URN etd-0407109-183710-789
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Statistics This thesis had been viewed 39 times. Download 0 times.
Department
Year 2002
Semester 2
Degree Master
Type of Document Master's Thesis
Language zh-TW.Big5 Chinese
Title NetFlow Packet Generator, Collector, and Real-time Traffic Monitor System
Date of Defense 0000-00-00
Page Count 58
Keyword No Any Keyword Information.

Abstract
In this paper, we design and implement a real-time Netflow monitor system which consists of three parts: (1) Netflow packet generator, (2) Netflow packet collector, and (3) web-based real-time traffic monitor. After capturing packets from a mirror port of a router, the Netflow generator can produce the packets of Cisco Netflow v5 and solve the problem of some routers not exporting Netflow packets. To reduce the packet loss, we use the multi-thread techniques and shared-memory structure. Also, a special structure of linked list is designed for counting the Netflow packets.

We investigate various hashing functions to improve the searching efficiency of linked list. Based on our experiment, the proposed Netflow generator works well with other Netflow collector such as cflowd. The real time traffic monitor is implemented by using PHP and MySQL. It supports IP traffic usage statistics and profiling information.
Advisory Committee Chien-Chun Su - advisor

Files No Any Full Text File.
Date of Submission 2003-07-07