

Document details

[< Back to results](#) | 1 of 1[Export](#) [Download](#) [Print](#) [E-mail](#) [Save to PDF](#) [Add to List](#) [More... >](#)[Full Text](#) [View at Publisher](#)International Journal of Engineering and Technology(UAE) [Open Access](#)
Volume 7, Issue 2, 2018, Pages 23-26

A novel secret key generation based on image link (Article)

Sulaiman, A.H.^{ac} [✉](#), Al-Shaikhli, I.F.T.^{ac}, Wahiddin, M.R.^{ac}, Houri, S.^{ac}, Jamil, N.^{bc}, Ismail, A.F.^{ac} [👤](#)^aDepartment of Computer Science, Kulliyah of Information and Communication Technology, International Islamic University Malaysia, Gombak, Selangor, Malaysia^bDepartment of System and Network, College of Information Technology, Universiti Tenaga Nasional, Jalan Ikram-Uniten, Kajang, Selangor, Malaysia^cDepartment of Electrical and Computer Engineering, International Islamic University Malaysia, Gombak, Selangor, Malaysia

Abstract

[View references \(13\)](#)

One of the main problems with symmetric encryption is key distribution especially when involving large number of users i.e to generate identical keys at different locations. To address this challenge, we proposed a novel algorithm of secret key infusion protocol (SKIP) to generate an identical secret key. While, the key is generated based on a provided image link, starting pattern and string length which must be kept in secret as the algorithm is publicly known. The image from website must be a static image and used as the input of random bits to produce string of hexadecimal values. In a case where image link is compromised, the adversary has to guess other layers of parameters in starting pattern and string length. The generated secret keys were identical at two different locations. In other observation, different secret keys were generated even with the same image link and pattern length but different starting pattern.

© 2018 Science Publishing Corporation Inc.

Funding details

Funding number	Funding sponsor	Acronym	Funding opportunities
ERGS13-018-0051	International Islamic University Malaysia	IIUM	
FRGS14-127-0368	International Islamic University Malaysia	IIUM	
	Ministry of Higher Education, Malaysia	MOHE	

Funding text

This work was partially supported by International Islamic University Malaysia, FRGS14-127-0368 and ERGS13-018-0051 from Ministry of Higher Education of Malaysia.

ISSN: 2227524X

Source Type: Journal

Original language: English

DOI: 10.14419/ijet.v7i2.5.10048

Document Type: Article

Publisher: Science Publishing Corporation Inc

References (13)

[View in search results format >](#) All [Export](#) [Print](#) [E-mail](#) [Save to PDF](#) [Create bibliography](#)Metrics [?](#)

0 Citations in Scopus

0 Field-Weighted

Citation Impact

PlumX Metrics [v](#)

Usage, Captures, Mentions, Social Media and Citations beyond Scopus.

Cited by 0 documents

Inform me when this document is cited in Scopus:

[Set citation alert >](#)[Set citation feed >](#)

Related documents

Find more related documents in Scopus based on:

[Authors >](#)

- 1 Ren, K., Su, H., Wang, Q.
Secret key generation exploiting channel characteristics in wireless communications

(2011) *IEEE Wireless Communications*, 18 (4), art. no. 5999759, pp. 6-12. Cited 94 times.
doi: 10.1109/MWC.2011.5999759

[View at Publisher](#)

- 2 Takesue, H., Sasaki, T., Tamaki, K., Koashi, M.
Experimental quantum key distribution without monitoring signal disturbance

(2015) *Nature Photonics*, 9 (12), pp. 827-831. Cited 32 times.
<http://www.nature.com/nphoton/index.html>
doi: 10.1038/nphoton.2015.173

[View at Publisher](#)

- 3 Ning, H., Wang, Z.
Future internet of things architecture: Like mankind neural system or social organization framework?

(2011) *IEEE Communications Letters*, 15 (4), art. no. 5722081, pp. 461-463. Cited 118 times.
doi: 10.1109/LCOMM.2011.022411.110120

[View at Publisher](#)

- 4 Gubbi, J., Buyya, R., Marusic, S., Palaniswami, M.
Internet of Things (IoT): A vision, architectural elements, and future directions

(2013) *Future Generation Computer Systems*, 29 (7), pp. 1645-1660. Cited 2320 times.
doi: 10.1016/j.future.2013.01.010

[View at Publisher](#)

- 5 Jing, Q., Vasilakos, A.V., Wan, J., Lu, J., Qiu, D.
Security of the Internet of Things: perspectives and challenges

(2014) *Wireless Networks*, 20 (8), pp. 2481-2501. Cited 233 times.
<http://www.springerlink.com/content/1022-0038>
doi: 10.1007/s11276-014-0761-7

[View at Publisher](#)

- 6 Feng, H., Wah, C.C.
Private key generation from on-line handwritten signatures

(2002) *Information Management and Computer Security*, 10 (4), pp. 159-164. Cited 133 times.
doi: 10.1108/09685220210436949

[View at Publisher](#)

- 7 Freire-Santos, M., Fierrez-Aguilar, J., Ortega-Garcia, J.
Cryptographic key generation using handwritten signature

(2006) *Proceedings of SPIE - The International Society for Optical Engineering*, 6202, art. no. 62020N. Cited 42 times.
ISBN: 0819462586; 978-081946258-9
doi: 10.1117/12.665875

[View at Publisher](#)
