



LETTER OF ASSURANCE FOR ESSENTIAL PATENT CLAIMS
FFX Mode of Operation for Format-Preserving Encryption

No License is Granted or Implied by this Letter of Assurance

VeriFone Systems, Inc, a Delaware corporation having offices at 2099 Gateway Place, San Jose, CA 95110 (“VeriFone”) hereby declares that it may own, control, or have the ability to license Patent Claims that might be or become Essential Patent Claims in respect of the FFX Mode of Operation for Format-Preserving Encryption, under consideration by the Security Technology Group (STG) of the Computer Security Division of the National Institute of Standards and Technology for inclusion in the STG’s Cryptographic Tool Kit (<http://csrc.nist.gov/groups/ST/toolkit/>).

With respect to all such Essential Patent Claims that VeriFone may currently or in the future own, control, or have the ability to license, VeriFone agrees that it will grant a license, under reasonable rates or without compensation, to an unrestricted number of applicants on a worldwide basis with reasonable terms and conditions that are demonstrably free of unfair discrimination.

VeriFone identifies the following patent(s) or pending patent application(s) that it believes may include disclosure of subject matter supporting Patent Claims that might be or become Essential Patent Claims:

United States Patent Application 20090310778, von Mueller, *et al.*, “Variable-Length Cipher System and Method,” filed June 9, 2009.

VeriFone represents and warrants that it is the sole owner by assignment of the entire right, title and interest in and to the invention(s) described and/or claimed in United States Patent Application 20090310778.

Nothing in this Letter of Assurance shall be interpreted as giving rise to a duty on the part of VeriFone to conduct a patent search. No position is taken or should be inferred with respect to the validity or essentiality of Patent Claims, whether or not identified in this Letter of Assurance.

[Affiliates, successor and assigns]

With respect to any Essential Patent Claims that an Affiliate of VeriFone may currently or in the future own, control, or have the ability to license, VeriFone agrees that the terms of this Letter of Assurance are and will be binding on such Affiliate.

The person signing this Letter of Assurance represents that he or she has the authority to bind VeriFone and all Affiliates to the representations and commitments provided in this Letter of Assurance, and acknowledges that users and implementers of the FFX Mode of



Operation for Format-Preserving Encryption are relying or will rely upon and may seek enforcement of the terms of this Letter of Assurance. VeriFone and all Affiliates agree not to sell or otherwise transfer any rights in any Essential Patent Claims that they hold, control, or have the ability to license with the intent of circumventing or negating any of the representations and commitments made in this Letter of Assurance.

VeriFone agrees that it shall (a) provide notice of this Letter of Assurance either through a Statement of Encumbrance or by binding any successor, assignee or transferee to the terms of such Letter of Assurance; and (b) require any successor, assignee or transferee to (i) agree to similarly provide such notice and (ii) to bind its successors, assignees or transferees to agree to provide such notice as described in (a) and (b).

For the purposes of this Letter of Assurance:

"Affiliate" shall mean an entity that directly, or indirectly through one or more intermediaries, controls VeriFone, is controlled by VeriFone, or is under common control with VeriFone. For the purposes of this definition, the term "control" and its derivatives, with respect to for-profit entities, means the legal, beneficial or equitable ownership, directly or indirectly, of more than fifty percent (50%) of the capital stock (or other ownership interest, if not a corporation) of an entity ordinarily having voting rights. "Control" and its derivatives, with respect to nonprofit entities, means the power to elect or appoint more than fifty percent (50%) of the Board of Directors of an entity.

"Essential Patent Claim" shall mean any Patent Claim the use of which was necessary to create a compliant implementation of either mandatory or optional portions of the normative clauses of the FFX Mode of Operation for Format-Preserving Encryption when, at the time of STG's recommendation of the FFX Mode of Operation for Format-Preserving Encryption for inclusion in the STG's Cryptographic Tool Kit, there was no commercially and technically feasible non-infringing alternative.

"Patent Claim(s)" shall mean one or more claims in an issued patent(s) or a pending patent application(s), and shall include subject matter disclosed but not claimed in an issued patent(s) or a pending patent application(s) that could support one or more claims.

"Statement of Encumbrance" shall mean a specific reference to this Letter of Assurance or a general statement in the transfer or assignment agreement that the Patent Claim(s) being transferred or assigned are subject to any encumbrances that may exist as of the effective date of such agreement. This Letter of Assurance shall be considered an encumbrance.



Sincerely,

Albert Liu
General Counsel