Abstract

Network is growing very fast in terms of their users, technologies and devices integrated together for delivering the demanded communication services effectively. Such process requires lots of policies and configurations arrangements to improve availability and reliability of data. Most of the times these changes are performing the desired action but sometime the action or event is uncertain which let the systems performance down. These uncertain affects are due to sudden attack occurrence and cause degradations in service. These attacks are prevented using forecasting process by which attack pattern and impact are analysed. It is known as vulnerability assessment and attack removal. Larger is the data more accurate will be the attack patters detection from the data. Existing approaches and tools generates the weak and delayed output without any forecasted behaviours. This paper proposes a novel model NPA-VM approach for network vulnerability assessment using attack graphs and network metrics. The approach is capable of achieving its goal in real time. At the preliminary level of evaluation, proposed method is showing its strong holds in the area of attacks predictions.
Network Pattern Analysis based Vulnerability Measurement using Attack Graph Hierarchical Visualization Approach


- Mr. Marc Grégoire and Mr. Luc Beaudoin, "Visualization for Network Situational Awareness in Computer Network Defence", in proceedings of visualisation and the common operational picture meeting RTO-MP-IST-043, Paper 20. 2008.


Index Terms
- Computer Science
- Security

Keywords
- Network Security Situation Awareness
- Vulnerability Assessment
- Attack Graphs
- Configuration and Security Metrics
- Forecasting

NPA-VM (Network Pattern Analysis Based Vulnerability Measurement).