



# Library of Congress Meeting on Designing Storage Architectures

Transporting, Storing and Preserving the World's Most  
Valuable File Based Assets Now and Into the Future

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# What is the Archive eXchange Format?

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- AXF is a universal format for the encapsulation, storage, transport and preservation of any type of file assets or asset collections
- AXF is like an advanced ZIP which encapsulates any number of files, metadata and a universal file system in an immutable object
- AXF is a *physical representation* of an *Object Store* and applies to all storage technologies – not just data tape
- It is the first open format targeted at the storage, preservation and transport of file asset collections
- AXF is an IT-centric technology developed based on M&E industry needs but scalable to other areas where preservation is key

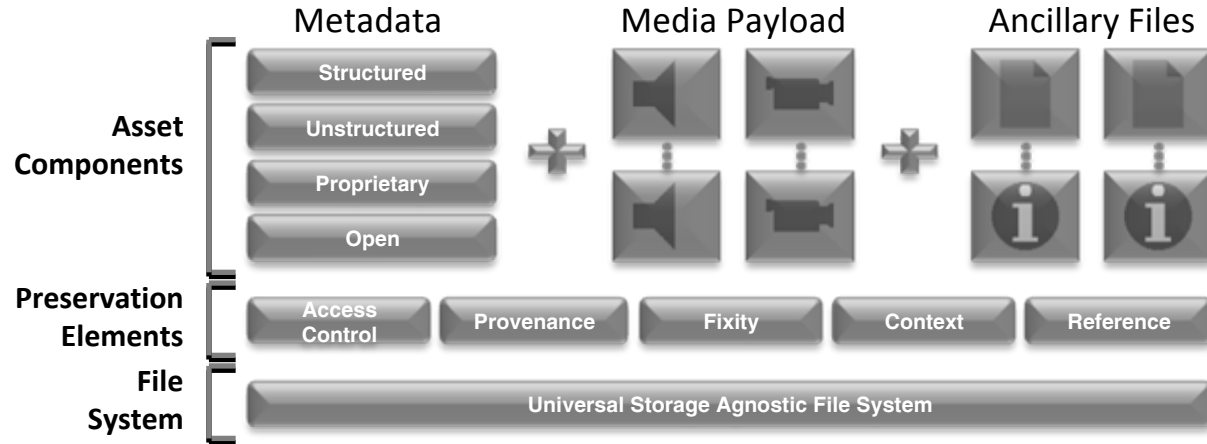
# Goals of AXF

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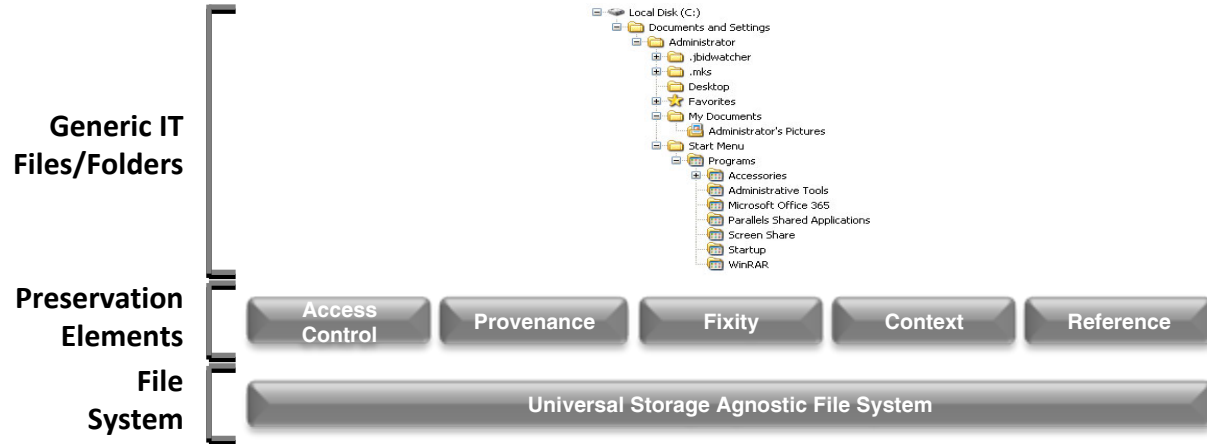
- Ensure long term accessibility regardless of middleware/storage technology
- Self-describing assets and self-describing media
- Wrapped (encapsulated) to maintain metadata/file collection relationships
- Scalability for any number of elements of any size and type
- Standardized regardless of storage media technology
- Enable content exchange between systems
- Include preservation features such as fixity, provenance, etc.
- Streaming support to enable on-the-fly processing



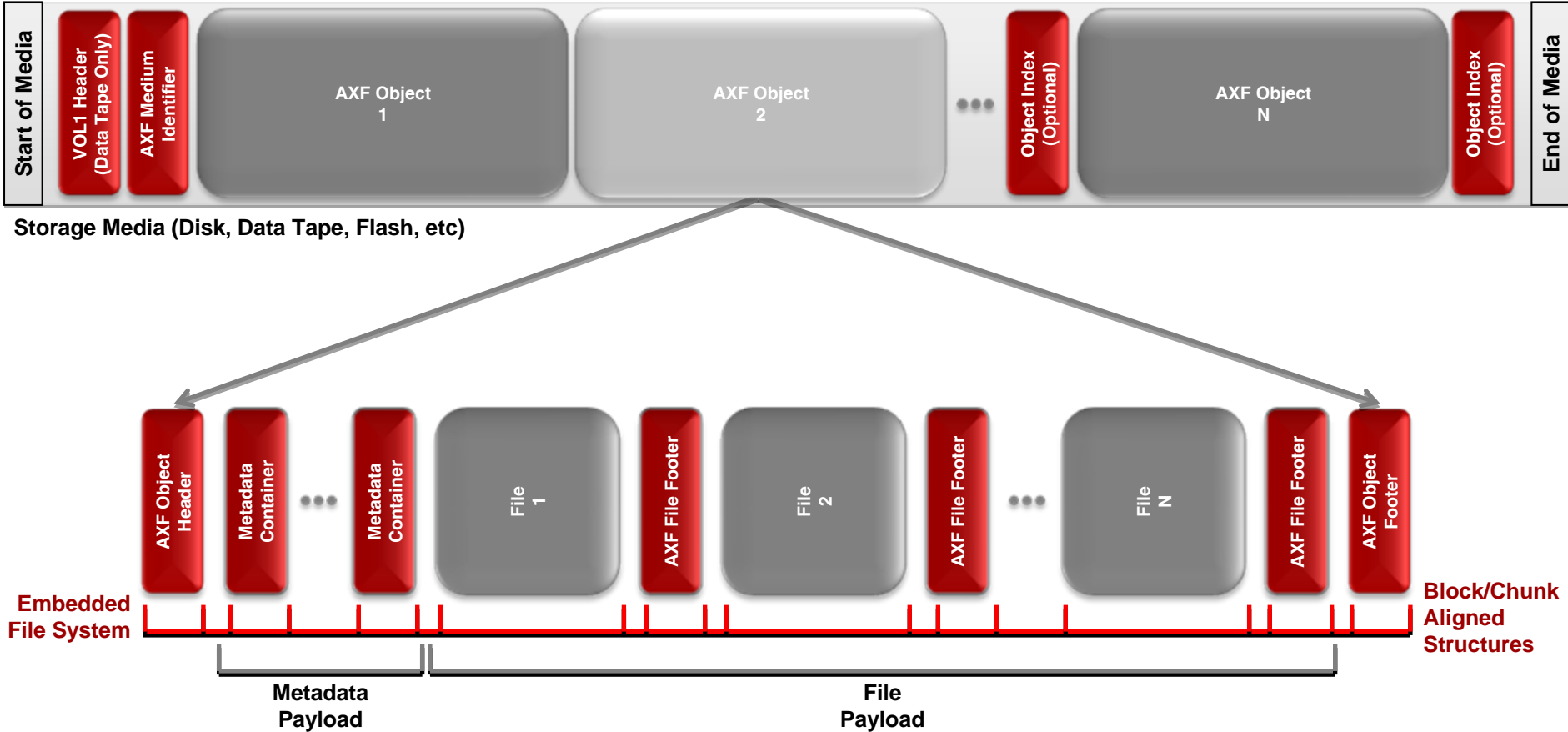
# Archive eXchange Format – Media and Ent



# Archive eXchange Format – Generic IT



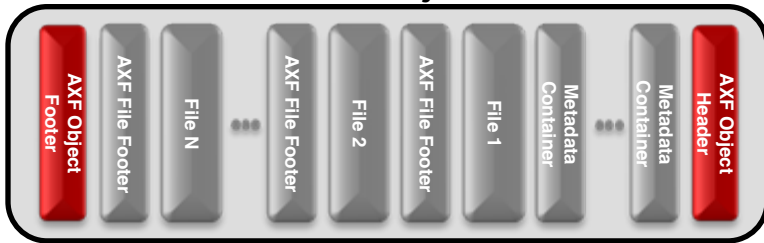
# AXF Structural Overview



# Handling an AXF Object



## AXF Object



AXF Aware  
Application



Archive



Cloud



Disk and Flash

## Features and Benefits

- Redundant structures and block aligned for increased resiliency
- Provenance tracks the **entire** lifecycle of object forever
- Stream based transport and checksum verification on all files and structures
- Spanning across media for limitless scale
- Random access to all metadata and files and file data
- Self-describing objects and media allow quick exchange between systems

# AXF Today

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- Products are available today which fully support AXF!
- Universal access and exchange tools are available such as “AXF Explorer”
- AXF is also the basis for cloud-based asset transport, archive and preservation services offered today
- The SMPTE AXF committee was founded due to industry demand
- AXF has passed the SMPTE 2034 *Two-week Review Phase* and a final revision is being prepared for balloting in the coming months
- More information can be found at [OpenAXF.org](http://OpenAXF.org)





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THANK YOU!

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