

Permanence

Persistence

Preservation

Quality Control

EVALUATING THE DIGITAL SURROGATE

Presented by

Chris Lacinak

4/30/2007

NARA 21st Annual Preservation Conference

Managing the Intangible:

Creating, Storing and Retrieving Digital Surrogates of Historical Materials

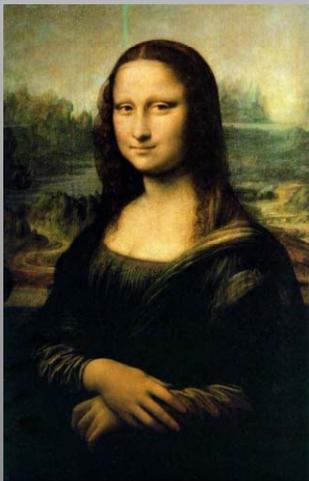
chris@avpreserve.com | www.avpreserve.com

Background

- President of AudioVisual Preservation Solutions
- Adjunct Professor at NYU MIAP
 - Video lab - Intro lab - Directed Internships
- Former CTO and VP of VidiPax
- Have worked with organizations of all types and collections of all shapes and sizes for many years on tackling preservation and access issues.
- Active Member of standards forming bodies including AES, SMPTE and ISO
- Chair of TC ARDL, and AMIA DAS

QC Pop Quiz

Static vs. Dynamic



VS.



=



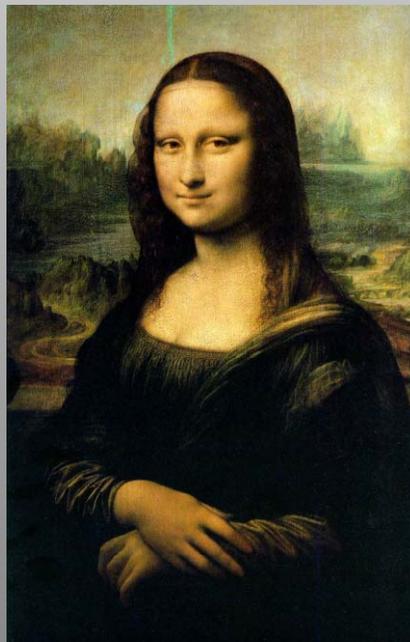
Creation

- Quality and condition of equipment
- Expertise of Operator
- Quality and condition of media

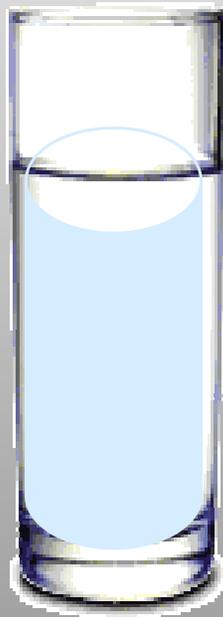


Defines object of preservation

Regardless



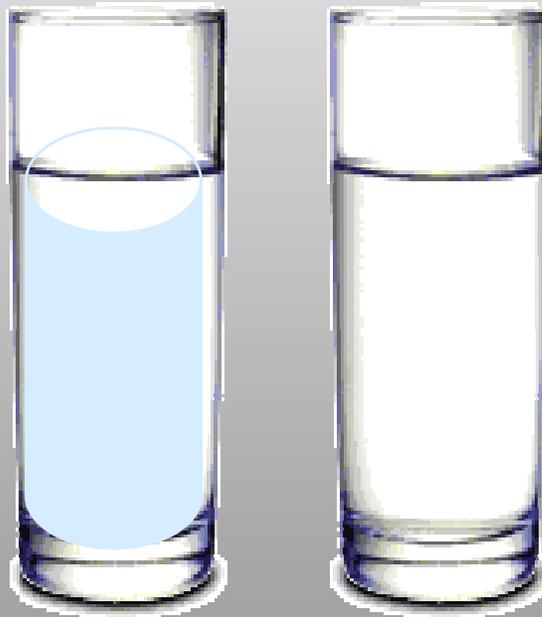
Object of Preservation



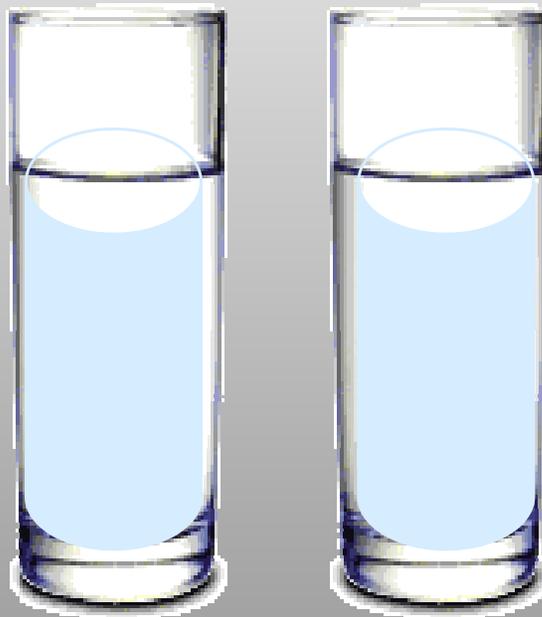
The container

The object of preservation

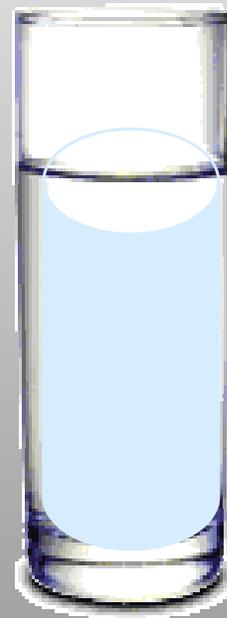
Scenario 1



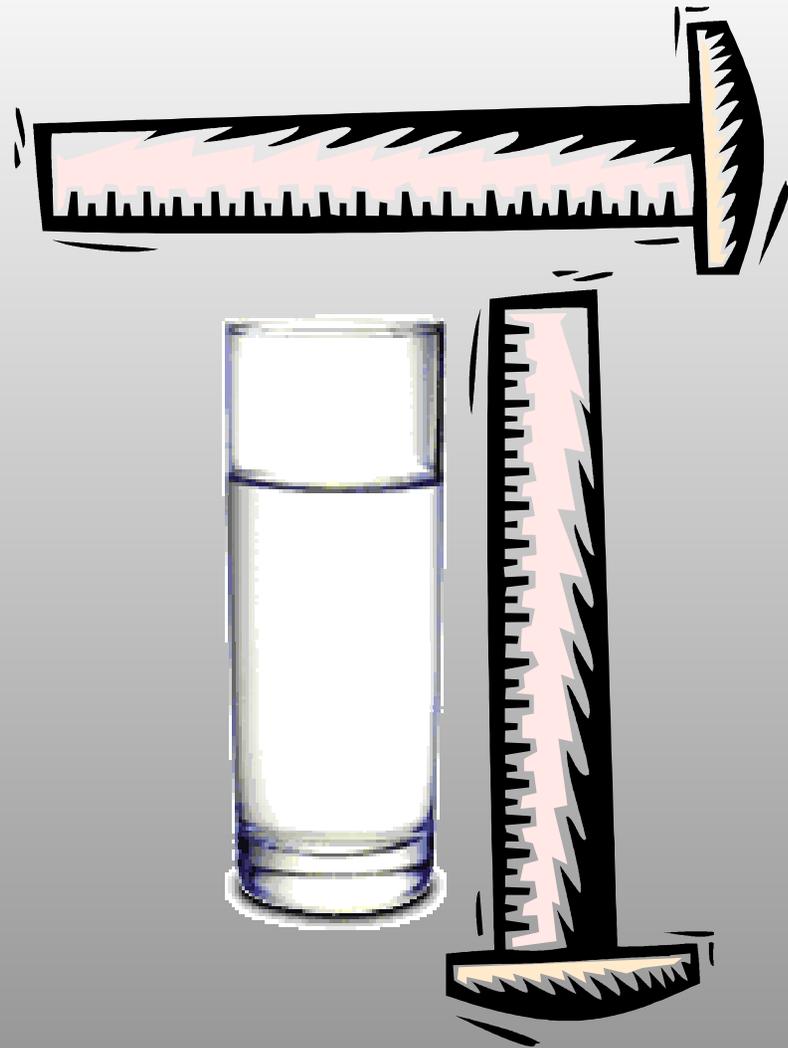
Scenario 1



Scenario 1



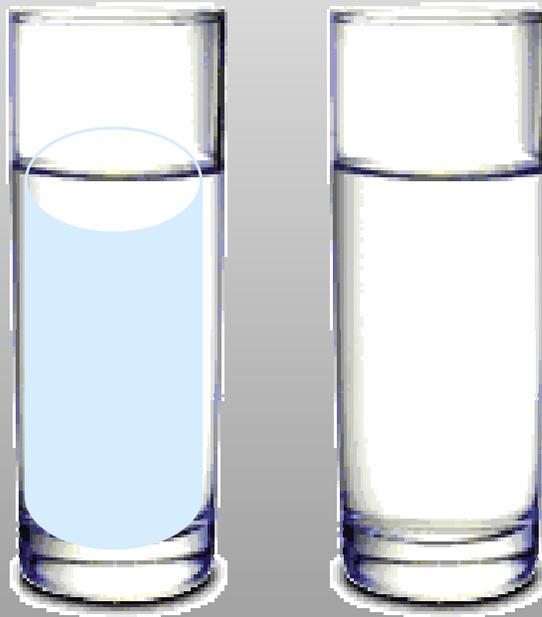
Scenario 1



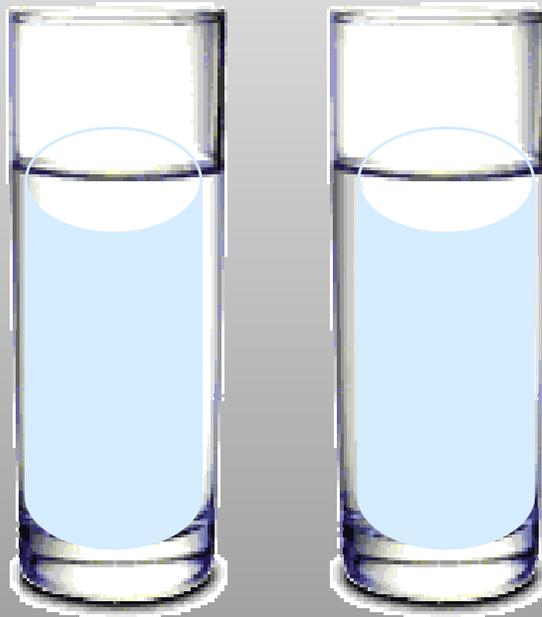
Scenario 1



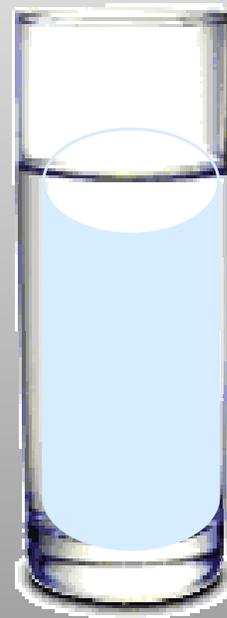
Scenario 2



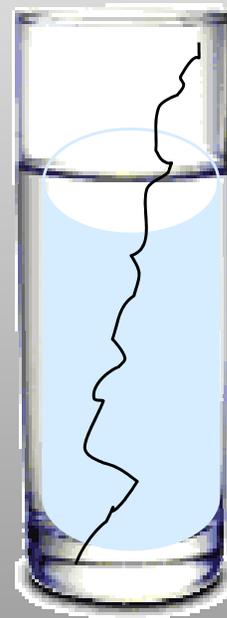
Scenario 2



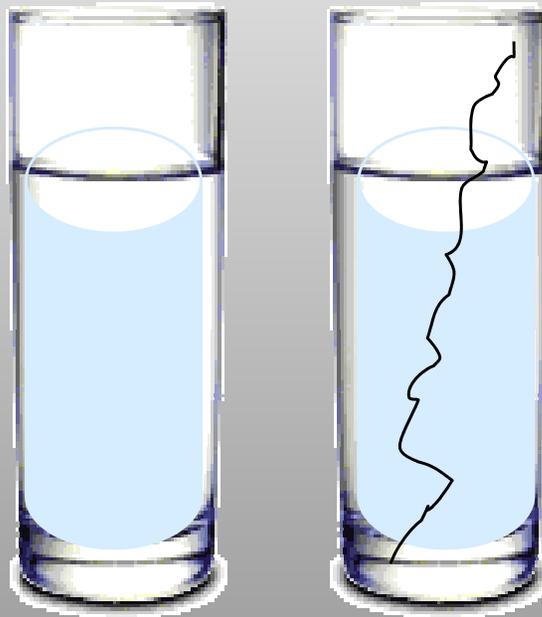
Scenario 2



Scenario 2



Scenario 2



● acquire media, operator, equipment

● record

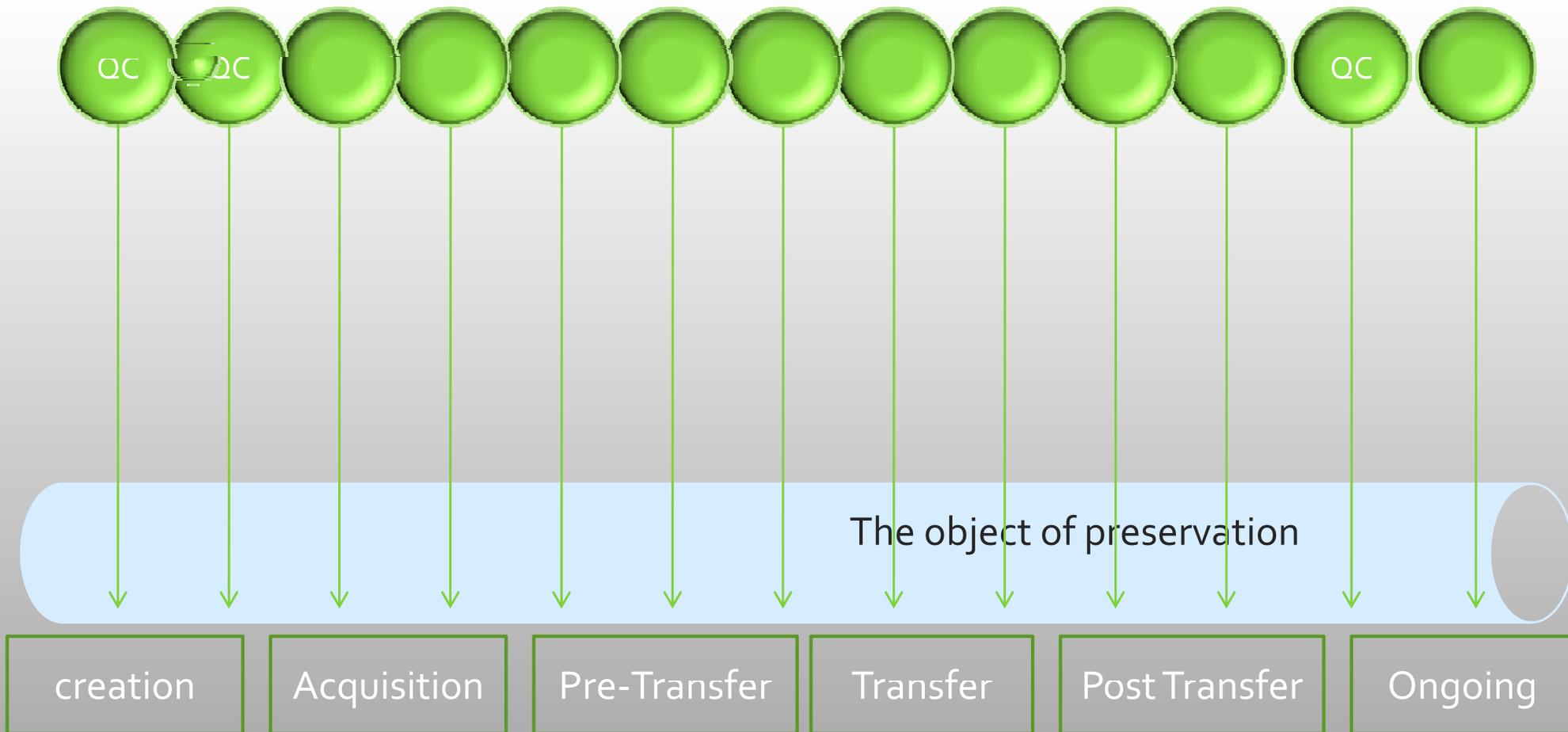
● catalog

● store

● transfer

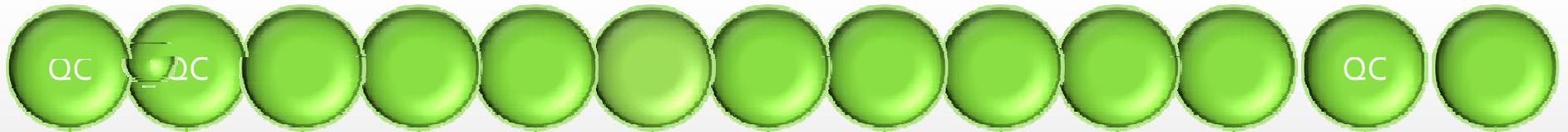
● create derivatives

● QC The object of preservation



The Process





creation

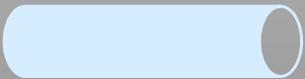
Acquisition

Pre-Transfer

Transfer

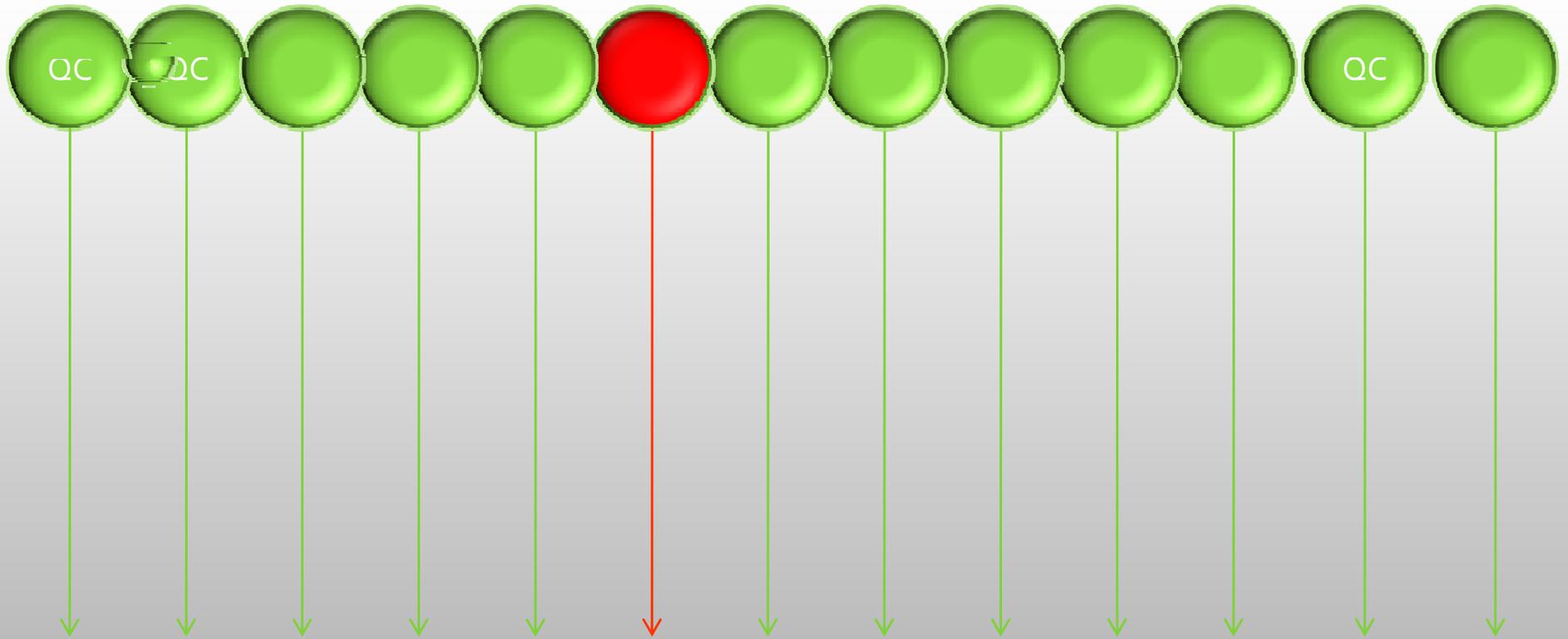
Post Transfer

Ongoing



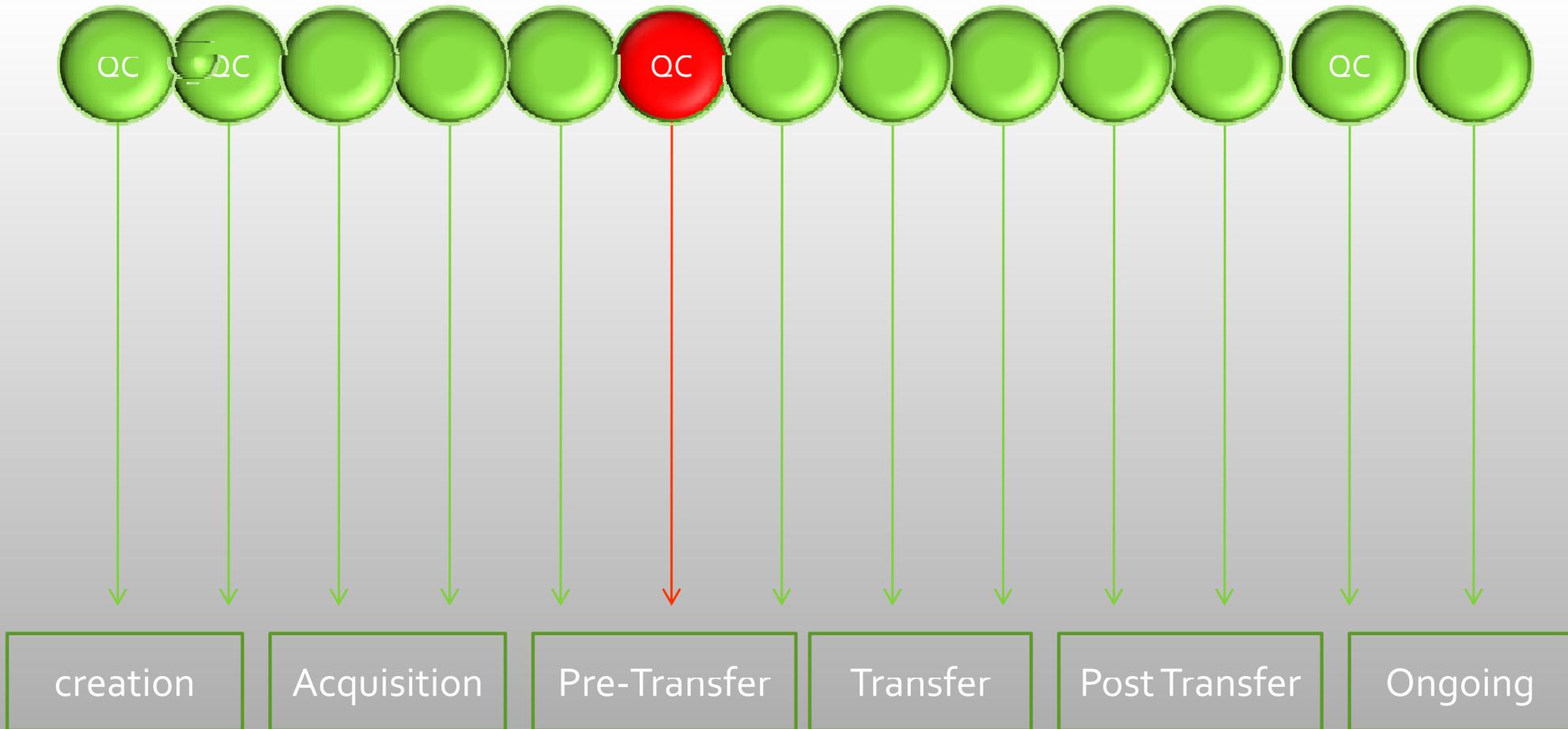
The Process





The Process





The Process



Examples from (and thanks to)

BBC Information & Archives

PrestoSpace Project:

Technology-enhanced Learning & Access to Cultural Heritage

www.bbc.co.uk

Michael D
Website

www.michaeldvd.com.au

Tektronix
Cerify Literature

www.tek.com

BAVC

PLAYBACK: Preserving Analog Video

www.bavc.org

1” Dropout

c/o BBC Information & Archives



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Mistracking

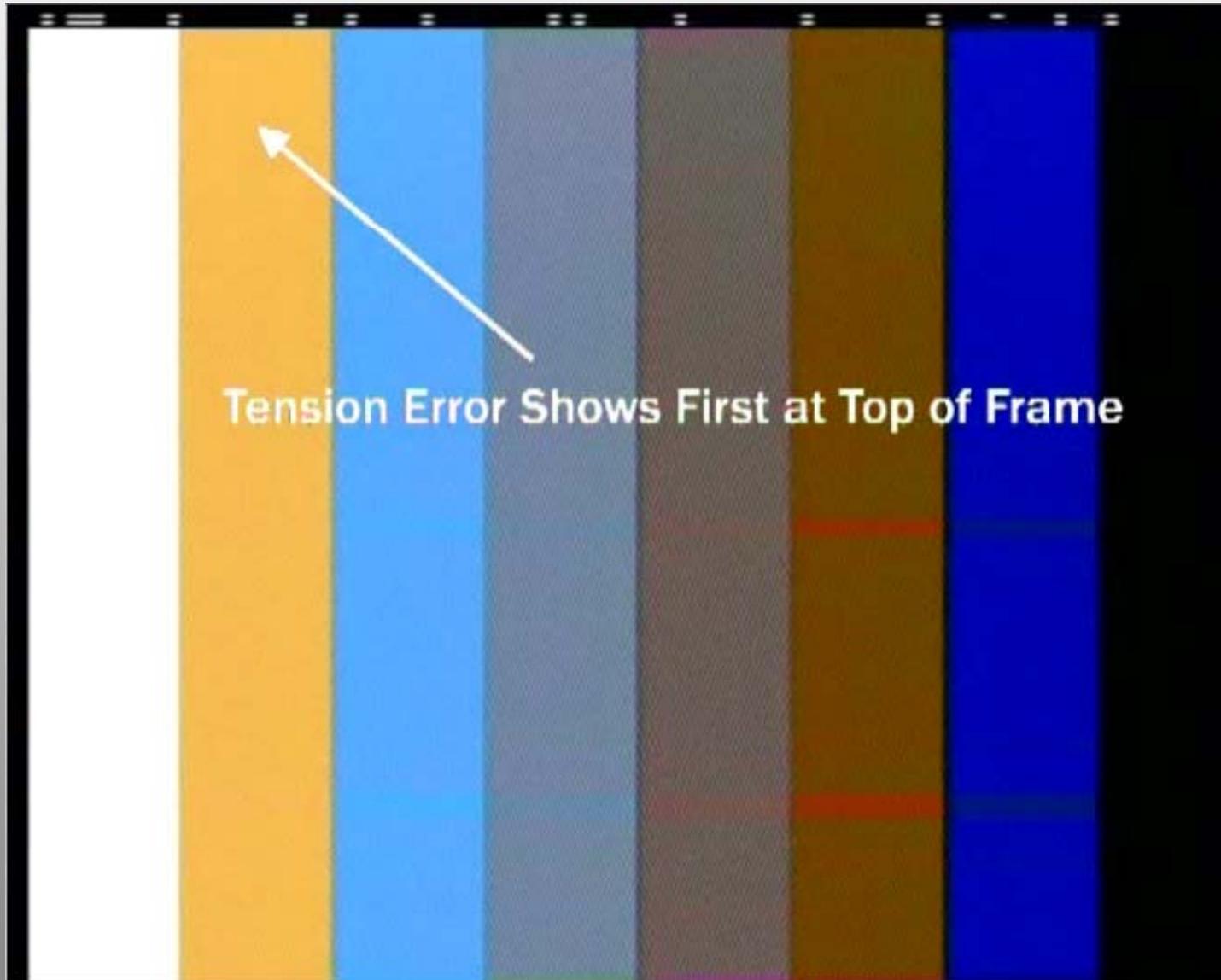
c/o BBC Information & Archives



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Tape Tension Error

c/o BBC Information & Archives



Digital Tape Error

c/o Michael D



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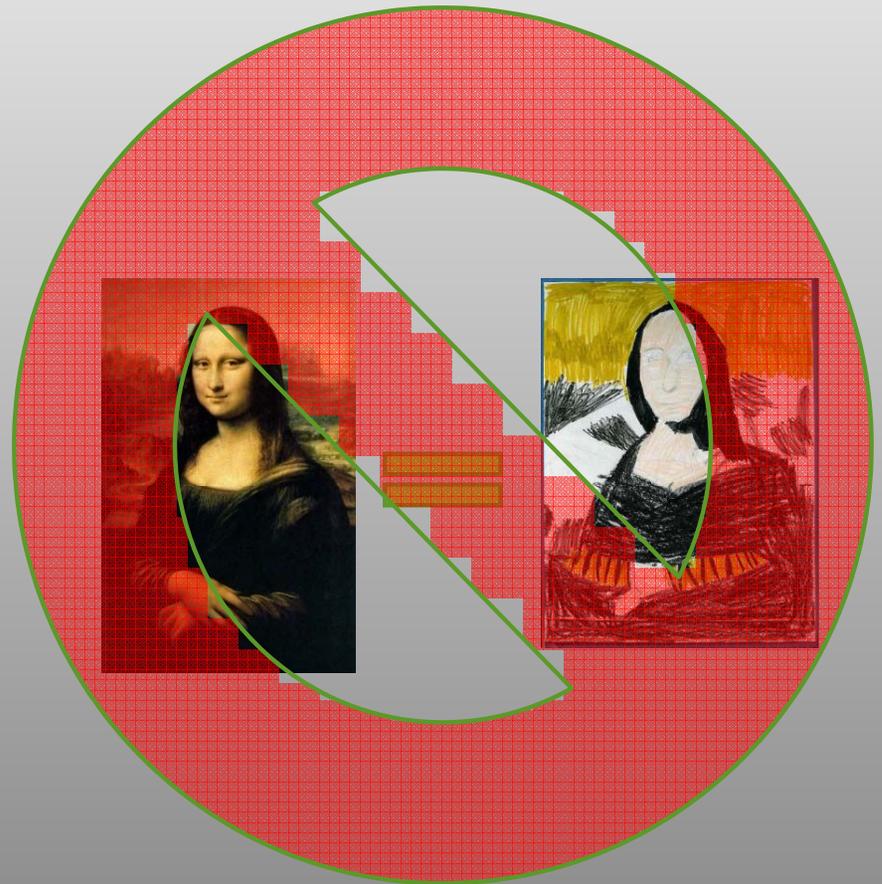
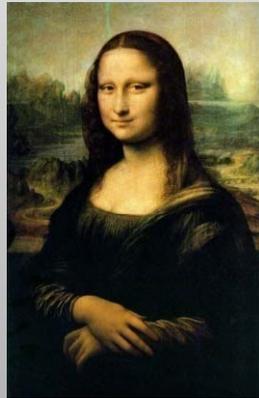
1/2" Open Reel Dropout

c/o BAVC



Aesthetic History vs. Quality:

The need for expertise

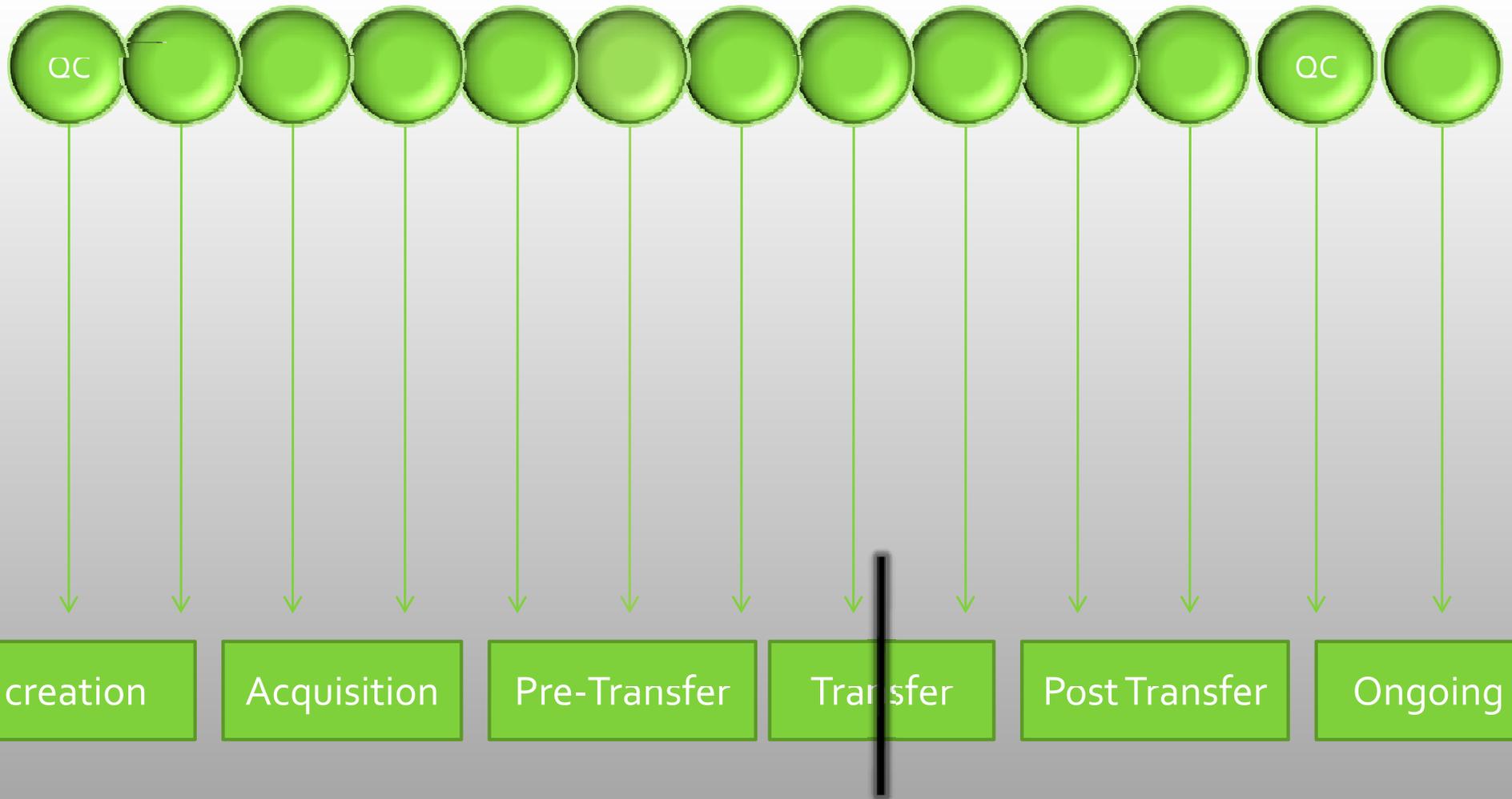


Digital File Error

c/o Tektronix



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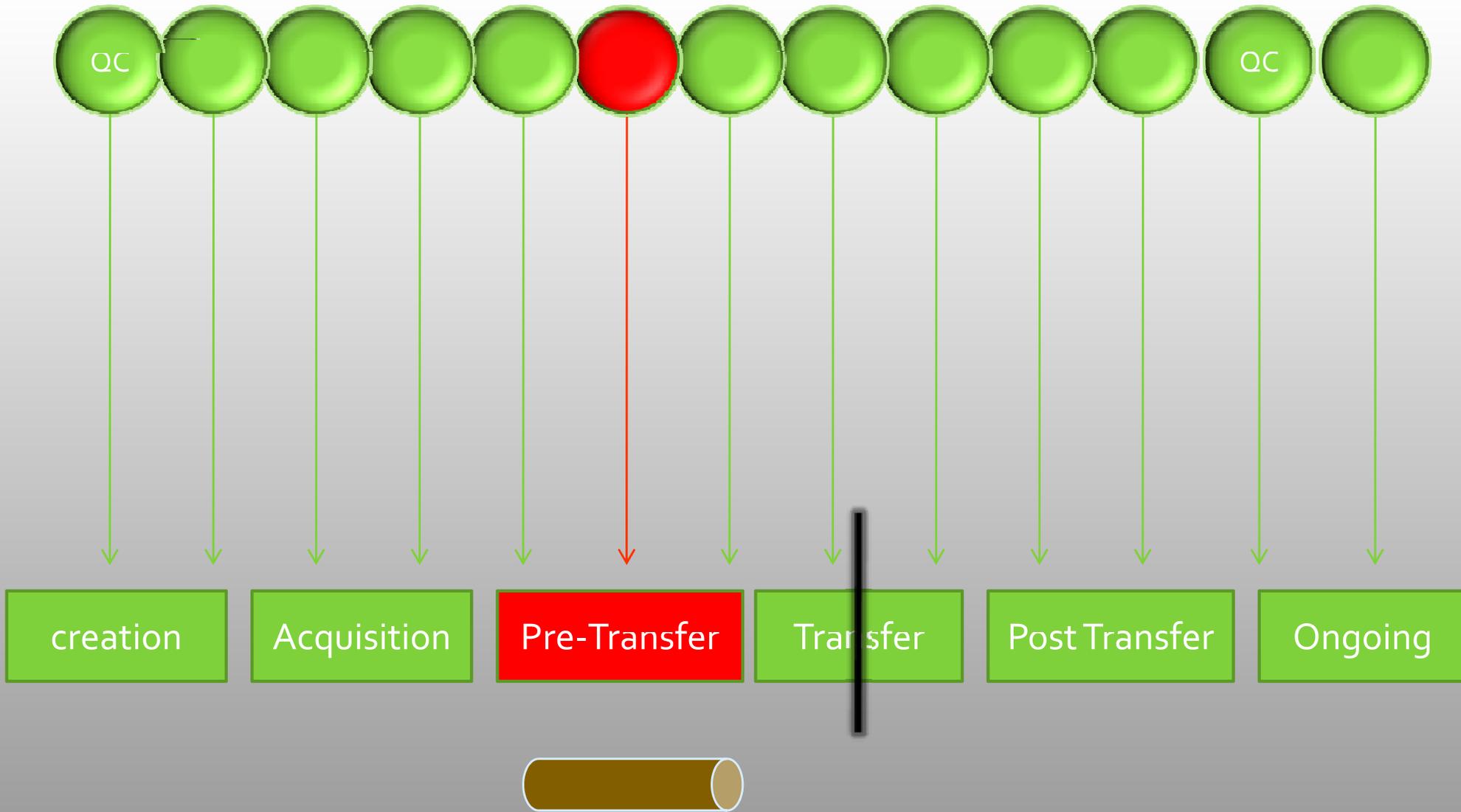


The Process



Analog Container/
Physical Format

Digital Container/
File Format

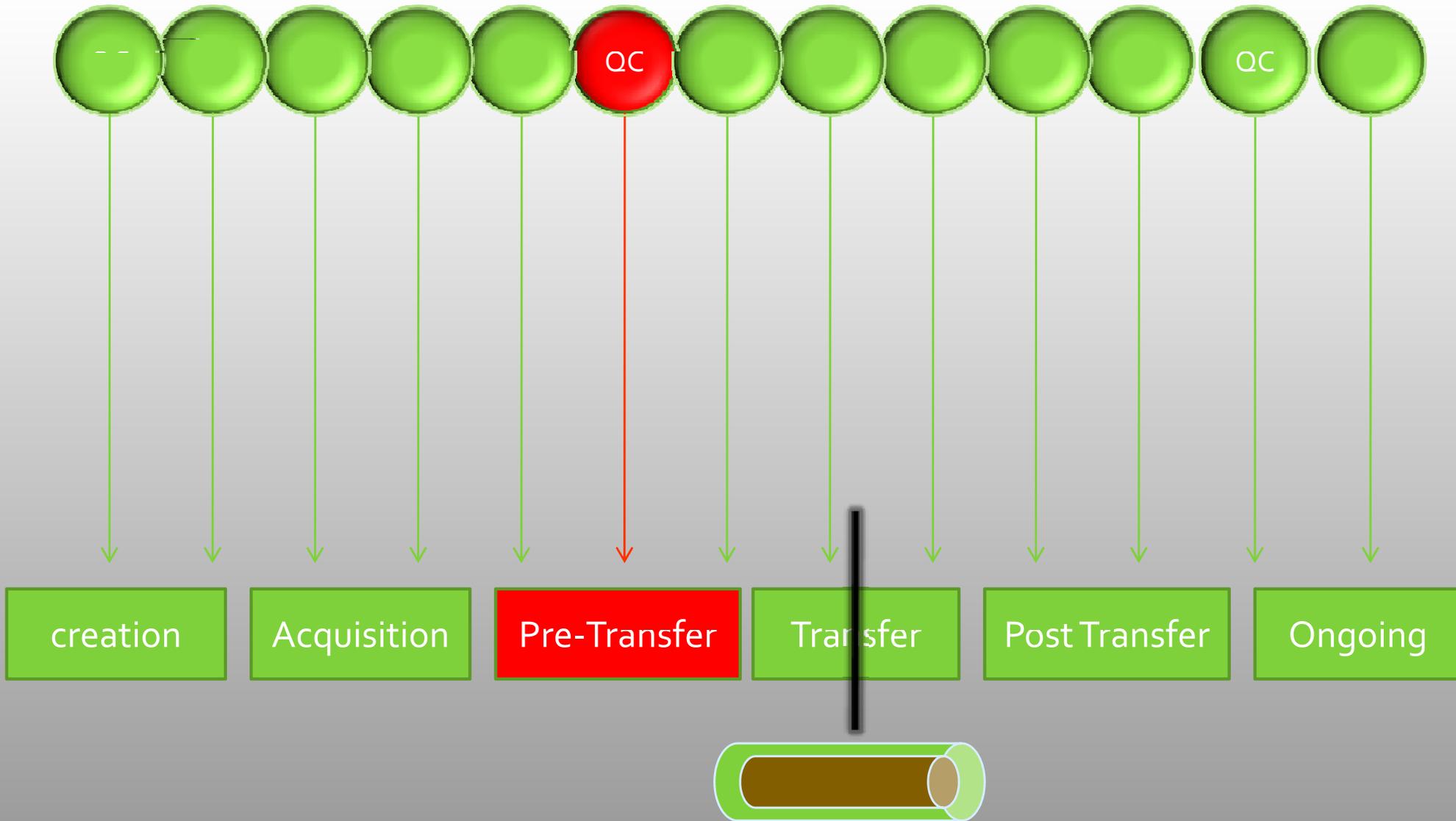


The Process



Analog Container/
Physical Format

Digital Container/
File Format

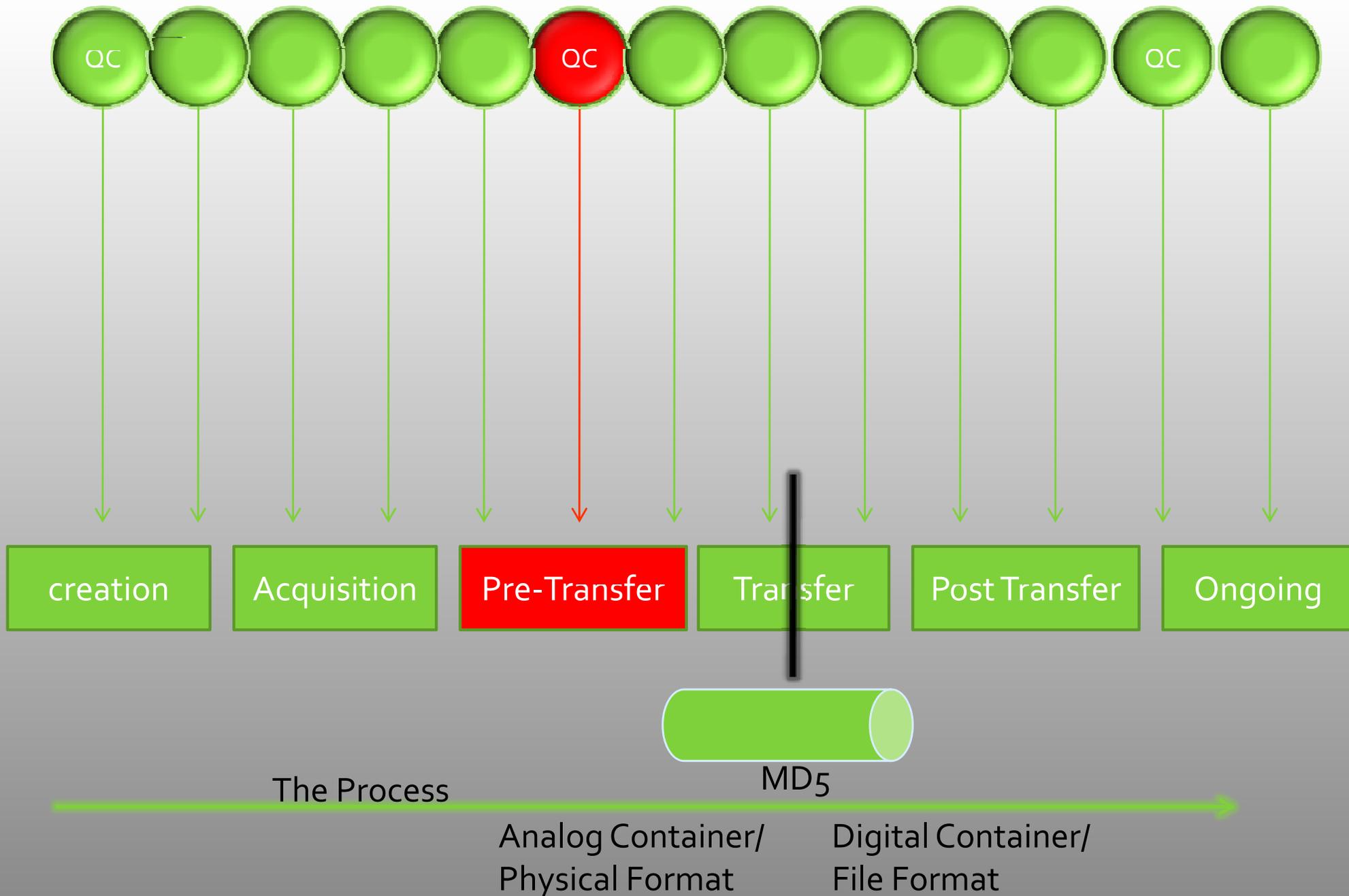


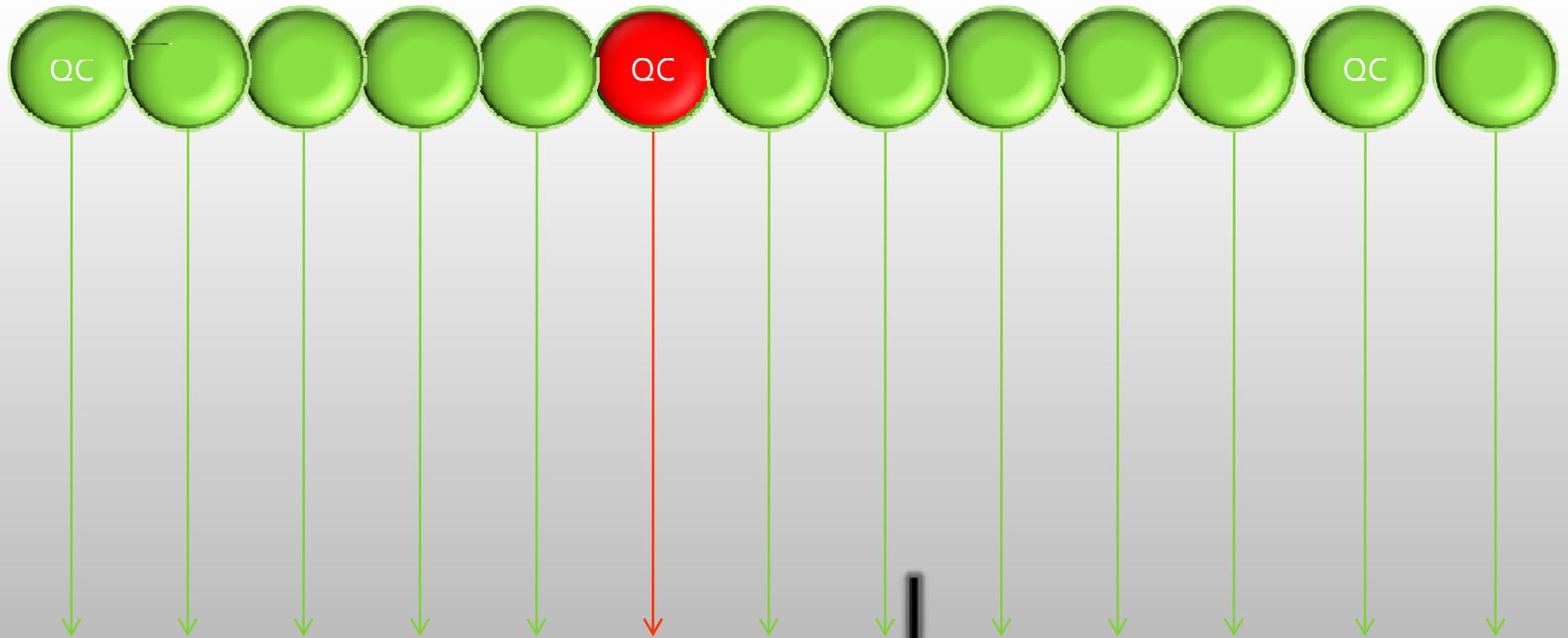
The Process



Analog Container/
Physical Format

Digital Container/
File Format





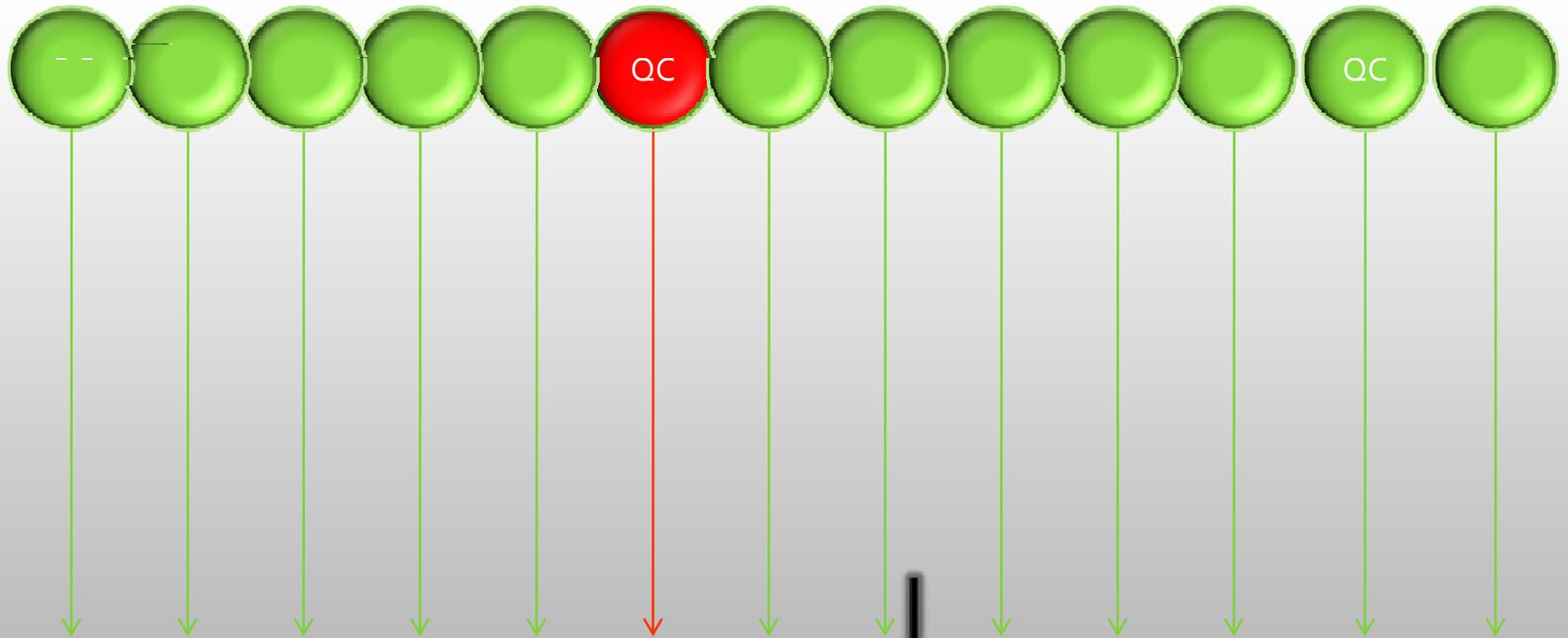
The Process



MD5 = MD5

Analog Container/
Physical Format

Digital Container/
File Format



creation

Acquisition

Pre-Transfer

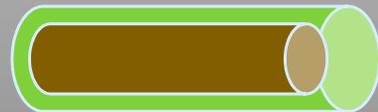
Transfer

Post Transfer

Ongoing



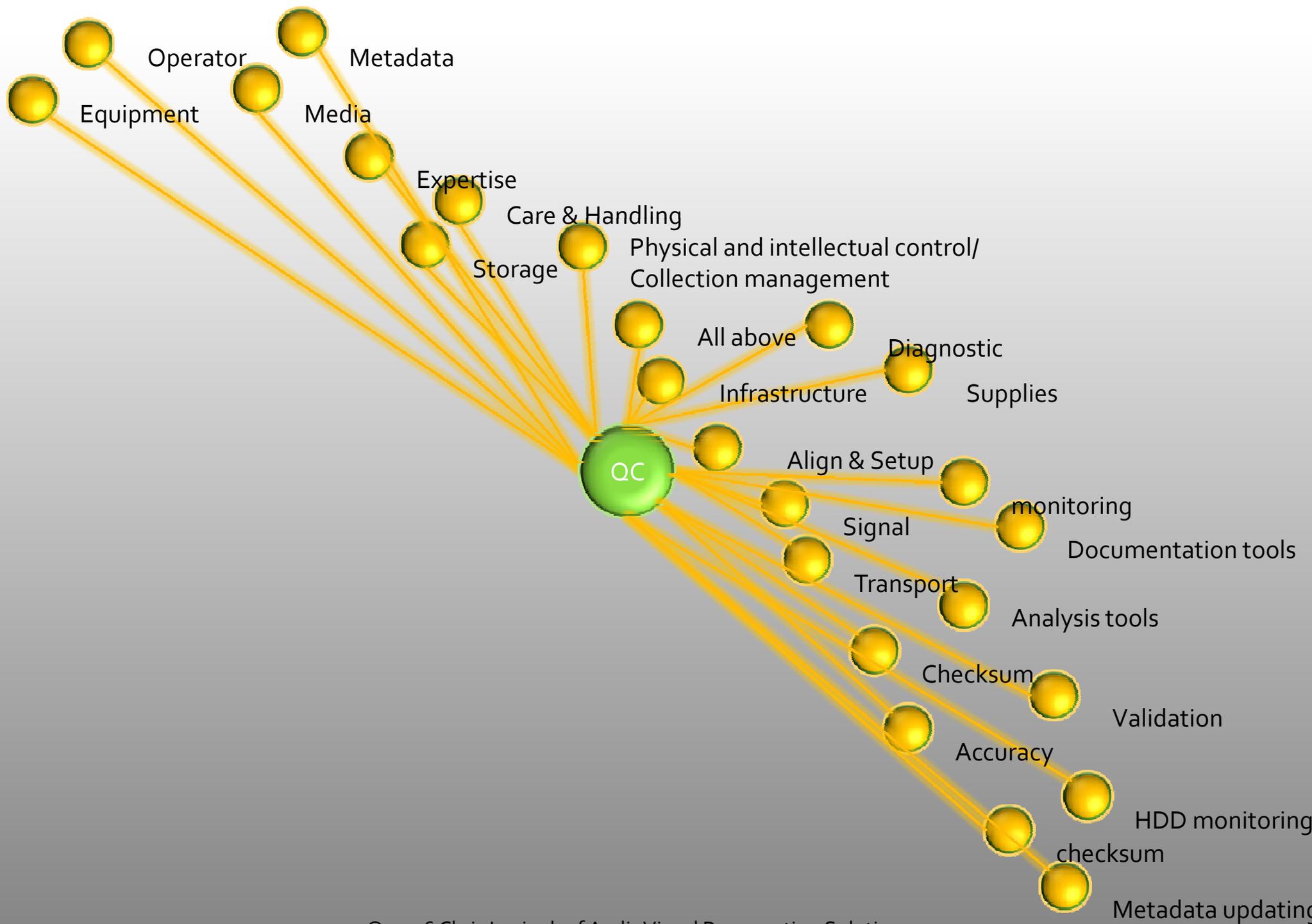
The Process

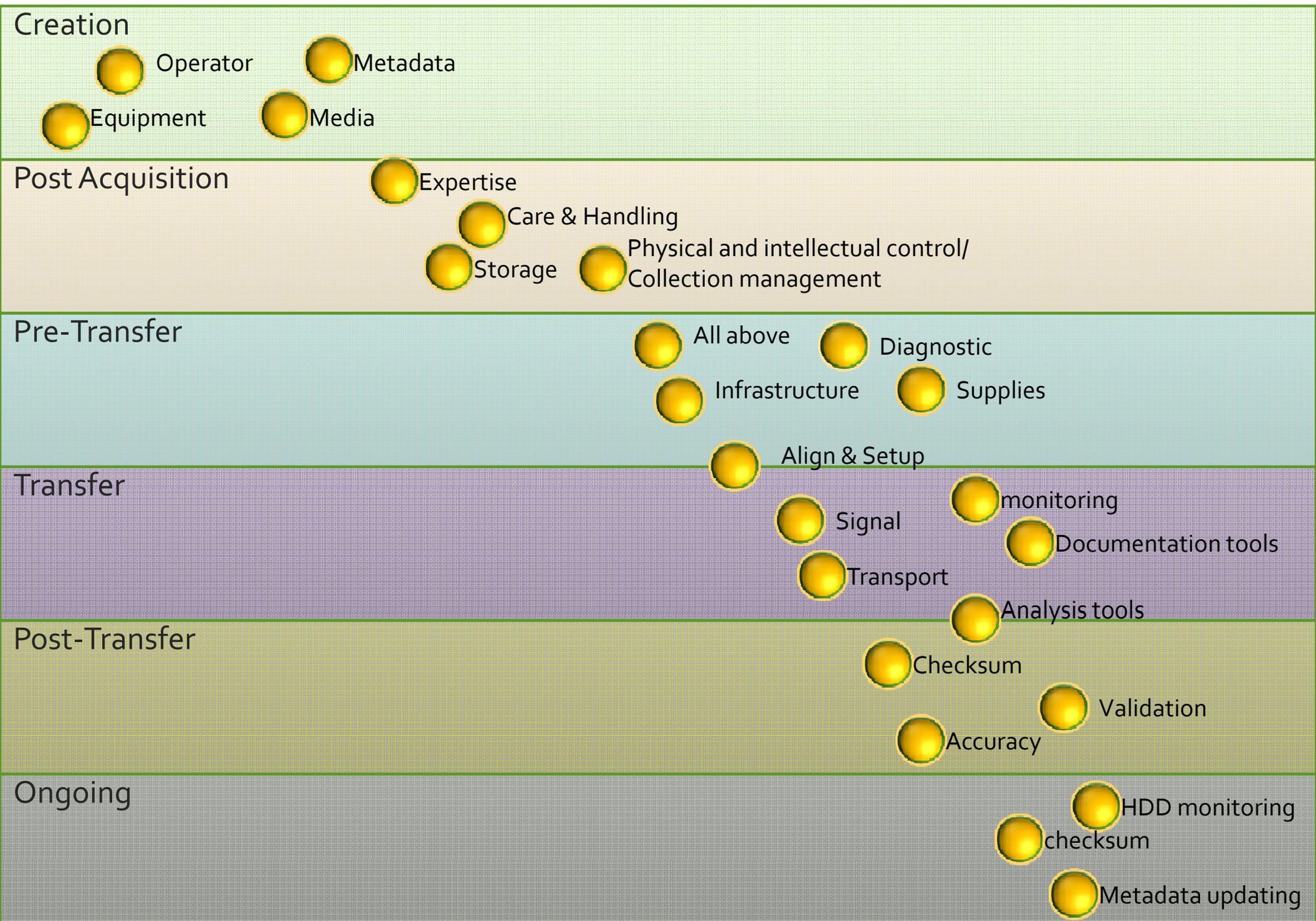


MD5 = MD5

Analog Container/
Physical Format

Digital Container/
File Format



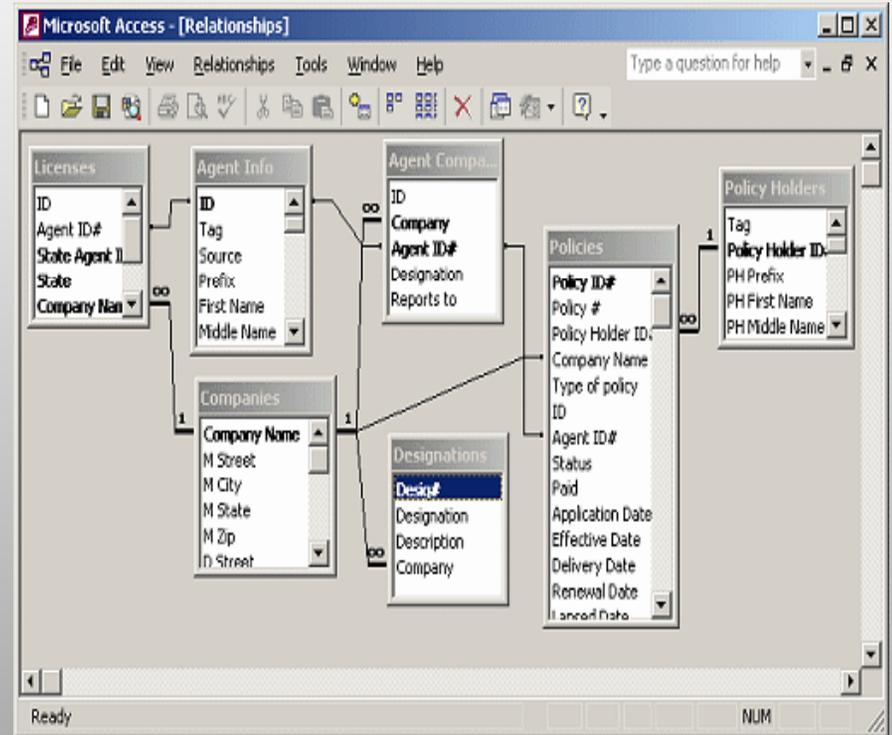


Acquisition



<ul style="list-style-type: none"> JOSHUA LOGAN A REGISTER OF HIS PAPERS IN THE LIBRARY OF CONGRESS Collection Summary Selected Search Terms Administrative Information Biographical Note Scope and Content Note Description of Series Container List FAMILY PAPERS, 1723-1989, n.d. GENERAL CORRESPONDENCE, 1907-89, n.d. BUSINESS PAPERS, 1938-89, n.d. PRODUCTION FILE, 1983-89, n.d. WRITINGS FILE, 1925-88, n.d. MISCELLANY, 1928-92, n.d. OVERSIZE, 1923-86, n.d. 	<ul style="list-style-type: none"> WRITINGS FILE, 1925-88, n.d. Box 129 <ul style="list-style-type: none"> Alexander, Ronald, <i>Relative Strangers</i>, 1973 Anderson, Doris, <i>Mack Sennett film</i>, 1949 Anderson, Maxwell, <i>Ulysses Africanus</i>, 1939 Arbansov, Ablaeva, <i>Early Stranvite (The Years of Travelling)</i>, 1957 Atkin, Charles, <i>Happily Ever After</i>, 1976-82 Axtelrod, George <ul style="list-style-type: none"> <i>Act One</i>, n.d. <i>Breakfast at Tiffany's</i>, 1960 Box 130 <ul style="list-style-type: none"> <i>Bus Stop</i>, 1956, n.d. Barry, Julian, <i>Kocodrillo</i>, n.d. Behrman, S. N. <ul style="list-style-type: none"> <i>The Cold Wind and the Warm</i>, 1958 <i>The Worcester Account</i>, 1954 Benchley, Robert, <i>Christmas Afternoon</i>, n.d. Benet, Stephen Vincent, <i>The Sobbing Women</i>, n.d. Benson, Sally, <i>Meet Me in St. Louis</i>, 1960-86 Bobrick, Sam, <i>See Container 131, Check Train</i> Boland, Bridget, <i>Mistress Macheum's Repose</i>, draft screenplays, n.d.
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import



Check existing metadata against item labels



Identify any glaring issues (mold, fire damage)

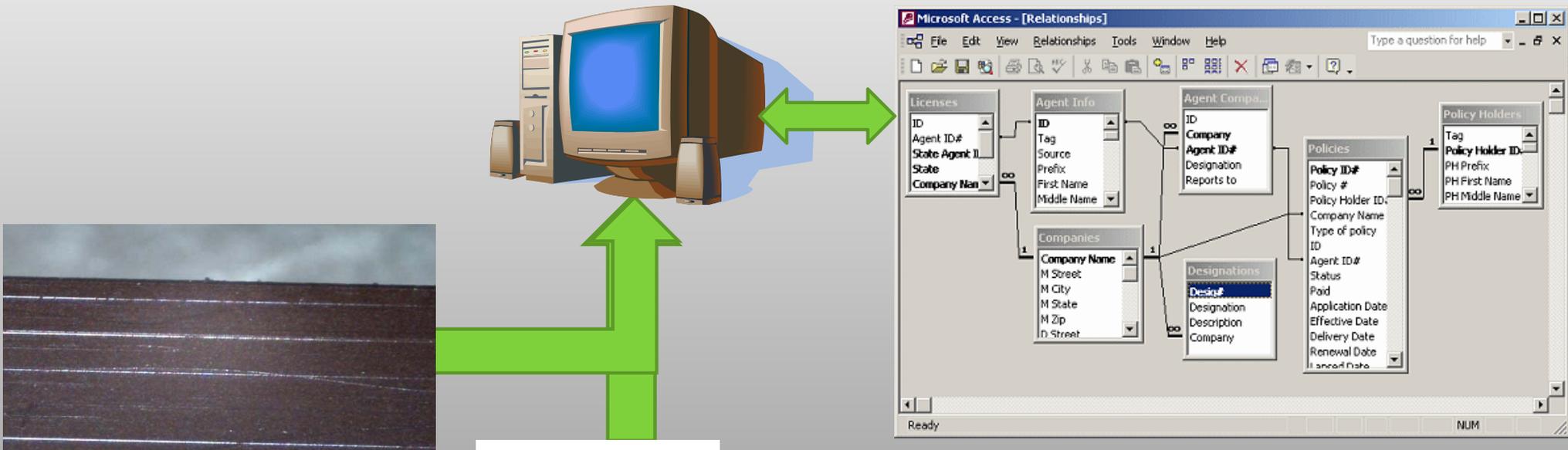


Avoiding redundant data entry



Assign ID and media tracking info

Inspection and Diagnostics



1/4" Tape

- full track
- 2 channel / 2 track
- 2 channel / 4 track
- 4 channel / 4 track
- 2 channel / 8 track

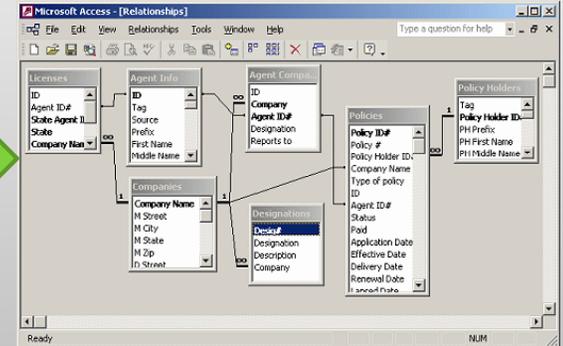
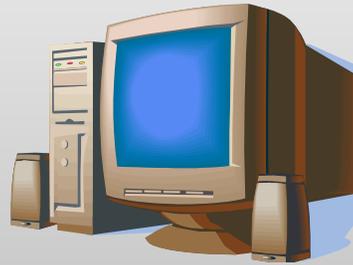


Expert evaluation of condition and tools required for reproduction



Another look at the metadata accuracy

Treatment



refrigeration, reverse
wind, relaxing



Expert Treatment of media to
achieve optimal transport

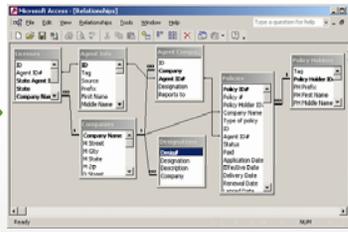


The right tools for the job



Clear documentation of the
methods used

Setup

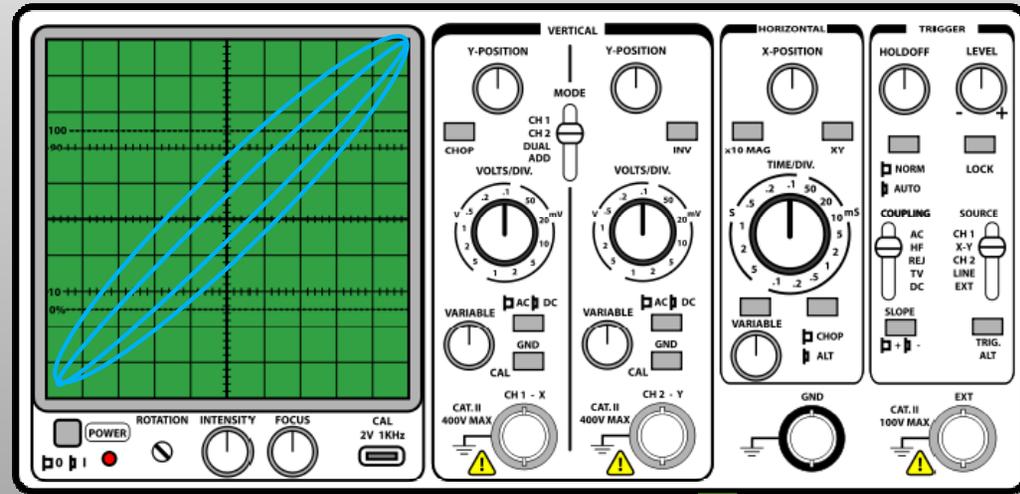


Good equipment and tools

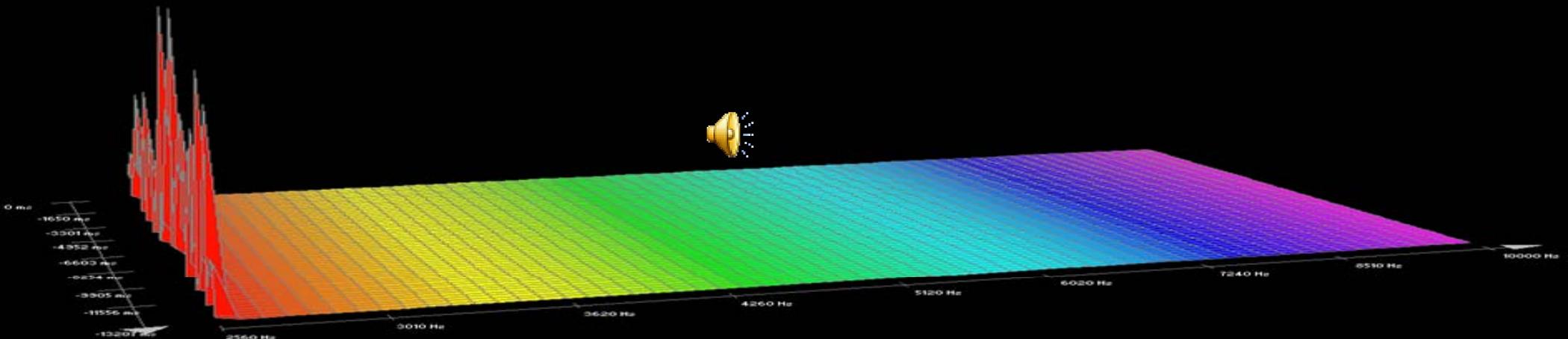
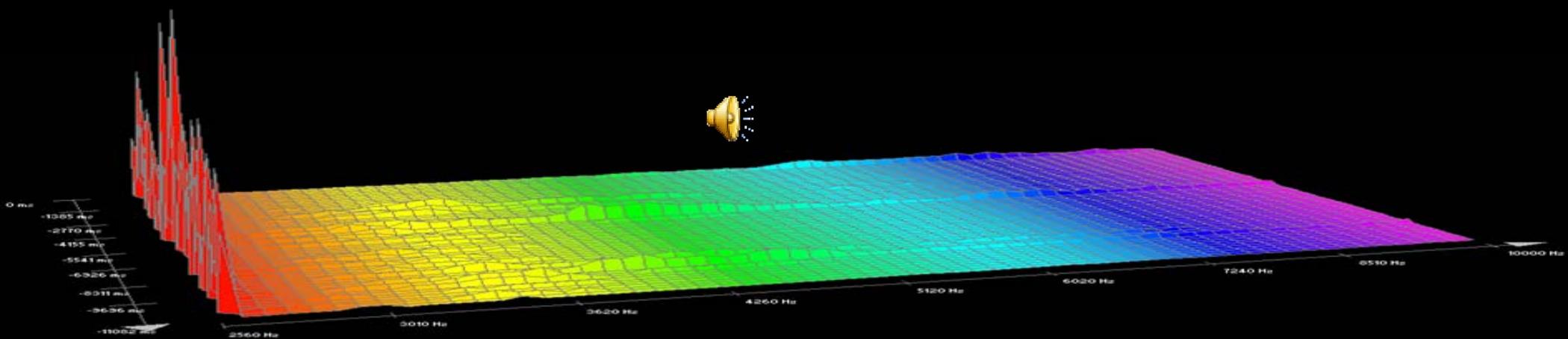
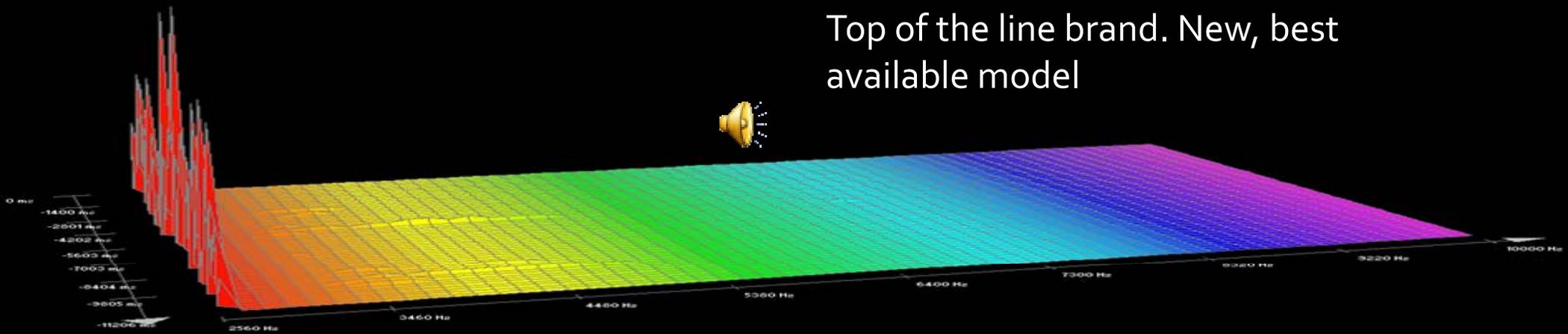
Expert operator

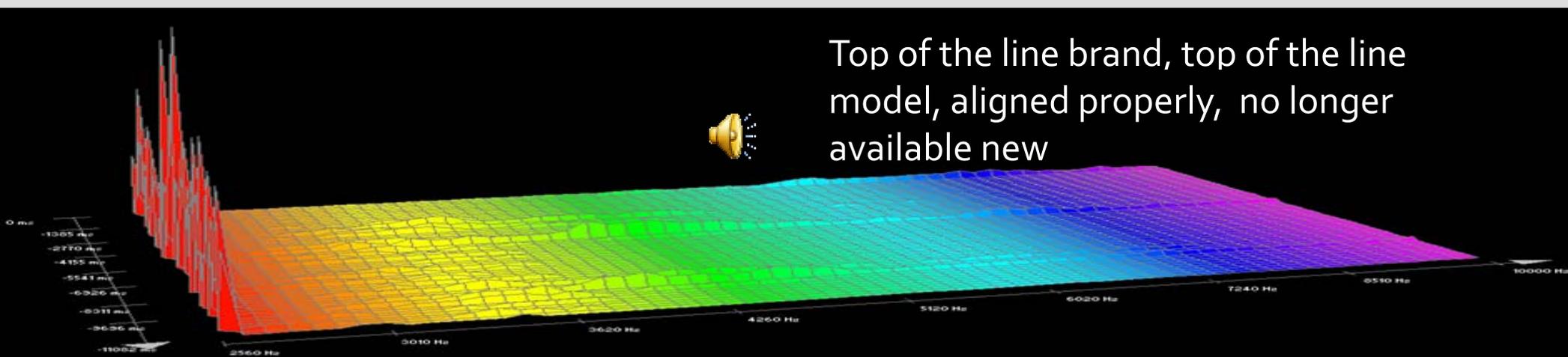
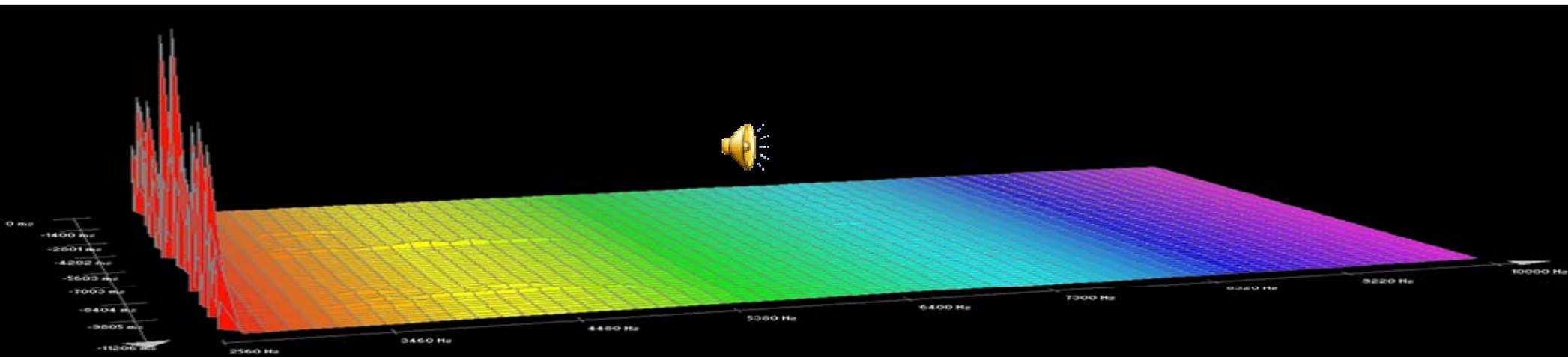
Good analysis & monitoring

Process Documentation

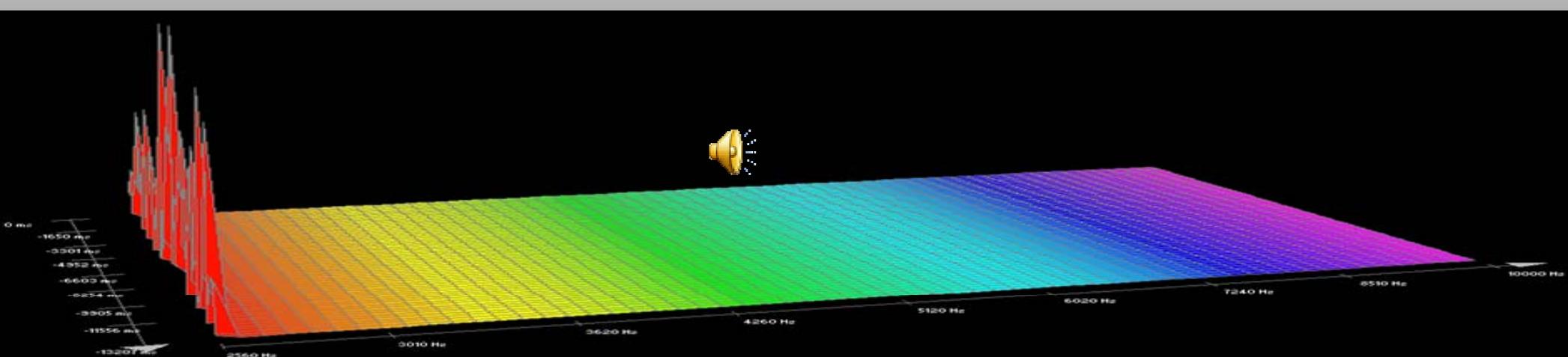


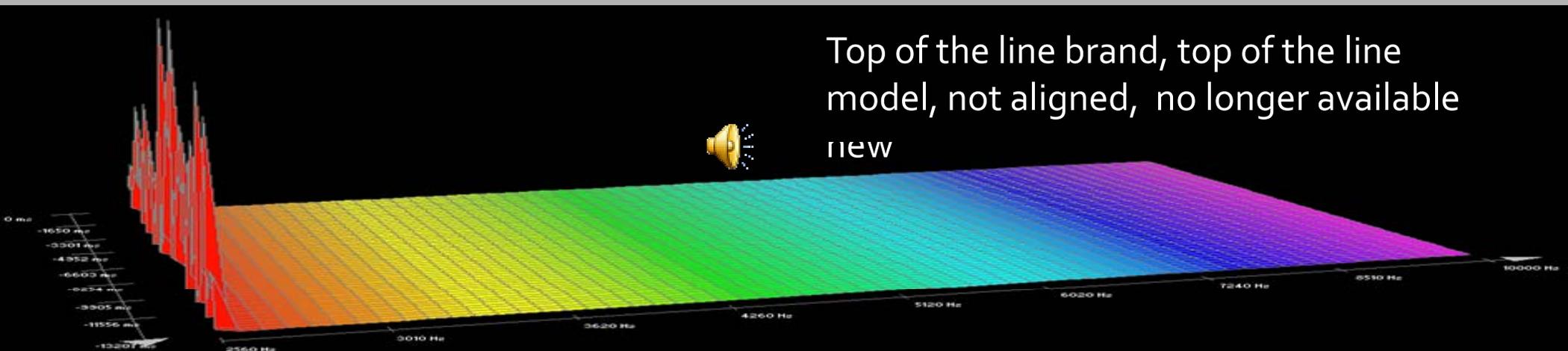
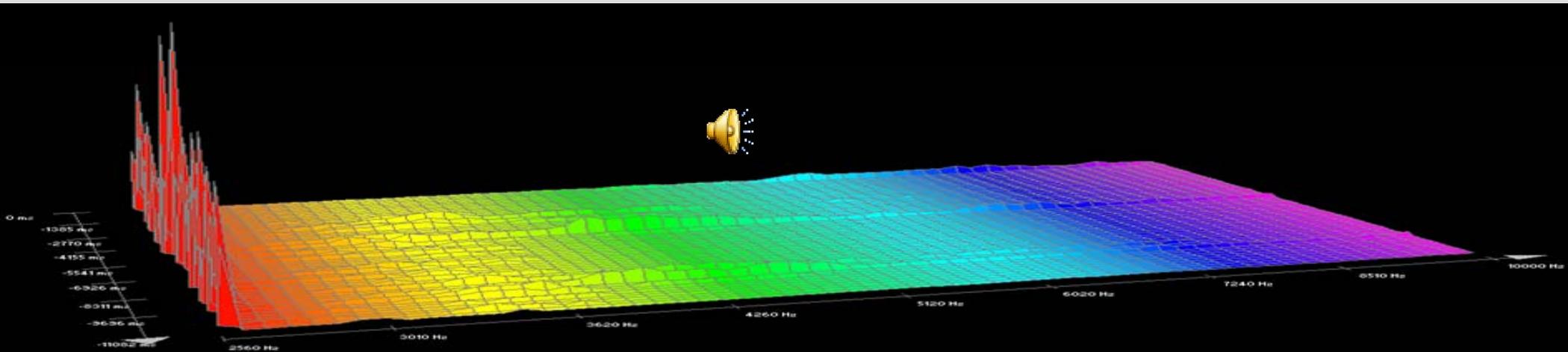
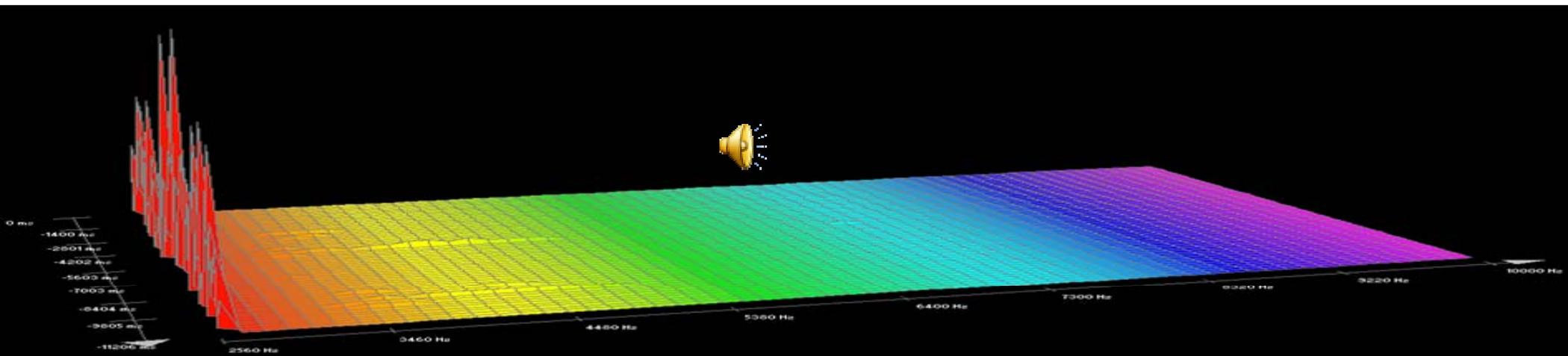
Top of the line brand. New, best available model



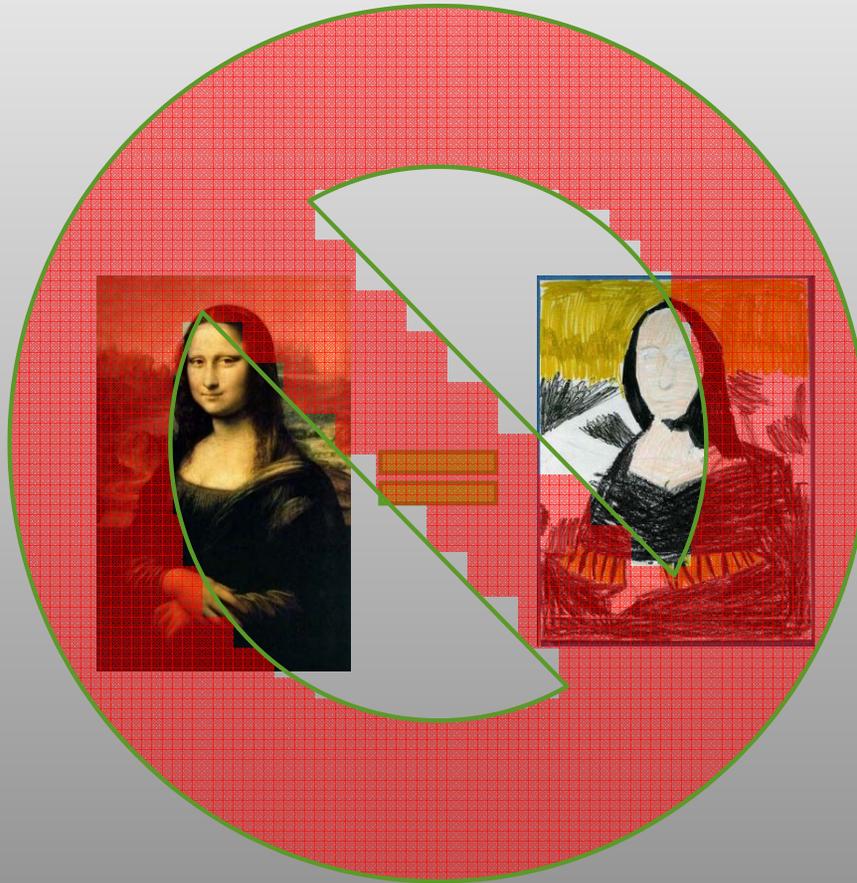


Top of the line brand, top of the line model, aligned properly, no longer available new



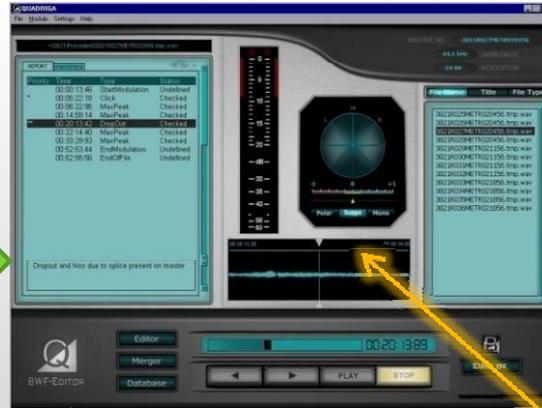
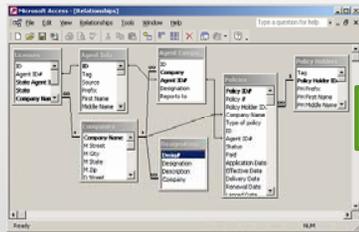


Aesthetic History vs. Quality



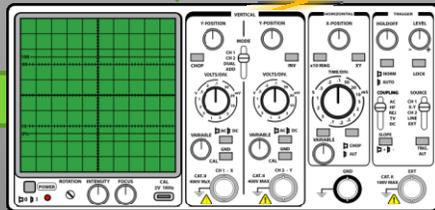
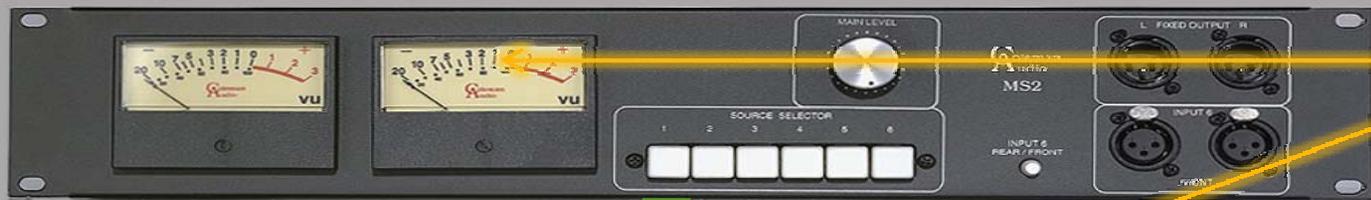
Transfer

Digital and analog automated error checking and manual data entry. Documenting of descriptive and technical metadata.



A/D Converter

D/A Converter



Expert operator and High quality equipment



Good monitoring & analysis and good signal path



Full Documentation & no repetitive entry

Post Transfer 1/5



Validate and supplement automatically generated metadata

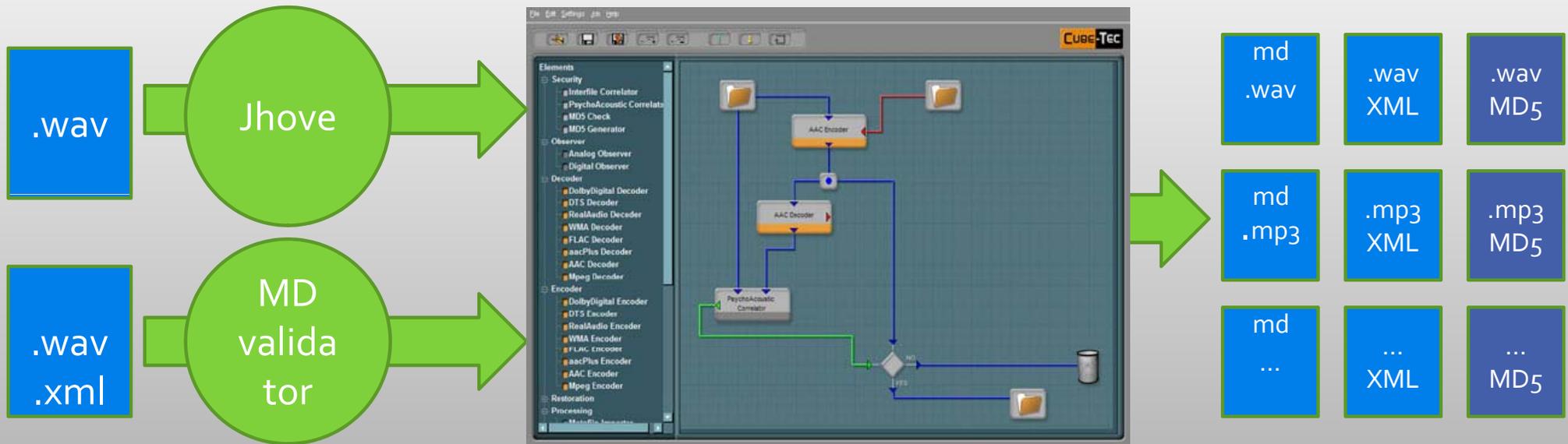


Metadata exported as XML for import into database and/or SIP



Generate checksums for metadata and audio object

Post Transfer 2/5



Validate file and metadata as well formed and valid instances



Generate Checksums for derivatives



Automatically generated derivatives

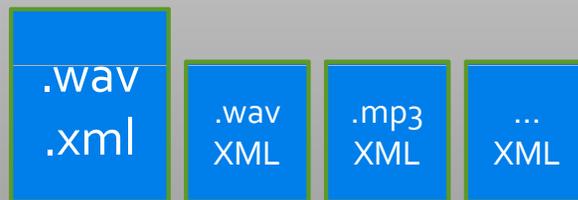


Generate & export descriptive and technical metadata for derivatives



Imported XML for dissemination to derivatives

Post Transfer 3/5



Validate MD5 Checksums

Post Transfer 4/5



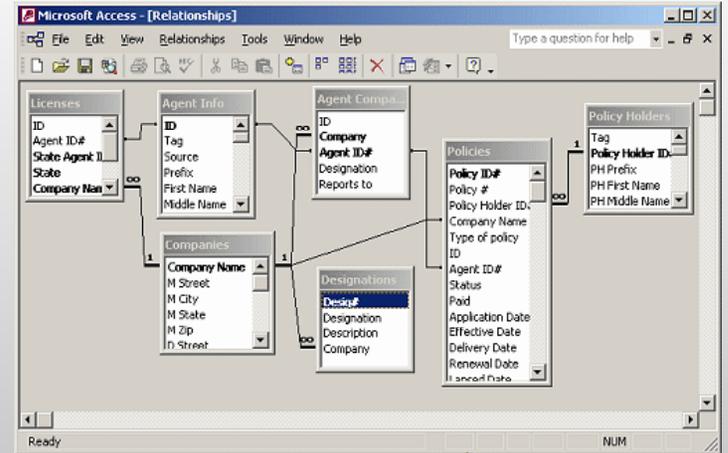
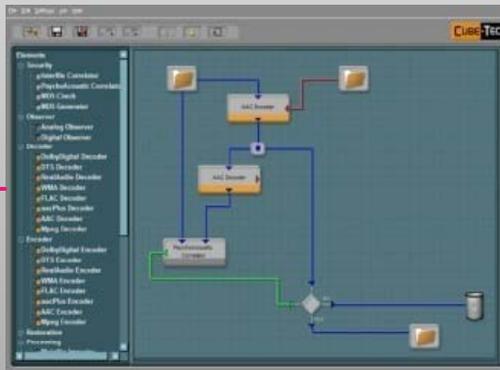
Post Transfer 5/5

.wav
.xml

.wav
XML

.mp3
XML

...
XML



Descriptive and technical specification metadata is checked and compared for differences

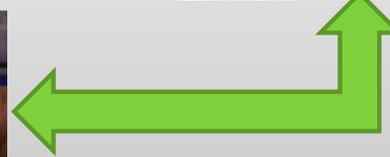
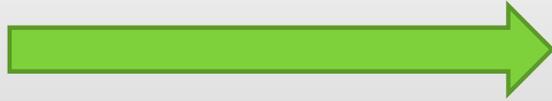


Quality reports are compared for quality differences



All selected metadata captured throughout process exists in database

Ongoing



.wav	md .wav	md .mp3	md ...
------	------------	------------	-----------

.wav MD5	.wav MD5	.mp3 MD5	... MD5
-------------	-------------	-------------	------------

.wav .xml	.wav XML	.mp3 XML	... XML
--------------	-------------	-------------	------------

.xml MD5



Proper physical storage



RAID and Redundant Storage



Different Media Types



Geographical separation



Automated data integrity monitoring

Handout

QA_QC_Considerations.pdf

Permanence

Persistence

Preservation

Quality Control

EVALUATING THE DIGITAL SURROGATE

Presented by

Chris Lacinak

chris@avpreserve.com | www.avpreserve.com