



Digital archive integration

AES Workshop
Technologies for digital audio archiving
Monday, May 30 2005, 14:00 – 16:00

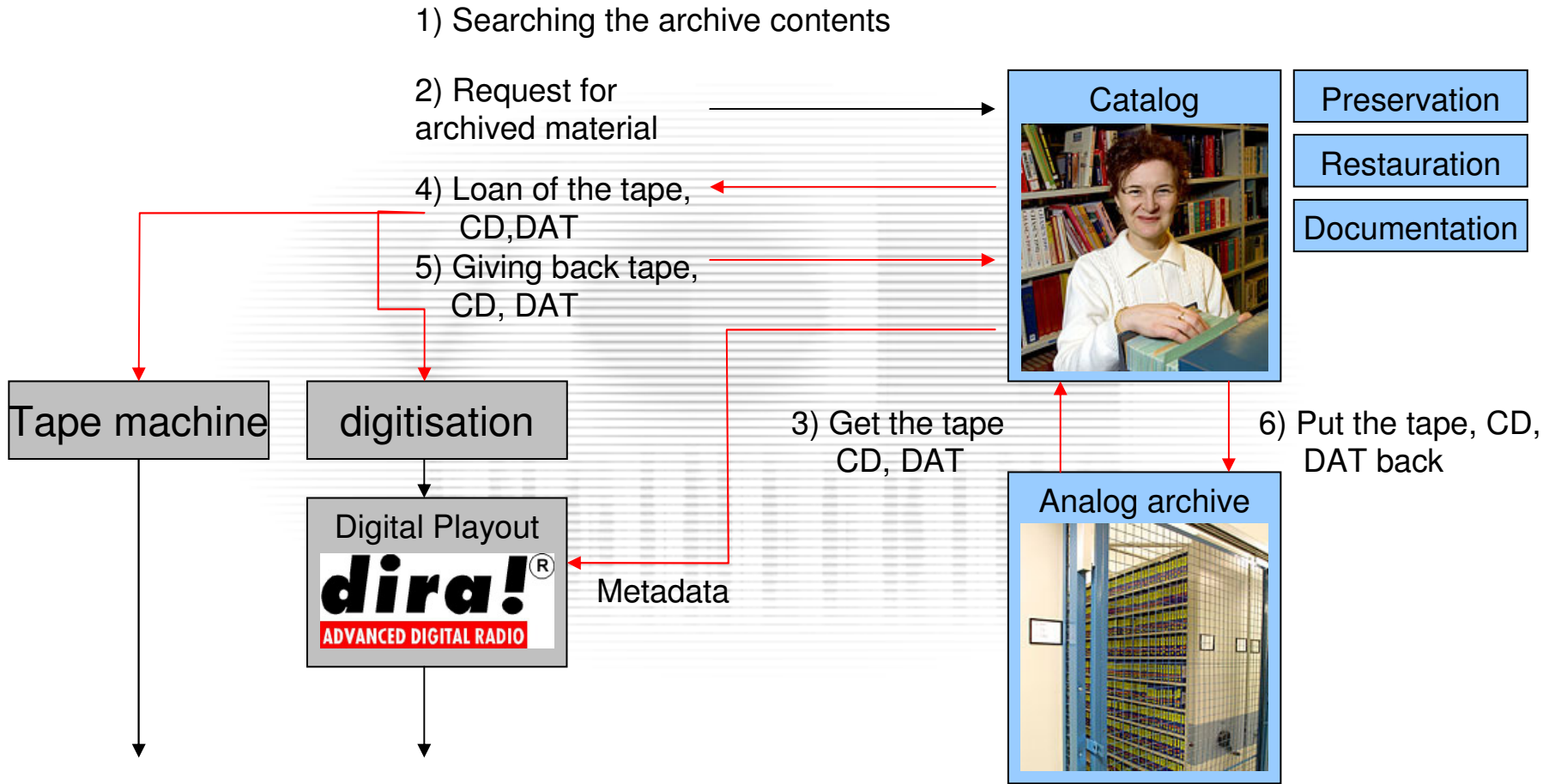
Michael Zimmermann,
Solution Manager Archives



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What means digital archive integration? The analog way





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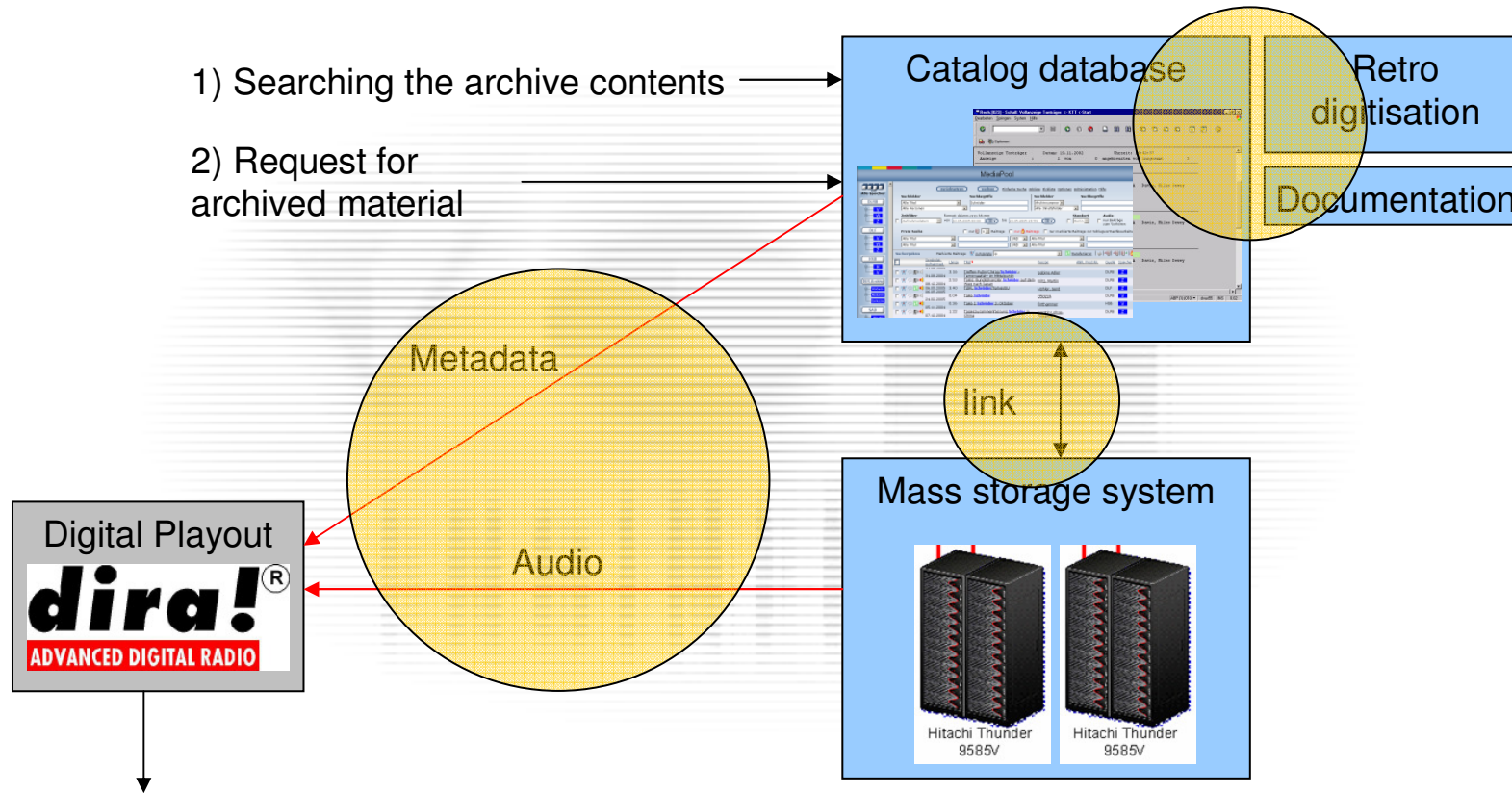
Analog archive: Problems

- ⊕ No widely available search application
- ⊕ Loan management
- ⊕ Long duration between search, loan request and delivery
- ⊕ Unavailability of material (loaned by someone else)
- ⊕ Integration with digital playout systems (manual creation of metadata, digitisation)
- ⊕ manual interaction between steps



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What means digital archive integration? The digital way



Integration areas

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Fußzeile über Ansicht ändern



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Integration with peripheral systems

Catalog database

Mass storage system

Interface

Digital Payout

Interface

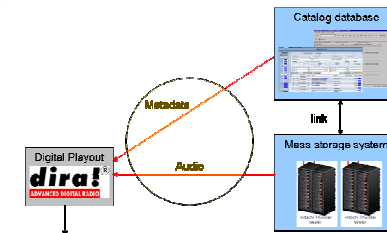
Production system or Server

Interface

FileSystem
Network share
Local disk
...

Problems:

- ⊖ Multiple interfaces
- ⊖ Different levels of integration
- ⊖ Different metadata models
- ⊖ Different audio formats
- ⊖ Changes over time
- Optimize the degree of automation

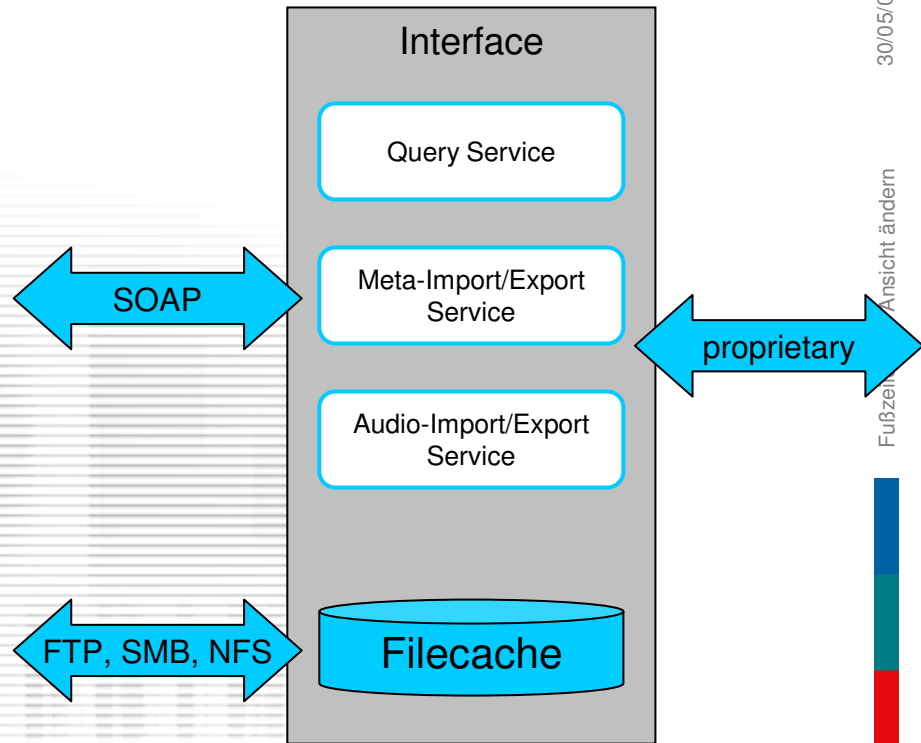




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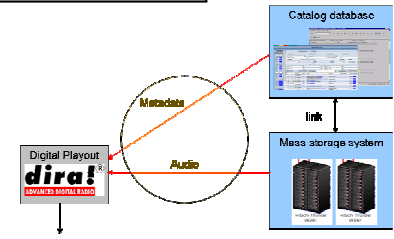
Integration with peripheral systems - approaches

- ⊕ Using open standards for the interface design (XML, Web Services, SMB, FTP, ...)
- ⊕ Different integration levels for the interface (Import, Export, Query)
- ⊕ XML-based metadata management (storage, transformation)
- ⊕ Externalization of metadata mappings (no code changes)
- ⊕ Process management for Import, Export, Synchronization
- ⊕ Minimize required changes



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Ansicht ändern

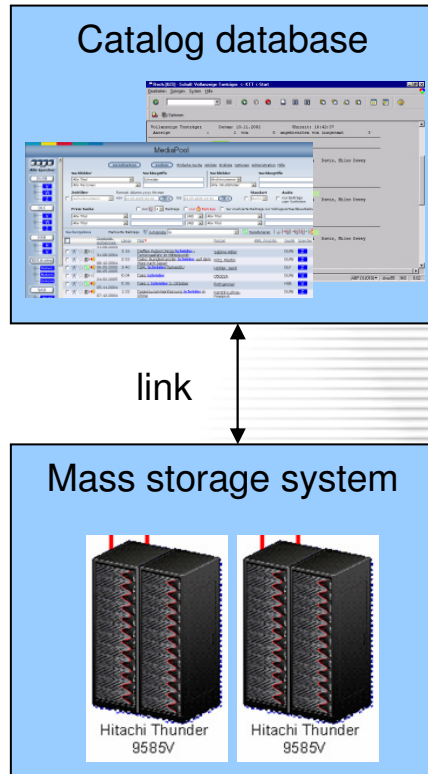




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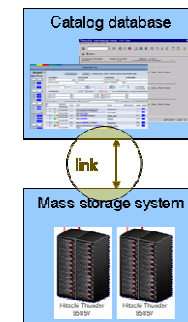


Integration with mass storage systems



Problems:

- ⊖ Different storage platforms (SAN, Tape Library, Juke Box, ..)
- ⊖ Data corruption detection
- ⊖ Storage media lifetime
- ⊖ Scalability
- ⊖ Availability (response times, average export duration)





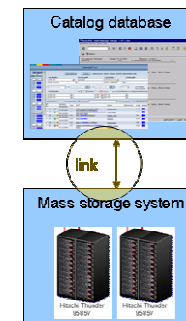
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Integration with mass storage systems - approaches

- ⊕ Storage virtualization
- ⊕ Hiding the storage media
- ⊕ Using open standards for the interface design (Web Services, SMB, FTP, ...)
- ⊕ File checksums for error detection
- ⊕ Filesystems with recovery mechanisms.

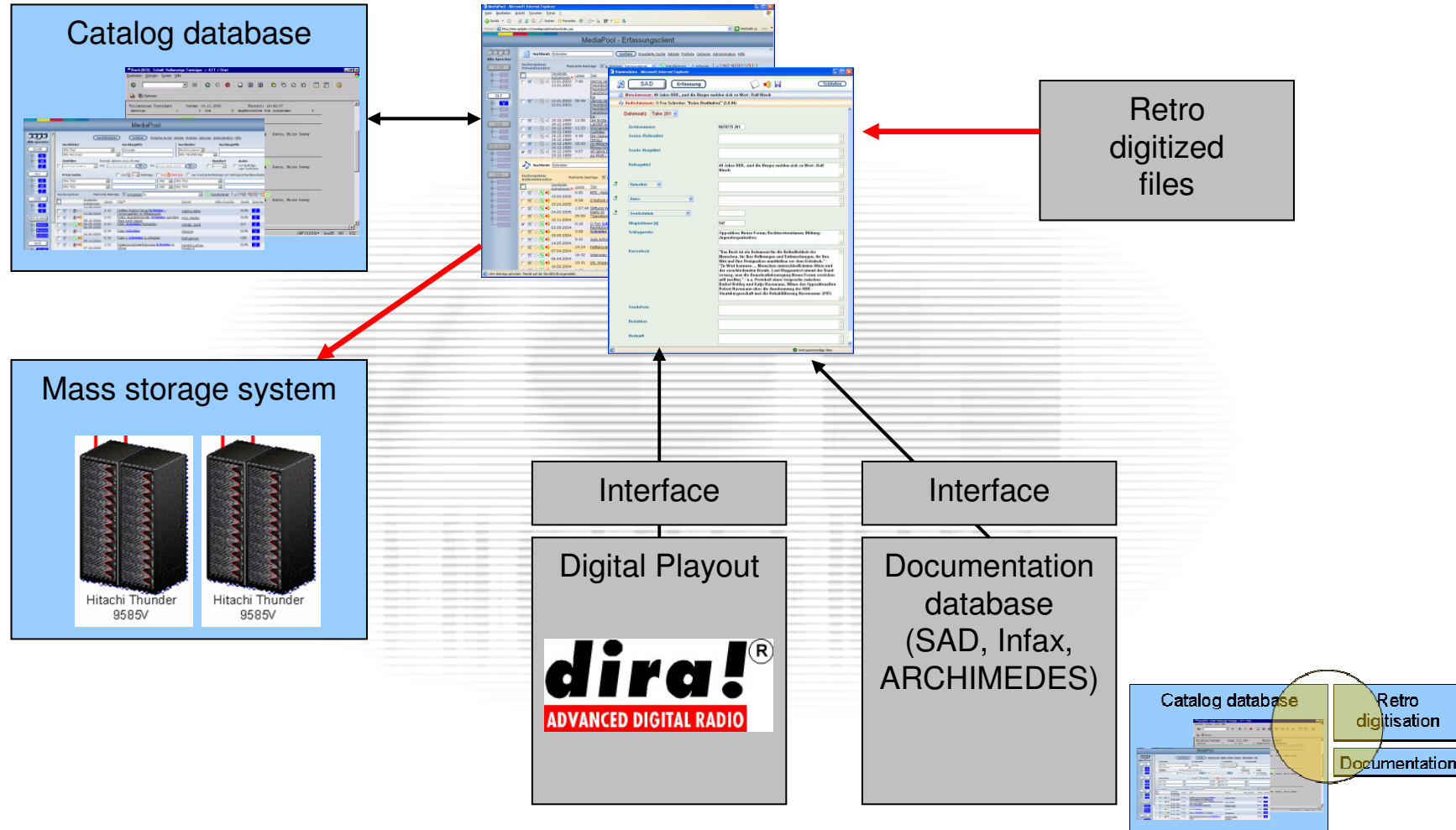
- ⊕ Open issues: Restauration of digital material and strategies to avoid data corruption





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Integration with archive facilities



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Fußzeile über Ansicht ändern



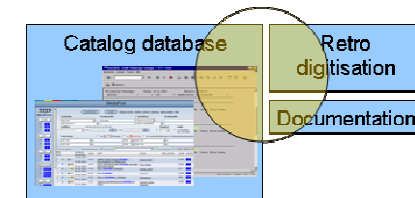


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Integration with archive facilities - problems

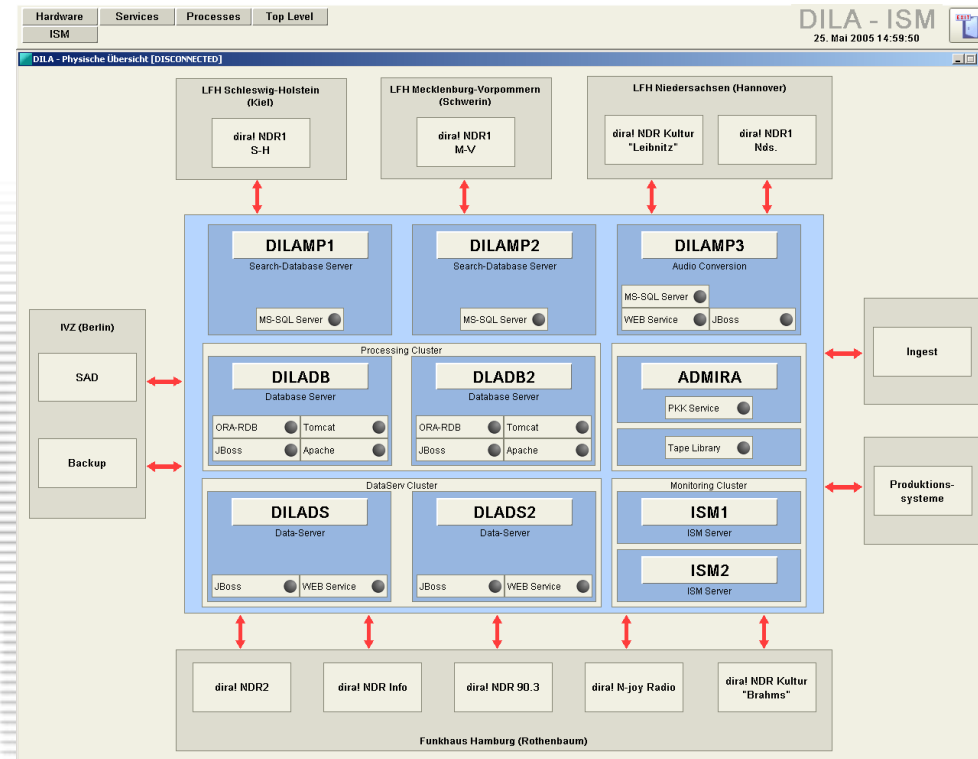
- ⊕ Synchronization between different databases
- ⊕ Mapping between different metadata models
- ⊕ Unique ID management
- ⊕ Change management
- ⊖ Resolving id inconsistencies
- ⊖ Management of digitization orders





Other integration issues - Complexity

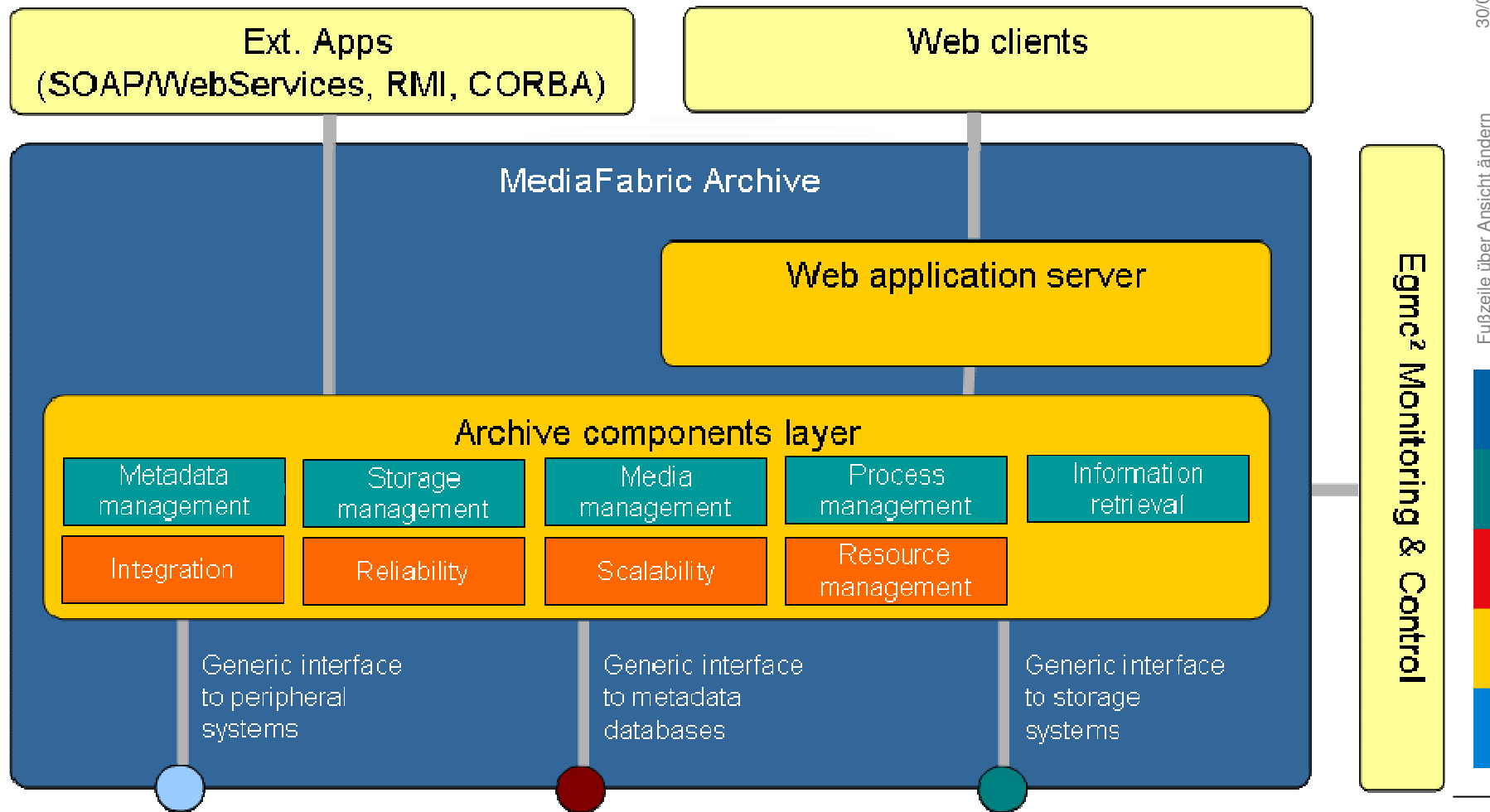
- ✦ Archive design is often a distributed system with heterogeneous integration environment
- ✦ Error detection is difficult due to its complexity
- ✦ Larger archive systems need elaborated monitoring & control



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Fußzeile über Ansicht ändern

Other integration issues - Integration architecture



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Fußzeile über Ansicht ändern



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Other integration issues - Mixed usage environments

- ⊕ Analog and digital material together in one archive application
- ⊕ Unification of workflows for both (e.g. export versus loan)
- ⊕ Archive together with other applications
- ⊕ Archive application embedded or integrated into enterprise level applications (Web Services, Desktop integration)