



Cisco Expo
2009

Digital Media System

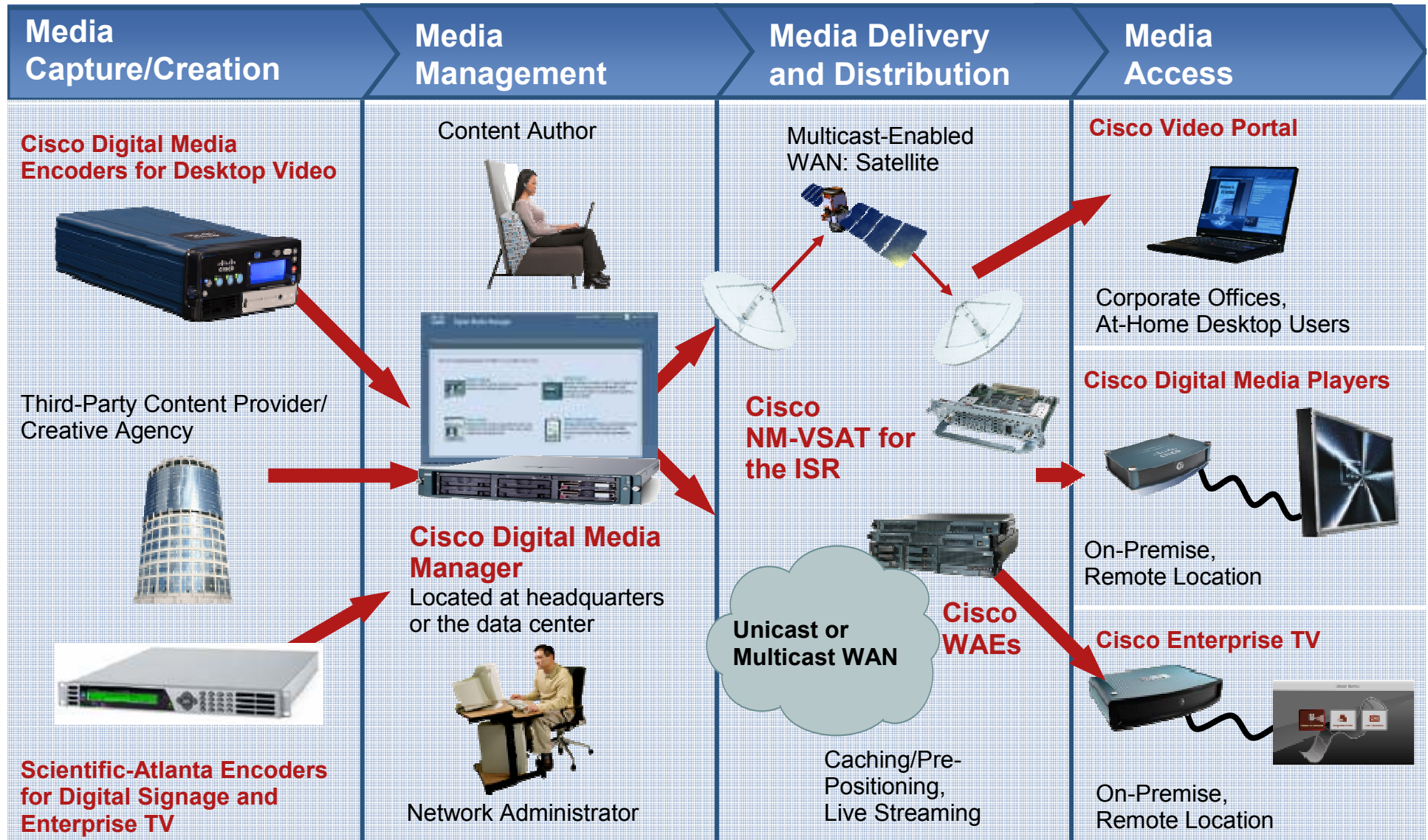


TECHNICAL OVERVIEW - Marius Baczynski (10:30 – 11:15 CET)

Agenda

- Solution overview
- Digital Signage
- Enterprise TV
- Desktop Video
- Media Experience Engine
- DMS software release 5.1 enhancements

Digital Media System: Across the Network





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DMS Components



Digital Media Manager

- **Digital Media Manager supported appliances:**

- Cisco MCS-7835-H1
- Cisco MCS-7835-H2



- **Digital Signage Module**

- Publish scheduled and live digital media over an IP network to remote, destination servers

- **Enterprise TV Module**

- Deliver on-demand video and broadcast TV channels over an IP network to large displays in conference rooms, public venues, or executive offices

- **Video Portal Module**

- Publish live and on-demand content to desktop video

- **Live Event Module**

- Synchronise presentation slides and interact with a live speaker

Digital Signage



Cisco DMP 4305G

1. IP-Enabled delivery of live broadcasting and on-demand video content
2. MPEG 1, 2 and 4 (Part 2) in SD & HD, MPEG2-TS encapsulation
3. Graphics, Web Content, Adobe Flash 6/7 animation, and static or RSS tickers
4. Remote management of display (on/off, volume, contrast, and brightness)
5. Full-screen video or screen zoning
6. Customizable on-screen templates
7. Integration with Cisco Digital Media System and Cisco ACNS
8. Local storage of 2 GB capacity, high availability and automatic failover
9. Small form factor
Size: 7.5" x 5" x 1.5", Weight: 1lb
10. Steel shell: hardened device
11. 12W (peak) / 5W (avg) power consumption
12. High reliability: 105,242 hours (12 years)



Cisco DMP 4400G Key Features

1. IP-Enabled delivery of live broadcasting and on-demand video content
2. MPEG 1, 2, **MPEG-4/Part 10 (H.264)** AVC support, MPEG2-TS encapsulation
3. Graphics, Web Content, Adobe **Flash 9** animation with **more powerful engine for complex Flash content**, **scrolling** static or RSS tickers, **FLV (future)** support, **Flash audio (future)** support
4. Remote management of display (on/off, volume, contrast, and brightness)
5. Full-screen video or division of the screen
6. Customizable on-screen templates
7. Enterprise TV: remote controlled channel & program guide
8. Remote control for ETV navigation
9. Integration with Cisco ACNS
10. **4GB local storage (2.7GB usable)**
11. **SNMP Support**
12. Size: 10" x 8" x 2", Weight: 4.5 lb
13. Steel shell: hardened device
14. 30W (avg) / 40W (peak) power consumption
15. High reliability: 10 years



In RED: Key new Hardware Features versus 4305G

Typical Compression Ratios

1. For Broadcast Video Applications, the following compression ratios are typical:

2. MPEG-2

SD: 270Mbps SDI → 3.5 – 5 Mbps MPEG-2 Stream

HD: 1.485Gbps SDI-HD → 15 – 20 Mbps MPEG-2 Stream

Compressed stream is **50 to 100 times smaller**

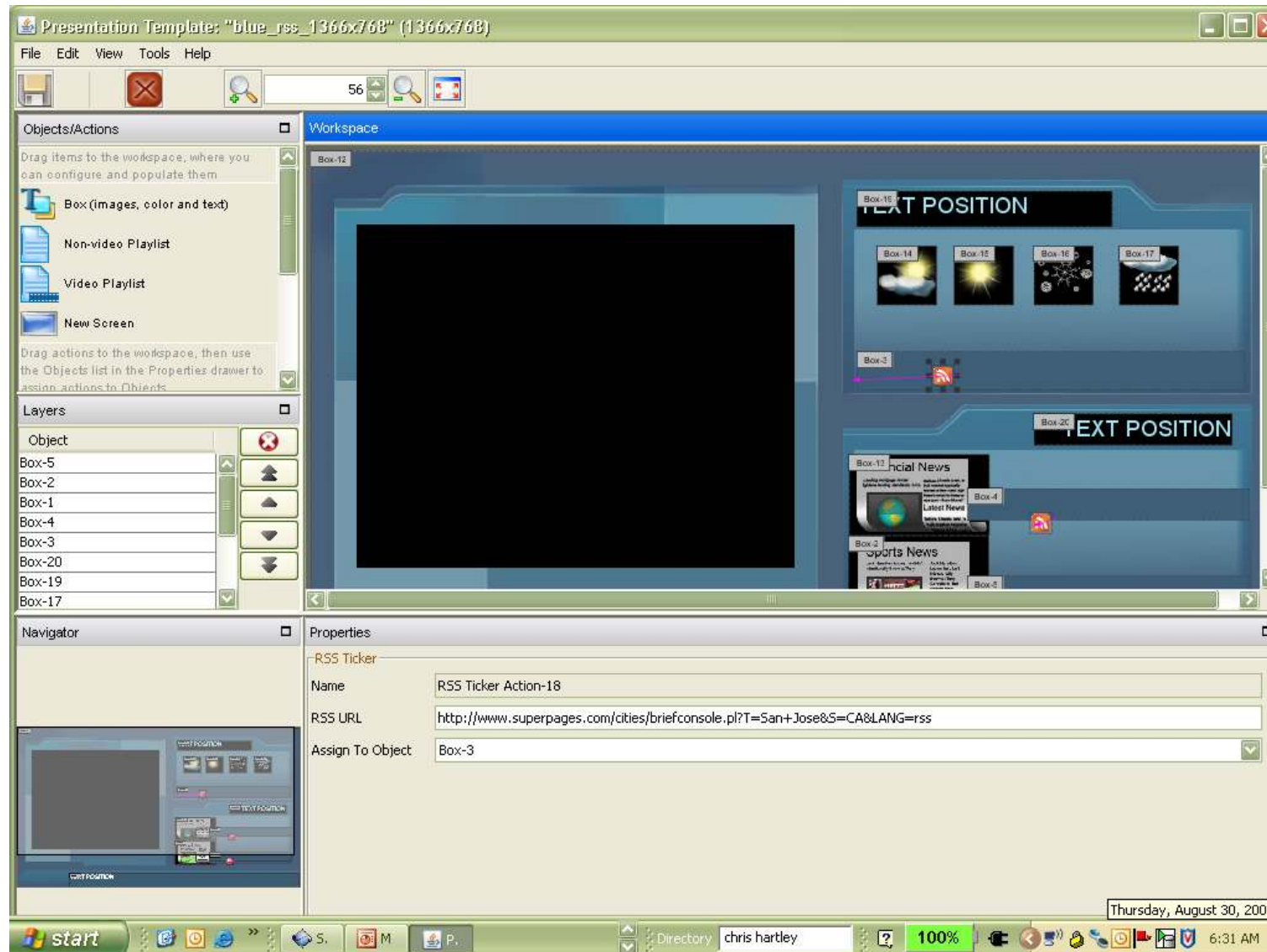
3. MPEG-4

SD: 270Mbps SDI → 1.5 – 2.5 Mbps H.264 Stream

HD: 1.485Gbps SDI-HD → 8 – 12 Mbps H.264 Stream

Compressed stream is **100 to 180 times smaller**

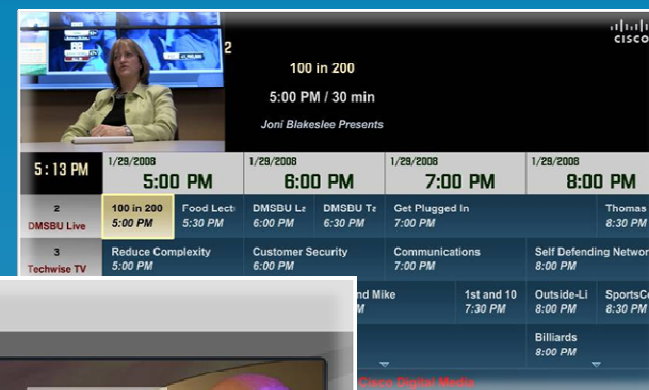
DMM: Designer for Digital Signage



Enterprise TV



Enterprise TV Components



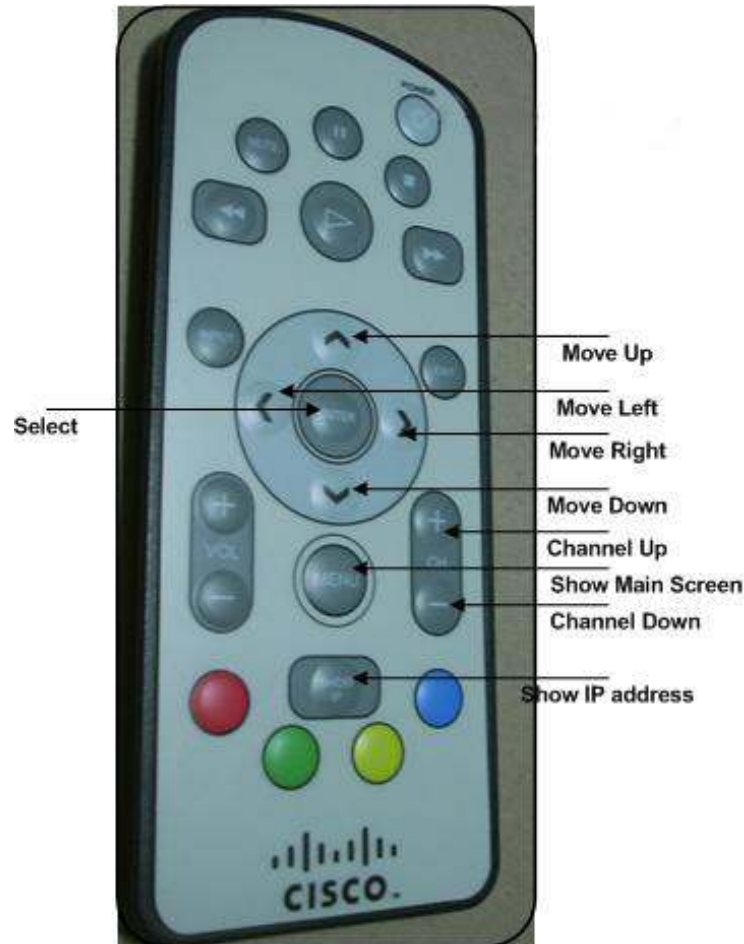
Digital Media
Player



Digital Media
Manager

Network as the Platform

DMP Accessory: Remote Control

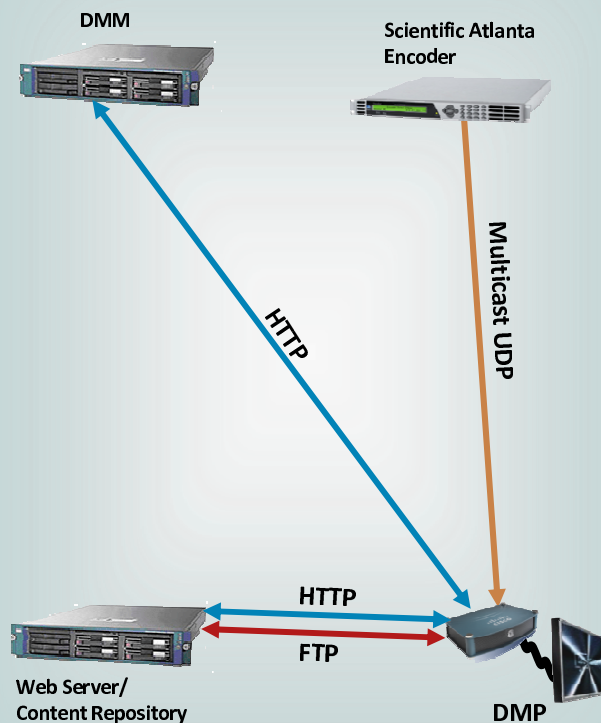


Remote Control Key Features

1. Compatible with DMP 4xxxG series
2. Enterprise TV: Used for channel switching and menuing
3. Remote control programmed to adjust display/TV volume
4. Limited Admin control of DMP functions (i.e. show IP, etc.)

ETV/Digital Signage Connections

ETV/DS Component Connections



Digital Media Manager (DMM)

Controls and communicates with all critical Enterprise TV/Digital Signage components.

Scientific Atlanta Encoder

Encodes live video input into a MPEG-2 or MPEG-4 multicast stream.

Web Server/Content Repository

Holds all VoDs referenced by the DMM. All VoD streaming requests issued to the DMP are serviced from this server.

Digital Media Player (DMP)

Decodes and displays unicast and multicast streamed video as well as flash content

Desktop Video



Cisco Video Portal— Browse, Search and View Digital Media

Features

1. Customizable interface, program guide and search
2. Personalized playlists and featured lineups
3. Advanced player controls and full-screen
4. Fully integrated with Cisco Digital Media Manager and Video Portal Reports
5. Supports WMV, Flash with H.264 & QuickTime



**Customize Look and Feel
to Reflect the Organization Brand
within the Digital Media Manager**

Cisco Video Portal

1. Cisco Video Portal supported appliances:

- Cisco MCS-7825-H3
- Cisco MCS-7835-H2



2. Number of concurrent users:

- MCS-7825 Supports 500 concurrent users
- MCS-7835 Supports 1000 concurrent users

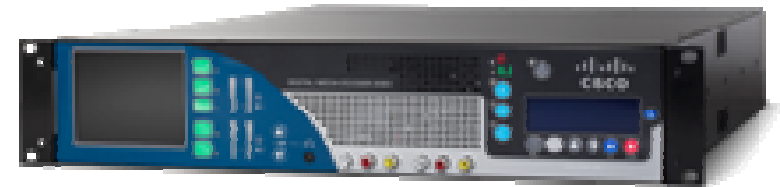
3. Supported CODEC:

- Windows Media
- Flash
- MPEG-4/H.264

Cisco Digital Media Encoder Line— Capture/Encode Video & Audio Feeds

DME 2000 Features

1. Dual channel encoding appliance
2. Live encoding/transcoding of media from analog and digital standard formats (WMV, FLV, H.264, etc.)
3. Locally manage via embedded LCD or remotely-managed through Cisco Digital Media Manager



Digital Media Encoder 2200

DME 1000 Features

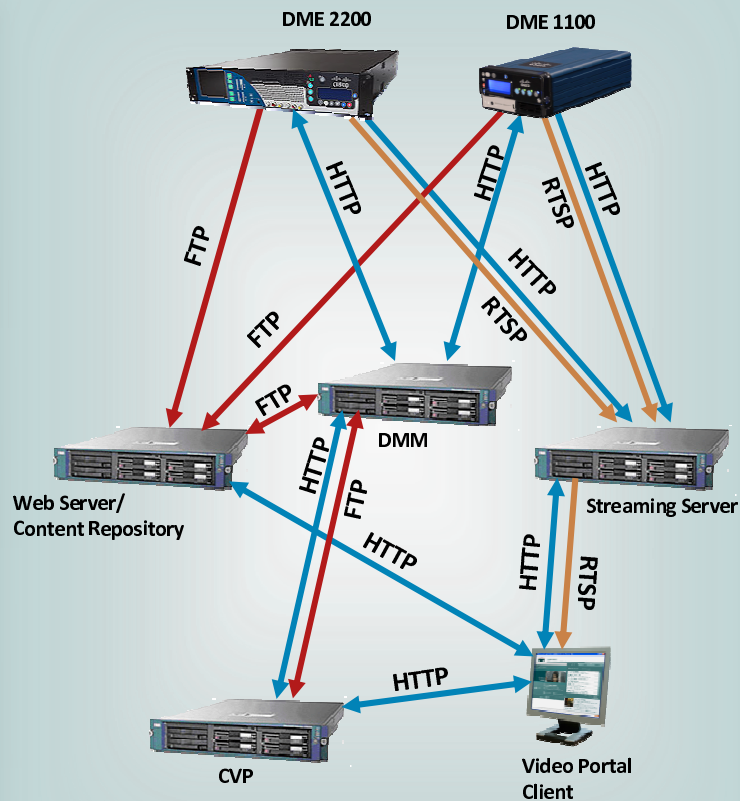
1. Portable, lightweight, single channel encoder
2. Encode video live onto iPod or live network distribution
3. Local and remote management



Digital Media Encoder 1100

Desktop Video Connections

Desktop Video Component Connections



Digital Media Encoders (DME)

Register with the DMM and broadcast live video to the Streaming Server using RTSP. Recorded video may be archived to the Content Repository.

Digital Media Manager (DMM)

Controls and communicates with all critical Desktop Video Components.

Web Server/Content Repository

Holds all VoDs referenced by the Video Portal server. All VoD streaming requests to the Video Portal server are re-directed to this server.

Cisco Video Portal (CVP)

Provides the web based interface for clients. All navigation and authentication is completed through this server.

Streaming Server

Provides stream splitting capabilities, allowing many clients to view a single live stream from a DME or pre-recorded source (live re-broadcast)

Media Experience Engine (MXE-3000)



What is the MXE 3000?

Web / Mobile



Input

Quicktime, MPEG-1, MPEG-2, AVI, Windows Media, VC-1, H.264

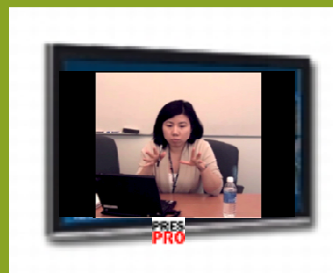
Output

H.264, Flash 8 On2 VP6, Windows Media, 3GPP, Quicktime, Real, MP3, WAV

Additional features

API
Job Manager

VoD



Input

Quicktime, MPEG-1, MPEG-2, AVI, Windows Media, VC-1, H.264

Output

MPEG-2 transport streams (SD and HD), MPEG-4/H.264 transport (SD and HD) streams, AC-3 Audio, Layer II Audio, Windows Media Proxy, MPEG 1, MPEG 2

Graphics



Dynamic graphics updates occur during transcoding
Supports multiple simultaneous transcoding sessions with customized graphics.
Overlays graphics on all output formats
Flash 8 Pro template authoring
Web Services and XML API interfaces
ActionScript enabled





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Video
Composition

Title
Overlays

Logo
Insertions

Janey Hoe, Senior Director



In the News: Cisco announces the availability of

CISCO CONFIDENTIAL
DIGITALLY WATERMARKED - DISTRIBUTION TRACKING ON

Animated
PowerPoint
Insertions

Dynamic
Streaming
Tickers

Water -
marking





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DMS Release 5.1 Enhancements

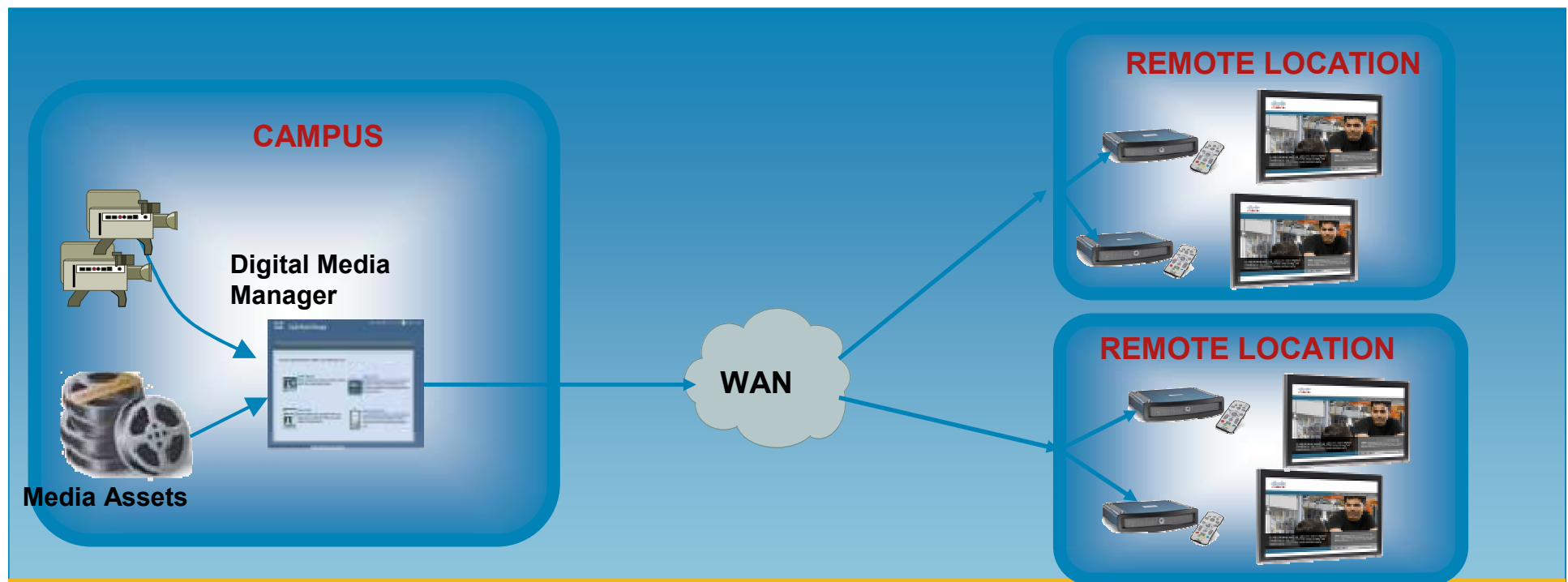


DMS 5.1: Challenges Before DMS-CD

1. The legacy feature “File Transfer to DMP” cleaned out the DMP(s) local storage every instance
2. Waste of bandwidth, since the content is re-transferred to the DMP(s), even if the content is already partially there
3. “File Transfer to DMP” addressed only local storage and not USB external storage
4. With this, content distribution was solely dependent on ACNS
2-3x the budget requirements unless customer already has ACNS

DMS 5.1: DMS-CD

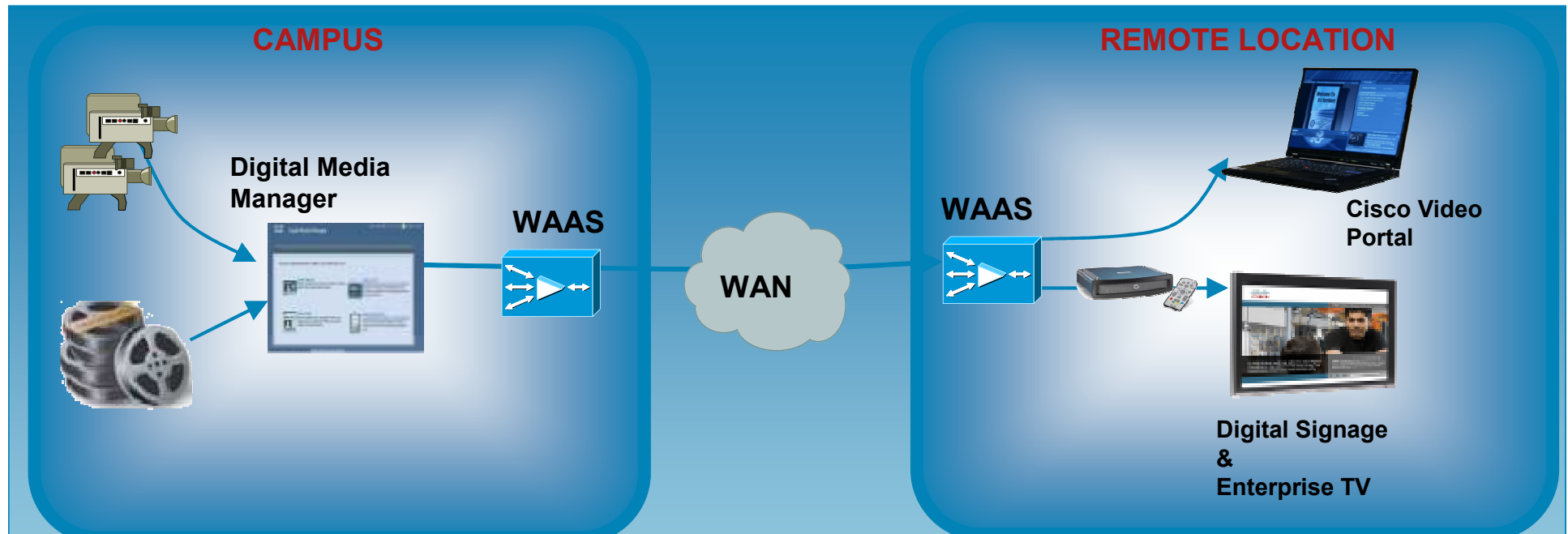
1. Leverage DMP flash memory and external USB drive for content pre-positioning
2. Included as part of DMM signage license
3. Ideal for small content updates, typically 2-3 DMPs per site



DMS-CD for Digital Signage =
Easy & Cost effective Digital Media Deployments

DMS 5.1 – DMS + CIFS/WAAS

1. WAAS - optimize business applications + global video/media delivery
 2. Desktop video – Supported with WAAS 4.1
 3. Signage – With DMS 5.1
- One CIFS mount only – all or no DMPs



Cisco WAAS + Digital Media System =
Expanded Reach of Digital Media Deployments

Enterprise TV Control through Cisco IP Phone

1. Cisco 796X and 797X Phones can support ETV Remote service

- Change channel
- Navigate ETV Menu
- Adjust volume



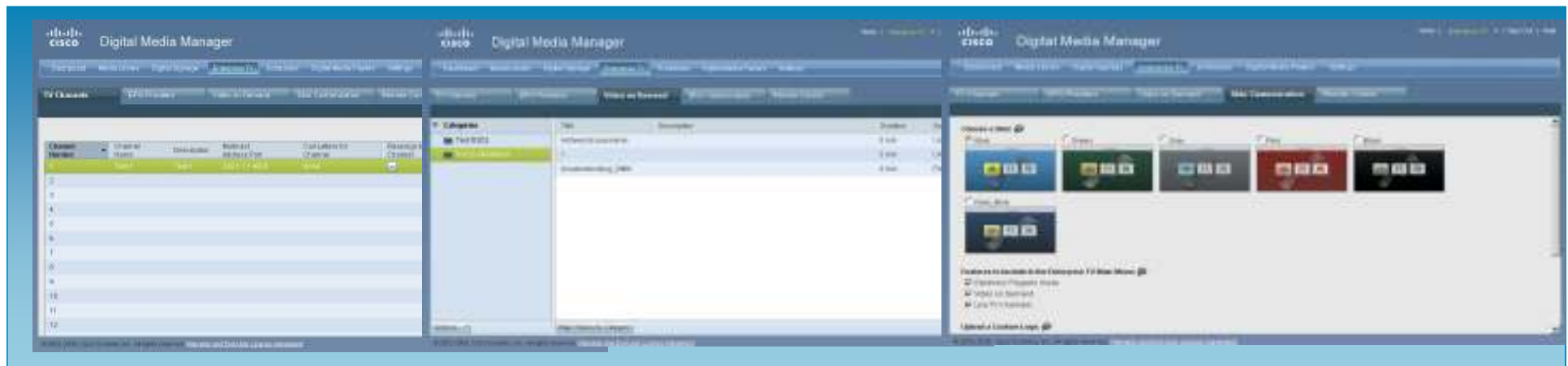
2. Web service for Mobile Phone

- Mobile Phone browser access to ETV remote controls
- iPhone, Motorola Phones supported
- Use optional DMP ID to time out access with remote phones



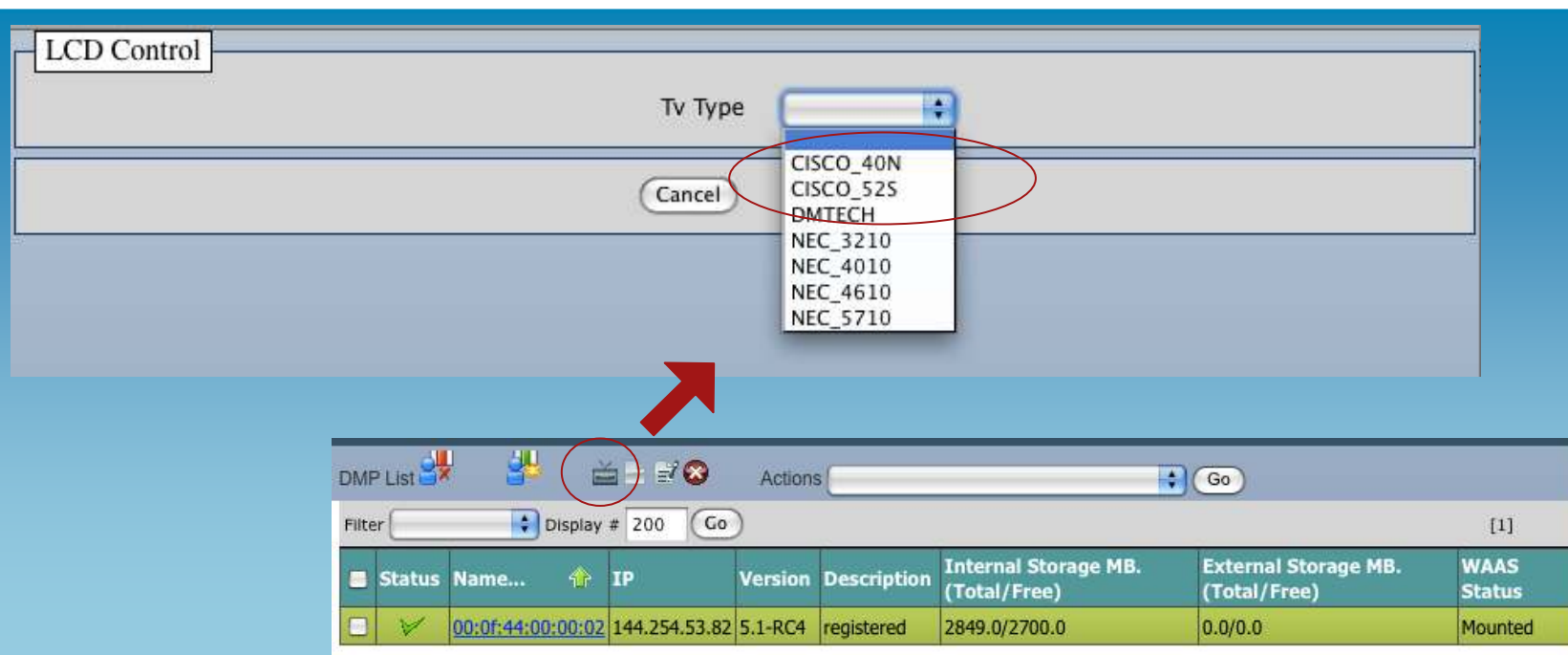
DMS 5.1: ETV Local Playback

1. Allows the users to store the videos locally (VoDs) on the flash memory or the USB attached to the DMP
2. Save WAN bandwidth when using ETV's VoD
Customers with low WAN bandwidth and without WAAS, or ACNS, will like to use this feature
3. Deploy content to the internal memory (or USB drive) in order to be used as VoD for ETV using DMS-CD



DMS 5.1: RS232 Built-in support for Cisco LCD

1. Cisco Professional Series LCD were recently added to the DMS product family
2. Version 5.1 of the Digital Signage Module has built-in support for both screen models





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Summary



DMS 5.1: Summary

1. **Cisco DMS is the only 'end-to-end' market solution to offer integrated Digital Signage, ETV, Desktop Video, media production, content distribution and LCD displays from a single vendor.**
2. DMS 5.1 offers a major step forward for Signage content distribution
3. DMS-CD expands possibilities and reduces bandwidth for content updates to DMPs
4. WAAS may be used for both Desktop Video and Signage
5. Signage can leverage CIFS for content pre-positioning
6. ETV enhancements like EPG, local playback and IP Phone control offer key new features to the Enterprise TV solution
7. **Wide partner ecosystem allows integration with solutions such as 'touchscreen', queue management, RFID, audience analytics, etc.**

