PBS Content Supply Chain Optimization

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PBS' Content Supply Chain Optimization

- Project Goals:
  - Tape less environment
  - One codec cycle
  - One ingest cycle
  - One technical evaluation
  - Metadata driven process
  - Leverage files/IT/IP storage and transport
  - Efficient content utilization/reutilization
  - Cost savings

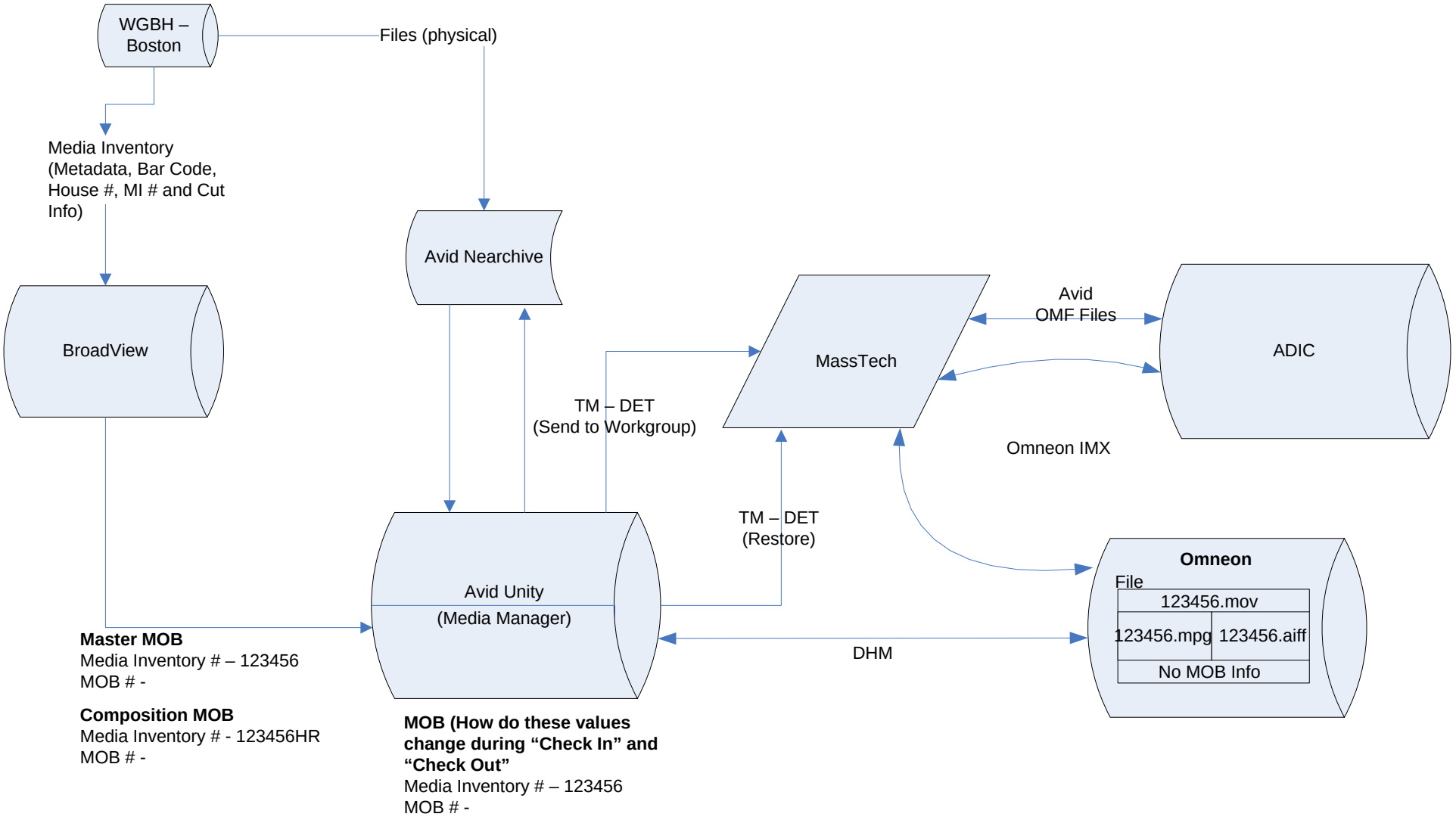
Starting point

- Entirely tape and real time driven
  - 90% in the can, 10% real time
- Producer
  - Tech eval, lay to tape, QC check, Fedex, courier, etc.
- PBS
  - Ingest tape, tech eval, dub screening VHS, screen, add features (CC, SAP, DVS), lay to tape, tech eval, ingest, QC, play-out, purge, ingest, QC, play-out, ingest, QC, refeed
- Member Station
  - Record, ingest, tech eval, play-out, purge, ingest, play-out

Step 1 – mid May 2005

- Optimize PBS' content handling
  - Ingest into AVID environment (last PBS tape interaction)
    - Tech eval, exact timing, during ingest
    - Archive IMX 50 version via DET interface (Masstech)
    - Create IMX 50 file via DHM interface (Omneon)
  - Package 8Mbps MPEG distribution file (Omneon)
  - Archive MPEG file (Masstech)
  - Create 1.5 Mbps Proxy screening file (Masstech)
  - Archive Proxy file (Masstech)
  - Use Proxy to screen, annotate and approve (Broadview)
  - Insert file into air schedule, retrieve from archive, play-out
  - Automatic purge and reload if scheduled later

Ingest and preparation workflow



Step 2 – Summer 2005

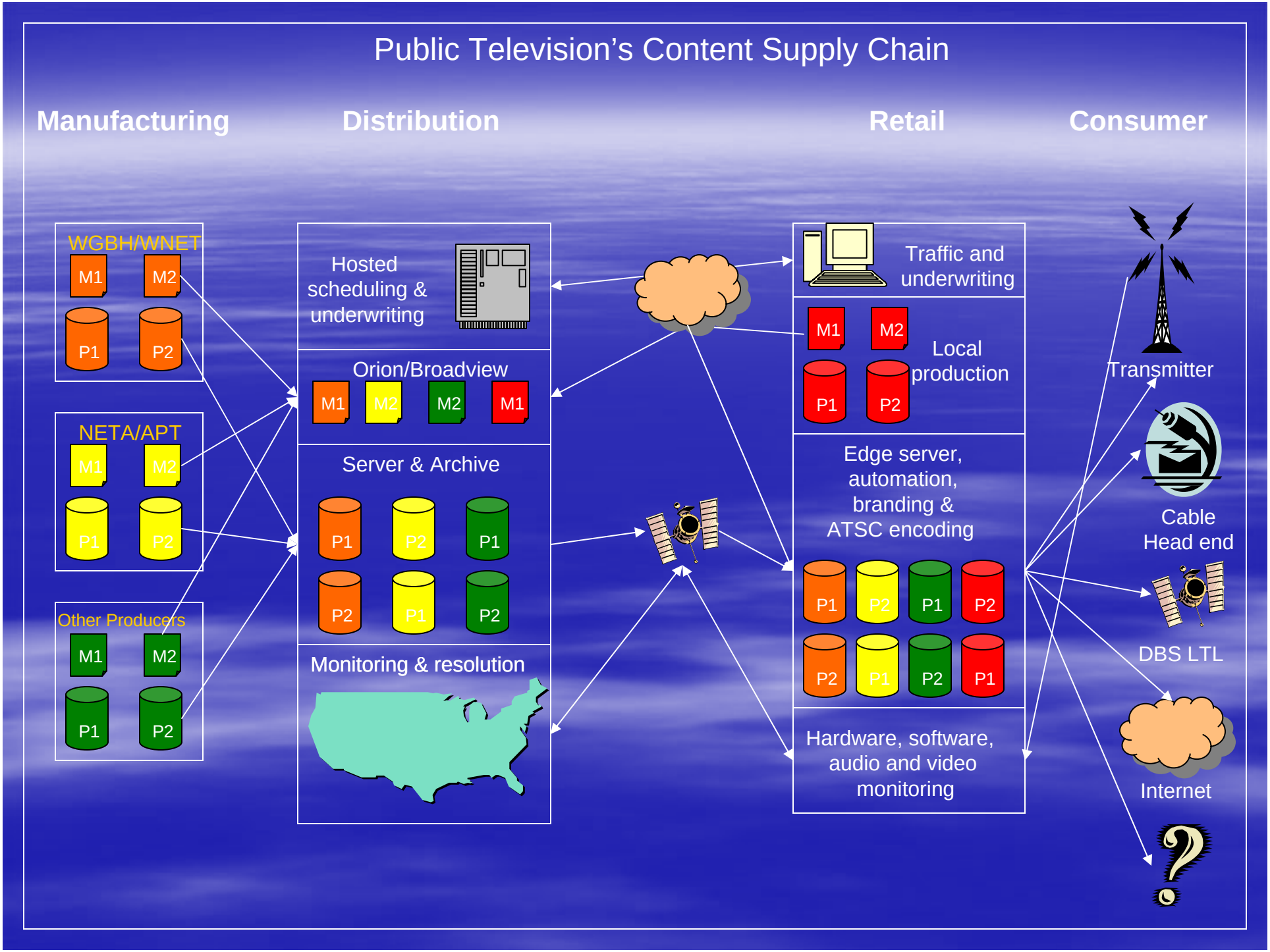
- Enhance major producer-PBS distribution
  - Major producers (WGBH, WNET) = 60% of content
  - Both use AVID content production tools
  - Technical Evaluation filters applied
  - Internet based IMX 50 transfer
    - Eliminates tape, laying to tape, Tech eval at producer
    - Eliminates tape transport (Back-office, Fed Ex, Courier)
    - Eliminates back office, ingest, Tech Eval, tape management
    - Faster, using existing resources
    - Eliminates, multiple versions
  - Standard PBS process

Step 3 –2006

- Optimize major producer-PBS distribution
  - Producer sends proxy via Internet
  - Screened, annotated and approved at PBS
  - Tech Evaluation filters applied
  - Producer creates MPEG distribution file
  - Internet delivery to PBS
  - PBS archives, schedules and distributes

Step 3 – Now to Fall 2006

- Next Generation Interconnection System (NGIS)
  - Most content sent NRT (IP multicasting via satellite)
  - Internet based verification back channel (VPN)
  - Edge server storage (continually getting cheaper)
  - Faster (4-6X), once, across schedules (15-20X)
  - Transponder savings
  - Move to play-out server
  - Play out, purge, reschedule at will
- One ingest, 1 codec, 1 tech eval
- Streamlined station processing


Public Television's Content Supply Chain
Manufacturing
Distribution
Retail
Consumer
WGBH/WNET
M1
M2
P1
P2
NETA/APT
M1
M2
P1
P2
Other Producers
M1
M2
P1
P2
Hosted scheduling & underwriting
Orion/Broadview
M1
M2
M2
M1
Server & Archive
P1
P2
P1
P2
P1
P2
Monitoring & resolution
Traffic and underwriting
M1
M2
P1
P2
Local production
Edge server, automation, branding & ATSC encoding
P1
P2
P1
P2
P2
P1
P2
P1
Hardware, software, audio and video monitoring
Transmitter
Cable Head end
DBS LTL
Internet

Major obstacles

- Requirements (Untangling the Gordian knot)
  - We do what! How! Why?????
  - Ooops! I forgot…How will we deal with? (n times)
- The fiefdom syndrome (Robert Herbold)
  - We know better and we're really good at it!
  - I'll do it your way but I'll need 10 more people!
- Risk aversion
  - If I don't have a tape, how can I tell it exists
  - Automation and servers my foot
- Inter vendor communications (euphemism of the year)

Thank you