Q-Balancer®

Assure Business Continuity over the Cloud

Maintaining stable connectivity of Internet has now become a MUST to most enterprises as more people understand the convenience and efficiency of using it. Meanwhile, Virtual Private Network (VPN) is widely used and increasingly popular as more global businesses emerge. Any delay or disruption of Internet connectivity and link failure between headquarters and branch offices can cause a certain degree of loss on business opportunity or even business reputation.

Given these reasons aforementioned, providing 100% uptime and sufficient bandwidth become an important task for the IT. Q-Balancer offer assured connectivity and productivity to enterprise customers by handling network traffic over multiple Internet connections. It keeps the business continuity over the cloud by constantly monitoring the status of WAN links and intelligently routing traffic down the remaining active links as soon as the link failure is detected. Moreover, it enhances bandwidth utilization to achieve highest link performance by efficiently distributing traffic across the links. To provide business an assured connectivity and increased bandwidth in cost-effective way, Q-Balancer is definitely an ideal solution.
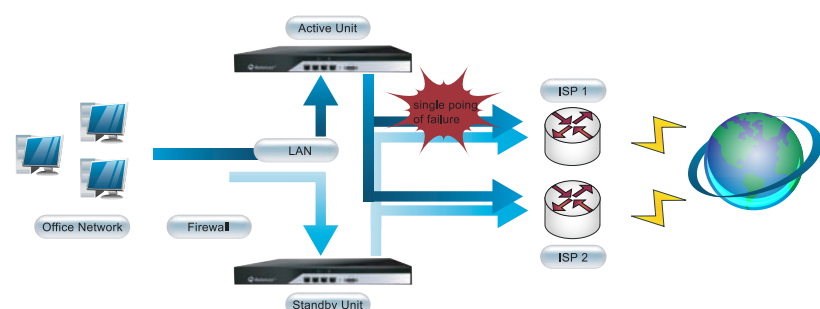
Reliable Connectivity

Automated Link Failover

Q-Balancer constantly monitors the status of each link and automatically routes traffic down the remaining active links In the event of a link failure. Even though the network congestion occurs on the internet connections, Q-Balancer is still able to find and take the responsive WAN links. For Site-to-site VPN networks and MPLS networks, Q-Balancer is able to continuously and instantly detect a point-to-point failure and automatically re-route the VPN traffic down the remaining active VPN tunnel in few seconds upon link failure detection. It assures the continuous connectivity for business with Internet and Intranet in every situation.

Key Benefits

Maintains reliable Internet and Site-to-Site VPN connectivity

Ensures traffic is directed over the best possible link for the highest quality of service and speed

Provides faster application delivery by utilizing WAN link bandwidth more efficiently

Reduces costs and improves scalability with lower WAN bandwidth consumption

Eliminates deployment barriers and reduces the costs of using Border Gateway Protocol (BGP) for multihoming networks

Flexible deployment

Maximizes ROI by aggregating inexpensive links

Security and management

Highest Quality of Service and Speed

Intelligent WAN Load Balancing

Q- Balancer intelligently finds and takes the most responsive and least- loaded link to speed up the application delivery. It precisely dispatches the connections across the links on demands so as to fully utilize the bandwidth resource. Enterprises benefit from faster connectivity performance as the best performing and least- loaded links are always selected when requests come up.
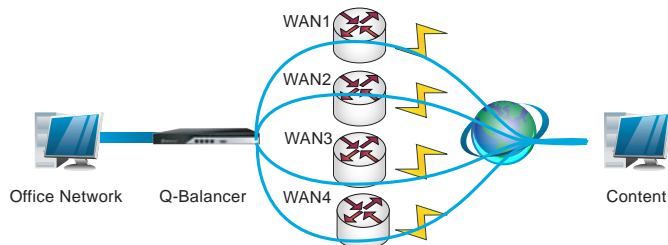
VPN Bonding

For the distributed networks, large files and applications such as VoIP and Video Conferencing are frequently used between headquarter and branch offices. Therefore, it requires high level of bandwidth capacity and instant high speed Intranet. Unlike traditional VPN technology, Q- Balancer's VPN Bonding maximizes the Intranet bandwidth by efficiently bonding multiple channels at each location. It works on static IP, dynamic IP, and even private IP. It is fully compatible with customers' existing VPN networks.

WAN1
WAN2
WAN3
WAN4

Office Network   Q-Balancer   Content
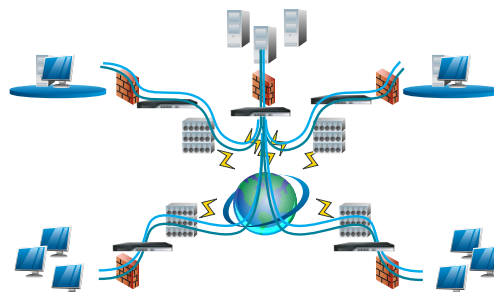
Efficient Bandwidth Utilization

Bandwidth Management

The Policy- based QoS gives you power to make bandwidth utilization more efficiently with allocated bandwidth and assigned priority. You are able to solve network congestion by identifying and restricting bandwidth to recreational applications. Based on the defined policies, the performance of mission- critical applications is assured by designating and assigning minimum guaranteed bandwidth. The policy- based QoS granularly controls network traffic based on IP Subnet, Port, Protocol, URL, Application, QoS Object, and Schedule.

Web 500k
VoIP 200k
Mission-Critical Application 300k
Mission-Critical Application 500k
VoIP 300k
Web 200k
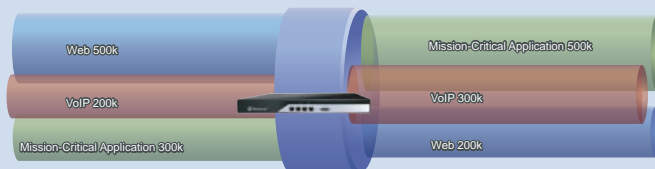
The granular control of link bandwidth utilization over multiple WAN connection results in an improved client experience, more efficient WAN link administration, and improved productivity.

Lower Bandwidth Consumption

Multi-Link Data Compression

Q- Balancer's Compression increases network capacity up to three times by compressing traffic over WAN links. It brings substantial cost savings immediately to customers by significantly reducing bandwidth consumption without compromising the quality of Internet connections.
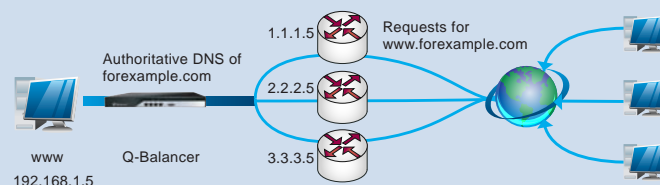
Web Proxy

The Q- Balancer's Web Proxy allows business to reduce bandwidth consumption through content caching. Users enjoy faster download speed with frequently- used content cached locally. It helps business avoid spending large amounts of money on upgrading WAN links in order to cope with ever-demanding bandwidth growth.

Multihoming Networks

Inbound Load Balancing

The servers hosted internally, which serve numerous incoming requests via Internet connections, are often important to enterprises operations. The outage on Internet connections could cause major issues to business. By applying Q-Balancer as an authoritative DNS for the domain, the requests from external clients to internal servers are distributed across the active and least- loaded links. You can direct traffic over the best path without purchasing high- end routers, coordinating with ISPs, or obtaining specialized staff to run BGP.

This eliminates the deployment barriers and reduces cost of using BGP for multihoming networks. In addition, it guarantees the accessibility and improves the performance for the internal servers.

1.1.1.5   Requests for
                 www.forexample.com
Authoritative DNS of
forexample.com
                 2.2.2.5

www   Q-Balancer   3.3.3.5
192.168.1.5

Flexible Deployment

Transparent Installation

Q- Balancer can be deployed transparently into an existing network to failover and aggregate traffic for the legacy and newly added WAN links. Even if the process of installation was not going well, all we need to do is simply remove Q-Balancer from the office network so as to reinstate the network operation. Therefore, there is no trouble of installing it as the impact is minimized.

USB Modems Supported

Q-Balancer supports 3G modems via USB Ports, and therefore the office network can instantly be deployed with Internet access anywhere and anytime by plugging in USB 3G modems.

Minimal Upfront Investment

Q-Balancer enables business to add extra WAN Links incrementally as business grows. This helps business minimize the upfront investment, and flexibly and incrementally increase its bandwidth by aggregating the legacy and newly deployed links.

Virtual Appliance

Q-Balancer virtual appliances are for easy deployment in large and complex environments. Optimized hardware allocation and reduced hardware expenditure is available since physical computers are able to run multiple instances of the software in parallel by using the underlying VMware virtualization infrastructure. Thus, it is perfectly applicable for managed services providers and those responsible for the consolidation of several departmental networks.

Maximum Bandwidth and ROI

Link Bonding

The functionality of Link Bonding combines multiple Internet connections and utilizes them as a virtual single connection.

This helps business customers with Intranet gain the benefit of the bidirectionally increased bandwidth.

Security and Management

Network Security

Q-Balancer can work as a stateful packet inspection (SPI) firewall and conduct network address translation (NAT). The functionality of NAT controls traffic in accordance to IP addresses and Port numbers, and ensures that server addresses are never exposed to the outside world by masking internal addresses. The firewall policy is quite very flexible for users to develop. The incorporated deep inspection firewall is able to precisely identify and filter the Layer 7 application. Q-Balancer's DoS Prevention helps guard a network against the attacks, which inhibit or stop network availability. With DoS prevention, businesses are able to provide legitimate traffic with uninterrupted network access while filtering out potential threats.

Logging and Reporting

The Q-Balancer's built-in Report System offers visibility into activity within organizations.

It records the activity of the office users and internal servers, and provides a number office users and internal servers, and provides a number of analytical reports for different needs. Besides, you can see who and what is using bandwidth resource in real time. With the historical and real time information Q-Balancer provides, you can create new shaping policies or determine when to add bandwidth via additional WAN links.

Centralized Management

Organizations can upgrade and monitor the units in a single enterprise-wide network. The function of Centralized Management lowers the operating cost of upgrading and maintaining multiple devices from central office of large enterprise or the Network Operation Center. It is particularly helpful to manage the branch offices on private IP, which cannot be accessed directly via Internet.

Features

Outbound Load Balancing
Round-Robin
Round-Robin by Weight
Least Traffic
Least Connection
Least Response
Connection-based
Bandwidth
Policy-based Redirect to Proxy
Schedule
Packet-based
IP Host
Grouped IP Hosts
Service
Grouped Services
FQDN
Grouped FQDN

Inbound Load Balancing
Bottleneck
Least Traffic
Round-Robin by Weight
Priority
Failover
Built-in DNS Server
Support External DNS Server
Multi-Domains
Multi-Records

IP Address Assignment
Static
DHCP Client
PPPoE
PPTP
L2TP

VPN
NAT Traversal
Client-to-Site VPN Failover
Site-to-Site VPN
• Failover
• Load Balancing
• Policy-based Routing
• Dynamic IP
• DHCP Relay
• Tunnel Encryption (DES,3DES, AES)
PPTP Server

Bandwidth Management
Individual
Shared
Max. and Min. Bandwidth
Priority
Policy-Based
Schedule
Link
IP Host
Grouped Hosts
Service
Grouped Services
Application/IM/P2P
Grouped Applications/IM/P2P
FQDN
Grouped FQDN

WAN Optimization
Multilink Traffic Compression
Web Proxy

Networking
Web Proxy
Wireless LAN Gateway
IEEE 802.1Q VLAN
NAT and Server Mapping
Static Route
RIP V1/2 and OSPF
Multiple Subnets
DHCP Server
DHCP Relay
DNS Server
DNS Relay
Dynamic DNS (DDNS)
H.323 NAT Traversa

Firewall/Security
Stateful Firewall
Access Control
IM/P2P Control
Applications Control
DoS Prevention
Multiple DMZ

Logging and Reporting
Local System Log
Traffic Log
Syslog Server Support
FTP Server Support
USB Storage Support
Historical Analysis
Built-in Report System
Report by Email

Monitoring
Link Status
Sessions Status
Bandwidth Usage by Hosts

Management
Link Failure Alert by Email
Local Administrator Database
Multiple administrator authority levels
Audit Trail
Web-based UI (HTTP/HTTPs)
Command Line Interface (RS232, SSH)
SNMP (v1, v2C, v3)
Automated Configuration Backup
Remote Firmware Upgrade
NTP Server Support
Built-in Diagnostic Tools
System Auto Recovery

Hardware Platforms

LB220 LB320 LB420 LB520

LB1620

LB3620

LB1420

LB2620

LB4100 LB5100

Specifications

Model	LB220	LB320	LB420	LB520	LB1420	LB1620	LB2620	LB3620	LB4100	LB5100
Targeting Business	Remote and Branch Offices				SME		Large Organization			
10/100 Base-TX	4	4	4	5	4	O	O	O	O	O
10/100/1000 Base-TX	O	O	O	O	O	6	6	6	6	6
Gigabit Fiber Ports (SFP)	O	O	O	O	O	O	O	O	4	4
Throughput (Mbps)	80	80	80	80	250	350	1000	1500	2000	6000
User Defined Port										
High Availability										
LAN Bypass					option					
WAN Links Support	2	3	4	5	10	20	30	50	50	50
Extra USB Modems Supports	2	2	2	2	2	2	2	2	2	2
Optional SSD Storage	X	X	X	X	8GB	16GB	32GB	32GB	32GB	64GB
Max. Power Consumption	60W	60W	60W	60W	84W	90W	270W	270W	300W	300W
Redundant Power Supply	X	X	X	X	X	X	X	X		
Dimension (mm) (W*D*H)	210*151*44	210*151*44	210*151*44	210*151*44	430*248*44	429*255*44	430*394*44	430*394*44	430*500*88	430*500*88
Weight	2.35kgs	2.35kgs	2.35kgs	2.35kgs	7kgs	7kgs	9.8kgs	9.8kgs	21.6kgs	21.6kgs
Operating Temperature	O to 45C	O to 45C	O to 45C	O to 45C	O to 45C	O to 40C	O to 45C	O to 45C	O to 45C	O to 45C
Certifications	FCC class B /CE class B	FCC class B /CE class B	FCC class B /CE class B	FCC class B /CE class B	FCC class A	FCC class B /CE class B	FCC class A /CE class A	FCC class A /CE class A	FCC class B /CE class B	FCC class B /CE class B
Transparent Installation										
Link Failover										
MPLS Redundancy										
WAN Load Balancing										
Link Bonding										
Multihoming										
Automated VPN Failover										
VPN Bonding										
Policy-based QoS										
Compression										
Web Proxy										
Firewall										
Dos Prevention										
Logging and Reporting										
Virtual Appliance	X	X	X	X	X					
Centralized Management	X	X	X	X	X	X				