

NETEQUALIZER

Business Centers Guide



In working with Business Centers network administrators, we have heard the same issues and challenges repeatedly. Here are just a few:

- *We need to do more with less bandwidth.*
- *We need a solution that's low cost, low maintenance, and easy to set up.*
- *We need to support selling fixed bandwidth to our customers, by office and/or user.*
- *We need to be able to report on subscriber usage.*
- *We need to increase user satisfaction and reduce network troubleshooting calls.*



In this article, we'll talk about how the NetEqualizer has been used to solve these issues for many Business Centers around the world.

We need to do more with less bandwidth.

NetEqualizer's built-in rules-based, application-level traffic-shaping technology dynamically controls traffic based on current network usage. When the network is congested, the "fairness" algorithm favors business-class applications, including VoIP, Web browsing, chat and email, at the expense of larger file downloads. This approach allows network managers and operators to maintain high levels of user satisfaction without having to purchase additional bandwidth.

Our Business Center clients find that they are able to have higher subscriber ratios, supporting more subscribers on existing bandwidth, when using the NetEqualizer. This enables them to stretch bandwidth further, making their existing capital investment more cost-effective, *and we can help you do the same.*

We need a solution that's low cost, low maintenance, and easy to set up.

Put simply, the NetEqualizer is a "plug-and-play" solution. Once you put the NetEqualizer in place, it immediately and effectively handles traffic shaping automatically around the clock. You simply need to define the size of your network pipe, establish the level of total bandwidth usage (default is 85%) at which you want shaping to kick in, make sure that the defaults are "on," and that's it.

In general, the NetEqualizer is installed between your Router and your Switch, acting as a transparent bridge once in place. It will reside passively in your network until bandwidth shaping is needed, and when the set level of congestion is reached, it kicks in to smooth your network traffic.

There are additional parameters that you can set to customize your NetEqualizer implementation. However, many of our customers find that they do not need to make any changes to the default settings in order for their network performance to improve dramatically.

NetEqualizer Key Functions

- *Behavior-based bandwidth shaping (aka "equalizing")*
- *Plug-and-play, low-maintenance solution*
- *Effective P2P control*
- *Reduces RIAA requests*
- *CALEA compliant*
- *Prioritizes sensitive applications such as VoIP*
- *Shapes up to 5 Gbps*
- *Up to 40,000 users*
- *Pricing starting at \$1525*

What NetEqualizer Users Are Saying...

Constantino Andaya of Premier Business Centers calls the NetEqualizer his "secret weapon." Premier Business Centers is one of the leading national operators of executive office centers in the United States. They offer executive suites and temporary office space, which are professionally appointed and can be professionally staffed.

His system has required only minor tweaks and his help desk calls have virtually stopped since putting in the NetEqualizer.

"We're using it as a reactive measure," says Constantino, "not letting anyone take all the bandwidth - as opposed to selling limited bandwidth."

In their rapidly expanding business Constantino says "It saves you another year before you have to put in another T1."

--Constantino Andaya, Premier Business Centers



We need to support selling fixed bandwidth to our customers, by office and/or user.

With the NetEqualizer, administrators will find they have significantly greater control over how bandwidth is distributed through the ability to shape their network traffic by IP address, MAC address, VLAN or subnet.

The NetEqualizer provides the ability to set "hard limits" for both inbound and outbound traffic by individual IP address, to support setting fixed bandwidth per customer. In addition, you can set hard limits for a class of IP addresses (B or C), if you have a contiguous block of IP addresses that you want to limit. Alternatively, hard limits can be set up VLAN or MAC address as well. For more information on each shaping strategy, see our detailed [NetEqualizer User Guide](#).

We need to be able to report on subscriber usage.

Once you have your fixed bandwidth allocated, you can use NetEqualizer's reporting capabilities to see how much network utilization is being used in real-time by each subscriber (IP address) on your network. This will help you to track and report on network usage, so that you can send notification letters to your customers on their bandwidth utilization. For customers consistently hitting their fixed allocation maximum, this could include a recommendation to increase their bandwidth allocation to correct the issue.

We need to increase user satisfaction and reduce network troubleshooting calls.

The NetEqualizer concept of "fairness" enables your network to continue providing quick response times to the majority of your users while restricting the network hogs. Low bandwidth users do not have to share the pain of a slow, congested network with the network-hogging applications. Your guests *expect email and web surfing to be responsive, and with bandwidth shaping, they will be.*

For example, suppose your network is being used as follows:

- 95 percent of users are surfing the Web
 - Of these, 20 percent are also on Skype calls
 - Another 30 percent are also watching YouTube and running chat sessions
- 5 percent are watching YouTube
- 10 percent are participating in a WebEx or GoToMeeting online meeting

In this example, if your trunk is saturated, the NetEqualizer would add latency to the YouTube streams (since they are the most bandwidth intensive), leaving all the other streams alone. So instead of having your network crash completely, a few YouTube videos would break up for a few seconds, and then when conditions abated, they would be allowed to run.

The exact allocations per user are not changed here. We maintain each customer's fixed bandwidth allocation, and put delays on the nastiest "hog" traffic until the bandwidth usage overall drops back to 85 percent (or the setting you choose). This quickly takes the delay away until your network is no longer congested. The value is that you get the best possible usage of your network bandwidth without having to micro-manage your network.

To learn more about our thoughts on YouTube, please review our blog posting [How Much YouTube Can the Internet Handle?](#)

However, if videoconferencing is an integral part of your customer's usage at your Business Center, NetEqualizer enables you to treat the videoconferencing host as high priority, through our "priority hosts" feature. This will cause the videoconferencing host not to be shaped, and to always be given priority over other traffic. Priority hosts can be set-up permanently or temporarily in the NetEqualizer.

For organizations concerned with achieving maximum network uptime, the NetEqualizer architecture enables customers to build a redundant configuration by putting a second NetEqualizer in place as either a cold backup or in hot swappable mode.

For more information...

Although we've covered a few of the most pressing issues Business Centers face, we understand that everyone's situation can be different. So, to learn more about how the NetEqualizer might specifically help your Business Center, please contact us at sales@apconnections.net or call us at 303.997.1300, extension 103.

What NetEqualizer Users Are Saying...

"The IT Gods have delivered."

We had so often hoped for the invention of a device that was affordable, easy to use, and effective at managing the flow of the bandwidth in our hectic business center.

Lo' and behold, NetEqualizer has more than satisfied that yearning for the perfect product.

In an operation like ours that provides space and connectivity to hundreds and firms and individuals, the NetEqualizer is an essential tool. We highly recommend it."

-- D. Edward Bungert, Vice-President,
World-Wide Business Centres

About APconnections, Inc.

APconnections is based in Lafayette, Colorado, USA. We develop cost-effective, easy-to-install and manage, traffic shaping appliances. Our NetEqualizer product family optimizes critical network bandwidth resources for any organization that purchases bandwidth in bulk and then redistributes or resells that bandwidth to disparate users with competing needs.

We released our first commercial offering in July 2003, and since then customers around the world have put our products into service. Our flexible and scalable solutions can be found at ISPs, WISPs, major universities, Fortune 500 companies, SOHOs and small businesses on six continents.

About the NetEqualizer Product Family

NetEqualizer appliances are bandwidth shaping systems designed to optimize your Internet Connection, while giving priority to your important business and data applications. The flexible, scalable, and cost-effective bandwidth control products can be deployed in both corporate and service provider networks.

NetEqualizer is available in a range of configurations from 4Mbps up to 5 gigabits.