Private Reports on Yucel Turel PhD Thesis

In his PhD thesis Mr Yucel Turel has investigated cloud computing security and digital forensics methodology to bring a new vision to the existing literature. The thesis is very successful in focusing on cloud computing security weaknesses and cyber threats against it. Introduction to digital forensics and its methodologies help to understand the evidence collection process and security procedures. He conducted an experiment using Linux Eucalytus cloud-in-a-box and came up with results for digital forensic investigation in cloud computing. In subsection 5.2.6 the author introduced 3-headed Kerberos digital investigation model and in subsection 7.2 the Facade logging to collect evidence from the virtual machines. Identifying the weaknesses of cloud computing helps to predict possible attacks and he has defined those weaknesses well. As defined in his thesis, he experiments the digital forensic techniques to achieve his goal rather than evaluate a commercial product. Figures published from the 8.6, 8.7, 8.14, 8.15 are not very clear due to the snapshots effects. Thus, minor inaccuracies do not change the positive image of the dissertation.

In a significant way my general opinion on the author's work which is considered an original doctoral thesis is that it makes a valuable and useful contribution to science.

List of publications

Conferences

[1] R. Kotowski, **Y. Turel**, Potrzeba lepszej edukacji (Categorization of ITC education in Poland), in: *Proceedings of Podlaska Konferencja Technologie Informacyjne I Komunikacyjne dla Edukacji TIKE 2012*, Wydawnictwo PWSIiP w Łomży, 2013

[2] Y. Turel, Cloud Computing and Virtualization, in: Proceedings of XXIII Sympozjum Środowiskowe PTZE, Mikołajki, 16-19 czerwiec 2013, pp. 217-218, 2013

Journal articles

[1] Yucel Turel, Cloud Computing and Virtualization: A Comprehensive Survey, *Review of Electrical Engineering*, **12**, pp. 12-19, 2014
http://pe.org.pl/articles/2013/12/72.pdf

[2] Yucel Turel, Survey on Cloud Computing Vulnerability and Cyber Attacks: A Defensive Approach, Task Quarterly, **17,** No 1–2, pp. 95–107, 2014
http://www.task.gda.pl/files/quart/TQ2013/01-02/tq117o-e.pdf

[3] Yucel Turel, Cloud Computing and Forensic Investigation: Logging As An Acquisition Method, Springer, "Computing" - Submitted for publishing (Feb 2014)

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Comments on published articles

Mr Turel published articles in PE and TQ which proves that his work is recognized in the international arena.

The latest article is submitted to Springer 'Computing' journal and it is now under review of the editor, the reference number for that is Comp-D-14-00047 (7). His new approach about cloud forensics will be recognized the by Springer community internationally and will bring a new perspective on top of the existing literature.

Basically articles reflect the idea of the thesis in terms of identifying recent cloud computing security problem and digital forensic investigation. In the Springer article the 'Facade logging' (centralization of log files) mechanism is introduced using online tools to withdraw data from the virtual instances.

Conclusion

After interviewing him and reading his thesis carefully, publications and conferences for the PhD study, it is evident that he carried out a comprehensive theoretical and experimental research. He showed very good command of research techniques. His review and analysis of cloud computing and the security issue, analysis of forensic methods will be very important for science and Internet technologies. He should be encouraged to carry on his research deeper to be a distinguished scientist in the future.

In general sense with the publications indicated above the author of the PhD thesis has been adequately proven himself in the international scientific arena. Therefore, precisely I conclude that the thesis meets the requirements of being accepted as doctoral dissertations.

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