Case Studies

AppEx CDN Acceleration

Introduction

AppEx was founded in 2007 and has focused on the CDN market for many years. We have had great success Internationally helping CDNs to improve user experiences and be competitive in the constantly changing Internet landscape.

LotServer software improves CDN edge performance to end users across the **last mile**, the **mobile last mile** and the **Wi-Fi last hop** to deliver a great user experience for web pages, VOD and streaming video, games and mobile applications.

Following are some real life examples of use cases that help show the benefits of the AppEx CDN Edge Acceleration Solution:

Case Studies

Case Study # 1 –CDN (Content Delivery Network)

On October 10, 2013, CacheFly selected AppEx LotServer software to boost its edge performance for rich media. Through the deployment of LotServer, CacheFly was able to significantly improve the performance of dynamic web content delivery to help its customers expand their global footprint within existing infrastructures.

> TCP transmission rates between data centers and most importantly end users are a huge factor in CDN performance, Installing LotServer onto our CDN servers has greatly elevated delivery performance across our entire network.
>
> - Matt Levine, CTO of CacheFly.

Based on the result of third party testing, the average throughput of CacheFly's CDN servers was 200% faster than that of three other US CDN providers. These results clearly indicate that LotServer can significantly boost the performance of CDN edge servers.

Figure 1 shows the throughput of CacheFly CDN servers were improved when LotServer was turned on. This clearly indicates that LotServer can significantly boost the performance of a CDN when deployed at the edge of the network.
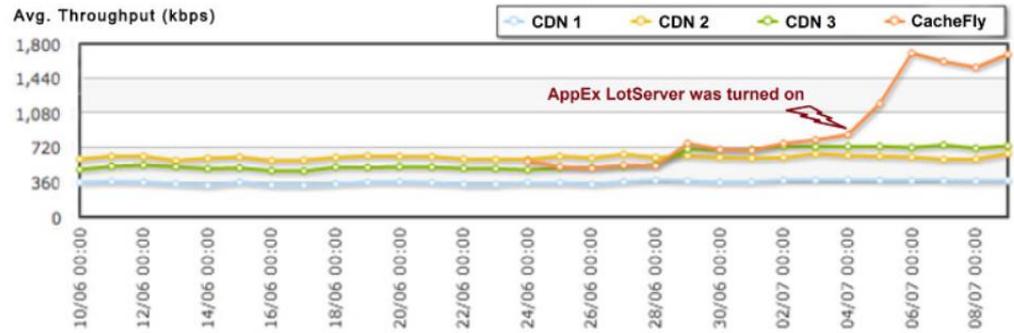
Figure 1 Throughput improvement when LotServer turned on

- About CacheFly

Headquartered in Chicago, CacheFly provides CDN solutions for over 2500 clients (incl. Toyota, Bank of America, LG), based in over 80 countries around the world. CacheFly pioneered the use of TCP Anycast in 2002, creating the world's first TCP Anycast based content delivery network. CacheFly is dedicated to static content delivery and provides 100% service level agreement and 30-day free trial service.

Case Study # 2 - CDN (Content Delivery Network)

In 2012, ChinaCache selected the AppEx CDN acceleration solution to improve video quality for QQLive, which is a live streaming video freeware service which includes advanced P2P streaming media technology created by Tencent. Based on the demand for video streaming, AppEx deployed LotServer software on ChinaCache's edge servers to reduce the initial load time and eliminate buffering of online video. Figure 2& 3 shows the improvement delivered through the deployment of LotServer.
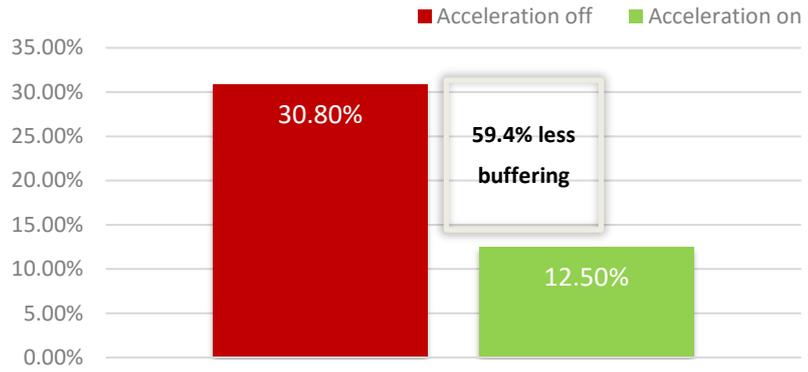
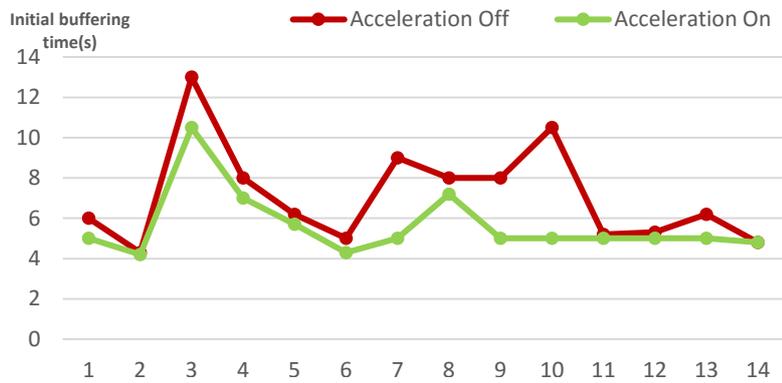**Figure 2** - Re-buffering rate before and after

Figure 3 - Video Start time comparisons

● About ChinaCache

Headquartered in Beijing, China, ChinaCache is a global CDN and cloud computing service provider. ChinaCache has over 400 node servers in China and several PoPs globally until now. Its total network capacity had reached over 1000Gbit/s by August 2013.

Case Study # 3 - CDN (Content Delivery Network)

ChinaNetCenter had been selectively accelerating specific customers and use cases for several years with AppEx LotServer software. In 2012, ChinaNetCenter started a large-scale deployment of AppEx LotServer software to improve its overall CDN performance. After LotServer was deployed over the entire network, ChinaNetCenter was able to provide more consistent and faster throughput for its customers. The customer base consisting of E-commerce websites, online games, mobile applications, cloud storage, etc. benefited immediately.   Based on internal test results, ChinaNetCenter, saw an increase of **114% better "throughput across regions"** and the TCP retransmission rate was reduced by **57.8%.** Figure 4 shows the reduced TCP retransmission rate.
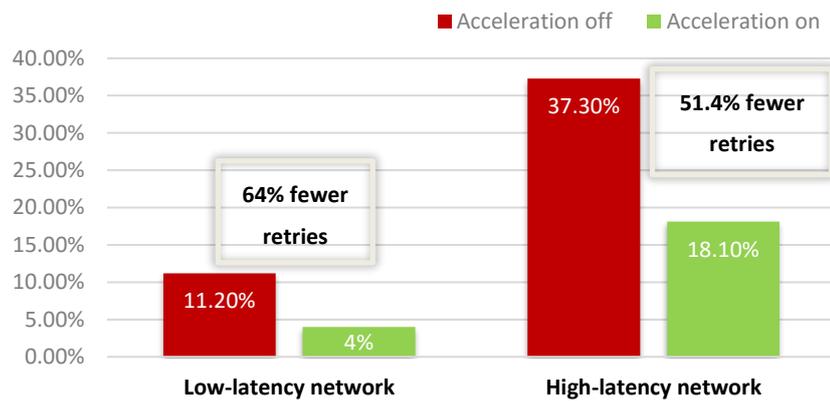

Figure 4 - TCP retransmission rate before and after

AVG. DOWNLOAD TIME（S）

■ Acceleration off　　■ Acceleration on

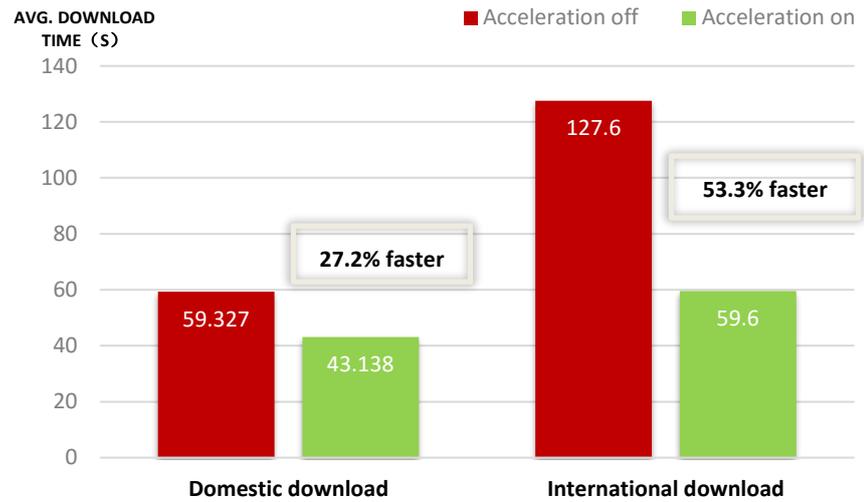|	Domestic download	International download
Acceleration off	59.327	127.6
Acceleration on	43.138	59.6

27.2% faster

53.3% faster

Figure 5 - Download time before and after

● About ChinaNetCenter

Headquartered in Shanghai, ChinaNetCenter is one of the top 3 CDN providers in China. ChinaNetCenter provides CDN, IDC and cloud solutions for over 3000 domestic and international customers to accelerate their websites or host their data centers. ChinaNetCenter's PoPs cover most cities in China and reach into Americas, Europe, APAC and Africa.

Case Study # 4 - CDN (Content Delivery Network)

Dnion Technology, one of the largest CDN providers in China, started to deploy AppEx LotServer software in 2011 to boost its CDN performance and to improve the quality of CDN services which produced a better user experience. AppEx LotServer software accelerated content delivery, especially for dynamic web content. The single-ended deployment solution also eliminated any requirement for end users to install software on client side.

● About Dnion

Dnion Technology is one of the top 3 CDN providers in China. Headquartered in Shanghai, Dnion has operations in the major cities all over the country. It is serving thousands of enterprise customers, including some Fortune 500 businesses.

Case Study # 5 - CDN (Content Delivery Network)

21Vianet selected AppEx LotServer as its edge solution in 2015.AppEx software has now been deployed on the entire CDN network. 21Vianet chose LotServer over several other solutions specifically to address edge performance, dynamic content acceleration, stabilizing "bursty" traffic, content synchronization between PoPs and wireless optimization. 21Vianet executives have credited AppEx acceleration with increasing the customer base at the CDN.

● About 21Vianet

21Vianet Group, Inc., founded in 1996, is the largest carrier-neutral Internet data center service provider in China providing cloud computing & hosting and related services, including CDN, IDC/EDC and other comprehensive value-added services and solutions. Headquartered in Beijing, it operates in 33 cities throughout China, serving more than 1400 enterprise customers. Customers can locate their servers and networking equipment in 21Vianet's data centers and connect to China's Internet backbone through 21Vianet's extensive Fiber-optic network.

Case Study # 6 - CDN (Content Delivery Network)

Before one of its most famous original TV series "The legend of Miyue" was shown in 2015, Letv Cloud, a wholly owned subsidiary of Letv Group, deployed LotServer on its node servers located in Hong Kong, England and United States, and on its edge servers located in Canada, South Korea and Taiwan, to provide the best experience to the end-users around the globe. Based on the test results, LeCloud saw an increase in throughput for both domestic video streaming in Mainland China as well as international throughput rates. Figures 6, 7&8 show the improvement delivered by LotServer in Mainland China, Hong Kong, England and United states.
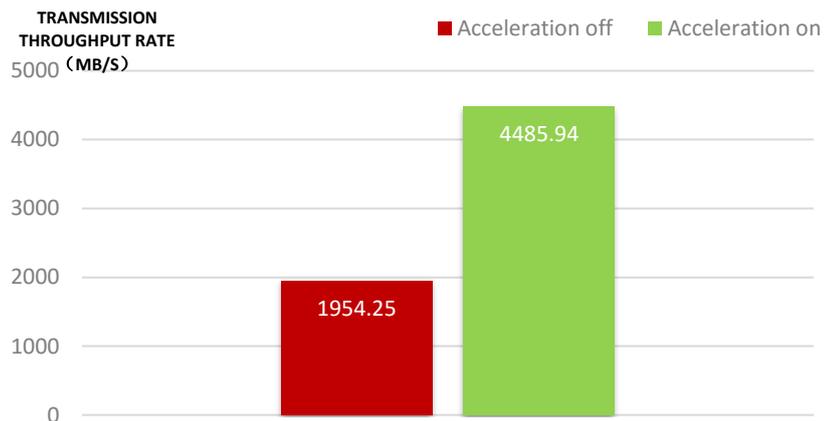

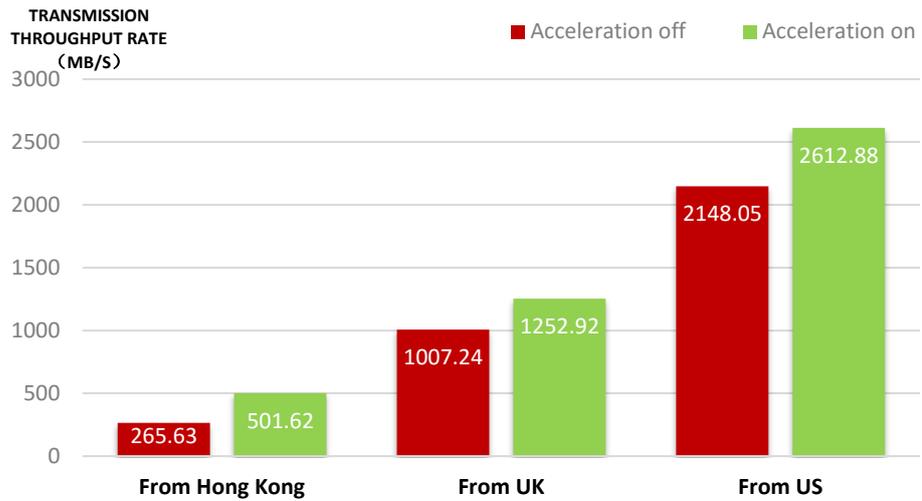**Figure 6** - Throughput comparisons for Mainland China

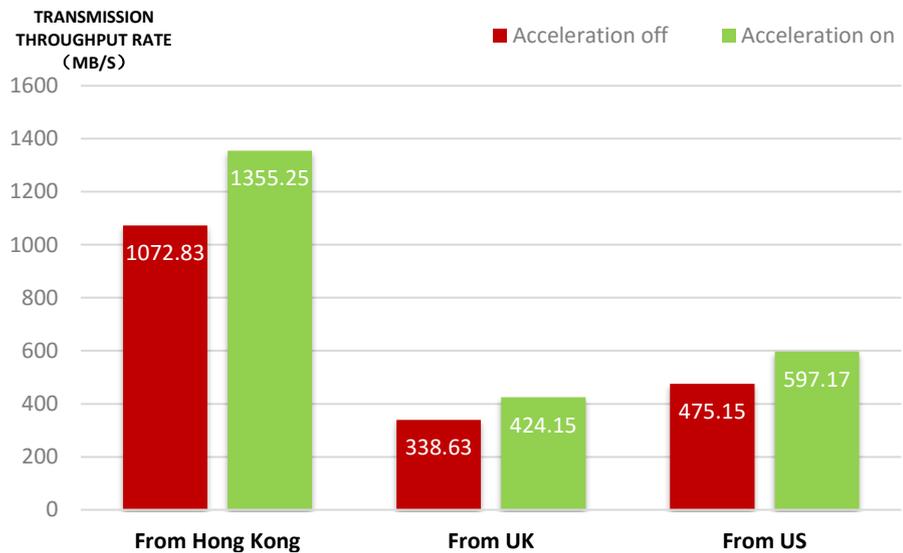**Figure 7** - Throughput comparisons to Canada

Figure 8 - Throughput comparisons to South Korea

● About LeCloud CDN

Letv Cloud, a cloud-based video platform created by Letv, provides Video on Demand, cloud live, and content delivery network services and solutions which cover variety of sectors, including broadcasting and TV, e-commerce, education, media, animation, and smart home. Letv Cloud has over 400 CDN nodes globally and its total outbound bandwidth reaches over 6Tbps up to this point.

Summary

AppEx LotServer technology is a proven solution that has been deployed in many leading CDNs to address such problems as:

(1) edge performance to end users

(2) synchronization of new content to edge nodes in a timely manner

(3) slow start times and buffering of videos,

(4) interruptions to streaming video,

(5) dynamic content acceleration and

(6) addressing uneven performance in mobile and Wi-Fi networks

AppEx Learning Based Technology is a proven solution that makes adjustments on the fly by learning about the network.

LotServer is easy to deploy and test – why not give it a try?

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For a free trial of LotServer:

download.appexnetworks.com