Labstar™ VS-400

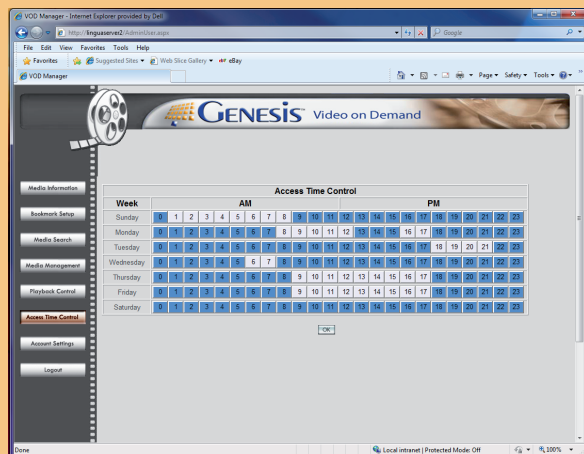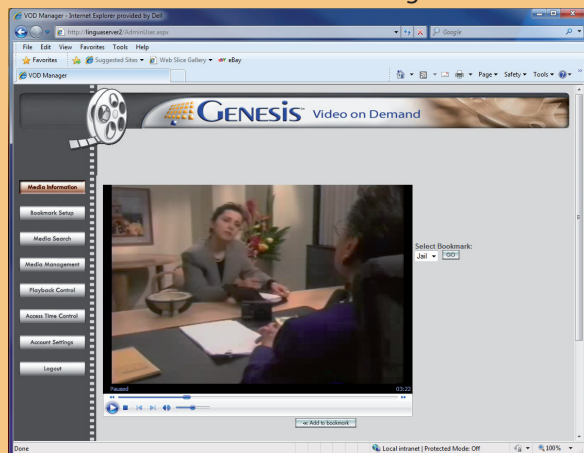## Video Library Database/Search

## Access Time Control

Client Video Viewing

The Labstar VS-400 Video Server system allows students and teachers to play high quality video and audio clips over a network or the internet. The server and its media are accessed via standard web pages, allowing for connection from any networked computer.

The VS-400 can broadcast dozens of different videos simultaneously to different connected clients. A unique feature of the system is that the teacher has the ability to fully control broadcasting, using the integrated Access Time Control. With this control, instructors may determine when videos are available for viewing by students.

Videos in the system may also be bookmarked to make it easy for students to jump to specific segments of the video. Bookmarks are easy to create, and students can jump to one by simply selecting that bookmark during video playback.

Instructors and administrators can also make use of the web-based management system for media, account and access management.

The VOD management system allows instructors and administrators to manage the media library easily through functions such as add, delete, upload, etc. Videos and audio files can be added to the system from any connected computer. So once a video has been encoded or downloaded, it can easily be added to the VOD system from anywhere on campus, or even from home.
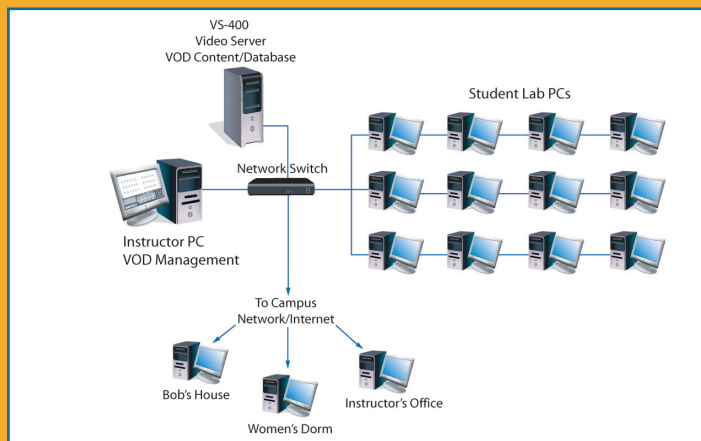
Labstar™ VS-400

The Labstar VS-400 provides the most ideal method for streaming digital audio and video. The VS-400 was designed to handle the special requirements of streaming and administering digital media content on your local network or on the internet. The VS-400 provides features, such as live broadcasting and intelligent streaming, which automatically adjusts the bit rate of each client stream according to bandwidth that is currently available.   Streaming can be accomplished through the use of Real Time Streaming (RTSP), MMS, or HTTP protocols.

Stream through firewalls.   Firewalls are special servers that filter information that flows between the Internet and private networks or intranets. Many firewalls are set up by default to block data that isn't from a Web server—data such as a Windows Media stream. Firewalls can be reconfigured to allow this data into the intranet. Alternatively, the VS-400 can be configured to stream using the same protocol as Web servers, HTTP.

Stream content with Digital Rights Management.   Content that has been packaged using Windows Media Rights Manager can be streamed or downloaded from the VS-400. Windows Media Rights Manager helps content owners distribute licensed digital media over the Internet with superior quality and control.

Fast Streaming.   A feature of the VS-400 that allows for a combination of streaming, downloading, and caching to provide the best user experience. Fast Streaming includes Fast Start, which downloads the first few seconds of the content at as high a bit rate as possible, so the wait to start playing is reduced; Fast Cache, which uses available bandwidth to cache as much content as possible ahead of playback; Fast Recovery, which sends error correction data with the data packets instead of waiting for an error to occur; and Fast Reconnect, which enables the server to automatically restore connections that are lost.

Stream without downloading.   Content from a Web server is downloaded. If Fast Cache is enabled on a the VS-400 server, content might be cached to enhance playback. However, this feature can be disabled if you want your content streamed only.

Broadcast (live).   Web servers can only host on-demand content (files). The VS-400 server can host content for on-demand delivery or for broadcast. Broadcasting enables you to stream live content, and files and playlists that are played back from the server. Some examples of broadcasting are streaming live radio and television signals, and Internet radio stations.

Intelligent streaming.   This feature depends on an interaction between the VS-400 server and Windows Media Player to optimize the stream for the current available bandwidth.

Optimized for streaming Windows Media content.   The VS-400 was designed for the special requirements of streaming media. For example, the VS-400 handles resources on a computer better than a Web server when streaming. the VS-400 is capable of delivering more concurrent streams on a given computer by making more efficient use of a computer's CPU and network bandwidth. The VS-400 server sends data at the same bit rate as the content. A Web server on the other hand does not control the bit rate at which it sends a stream. Consequently, two or more concurrent streams from a Web server could saturate a network's bandwidth.
Files are streamed from a Web server by using a method called progressive downloading. This means that a file plays as it downloads to the user's Internet cache. This can be a concern for users, because digital media files often consume a large amount of hard disk space. Also, a user cannot seek to different parts of the content, until the entire file is downloaded.

Indexing.   This feature provides end users with a means of fast-forwarding and rewinding through a file that is being streamed, which requires interaction between the VS-400 server and Windows Media Player.

Administering and logging.   You can control how the VS-400 manages live content and files, and monitor overall system activity in real time. You can also create detailed logs that include data such as individual client connection information and server events.

Specifications

Unicast Streams
Serve up to 1000 pre-encoded video streams (28.8K)

Multicast Streams
Serve single or multiple multicast streams to client players or to additional relay servers.

Relay Streams
Receive streams from multicast sources and relay those streams via unicast or multicast to additional destinations.

Display Resolutions
Video can be streamed in standard 4:3 display mode or in widescreen 16:9 display mode.

Media Encoding
Capture and compress audio and video programs for streaming delivery.

- WMV / WMA Encoding
- NTSC or PAL Formats
- Standard Resolutions: 640x480, 640x240, 320x480, 512x384, 400x300, 320x240, 240x180, 160x120
- Widescreen Resolutions: 1280x720, 720x480, 640x360, 640x180, 384x216
- Video Frame Rates: 1, 7.5, 10, 15, 30 frames per second
- Variable and Constant Bitrates
- Inputs: Composite / S-Video

Ethernet Connections
Deliver content via two Ethernet Ports -- 10/100/1000 Mbps