



Fault-Tolerant / NEBS Compliant
Enterprise Digital Video Broadcast System...4.8-16TB of storage. 24 x 7
non stop! multicast your video, or web stream your video non-stop

Studio9000-VOD[™] Broadcast your professional A/V simultaneously to single or multiple client stations using Studio9000's UDP or IP protocol.

Studio9000-VOD/e is a NAS Video Server version for Video-on-demand, and Real-Time Live Streaming or Scheduled Video delivering or distribution of archived media

Studio 9000-VOD[™] standard Video-On-demand, and Studio9000-VOD/e[™] Enterprise Video Storage Server version is Broadcast Industry's first multi-functional Video Storage Server system with Real-Time Video Archiver, Media Streaming and VIDEO-On-DEMAND (VOD) FILE SERVING capability now has HD/SDI features for you next generation Digital Video Broadcast studio.

Fault Tolerant, Enterprise Broadcast Video Streaming File Server

- Studio9000-VOD/e[™] is a high performance, highly-integrated, cost-effective Multi-Channel digital Audio/Video storage server and streaming system for broadcast and professional video delivery.
- Built for 24 x7 availability and delivering of MPEG-1, MPEG-2, MPEG-4 and compressed or uncompressed HD/SD video .



Professional television broadcast quality

MPEG audio for numerous Real-Time and on-demand applications including:

- Commercial insertion.
- Video-on-demand (VOD),
- Near video-on-demand (N-VOD),
- Interactive TV,
- Financial information delivery,
- Broadcast video,
- Business TV

CCIR-601 video and

- Media streaming services
- Distance Learning
- Web video content streaming
- Consumer multi-point terminal and cable TV preview channels.
- **Most Reliable Audio/Video Storage you can depend on. Up to 18TB of Content in one box, up to 180 TB in a cluster array**

Studio 9000-VOD/e[™] (Studio9000-VOD Network Attached Storage Edition)

Studio 9000-VOD provides a multi-channel, multi-cast video delivery solution using standard TCP/IP networks

and display devices. Studio 9000 offers a cost-effective method of distributing video content, ranging from Video DVD-quality to HD-quality or better, to multiple PC and set-top box clients. Flexible content delivery capabilities include pre-programmed playback, live streaming of video broadcasts and full-featured interactive video-on-demand services. Studio 9000 -VOD sets the standard for low-cost VOD (Video-On-demand) and, video distribution ideal for point-of-sale, educational, corporate and other video broadcast and dissemination applications. Using its 8GB/s GigaEther network Studio9000-VOD is able to distribute multiple video streams or clips simultaneously to multiple locations. User's can then view contents interactively or non-interactively over their client PC workstations or Set-up box.

Introduction

Studio9000-VODe advanced has an Enterprise Fault-tolerant ,RAID protected central storage system designed for massive storage of uncompressed or compressed digital video and film. The system is highly optimized for standard digital or HD production or real-time data uni-casting or multicast streaming to single or multiple workstations and clients requiring large bandwidth.

Unlike most NAS systems that are limited to only NAS backup and file archival functions, Studio9000-VOD is highly optimized for optional Enterprise SDI -HD video production and broadcast facilities.

Advanced Server Software

The advanced application software facilitates setup, administration , and management of a sophisticated broadcast system over a client/ server-based network, providing video-on-demand, scheduled video and live video-stream playback capabilities. The software features several applications suitable for overall content management and configuration of the system, as well as utilities for controlling and updating

Studio 9000-VOD™ set-top boxes (SETUP-BOX) also allows playback on TV and Plasma LCD screens.

Configuration of the video server, as well as monitoring and content creation of the system can be managed and updated automatically either locally or remotely via a web browser.

Studio9000-VODe © (extended edition) can acts as a video RAID Storage Server with embedded NAS features.

This multi-facet content video server was designed with flexible enterprise content distribution to unlimited clients. As a Network Area Storage (NAS) video server with High Performance, high availability and high reliability HD-SD (High Definition-Standard Definition), System administrator can option usage space or right to access content media as desired. NAS Digital Video Storage system. System is designed for **achieving** and storing multiple video types and formats, whether compressed or uncompressed.

Long duration videos can be stored as multiple files or as a single file capacity up to 16TB (*single file capacity up to 16TB is possible*), or as multiple video file clips.

MULTIPLE FILES:

Multiple video files or clips of different formats can be archived in a compressed or un-compressed mode. With the systems video archiving software, indexing video clips for easy search and retrieval is a big plus over standard NAS systems offered by competitions such as EMC, HP and Network Appliance. Because Cepoint is a company dedicated to manufacturing high end Broadcast Digital Video Storage systems and, Video file servers such as the company's legacy Video-On-Demand Studio9000 File Server, embellishing and enhancing our Digital Video NAS system with the most advanced video storage applications software at no additional cost is a snap. This multiple video clips and file storage and retrieval capability is an advantage in applications environment where hundreds or thousands of simultaneous access to different clips or files by multiple clients is required or necessary.

CONTENT UPLOAD AND STORAGE:

The ability to store large single files (up to 16TB) or multiple clips in different files up to 16TB as well, and all in a unit of 5U or less means less physical real estate in hardware and studio environment. This equally translates to easy maintenance and service for the Network Administrator and Studio manager or program director.

Content is stored and registered on Studio9000 RAID server via different methods; a) Direct upload by Network Clients on the same network or remote location, b) Directly encoding MPEG audio/video formats via it's encoder processor or c) By capturing and digitizing analog video from compatible analog and digital video source devices. Uploaded contents or Pre-encoded MPEG-2 and MPEG-4 content is stored and registered on Studio9000 server. Live footage from an analog video sources can also be fed into the Studio9000 server and encoded into MPEG format in real-time.

How Content is delivered across the network

Once content is registered on Studio9000 server, video content can be delivered or broadcast simultaneously to various PC client workstations or set-up boxes on the network and displayed using the systems client software, or can be accessed interactively and independently by single client PC. Content can also be distributed to set-top boxes to be displayed on television monitors.

Streaming Capabilities

Studio9000 facilitates content delivery in any of three modes:

Video-on-Demand (VOD)

Authorized VOD client users may log-in and select video clips stored on the server for viewing, either from a dynamically updating menu, or through direct channel number selection via the remote control. The user can pause, stop and resume viewing content at any time. Content chapter points can be created for faster navigation, and clients can fast-forward or rewind video clips during playback.

Scheduled Playback

Scheduled playback allows an unlimited number of users to view a preprogrammed arrangement of multiple video clips. The Studio9000 server can have multiple scheduled "channels" running simultaneously, with set program times scheduled to run hourly, daily or monthly. Studio9000 set-top box allows users to surf channels by simply using the remote control. Studio 9000 clients have the same functionality from within a Web browser.

Live Broadcasting

The System can utilize the real-time encoding capability of embedded MPEG encoding devices to transmit live external video sources such as cameras, VCRs and DVD players as professional-quality MPEG-1, MPEG-2 and MPEG-4 streams to multiple clients with minimal delay. With this feature, Studio9000 can retransmit externally broadcast mediums such as television and satellite feeds. Such content, once MPEG encoded, may also be recorded for later viewing or scheduling.

**Studio 9000-VODe™
(extended edition) NETWORK STORAGE VIDEO SERVER**

Studio9000-VODe™ is a highly-integrated, cost-effective multi-channel digital audio/video storage, server and streaming system for delivering Digital Multimedia, compressed (or un-compressed) or MPEG-1, MPEG-2 and MPEG-4 Professional television broadcast quality, Audio/Video contents for numerous Streaming or on-demand applications including: **video streaming, commercial insertion, video-on-demand (VOD), near video-on-demand (N-VOD), interactive TV, financial information delivery, broadcast video, consumer multi-point terminals, cable TV preview channels, and distance learning or corporate multi-location employee training.** The system is configured with initially with 2.4TB, 4.8 or 6TB of **media storage capacity in one box, and can be expandable to 16 or 18 TB in a one cluster array**

Streaming Media Server

Streaming Media Server

Enterprise A/V stream to the Desktop:

Experience Unparalleled Streaming video using **Studio 9000-VOD™** Streaming Media Server and SETUPBOX. **Studio 9000-VOD™** with Web media streamer and Streaming Media Server provides instant-on play/Real-Time media playback for users of all types; users on the web, Internet or Corporate intra-network, and even dial-up end users.

Stream Live Media or On-demand Over Internet, Intranet or Satellite

Broadcast or Stream, Live or On-demand media in real-time, to satellite or branch offices, regional data centers, local stations via Web, Internet or Intra-Network. **Studio 9000-VOD™** allows your audience to enjoy smooth, uninterrupted media playback. **Studio 9000-VOD™** error correction capability eliminates Streaming interruption due to poor network conditions thus allowing reliable media to be delivered or distributed to end-users desktops or TV Set-up boxes in a very realistic quality TV format.

Scalability

Studio9000-VOD™ is easily scalable, supporting as many concurrent users per server as may be needed. Maximizing corporate media delivery or distribution capability with very little budget.

Popular Industry Compatibility

Supports UDP Unicast Streaming
UDP Multi-cast Streaming
And TCP/IP protocol formats.
Compatible with RealNetworks media player
Compatible with Microsoft Media Players
Compatible with QuickTime.

FEATURES & TECHNICAL SPECIFICATIONS: [More Information on Studio9000-NASe™ Broadcast Systems](#)

Media Streaming/Video-On-Demand Broadcaster Server for intensive applications

Fail-Safe Enterprise Digital Broadcast Video Storage Server/VOD with capacity up to 18TB

Your cost effective Media Streaming Server and Video-On Demand solution that is within budget!

Target Markets: Broadcast applications such as commercial insertion, on-air spot play back, time delay and programming, entertainment, kiosks, training, post production and video on demand, Distance Learning

Material stored: Full movie, short clips, program length, Transport files (optional), and Elementary files are selectable. Popular video and audio data file formats include AVI, MOV, MPG, JPEG, TIFF and others

Type of recording: compressed or uncompressed

Output quality: Off-line / On-line (Beta SP), MPEG-1, MPEG-2 Full D1 broadcast, and Half-D1 and MPEG-4 or uncompressed AVI and MJPEG

Special Features: **Studio9000™** is designed to be modular and supports from 4 channels of Audio/Video up to 16 channels per system and up to 128 channels with network, and unlimited simultaneous access

Storage Media: **Studio9000-VODe™** Storage up to 18 Terabyte, starts with minimum of HD video drives for standard operation and supports a up to 180TB per system (RAID drives per server). Standard storage time is up to 120-days. Maximum storage time at highest TV quality only limited by your expansion requirements

Hardware: *Studio9000-VODe™* system comprise a RAID 0, 1 or 5 redundant RAID module and up to 12 MPEG-2 decoders, in modules of 4 channels. Storage is housed in a custom rack mount unit. The user interface comprises a windows based control software. Control is done via RS-422 and RS-232 interface.

Software: Compatible w/WIN2003 Server and many Optional Third party applications: Clip List, Play List, scheduling.

Operation/Display: Full screen: scalable. Motion control: shuttle, fast forward, rewind, goto any time. random access. VHS-type control panel, OSD.

Synchronization/Machine Control: The system can be controlled via serial interface, RS-422 or RS-232. Time code formats supported: LTC-VITC. Rates used for synchronization (fps): PAL- 25fps, NTSC -30fps. For time sensitive or critical time synchronization needs, optional IRIG or GPS Time-stamp features is available.

Upload or Recording/Input: Analog, Digital, M-JPEG or MPEG-1 and 2 uncompressed or compressed. Compression recording of MPEG-1 or 2 Full D1, used ranges from 1.5Mb/s to 15.0 Mb/s. Contents can also be uploaded or archived onto the system via LAN

Local Replay/ Output: The system can simultaneously record and replay mixed resolutions for monitoring and checking contents by the system administrator.

Digital outputs: 4 X composite, S-Video.

File/list triggering: manual, GPI, internal timing, external timing via automation system.

Audio: MPEG layer 1, 2 and 3 stereo audio streams, unbalanced and balanced stereo output on each channel. Sampling @ 16, 22.05, 24, 32, 44.1 and 48 KHz. 4-16 simultaneous channels.

Stream media: via Local Network or Intranet, Internet/ Web and Satellite, using TCP/IP

File Management: The integrated SQL Relational Database features media management and standard user defined queries.

Web Streaming: Continuous web video streaming using IP protocol, UDP Multicast or UDP Unicast

Networking/Media File Import & Export: All popular protocols and topologies are supported, allowing an unlimited number of workstations to be connected with simultaneous access to the same material via Gigabit Ethernet or Internet.

Backup/Redundancy: Fail-safe: disk mirroring, RAID, hot swappable drives and power supply, auto reconstruct are standard in all *Studio9000™* VODe servers. (RAID features are standard)

ELECTRICAL:

Input: 110/240 AC (auto-switch)

Power: 2 x 500 watts or (optional 1,200 Watts: 3 x 400 watts redundant power supply)

Fault Monitoring: LED and audio alarm fault monitoring
Temperature and chassis management features.

Video Input: Component(BNC connector), S-Video and DV (Fire wire 1394 digital I/P)

Audio Input: Unbalanced Stereo (RCA). Bal stereo XLR, AES/EBU and Digital S/PDIF

Gig Ethernet: 8 x 1Gbps (8 x Gigabit) RJ-45 copper connector

Serial Ports: RS-422 x 1, RS-232 x 1

Parallel Port: LPT1 x 1 (optional)

External host: 4GB/s Fibre Channel ports) OR iSCSI or (optional 2 x Ultra 320 SCSI Ports

Local console: 1 x SVGA port for local administrator configuration

ENVIROMENTAL:

- Operating Temp.: 0~50°C / (0~70°C non-operating)
- Altitude: 3000 m (10,000 ft.)
- Shock: 2.5G @ 15~20 ms (35 G @ 15~20 ms non-operating)
- Vibration: 5~17 Hz, 0.1 " double amplitude displacement; 17 ~ 500 Hz, 1.5 G acceleration (operating and non-operating)
- Humidity: 5 to 95% @ 40°C non-condensing
- EMI: FCC/VDE Class A compliant
- Dimension: 19"W x 6U(10.3")H x 20"D/ Dimension may vary, depending on system configuration
- Weight: 55 lbs- 65 lbs

Determining your Network Capabilities:

Below are questions you need to ask your self in order to help determine what network capability and bandwidth necessary to handle your video distribution contents:

Example A. How many media streams can your network handle?

Given:

- Available bandwidth = 60Mbps
- 2 Multicast programs: 1 x 4Mbps + 1 x 6Mbps = 10 Mbps
- 4 Unicast/VOD programs: 1 x 4Mbps, 2 x 6Mbps, 1 x 8Mbps, so the highest bitrate of Unicast/VOD programs = 8Mbps

Calculation:

$$(60\text{Mbps} - 10\text{Mbps})/8\text{Mbps} = 50/8 = 6 \text{ streams}$$

Example B. How much bandwidth does your network need?

Given:

- 2 Multicast programs: 1 x 4Mbps + 1 x 6Mbps = 10 Mbps
- 4 Unicast/VOD programs: 1 x 4Mbps, 2 x 6Mbps, 1 x 8Mbps, so the highest bitrate of Unicast/VOD programs = 8Mbps
- 6 Unicast/Multicast Programs

Calculation:

$$10\text{Mbps} + (8\text{Mbps} \times 6 \text{ Unicast/Multicast programs}) = 58\text{Mbps}$$

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For pricing information or to order you custom system, please

E-mail us with your applications and configuration requirements for best price surpassing Hollywood's Best!

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