Iowa DTV Symposium

DAM Reference Architecture
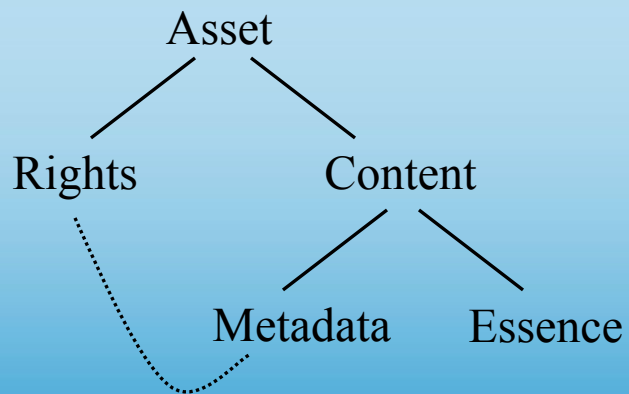November 6, 2002

Dave MacCarn

- Knowledge Management
- Content Management
- Media Asset Management
- Digital Asset Management

Dave MacCarn

Asset

Rights   Content

          Metadata   Essence
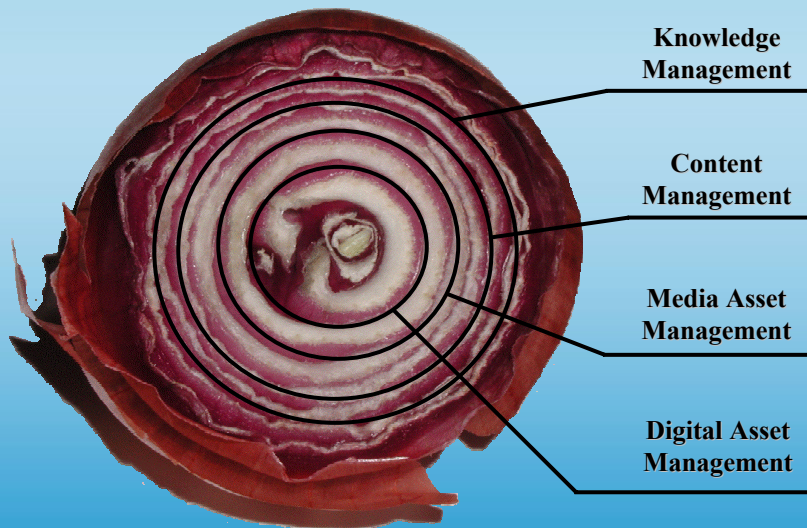
Dave MacCarn

Goals

- Realize the maximum value of the editorial content you create and acquire!

Dave MacCarn

Goals

– Producers will have access to all content created by all productions at any time, after its release. This will enable us to:

- Provide on-demand access to multimedia resources
- Streamline the production process
- Facilitate concurrent production for various media by various production teams

WGBH

Dave MacCarn

Goals

– This will enable us to:

- Support consistent content for broadcast, distribution, publicity, and promotion
- Simplify access
- Economize by reusing WGBH-owned assets before purchasing assets

WGBH

Dave MacCarn

Goals

– Educational users should be able to access editorial content:

- Provide on-demand access to digital video and other multimedia resources to enhance learning and teaching.
- For teachers and students, editorial content will be organized to facilitate its use within curricular frameworks or to meet particular educational goals.

WGBH

Dave MacCarn

Goals

– Educational users should be able to access editorial content:

- Include information in a variety of formats— streaming video from the broadcast series and selected outtakes including interviews and interview transcripts, animation, archival and field photographs gathered during production, as well as excerpts from significant print sources (articles, books, journals) used in research for our series.

WGBH

Dave MacCarn

Goals

– General users should be able to access editorial content:

- As full-length programs or searchable program elements
- Assets should be available in digital or physical formats
- Supplementary and complementary materials

Goals

– General users should be able to access editorial content:

- On a variety of delivery platforms
- At user-specified levels of quality
- In a user-specified format
- At a user-specified time

Goals

– Archive
  - Content will be organized, preserved and maintained so that it will be available now and in the future.

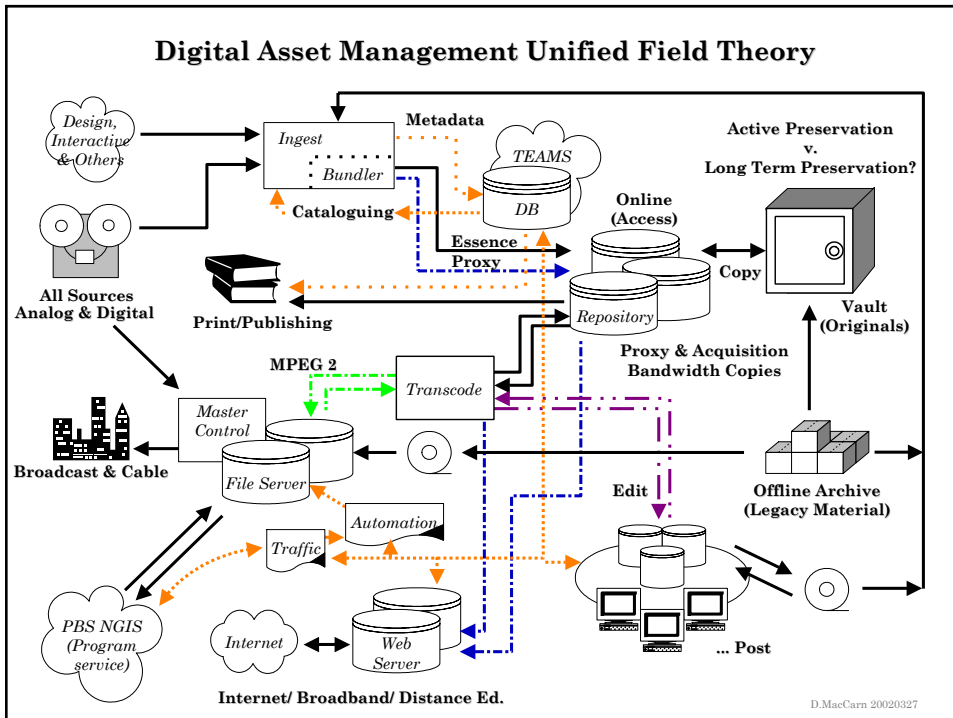# Interconnectedness of all things.

– Production / Post Production

– Master Control

– Internet / Broadband

– Distance Education

– Customer Relations

– PBS Interconnection System

– Archives / Preservation

Digital Asset Management Unified Field Theory

Project History – Milestones

- – WGBH Selects Artesia TEAMs
  - • DAM Software provider selected
- – WGBH Develops Metadata Model
  - • Multi-year effort
- – SunPS Project Inception
  - • Eight week phase duration
  - • April – May 2002
- – WGBH/Sun/Artesia/Sony Elaboration
  - • Ten plus week phase duration
  - • August – November 2002

Dave MacCarn

Project Methodology Review

– Sun-Tone Methodology
  - Based on the Rational Process
  - Uses UML notations and methods
  - Iterative and Incremental
– Project Phases
  - Inception - "Requirements Analysis & Planning"
  - Elaboration - "Drill-down & Prototyping"
  - Construction - "Design & Build"
  - Transition - "Deployment"
  - Iterate project phases...

WGBH

Dave MacCarn

Project Review – Elaboration

Work streams

– Elaborate Use Cases from Inception ✓
– HW/SW Installation & Configuration ✓
– Storage Installation & Configuration ✓
– Integrate WGBH Metadata model ✓
– Video Asset Infrastructure ✓
– NLE Integration
– Elaborate Network Identity
– Transcode Proof-of-Concept
– Video Server / Automation Integration
– MXF Integration
– DRM Elaboration

WGBH

Dave MacCarn

Project Review – Elaboration

Elaborate Use Cases from Inception

- Catalog
- Ingest
- Search
- Retrieve
- Archive
- NLE Integration
- Transcoding
- HSM
- Others...

Project Review – Elaboration

HW/SW Installation & Configuration

- Network
- V480's
- Sun StorEdge 3960 and L50
- SAM-QFS
- TEAMs
- Oracle
- Apache / Tomcat
- CCFM test bed
- Virage tested

Project Review – Elaboration
Storage Installation & Configuration
- Online, Nearline complete
- Offline (In Process)
- "Tuned" for hi-performance R/W of large files

Dave MacCarn

Project Review – Elaboration
Integrate WGBH Metadata Model
- Stand-alone MD model in TEAMs
- Tested with ~500,000 records

Dave MacCarn

Project Review – Elaboration
Video Asset Infrastructure

- Ingest DV and SDI Video (25 and 270Mbs)
- Log asset (capture key frames with Virage)
- Create proxy (MPEG-4, Quarter Screen, 15fps)
- Wrap with QuickTime
- Deliver proxy to "desktop"
- Deliver essence to "desktop"
- Select a "chunk" of proxy or essence and deliver to "desktop"

Dave MacCarn

Project Review – Elaboration
NLE Integration

- Final Cut Pro
- Avid – Initial integration complete, API's may provide additional functionality to complete effort

Dave MacCarn

Project Review – Elaboration
Network Identity

- – Review requirements
- – Create architecture for stand-alone configuration
- – Begin development of architecture for federated solution

WGBH

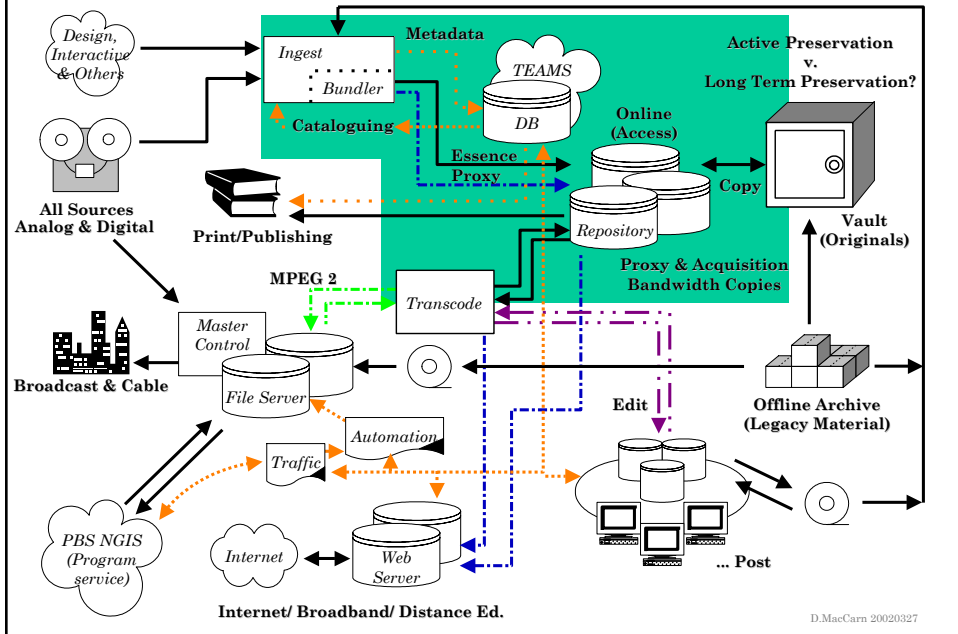Dave MacCarn

---

Project Review – Elaboration
Transcode Proof-of-Concept

- – Integration of Telestream Flip Factory
- – Identify other hardware alternatives
- – Identify open source alternatives

WGBH

Dave MacCarn

Digital Asset Management Unified Field Theory

daminfo.wgbh.org

Dave MacCarn