

A naturally inspired statistical intrusion detection model

ABSTRACT

Growing interest in computational models based on natural phenomena with biologically inspired techniques in recent years have been tangible. The use of immune mechanisms in intrusion detection is promising. In [1] we proposed a new IDS model based on the Artificial Immune System (AIS) and a statistical approach. In this paper we are going to enhance that model in terms of detection speed and detection rate as well as overall overload. In contrast with the work in [1] here we do not use the concept of clonal selection and we use binary detector sets which leads to lower overload and therefore higher performance. The model is examined with DARPA data set which is famous among IDS researchers.

Keyword: Intrusion detection; Artificial immune system; Negative selection; Data mining; Network security