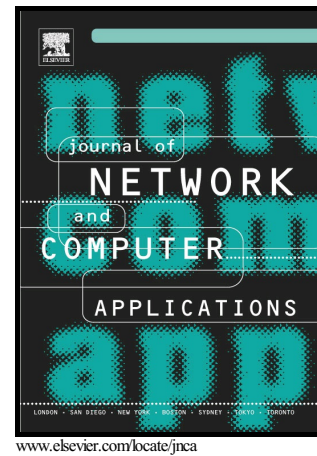


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Trustworthy Data: A Survey, Taxonomy and future trends of Secure Provenance Schemes

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Abstract

Data is a valuable asset for the success of business and organizations these days, as it is effectively utilized for decision making, risk assessment, prioritizing the goals and performance evaluation. Extreme reliance on data demands quality assurance and trust on processes. Data Provenance is information that can be used to reason about the current state of a data object. Provenance can be broadly described as the information that explains where a piece of data object came from, how it was derived or created, who was involved in said creation, manipulations involved, processes applied, etc. It consists of information that had an effect on the data, evolving to its present state. Provenance has been used widely for the authenticity of data and processes. Despite having such a wide range of uses and applications, provenance poses vexing privacy and integrity challenges. Provenance data itself is, therefore, critical and it must be secured. Over the years, a number of secure provenance schemes have been proposed. This paper aims to enhance the understanding of secure provenance schemes and its associated security issues. In this paper, we have discussed why secure provenance is needed, what are its essential characteristics, and what objectives it serves? We describe the lifecycle of secure provenance and highlighted how trust is achieved

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