

Dynamic Countermeasure Performance in the Security Context

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Abstract

A reliability-based approach for understanding security system performance degradation in a security context is presented in this paper. In this model, security system performance is assessed in terms of the minimum cost for a Threat to achieve a specified level of success at a particular moment in time given a range of plausible capabilities. Within this context a deployed countermeasure's performance degrades due to organizational learning and sabotage by the Threat, the policy constraints and information overload of the Protector, and environmental factors that affect the operation of the countermeasure and the motivations of the Protector and Threat. This paper provides a conceptual framework for describing and categorizing sources of performance degradation for the purposes of preventive maintenance, system prognostics and to promote reliability growth.

Proposed References

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