’s mobile apps onto the Apple/Google/Amazon servers, as well as a public key used to communicate securely with servers during operation of the mobile app; (3) the private key used to digitally sign the app code; and/or (4) the symmetric key negotiated as part of the SSL/TLS process which is used, for example, to securely upload Shutterfly’s mobile apps onto the Apple/Google/Amazon servers, as well as the symmetric key used to communicate securely with servers during operation of the mobile app.

70. On information and belief, Shutterfly and/or Apple/Google/Amazon builds each of its mobile apps, for example, such that each app is identified for a selected program, namely the iOS, Android and/or Fire OS operating system on a remote mobile device. As set forth above, on information and belief, the acts of Shutterfly and Apple/Google/Amazon are attributable to each other respectively because Shutterfly works together with Apple/Google/Amazon respectively in a joint enterprise in the building and distribution of its mobile apps. Alternatively, on information and belief, any steps performed by or acts of Apple/Google/Amazon are attributable to Shutterfly because Apple, Google and Amazon distribute and market Shutterfly’s mobile apps under the direction and control of Shutterfly, or act as agents, or on behalf of Shutterfly, in the building, marketing and distribution of

Shutterfly's mobile apps. Alternatively, on information and belief, any steps or acts performed by Shutterfly, are attributable to Apple/Google/Amazon respectively, who condition participation in and the receipt of a benefit, namely, the distribution of Shutterfly's iOS, Android and/or Fire compatible mobile apps through the Apple /Google/Amazon app stores, upon compliance with certain mandatory procedures and guidelines dictated by Apple, Google and Amazon respectively in the building and upload of Shutterfly's mobile apps, and/or, Shutterfly induces infringement by Apple/Google/Amazon respectively in the building, marketing and distribution of Shutterfly's mobile apps. Thus, for at least these reasons, Shutterfly directly infringes or induces infringement of claim 1 of the '399 Patent.

71. Claim 34 is similar to claim 1, except that claim 34 requires "building an executable tamper resistant key module identified for a selected program resident on a remote system, the executable tamper resistant key module including a private key of the asymmetric key pair and the encrypted data," but does not require the "generating" of asymmetric keys nor does it require encrypting "predetermined data." Here, for example, at least the selected programs, namely the Android, iOS and Fire OS operating systems, are resident on a remote system, *i.e.*, the mobile device. Moreover, the building step includes a private key and encrypted data because of the SSL handshake, as explained above with respect to claim 1.

72. Moreover, claim 34 requires "sending the executable tamper resistant key module to the remote system." On information and belief, Shutterfly builds its mobile apps so that the mobile app can be sent to the user via download onto the remote system, for example, at least, on a user's mobile device. The apps are sent to the remote system every time an iOS/Android/Fire OS mobile user selects the Shutterfly app for download. This downloading is also performed

securely over SSL/TLS, and includes a private and public asymmetric key, as well as a symmetric key.

73. In the alternative, because the manner of use by Shutterfly differs in no substantial way from language of the claims, if Shutterfly is not found to literally infringe, Shutterfly infringes under the doctrine of equivalents.

74. While, on information and belief, parts of these steps may be performed by third parties, namely Apple/Google/Amazon (and/or their agents and third parties under their direction and control), these acts are attributable to Shutterfly, and Shutterfly is liable for the performance of all the steps of the claimed methods. By way of example, upon information and belief, Shutterfly and Apple/Google/Amazon are engaged in a joint enterprise, in the distribution of Shutterfly's mobile apps through the Apple/Google/Amazon app stores. Alternatively, on information and belief, (i) any steps performed by Apple/Google/Amazon in the building, marketing and distribution of iOS, Android and/or Fire compatible mobile apps respectively, are done as agents, at the direction and control, and on behalf of Shutterfly, (ii) Apple/Google/Amazon conditions participation in, and receipt of the benefit of marketing and distributing apps on their respective app stores, upon compliance with certain procedures and guidelines in the building and distribution of its mobile apps, and/or (iii) Shutterfly induces infringement by Apple/Google/Amazon respectively in the building and distribution of Shutterfly's mobile apps. Upon information and belief, under any of these theories, Google and Apple specifically intend to infringe at least the '399 Patent by advertising and promoting the use and distribution of mobile apps through their app store, and requiring mobile app developers including Defendant to include a private key and encrypted predetermined data in the building of mobile apps to be made available by Apple and Google on their respective app stores.

75. To the extent that third parties Apple/Google/Amazon are deemed to directly infringe, Shutterfly is liable for inducement of those steps by creating and uploading the code, as well as advertising and promoting the creation, development, distribution and use of its mobile apps.

76. Defendant's infringement is willful, deliberate and intentional at least as of the date the Original Complaint was served and even earlier based on the knowledge of Apple/Google as stated above.

77. Defendant is thus liable for infringement of the '399 Patent pursuant to 35 U.S.C. § 271.

78. Defendant's aforementioned acts have caused damage to Plano Encryption in the past and will continue to do so in the future.

## **COUNT TWO**

### **INFRINGEMENT OF U.S. PATENT NO. 5,974,550**

79. Plaintiff Plano Encryption realleges and incorporates herein the preceding paragraphs of its Complaint.

80. On information and belief, by making, using, selling, offering for sale, leasing, licensing, distributing, promoting the use of apparatuses or instrumentalities practicing and/or embodying the invention within the United States, Defendant has directly infringed and continues to infringe one or more claims of the '550 Patent, including at least, and as an example, claims 10 and 20 of the '550 Patent.

81. On information and belief, Shutterfly makes, uses, sells, offers for sale, leases, licenses, distributes and/or promotes the use of its mobile applications by and for its customers using an apparatus as described by claim 10 and on one or more machine readable mediums



having stored therein a plurality of machine readable instructions designed to be executed by a processor as described by claim 20, with the intention that the mobile apps be distributed through the Apple iOS App Store, Google Android Play Store or Amazon.com for download onto an Apple iOS, Android and/or Fire OS enabled mobile tablet or device for use in connection with iOS, Android and/or Fire OS operating software. Accordingly, on information and belief, and as previously described herein, Shutterfly directly infringes and/or induces infringement by Apple/Google/Amazon for certain claims, and/or induces infringement by end-users for other claims of the '550 Patent.

82. On information and belief, Shutterfly's mobile apps are intended for download onto mobile devices with iOS, Android or Fire OS operating systems, where the mobile device must have a processing unit for executing programming instructions storage medium and a local storage media which stores instructions to be executed by the mobile device processor for receiving downloads.

83. On information and belief, once downloaded, Shutterfly's mobile apps may be used, for example, by consumers to conduct secure business transactions from the mobile tablet or device.

84. Claim 10 begins "An apparatus for authenticating a first process operating in an address space different than that of a second process comprising . . ." To the extent the preamble is limiting, Shutterfly at least makes or uses an apparatus for authenticating a first process operating in an address space different than that of a second process. Upon information and belief, the apparatus authenticates a first process (on a mobile device) which operates in an address space (memory locations on the mobile device) which is different from the address space

of the second process (memory locations used by software executed on the Shutterfly servers and the Apple/Google/Amazon servers that make the Shutterfly mobile app available for download).

85. Claim 10 requires “a processing unit for executing programming instructions” which exists on the computers, servers and mobile devices involved in the making and use of the infringing apparatus.

86. Claim 10 also requires “and a storage medium having stored therein a plurality of programming instructions of the second process to be executed by the processing unit.” Again, this element exists on the computers, servers, and mobile devices involved in the making and use of the infringing apparatus.

87. Claim 10 further requires “wherein when executed, the plurality of programming instructions create a tamper resistant module containing a secret.” The computers used in the development of the mobile app have programming instructions, that when executed, create a tamper resistant module. Upon information and belief, the mobile app is a tamper resistant module for at least the reasons previously set forth. The mobile app contains several secrets, including the code as a whole. Specifically, as per the SSL/TLS protocol, the mobile app contains multiple secrets, which are later used to encode communications between the server and the mobile device, namely the cipher suite, the key exchange algorithm, pre-master SSL/TLS secret and/or the algorithm used to derive the pre-master secret.

88. Claim 10 further requires that the apparatus “create a challenge.” On information and belief, Shutterfly creates a challenge in connection with each of its mobile apps, including by way of example, at least prompts for a username/password.

89. Claim 10 further requires the apparatus to “send the tamper resistant module and the challenge to the first process.” The first process is the process running at the mobile devices. Both the tamper resistant module and the challenge are sent to the mobile device.

90. Claim 10 also requires that the apparatus “receive a response to the challenge from the first process.” A response to the challenge (namely, the requested information) is sent to a server from the response.

91. Finally, Claim 10 requires the apparatus to “decode the response.” Since all communications regarding the Shutterfly mobile apps are encrypted by at least SSL, the response to the challenge must be decoded.

92. Claim 20 begins “A machine readable medium having stored therein a plurality of machine readable instructions designed to be executed by a processor, the machine readable instructions for . . .” The processes described below, for example, are all performed by one or more processors with typical storage devices that have multiple instructions.

93. Claim 20 requires “creating a tamper resistant module containing a secret . . .” On information and belief, and as described above, Shutterfly creates each of its mobile apps as a tamper resistant module. For example, each Shutterfly mobile app is software designed to work with other software, including at least the mobile operating system. Furthermore, as recited above for example, the mobile app is resistant to observation and modification.

94. On information and belief, each Shutterfly mobile app contains many secrets, such as, for example, at least those used during the SSL/TLS protocol, which is used to encode communications between the server and the mobile device, namely the cipher suite, the key exchange algorithm, pre-master SSL/TLS secret and/or the algorithm used to derive the pre-master secret. On information and belief, as described above for example, the mobile app source

code itself is also a secret in that only the binary code is uploaded onto the Apple/Google/Amazon servers.

95. Claim 20 requires “creating a challenge . . .” On information and belief, Shutterfly creates a challenge in connection with each of its mobile apps, including by way of example, at least prompts for a username and password.

96. Claim 20 requires “sending the tamper resistant module and the challenge to a remote process . . .” On information and belief, each Shutterfly mobile app (which as described above comprises a tamper resistant module) and the challenge are sent to a remote process, such as, for example, the processes (including the Android/iOS/Fire OS platform) running on the remote mobile device.

97. Claim 20 requires “receiving a response to the challenge from the remote process . . .” On information and belief, a response to the challenge (for example, the username and password) is received from the remote process such as the processes running on the mobile device.

98. Finally, claim 20 requires “decoding the response.” On information and belief, responses must be decoded, for example at least in part, since all communications are secured by SSL/TLS.

99. In the alternative, because the manner of use by Shutterfly differs in no substantial way from language of the claims, if Shutterfly is not found to literally infringe, Shutterfly infringes under the doctrine of equivalents.

100. To the extent that any parts of the accused infringing apparatus or storage mediums may be owned or controlled by third parties Apple/Google/Amazon and/or end-users, upon information and belief, those actions are nonetheless attributable to Shutterfly such that

Shutterfly is liable. For example, on information and belief, the acts of Shutterfly and Apple/Google/Amazon are attributable to each other respectively because, *inter alia*, Shutterfly works together with Apple/Google/Amazon respectively in a joint enterprise in the building and distribution of its mobile apps. Alternatively, on information and belief, (i) Shutterfly works at the direction and control of Apple/Google/Amazon respectively, in the building and distribution of iOS, Android and Fire compatible mobile apps, (ii) Shutterfly directs and controls, Apple/Google/Amazon respectively, who act as agents of, or on behalf of, Shutterfly in the building and distribution of its mobile apps, and/or (iii) Shutterfly induces infringement by Apple/Google/Amazon respectively in the building and distribution of Shutterfly's mobile apps.

101. To the extent that third parties, namely Apple/Google/Amazon with respect to certain claims and/or users of the mobile device with respect to other patent claims, are deemed to directly infringe, Shutterfly is liable for inducement by, for example, creating and uploading the code, as well as advertising and promoting the creation, development, distribution and use of its mobile apps.

102. Defendant's infringement continues to be willful, deliberate and intentional at least as of the date the Original Complaint was served. Also, as alleged in detail above, Defendant should be liable for the knowledge of Google and/or Apple.

103. Defendant continues to knowingly induce users of mobile devices to infringe the '550 Patent, including by intentionally developing, making, marketing, advertising, providing, distributing and licensing the software, documentation, materials, training or support and aiding, abetting, encouraging, promoting or inviting use thereof.

104. Defendant is thus liable for infringement of the '550 Patent pursuant to 35 U.S.C. § 271.

105. Defendant's aforementioned acts have caused damage to Plano Encryption in the past and will continue to do so in the future.

**PRAYER FOR RELIEF**

WHEREFORE, Plaintiff respectfully requests that this Court enter judgment and provide relief as follows:

106. That Shutterfly has directly infringed the Patents-in-Suit literally and/or under the doctrine of equivalents;

107. That Shutterfly is liable for knowledge of the Patents-in-Suit;

108. That Shutterfly has induced infringement of the Patents-in-Suit;

109. That Shutterfly has willfully infringed the Patents-in-Suit;

110. That Shutterfly be ordered to account for and pay to Plano Encryption past and future damages, costs, expenses, together with prejudgment and post-judgment interest to compensate for Defendant's infringement of the Patents-in-Suit as provided under 35 U.S.C. § 284, and increase such award by up to three times the amount found or assessed in accordance with 35 U.S.C. § 284, and further including an accounting for infringing sales not presented at trial and an award by the Court of additional damages for any such infringing sales;

111. An award to Plaintiff for enhanced damages resulting from the knowing, deliberate, and willful nature of Defendant's prohibited conduct, as provided under 35 U.S.C. § 284;

112. That this case be declared exceptional and Plano Encryption be awarded its costs, expenses, and reasonable attorneys' fees in this action pursuant to 35 U.S.C. § 285; and

113. That Plaintiff Plano Encryption be awarded such other equitable or legal relief as this Court deems just and proper under the circumstances.

**DEMAND FOR JURY TRIAL**

Plaintiff, under Rule 38 of the Federal Rules of Civil Procedure, requests a trial by jury of any issues so triable by right.

Respectfully Submitted,

**PLANO ENCRYPTION TECHNOLOGIES,  
LLC**

Dated: November 28, 2016

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**ATTORNEYS FOR PLAINTIFF  
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**CERTIFICATE OF SERVICE**

I hereby certify that the all counsel of record who are deemed to have consented to electronic service are being served this 28<sup>th</sup> day of November, 2016, with a copy of this document via the Court's CM/ECF system per Local Rule CV-5(a)(3). Any other counsel of record will be served by electronic mail, facsimile transmission and/or first class mail on this same date.

/s/ Jeremy S. Pitcock