Infotrends Digital Imaging ’05 +
Optical Storage Symposium

Joint Session
September 28, 2005
Hyatt Regency, Burlingame

George.Lynch@HP.com

I3A Board of Directors
Hewlett-Packard
Focus for the Session:

- Do consumers care or need better interoperability?
- How will interoperability affect consumers’ behavior while using digital images?
- Will cell phone imaging drive the need for easier and better exchange of images?
- When will camera phones carry metadata?

Some facts, some opinion; it started with the cellphone-camera:
Started with Low Resolution Capture to Low Resolution Display?

Low quality images, low usage!
Quality is the determinant
Consumer Needs for “Keeper” Images

Radio and TV Media

Internet Data, Media

Online Services

Print at Retail

Print online (Images and gifts)

Print Local

This will be big.

browse photos and clips

Prints
Successful Businesses **Grew** to Get Big
Phases of Standardization

Unique Product
1st Mover Advantage
Unique Solution
IP enabled
Early Adopters

Competition
Competing Standards
Market Share ??
Confusion
Users demand
Interoperability

Standardization
Industry Alignment
on Standards
Differentiation lost
Compete on Value
New Entrants
Commoditization

Interoperability
Not needed
Resisted
Enables Growth
Business Models Are Impacted

Unique Product
- 1st Mover Advantage
- Unique Solution
- IP enabled
- Early Adopters

Competition
- Competing Standards
- Market Share ??
- Confusion
- Users prefer Interoperability

Standardization
- Industry Alignment on Standards
- Differentiation lost
- Compete on Value
- New Entrants
- Commoditization

Interoperability
- Not needed
- Resisted
- Enables Growth

Need Forum
What is I3A?

International Imaging Industry Association

• Forum founded in 1946 as NAPM, then PIMA in ‘97
• I3A formed in 2001 via merger of PIMA and DIG
• ANSI and ISO accredited SDO
• Current BOD: AGFA, Digimarc, Kodak, Fuji, HP, Konica-Minolta, Schoeller Paper, Sprint
• 12 Committees on Tech (7), Marketing, Trade, EHS, …
• Annual Leadership Conference in San Diego, November 2-4

www.i3a.org
## I3A Deliverables

<table>
<thead>
<tr>
<th>What</th>
<th>How</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISO Standards</td>
<td>Open IT Committees 1 vote per nation 6 months-5 years</td>
<td>ISO 12231 -terminology ISO 12232 – ISO speed ISO 20462 – Psychophysical Image Quality assessment sRGB, e-sRGB, PTP, RIMM-RGB, ROMM-RGB</td>
</tr>
<tr>
<td>I3A Standards (ANSI)</td>
<td>IT Committee Approval</td>
<td></td>
</tr>
<tr>
<td>Initiative Groups</td>
<td>3-N companies agree to work together. Open to all I3A members.</td>
<td>DIG 35, DIG 2000 CPXe I, II Consumer Archiving</td>
</tr>
<tr>
<td>Research</td>
<td>Sponsoring Companies</td>
<td>Film Import/Export</td>
</tr>
<tr>
<td>Events for Awareness and Networking</td>
<td>Marketing Committee</td>
<td>PMA I3A Reception Mobile Imaging Summits Leadership Conference Tech Forum’s at PMA et al</td>
</tr>
</tbody>
</table>
What color is a number?

- Digital files contain numbers
- What color is the triplet \{170, 200, 230\}?
- It depends on the color encoding

\{170, 200, 300\}
sRGB

\{170, 200, 300\}
ProPhoto RGB

\{170, 200, 300\}
CIELAB
sRGB for Color interoperability

- Standard: I3A IT-10.7667-2004
- Targets Consumer Applications
- sRGB is the most widely used and supported color encoding for Digital cameras, computers, displays, web, printers, etc.
Picture Transfer Protocol

- ANSI/PIMA IT10 15740-2000
- Said to be used in 98% of digital camera-PC image transfers over USB
DIG35 – Image Metadata (2001)

see www.i3a.org

• XML based
• Collaboration with JPEG2000 and MPEG7
• Extensive vocabulary
  - Image content
  - Copyright
  - Embedded or linked

Photographer: Kats Ishi
Date: 1999-12-09
Location: Maui, Hawaii
Title: Memorable Conference
Event: DIG35 Meeting
Keywords: ocean, palms, pool, bikini, sky, Hawaii, beach
People: Bob, Mary, Ted
I3A Common Picture Exchange Environment (CPXe)

• Specifications for API’s for Imaging Services Using existing standards: (XML, SOAP, UDDI, WSDL, MPV, HTTP)

• API’s for print fulfillment, image storage, upload and download, revenue sharing.

• Web Browser Interface Spec (WBIS) includes MPV manifest upload as key enabler

• More info available at the I3A Table or www.i3a.org
Consumer Image Archiving

Stable for generations?
Readable 100 years from now?
Periodic, redundant, offsite?
Looming Disaster?

I3A WG-5/IT-9 Permanence of Imaging Materials
- DIS 18935 Water Fastness of Color Images
- WD 18936 Thermal Stability of Consumer Photographs
- WD 18937 Light Stability Test Methods for Color Reflection Prints and on-going work with H. Wilhelm on ink jet print life
- WD 18938 Care and Handling of Optical Discs, Dr. Engeldrum
  new proposal for testing storage life of CD/DVD’s

Recently Approved Initiative Group
- Raise Industry and Consumer Awareness of the need to Archive
- Consumer facing website
- Initiated by Fuji, HP, Kodak
- Open enrollment to everyone shortly
Mobile Imaging and Printing Consortium

MIPC

Founded in 2004 by Canon, Epson, HP; now includes most major players in printing and handsets. Open membership.
Current Status: Not guarantee interoperability
The Ultimate Goal (End User’s perspective)
MIPC opportunity is to:

- Address the mobile device imaging and printing in the home and Kiosk. Remote printing a future concern.
- Driving PictBridge as wired solution; Bluetooth for wireless; and printing directly from Memory Cards.
- Develop, deliver, and promote implementation guidelines.
- For handheld mobile devices having imaging capability and long distance wireless connectivity.
- Reasonable And Non-Discriminatory (RAND) or less restrictive IP policy (example: Royalty Free, Open Source).

For more info, go to mobileprinting.org
Consumer Needs for “Keeper” Images

- Online Services
- Internet Data, Media
- Radio and TV Media
- Browse photos and clips
- Print online (Images and gifts)
- Print at Retail
- Print Local
- Data, Media Online Services
- Images and gifts
- prints
- prints
- prints
Thank you.

George.Lynch@HP.com