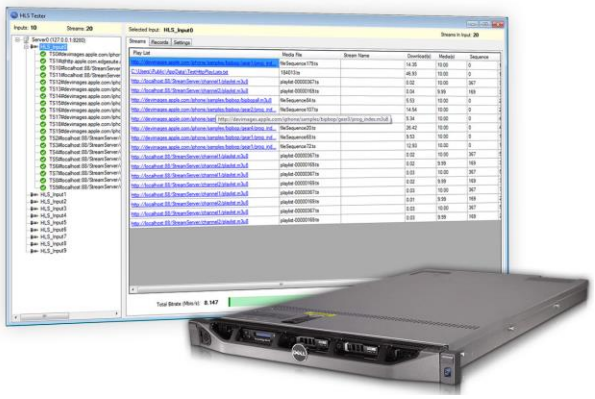
Mocomsoft HLS Server Tester-HST-200

Software for stress-testing HTTP Live Streaming (HLS) servers. It can simulate up to 1000 HLS clients and monitor HTTP file downloading activities in all sessions, record test results and generate reports.



Features

- Simulates up to 1000 HLS client service requests (depending on CPU hardware capacity and network bandwidth)
- Supports live broadcast and VOD services
- Plays VOD services in loop mode
- Supports master playlist files with a list of alternate playlist URLs; Automatically starts client simulation sessions for all alternate bitrate streams listed in the master playlist file
- Supports multiple client sessions to the same playlist URLs.
- Downloads each media file in playlist files as defined in the HLS specification.
- Monitors and records the following parameters for each downloaded media file:
  - Playlist sequence number
  - Media file name
  - Media file size
  - Media file playing time
  - Media file downloading time
- Decodes PCR values and calculates stream bitrate
- Monitors continuity counter (CC) error for possible data loss
- Provides database query functions based on time, and playlist URL, etc.
- Generates test result summary reports for a specific time period or for complete VOD services.
- Fast imports of playlist URLs from a text file to the test software
- Remote user interface which can connect to multiple test servers.
- Supports complete video rendering of a selected stream
- Auto-start and 24x7 unattended test operations

Applications

- Stress test on HLS video servers and network infrastructure

Overview

OTT video services are gaining more popularity every day. They are not only delivering video services for computers, smartphones and tablets. More video programs watched on traditional TV sets are being delivered by the OTT service as well. The OTT services are normally provided using one of the following media streaming protocols, including RTMP, RTCP, HTTP Live Streaming (HLS), and Smoothing Streaming.

HTTP Live Streaming (HLS) is an HTTP-based media streaming protocol developed by Apple Inc. It breaks the overall stream into a sequence of small files, each containing one short chunk of an overall finite or unbounded transport stream. The client app downloads the files using HTTP protocol and resembles the files into a continuous transport stream. Since the downloading uses only standard HTTP transactions, HLS is capable of traversing any firewall or proxy server that lets through standard HTTP traffic, unlike UDP-based protocols such as MPEG over UDP or RTP.

The HLS can be used for both live broadcast and VOD services. Unlike several other streaming methods, HLS does not require a special streaming server to provide the service. Instead, a standard WEB server is capable of delivering HLS service. Due to its simplicity and compatibility on client devices, more and more Internet media service providers are adapting this method.

The Mocomsoft HST-200 system is designed for stress-testing HLS servers. It can simulate up to 1000 HLS service client sessions, each session will independently request media services, just like a normal client app. The software will monitor the media downloading activities in every session, record the data in a database, performs certain analyses and generate testing reports. It is a software program that runs on standard Windows 7, 8 or Server 2008 computers.

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Client Simulation

The HST-200 software program can simulate hundreds of HLS client sessions. Each session will generate an independent request to the HLS server to download media data. In response, the server will serve data to all simulated clients, the same as to the regular client apps, therefore creating a load testing condition for the server.

The software supports both live broadcast and VOD services. In case of VOD services, it provides an option to play the media data in an infinite loop mode. A convenient UI function for directly importing a media URL list from a text file is provided.

The hundreds of HLS client sessions can contain different media service URLs as well as repetitive URLs. For example, in live broadcast, you can use the same broadcast URL many times to simulate multiple clients are watching the program.

Data Monitoring and Analysis

All HTTP sessions started by the software are monitored. When the software downloads a media file, it records the file name, playlist sequence number, file size, and file downloading time. The file downloading time will be compared to the media time given in the playlist file, and check if the downloading speed is fast enough to meet the media playing speed.

In addition to the parameters on media file downloading activities, the software will also check the continuity counter (CC) errors of the downloaded transport stream file. The CC error is an indication whether there is packet loss during media file downloading. In addition, the PCR data in the transport are decoded and the stream bitrate is calculated based on decoded PCR, which can be compared to those defined in the playlist file to check its correctness.

Alternate Bitrate Stream Support

When an HLS service contains multiple alternate bitrate streams, the HST-200 will decode and parse the master play list file, and automatically start sessions for all the alternate bitrate streams. On the other hand, if a user does not want to start all alternate streams, it is possible to enter selective HLS service URLs to start only these services.

Statistics and Report

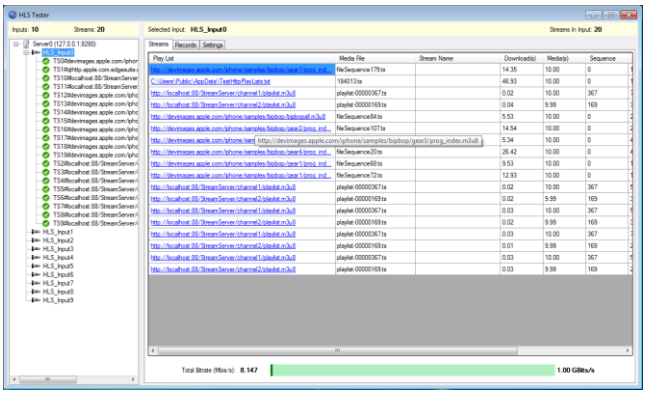
The software can provide various statistics on the testing results, including media file sizes, downloading times, CC errors. The average and maximum values of the data can be calculated and compared for a specific testing period or for the full duration of VOD streams. The log data and reports can be exported in a text file format.

Ordering Information

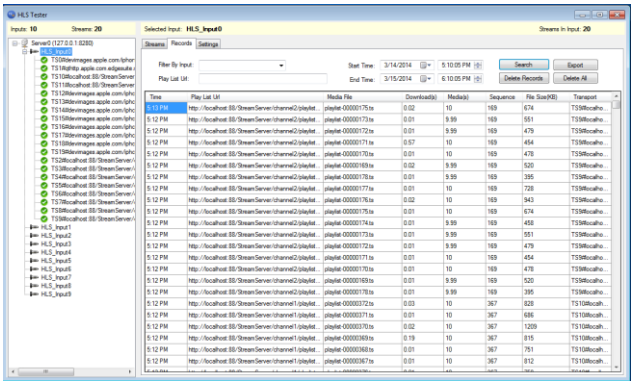
Mocomsoft HLS Tester-HST-200:

Model HST-200-S	Software only
Model HST-200-P	Preinstalled in a portable computer
Model HST-200-R	Preinstalled in a rack mountable computer

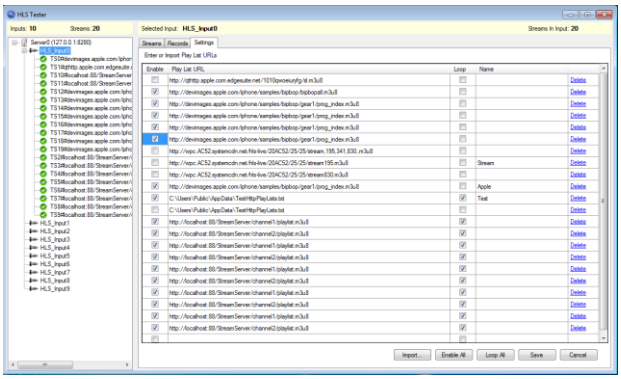
GUI Samples



Real-time HLS stream monitoring



HLS stream downloading records



HLS playlist URL setting

Specifications

IP Input/Output

Interface:	Ethernet (RJ45 or Optical), 10/100/1000 Mbps and 10 Gbps

Administration

Access:	Remote management

System Requirements:

Memory:	4GB DDR2 SDRAM or above
Hard Disk Drive:	Minimum 100 GB Hard Disk, DVD-RW
Operating System:	Windows® 7 or 8 Professional

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