

## CONVERGED TRAFFIC MANAGER

OPTIMIZED APPLICATION PERFORMANCE AND WAN EFFICIENCY  
FOR CONVERGED IP VOICE, DATA AND VIDEO NETWORKS

As the enterprise begins to more fully exploit the efficiency of IP across business voice, data, and video applications, the stakes are moving higher. Applications like voice over IP (VoIP) and IP video need strict performance guarantees to simply work. Business applications, like ERP and Citrix, must operate within specific response time windows. Each application must perform while Web and Internet traffic aggressively compete for available bandwidth.

These new demands mean earlier generation bandwidth management solutions are no longer enough. IP networks must now proactively assure granular and precise application performance—on a per session, per user basis. This IP application-aware solution must seamlessly integrate with an existing infrastructure. It must scale from large headquarters to small, remote sites. It must also be easy for the IT manager to deploy and operate.



> The Converged Traffic Manager™ (CTM) is a powerful IP application performance management solution designed to optimize WAN efficiency while delivering precise and granular application performance guarantees. Based on the company's patented QoSWorks® traffic management system, the CTM assures toll-quality VoIP, jitter-free video, and performance-guaranteed data as IP applications converge across the enterprise. The CTM brings advanced application performance management to small branch and large data center locations, guaranteeing performance for up to 500,000 flows over links of up to 500 Mbps. Key CTM advantages include:

- Automatic discovery, monitoring, reporting, and control of 1400+ applications
- Precise and granular per session, per user application performance guarantees
- WAN optimization with bandwidth utilization that can exceed 95%
- Integrated compression and caching to expand bandwidth, accelerate response times
- Investment protection through ease of integration with existing applications and networks
- Centralized Converged Policy Manager (CPM) configuration, management and reporting

## Product Highlights

### PRECISE PERFORMANCE FOR 1400+ APPLICATIONS

The CTM automatically discovers, monitors and enforces performance policies for 1400+ pre-defined applications and protocols. IT managers can also specify custom identifiers, supporting the “home-grown” applications often central to business operations.

While earlier generation solutions attempted to identify and contain “bad traffic”, the CTM proactively and accurately enforces the behavior of each session within every class of traffic. It can apply a mix of policies to each application flow. At the same time, non-essential traffic is limited to assure capacity for higher priority applications. The result is precise control of response time, latency and jitter for any business-critical applications.

### TOLL-QUALITY VOIP AND JITTER-FREE VIDEO

The CTM includes patent-pending VoIP management technologies, allowing IT managers to guarantee performance for a full range of VoIP protocols (e.g., H.323, SIP, MGCP) and codecs (such as G.711, G.726, G.729). Explicit bandwidth, latency and jitter requirements are met—based on the technology in use—to achieve toll-quality performance for each VoIP call.

The CTM also manages IP video session latency and jitter. Granular bandwidth and priority policies ensure precise bandwidth metering for each video session. As a result, branch employees can cost-effectively view jitter-free video whether it is streamed from a headquarter-based server or a live video-conferencing call.

### WAN OPTIMIZATION: EFFICIENT, ASSURED

Now, more than ever, the enterprise must control the growth of non-essential traffic—while protecting the performance of business-critical IP applications. The CTM integrates a comprehensive suite of traffic management techniques—including Class Based Queuing, TCP Rate shaping, packet size optimization, etc.—to meet this objective.

Bandwidth is proactively and accurately managed to achieve best bandwidth utilization. Applications like VoIP have specific bandwidth guarantees. Non-critical applications are explicitly limited to contain cost. The ability to borrow from any unused bandwidth further enhances WAN efficiency. The combined effect is seen in recent testing where the CTM delivered toll-quality MOS scores for up to 40 concurrent phone calls over a 1.536 Mbps link while achieving over 95% link utilization.

### MORE BANDWIDTH, FASTER APPLICATIONS

The CTM offers superior cost savings with an advanced compression and caching solution that expands bandwidth by a factor of up to 10X. In recent testing—based on a “real-world” mix of industry-standard Canterbury, Large, Bio-medical and Calgary Corpus files—CTM compression expanded WAN capacity by nearly 250%. This is a 60% improvement over the closest competing products. Integrated Web caching further expands bandwidth, enabling measurable savings as costly upgrades are delayed.

Users also benefit as bandwidth is freed for more rapid file transfers. Testing again demonstrated that an 11 megabyte

binary file transferred in 62 seconds over an uncompressed T1 link was transferred in 44 seconds using CTM compression. This 40% improvement in file transfer speed represents true application acceleration.

### INTEGRATED POLICIES OPTIMIZE PERFORMANCE

The CTM closely integrates bandwidth management and compression policies. Any application can be compressed, any application can be QoS-managed, and QoS policies can be applied to any CTM compressed stream. Exception rules are also supported. Applications like VoIP and Citrix are already compressed and will not benefit from additional compression. These applications can be excluded from compression while their traffic management policies are still met. The result is that the enterprise achieves the benefit of bandwidth expansion while fully protecting application performance guarantees.

### CONTINUOUS, REAL-TIME APPLICATION DISCOVERY AND MONITORING

The CTM automatically detects and monitors over 1400 applications. With this real time monitoring, IT managers gain control over new, unforeseen applications by either capping their bandwidth, or specifically allocating bandwidth to them. Harmful applications can be identified and contained. And potential sources of congestion can be identified and resolved, before they happen. Through the CTM and the centralized Converged Policy Manager (CPM), IT managers are also able to generate a variety of time-based historical reports for network assessment and planning purposes.