



# AppBeat DC

## Return On Investment Guide

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## Return on Investment for ADCs

What defines the key criteria for selecting an Application Delivery Controller (ADC) solution? At Crescendo Networks, there is only one thing: Performance under peak load -- with all features turned ON. We call this “**feature concurrency**” and it’s the single most important criteria for selecting an application delivery solution that is future proof and can withstand flash crowd events and DDoS attacks unlike any other.

Crescendo’s AppBeat DC enables some of the most sophisticated web infrastructures in the world. The AppBeat DC is known for its massively parallel architecture. Our purpose-built hardware design is what sets us apart. Unlike many of our competitors, we don’t rely on a shared CPU architecture. Our hardware based acceleration engines, coupled with a multi-core CPU architecture (our standard OS allows very fast response to new feature requests), offload your servers from all the I/O related tasks and allow them to serve user requests even under massive HTTP traffic or extreme load.

AppBeat DC streamlines application delivery costs while serving more applications and users. By removing compute intensive tasks off servers and efficiently using the last amount of hardware resources to meet application service levels, AppBeat cuts current and future server requirements, bandwidth usage and energy consumption.

*“AppBeat DC decreased end user response time by 50%, decreased bandwidth consumption by 55% and delivered immediate ROI in network infrastructure savings.”*

**--Rich Goddu, Director of Networks and Systems, TriNet**

## There are three core metrics which define application acceleration ROI calculations:

1. Bandwidth savings
2. Server optimization
3. Response time improvement

## Bandwidth Savings

Data compression reduces the amount of data sent to the user, cutting bandwidth requirements up to 65%+. AppBeat's dedicated hardware compression engine performs all compression tasks in line, in real-time, with up to 6 Gbps throughput. Unlike other solutions, AppBeat starts compressing as soon as it starts receiving packets for zero latency. We eliminated the need for server level compression, improving application performance and user experience while reducing network and server load.

### Calculating bandwidth savings can be done as follows:

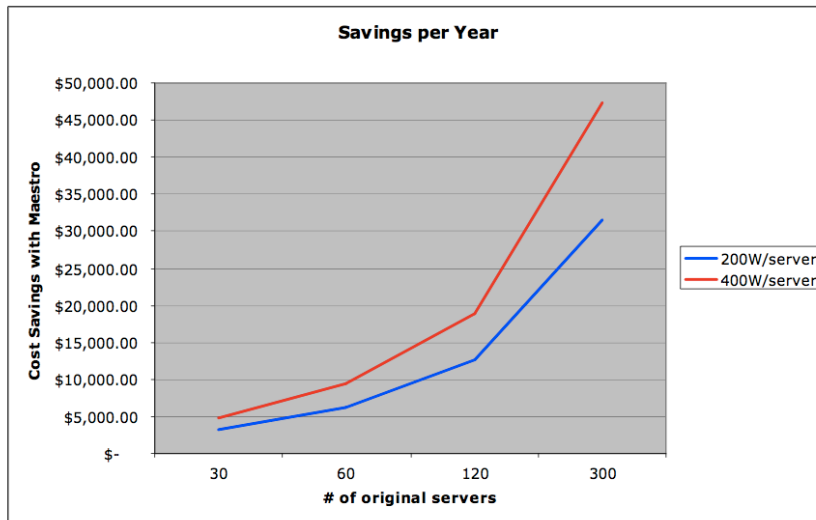
Cost Mbit/sec (monthly bandwidth billing rate)	\$500
95 <sup>th</sup> percentile peak (peak billed usage in Mbit/sec)	100
Typical Crescendo compression rate	65%
Bandwidth cost/mo without compression	\$50,000
Bandwidth cost/mo with Crescendo Compression	\$32,500
<b>Monthly savings with AppBeat DC</b>	<b>\$17,500</b>
<b>Annual savings with AppBeat DC</b>	<b>\$210,000</b>

## Server Optimization

With server power consumption increasing, the cost of supplying power to a standard server is rising rapidly and can soon overtake the cost of the server itself. As such, any efforts to reduce the power consumed by servers in a data center can result in significant cost savings. Although new technologies are emerging to address better utilization, Crescendo's AppBeat DC can immediately reduce the infrastructure needs for an application. As such, fewer servers can be deployed to host the same application. This results in not only less power consumption by the servers themselves, but also a decrease in consumption in peripheral equipment such as air conditioning. Therefore, AppBeat DC can create significant cost savings in terms of power for an application's infrastructure. These savings are in addition to the savings in the cost of the infrastructure itself.

Moreover, data center operators can benefit from AppBeat DC by reducing the overall power consumption of the data center as a whole. With AppBeat DC fewer servers need to be deployed in the data center and the overall power usage of the data center is reduced. This allows data centers which are at, or near, power capacity to continue to host new applications/customers with the same infrastructure, resulting in more revenue for the providers.

Through this analysis, we can see that AppBeat DC not only optimizes and accelerates an application, but it can significantly reduce the costs associated with it. This results in a quicker return on investment for AppBeat DC deployments, further validating the importance of deploying application delivery technology for web applications.



### We can help trim down both capital and operating expenses:

- Cut recurring bandwidth costs
- Reduce CAPEX of buying new servers
- Reduce OPEX of managing and operating ever-growing amounts of servers

### Response times

Diminished application performance limits revenue growth for businesses. Why is performance under load so critical? If performance lags when many customers are on your site, you alienate a portion of your customer base.

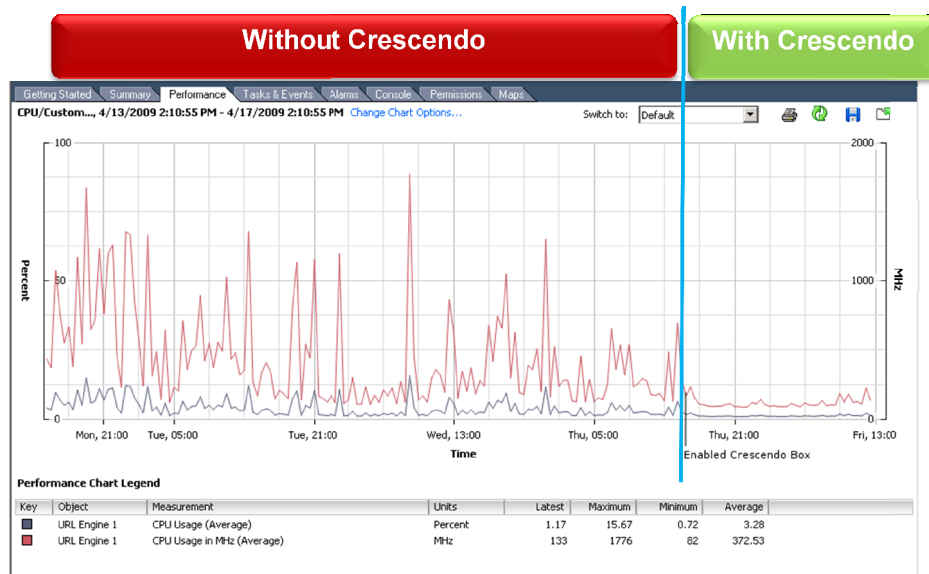
### Your users will experience a number of common issues, including:

- Slow page load and response times
- Failed transactions and timeouts
- Dramatically different response times in different locations

### Your business could suffer from:

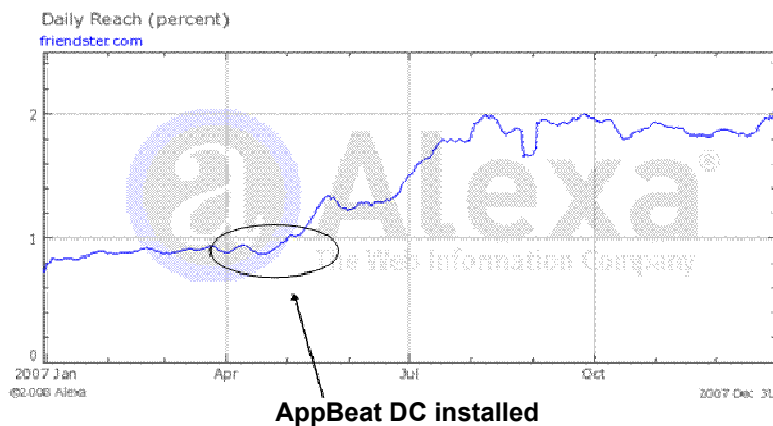
- Lost revenue
- Lost or dissatisfied end-users and customers
- Loss of IT credibility
- Lost operational efficiencies, continued cycle of fighting fires
- Focus on the real problems (your application) and let us handle delivery (network)
- Maintenance costs absorb significant portion of IT budget

**The result:** lost revenue, brand damage, low customer satisfaction and increased cost.



## Ringleader Digital: Mobile Advertising

Using Crescendo delivered over 7x improvement in site response and server utilization.



## Friendster: Social Network, Global Top 15 Site

The point at which AppBeat DC was implemented allowed Friendster to double their traffic with current IT footprint.

### Results:

- Significantly improved performance and end-user experience
- Reduced operating costs and overall data center footprint
- Grew the number of web pages served without growing servers
- Friendster.com business doubled

## TriNet Group: SaaS, Outsourced Human Resources Services

AppBeat DC enabled TriNet's existing application infrastructure 3-5 times the scalability over of the previous solution, utilizing the same server hardware.

### Results:

- Improved end user response time by 50%
- Reduced bandwidth consumption by 55%
- Reduced required web servers from 25 to 8

## Support Data

### Why Performance Matters:

- "Customers Are Won or Lost in One Second" -- **Aberdeen Group**

#### 1 - second delays can reduce:

- Page views by 11%
  - Conversions by 7%
  - Customer satisfaction by 16%
- Amazon found every 100ms of latency cost them 1% in sales.
  - Google found an extra .5 seconds in search page generation time dropped traffic by 20%
  - A broker could lose \$4 million in revenues per millisecond if their electronic trading platform is 5 milliseconds behind the competition.

### Expected results with Crescendo Networks:

Crescendo customers typically see fast ROI within 3-6 months of installation.

- Actual 10 Gbps throughput, 6 Gbps compression and 4 Gbps SSL throughput at all times, even with features like TCP multiplexing, compression and load balancing turned on.
- A typical 70% improvement in website response times.
- Reductions of up to 75% in server requirements, 85% in bandwidth usage and 30% in energy consumption that dramatically lower data center costs

### Industry Stats:

#### Server Refresh

- 4-year refresh for all design-computing servers
- 7:1 consolidation ratios for batch design; 4:1 for interactive
- USD 200 to 250 million projected savings over 8 years