

Welcome

To Advance through Presentation
Use Page Up and Page Down Keys



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ColorSync 2.6 and Beyond

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Introduction

- What's new in ColorSync 2.6
- Developing ColorSync for Windows
- Helpful tips
- New ColorSync
- ColorSync MacOS X
- Q&A





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New in ColorSync 2.6

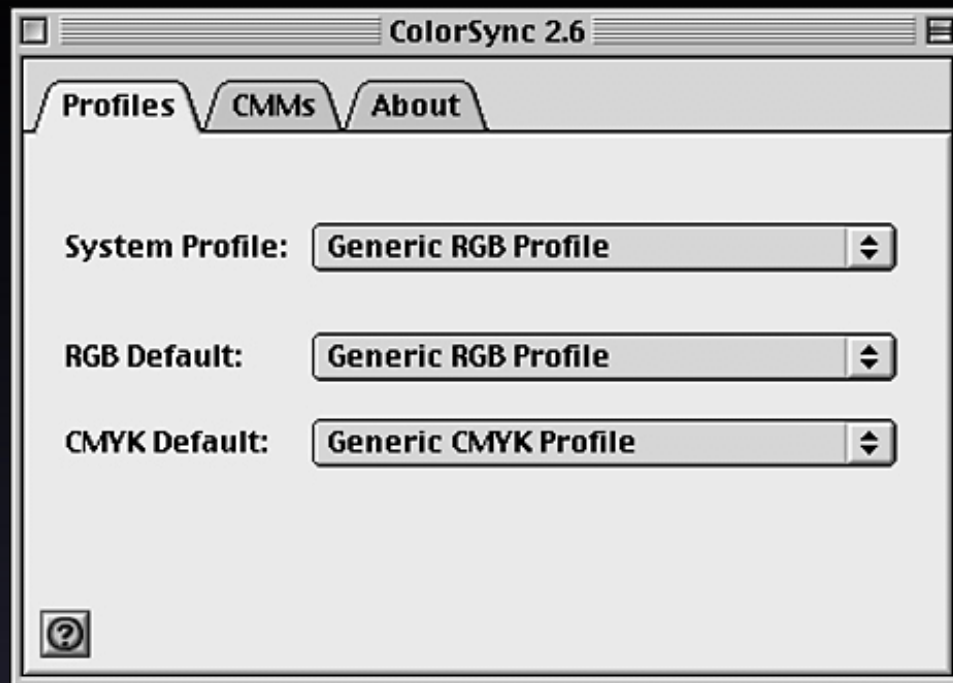
New in ColorSync 2.6

- Updated control panel
- New ColorWorld APIs
- Additional AppleScript capabilities
- Updated calibrator



New in ColorSync 2.6

- Updated control panel



New in ColorSync 2.6

- New ColorWorld APIs
 - NCMConcatColorWorld
and NCMNewLinkProfile

```
struct NCMConcatProfileSet {  
    OSType  cmm;  
    UInt32  flags;  
    UInt32  flagsMask;  
    UInt32  profileCount;  
    NCMConcatProfileSpec  profileSpecs[n];  
};
```

```
struct NCMConcatProfileSpec {  
    UInt32  renderingIntent;  
    UInt32  transformTag;  
    CMProfileRef  profile;  
};
```



New in ColorSync 2.6

- Updated calibrator
 - Can return failure string
 - New parameter block
 - New code fragment name prefix is 'cali'



New in ColorSync 2.6

- Additional AppleScript capabilities
 - Support for JPEG and GIF
 - Consistent scripting for any file format
- Powerful profile class
- 19 sample scripts





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Demo

ColorSync 2.6



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ColorSync on Windows

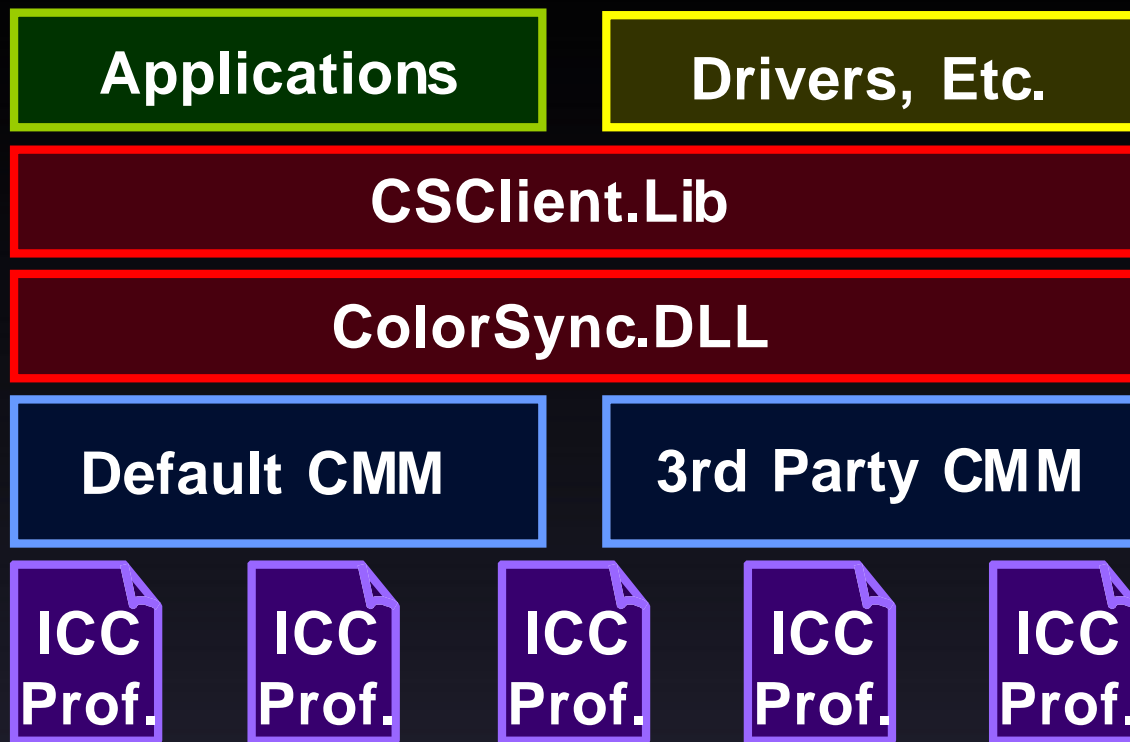
ColorSync on Windows

- Architecture overview
- New APIs
- New bitmap formats
- Developing ColorSync savvy apps and device drivers
- Integration with ICM 2.0
- Calibration framework



ColorSync on Windows

- Architecture overview



ColorSync on Windows

- Architecture overview
 - ColorSync.dll
 - Heidelberg.CMM
 - Kodak.CMM
 - ColorSyncControl.cpl
 - DefaultCalibrator.cal
 - Photoshop Plug-ins



ColorSync on Windows

- New APIs (Mac OS and Windows)

- **NCMSetSystemProfile**
and **NCMUnflattenProfile**

FSSpec replaced by **CMProfileLocation**

- **CMGetProfileDescriptions**
and **CMSetProfileDescriptions**

New APIs to set and get the ASCII,
Unicode, and ScriptCode names of the
'desc' tag

- **CMIterateCMMInfo**



ColorSync on Windows

- New APIs (Windows only)
 - **CMGetColorSyncFolderPath**
ColorSync for Windows version of
CMGetColorSyncFolderSpec
 - **CWMatchHBITMAP**
ColorSync for Windows version of
CWMatchPixMap



ColorSync on Windows

- New bitmap formats (Mac OS and Windows)
 - Little Endian pixel formats
cmRGB48LSpace
 - Reverse channels
cmRGB24Space + cmReverseChannelPacking
 - Windows specific
cmRGB565Space
 - While we were at it...
cmGray8Space, cmXYZ48Space



ColorSync on Windows

- Developing ColorSync savvy apps and device drivers
 - Same ColorSync API as on Mac OS
 - Link against 'CSClient.lib' for weak dependency on ColorSync.
 - Use **CMGetColorSyncVersion**
 - Use ColorSync to match from GDI colorspace to the device's profile



ColorSync on Windows

- Integration with ICM 2.0
 - Same profile location
 - Win95/98:
C:\Windows\System\Color
 - WinNT 4:
C:\WinNT\System32\Spool\Drivers\Color
 - Shared settings
 - Monitor, ...



ColorSync on Windows

- Calibration framework
 - Same as on MacOS
 - Windows API **SetDeviceGammaTable** does not work under Windows NT 4
 - Vendor specific solutions





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ColorSync on Windows



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Helpful Tips

Helpful Tips

- Profile description tag
 - Use **CMSetProfileDescriptions**
 - Check profiles with Profile First Aid



Helpful Tips

- CMProfileLocation
 - The size of the union has grown
 - Use **NCMGetProfileLocation**
- Profile iteration
 - Profiles may be in a sub-folder
 - Don't assume profiles are disk-based



Helpful Tips

- CMBitmaps
 - Set the pixelsize field correctly
- CWMatchBitmap
 - Beware of 'Match in place'
 - Better to explicitly pass two bitmaps with the same buffer



Helpful Tips

- History of the “System Profile”
 - ColorSync 1.0 – 2.1
 - System Profile



Helpful Tips

- History of the “System Profile”
 - ColorSync 2.5
 - System Profile
 - Profile by AVID
 - Profile by Space



Helpful Tips

- History of the “System Profile”
 - ColorSync 2.6
 - System profile
 - Can be tied to a display
 - Profile by AVID
 - Profile by Space





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New ColorSync

New ColorSync

- State of the union between applications and color management (survey of current UIs)
- New Control Panel
- New APIs
- Demo



New ColorSync

- Color Management has come a long way
 - Many applications now support ColorSync fully, and it's scriptable
 - Major publishing companies using it daily, major cost reduction
 - New users and groups—web, photographers, archivists, artists



New ColorSync

- There's more work to do to make color management easier, more predictable.
 - System (Mac OS) integration is not complete (WIP)
 - Applications present different user interfaces, options, and terminology
 - Users can easily get confused about color



Current UIs

Profile Setup

Embed Profiles

☒ RGB ☒ CMYK ☒ Grayscale ☒ Lab

Assumed Profiles

RGB: Monitor RGB

CMYK: ColorMatch 3.01 - SWOP Ink, Sheetf...

Grayscale: Generic Gray Profile

Profile Mismatch Handling

RGB: Ask When Opening

CMYK: Ask When Opening

Grayscale: Ask When Opening

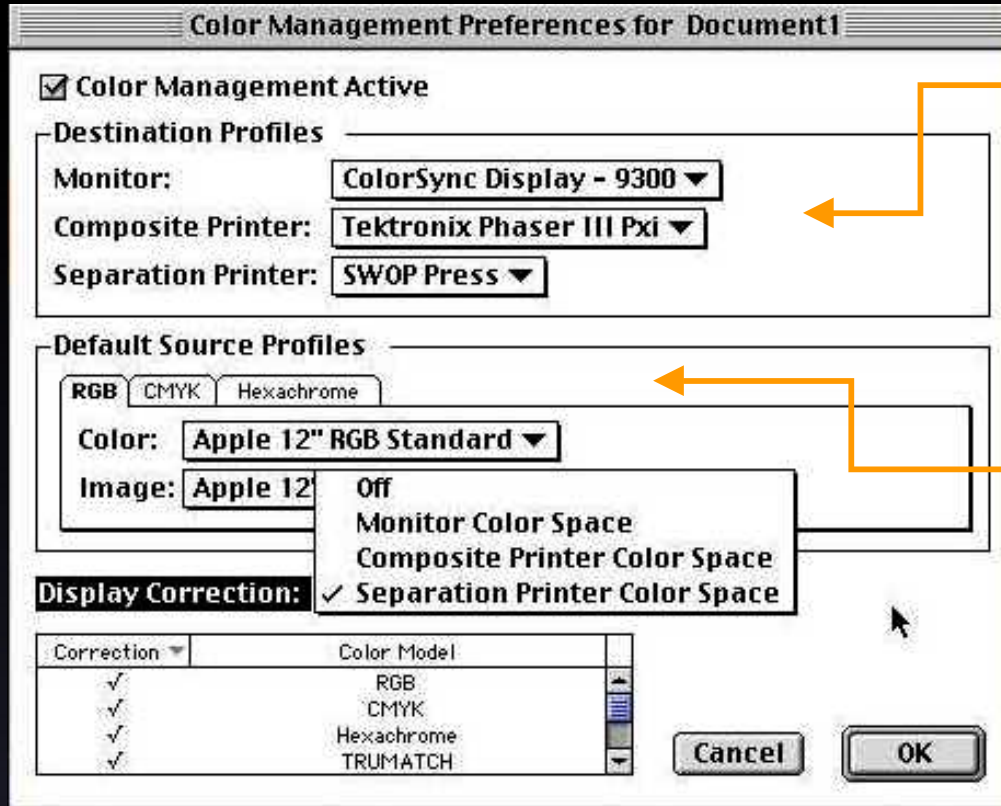
OK

Cancel

- Profiles by Color-Space



Current UIs

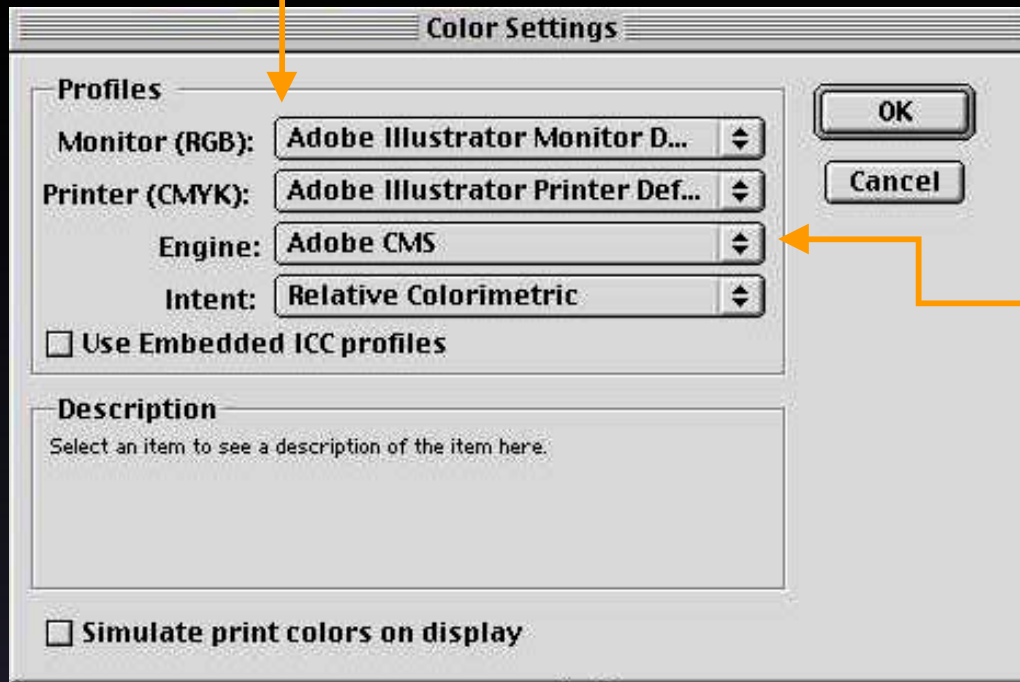


• Profiles based on usage

• Profiles by Color-Space



Current UIs



- Profiles based on usage

- Which CMM?



Current UIs

- Common Elements—Settings for:
 - Profiles for documents
 - Profiles by usage in workflow
 - CMMs (Color Engines)
- Apple can help create consistency



New ColorSync

- New Control Panel—contains common elements from color options UIs



New ColorSync

- New Control Panel—contains common elements from color options UIs
 - Profiles by usage in workflow



New ColorSync

- New Control Panel—contains common elements from color options UIs
 - Profiles by usage in workflow
 - Profiles for documents (default)
 - Same functionality as 2.6, new title



New ColorSync

- New Control Panel—contains common elements from color options UIs
 - Profiles by usage in workflow
 - Profiles for documents (default)
 - Same functionality as 2.6, new title
 - Consistency and Control across apps
 - Use ColorSync settings for the common options, eliminate or minimize UI/code
 - Control Panel can be launched by app



New ColorSync

- New APIs
 - CMGetProfileByUse
 - **cmInputUse**
 - **cmOutputUse**
 - **cmDisplayUse**
 - **cmProofUse**
 - CMGetProfileBySpace
 - Use these settings for documents
 - CMLaunchControlPanel
 - Control over color “within” your app





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New ColorSync

ColorSync MacOS X

- Fully integrated into Developer Preview 2
- Callable from Carbon apps, Cocoa apps, and other core services
- Consistent API and behavior



Resources

- www.apple.com/coloursync
- www.apple.com/developer/sdk/
- coloursync-dev and coloursync-users lists
- coloursync@apple.com
- Feedback session:
Session 212, Friday 2:30pm, Hall A2





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Q&A



Think different.TM



Welcome

To Advance through Presentation
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