Reference Architectures and Media Management for the Converged Industry

Digital Media Symposium 11/09/2006

Trends for a converged industry

- In 2004: 353 MAM existing applications and none were cross-functional : production, broadcast, new distribution
- In 2006 almost all new projects are: production and/or broadcast and/or distribution
- In 2002: 73 % of “proprietary” server-based existing newsrooms
- In 2006: only 7 %

Trends for a converged industry

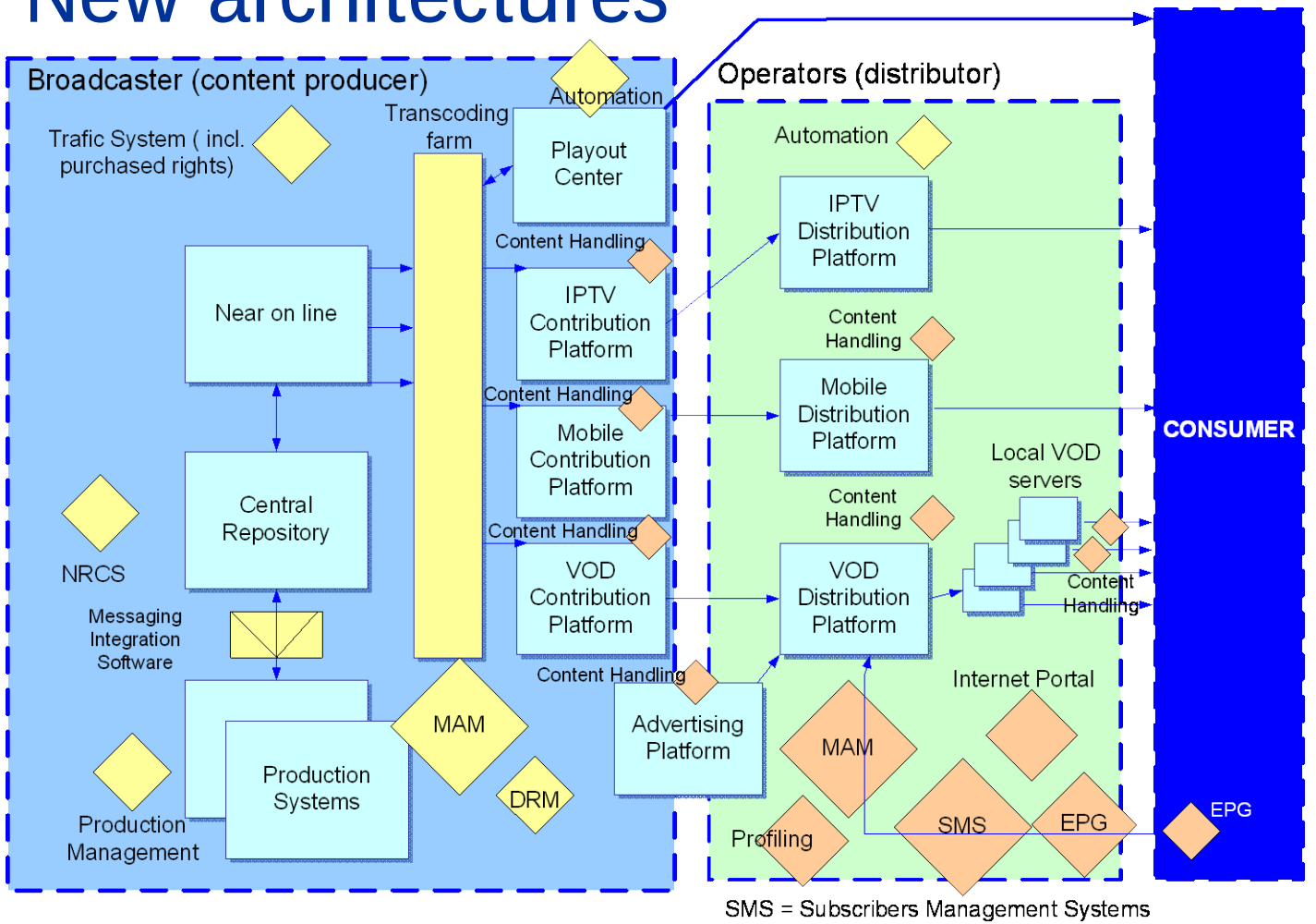
- Integration
  - Proof of concept, co-responsibility agreement, open standards, support for API
- Reengineering
  - Workflow analysis, benchmark, performance measurement
- Architecture
  - naming convention, ingest integration, metadata transmission, video format standards, SOA, ESB

Trends for a converged industry

- Outsourcing vs. internal technical department & operations becoming service provider

Trends for a converged industry

New architectures

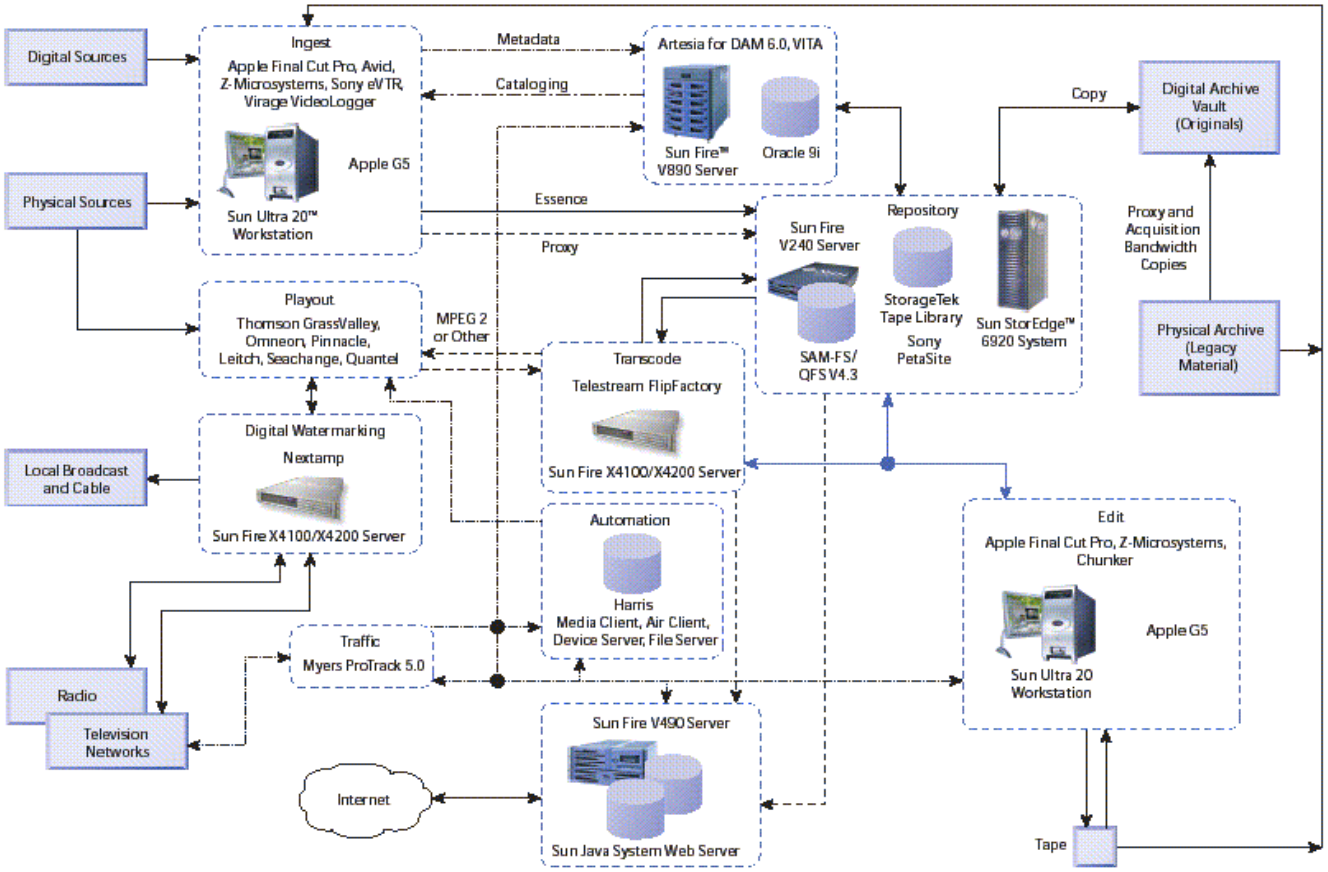


Sun reference architectures

- 3 MAM architectures
  - 1. MAM for Production, Broadcast & Distribution
  - 2. MAM for Broadcast & Distribution
  - 3. MAM for DTT and New Media Distribution

1. MAM for Production, Broadcast, & Distribution

- An End To End File-based Workflow for the Media Enterprise with several brand options for ingest, editing & playout



1. MAM for Production, Broadcast, Distribution,

- Example MLB
  - 150 pieces of media a day for 3 channels of distribution (IPTV, web, mobile) in 4 formats
- Advantages
  - Sport league becoming a broadcaster
  - Repurposing factory: multimedia packages
  - Automation from single production “master”
- Emergence of new content addressable storage “Honeycomb” to solve metadata transmission
- Emergence of new massive parallel server “Thumper” to reduce number of POPs (130 currently)

1. MAM for Production, Broadcast, Distribution,

- Where ? WGBH (PBS, Boston), MLB, TV4 Sweden (managed service)

2. MAM for broadcast and distribution

- Example RTL BCE Luxemburg
  - Pinnacle + Front Porch Digital + Storagetek
  - 14 channels
- Advantages:
  - Archive :before 2000 m2, now 40 m2
  - Cheaper additional TV channel (-400k€/ channel)
  - Quicker launch (- 6weeks)
  - Incredible reliability
  - Deep archive solution (1,6m hours capacity)
  - Easy multi media transcoding

2. MAM for broadcast and distribution

Where?

StorageTek Digital Content Archives
Global Customer List (120+)

UPC	Amsterdam
NOB	Amsterdam
KAKM Anchorage Alaska	Anchorage
Lifetime	Astoria, NY
Turner Entertainment	Atlanta
TV3	Barcelona, Spai
China Central TV (CCTV)	Beijing
SARFT	Beijing
Future TV	Beirut
EWTN	Birmingham
New Frontier	Boulder
ESPN	Bristol, CT
WTVI	Charlotte
WLS	Chicago
KERA	Dallas
Al Jazeera TV	Doha
CNBC Arabia	Dubai
Taj Sports	Dubai
France5/LaCinq	France
Regions France	France
Television par Sattellite (TPS)	France
KFSN	Fresno
RFO 2	Guadeloupe
Guang Dong Cable TV	Guang Zhou
RFO 3	Guyane
CT Public Television	Hartford
WEDH	Hartford
Counter Point Comm's	Hartford, CT
Holland Media Group	Hilversum
Cable TV	Hong Kong
Turner Entertainment	Hong kong
Galaxy	Hong Kong

Teleschool	Honolulu
Hawaii Dept of Ed	Honululu
Fox Sports	Houston
Scripps/Home Garden TV	Knoxville
KABC	Las Vegas
KLAS	Las Vegas
Liao Ning TV	Liao Ning
Wildlife Trust	Bristol, UK
BBC (Motion Gallery)	London, UK
B Sky B	London, UK
CBS News	London, UK
Discovery Channel	London, UK
MTV Networks Europe	London, UK
Nickelodeon	London, UK
McCann-Erickson	London, UK
NTL Broadcast	London, UK
Turner Broadcast	London, UK
DirecTV	Los Angeles
Fox Sports	Los Angeles
El Entertainment	Los Angeles
BCE (RTL Group)	Luxembourg
Antenna 3TV	Madrid
Canal + (Sogecable)	Madrid
Telecino 1	Madrid
Telecino 2	Madrid
New Hampshire Public TV	Manchester
TV Azteca	Mexico City
Groupe TVA 2	Montreal
Bayerischer Rundfunk	Munich
Nanyang Tech University	Nan Yang
North Star Communications	Nashville
WABC	New York

RFO 1, 2 & 3	Paris
TPS	Paris
RAI Radio Televisione Italiana	Roma
KPBS	San Diego
KGO	San Francisco
KRON	San Francisco
Loudeye	Seattle
Microsoft Studios	Seattle
Vulcan	Seattle
KBS	Seoul
Arirang TV	Seoul
KBI Korea	Seoul
SBS	Seoul
On Media	Seoul
Sony Pictures	Singapore
Nickelodeon Singapore	Singapore
MTV/Discovery (ASIA)	Singapore
Omnilab	Sydney
ETTV	Taipei
Media General	Tampa
WFLA	Tampa
BS-ASAHI Tokyo Japan	Tokyo
PerfecTV (SKY)	Tokyo
WTVG	Toledo
Astral/TMN Toronto Canada	Toronto
TMN	Toronto
CSPAN	Washington
WSU	Washington
WETA	Washington DC
TeleClub	Zurich

3. MAM for DTT and new media distribution

- Example: La 7 (telecom Italia)
  - DTT service and entertainment platform
  - Web & TV
  - VOD matches with smart cards
  - Return path by telephone plug
  - MHP set-top boxes
  - Strong integration between broadcasting and telecom networks,

3. MAM for DTT and new media distribution

- Advantages
  - Direct access to final consumer for terrestrial broadcasters > 500000 viewers
  - New business generation (prepaid card) : >10 m€
  - New mix of services + VOD entertainment appropriate to local TV
  - VOD long term solution to fragmentation
  - Prepare new VOD advertising models
  - Emergence of Thumper to reduce POPs and solve VOD business model

3. MAM for DTT and new media distribution

- Where? : La 7 (Telecom Italia), RAI, RTV 38 (Italy)

Conclusion

- Why open systems ?
  - Moore law for commodity products and affordable high end-performance devices to create new businesses
  - Interoperability for converged (but wider and more complex) systems
  - Best of the breed is inevitable
- Emergence of technology innovators (larger than broadcast) and value added integrators
  - Reference architectures (in between)

Thank you

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