

FOUR TECHNOLOGIES — FILE MANAGEMENT, DOCUMENT
MANAGEMENT, DIGITAL ASSET MANAGEMENT, AND KNOWLEDGE
MANAGEMENT — TO CONTROL THE FLOOD OF INFORMATION

CONTENT MANAGEMENT & DELIVERY

CHAPTER

4

Content management (CM) is the name given to any system, either manual or automated, for managing intellectual property assets. Those assets consist of correspondence, project plans, proposals, logos, and graphics, and other internally generated documents,



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as well as abstracts, articles, white papers, or other externally generated documents. And in its broadest sense, CM may also include information from your databases, such as attendee records, exhibitor information, and membership data.

CM helps you recognize what is important, understand the need to manage this content properly, and identify the new opportunities for proper management. Looked at in this light, you can see that CM isn't just the name for a type of computer system. Instead, it's a governing philosophy for gaining control over the flood of information inundating your organization.

HOW CM DEVELOPED

The practice of content management has been around for years, even if we never called it by that name. Every time a clerk placed a document in a filing cabinet, that person was practicing CM. But CM as a field of study didn't emerge until the flood of documents and information produced by the personal computer revolution began to overwhelm the modern office environment. The arrival of the Internet and the World Wide Web increased the problem exponentially.

The first efforts at CM were known as document management systems because they specialized in archiving and indexing paper documents. Most of these systems used microfiche, tape, or laser discs (the forerunners of CDs) for storage of document images. These document images were simply photographic representations of the documents, vastly reduced in size, and viewable through the use of specialized equipment. But the images didn't contain any data. The data about the images, such as the date of the document, its author and subject (now collectively referred to as metadata), were stored and handled by a computer system that accompanied the image storage system.

As the PC supplanted the typewriter as the primary production tool for business documents, the need to store photographic representations of documents that started out as PC files started to disappear. In its place, businesses found the need to manage millions of PC files, the vast majority of which represented business documents of some sort. This shift in thinking from managing paper documents to managing electronic documents created the field of content management.

Today the definition of an electronic document extends to cover pictures and images, video clips and animations, audio files, and nearly any other type of electronically generated information.

The arrival of the Internet and Web, where any media type can be displayed and downloaded, intensifies the need for content management. Especially in larger organizations, the need to keep information displayed on the organization's Web site in synch with information used in or disseminated by the rest of the organization, coupled with the difficulty in accomplishing that goal, has led to a substantially greater emphasis on CM tools.

TYPES OF CM

No two experts in the field are likely to agree on a definitive categorization of CM. For our purposes, the field divides roughly into four categories, each of which addresses a particular need, and therefore presents specific features and capabilities in response to those needs.

>> File Sharing and

Common Directory Structures

The most common type of CM, and also the simplest to implement, is file sharing, using commonly agreed upon directory structures. For anyone using Microsoft Windows in a local area network (LAN), you're probably familiar with the Network Neighborhood function, which allows you to

see files on every other computer within your LAN. The Network Neighborhood function is a standard part of any Windows computer and can be implemented by any LAN administrator.

Although a LAN administrator may turn off certain elements of Network Neighborhood for security reasons, the full function will allow all those on a LAN to see any file (i.e. the filename, not the contents of the file) on any computer within the LAN and copy any file from any computer to one's own computer or vice versa.

However, seeing file names on someone else's computer isn't necessarily helpful if you don't know what that file name means. Even if you know what a file name means, you may not know where the person has put it on his or her computer. This is where creating a common directory structure can prove very helpful.

The directory structure is simply a fancy name for the way you name your file folders on your PC. For instance, you may save most of your work in the Windows folder called "My Documents," which is the default folder for Windows. But within "My Documents" you may also have some sub-folders, such as a separate folder for each client, or for each phase of a project. This scheme of folders within folders is your directory structure. A common directory structure simply means that everyone agrees to use the same folder names for the same types of information and puts those folders in the same order (i.e. the order that determines which folders go inside which other folders).

To increase the value of this type of system even further, your organization should agree on a naming scheme for the files themselves. For example, suppose every proposal is named "*client name-proposal-version-date.doc*," where client name is the name of your client, proposal is the type of document (or you could substitute

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the word contract here), version is the revision number of the proposal, and date is the date the proposal was delivered to the client. Suppose also that all of your colleagues have agreed to create separate folders for each client within their My Documents folder. Then anyone using Network Neighborhood could do a quick search through everyone's computer for the latest proposal for XYZ client and find it quickly.

This type of CM works equally well if you store your files on a network server.

>> Document Management

The common directory structure works well if all of your documents can be named in such a way that everyone knows exactly what's in them, and if everyone follows the rules. In many organizations, however, even following the rules won't provide enough information about the contents of a document to help the person who is searching. Besides, the Network Neighborhood function does not provide a good method for searching for files, and it allows no indexing capability.

In larger organizations where there may be hundreds of computers attached to a LAN, or tens of thousands of files housed on servers, this lack of searchability can render the common directory structure model relatively useless. This is where modern electronic document management (DM) systems (usually known generically as content management systems) can provide real value.

Modern DM systems feature powerful indexing engines that will automatically scan your entire col-

lection of electronic documents, extract key words from those documents, and build a searchable index so that you can locate documents anywhere in your system based on the actual content of the document, not just the name of the document. Some indexing engines also store vital metadata about the document, including the author's name, date of last update, and file size.

However, unlike the common directory structure method, DM systems require that you purchase and install specialized software. This software can be quite costly depending on the number of computers in your organization and the vendor's pricing model. However, these systems can provide substantial help in large organizations, or even in smaller organizations where it may be difficult to enforce a strict directory structure model.

The most sophisticated DM systems can help you manage your content in any form and output it in any other form. For example, if you create a content piece that you would like to display in your printed material, on the Web, and also on a hand-held computer, you would normally have to create three different versions of the content. Sophisticated DM systems allow you to create the content once, and the system will output it in whatever form you need — Web content, print material, hand-held, or even voice response.

>> Digital Asset Management

The term "digital asset" has come into vogue in recent years to describe the various types of media beyond simple

text documents. These newer media types include film and video clips; photographs, graphics, and other still images; animations and audio files, and anything else that isn't a document or a database. Digital asset management (DAM) systems, like DM systems, generally include powerful indexing and search capabilities, but are focused on the special requirements of multimedia.

For example, in a standard document an indexing engine simply needs to catalog the words. But in a video clip the engine has to catalog not only the words, which are contained in signals from the video's audio track, but the visual images themselves. If you need to find every spot in every video where your client's logo is displayed, you need an indexing and search engine that can identify and catalog those visual images. Sophisticated digital asset management systems can do this.

>> Knowledge Management

The most sophisticated type of CM is known as knowledge management (KM). KM systems go beyond cataloging documents and multimedia information and attempt to capture what people in your organization know, but haven't written down anywhere. Obviously, a KM system requires a substantial amount of input from those people and from other computer systems, but the time required for input will be paid back many times over in delivering timely, pertinent information to those who need it.

The technology of a KM system will usually feature a very powerful, natural language search engine that allows

system users to pose questions in plain English. Such search engines also exist outside of KM systems, and it is possible to build a useful KM system without this technology. But most commercially available KM systems feature it.

The most important aspect of a KM system, however, is the philosophical and behavioral change it requires from the organization. Everyone has to contribute often and in detail. But if the behavioral challenge can be overcome, then a simple, inexpensive database technology can be used successfully, as long as all employees in the organization faithfully input their own knowledge and information.

Some of the most successful KM systems use very simple technology. For example, one KM system implemented by a small, private, meeting support company worked successfully because all employees of the company knew they had to input the results of every job as soon as the job was completed. The company's owner had created the system with a simple desktop database tool. The system has succeeded because he rigorously enforced the procedures requiring employee input after every job. The system eventually became very powerful, as it became a full, detailed history of every job the company had done. Any employee could look up any aspect of any job to see how it had been done previously, if any problems had been encountered, and, if so, how these had been solved.

One important difference between a KM system and most CM systems: KM systems are generally not geared toward publishing. Many CM systems act as repositories of content awaiting future use. A KM system approaches content as knowledge — a set of potential answers to future questions.

SPECIFIC USES FOR MEETING PLANNERS

>> Content Collection

Perhaps the most common kind of

content collected by planners is session abstracts. In the case of conferences, abstracts form the basis for all the content your conference will produce. Managing it properly will not only save time and effort, it will allow you to reuse that content for other purposes. For example, a good abstract collection system will allow you to publish those abstracts directly on your Web site's conference overview section without any further human handling.

>> Web Content Management

As mentioned earlier, it was the emergence of the Web that created the current high level of interest in CM systems, so it's natural to look at such a system for managing the content of your own Web site.

Your organization probably has a tremendous amount of content available, much of which might be very helpful to your Web site's visitors. A well-constructed CM system will allow you to reposition that content on your site quickly and easily.

>> Historical Records and Previous Job Templates

Like the simple KM example mentioned above, a tracking system for the steps, problems, and outcomes of your meetings can prove to be a very helpful tool. Creating this type of knowledge base can dramatically shorten the learning curve of new employees.

>> Best Practices

Best practices are those that make your customers very happy. Like tracking job steps, problems, and resolutions, identifying best practices can provide a substantially shortened learning curve for new employees. It can even serve as a valuable resource to seasoned workers. Everyone in your organization has a few favorite techniques and practices from which others in your organization can benefit. Managing those practices as a form of content can make them available to everyone.

TIPS FOR CHOOSING APPROPRIATE TECHNOLOGY

To many people, choosing technology is only slightly more enjoyable than death by electrocution. But you can follow some simple steps that will greatly alleviate the pain and make your life easier. By the way, these steps can be used successfully for any type of technology project.

1 Assess your needs. This may seem simple, but actually it is the point where nearly every bad technology project first goes off course. Managing this step correctly will save you a tremendous amount of time and agony.

— What exactly is the problem that's making you look for a solution? Write down your answer to this question and be as specific as possible.

— What would be the ideal solution to your problem? Once again you need to be very specific. Write your answer in business terms, not technical terms. What business result would be ideal for you?

— What is the minimum solution you're willing to accept? Again, write your answer in business terms, and be specific about the business result you'd like to achieve.

2 Determine your budget. Decide the maximum amount you can actually pay to accomplish your goal. This must be the amount that you can still afford to pay after all the cost overruns, delays, and unexpected expenses show up. And there will definitely be cost overruns, delays, and unexpected expenses, so factor those into your budget. A general rule of thumb is that projects will cost twice what you originally wanted to pay for them.

3 Quantify the benefits for achieving your maximum and minimum solutions. This simply means assigning dollar values to your solutions, either in terms of increased revenue or decreased expense.

4 Compute the return on investment (ROI) you need to get if you spend your entire budget. If you don't know how to compute ROI, find someone you trust

who can compute it for you. If you can't show a positive ROI within two to three years using your maximum budget and your minimum acceptable solution, then you should seriously reconsider doing the project.

5 Find a friend who knows technology. Seriously, you need to work with someone you trust who can translate tech speak into business speak. You may need to hire a consultant to help you with this, but if you do, make sure the consultant is someone whose references come from someone you trust.

WHY, WHEN, AND HOW TO IMPLEMENT CM

Deciding to implement a content management system requires you to look at content from a new perspective. Whether it's a simple common directory structure model or a highly sophisticated KM system, you won't be able to begin until you start looking at content as a valuable resource that requires active management.

Content and information are the real currency of the new economy, whether they come from your attendees in the form of session abstracts and event feedback forms or from your internal team in the form of best practices, procedures, proposals, and other business information. But once you've made the perceptual shift about the importance of content, you still need to determine why exactly you're doing the project, when to move on it, and how to proceed.

WHY? Only you can answer this question because the answer depends on your own particular business needs. But if you start by thinking about all the information your organization generates and how it might be used in a more constructive way, you should be able to come up with several good reasons. Some questions to ask yourself are:

>> Do I have a problem with employees not being able to find

important information?

>> Do I find that we repeat mistakes from one customer to another or from one job to another?

>> Are we fielding many phone calls or e-mails asking us for basic information?

>> Do we spend much time recreating things we've done before, such as proposals, collateral pieces, project plans?

>> Do we have trouble maintaining consistency in the quality of documents we send out to customers?

>> Do we have trouble maintaining consistency in how we express our company's value message in external communications?

WHEN? The short answer to this question is when the pain of *not* doing it exceeds the pain of doing it. Implementing a CM system, even in its simplest form, will require careful planning and extensive follow through. And no matter which type of CM system you choose to implement, the key success factor is how well you enforce the behavioral changes necessary within your organization to make the system useful.

The pain of going ahead with a CM project will not end on the day you turn the system on. It will end only when everyone in your organization accepts the usefulness of the system and willingly participates in it.

To determine if the time is right, you might start by asking yourself some questions like these.

>> Are our customer relationships suffering now because of poor communication?

>> Are we constrained in how much we can grow the business, because we are unable to get the work done efficiently?

>> Do we hear regular complaints from our own employees about their inability to find needed information?

>> Are we experiencing unacceptably high error rates in our work?

>> Do we have the maximum budget necessary to achieve the minimum solution?

>> Do I personally have the time available to embark on this type of project? (This is crucial. No project can succeed without a firm commitment of time and energy from the top.)

HOW? You've convinced yourself that you have the right reasons for proceeding, that the time is now, and that your ROI is sufficient to warrant launching a CM project. So, how do you get started?

STEP 1 Go back to the section on "Tips for Choosing Appropriate Technology" (page 36) and make sure you've carefully completed each of the five steps, especially No. 5. And keep it simple. The smaller the scope, the more likely you are to stay on track and deliver a working system.

STEP 2 Think through all the behavioral changes you'll need from your team in order to make the process successful. Write down these changes in the form of an action plan and circulate it to everyone in your organization who will be affected by the changes. Listen to their feedback.

STEP 3 Ask your peers for information about their experiences with CM. If you belong to any professional organizations that maintain e-mail lists, send a message to the list asking for advice, focusing on the problems and pitfalls that others have overcome. Listen carefully to the answers and file them away where you can refer to them easily during the course of your own project.

STEP 4 Commit yourself to a deep personal involvement in the project. If you're frightened by technology or just feel awkwardly ignorant about it, make it a point to learn the basics. This is where your trusted technology friend will become invaluable. But *don't* simply turn it over to your friend. Use your friend to help you develop a basic understanding of your technology options. You must understand why you made your par-

ticular choice. If you don't understand it, then you can't expect your employees to learn it either.

STEP 5 Start researching! The Web is the most wonderful business research tool ever invented. Use it! You'll be able to find a nearly endless list of companies with products to help you out. Use your technology friend to help you narrow the list. Call the companies you single out and tell them exactly what you want to do and how much you plan to spend (remember, you should plan to spend half of your maximum budget). Set up a meeting with the companies where you feel a good personal rapport. Get customer references and talk to them about their good and bad experiences with that vendor.

STEP 6 Trust your gut on choosing a company. Using a comparison matrix is helpful, but you'll probably find that most companies end up being very close to each other in capabilities. So choose the one that makes you feel the most comfortable. Good working relationships can solve a lot of thorny technical problems.

STEP 7 Stay focused. Nearly all projects suffer from "scope creep" — they get larger as they go on. But you can prevent scope creep by staying focused on the original reasons why you embarked on the project. Be obsessive about this.

A carefully thought out, well-planned CM system can pay dividends long into the future. And if you keep the initial scope narrow, you'll greatly improve your chances of delivering a working system on time and within budget. More importantly, you'll greatly improve the likelihood that your employees will use the system, thus making it successful. ■

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SAN DIEGO TECH >>>

The Perfect Climate for Technology: A Top 10

1 The San Diego communications cluster is projected to grow by 75 percent between 1998 and 2006, and more than 70,000 strand miles of fiber-optic cable stretch beneath city streets, making San Diego **one of the most wired cities** in the country.

2 The long tradition of military and defense investment in San Diego, represented by more than 1,200 companies in the defense and space cluster, has produced a **highly trained and skilled workforce**.

3 World-class research institutions, universities and colleges, and support organizations contribute to San Diego having the **highest number of Ph.D. holders per capita** — from the Salk Institute and Scripps Research Institute to the University of California and San Diego State University.

4 Tremendous growth in the region's software and multimedia industry makes San Diego a **national leader for computer software, programming, systems integration, and data processing**. In 2001, San Diego ranked third in the nation for broadband telecommunications capacity, with 46.8 percent of adult residents having Internet access.

5 San Diego State University's International Center for Communications explores ways to link together communities through the application of communications technology, while the San Diego Telecom Council cultivates awareness of **the region's telecom industry** and issues critical to the industry's continued growth.

6 In 2000, San Diego recorded the **third largest concentration of biotech companies** in the United States, with more than 400 companies, and the city is host to BIOCOSAN, the leading trade association for the biotech industry.

7 The highest number of **science-based Nobel Prize winners** in the world and the greatest number of **degreed professionals** of the 20 largest U.S. cities call San Diego home.

8 A diverse, dynamic, and vibrant **information technology industry** in San Diego is represented by such companies as Sony, Hewlett-Packard, Gateway, Proxima, AMCC, and Cymer.

9 The San Diego Supercomputer Center, one of the nation's two **public research supercomputers**, has a staff of more than 100 scientists, software developers, and research support personnel serving more than 10,200 researchers.

San Diego — one of the most wired cities in the nation — ranks high in broadband capacity

10 UCSD Connect, the San Diego region's **"incubator without walls,"** links high-tech and biotech entrepreneurs with money, markets, management, partners, support services, technology, and government.

HOME OFFICE TECHNOLOGY

Steady growth in the number of workers operating from home offices is a clear and escalating trend. According to Dawn Penfold, president of the Meeting Candidate Network, close to 50 percent of the workforce will be in home offices by 2010.

There are a few compelling reasons for the rise in home offices. Obviously, the economic decline this past fall and winter has had a profound effect on those searching for employment options. In addition, organizations in select industries are being required to provide added benefits to keep valued employees. By providing an option for working from the home a day or two a week, organizations are able to retain valuable employees.

Organizations providing home office options also realize savings in reduced fixed office expense. For those home-based employees visiting or needing temporary space at their organization's offices, work space is provided on a shared basis and scheduled as needed.

Finally, bandwidth technology and the ability to tap into virtually any file, printer, or other device from remote locations — along with growing access to group collaboration software — build a solid framework for a smooth transition to a home office.

Having had a home office for more than 10 years, I am a strong advocate. The benefit to the employee who has the proper work ethic and the ability to focus on the work at hand represents a solid gain for the employer.

Here are some items for you to consider in setting up a home office:

>> **Connections.** Do you have access to high-speed connection for your home? A 56K modem doesn't cut it. You need DSL or cable modem access. To check availability of this service in your area, tap into this site: www.dslreports.com. For cable access, check with your local cable provider.

If you telecommute by working from your home office a few days a week, core files should be synchronized between your home system and office system, or you could consider using a laptop/pocket PC and docking station. Depending on your employer, IT infrastructure, hardware availability, and remote networking policies, you may be able to work entirely off shared network applications. All replicated files should be backed up daily if not more frequently. A replication schedule will depend on who has access to client files and who has read/write authority.

>> **Protection.** Once you establish high-speed Internet access, don't forget to set up a firewall that wards off potential hackers and to always maintain anti-virus software. This is especially important if you are an independent contractor or work with a small business. Larger organizations should have well-established firewall protection.

>> **Networking.** Do you plan to provide other family members with access to your office equipment? If you do, consider networking your equipment. You can set up either a wired or wireless network, depending on your physical setup and budget. Be certain to password-protect your core files and always do daily data backups.

Again, remember anti-virus software. And, most importantly, set Live Update preference, so that the software updates automatically.

Get comfortable using group collaboration software. From the basics of instant messaging to full-featured programs, this breed of application is essential for remote operations.

>> **What's legal.** If you will be setting up a full-time home office, ask your local zoning office for guidelines and legal requirements. Further check IRS guidelines for home office requirements, should you wish to deduct associated costs for a full-time home office. Check out these publications

found at www.irs.gov:

#587 Business Use of Your Home.

#1066 Small Business Tax Workshop Workbook.

>> **Insurance.** Don't forget about damage and liability insurance! Check your home insurance policy to make certain you have adequate coverage. Depending upon your insurer, you may be able to attach a rider to your existing policy. Otherwise, you need to set up coverage.

>> **Communicating.** Staying in touch is an important consideration. How will your contacts and clients communicate with you? How will you ship items? Due to the growth of home offices, several options are available. Your choice will depend on budget, "image requirements," and access to services.

For general communications, such as phone, faxing, and e-mail, the options include a voice-activated virtual assistant, such as Wildfire, at www.wildfire.com. This state-of-the-art service will coordinate and route calls to hard-wired phones, cell phones and pagers, track you down, and place calls when instructed.

If you require a personal touch, you could consider a trained virtual assistant. This is a growing profession of dedicated individuals trained to provide remote virtual services. The benefit is that office space and equipment are not provided by you. For information, contact: www.assistu.com and www.ivaa.org.

>> **More resources:** The Home Office Association of America provides links to articles, guidelines, and tips on establishing home offices. Once you work through the fluff of this site, you'll find some useful bits of information at www.hoaa.com.

Are you wondering how to properly set up your office? Check out this site for everything from proper lighting, locating your office, supply storage ideas, how to reduce eye-strain, and proper equipment setup: www.galvins.com/designtips/. ■