



Faster WAN in 3 Easy Steps Modular architecture to suite your requirements

Visibility

- Layer 7 reporting both real time & historic reporting
- Make intelligent decisions based on facts

Prioritise Bandwidth

- Enforce policies for entire network from central points
- Bandwidth is targeted, delivering network resources to business critical events and applications
- Business operations are protected from random network events

Optimise Further

- TCP acceleration
 - Compression
 - Proxies (HTTP, FTP DNS)
 - Load balancing
 - Server acceleration
- Secure & remove threats – firewall, VPN, anti spam, antivirus, URL Content filtering.

Our data centre unit runs Opteq server acceleration and Opteq load balancing, our internet link is managed by an Opteq gateway with firewall and carrier grade bandwidth management and finally we have one unit in the core managing / optimising traffic to all 12 branch sites. Opteq is highly recommend and has saved us tens of thousands Barry Visser CEO,

Opteq specializes in high-end solutions for ISP's, enterprises and SME's who are dissatisfied with the limited scalability, complexity and functionality of current performance management offerings on the market. Our product is an integrated modular resolution that provides unsurpassed control over network quality management. Unlike competitors we have assembled all the tools required for administrators to optimally manage their network. Opteq offers true end to end network optimisation from the data centre to the branch offices and beyond to the mobile users. Its modular open systems compliant architecture allows it to transparently integrate with existing systems and fill in any gaps where required.

Opteq operates in both the WAN optimisation and application delivery controller arenas. Application Delivery Controller (ADC) - solutions sit in front of the server and optimise Web-based applications for both employees of the business and its partners. A distinct advantage of Opteq's wan optimisation solution is that it only requires a single central unit to make a huge impact on network performance as opposed to competing solutions that typically must have a unit on either side of the link in order to even function. With a single Opteq you can gain control and optimise traffic to all branch offices. Based on detailed reports gleamed from the central unit one can decide which technologies to deploy at which edge sites in order to gain maximum benefit and further optimisation.

Opteq turns a sluggish WAN into a LAN like performance. Reducing the volume of data being sent across the network, the number of round trips being used by chatty protocols, congestion on the network, and the effects of packet loss and jitter on the traffic which result in retransmissions. Opteq's hardware platform solution works across all typical transport networks, with additional benefits in MPLS and satellite networks.

Not so long ago the WAN was the exclusive domain of frame-relay communication and leased lines. Today, a WAN may use anything from IPSec connections and cable modems to MPLS (multiprotocol label switching) tunnelled over multimegabit networks. The methods may have changed, but the challenge remains the same: How do you make a WAN operate like one big LAN?

Simply throwing more bandwidth at the problem of latency won't solve it. Today's businesses are running business-critical and time-sensitive applications that require guaranteed bandwidth allocation and performance. MPLS has been touted as the fix and can go some way toward improving WAN performance, but the root cause of the problem lies well below the MPLS level. Latency, congestion, chatty applications, and traffic contention all affect the wan's latency and responsiveness.





Many have updated their WAN connections to 10, 45, 100 Mb so they can quickly transfer their critical files to the other side of the planet only to find they aren't getting any better throughput than they had before. Unfortunately increasing the bandwidth doesn't help. Long fat networks (LFNs) run at T1 speeds and higher, but suffer greatly from the inherent latency of the link. The problem is that the protocols' efficiency suffers as latency increases. TCP, for example, uses ACK (acknowledgement) packets to help provide reliability. But on high-latency links, waiting for ACKs chokes throughput. Thus, latency is one of the biggest — if not the biggest — killer of WAN performance, both in response time and overall throughput.

Opteq utilises various technologies to ensure you get the most out of your wan at all times including the following:

Bandwidth prioritisation Opteq uses DPI / layer 7 scanning technology to look deep within the packet and identify the applications running. The traffic can then be prioritised, optimised or even blocked depending on your business policies. Opteq's unique host pacing technology completely removes congestion on the network, eliminating packet drops and retransmissions.

Packet Aggregation - Improve the performance of chatty applications by send many small packets as one large packet to reduce header overhead. The small packets resulting from compression and caching, are aggregated to further enhance the overall application performance.

TCP acceleration - improves performance by reducing ACKs and manipulating the TCP window size. One of the most effective methods to accelerate TCP is to handle TCP ACKs locally. The Opteq appliance bundles multiple ACKs into a single request, thereby reducing the delays caused by high latency. To the application requesting the data, it receives an ACK just as it expects to, except the ACK comes from the local WAN appliance and not from the far side of the WAN.

SCPS is a protocol suite designed to allow communication over challenging environments. Originally developed jointly by NASA and DOD's USSPACECOM to meet their various needs and requirements. These protocols have been found to be applicable in meeting the needs of the satellite and wireless communities.

Compression: If you compress the data going across your network there are fewer packets to send and you get greater throughput. This is of course assuming you can compress and decompress fast enough to make it worth your while and that your file is compressible. Opteq has intelligent algorithms that maximise your compression efforts. Further more you can specify which protocols to compress or not to compress.

Caching: The fastest packet is one that doesn't need to be transmitted. Opteq has the ability to cache all web, FTP and DNS traffic.

Byte Caching: Byte Caching is known by several different terms including Dictionary Compression, Network Sequence Caching, and Transparent Data Reduction. Regardless of name, Byte Caching is a technique for replacing repetitive streams of raw application data with shorter "tokens" prior to transmission over the network. Because Byte Caching is not protocol specific, it can be performed on all traffic completely transparent to the client and servers.

Protocol specific acceleration: for example pre-caching of web information in anticipation of it being used.

Convert TCP to UDP - UDP does not rely on ACK packets, it does not guarantee that packets make it to the other side. Because of this, UDP can traverse high latency networks with greater throughput than TCP. In this instance the device that is doing the conversion needs to handle flow control and data integrity on its own, and do it more effectively than TCP. In the Opteq this is done by creating a VPN between the Opteq devices and choosing UDP in the transport mechanism.

Ultimately Opteq uses a combination of these technologies to ensure maximum link performance.





The WAN optimization techniques you choose depend on the challenges.

Scenario	Solution
Short distance link (low latency)	QoS to provide expected response times
Limited bandwidth	Compression between sites
Voice over IP	QoS to prioritize voice traffic
Long link (high latency)	TCP acceleration to reduce ACKs / SCPS
Layer 7 applications	Application-specific acceleration to reduce program chatter; file caching to keep recently used data near remote users and use of proxies for DNS, DHCP, FTP & HTTP

Opteq offers enterprises the following:

- Enhanced Classification of traffic types through layer 7 application identification
- Per user/server/application -Defined Policies
- High Performance and scalability: The X10 platform scales from 512Kbps to 150Mbps.
- X20 scales from 10Mb- 4Gbps (X38 10Gbps platforms available)
- Centralized Management System: Multiple units are easy to manage and maintain through Opteq’s CMS
- Real-Time and Long-Term Reporting: Opteq is an excellent diagnostic aid to trouble shoot network related problems
- Alarms can alert administrators concerning outages and congestion so administrators may take immediate action
- Multiple affordable solutions end to end to enhance, optimise & secure your network

Solutions include:

Data centre	Head office core / Branch Office	Internet	Remote users
Layer 7 / DPI analysis	Layer 7 / DPI analysis	Layer 7 / DPI analysis	VPN
Bandwidth Management	Bandwidth Management	Bandwidth Management	Mobile optimisation
Server acceleration	Server acceleration	SMTP gateway	
Load balancing	Load balancing	Cache proxy	
SMTP gateway	SMTP gateway	URL Content filter	
VPN	Cache proxy	Anti –virus anti spam	
Firewall	URL Content filter	VPN	
	Anti –virus anti spam	Firewall	

Be proactive not reactive!!!

