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**SVM-DT-Based Adaptive and Collaborative Intrusion Detection**

**Abstract**

As a primary defense technique, intrusion detection becomes more and more significant since the security of the networks is one of the most critical issues in the world. We present an adaptive collaboration intrusion detection method to improve the safety of a network. A self-adaptive and collaborative intrusion detection model is built by applying the Environmentsclasses, agents, roles, groups, and objects (E-CARGO) model. The objects, roles, agents, and groups are designed by using decision trees (DTs) and support vector machines (SVMs), and adaptive scheduling mechanisms are set up. The KDD CUP 1999 data set is used to verify the effectiveness of the method. The experimental results demonstrate the feasibility and efficiency of the proposed collaborative and adaptive intrusion detection method. Also, the proposed method is shown to be more predominant than the methods that use a set of single type support vector machine (SVM) in terms of detection precision rate and recall rate.