

## References Cited – Proposal Section (e)

### References

- [ABF<sup>+</sup>17] Yasemin Acar, Michael Backes, Sascha Fahl, Simson Garfinkel, Doowon Kim, Michelle L. Mazurek, and Christian Stransky. Comparing the usability of cryptographic APIs. In *2017 IEEE Symposium on Security and Privacy (SP)*, pages 154–171. IEEE, IEEE, 2017.
- [ABL<sup>+</sup>14] Elena Andreeva, Andrey Bogdanov, Atul Luykx, Bart Mennink, Nicky Mouha, and Kan Yasuda. How to securely release unverified plaintext in authenticated encryption. In *Advances in Cryptology – ASIACRYPT 2014: 20th International Conference on the Theory and Application of Cryptology and Information Security, Kaoshiung, Taiwan, R.O.C., December 7-11, 2014. Proceedings, Part I*, pages 105–125. Springer Berlin Heidelberg, 2014.
- [APW09] Martin R. Albrecht, Kenneth G. Paterson, and Gaven J. Watson. Plaintext recovery attacks against SSH. In *Proceedings of the 2009 30th IEEE Symposium on Security and Privacy*, pages 16–26. IEEE, 2009.
- [BBN<sup>+</sup>09] Mihir Bellare, Zvika Brakerski, Moni Naor, Thomas Ristenpart, Gil Segev, Hovav Shacham, and Scott Yilek. Hedged public-key encryption: How to protect against bad randomness. In *Advances in Cryptology – ASIACRYPT 2009: 15th International Conference on the Theory and Application of Cryptology and Information Security, Tokyo, Japan, December 6-10, 2009. Proceedings*, pages 232–249. Springer-Verlag, 2009.
- [BBO07] Mihir Bellare, Alexandra Boldyreva, and Adam O’Neill. Deterministic and efficiently searchable encryption. In *Proceedings of the 27th Annual International Cryptology Conference on Advances in Cryptology*, pages 535–552. Springer Berlin Heidelberg, 2007.
- [BCS09] John Black, Martin Cochran, and Thomas Shrimpton. On the impossibility of highly-efficient blockcipher-based hash functions. *J. Cryptology*, 22(3):311–329, 2009.
- [BDPS12] Alexandra Boldyreva, Jean Paul Degabriele, Kenneth G. Paterson, and Martijn Stam. Security of symmetric encryption in the presence of ciphertext fragmentation. In *Proceedings of the 31st Annual International Conference on Theory and Applications of Cryptographic Techniques*, pages 682–699. Springer-Verlag, 2012.
- [BDPS14] Alexandra Boldyreva, Jean Paul Degabriele, Kenneth G. Paterson, and Martijn Stam. On symmetric encryption with distinguishable decryption failures. In *Fast Software Encryption: 20th International Workshop, FSE 2013, Singapore, March 11-13, 2013. Revised Selected Papers*, pages 367–390. Springer Berlin Heidelberg, 2014.
- [BFK<sup>+</sup>13] Karthikeyan Bhargavan, Cedric Fournet, Markulf Kohlweiss, Alfredo Pironti, and Pierre-Yves Strub. Implementing TLS with verified cryptographic security. In *Proceedings of the 2013 IEEE Symposium on Security and Privacy*, pages 445–459. IEEE, 2013.
- [BFS12] Lars Baumgärtner, Bernd Freisleben, and Matthew Smith. Why Eve and Mallory love android: An analysis of android SSL (in)security. In *Proceedings of the 2012 ACM Conference on Computer and Communications Security*, pages 50–61. ACM, 2012.
- [BH05] Boaz Barak and Shai Halevi. A model and architecture for pseudo-random generation with applications to /dev/random. In *Proceedings of the 12th ACM Conference on Computer and Communications Security*, pages 203–212. ACM, 2005.
- [BH15] Mihir Bellare and Viet Tung Hoang. Resisting randomness subversion: Fast deterministic and hedged public-key encryption in the standard model. In *Advances in Cryptology - EUROCRYPT 2015: 34th Annual International Conference on the Theory and Applications of Cryptographic Techniques, Sofia, Bulgaria, April 26-30, 2015, Proceedings, Part II*, pages 627–656. Springer Berlin Heidelberg, 2015.

- [BKN04] Mihir Bellare, Tadayoshi Kohno, and Chanathip Namprempr. Breaking and provably repairing the SSH authenticated encryption scheme: A Case study of the encode-then-encrypt-and-MAC paradigm. *ACM Trans. Inf. Syst. Secur.*, 7(2):206–241, 2004.
- [BMM<sup>+</sup>15] Christian Badertscher, Christian Matt, Ueli Maurer, Phillip Rogaway, and Björn Tackmann. Augmented secure channels and the goal of the TLS 1.3 record layer. In *9th International Conference, ProvSec 2015, Kanazawa, Japan, November 24-26, 2015, Proceedings*, pages 85–104. Springer-Verlag, 2015.
- [BN00] Mihir Bellare and Chanathip Namprempr. Authenticated encryption: Relations among notions and analysis of the generic composition paradigm. In *Advances in Cryptology — ASIACRYPT 2000: 6th International Conference on the Theory and Application of Cryptology and Information Security Kyoto, Japan, December 3–7, 2000 Proceedings*. Springer Berlin Heidelberg, 2000.
- [BPS17] Alexandra Boldyreva, Christopher Patton, and Thomas Shrimpton. Hedging public-key encryption in the real world. In *Advances in Cryptology – CRYPTO 2017: 37th Annual International Cryptology Conference, Santa Barbara, CA, USA, August 20–24, 2017, Proceedings, Part III*, pages 462–494. Springer-Verlag, 2017.
- [BR93] Mihir Bellare and Phillip Rogaway. Entity authentication and key distribution. In *Proceedings of the 13th Annual International Cryptology Conference on Advances in Cryptology*, pages 232–249. Springer-Verlag New York, Inc., 1993.
- [BRSS10] John Black, Phillip Rogaway, Thomas Shrimpton, and Martijn Stam. An analysis of the blockcipher-based hash functions from PGV. *Journal of Cryptology*, 23(4):519–545, 2010.
- [CAE] The CAESAR authenticated cipher competition. The homepage <https://competitions.cr.yp.to>, accessed 15 Nov 2017.
- [CGPR15] David Cash, Paul Grubbs, Jason Perry, and Thomas Ristenpart. Leakage-abuse attacks against searchable encryption. In *Proceedings of the 22Nd ACM SIGSAC Conference on Computer and Communications Security*, pages 668–679. ACM, 2015.
- [CJJ<sup>+</sup>13] David Cash, Stanislaw Jarecki, Charanjit Jutla, Hugo Krawczyk, Marcel-Cătălin Roşu, and Michael Steiner. Highly-scalable searchable symmetric encryption with support for boolean queries. In *Advances in Cryptology – CRYPTO 2013: 33rd Annual Cryptology Conference, Santa Barbara, CA, USA, August 18-22, 2013. Proceedings, Part I*, pages 353–373. Springer Berlin Heidelberg, 2013.
- [CNS<sup>+</sup>17] Animesh Chhotaray, Adib Nahiyan, Thomas Shrimpton, Domenic Forte, and Mark Tehranipoor. Standardizing bad cryptographic practice: A teardown of the IEEE P1735 standard for protecting electronic-design intellectual property. In *Proceedings of the 2017 ACM SIGSAC Conference on Computer and Communications Security*, pages 1533–1546. ACM, 2017.
- [DCRS12] Kevin P Dyer, Scott E Coull, Thomas Ristenpart, and Thomas Shrimpton. Peek-a-boo, I still see you: Why efficient traffic analysis countermeasures fail. In *Security and Privacy (SP), 2012 IEEE Symposium on*, pages 332–346. IEEE, 2012.
- [DCRS13] Kevin P. Dyer, Scott E. Coull, Thomas Ristenpart, and Thomas Shrimpton. Protocol misidentification made easy with format-transforming encryption. In *Proceedings of the 2013 ACM SIGSAC Conference on Computer and Communications Security*, pages 61–72, New York, NY, USA, 2013. ACM.
- [DF17] Yevgeniy Dodis and Dario Fiore. Unilaterally-authenticated key exchange. In *Proceedings of the 21st International Conference on Financial Cryptography and Data Security.*, 2017.
- [DLFK<sup>+</sup>17] A. Delignat-Lavaud, C. Fournet, M. Kohlweiss, J. Protzenko, A. Rastogi, N. Swamy, S. Zanella-Beguelin, K. Bhargavan, J. Pan, and J. K. Zinzindohoue. Implementing and proving the TLS 1.3 record layer. In *2017 IEEE Symposium on Security and Privacy (SP)*, pages 463–482. IEEE, 2017.

- [DPR<sup>+</sup>13] Yevgeniy Dodis, David Pointcheval, Sylvain Ruhault, Damien Vergniaud, and Daniel Wichs. Security analysis of pseudo-random number generators with input: `/dev/random` is not robust. In *Proceedings of the 2013 ACM SIGSAC Conference on Computer and Communications Security*, pages 647–658. ACM, 2013.
- [DPW11] J. P. Degabriele, K. Paterson, and G. Watson. Provable security in the real world. *IEEE Security & Privacy*, 9(3):33–41, 2011.
- [DRS09] Yevgeniy Dodis, Thomas Ristenpart, and Thomas Shrimpton. Salvaging Merkle-Damgård for practical applications. In *Advances in Cryptology - EUROCRYPT 2009: 28th Annual International Conference on the Theory and Applications of Cryptographic Techniques, Cologne, Germany, April 26-30, 2009. Proceedings*, pages 371–388. Springer Berlin Heidelberg, 2009.
- [FGMP15] Marc Fischlin, Felix Günther, Giorgia Azzurra Marson, and Kenneth Paterson. Data is a stream: Security of stream-based channels. In *Advances in Cryptology – CRYPTO 2015: 35th Annual Cryptology Conference, Santa Barbara, CA, USA, August 16-20, 2015, Proceedings, Part II*, pages 545–564. Springer Berlin Heidelberg, 2015.
- [FLR<sup>+</sup>10] M. Fischlin, A. Lehmann, T. Ristenpart, T. Shrimpton, M. Stam, and S. Tessaro. Random oracles with(out) programmability. In *Advances in Cryptology – ASIACRYPT 2010*, pages 303–320. Springer Berlin Heidelberg, 2010.
- [FTE] Libfte. Source code available at <https://github.com/kpdyer/libfte>, accessed 15 Nov 2017.
- [GRS17] Paul Grubbs, Thomas Ristenpart, and Vitaly Shmatikov. Why your encrypted database is not secure. In *Proceedings of the 16th Workshop on Hot Topics in Operating Systems*, pages 162–168. ACM, 2017.
- [GSB<sup>+</sup>17] P. Grubbs, K. Sekniqi, V. Bindschaedler, M. Naveed, and T. Ristenpart. Leakage-abuse attacks against order-revealing encryption. In *2017 IEEE Symposium on Security and Privacy (SP)*, pages 655–672. IEEE, 2017.
- [Har08] D. Harkins. Synthetic initialization vector (SIV) authenticated encryption using the advanced encryption standard (aes). RFC 5297, RFC Editor, October 2008. <http://www.rfc-editor.org/rfc/rfc5297.txt>.
- [HHL<sup>+</sup>17] P. Holzinger, B. Hermann, J. Lerch, E. Bodden, and M. Mezini. Hardening java’s access control by abolishing implicit privilege elevation. In *2017 IEEE Symposium on Security and Privacy (SP)*, pages 1027–1040. IEEE, 2017.
- [HKR15] Viet Tung Hoang, Ted Krovetz, and Phillip Rogaway. Robust authenticated-encryption: AEZ and the problem that it solves. In *Advances in Cryptology – EUROCRYPT 2015: 34th Annual International Conference on the Theory and Applications of Cryptographic Techniques, Sofia, Bulgaria, April 26-30, 2015, Proceedings, Part I*, pages 15–44. Springer Berlin Heidelberg, 2015.
- [HRRV15] Viet Tung Hoang, Reza Reyhanitabar, Phillip Rogaway, and Damian Vizár. Online authenticated-encryption and its nonce-reuse misuse-resistance. In *Advances in Cryptology – CRYPTO 2015: 35th Annual Cryptology Conference, Santa Barbara, CA, USA, August 16-20, 2015, Proceedings, Part I*, pages 493–517. Springer Berlin Heidelberg, 2015.
- [IKND16] Soumya Indela, Mukul Kulkarni, Kartik Nayak, and Tudor Dumitraş. Helping johnny encrypt: Toward semantic interfaces for cryptographic frameworks. In *Proceedings of the 2016 ACM International Symposium on New Ideas, New Paradigms, and Reflections on Programming and Software*, pages 180–196. ACM, 2016.
- [Kra16] Hugo Krawczyk. A unilateral-to-mutual authentication compiler for key exchange (with applications to client authentication in TLS 1.3). In *Proceedings of the 2016 ACM SIGSAC Conference on Computer and Communications Security*, pages 1438–1450. ACM, 2016.

- [KS13] Robert Künnemann and Graham Steel. YubiSecure? Formal security analysis results for the YubiKey and YubiHSM. In *Security and Trust Management: 8th International Workshop, STM 2012, Pisa, Italy, September 13-14, 2012, Revised Selected Papers*, pages 257–272. Springer Berlin Heidelberg, 2013.
- [LDJ<sup>+</sup>14] Daniel Luchaup, Kevin P. Dyer, Somesh Jha, Thomas Ristenpart, and Thomas Shrimpton. LibFTE: A toolkit for constructing practical, format-abiding encryption schemes. In *Proceedings of the 23rd USENIX conference on Security Symposium*, pages 877–891. USENIX Association, 2014.
- [LSRJ14] Daniel Luchaup, Thomas Shrimpton, Thomas Ristenpart, and Somesh Jha. Formatted encryption beyond regular languages. In *ACM Conference on Computer and Communications Security*. ACM, 2014.
- [LST12] Will Landecker, Thomas Shrimpton, and R. Terashima. Tweakable blockciphers with beyond birthday-bound security. In *Advances in Cryptology—CRYPTO ’12*, volume 7417 of *Lecture Notes in Computer Science*, pages 14–30. Springer Berlin / Heidelberg, 2012.
- [LW16] Kevin Lewi and David J. Wu. Order-revealing encryption: New constructions, applications, and lower bounds. In *Proceedings of the 2016 ACM SIGSAC Conference on Computer and Communications Security*, pages 1167–1178. ACM, 2016.
- [Mar] The Marionette traffic obfuscation system. Project hosted at <https://github.com/marionette-tg>, accessed 15 Nov 2017.
- [NKW15] Muhammad Naveed, Seny Kamara, and Charles V. Wright. Inference attacks on property-preserving encrypted databases. In *Proceedings of the 22Nd ACM SIGSAC Conference on Computer and Communications Security, CCS ’15*, pages 644–655. ACM, 2015.
- [NRS14] Chanathip Namprempre, Phillip Rogaway, and Thomas Shrimpton. Reconsidering generic composition. In *Advances in Cryptology – EUROCRYPT 2014: 33rd Annual International Conference on the Theory and Applications of Cryptographic Techniques, Copenhagen, Denmark, May 11-15, 2014. Proceedings*, pages 257–274. Springer Berlin Heidelberg, 2014.
- [ÖSS10] Onur Özen, Thomas Shrimpton, and Martijn Stam. Attacking the Knudsen-Preneel compression functions. In *Fast Software Encryption*, volume 6147, pages 94–115, 2010.
- [PRS11] Kenneth G. Paterson, Thomas Ristenpart, and Thomas Shrimpton. Tag size *does* matter: Attacks and proofs for the TLS record protocol. In *Advances in Cryptology – ASIACRYPT 2011: 17th International Conference on the Theory and Application of Cryptology and Information Security, Seoul, South Korea, December 4-8, 2011. Proceedings*, pages 372–389. Springer Berlin Heidelberg, 2011.
- [Res17] Eric Rescorla. The Transport Layer Security (TLS) Protocol version 1.3. Internet-Draft draft-ietf-tls-tls13-21, IETF Secretariat, 2017. <https://tools.ietf.org/html/draft-ietf-tls-tls13-21>.
- [Rog04] Phillip Rogaway. Nonce-based symmetric encryption. In *Fast Software Encryption: 11th International Workshop, FSE 2004, Delhi, India, February 5-7, 2004. Revised Papers*, pages 348–358. Springer Berlin Heidelberg, 2004.
- [RS06] Phillip Rogaway and Thomas Shrimpton. A provable-security treatment of the key-wrap problem. In *Advances in Cryptology - EUROCRYPT 2006: 24th Annual International Conference on the Theory and Applications of Cryptographic Techniques, St. Petersburg, Russia, May 28 - June 1, 2006. Proceedings*, pages 373–390. Springer Berlin Heidelberg, 2006.
- [RS09] Phillip Rogaway and Till Stegers. Authentication without elision. In *Proceedings of the 2009 22Nd IEEE Computer Security Foundations Symposium*, pages 26–39. IEEE, 2009.
- [RSS11] Thomas Ristenpart, Hovav Shacham, and Thomas Shrimpton. Careful with composition: Limitations of the indistinguishability framework. In Kenneth G. Paterson, editor, *Advances in Cryptology—EUROCRYPT ’11*, volume 6632 of *Lecture Notes in Computer Science*, pages 487–506, 2011.

- [SSW16] Thomas Shrimpton, Martijn Stam, and Bogdan Warinschi. A modular treatment of cryptographic APIs: The symmetric-key case. In *Advances in Cryptology – CRYPTO 2016: 36th Annual International Cryptology Conference, Santa Barbara, CA, USA, August 14-18, 2016, Proceedings, Part I*, pages 277–307, 2016.
- [ST13] Thomas Shrimpton and R. Seth Terashima. A modular framework for building variable-input-length tweakable ciphers. In *Advances in Cryptology - ASIACRYPT 2013: 19th International Conference on the Theory and Application of Cryptology and Information Security, Bengaluru, India, December 1-5, 2013, Proceedings, Part I*, pages 405–423. Springer Berlin Heidelberg, 2013.
- [ST15] Thomas Shrimpton and R. Seth Terashima. A provable-security analysis of Intel’s Secure Key RNG. In *Advances in Cryptology – EUROCRYPT 2015: 34th Annual International Conference on the Theory and Applications of Cryptographic Techniques, Sofia, Bulgaria, April 26-30, 2015, Proceedings, Part I*, pages 77–100. Springer Berlin Heidelberg, 2015.
- [Vau02] Serge Vaudenay. Security flaws induced by CBC padding – applications to SSL, IPSEC, WTLS... In *Proceedings of the International Conference on the Theory and Applications of Cryptographic Techniques: Advances in Cryptology*, pages 534–546. Springer-Verlag, 2002.