

## SECURITY AND RADIO-ASSIST

Data storage is very important, so the Radio-Assist system supports and manages several security levels.

The first is at hardware level using, in particular, RAID technology (more about this in a coming issue). And Radio-Assist can also use a whole range of software security, extending from plain backup to the Mirroring technique.

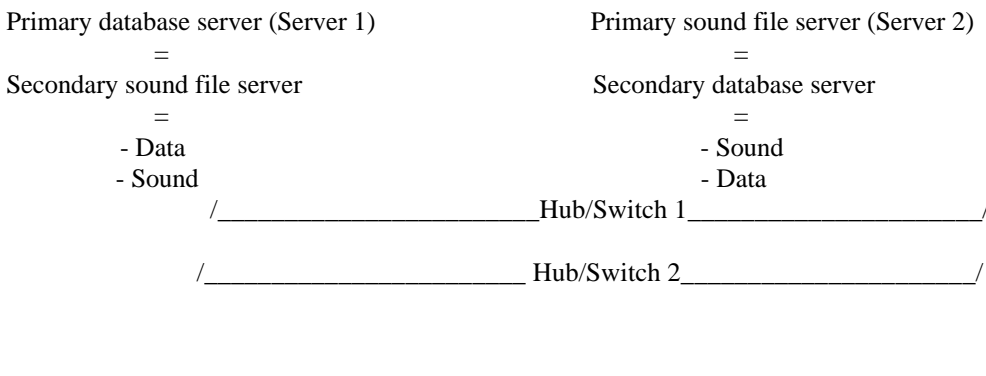
So software security exists at several levels to meet the requirements and constraints of each customer. It goes from level 0 (no security – a single database and a single file server) to top security (Mirroring of the sound and database. This security level ensures that the system will continue to operate without interruption when an incident occurs). In-between solutions provide separate management of sound and database, meaning that sound alone, or database alone, can be mirrored, so the choice of architecture solutions is really wide.

Here is one in greater detail: an architecture for sound and database Mirroring.

In this solution, information – sound or data – is simultaneously saved on different servers. So the information on each server is identical and if an incident arises on one of the servers, the second one can continue to operate for both the sound and database. Production and broadcasting carry on unaffected.

This security is increased by the fact that the servers are linked by two hubs or switches connected in parallel. As with the servers, if one fails the other takes over and ensures full operating continuity.

*Connection diagram:*



## RADIO-ASSIST AND WINDOWS NT: WHY?

Nétia decided to operate its Radio-Assist system with Windows NT, for some time now. The reasons are:

- Windows NT is the most powerful and stable Microsoft architecture
- Windows NT is designed for dynamic networking and simplified administration
- It has high performance using a 32-bit platform, data processing security and can be connected to other systems
- Windows NT uses the NTFS file system:
  - NTFS is used for data recovery. It is based on the best features of FAT and HPFS but with more security, strength and capacity than its two predecessors. Recovery takes just a few seconds, whatever the size of the partition. NTFS keeps spare copies of critical files so, unlike FAT and HPFS, an incident arising anywhere on the disk will not cause partition loss. FAT and HPFS keep these files in specific sectors of the partition

which will be endangered if a disk incident occurs. In addition, NTFS distinguishes between good and bad disk sectors, so it can place the information in good sectors alone.

This recovery system does not actually recover data but the partition. To recover data, you must use the NT system: Error tolerance. This system uses software solutions based on RAID technology (more about this in a coming issue).

- NTFS is secure. Access is available only to people authorised by the system administrator or owner.
- NTFS provides high disk efficiency. Since it uses a 64-bit disk address system, it can operate on high-capacity disks. FAT using DOS did not allow partitions of more than 2 gigabytes, while NTFS can take up to 16 trillion (a number followed by 18 zeros – quintillion in the US). Furthermore, the clusters used by NTFS are no more than 4K, whereas with FAT they were set at 16K. So for a file of 512 bytes, FAT used a 16-K cluster and "wasted" 15.5K of disk space. NTFS can also reduce internal fragmentation and loss of disk space.
- With NTFS, files can be given names of up to 256 characters.

With all these qualities of performance (with a 32-bit platform), data-processing security and user-friendliness, the switch to Windows NT is an obvious requirement.

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## IMPORT/EXPORT WITH RADIO-ASSIST: PROGRESS REPORT

New features have been introduced by Nétia in this field, and now the end of 1999 is upon us, it is time to take stock of what we can offer.

### Export:

- Hard Disk Export (for hard disk or a network computer): formats are as follows:
  - MPEG Layer 1/2/3
  - WAV linear file
  - BWF linear
  - BWF MPEG Layer 1 and Layer 2
  - Real Audio
  - AIFF
  - Musifile
- CD Export:
  - To a CD-Audio (to make discs which can be played on any machine) or CD-ROM (for manual archiving)
- Mini-Disk Export:
  - To a Sony (MDS-B5) or Denon (DN-1050R or 990R) mini-disk player.
- Web Export:
  - To FTP site.

### Import:

- Hard Disk Import: all file formats allowed (except Real Audio)
- CD-Audio Import (digital extraction of audio tracks and software compression)
- Mini-Disk Import: from a Sony (MDS-B5) or Denon (DN-1050R or 990R) mini-disk player.
- Nagra ARES-C Import
- Mandozzi – DART Import
- Web Import: all export formats allowed (except Real Audio)