Content Delivery Network (CDN)
Cloud Solution

KEY FEATURES

- **Automated Content Management**

- **Automated CDN Billing**

- **Advanced Traffic and Service Accounting**

- **Advanced Real-Time Media Streaming**

- **Media Stream Capture, Encoding and Transcoding**

- **Media Stream Digital Rights Management and Encryption**
- **Advanced Token-Based Authentication**

- **Advanced Geo-Location Processing**

- **Advanced CDN Cloud Fail-over, Over-Flow and Data Replication**

Problem:

ISP provider plans to offer Content Delivery Network service to clients. The provider is interested to implement a CDN System that will allow him to account, bill, and manage content to his clients utilizing Cloud Streaming/Storage computer farms.
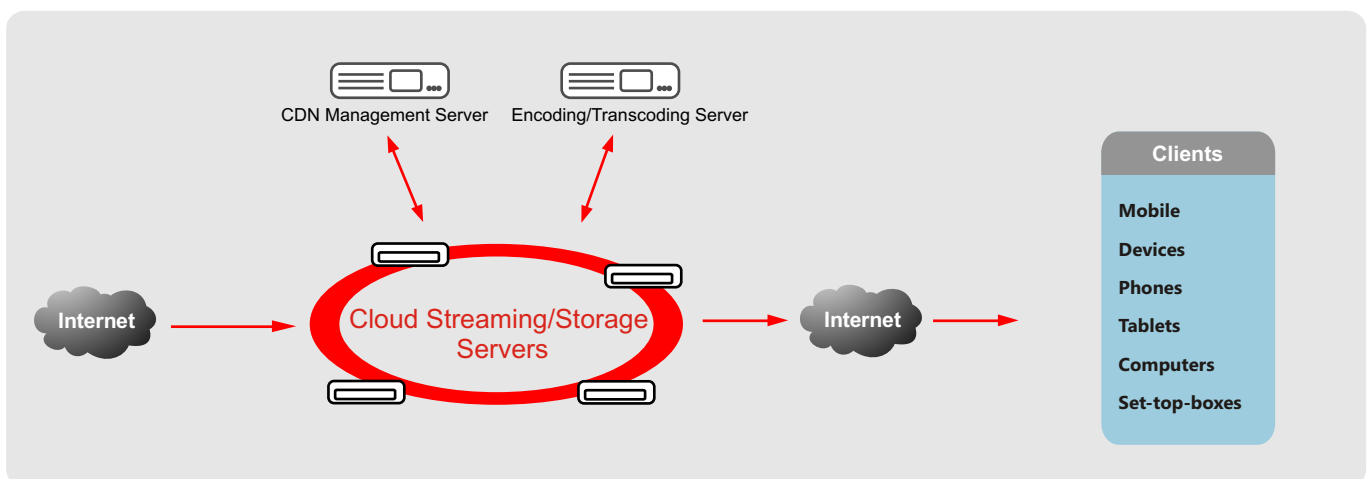
Solution:

Sysmaster Corporation offers CDN Cloud Solution that supports content management, billing, accounting over distributed computer farm environment. In addition, the CDN Cloud is targeted at providers that intend to support real-time media streaming with DRM and transcoding functions.

CDN Cloud Components:

The CDN solution has the following server compponents:

1. CDN Management Server
2. Cloud Streaming/Storage Servers

CDN Management Server   Encoding/Transcoding Server

Clients

Internet

Cloud Streaming/Storage Servers

Internet

Mobile

Devices

Phones

Tablets

Computers

Set-top-boxes

Automated CDN Billing

The CDN Solution supports automated CDN billing taking into account: used bandwidth, used storage, number of client requests, and provided special services such as stream capture, encoding and transcoding. The billing can support pre-paid and post-paid accounts and subscribers can select plans that match their business interests.

Advanced Traffic and Service Accounting

The CDN Solution supports advanced traffic and service accounting. The system keeps track of all used services and consumed bandwidth to provide real-time billing and accounting procedure.

Automated Media File Distribution

Cloud Streaming Server uses automated replication procedures for VOD and media file distribution to guarantee that all underlying Cloud Streaming Servers replicate a master server's directory. The procedure is very efficient and helps to optimize media file mirroring and bandwidth utilization.

Advanced Real-Time Media Streaming

The Solution supports real-time media streaming. The supported output formats include: HTTP, TS Unicast, TS TCP, HLS, Flash, AVI. These formats can be managed to utilize different encoding formats such as bit rates, resolutions, and codecd types. The streaming servers supports a large variety of mobile devices, phones, set-top-boxes, tablets, and computers.

Media Stream Capture, Encoding and Transcoding

The Solution allows dynamic stream capture, encoding, and transcoding. The option also allows bit rate, output codec, and FPS management. Using dynamic codec management allows universal stream support for virtually all types of client devices. In addition, the solution can also support a large number of input stream feeds that are not using the same stream parameters as the output streams.

Media Stream Digital Rights Management and Encryption

The Solution supports Digital Rights Management and Encryption features to guarantee that all content is properly distributed and protected. Unauthorized access is prevented and all unauthorized access attempts are recorded. In addition, the stream is using a dynamic AES 128bit Encryption to guarantee that the stream can not be intercepted and captured.

Advanced Token-Based Authentication

The CDN Cloud offers advanced token-based authentication that provides authentication and authorization services. The token is dynamically generated within the client access software or CRM server and is submitted to the CDN Management Server for authentication. Once the token is verified the request is recorded and processed.

Advanced Geo-Location Processing

The Solution offers dynamic geo-location, load-balancing services to properly distribute inbound and outbound traffic. The geo-location function detects the client location and then redirects all subsequent requestds to the best-suited local server to handle them. This way the system dramatically reduces traffic load and request response time.