



THE MESH NETWORKS

The NetProfit[®] Way

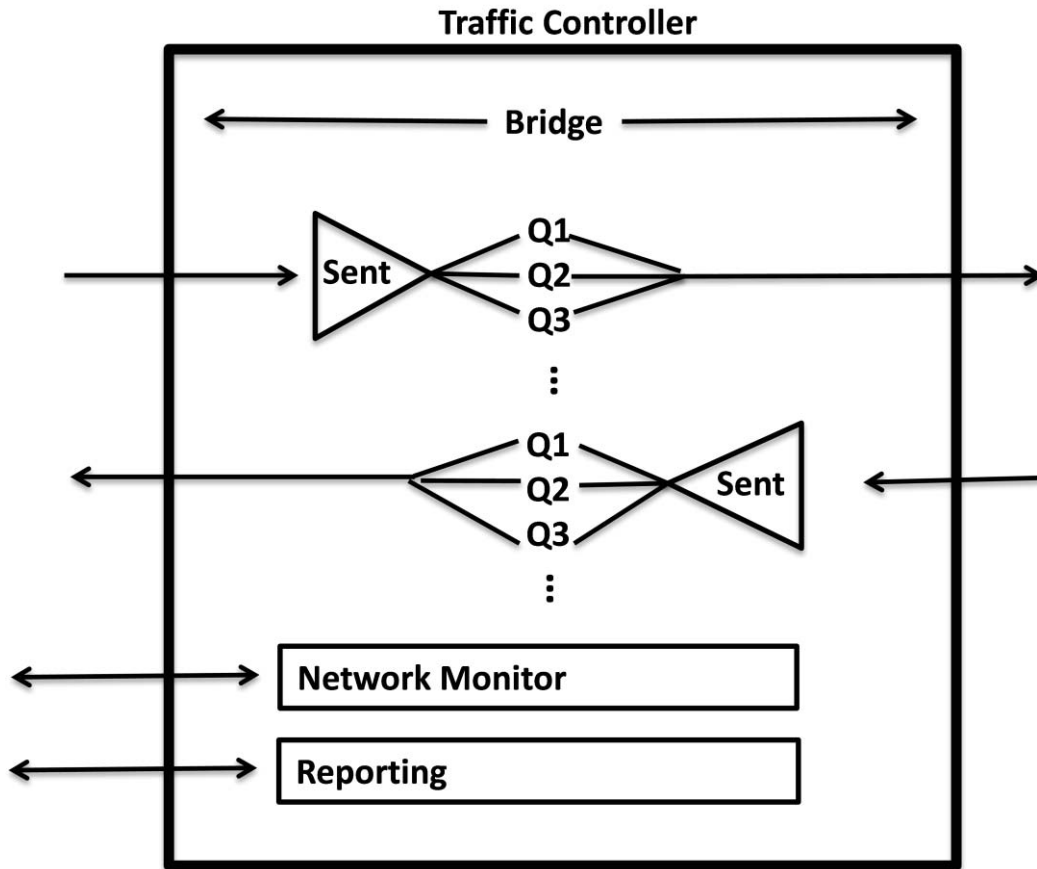
Version 5.1

May 30, 2013

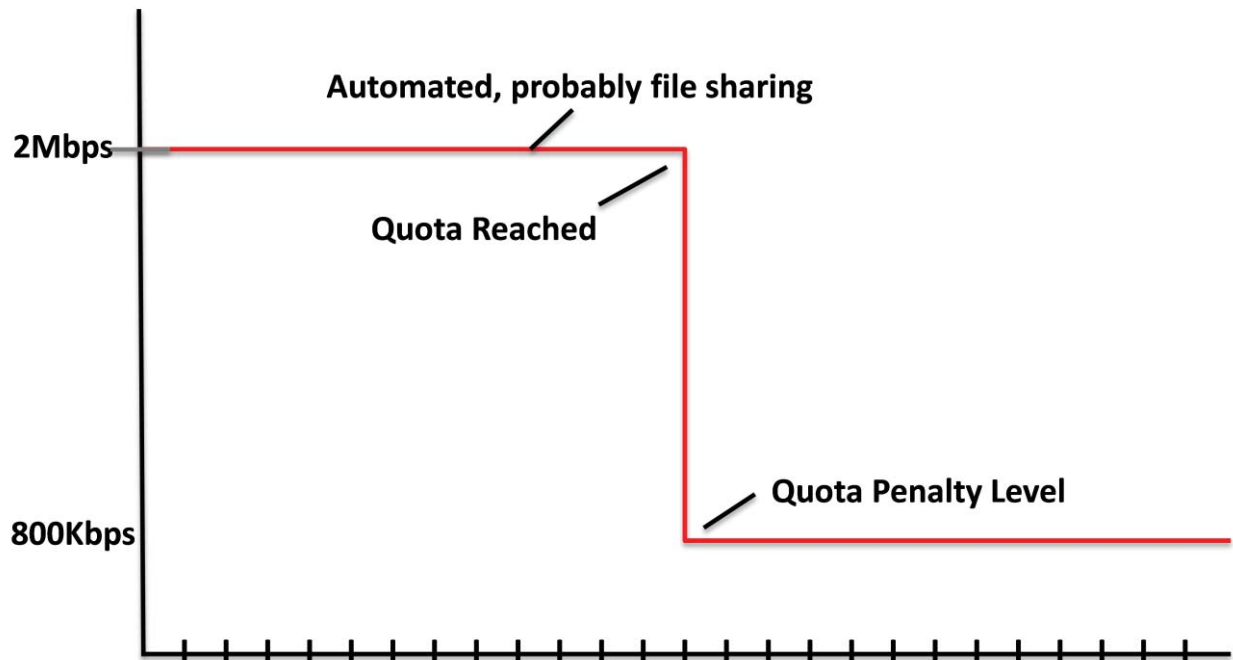
A White Paper by

Allen Easty

CTO, Mesh Networks

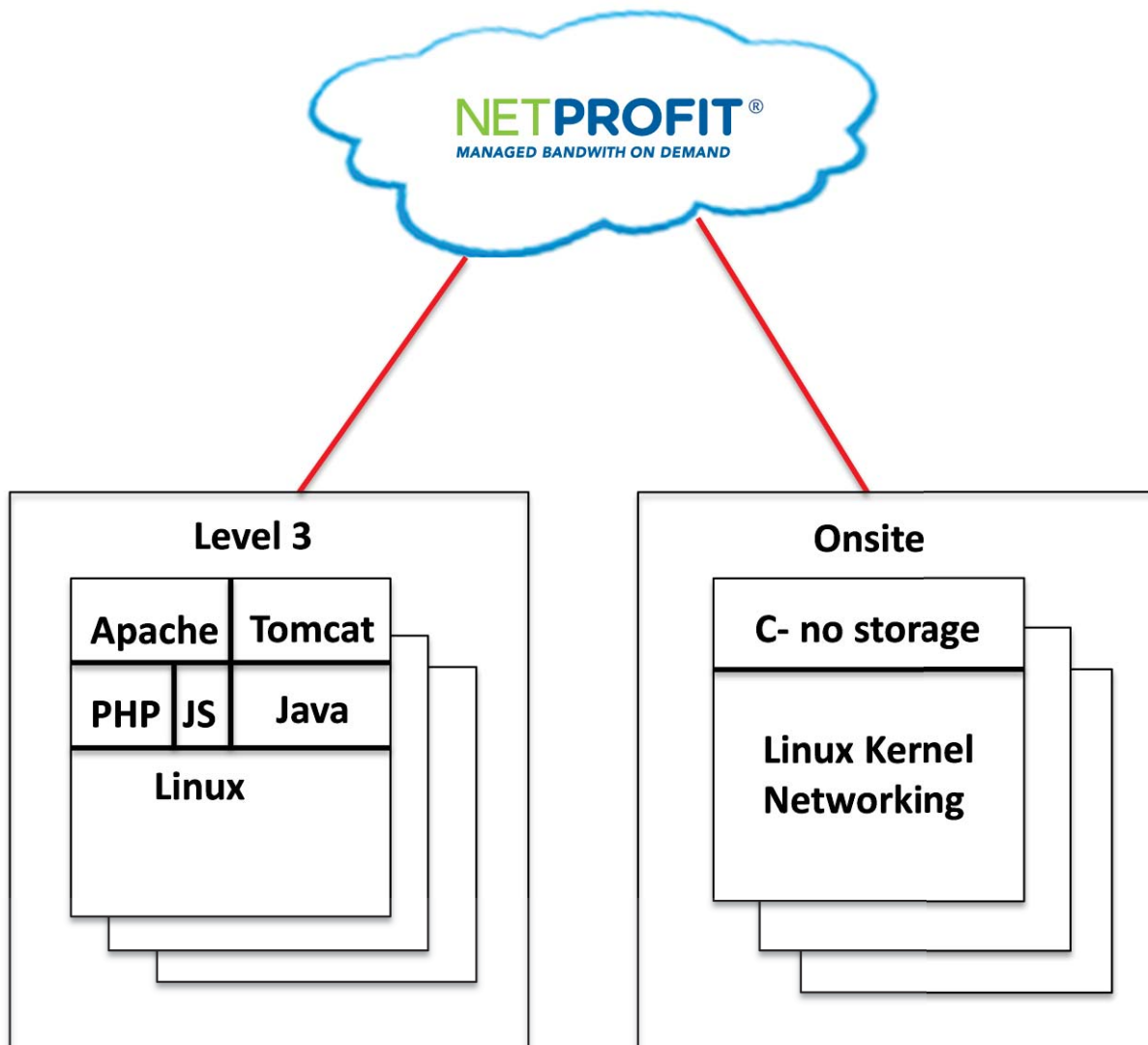


Quotas are a primary mechanism for establishing fairness in a world with automated file sharing agents. Each plan established by the network owner/manager may include a quota limit, a term over which the limit is calculated, and the plan imposed when over quota. The quotas are rolling quotas recalculated every minute. For example, consider a customer which has a regular cap of 2 Mbps, a daily quota of 2 GBytes, and a quota action plan with a 500 Kbps cap. Every minute the total traffic on the system for that customer is recalculated for the term. In this case the term is daily so the total for the last 24 hours * 60 minutes is recalculated every minute. If that total is above the quota level - in this case 2 GBytes - the customer is dropped to the quota action plan - a 500 Kbps cap. Every minute the usage is recalculated so if the total for the last 24 hours * 60 minutes falls below the 2 GByte limit, the original plan cap of 2 Mbps is restored. In practice this method is particularly lenient to human web surfing patterns and sharply restrictive of automated file sharing patterns but does so without having to identify the signature of the file sharing software. The file sharing software can encrypt or try to imitate human traffic and our system doesn't care. We don't have to play the cat-and-mouse game of traffic signatures. We didn't invent the rolling quota but happily adopted it. (Note: Activating Quota Action Plans are an option selected by the network owner/manager)



Applications in the Cloud

The rest of the NetProfit system is in the cloud. The Customer and Admin portals are simply web applications hosted on servers at a colocation facility serving Fortune 100 companies in the Houston area. The portal interfaces are LAMP - Linux, Apache, MySQL and PHP. Our philosophy was to create web applications that were short of Web 2.0 jazziness (AJAX, JSON etc...) but easy to extend functionally by reusing the simple PHP templates. The network management services are in Java under Tomcat on Linux to separate the underlying "hard" tasks from the user interface. From the colocation facility the Customer portal is available to customers (and administrators for certain special tasks). The Admin portal is available to administrators with full features authority and our professional third-party support provider with read-only access (if support services provided by Mesh).



Network System Platforms

Currently our network devices, Gateway and Traffic Controller, are computers (generally rack mounted) that run our device agents written in C on Linux.

For more information please see the website: <http://www.themeshnetworks.com>