



PHONOGRAMMARCHIV - AUSTRIAN ACADEMY OF SCIENCES

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Small Scale Approaches to Digital Audio Archiving



Digital Mass Storage Systems (DMMS) – ideal solution for digital audio archiving

- Introduced during 1990s by radio sound archives
- Complex and cost intensive (hard and software)

Smaller collections unable to finance DMMS – started digitisation using R-DAT and CD-R as single carrier target formats

- R-DAT threatened by obsolescence
- CD-R (DVD-R) presently perhaps the most unsafe recording medium



Since around 2000

- professional computer back-up tape drives and media
- hard disk drives (HDDs)

became within affordable reach



Single (or double) operator systems:

- High precision stand alone A/D converter
- Digital audio workstation (DAW) with sufficient storage capacity in excess of storage medium
- Parallel safety storage space of same capacity
- Tape drive - LTO (Ultrium) currently popular medium:
 - 1st generation 100 GB native/tape
 - 2nd generation 200 GB native/tape
- Minimum of two tapes, preferably of different production, to be stored at different locations



Multiple operator, multiple DAW systems

- Server (RAID) system with sufficient storage capacity to accommodate data before transfer to back-up tape
- Server also to accommodate MP3 file for browsing purposes



Problems and perspectives

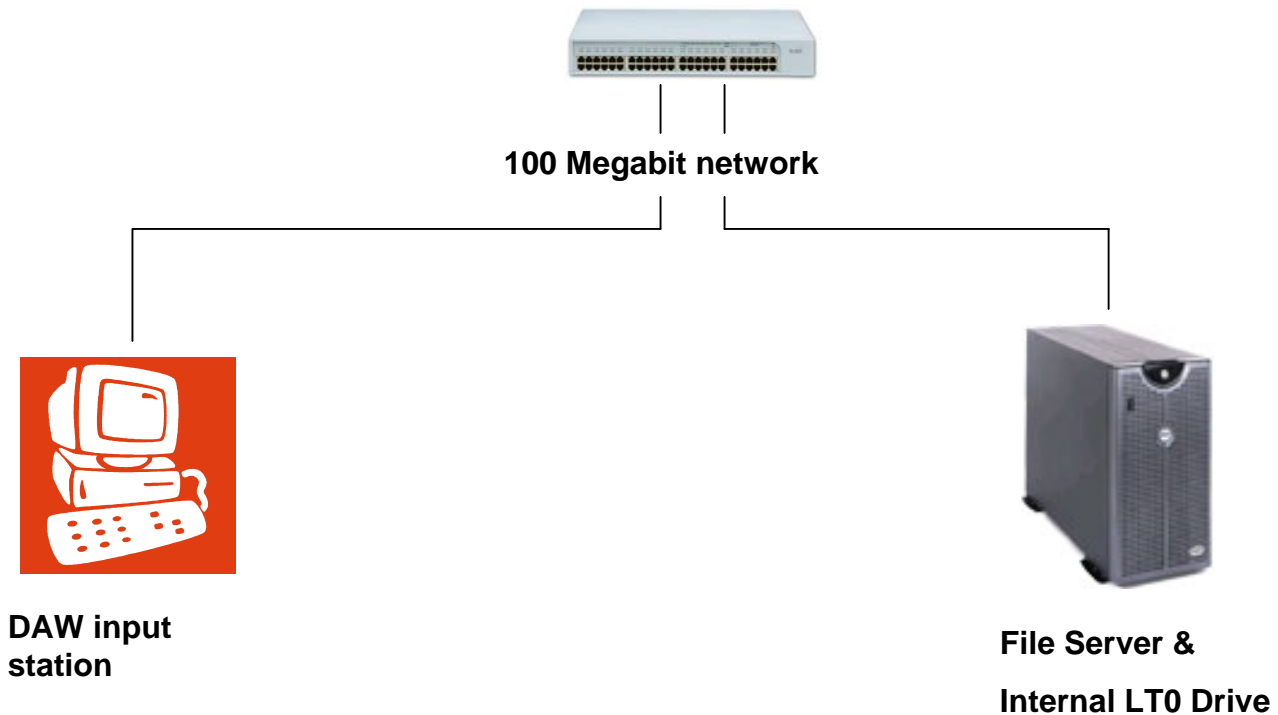
- Data can be lost at any stage without pre-warning
- Data integrity checking difficult to implement
- Data management highly demanding in absence of HSM software
- Scalable towards DMSS by introducing HSM and a “juke box” (automated tape library)



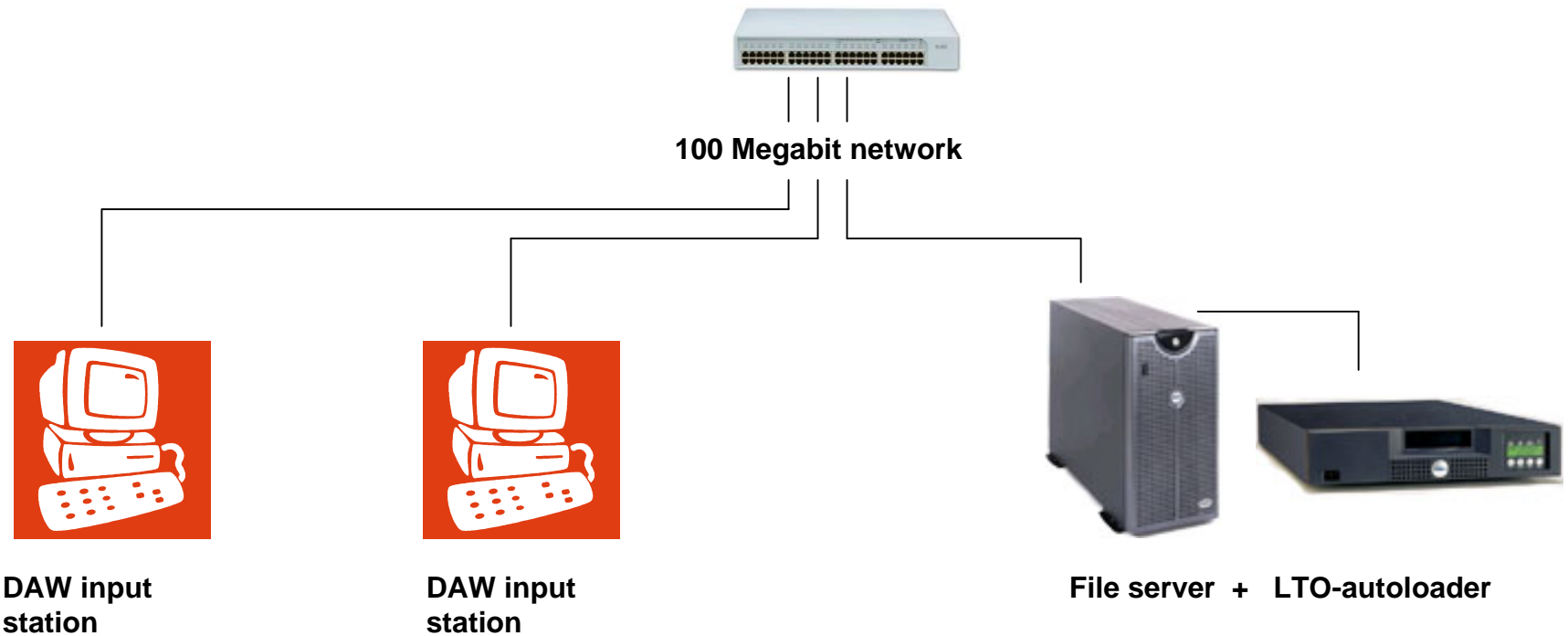
Vision: “Personal” DMMSs for applications in all professions in need of storage capacities beyond the general world of offices:

- Audiovisual archives
- Architects
- Computer graphic designers
- Digital photographers

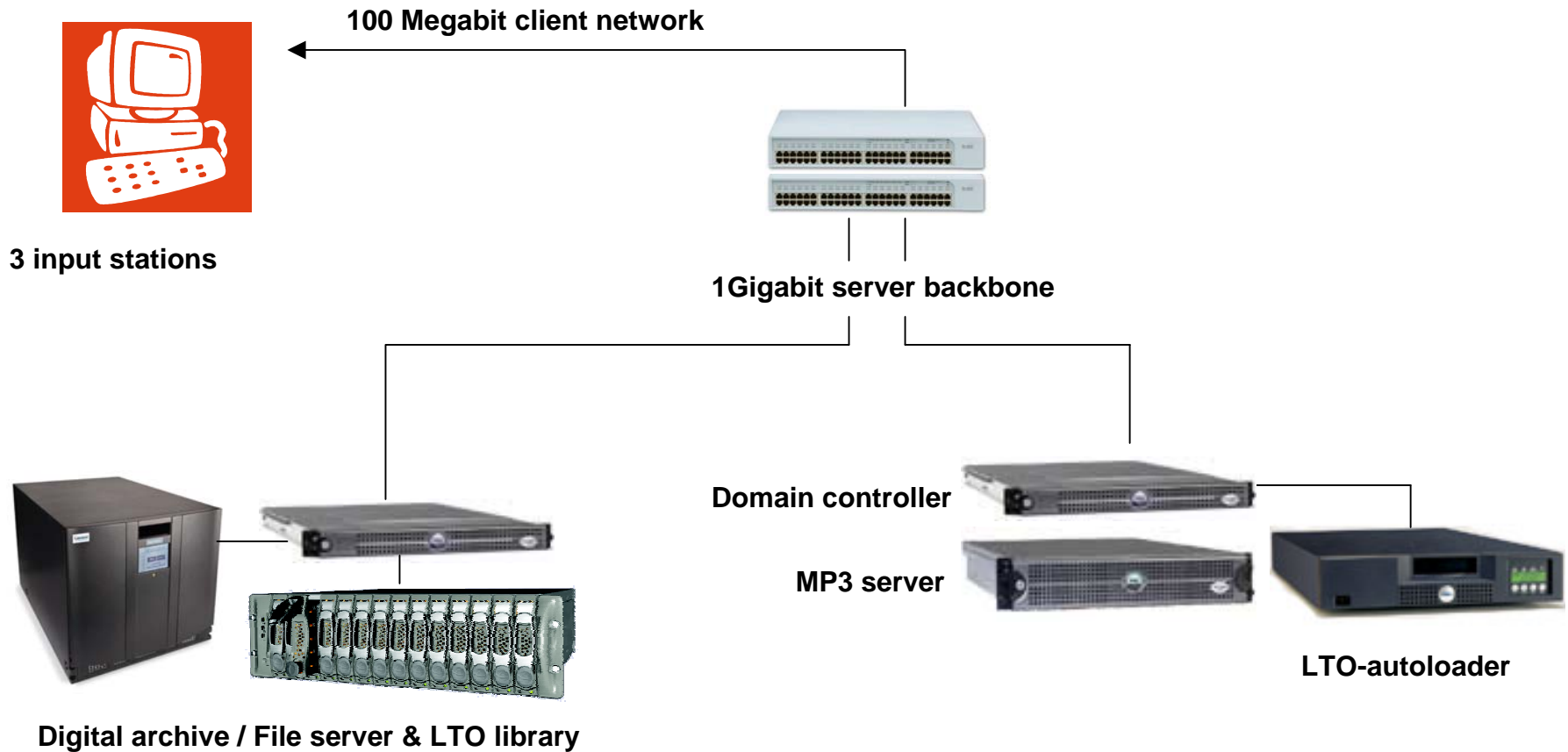
To start with



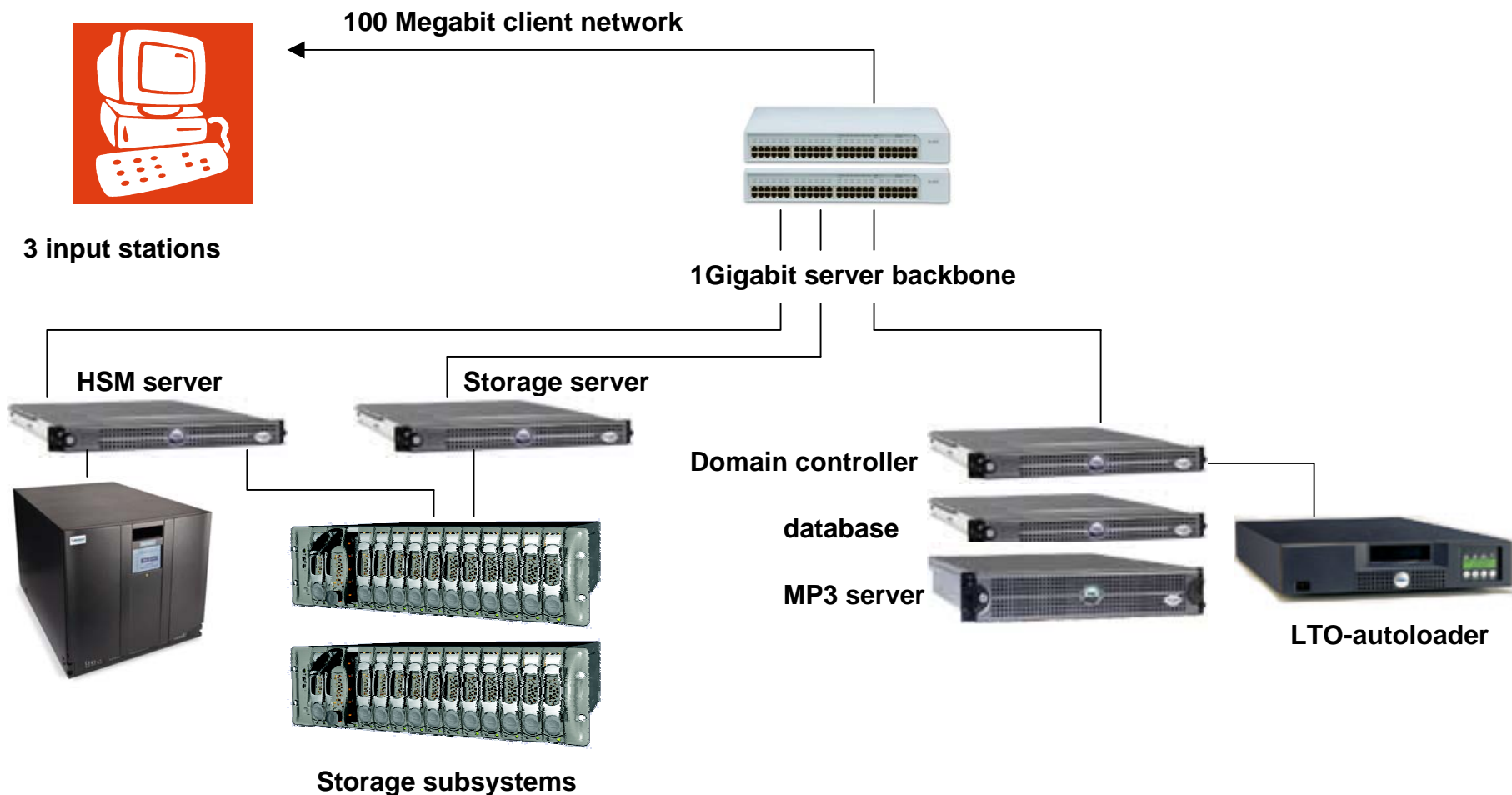
The next step



Small archive infrastructure



Larger archive infrastructure





Thank you!

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