



Application Brief: Reducing Costs for Internet Access and WAN Services while Improving Quality and Performance!

Premise: Adding Anagran Fast Flow Technology™ instantly reduces monthly WAN access and service costs, simplifies network operation, and maintains desired quality of service for all traffic.

Challenge: How to economically provide adequate network performance and QoS without recurring network build-out and frequent tuning?

Solution: Add Anagran to instantly decrease monthly OPEX and simplify network operations.

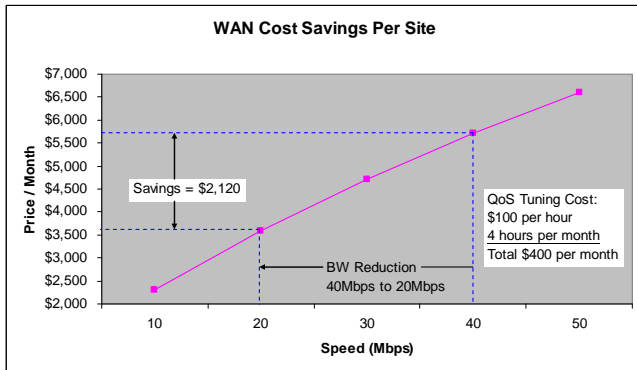


Figure 1: Reducing Internet Access bandwidth results in big savings per month per site.

OPEX Savings:

Adding Anagran flow managers reduces bandwidth needs and simplifies network operation. For example, reducing the needed bandwidth from 40Mbps to 20Mbps for a given site allows \$2,120 savings per month for that site, and “QoS tuning” labor reduction can allow an additional \$400 savings. Per the example above in Figure 1, adding an Anagran flow manager yields an immediate per-site savings that exceeds \$2,500 per month.

CAPEX Savings / Simplifying Network Operations:

Data centers are being consolidated. More video traffic is now sent over the Internet. P2P and other bulk rate traffic contend with other applications for bandwidth be it via the internet or dedicated WAN services. Traditionally, the only solution is to build out more bandwidth and networking gear to alleviate the inevitable congestion as network traffic grows. Additionally, ensuring high quality levels for real-time traffic such as video may require separate links, separate services, or even separate networks. At best, if all services run over a single link, the network may have to be hard-configured to allocate dedicated bandwidth for specific applications. This results in inefficient, underutilized, and therefore very expensive networks.

Fortunately, applying Anagran Fast Flow Technology™ optimally grooms the entire traffic mix regardless of how busy the network

and maintains extremely high bandwidth utilization while preserving quality of service levels for all applications. Since Anagran's technology is application, protocol, and format (compressed, encrypted, etc.) independent; it easily manages *all* traffic to ensure required application performance and quality.

ANAGRAN FEATURE SPOTLIGHT

Key Anagran Features That Enhance Users' Quality of Experience...While Reducing Costs

Intelligent Flow Discard (IFD) Feature:

- Optimally grooms and protects all users' content from sudden spikes in other users' activity
- Reduces network latency and improves response time for interactive traffic, e.g. Gaming

Behavioral Traffic Control (BTC) Feature:

- Observes flow *behavior* and promotes or throttles select flows per policies
- Ensures end-user QoE for all key applications

Recognizing that each type of traffic requires different treatment, Anagran precisely controls the rate of every flow after intelligently recognizing and categorizing each flow. Interactive traffic, video streaming, and VoIP are protected from non-interactive traffic (e.g., WAN backups, FTP, P2P) to ensure highest quality and lowest delay for the delay-sensitive applications. The non-time-sensitive traffic is reduced in peak periods but is expanded in slack periods, thereby reducing the peak demand. Since all similar interactive flows receive nearly equal rates, web transactions complete up to 3 times faster. For even greater efficiency, Anagran can set rate-limits for bulk traffic (P2P, FTP, etc.) that might otherwise consume the majority of the network resources. See Figure 2.

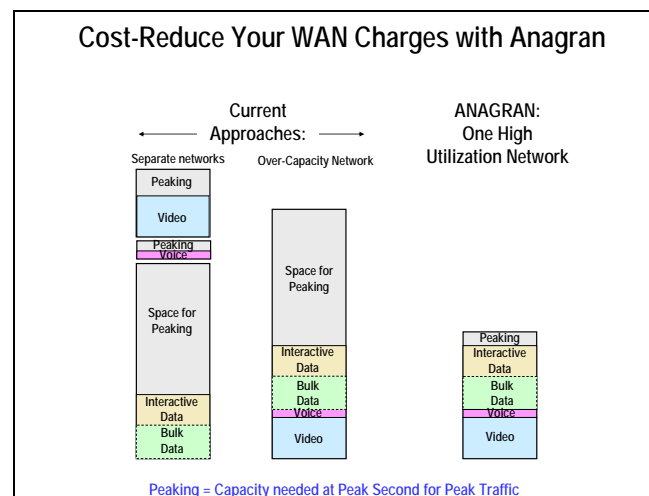


Figure 2: Anagran optimizes available bandwidth resulting in lower monthly costs.

Conclusion:

As a simple network add-on, Anagran Fast Flow Technology™ instantly saves money every month and will often pay for itself in less than six months.

Network capacity growth just became affordable.