

Digital Media Archiving at Sveriges Television

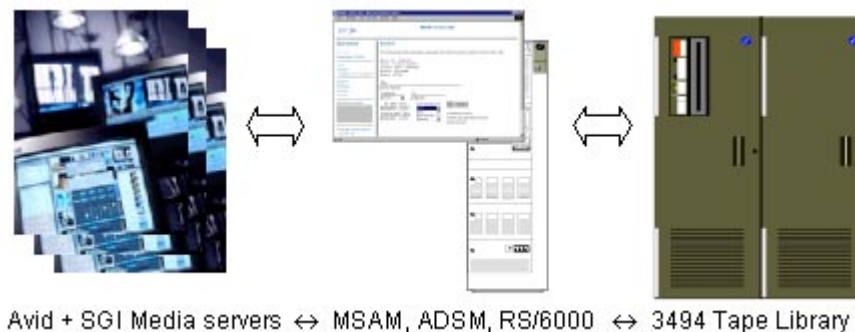
By Eva_Lis Green SVT (using IBMs specification)

IBM Svenska AB has been contracted to design and implement an automated archive solution for digital media at SVT24. (A 24 hours news channel)

The purpose of the system is to copy media files and associated metadata from SVT24 media servers into long-term archive storage. Media files in archival storage can be searched and retrieved using a web-based user interface.

Figure FIG Functional overview of the archive system at SVT.

The archive solution is named Media Server Archive Manager (MSAM).



Functional Specification

The following functional requirements apply to the archive system design in the SVT24 environment.

System Requirements

1. High performance archiving and retrieval of digital media files residing on the Avid News Media Server (SGI Origin 2000).
2. Archiving and retrieval of Avid Media Server metadata stored in an Informix database.
3. Archiving and retrieval of low-resolution video files generated by Avid Media Browser.
4. Archiving and retrieval of media files from other SGI file servers using File Transfer Protocol (FTP).
5. Automated archiving. Program contents cataloged for archiving on the Avid Media Server should be archived automatically.
6. Retrieval of media files and metadata using a set of common program material identifiers (such as "tape id" and "title") to identify the data.

7. Automatic generation of direct links between the main SVT catalog and the archive system by generating BRS update records.
8. Data security and backup functionality covering the archive system itself and associated databases.
9. A web-based user and administration interface providing the following functionality:
 - 9.1. Archive and retrieve functionality with user/password-based access restrictions.
 - 9.2. Metadata catalog and search capabilities.
 - 9.3. Administrative functions such as system archive content deletion, status information and log viewing.
 - 9.4. Archive, retrieve, user and performance status display.

Customized Software Products

Customized software, named *Media Server Archive Manager* (MSAM), will be developed to fulfill the specified system requirements.

The Media Server Archive Manager contains the following major components:

- *MSAM core*, which contains functions for database communication, remote procedure invocation, logging, statistics etc.
- *MSAM file transfer agent*. This component provides a high performance interface between ADSM and FTP file servers.
- *MSAM web interface*. This component contains the web-based graphical user interface functions.
- *MSAM command line interface*. This component contains command line administration and automation functions.
- *MSAM auto-archive daemon*, which polls the Avid Media Server Asset Management database for archive candidates and initiates archive operations.
- *MSAM status daemon*. This daemon monitors status and availability of relevant server systems and ongoing transactions.
- *MSAM authentication module*. This component provides user and password authentication against Windows NT domain controllers.

Intended Workflow

The archive management system supports a number of usage procedures for archiving, searching, and retrieving media files. This section contains descriptions of intended workflow for major user operations.

Manual Archiving

Manual archiving of media files is supported from Avid Mediaserver and standard FTP-capable file server systems. In the Avid Mediaserver case, the term media file refers to a collection of high- and low-resolution files together with associated asset management metadata.

Automated Archiving

Automated archiving is supported from the Avid Newscutter and Avid Mediarecorder workstations installed at SVT24:

Media File Search through SVT-Katalogen

The most common way to locate media entries in MSAM will be to use the SVT catalog system, *SVT-Katalogen*. Links from the SVT catalog system to MSAM preview and retrieval pages will be created at archive time using an automated SVT catalog update procedure.

1. The user locates a media entry using the web interface of SVT-Katalogen (BRS). A list of media properties such as broadcast date, participants, etc is displayed. If the located entry is archived in MSAM, this list also contains a link to the corresponding preview and retrieval page in MSAM.
2. The user follows the link and is transferred to an MSAM web page displaying the corresponding media entry properties available in MSAM. These pages contain low-resolution preview video (if available) and options to retrieve high-resolution material to the current media server. There is also an option to retrieve low-resolution video to the current browse video server.
3. The user browses the low-resolution video to review the selected material. The user may also choose to retrieve the low-resolution video back to a browse video server at this time.
4. Retrieval of high-resolution material to the current media server is initiated by the user by providing authentication information (username and password) and pressing a button labeled "retrieve high-resolution".
5. A status graph panel is displayed where the status of ongoing archive/retrieve operations is shown. The user can continue working with other media entries while the ongoing media requests are processed.

Media File Search and Retrieval through MSAM

A specific media entry archived in MSAM can be located for preview and retrieval through the MSAM Web Interface.