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Expanding usability of virtual network laboratory in IT engineering education

[Dobrilovic, D.](#) , [Jevtic, V.](#) , [Odadzic, B.](#)

University of Novi Sad, Zrenjanin, Serbia

Abstract

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This paper deals with importance of virtual network laboratories usage in IT engineering education. It presents the particular virtual network laboratory model developed for usage in Computer Networks course as well. This virtual network laboratory, called VNLab, is based on virtualization technology. It has been successfully tested in educational process of Computer Network course for IT undergraduate students. Its usability for network related courses is analyzed by comparison of recommended curricula's of world organizations such as IEEE, ACM and AIS. This paper is focused on expanding the usability of this virtual network laboratory to other non-network related courses. The primary expansion field is in domain of IT System Administration, IT Systems and Data Security and Operating Systems as well. The possible learning scenarios, learning tools and concepts for making this system applicable in these three additional fields are presented by the analyses of compatibility with recommended learning topics and outcomes by IEEE, ACM and AIS.

Author keywords




Component; Computer network course; Engineering education; System administration course; System security course; Virtual network laboratories; Virtualization technology

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Dobrilovic, D.; University of Novi Sad, Zrenjanin, Serbia; email:ddobri1o@tfzr.rs
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1 of 1

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