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DP2 Migration

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DP2 Migration
SELP Capstone Project

Project Description & Trade-offs
(Report 1)

Elliot Wilson
February 26, 2008
DP2 Migration Overview

- Project Objectives
- Trade-off Study
  - Strategic Benefits
  - Implementation Trade-offs
- DP2 Migration Schedule

Additional Slides
- Event Workflow- Current/Future States
- Product Workflow
  - DP2 Migration Future State
  - Current/Future State by Product
Project Objectives

**Tactical Objectives**
- Retouch Albums using DP2 for faster TAT
- Replace Bellamax with DP2 for cost savings

**Strategic Objectives**
- Reduce Cost
- Increase Quality
- Reduce Turn Around Time
Trade-off Study: Strategic Benefits ($600,000+ YOY)

1. **Software Savings:** $270,000 YOY
   - Eliminate Bellamax ($320,000)
   - Will have convert free Linux servers to Windows (nominal)
   - Will require developing 5 software "enhancements", released in 2 phases (-$30,000)
   - Will require development of 4 scripts (-$20,000)
   - Will rely heavily on scripting

2. **Labor Savings:** $250,000 YOY (projected)
   - Album CC removed from Photoshop (50% retouch labor savings per album)
   - Express, Direct, and Collage Page (100% retouch labor savings per product)
   - Better Auto CC (20% retouch labor savings per final print products)
   - Premium and Art Proofs require better CC (20% additional retouch labor per Premium/Art Proof)

3. **Quality Improvement:** $100,000+ YOY (projected)
   - Eight workflows reduced to three; reducing variability across all products
   - Final prints have a much more consistent look and feel
   - Premium and Art prints will be a much higher quality
   - Express and all Proof Prints will always have consistent clean borders
   - Hybrid submission events will always have images handled appropriately

4. **Product/Marketing Improvement:**
   - Albums & Express products will have much faster turn around time
   - Clear vision of guaranteed quality of "Final Prints" product
   - Clear vision of what you see online quality of "Express Prints" and "Proxy Prints"
   - Ability to quickly assign a product to a "Proxy", "Express", or "Final" Workflow
   - Ability to later offer custom CC to photographers (i.e. "Dennis Reggie" or "Extra Saturated")
Implementation Trade-offs: Software Phase 1
Bug 9193

Bug 9193: Record Event Submission at Image Level

**Required:** By recording how the image was handled at event submission, the fulfillment system can know if the image has already been color managed. Running a previously color managed image through either Bellamax or DP2 will make an image look worse. The current process of tagging an the event level has proved insufficient as images in an event can be handled differently. Without this feature, Express images will always require manual QA.

**Trade-off:** The team decided to not make the fix retroactive. The rational was two fold.

- Relatively few events would benefit from a retroactive fix. The average lifecycle of an event at Pictage only 90 days, and there is an estimated 45 day laps of time between when image level tagging begins and when the Express workflow is implemented. In addition to a small window of affected events, but the 1st quarter is by far the slowest quarter for event submission at Pictage.

- The estimated difficulty of implementing a retroactive fix was large and threatened the projects aggressive timeline.
Bug 9171: Add "-cc dp2" flag to dig2scan

Required: At the photographer’s request, events submitted to Pictage can receive free color correction. That color correction is currently provided by Bellamax. Adding a tag will allow the System Operations team to point free color correction to DP2 servers instead of Bellamax. Without this bug, Pictage must continue using Bellamax.

Trade-off: The team decided to accept an additional recommendation to add a % attribute that allows the System Operations team to split orders at a given percentage between Bellamax and DP2.

-This requirement allows for a much smoother transition between Bellamax and DP2, as the servers supporting Bellamax must be sequentially taken offline and brought back as DP2 servers.

-The estimated difficulty of implementing the additional attribute was low and would not have an impact on the project's schedule.
Implementation Trade-offs: Software Phase 1

Bug 9195: Implement Final Print workflow text file for script

**Required:** The Final Prints workflow requires automated DP2 color correction for images that have never been color managed, followed by manual adjustment for all images. In order for the workflow to avoid auto correcting the wrong images, it must take advantage of image level tagging (Bug 9193). To do so, at the time an order is placed, a text file is to be generated that will inform DP2 which orders are to be auto corrected.

**Trade-off:** The team decided against an additional requirement to provide and handle automated call backs from DP2 on if a color correction effort was successful.

- While this requirement would have provided a slightly cleaner solution to managing a failed Final Print order, the orders can also be handled with relative ease inside DP2. Manual intervention is already required in DP2 for all final print orders, so the orders will get visibly regardless.

- The estimated difficulty of implementing the additional attribute was medium and would have significantly increased the risk of missing the project's hard deadline.
Bug 9204: Turn Premium & Direct prints into Final Prints

**Required:** Premium and Direct prints have a long history of being poorly managed. While considered similar in quality to final prints, these images are only color managed in their final state, which can cause image borders to become discolored. This bug will not only dramatically increase customer satisfaction of this premium product, but will streamline every manually retouched product under a single workflow!

**Trade-off:** The team is still debating on if it will be easier to modify the workflow of the current two products, or to re-define the products as new products on the backend. The decision will be made by March 6.
Implementation Trade-offs: Software Phase 2
Bug 9206

Bug 9206: Implement Express Print Workflow for Express Prints, Direct Prints, Hi Resolution CD

**Required:** Express prints have lived in a no-mans land of "semi-color corrected" for years. As a result, the product has minimal adoption. Similarly, Direct prints and Hi Resolution CDs exist as a semi-automated color correction product. Express Print workflow will bring all three products under a single automated workflow that resembles how a viewer sees and image on a calibrated monitor at home. Automation will allow these products to be more clearly defined as low cost fast turn around products, and correction will be applied at the image level to protect borders from being corrupted.

**Trade-off #1:** The team decided to auto correct using DP2, instead of trying to match the original online image color correction (Bellamax or DP2).

-The rational was that DP2 color correction is superior to Bellamax, so even if the online image was corrected using Bellamax, the customer would still be happy. With no value added, there was no reason to increase the project's scope.

**Trade-off #2:** The team is still debating on if it will be easier to modify the workflow of the current three products, or to re-define the products as new products on the backend. The decision will be made by March 6.
DP2 Implementation
(Currently on schedule for May 1 Deadline)

Development
1. **March 12:** Bugs #9193, #9171 and #9195
   - Record Event Submission at Image Level, Bug #9193 (BA)
   - Add "-cc dp2" flag to dig2scan, Bug #9171 (BA)
   - Implement Final Print workflow text file for script, Bug #9195 (BA)
2. **April 8:** Bug #9204, 9206
   - Turn Premium & Direct prints into Final Prints, Bug #9204 (BA)
   - Implement Express Print Workflow for Express Prints, Direct Prints, Hi Resolution CD, Bug #9206 (BA & William)

US System Operations
1. **Feb 1:** DP2 Albums Testing (William)
2. **Feb 15:** DP2 Events Testing (John)
3. **March 1-30:** Implement Final Print workflow across all FP products
4. **April 8-15:** Implement Express Print workflow
   Implement Art & Premium Proof Prints as Final Print Workflow
5. **April 21:** Fully Implement DP2 Event Proxy Free CC (John)

Top Risks: Schedule & Server Performance
Additional Slides

- Event Workflow - Current/Future States
- Product Workflow
  - DP2 Migration Future State
  - Current/Future State by Product
Event Workflow
Current State

WYSIWYG (W)
- Image Submission
  - Dig2Scan
    - High Res Folder
    - Low Res Folder
      - Rename
        - Final IDB
        - Final PDB

Free CC (CC)
- Image Submission
  - Dig2Scan
    - High Res Folder
    - Low Res Folder
      - Bellamax (Auto)
        - Rename
        - Final IDB
        - Final PDB

Film
- Image Submission
  - Scan
    - Color Correction (process varies by scan method)
      - Dig2Scan
        - High Res Folder
        - Low Res Folder
          - Rename
            - Final IDB
            - Final PDB

Premium CC (PCC)
- Image Submission
  - DP2 (Auto)
    - Dig2Scan
      - High Res Folder
      - Low Res Folder
        - Rename
          - Final IDB
          - Final PDB

RAW
- Image Submission
  - Phase 1
    - Pre QA (Manual)
      - Dig2Scan
        - High Res Folder
        - Low Res Folder
          - Rename
            - Final IDB
            - Final PDB
Event Workflow
Future State

WYSIWYG (W)
Image Submission
   Dig2Scan
   High Res Folder
   Low Res Folder
   Rename
   Final IDB
   Final PDB

Free CC (CC)
Image Submission
   Dig2Scan
   High Res Folder
   Low Res Folder
   Rename
   Final IDB
   Final PDB

Film
Image Submission
   Scan
   Color Correction (process varies by scan method)
   DP2 (Auto)
   Dig2Scan
   High Res Folder
   Low Res Folder
   Rename
   Final IDB
   Final PDB

Premium CC (PCC)
Image Submission
   DP2 (Auto)
   DP2 (Manual)
   Dig2Scan
   High Res Folder
   Low Res Folder
   Rename
   Final IDB
   Final PDB

RAW
Image Submission
   Phase 1
   Pre QA (Manual)
   Dig2Scan
   High Res Folder
   Low Res Folder
   Rename
   Final IDB
   Final PDB

Must tag Submission Type in Database at Image Level
DP2 Migration
Future State
(Blue = Automated)

Final Print Workflow: Album Prints, Final Prints, FAC, CC Proof Book, CTB, Greeting Card, Premium & Art Proofs

- IDB
- ODB
- Retouch Image Folder
- DP2 (Auto) (only W & CC IDBs)
- DP2 (Manual)
- Flatten all
- Retouch Image Folder
- Product Folder
- DP2/Outsource (Print)

Express Workflow: Express Prints, Direct Proofs, Hi Resolution CD

- IDB
- ODB
- Express Image Folder
- DP2 (Auto-Event) (only CC IDBs)
- Flatten just CC IDBs
- Express Image Folder
- Product Folder
- DP2/Outsource (Print)

Proxy Workflow (no changes to products or workflow):
Proof Book, Proof Magazine (IDB cover image), Proof CD, Low Resolution CD, DVD

- PDB
- Product Folder
- DP2/Outsource (Print)

*Photoshop used for custom retouching
Current/Future State by Product

**Album Prints**

**Current State**

- IDB
- ODB
- Retouch Image Folder
- Photoshop
- Retouch Image Folder
- Product Folder
- DP2 (Manual)
- DP2 (Print)

**Future State: Final Prints Workflow (Album Prints, Final Prints, Greeting Card, CC Proof Book, CTB, FAC, Premium & Art Proofs)**

- IDB
- ODB
- Retouch Image Folder
- DP2 (Auto) (only W & CC IDBs)
- DP2 (Manual)
- Retouch Image Folder*
- Product Folder
- DP2/Outsource (Print)

*Photoshop used only for custom retouching

**Image Profile Key**

- Original
- Color Enhanced
- Color Enhanced & Balanced
Current/Future State by Product
Final Prints & Greeting Card

Current State

- IDB
- ODB

Retouch Image Folder → Bellamax (IDB only) → Retouch Image Folder*

Product Folder → DP2 (Manual) → DP2 (Print)

*Photoshop used only for custom retouching

Future State: Final Prints Workflow (Album Prints, Final Prints, Greeting Card, CC Proof Book, CTB, FAC, Premium & Art Proofs)

- IDB
- ODB

Retouch Image Folder → DP2 (Auto) (only W & CC IDBs) → DP2 (Manual)

Flatten all

Product Folder → DP2/Outsource (Print)

*Photoshop used only for custom retouching

Image Profile Key
- Original
- Color Enhanced
- Color Enhanced & Balanced
Current/Future State by Product
CC Proof Books & CTB

Current State

IDB
Retouch Image Folder
Bellamax (IDB only)
Retouch Image Folder*
Product Folder
Outsource

*Photoshop used only for custom retouching

Future State: Final Prints Workflow (Album Prints, Final Prints, Greeting Card, CC Proof Book, CTB, FAC, Premium & Art Proofs)

IDB
Retouch Image Folder
DP2 (Auto) (only W & CC IDBs)
Flatten all

Images not "W" or "CC" IDB

ODB

Retouch Image Folder*
Product Folder
DP2/Outsource (Print)

*Photoshop used only for custom retouching

Image Profile Key
- Original
- Color Enhanced
- Color Enhanced & Balanced
Current/Future State by Product
Fine Art Card (FAC)

Current State

Future State: Final Prints Workflow (Album Prints, Final Prints, Greeting Card, CC Proof Book, CTB, FAC, Premium & Art Proofs)

Image Profile Key
- Original
- Color Enhanced
- Color Enhanced & Balanced

*Photoshop used only for custom retouching
Current/Future State by Product
Premium & Art Proofs

Current State
- IDB
- ODB

Product Folder
- Bellamax (CC events)
- DP2 (Manual)
- Product Folder
- DP2/Outsource (Print)

Future State: Final Prints Workflow (Album Prints, Final Prints, Greeting Card, CC Proof Book, CTB, FAC, Premium & Art Proofs)
- IDB
- ODB

Retouch Image Folder
- DP2 (Auto) (only W & CC IDBs)
- DP2 (Manual)
- Flatten all
- Images not "W" or "CC" IDBs
- Retouch Image Folder*
- Product Folder
- DP2/Outsource (Print)

Image Profile Key
- Original
- Color Enhanced
- Color Enhanced & Balanced

*Photoshop used only for custom retouching
Current/Future State by Product

Express Prints

Current State

IDB
Product Folder
DP2 (Manual)
Product Folder
DP2/Outsource (Print)

ODB

Future State: Express Workflow (Express Prints, Direct Proofs, Hi Resolution CD)

IDB
Express Image Folder
Express Image Folder
Product Folder
DP2/Outsource (Print)

ODB

Images not “CC” IDB

OOriginal
OCOLOR Balanced
OCOLOR Enhanced & Balanced
Current/Future State by Product
Direct Proofs & Hi Resolution CD

Current State

Future State: Express Workflow (Express Prints, Direct Proofs, Hi Resolution CD)

Image Profile Key
- Original
- Color Enhanced
- Color Enhanced & Balanced