Abstract

With the fast development in IT technology, making security of the information is very importance. But the contrary matter happened at security system, its growth very incommensurate to IT technology. So there are many systems still weaken and have to be improved its security. One of the ways to increase security of a system is to make an intrusion detection system.

This final project will develop an Intrusion Detection System using Data Mining technique. Method of Data Mining to be used is clustering by using K-Means Algorithm. K-Means algorithm will analyses log record data, and then grouping it into clusters. So that will build a pattern to be used in Intrusion Detection System. Intrusion detection processed by using an anomaly detection method. There are two methods of anomaly detection, that is: Inter-Cluster and Intra-Cluster. Data examination process to determine intrusion divided into four divisions: Data_Normal-DOS, Data_Normal-R2L, Data_Normal-U2R, and Data_Normal-Probing. So with this divisions, will be known which type of intrusion that can be detected by Intrusion Detection System and also its detection accuracy (true positive rate and detection rate).

Keywords : *Intrusion Detection System, Clustering, K-Means, Anomaly Detection, Inter-Cluster, Intra-Cluster, True Positive Rate, Detection Rate.*