



Entertainment Imaging



MEDIA Salles' training courses for European cinema exhibitors

DGT

“DigiTraining Plus:
New Technologies for European Cinemas”

**5-9 April 2006
Kuurne, Belgium**

A MEDIA Salles' initiative in collaboration with



and with ANEC, FICE, ADN, ProjectScope

MEDIA Salles is an initiative of the MEDIA Programme of the European Union with the support of the Italian Government.



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Digital Cinema – The Integrated Solution

What does this mean?

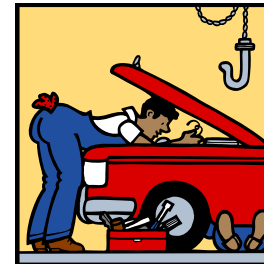
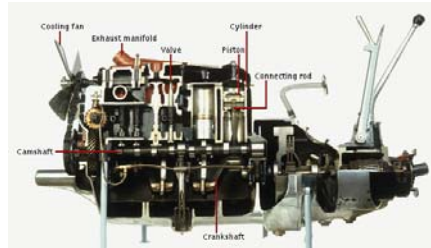
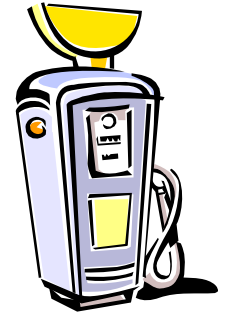
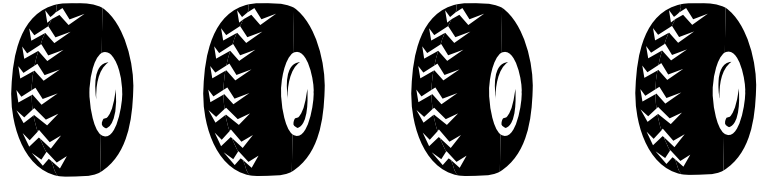
Why is this important ?

What does it mean for the future?

Kodak and Barco together



What is an “Integrated Solution”?

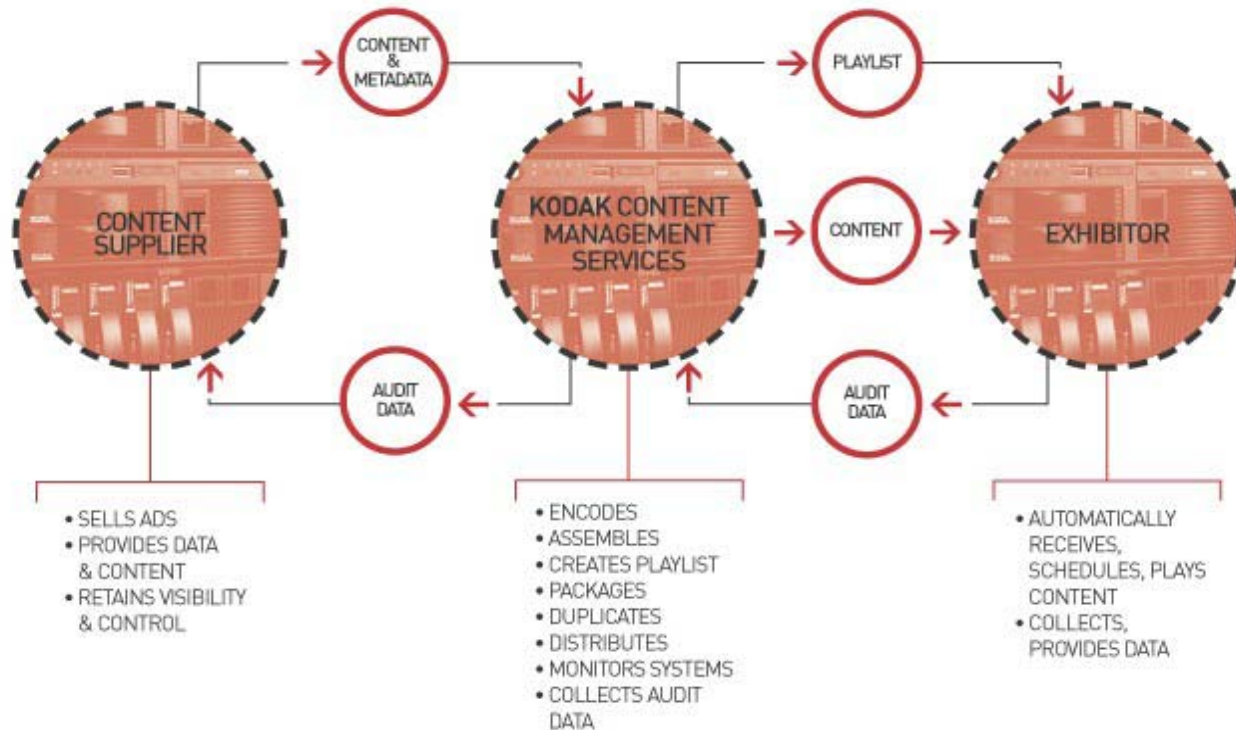


Integrated Solution : Digital Cinema

- A system solution, not just hardware & software collection
- Content Preparation- where it all starts!
- Compression and Encryption – encoding
- Data Distribution- satellite, hard drive, fibre/ cable
- Receipt and storage in cinema. Security systems and processes
- Playout – scheduling and professional presentation
- Connection with cinema systems – automation, audio etc.
- High Quality projection: Colour Image Management
- Back up service and maintenance. Remote monitoring and audit trail



End-to-end System Solution



Content Preparation

- Compression of image data
 - JPEG 2000 for studio content
 - JPEG 2000 or MPEG-2 for non studio content
- Encryption
- Packaging
 - Describes how to interpret the data
 - Colour space, aspect ratio, assemble 'reels'

Key Management

- **Key Delivery Messages- KDM**
 - Part of the overall security system for content protection
 - Provided by the content preparation agent
 - One part of key sent separately from content
- Very strict security rules set by studios- including physical.
- May also apply to more regional content
 - At content owners' demand
- A most important part of the preparation process.

Content Distribution

- Satellite
 - Cost effective for large distribution
 - More than 200 (?) *sites* with same content
- Cable/ Fibre
 - Challenge of bandwidth and connection to cinema
 - MPEG Movie 80Gb, JPEG 2K 200Gb+
- Hard Drive
 - Good capacity, reliable, but physical distribution



In-Cinema Systems

- Two main components
- Server
- Projector

- But it's not always that simple!
 - For best efficiency and operational cost control
 - For professional presentations
 - For security
 - For expansion to multiple digital screens





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The Server



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The Projector

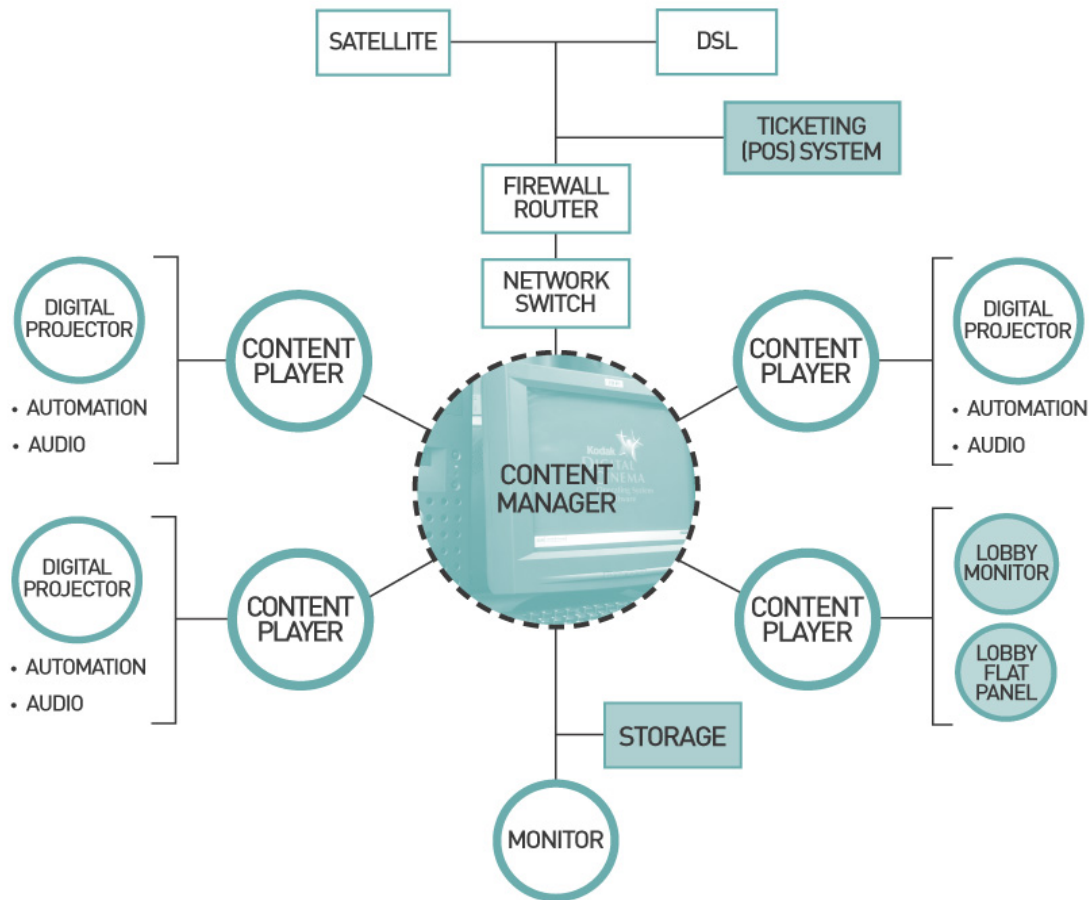


Denis Kelly, Kodak Digital Cinema: DGT+ 2006





Putting it together!



Integrating in the cinema

- Server and Projector are just the start.
 - Run manual shows, like a DVD player?
- Create digital playlists- assemble content for whole show
- Connect server to existing automation
 - Control the whole show and cinema systems together
 - Includes 35mm print projectors and any “pre-show” digital
- Cinema foyer and other point-of-sale displays

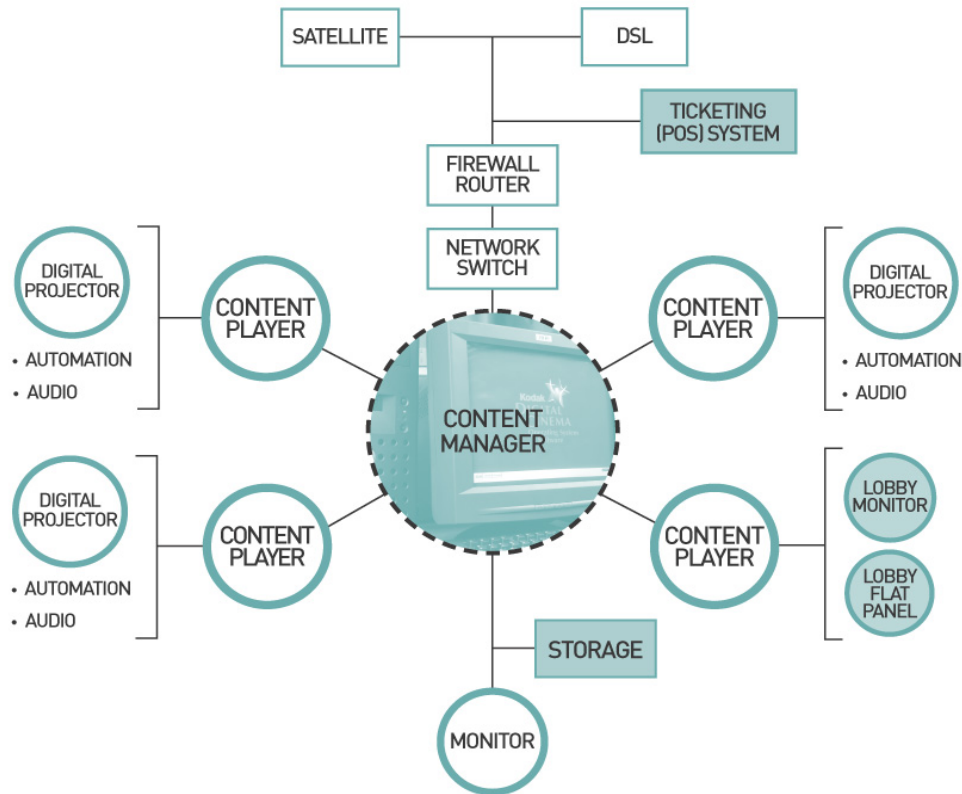


Why Broadband (ADSL) connection?

- Possible route for private KDM delivery
- Remote diagnostic support
 - This becomes an IT support service business
 - Faults can be identified before becoming critical
- “Audit trail”
 - All content plays are logged
 - Content owner can access
 - Gives new accountability for cinema advertisers



Network operation- the next step



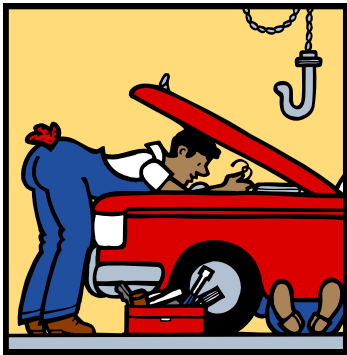
Advantages of network operation

1. A standalone digital system lets you show movies; a networked digital solution lets you more fully manage content - and your business.
2. You may start conversion on mid-size screens and move 'up' and 'down'; multiple screen network lets you change the whole 'workflow'
3. On a long-term basis, everyone will find their own business model -- but incremental income will come from enhanced and differentiated consumer experiences – including pre-show and other content
4. Using a network solution will help you simplify complexity and expand creativity; don't be afraid to ask, to try, to listen and to learn from others as they step into this business.



And finally... service

- Server and projector have “intelligence”
 - They can talk to central systems
 - They can report faults and switch components
- This enables a new service offering
 - Remote diagnostics and fault repair
 - Software fixes and upgrades
- Round the clock support
- Rapid escalation to specialists



So the integrated solution includes...

- Content Preparation and Distribution
- Secure delivery, receipt and storage of content.
- Servers and Projectors that understand each other!
- Networked options
- Flexible solutions
 - Connected to in-cinema systems for max. efficiency
- One number to call for sales, service and support
- Reduction in digital “fear factor”... true peace of mind.





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Kodak and Barco- integrated solution



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Thanks for listening!

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