CLARMONT
A CLEAR VIEW OF TECHNOLOGY

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New Dimensions in Audio/Video archival

The opportunity

The development of image digitization techniques along with the advent of reliable, high-capacity DVD has **revolutionized the media world** - opening new possibilities for both film production and home users. Taking this philosophy one a leap forwards, we used our SANity™ DB storage systems technology as the foundations of the new SANity™ - AVA (Audio Video Archive) Systems. We bring you a **very large capacity** near-line storage system. This cost-efficient DVD based system allows you to store,categorize, and search though **thousands of hours of audio/video media**, all the while allowing you to retrieve any data at a moments notice.

What can SANity AVA do for you?

By extending the base SANity™ - AVA near-line storage system with appropriate Input/Output devices, the full range of applications becomes evident. A few of the most frequent system implementations:

Features & Benefits

- Up to 18,000 hours of Broadcast quality video storage per Jukebox unit [1]
- Up to 125,000 hours of Long Archive storage per Jukebox unit[2]
- Up to 350,000 hours of CD quality audio storage per Jukebox unit[3]
- Unlimited expansion capacity, modular construction
- Wide choice of input/output formatsk
- Flexible streaming server
- Dependable hands-off operation
- Easy operation and use
- Detailed traffic log and optional billing module
- Simple user/access-rights administration
- Cost effective media (DVD) with long life-span (approx. 80 years)
- Highly configurable indexing/search engine with audio/video preview function
- Resolution/quality configurable for archive streams[4]
- Quick access to media (avg. ~10-15s)
- Open standards-based solution which can easily be configured to work together with other existing or next-generation systems (custom interface may be necessary)[5]

Digitization & Storage of Analog materials

- Historical Audio/Video archives
- Searchable Audio/Video Database
- Audio/Video libraries
- A/V on Demand - AVOD
- Internet availability - streaming (e.g. pay per view) or download

Presentation/training media database

- Educational Facilities
- Public Institutions
- Enterprise in-house training

Digital editing, broadcasting, and archive

- TV/Radio broadcasters
- Film studios
- Production studios
- Post-production studios (e.g. subtitling)

Continuous broadcast digital archival

- Media supervisory organizations
- TV/Radio broadcasters

[1] High resolution, “DVD quality” archive materials, suitable for production and broadcast (768x576. 25FPS, 4000Kbit/s, Mpeg4)
[2] Low resolution, “VHS quality” archive materials, suitable for continuous archival of broadcasts (320x280, 25FPS, 500Kbit/s, Mpeg4)
[3] CD quality, stereo (44KHz, 192 Kbit/s, Mpeg3)
[4] Configurable for archival of continuous audio/video streams
[5] In some cases, a custom interface may be necessaryt

SANity™ AVA

Practical Applications

Complex Audio/Video archive

The storage of film or tape-based recored archive materials is problematic. Upkeep is expensive, and they take up a lot of room. Searching a **huge archive** for a recording, or part of a recording can take up a lot of time and energy. Switching to magnetic media (VHS, S-VHS, SDI) provides an increase in life-span, but does not help with the storage and accessibility problems.The real answer is the high-quality digitalization of these media , and their storage on **cost-effective, long-life** BD DVD media. SANity™ AVA catalogues, indexes, and organizes these materials and makes them retrievable at a moments notice. You can then find any recording in a few seconds and view, **preview** or even extract that selection from the archive for broadcast, duplication or editing.

Online Audio/Video databases

Making your digital archive available to the world is an easy task for SANity™ AVA. It's fine grained security and permissions system ensures your ability to determine who has kind of access to your files, on a file-by-file basis if required. This makes it possible - with the suitable modules - to enable access to the archive **over the Intranet or Internet**. The optional traffic log and billing interface provide you with the option of implementing **payper-view services** , interdepartmental billing or royalty management.

Media Supervisory Group

The supervising of radio or TV broadcasts is a difficult task. After all, there are a huge number of channels, and a lot of data to be recorded and examined. SANity™ AVA provides a solution for this. With the suitable module, **real-time digital recording of multiple real-time channels** becomes easy and cost-effective. The nature of the system precludes modification of the archived stream and ensures the integrity of any recording. The archived materials can be viewed, searched,retrieved and indexed (if necessary). With the built-in security system (access levels, logging,videostream id), the archive can play a deciding role in any media disputes.

Educational systems

Enables companies and educational institutions to centrally manage their presentation and media resources. Instructors can easily find materials suitable for their needs, and pre-recorded instructional material becomes available throughout the institution.

Television and other broadcast media

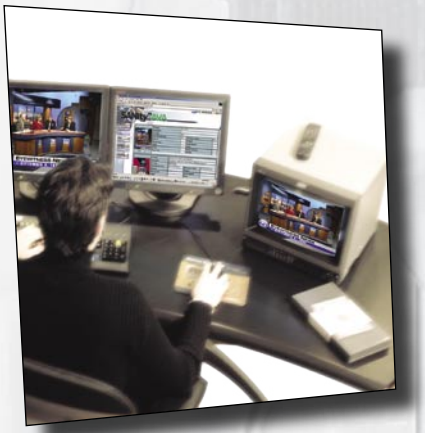
With the march of time, traditional analog technologies as well as analog recording via digital technologies - as used in TV production and broadcast - are ever more outdated. SANity™ AVA represents a **new stage of evolution in audio-visual technology**. SANity AVA is a leap ahead in speed, quality, dependability and ease of use. With the implementation of suitable modules you can make the transition to fully digital mastering, editing and even broadcast.The core of all these solutions is SANity™ AVA, which not only ensures the DVD based digital storage of your recordings (at higher than evenbroadcast quality if required), but also provides the ability to swiftly find and preview or extract archived A/V materials.

In the high-stakes world of TV and media,advantage can be gained through speed and performance. For example, using digital recording, **high-speed data transfer and digital editing**, a news item can be broadcast hours before those using traditional analog technology. Also, archived reports linked to the current topic can be quickly found, retrieved and added to the broadcast.

Your studio can obtain a significant market advantage with the speed and quality provided, not to mention the superior quality obtained through digitally mastering, recording and broadcasting its A / V material.

Editing Workstation

Workstation capable of selectinga desired source stream -analog (VHS, S-VHS, TV/SATsignal) or digital (SDI,DV) and creating an archival format file (MPEG1,MPEG2,MPEG3, MPEG4,etc) for the SANity system. The selected input and archive formats are determined by your needs, and the desired archive quality.



Archiving Workstationn

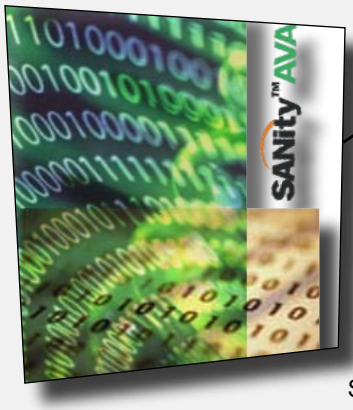
A Workstation for managing the archived data. Typically contains search and indexing functions, along with a range of data input and ouput capabilities. May also include audio/video editing capabilities. This workstation may be anything from a fully integrated professional digital editing workstation, to a simple PC using the WEB interface to browse, search, preview/view or download files from the archive.

Modules

SANity™ AVA is for the most part both hardware, and softwareagnostic. The core system is platform independant, and the periferial components can be freely chosen depending on your needs.

"The future of multimedia archival"

Streaming Server Module



This module is necessary for Inter/Intranet viewing/previewing. The Streaming module provides the service that makes provides for access to archived audio and video files over a limited and/or variable bandwidth without requiring that the entire file be downloaded. Most streaming servers can easily be integrated into the SANity™ AVA solution.

Broadcast Control Module

A complex module package which brings to life the possibility for completely digital media broadcast. Includes digital media recording options, broadcast management elements, fast cache storage and security elements.Select and integrate exisiting or custom items, independant of hardware and software manufacturer.

System Components

Application Server

The system's logic and operation is controlled by this server. The database, and associated indexing and search functions are managed from here. Due to the system's distributed,multiple-layer architecture, it can be dynamically scaled in both capacity and performance to meet demand.

Database Server

The system's database is built on an SQL compliant DBMS. Thanks to the Java JDBC technologies used, SANity AVA can be configured to use almost any of the leading Database Servers (Oracle, DB2, MSSQL,Sybase, Informix).

Thin Client/Web Interface

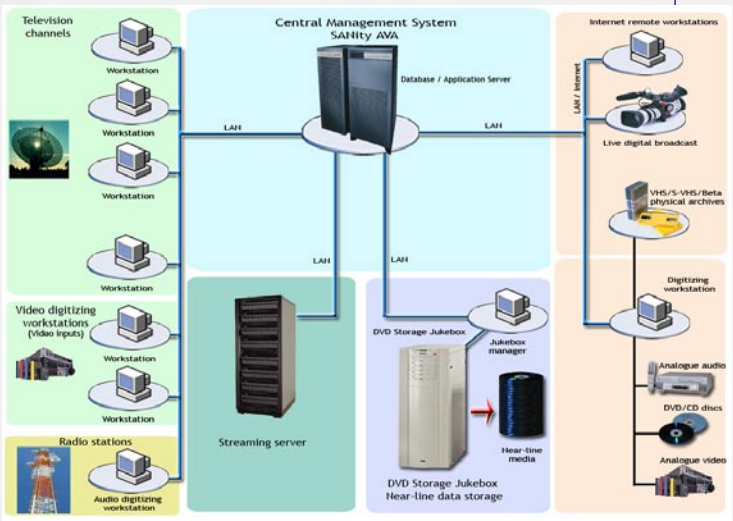
Browsing and query of the archive as well as data retrieval functions are available via an elegant, simple secure, and easy to use WEB interface which will run in almost any browser.

Jukebox Manager (JBM)

The software element that controls the DVD Storage Jukebox drives and directs the media changing robot, in order to minimize access times to your data.

DVD Storage Jukebox

Modular DVD jukebox which contains the read/write DVD drives, the DVD media itself and the media changing robot.



Technical Data

Supported platforms

- MS Windows NT/2000/XP
- Linux
- SUN Solaris 8/9
- IBM RS/6000 - AIX
- HP-UX
- COMPAQ/DEC Unix
- Mac OS X
- Any OS supporting Java JDK1.3 or better, and supported by a suitable DVD Storage Jukebox manager

Performance Data

- Maximum capacity currently 34TB per BD DVD Stogage jukebox unit*
- Attach up to 9 units per JBM = max 306TB
- Configuration and install of multiple JBM servers to provide unlimited storage
- 0.1-9 s data access speed (depending on number of drives and concurrent usage)
- Real-time data adaptive streaming

* using 50GB BD DVD media and DISC BD7000 Storage jukebox unit

Database & Application Server

- **Database:** Any transactional RDBMS (Oracle, DB2, MS SQL, Sybase, Postgres SQL, MySQL, etc)
- **Application server:** Java 2 compatible Application server (JBoss, IBM, BEA, Borland etc)

DVD Storage Jukebox Manager

- Microsoft platforms - filesystem : UniStore, Point, SmartStore, QStar,
- Unix platforms - filesystem : Point, Qstar, SmartStore

BD DVD Storage Jukebox

Suggested BD DVD Storage jukebox units:	max drives [number]	max capacity [TB]
DISC NSM1000	2	5
DISC NSM3000	4	13.5
DISC NSM4000	4	20
DISC NSM7000	10	34

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