Cisco Digital Media System: Simply Compelling Communications

Executive Summary

The Cisco® Digital Media System enables organizations to use high-quality digital media to easily connect customers, employees, partners, and students—anywhere, anytime. It is an easy-to-use, comprehensive solution for compelling digital media creation, management, and access. Using the power of the IP network, the Cisco Digital Media System delivers live and on-demand content in various formats to wired and wireless devices and enables organizational transformation by putting the human face back into business.

Digital Media For Compelling Communications

Digital media is perhaps the most compelling and effective way for organizations to communicate with customers, employees, partners, or students about important news, information, training, or events. Digital media is effective because it brings both intimacy and immediacy to communications and information. Intimacy is inherent in digital media because viewers see the "whole picture": participants' expressions, emphases, and enthusiasm, as well as the details of any objects. The Cisco Digital Media System enables immediacy through the easy and flexible delivery of live or stored compelling content for instant impact.

Studies show that people are far more likely to engage and retain information they can both see and hear. With digital media, large amounts of often complicated information can be absorbed and remembered easily. And digital media is versatile; it draws viewers in whether the content is external marketing, entertainment materials, internal communications, or training. External materials include advertising, informational, or marketing content to either digital signage displays or through the Web to desktop computers. Internal communications include training, news, complex visual information, executive communications, panel discussions, Q&A sessions, or even a virtual sales visit. Through digital media, organizations can deliver information that is fresh and compelling to viewers in a timely and proficient way.

The Challenge

Organizations of all sizes are increasingly striving to improve internal and external communications. Companies face growing challenges in communications to geographically dispersed employees or marketing to customers, and concerns about innovation and competition. With digital media, organizations can provide direct, relevant communications, and richer and more satisfying experiences—ultimately driving business transformation across many aspects of the business.

However, employing digital media has typically required IT groups to put together individual components from multiple vendors, resulting in complex integrations and high total cost of ownership and expensive outside video editing services. In the absence of an integrated digital media solution, organizations have been forced to take a piecemeal approach, thereby missing the benefit of the overall digital media value chain from creation to management and publishing of

content. The challenge of supporting proprietary or standalone technology, multiple formats, browser or digital player types, and access methods further intensifies the dilemma facing organizations.

Major pain points customers face include:

- Communication challenges—Companies want to communicate, advertise, and train faster and more effectively through the use of digital media. Companies want to reach globally dispersed audiences through on-premise digital signs as well as at the desktop.
- Difficulties in using and managing video—Customers want easy and centralized content management and low IT overhead for workgroup operations for fast and flexible deployments. Day-to-day management is an operational challenge, and users must be technically savvy to use the systems.
- Network integration and distribution—Customers who have implemented a video system before find the network integration to be complex and want an underlying network as a platform for efficient and flexible distribution of digital media.

These concerns have created the need for an integrated digital media solution that can handle creation, management, and publishing of content to digital signs and through the Web to the desktop, while also flexibly supporting standard formats for live and on-demand content publishing.

The Solution: Cisco Digital Media System

The Cisco Digital Media System enables organizations to use high-quality, dynamic digital media to easily connect customers, employees, partners, and students anywhere, anytime. The Cisco Digital Media System extends digital media to new, compelling applications for real-time and on-demand communications—to enable organizational transformation by putting the human face back into business.

The Cisco Digital Media System quickly and easily handles digital media creation, management, and access in various formats for multiple wired or wireless connected devices. By making the integration of digital media into everyday life easier and faster, the Cisco Digital Media System enriches users' experiences. The solution uses the power of the IP network to enhance productivity and business operations by improving communications and collaboration capabilities.

A Wide Variety of Customer Applications for Human-Centric Communications

Using the network as a platform for digital media delivery gives customers in many different industries innovative tools for marketing, sales, education, training, communication, and collaboration. For example, an organization could easily deliver training information to a widely dispersed employee base or consistent marketing information to customers both on premises and at their desktops. Other examples include:

- Retail—Communicate quickly real-time about new offerings and changing specials to customers in stores on digital signs and through the Web; offer broadcasts of live promotional events.
- Financial Services—Train in-branch customer service representatives without taking them away from essential customer-facing roles; provide marketing content on digital signs to customers waiting in line to improve customer experience and drive sales.
- Government—Enable live and on-demand Web-based access to city council meetings; provide relevant content on digital signs to people waiting in line in government offices to speed transactions and reduce perceived wait time.

- Education—Extend the classroom environment to include remote broadcast and viewing of lectures as well as on-demand materials; deliver current news and information through digital signs around campus.
- Safety and Security—Provides up-to-the-minute communications about changing conditions in airports, stadiums, train stations, or auto routes; give real-time access to public safety information.
- Healthcare—Assist in overcoming staffing and resource shortages by providing patients, family, and friends with digital media-based “what to expect” materials; share directional and other relevant information through digital signs around the facility.

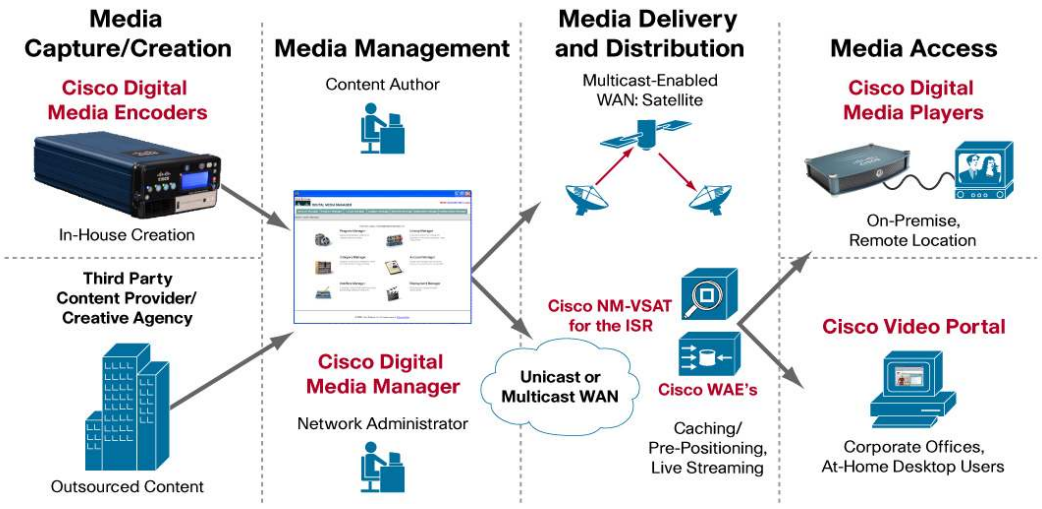
With the Cisco Digital Media System, organizations are empowered to improve productivity and enable new revenue opportunities that can drive business transformation, generate new profit streams, and build strategic advantage over competitors.

Integrated Components Create a Comprehensive Digital Media System

The Cisco Digital Media System (Figure 1) includes four product lines that span the entire digital media value chain:

- **Creation with Cisco Digital Media Encoders**: The Cisco Digital Media Encoder 2000 is a studio-level appliance with multiple channel support, ideal for users who require a variety of encoding formats and functions, and high-bandwidth encoding. The Cisco Digital Media Encoder 1000 is a portable encoder that can be used wirelessly for single-channel encoding and can extend Webcasting “outside the studio”. Both encoders support live and on-demand encoding in many formats.
- **Management with Cisco Digital Media Manager**: The Cisco Digital Media Manager manages and publishes digital media for digital signage and desktop video. It provides tools for users to add and archive media, assign metadata and keywords, preview content and manage workflow, schedule instant and future deployments, and create playlists. The Cisco Digital Media Manager also includes functions to remotely manage Cisco Digital Media Encoders. The Cisco Digital Media Manager integrates with Cisco Application Networking Services technologies, including Cisco Application and Content Networking System (ACNS) and wide-area content engines, for optimal digital media delivery across the network.
- **Publishing to the Cisco Digital Media Player**: From the Cisco Digital Media Manager, users can easily and flexibly publish centralized content to networked Cisco Digital Media Players. The Cisco Digital Media Player handles display and playback of content—including high-definition live broadcasts and on-demand video, flash animations, text tickers, and other Web content—across on-premise digital signage displays.
- **Access through the Cisco Video Portal**: The Cisco Video Portal allows desktop users to quickly browse, search, and view digital media interactively. It features a customizable program guide and search functions, personalized play lists and featured lineups, advanced player controls, full-screen playback, and a usage reporting tool. It supports established video formats including Windows Media, Real, Flash, and MPEG/H.264.

Figure 1. Cisco Digital Media System



Cisco Digital Media System Taps the Power of the Cisco Service-Oriented Network Architecture

The Web-based Cisco Digital Media System takes advantage of the Cisco Service-Oriented Network Architecture (SONA), an architectural framework that helps enterprises use existing infrastructure to develop an intelligent information network that supports new IP services and capabilities, including Web services, collaboration, and infrastructure virtualization.

Cisco SONA uses the intelligence and power of the Cisco IP Network to successfully integrate applications, process, resources, and management—in this case, transforming the network into the Cisco Digital Media System “application platform”.

Cisco Digital Media System technology relies on the interactive services of Cisco SONA to efficiently and intelligently secure bandwidth, determine level access, ensure high security, and deliver rich multimedia content. It is the transparent integration with Cisco SONA that solves the challenges of publishing continuously changing digital media on the network, helping ensure the continued operation of mission-critical applications and services, and delivering content anywhere to local or remote, wired and wireless devices at anytime.

The Business Benefits

Conceived and developed internally, the Cisco Digital Media System is a highlight of Cisco innovation, building on the company’s 20-year history of networking and 10-year expertise in video to meet the rapidly evolving needs of customers.

The Cisco Digital Media System effectively meets customers’ needs by delivering:

- Simplicity through easy-to-use Web interfaces that free workgroups to respond to business needs by centrally managing and delivering digital media on their own
- Flexibility to expand delivery of compelling video and audio content to desktop users, store customers, and others—providing a platform for future applications and devices, and support for many formats
- An integrated solution that spans the digital media value chain for an easy and rapid deployment, while taking advantage of other Cisco networking products to help ensure excellent performance

Architecture

The Cisco Digital Media System employs the underlying network as a platform in combination with Cisco Wide Area Application Engines to distribute and stream digital media content securely, reliably, transparently, and automatically. Running the Cisco Digital Media System with Cisco ACNS Software on Cisco Catalyst® switches and routers provides optimal performance. The Cisco Digital Media System relies on the inherent performance, quality of service, and traffic management capabilities of the underlying network to:

- Support both live unicast and multicast streaming services
- Provide on-demand access to video and audio files cached locally for retrieval and viewing over the network at LAN speeds
- Reduce video bandwidth to minimize impact on network traffic
- Prioritize video traffic over the network to help ensure an optimum viewing experience
- Secure and separate video traffic streams from other network traffic
- Efficiently distribute video to a large and dispersed user base
- Store video for on-demand usage
- Manage and protect video assets on the network

Service and Support

Cisco and its partners provide a broad portfolio of end-to-end services and support that can help you lower network total cost of ownership and increase business agility and network availability to increase the business value and return on investment of your network. This portfolio is based on the Cisco Lifecycle Services approach, which defines activities needed, by technology and by network complexity, throughout the six phases of the network lifecycle: prepare, plan, design, implement, operate, and optimize.

Cisco Services for the Cisco Digital Media System in the prepare, plan, design, and implement phases of the network lifecycle help you successfully deploy a reliable, high-performance Cisco Digital Media System.

Specific activities include:

- User feature and functionality requirements validation
- Architecture validation
- Network and operations readiness assessment
- Detailed design and implementation schedule development
- System acceptance test plan development
- Staffing plan development
- Installation, configuration, and integration support

For Cisco Digital Media Encoders, Cisco Services for the Cisco Digital Media System in the operate phase help ensure that Cisco products operate efficiently and benefit from the most up-to-date system software. Cisco SMARTnet® and SMARTnet Onsite support provide registered access to Cisco.com for online technical assistance, access to the Cisco Technical Assistance Center (TAC), Cisco IOS® Software updates and upgrades, and Advance Replacement of failed hardware: http://www.cisco.com/en/US/products/svcs/ps3034/ps2827/ps2978/serv_group_home.html.

For the Cisco Digital Media Manager, Cisco Video Portal, and Cisco Digital Media Player, Cisco Services for the Cisco Digital Media System in the operate phase help ensure that Cisco products operate efficiently and benefit from the most up-to-date hardware and software maintenance. Software Application Support (SAS) strengthens application availability, functions, and reliability with 24-hour access to technical support and software updates, and Cisco SMARTnet and SMARTnet Onsite support provide registered access to Cisco.com for online technical assistance, access to the Cisco TAC, Cisco IOS Software updates and upgrades, and Advance Replacement of failed hardware. For more information on these services: http://www.cisco.com/en/US/products/svcs/ps3034/ps2827/ps2993/serv_group_home.html http://www.cisco.com/en/US/products/svcs/ps3034/ps2827/ps2978/serv_group_home.html.

Why Cisco?

Cisco is a worldwide leader in networking technologies, with a 20-year record supporting customers of all sizes worldwide. By working with the established industry leader, organizations can benefit from:

- More than a decade of video and Internet initiatives experience
- Proven network performance, reliability, and security
- Award-winning customer lifecycle services and support that help companies get the most out of their investments and extend the life of their network assets
- A broad range of technical experts and engineers who listen and respond to customers' primary business and technical requirements
- Sustained value with upgradable, standards-based solutions
- Best practices based on showcase network deployments
- Flexible end-user and partner financing packages

For More Information

For more information about the Cisco Digital Media System, visit http://www.cisco.com/go/dms, e-mail digital_media_systems@cisco.com, or contact your local Cisco account representative.

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Printed in USA C22-366499-02 01/07

