Project 2 - Developing a web-based SNMP browser : Detecting the SNMP Agents

Managing and securing computer networks

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1 Introduction

2 Parsing

3 Detecting the agents

First we generated a list of all the targets possible : for each ip adress in the domain, we consider all the credentials possible. Then depending on the snmp version of the target, we use different methods to send the request aiming the agent.

3.1 SNMPv1 and SNMPv2

We used the library pysnmp to send asynchronous requests to all the agents in the domain. Instead of using a snmpget request, we use a getnext request. The agent returns the next object in its tree if the object requested is not available. Every target has an entry in a hashtable. When the request is completed, if we receive an error, the entry corresponding to the target is deleted. At the end of the process, the hashtable contains only the agents present in the network.

3.2 SNMPv3

As the asynchronous requests did not work with the library we use, we decided to launch treads and use the synchronous requests of the library. For that we use a pool of 15 threads. We used the same request as in the previous case. We tried to use a suitable number of threads to make the detection as fast as possible and to avoid overloading the machine or the network.

4 Results

We write all the informations about the agents in a XML file.