Software Requirements Document

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Madari, The Traffic Shaping Software
Requirements Document

Revision History

Version	Date	Author(s)	Description
v1.0	22/10/2012	Shiva Teja, Akshay, Surendra, Prakhar.	Initial version
V1.1	23/10/2012	Shiva Teja, Akshay, Surendra, Orakhar	Improved functionalities.

Table of Contents

1. Introduction....1
   1.1 Need and Purpose....1
   1.2 Intended Audience....1
   1.3 References....2
2. Description....2
   2.1 Features and Functions....2
      Features....2
      Functions....2
   2.2 Users....2
   2.3 Operating Environment....2
      2.3.1 Hardware....2
      2.3.2 Software....2
3. Specific Requirements....3
   3.1 Performance Requirements....3

1. Introduction

Madari is a network traffic shaping software.

1.1 Need and Purpose

Good management control systems are essential to a well-run organisation. Internet, the most important and limited resource that needs to be properly used. Bandwidth wastage on websites of not much importance needs to be reduced. Madari solves this purpose. With Madari, you can throttle the bandwidth usage of websites and even allocate bandwidth to different users accessing internet.

1.2 Intended Audience

.This document is intended for software managers, network administrators, ISPs.

1.3 References

[1] “Traffic Shaping”, Wikipedia, the free encyclopedia, I accessed on 22/10/2012,

http://en.wikipedia.org/wiki/Traffic_shaping

[2]Thomas Graf, Greg Maxwell, Remko Van Mook

Linux Advanced Routing & Traffic Control HOWTO, version 1.0.1

2. Description

2.1 Features and Functions

Features

Madari can customise the speed of access to different websites . It provides a terminal based interface.

Functions

Main functionalities include :

1. Control the access speeds of different websites. The maximum speed a website is allocated depends on time of access. (Ex. Social Networking sites could be slowered down during work hours and given better speeds after work hours).
2. MAC address based bandwidth allocation for routers and/or users. Even this is a dynamic feacture. The bandwidth allocated to a router/user depends on time. This feature can be used to prioritize certain routers/users for a certain amount of time in a day. (Ex. Institutes can use this to decrease the bandwidth allocated to hostels during work hours)
3. Terminal based interface.

2.2 Users

1. Any company, organisation or institute providing internet to lots of users.

2.3 Operating Environment

2.3.1 Hardware

Madari requires a server class machine to be configured as the router.

2.3.2 Software

Madari router machine should Linux and should have a kernel (version 2.3 or more) compiled with iproute2.

It requires :

1. Netfilter/iptables
2. traffic control (tc)

3. Specific Requirements

3.1 Performance Requirements

As the number of PCs connecting increase, requirements for bandwidth increase