

Peering Portal **Case Study**

Optimizing the world's biggest music streaming service



SK Communication – Optimizing the world’s biggest music streaming service

The world’s biggest music service is, no doubt, Apple’s iTunes. Then, which is the world’s biggest music streaming paid service? Is it iTunes as well? The answer is no; iTunes focuses on downloads. Surprisingly, the correct answer is Cyworld’s Background Music service in Korea.

Cyworld’s Mini Homepage BGM paid service, launched in July 2002, is currently selling an average of 150–170 thousand BGM music files each day, its accumulated sales reaching a record sum of 100 million music files in three years and four months. As the world’s biggest streaming service provider, SK communication has initiated a delivery solution exchange project in the beginning of 2005, in order to satisfy the increasing demands for the Cyworld Mini Homepage BGM with more stable services.

The criteria for solution selection - stability, economical efficiency, and security

Since Cyworld is the nation’s biggest social networking service with 18 million members, millions of them already using the BGM service, the most important factor in the delivery solution exchange project was stability.

Also, considering the revenue structure of the online music service, in which the copyright cost for music sources composes over 50% of the total cost, saving the system operation cost was essential to increase the profit. Furthermore, being equipped with the music file leakage prevention function was also indispensable for the copyright holders as a paid service provider.

However, as it was impossible to chase the three hares of stability, economical efficiency, security and catch them all with the general streaming solution, SK communication was bound to choose Peering Portal’s Pcube Solution.

Difficulties in the BGM service are five times more than that in general online music services

It was a natural choice, for Pcube solution not only had a large scale reference by being applied to Bugs Music in 2004, handling a maximum of 18,000 concurrent users, but also was reliable in the aspect of stability, which was proved by its remarkable performance in most of the domestic music sites such MAX MP3, Juke On, and Music City. Moreover, economical efficiency based



on Peering Portal's Grid Delivery technology as well as the outstanding security features were also major reasons why they chose Pcube solution.

However, the process of constructing the actual system was an easy task neither for SK communication nor Peering Portal.

The first reason was that the play-back time of each piece of music was too short. Not like other online music services, BGMs are only accessories for the mini homepages; since most of the users frequently surf around a number of homepages, their lay time in each page is usually less than five minutes, which is insufficient for even a single song to be completely played. Such user trend drives up the frequency of play-back and stop-over five times higher than in other general music services, resulting in a tremendous load on the streaming server.

With 1% each day, system exchange is completed in three months

Secondly, since the existing service was the world's biggest streaming paid service, servicing over 10 million users with more than 130 servers of a network over 20Gbps, they had to take all possible precautions to prevent any user-failure in the process of migration.

In order to avoid such risks that may occur while replacing the existing solution with Peering Portal's Pcube solution, the development teams of SK communication and Peering Portal cooperatively tuned the server with the utmost discretion.

Especially, during the actual process of exchange, they converted 1% each of the users to Pcube for initial application and stabilization in the small hours when the number of users were minimum, completing the whole project within three months.

Over 70% of cost savings in both server and network

Consequently, SK communication was able to catch all three hares at one shot, reducing approximately 90 servers and over 15Gbps of network, as well as improving the service stability while reinforcing security. This project became a valuable experience for Peering Portal as well; they not only acquired the world's biggest online streaming service reference, but also learned the best application method for BGM services, the characteristics of which being quite different from other general online music services.



Later, with Cyworld's advance into the global market, accompanying the BGM service as one of its most important profit model, Peering Portal's Pcube solution was naturally applied to foreign countries such as China and Taiwan, and is standing by for the copyright issues to be settled regarding the Japanese and U.S. Version of Cyworld as well.

Expanding to the video service field from online music sector

Peering Portal's growth further continues, for the effect of applying Pcube is in fact much bigger in the video service, which requires far more network traffic than online music service. Also, after the preparatory stage in 2006, they expect faster growth overseas than in the domestic market from 2007.

As the broadband infrastructure expands over to Japan, U.S., and Europe from Korea, the accomplishments Peering Portal has established in the domestic market are expected to impact the global market.



Cyworld

The representative service of Cyworld, a social networking service with over 17 million members targeting the personal community market, is the Mini Homepage service. Before the advent of Cyworld, having a personal homepage was perceived to be rather difficult, painstaking, and burdensome; however, Cyworld popularized personal homepages by providing a certain personal space to everyone simply by signing up for the service.

SK Communications, the company running Cyworld, is focusing on the establishment of a global service network which connects China/Japan/Taiwan/Germany from June, 2005, while releasing various new services such as the plaza/market/music/video clips to expand their business model.

Peering Portal

Peering Portal is a leading provider of digital data delivery software based on Grid Delivery technology, which supports direct communication among networked computers to spontaneously deliver large files to multiple users with enhanced efficiency. Grid Delivery technology aims to maximize the delivery efficiency by adopting a direct many-to-many delivery method among the computers, instead of relying only on the server. This technology is currently known to be the most effective method for delivering large data files such as high-quality multimedia. Peering Portal is applying the Grid Delivery technology to distribute audio, video, and game software that require large volumes of data delivery, particularly focusing on multi media data delivery. Results have shown reductions of up to 95% of network load and 50% of server load, and increase of delivery speed up to 10~30 times with the application of the technology. Peering Portal's client list covers wide range of Internet industries including one of the world's largest online community, online movie, online music and IPTV.

