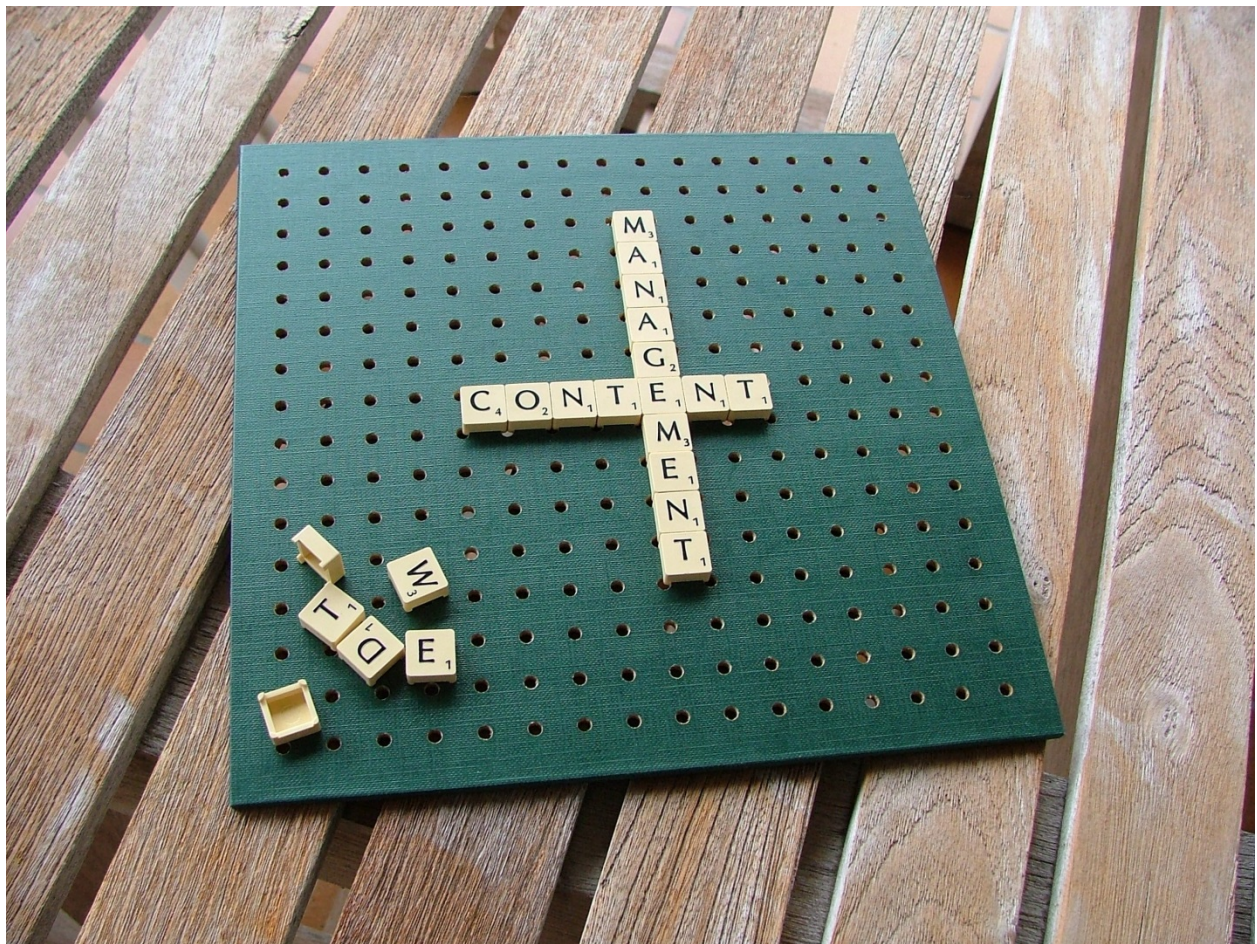


<COMPANY> Enterprise content management

This document defines the <COMPANY> group's strategy for creating, managing, and transforming Site Assessment content. It presents ECM tools and concepts as well as potential structured authoring alternatives for our Site Assessment business.



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Site Assessment content: a high value asset

Our Site Assessment content is an extremely valuable asset for <COMPANY> Services. Our content represents the professional acumen of one of the most senior technology groups in the largest IT company in the world. It is the knowledge base of <COMPANY> Expert and Master level engineers, and it addresses every technology problem that a converged customer infrastructure can have from an Assessment perspective.

<COMPANY> Services will continue to focus on blended infrastructures that require a holistic understanding and on-site knowledge of the real problems confronting our customers. Our Site Assessment content was constructed, literally, for precisely that mission. Now would be an excellent time to recognize the tremendous value that our Site Assessment content, properly invested and applied, will provide to <COMPANY> Services going forward.

<COMPANY> Site Assessment content management

Our Site Assessment Reports are multi-chapter, book-sized documents that contain boilerplate technical explanations as well as data and commentary for a particular customer. For our Site Assessment business, <COMPANY> must produce large documents that have multiple authors and are composed in a short time frame. Site Assessment Reports serve multiple audiences from technologists to C level managers.

Our Site Assessment Reports convey technical findings and recommendations to <COMPANY> customers who have enlisted <COMPANY> for a Site Assessment support mission. Our Site Assessment team leaders use our SA Report deliverables as a presentation medium for our Assessment findings. The Site Assessment Report conveys to customer decision makers at the executive level an accurate portrait of their organization's IT infrastructure. These executives use the Site Assessment Report as a basis for making decisions that will affect their ability to function as a business.

Executive managers wish to know: what did I buy and why doesn't it work?

The Site Assessment is *transformational* to the customer. The knowledge that a Site Assessment Report conveys turns our customer's infrastructure into a proactive shop that avoids down time and consequent support efforts.

Organizations use an enterprise content management system (ECM) to facilitate two broad functions: Storing and transforming content. Our SharePoint ECM stores content perfectly well. It allows us to rev, update, and disuse content and facilitates collaboration for content owners.

A successful Site Assessment customer becomes an ongoing consumer of <COMPANY> goods and services instead of support cycles.

Our ECM, however, has no real ability to programmatically transform content into deliverable formats. All output must be created manually. We cannot tag our content and operate on it as data. Because we cannot electronically transform our content, our Report production is an outdated, manual process that limits our ability to increase our Site Assessment business. Also, saving our content in a binary format (MS Word) contradicts content management best practices.

Site Assessment Report structure

Our main Site Assessment deliverable is the Assessment Report: a multi-chapter book that itemizes problems and remedies at a customer site. <COMPANY> customers receive Assessment Reports in hard copy, HTML, and PDF output along with Action Items spreadsheets and other knowledge items that are packaged together for delivery.

Anatomy of a Site Assessment Report

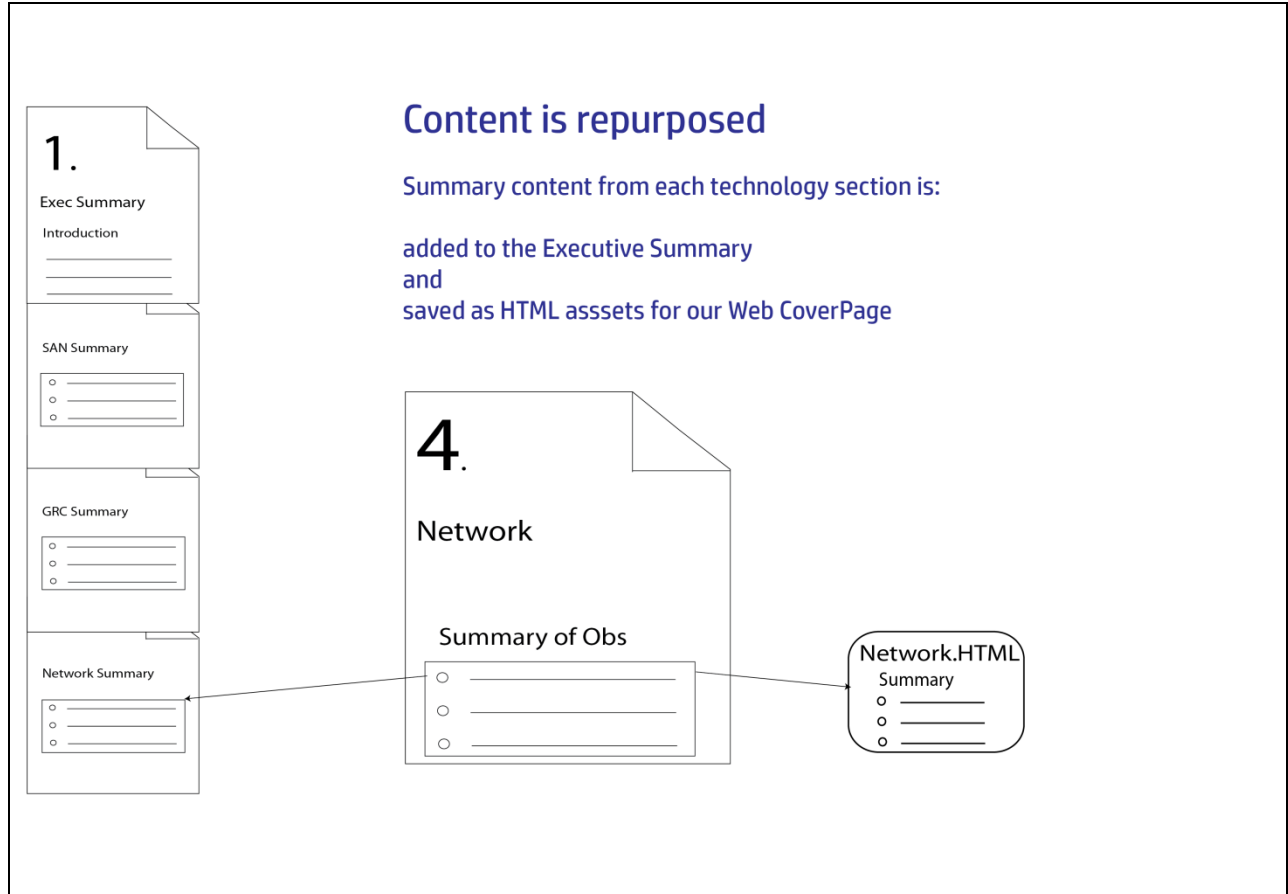
A Site Assessment Report contains an Executive Summary and an individual chapter for each technology analyzed by the Assessment team. The content that comprises the SA Report is repurposed into various output assets in our delivery package.

Section 1. Executive Summary defines the goals and scope for the Site Assessment, provides a history of the customer's problems, and presents a summary of the findings from each of the Report's technology sections. The Executive Summary also contains a diagram of the customer's infrastructure that identifies each technology component and its tie to the businesses functions.

The Site Assessment Executive Summary addresses three questions:

- How did we get here?
- What did we find here?
- Where do we go from here?

Content is repeated and reused among various Report deliverables. For example, excerpts from each technology section appear in the Executive Summary and also as html popups in the web version of the Report.

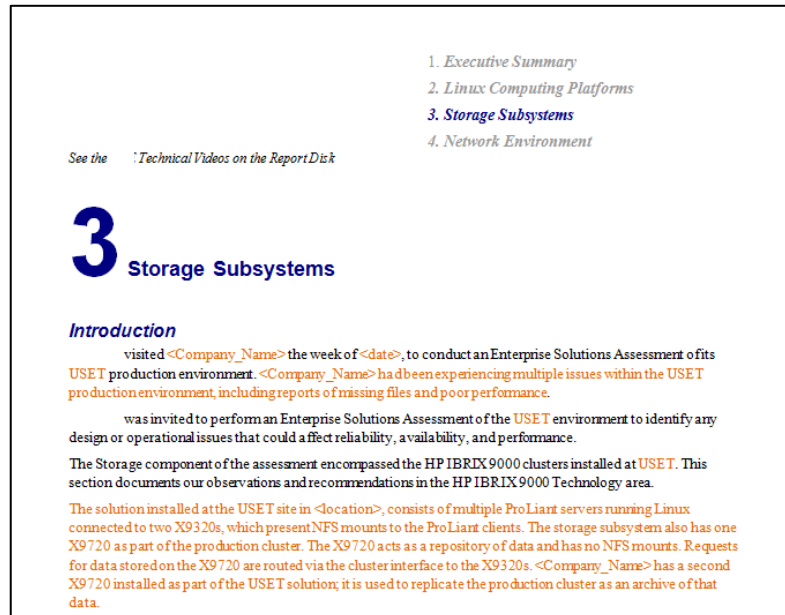


Content is repurposed for many assets

SA Report technology sections

Each SA Report technology section contains an introduction describing the customer's implementation as well as a series of Observations/Supporting Data/Recommendations. These Observations/Recommendations are the crux of the Site Assessment mission and form the basis for Action Item spreadsheets that we give our customer.

Of course, the environmental description and data are unique to each customer, but the Report also contains much technical content that is boilerplate and presented unmodified to customers. All Site Assessment content is managed in our ECM system.



Screen shot of a Report section template from the <COMPANY> ECM. It contains boilerplate text as well as content that must be modified for the customer, which appears in orange type.

Our ECM contains a unique template for each technology that our Assessments cover.

The screenshot shows the Content Management System interface. The breadcrumb path is 'Content Management System > MSE Team Sites > Technical Editors > Section Templates'. The main heading is 'Section Templates'. Below this, there is a table with columns for ID, Name, Type, and Modified. The table lists several templates, including 'Archived Executive Summaries', 'Old versions', 'Seed documents', 'Cisco_tplt', 'DJM_Magic_Template_V1', 'DJM_MSA_CMS_Template_V1', and 'EBS_Subsection_Template_V1_CMS'. The 'EBS_Subsection_Template_V1_CMS' template is highlighted in blue.

ID	Name	Type	Modified
96	Archived Executive Summaries	Folder	4/20/2011 10:40 AM
61	Old versions	Folder	12/4/2008 9:59 AM
103	Seed documents	Folder	4/20/2011 10:40 AM
110	Cisco_tplt	Word Document	10/10/2013 10:44 AM
127	DJM_Magic_Template_V1	Word Document	10/10/2013 10:47 AM
116	DJM_MSA_CMS_Template_V1	Word Document	10/10/2013 10:51 AM
90	EBS_Subsection_Template_V1_CMS	Word Document	10/10/2013 10:53 AM

Observation structure

Site Assessment observations are tailor-made for each customer and consist of boilerplate concept information, data from the customer site, and commentary that our SMEs supply. The Assessment engineer is the subject matter expert who analyzes the customer data, identifies applicable observations, and composes the recommendations for the Assessment customer.

Observation: Cisco Catalyst 6500 Interface Errors

Several interface errors were counted during the assessment period.

Supporting Data
 The following table shows the number of interface errors that occurred. Interfaces errors include; Align-Err, babbles, Carri-Sen, collisions, CRC, deferred, pause input, input packetswith dribble condition, Excess-Col, FCS-Err, frame, Giants, ignored, Input errors, Late-Col, lost carrier, Multi-Col, no buffer, no carrier, Out-Discard, output buffer failures output buffers swapped out, output errors, overun, packets input/output, Rcv-Err, Runts, Single-Col, throttles, underruns, Undersize, Xmit-Err. Only the interfaces that had errors are shown.

Table 1. Cisco Catalyst 6500 Interface Errors

Switch	Port	Align-Err	FCS-Err	Rcv-Err	OutDiscards	Runts
HomeDB6509-1	Gi7/8	0	0	57100	0	0
HomeDB6509-2	Gi7/8	0	0	13617	0	0
SHC_TFT_BB_1	Gi2/48	0	0	0	48	0
	Gi8/44	0	0	0	26036	0
SHC_TFT_BB_2	Gi8/40	0	0	0	0	10
	Gi8/39	0	0	0	1018	0
	Gi8/40	5	3	25	0	0

Recommendation (Medium)
 Investigate each type of interface error shown above.

Best Practices
 Optional: Enter any best practices here.

This Observation is stored in a master library in our CMS

Orange text must be tailored to the customer

The Observation/Recommendation is the crux of the SA Report and contains boilerplate content and customer specific content, plus data

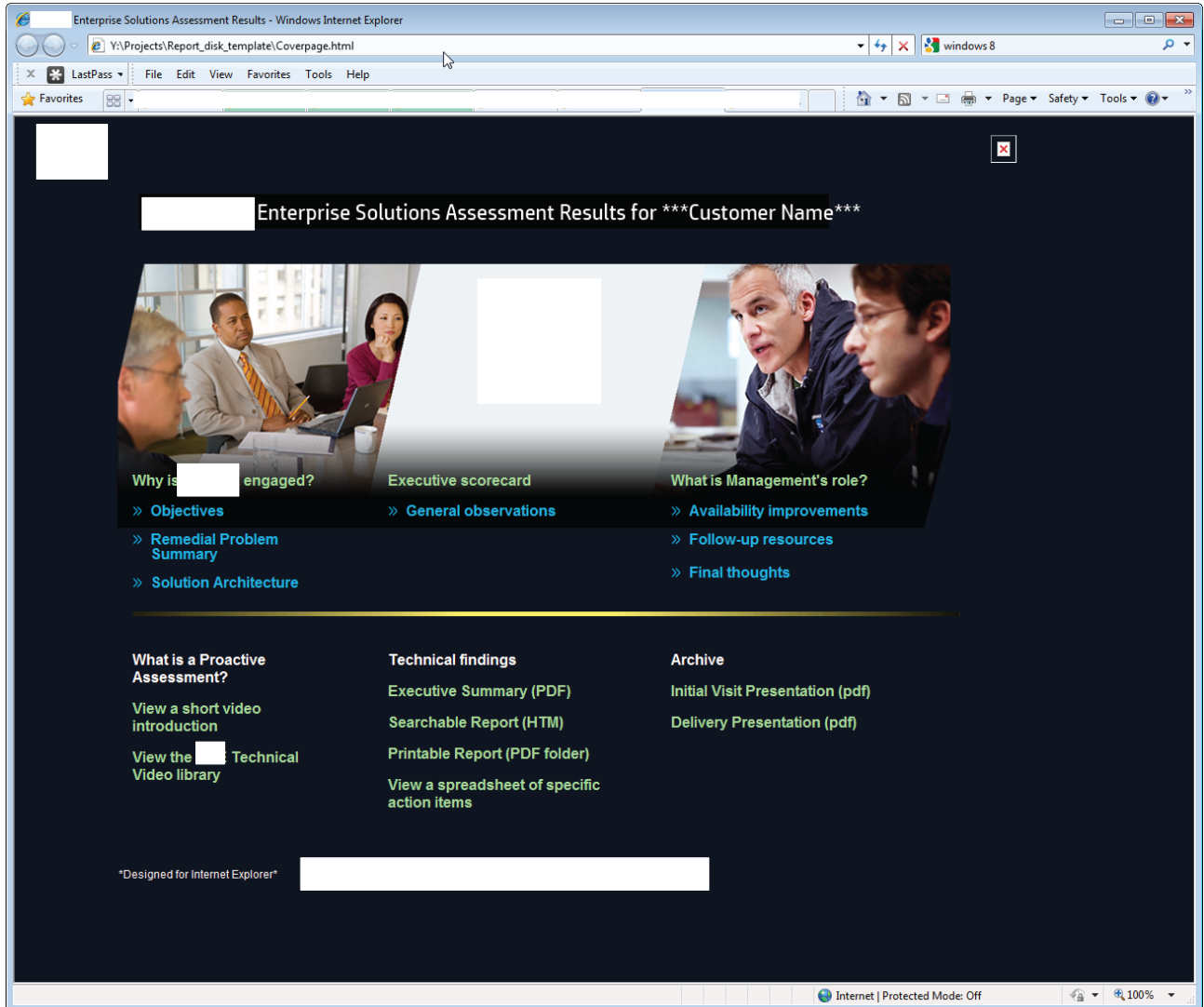
Our ECM contains many Observation libraries, which are organized by technology.

Network Observations

Network Observations			
ID	Name	Approval Status	Modified
44	Active-Supervisor	Approved	8/19/2010 2:31 PM
54	All Dynamic Tables	Pending	8/20/2010 12:31 PM
53	Babbles Late Collisions Deferred	Pending	2/16/2011 9:30 AM
14	Bootup-diagnostic	Approved	8/19/2010 4:12 PM

Site Assessment deliverables

The figure below depicts our Site Assessment web CoverPage, which is the gateway to access the SME knowledge that our Site Assessment has garnered.



A Site Assessment team leader uses the CoverPage to present our team's findings to the customer at the delivery session, which concludes the project mission. Thereafter, managers and technologists use the CoverPage as an interface to access the Site Assessment's results.

The content in the SA Report is reorganized and repurposed to create the CoverPage assets: HTML popups, action item spreadsheets, PDFs, Executive Scorecard, hotspot diagrams, etc. See Appendix A: on page 23 for details on each CoverPage asset.

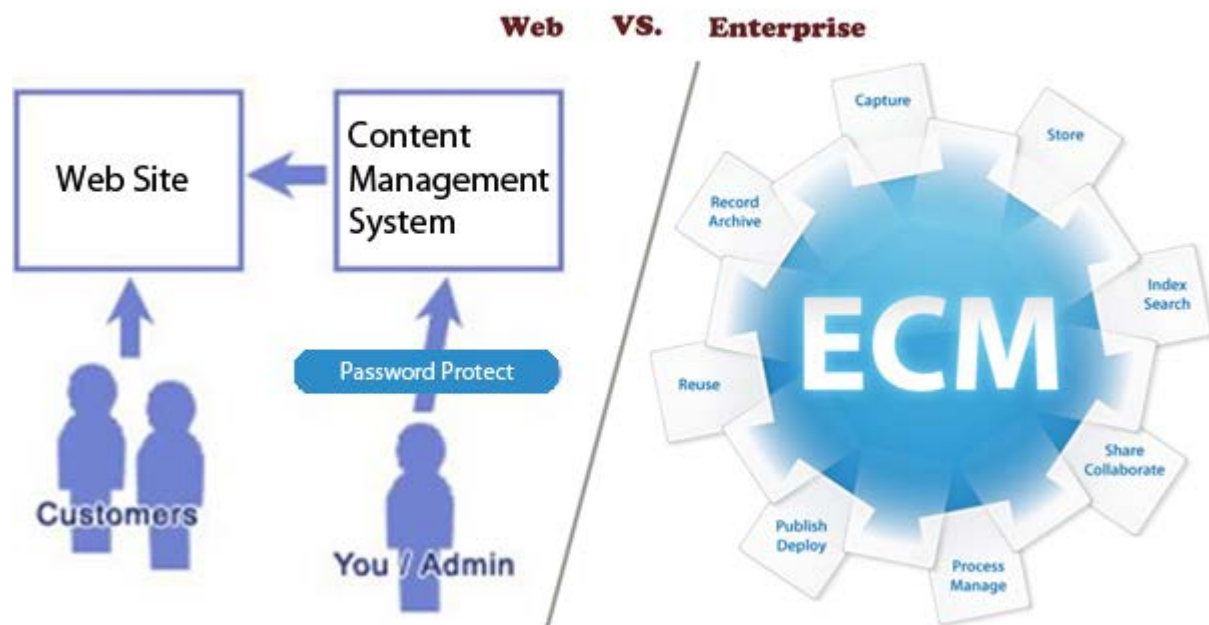
The total turnaround for an SA Report is six weeks: four for the SMEs to analyze data and compose individual sections and two for the Team Leader and Content Manager to produce all customer deliverables. In the final two weeks of production, the Content Manager obtains all technology sections and combines them with the Executive Summary to produce a unified book. The complete Report book serves as the content source for all the other information assets that the return team delivers to the customer. See Appendix A: CoverPage assets in detail on page 23.

Content management at <COMPANY>

There is so much ambiguity on the topic of content management in the industry and in our group, it would be wise to first understand exactly what a content management system is. When people speak of content management they may mean two different things:

- A web content management system, such as WordPress or Drupal, is used to create web sites. See Appendix B: What is a Web CMS? on page 25 for a fuller description of those.
- An enterprise content management system (ECM) is used by large organizations to store and transform reusable content assets into desired output formats.

When you web search the term “content management,” it is web CMS that will dominate your results.



Two types of Content Management Systems

<COMPANY>, however, cannot use a simple web CMS because we are not producing one stand-alone web site for the world wide web. We are producing proprietary, one-off, customized reports by modifying large amounts of boilerplate content that we reuse for many customers. Therefore, we must manage our reusable content separately from the report instances it is used for, and this requires enterprise content management.

A few words on terminology

Web CM and Enterprise CM are subsets of CMS. While technically the term “ECM” more accurately describes our implementation, searching on that term is likely to return information on records management, such as scanned documents, billing records, health records, etc. You must be aware of this distinction when researching ECM tools and software.

Enterprise content management systems

The phrase, “create once; reuse many times” describes the goal of enterprise ECM systems. Enterprise content management should perform two functions: storing enterprise content and transforming content into desired output formats.

Storing content

“Storing content” includes all the underlying functions required to keep the content current, accurate, and usable. Content Managers and SMEs must collaborate to perform these tasks. Managed content must have revision control and receive periodic audits, and it should be stored in a generic format that is not tied to any binary application.

Enterprise content is any communication asset that has value to an organization.

The concept of ECM grew exponentially as a natural extension of electronic desktop publishing, which has enabled organizations to quickly amass large amounts of valuable and reusable content. While this content may be easy to reuse by pasting it into many different places, it cannot be updated or modified once pasted.

It is a best practice to store enterprise content in text format to separate the content from its format. Separating content from its format enables the greatest number of transformation options and avoids tying your organization’s content to another company’s binary application.

Transforming content

The power of possessing enterprise content is the ability to use that content in productive ways. If all you wish to do is provide paper based documents, you might justify storing your content in a binary format such as Microsoft Word or Adobe InDesign. If, however, you require electronic distribution or multiple output formats, then you must deploy a more sophisticated ECM system. Technology companies such as ours require many electronic formats and may not use paper output at all. Best practice is to store enterprise content in text format so that you can tag the content with metadata and perform operations on it.

Single source publishing

Organizations wish to publish content with the least amount of time and steps possible. Instead of manually copying/pasting sections of a document between print and html versions, organizations use systems to convert content into various formats. Therefore, it is highly desirable to implement an ECM that allows for the storing and transformation of content programmatically.

Such systems, however, which must be simple to use for technical authors working under deadline, are inherently complex under the hood.

Our content strategy

How do we store content? How do we transform it?

<COMPANY> employs ECM based on the SharePoint collaboration environment. In SharePoint we have a reliable method for storing, versioning, and disusing our enterprise content.

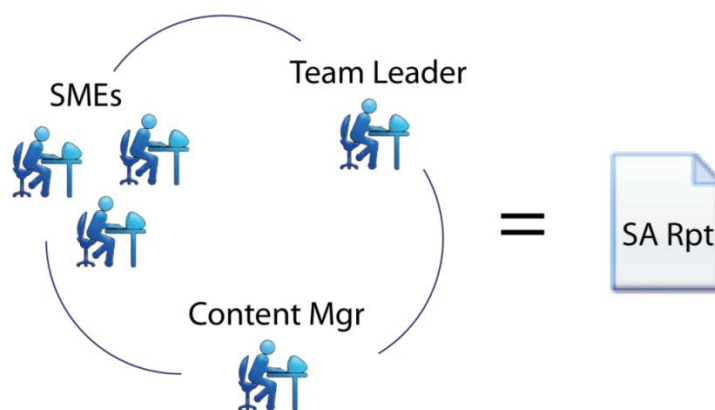
Our content management system contains templates that define the structure of each Assessment Report technology section, as well as libraries of observations, which contain boilerplate descriptions of problems and solutions for each technology that we cover.

SMEs collaborate with the Content Manager to maintain the templates and Observations libraries in SharePoint to keep them current and accurate.



Managing content

How do we transform our content? Very slowly: Our Report production is a manual process. SMEs submit roughly formatted documents to the Content Manager, who cleans up and combines the sections into a unified book. The Content Manager then uses software (Adobe RoboHelp) to transform the paper-based book into an html version for electronic distribution.



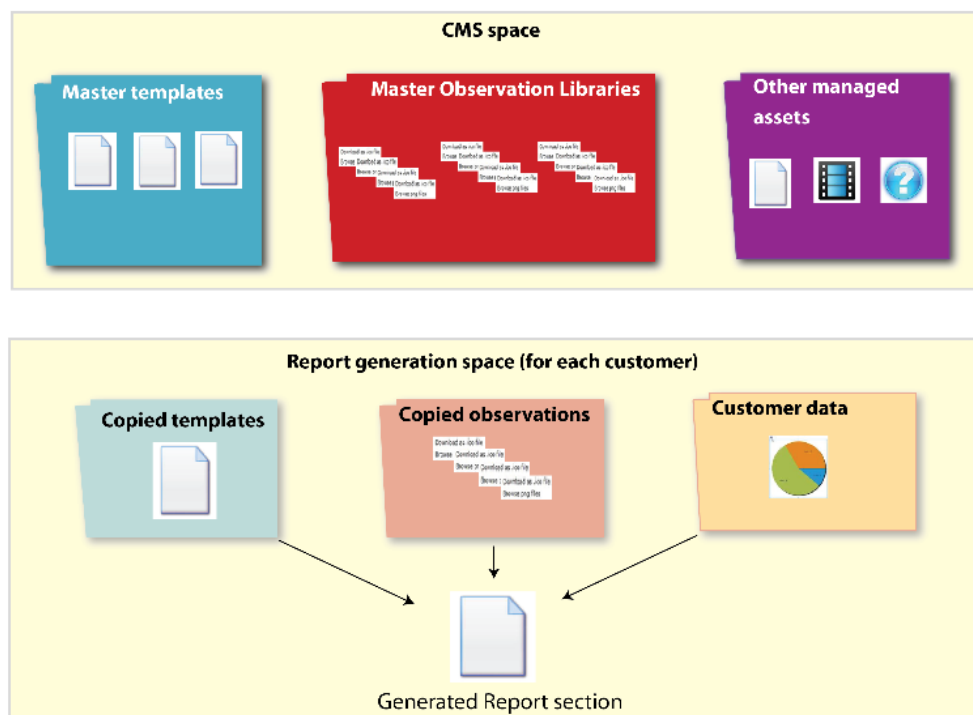
Transforming content into a Site Assessment Report

The Site Assessment Team Leader and the Content Manager collaborate to produce all of the other assets required for delivery to a particular customer by manually copying content from the Report sections into various outputs. Finally, the Content Manager produces the CoverPage and all deliverables on DVD, which is in effect a self-contained web that the customer may distribute on disk or mount on an intranet.

Our ECM: SharePoint libraries and workspaces

Although ECM was not its original functions, SharePoint has evolved into a major player in the ECM marketplace.

<COMPANY> performs ECM in a SharePoint environment that includes libraries and collaboration workspaces. Master libraries of observations and section templates exist for each technology. SA templates are technology specific and contain boilerplate headings and introductory content as well as spaces where SMEs insert related observations. To produce a technology Report section for a customer, an SME determines the specific observations in a master library that apply to a customer and inserts them into a Report template.



Our SharePoint developers have devised a customized SharePoint application that produces a first draft Report section by merging observations into a template, as controlled by the SME.

In SharePoint, Site Assessment customer project areas exist where each section of a report is composed. Site Assessment teams create Assessment Reports in Microsoft Word as a paper document and then manually repurpose the report into various electronic assets, such as web pages, spreadsheets, scorecard, and so on.

Our ECM: Content lifecycle

Our Site Assessment business requires us to store and reuse templates and observation libraries for each technology. To create a Site Assessment technology section, a technologist combines a template and pertinent observations for a specific technology. The engineer then adds data and commentary specific to the Site Assessment customer.

How it all began

Initially, we created our templates and observation libraries by taking old Site Assessment Reports and breaking them out: removing the observations to create a template; saving each observation as an individual file and saving them in master libraries. We used this process to build up our Observation libraries.

Seed documents

But what happens when a new technology emerges and no legacy content exists for it? For a new technology, an SME must create a first generation SA Report section by using a blank template, or by using a related technology section as a starting point (if one exists). Typically an SME creates a new technology section when a Site Assessment project requires it.

Once a new technology section is used for a Site Assessment, the Content Manager “sanitizes” it to create a “seed document” by stripping out all names, data, and content pertaining to the customer and replacing them with text variables, such as “<customer-name>”. The goal of the seed document is to provide the next SA Report writer with a starting point for a technology section that does not contain a customer name or unmarked customer content. Customer content is either deleted or marked in orange to denote that it must be changed for the next customer.

Site Assessment content Must Be Sanitized. The grave danger to <COMPANY> of reusing Site Assessment content is that information from a prior customer could be left behind in the Report and given to another customer.

Initially, SMEs continue to use and refine the seed document for multiple SA Reports until the technology group believes that the content it contains is mature enough to be managed. Then the seed document is broken down into a template and master observations library, which are managed in our ECM.

Our ECM: Microsoft Word - what is right and wrong with it?

MS Word is the right publishing tool for our low tech production process. It is ubiquitous to all users, allows us to track changes to documents under review, and was required for SharePoint implementation at the time of our deployment. Also, at that time there were few commercial tools available that allowed organizations to produce documents from managed content programmatically.

However, because we store our content in a binary format, we cannot “separate our content from its formatting,” nor can we tag our content with metadata or perform operations on it outside of Microsoft Word, itself.

Because our content is stored in a binary format, it is actually owned by Microsoft.

Consequently, our MS Word based production process includes no tools for transforming content. The SharePoint script that produces a first draft Report section takes MS Word input and produces MS Word output: no transformation. Nor does the process produce a book; it produces only first drafts of individual sections that require extensive manual composition work by engineers and editors.

From a publishing perspective, Microsoft Word is not a robust enough tool for our large, complex Report output. Adobe FrameMaker, for example, would be a superior document tool, but it is unknown to our SMEs and would be an even worse binary format to save our content in.

How do other organizations transform content?

Large organizations with an ECM system implement a *structured authoring system* to leverage their content in a flexible and productive manner. These systems are expensive and complex, and they require users to be trained in a “structured” workflow that is quite different from the tool they are used to, MS Word.

What is Structured authoring

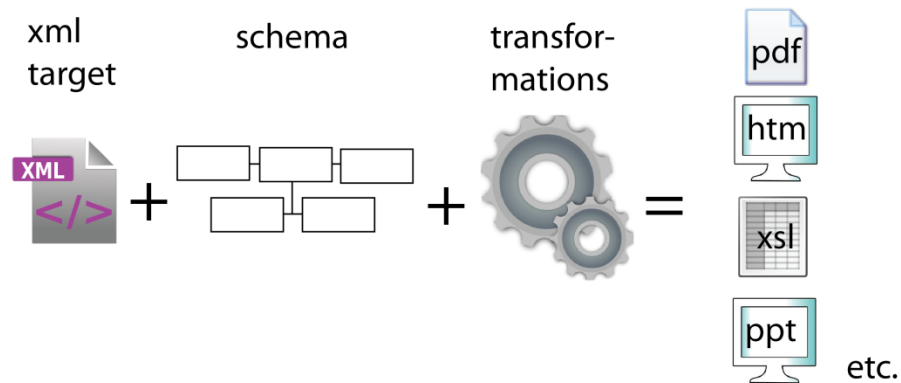
Structured authoring is an electronic publishing workflow using XML based markup languages. XML is said to be “structured” because target documents are controlled by a reference file called a schema, which defines constructs such as the relationships between elements.

Structured authors may work in a WYSIWYG GUI or directly with XML markup code.

For example, in our Site Assessment Report, an XML schema could define that an “Observation” element must always be followed by a “Recommendation” element. In a structured work flow, an author would not be able to create a Report section where every Observation was not followed by a Recommendation.

What is XML? Marrying content to data

XML syntax is defined by the W3C. A publishing system employing XML is said to be a *structured application* having XML target documents, schema files, and transformation code, among other components.



A structured content, single source publishing workflow

XML is a markup language that allows you to tag content with metadata so that you can perform operations on it programmatically. Once you own tagged content, you can manipulate that content as you wish.

For example, in XML markup a Site Assessment observation would be defined as an element and include attribute tags that describe the observation by technology, problem type, and severity. Because all observations in the XML document would have the same structure, we could perform operations to collect and sort all observations by attribute: “technology”, “problem type”, and “severity”. Similarly, we could collect all observations tagged as “Critical” or as a “performance” issue.

Given the proper transformation scripts, we would output our XML file into a web document, spreadsheet, and presentation slides via one executable.

Once our content is tagged it becomes data, and once our content is data we have an unlimited ability to operate on it, manipulate it, share it, and create knowledge assets.

In an XML structured authoring system, CSS as well as the more powerful XSLT¹ provide a means to format output when it is generated, enabling you to separate your content from its format. Structured authors never worry about document formatting, because formatting is applied programmatically during transformation, not during composition.

¹ eXtensible Stylesheet` Language Transformations

XML software and structured authoring systems

A structured authoring system is a complex framework of related XML protocols. The following list provides a brief description of XML editors and structured authoring vendors I reviewed over the past year.

I did not have precise cost discussions with any of the vendors because accurate estimates would require more proprietary input than our group is prepared to provide.

- Traditional XML editors include products such as Altova XMLspy, Oxygen, and XMetal.

These WYSIWYG coding applications allow you to compose XML target documents and related files. They are composition/coding tools, not structured applications.

<COMPANY> provides XML Spy licenses to employees by request.

- **Structured FrameMaker** provides an XML application interface on top of its desktop publishing engine to produce XML target files. FrameMaker maps its publishing styles to XML elements and attributes. Not suitable for engineering authors working under deadline and only mentioned for completeness.

- **Simply XML**

XML add-ons, such as Simply XML, are XML structured applications that sit atop the Microsoft Word interface. Simply XML has a plugin called “Content Mapper” which performs sophisticated transformations on content with a simple mouse click.

Simply XML demoed their software for us but did not use our content. This application is the most economical of the three vendors we contacted. Their concept is relatively new but intriguing, and they have a growing customer base. Competitors include Quark XML, which is more expensive but provides no user advantages that I could detect.

There are many variables, but I anticipate that we may be able to deploy a Simply XML system for well under \$100K plus moderate yearly maintenance costs per license. I have small questions about the product interface and its potential acceptance by engineers.

- **Dakota Systems**

Consultants such as Dakota Systems create conventional structured authoring applications for organizations such as ours.

Technical authors must use an XML editor such as XML Spy to compose XML target files, and Dakota provides a turnkey XML transformation package to obtain desired output.

Dakota Systems demoed their product for us under an NDA using a modified sample of our content. Their results were impressive and depicted a Site Assessment Executive Summary that dynamically shared content with technology sections and transformed into both PDF and PowerPoint files with a simple mouse click. I expect a Dakota Systems solution that produces all of our deliverables to hit the \$100K mark plus yearly maintenance.

- **EasyDITA**

EasyDITA is the most sophisticated and expensive solution vendor that we contacted. They provide a completely web based authoring environment and turnkey transformations.

Expect an EasyDITA solution that meets our needs to smash right through the \$200K barrier in addition to significant yearly maintenance costs. It is an expensive and sophisticated solution.

EasyDITA reneged on providing a demo with our content under NDA.

What about SharePoint?

The technology behemoth known as SharePoint continues to evolve as a powerful ECM platform. Microsoft owns our office production environment, and SharePoint is a natural extension to their ubiquitous presence. With a development investment, SharePoint is capable of producing an ECM system that satisfies our storage, production, and transformation needs.

From Gartner:

A large part of (SharePoint's) success comes from providing reasonable support for most of the things, most people, need most of the time. Together with support from the third-party developer ecosystem, this brand promise has made SharePoint widely deployed. However, few end users rarely love using it. It remains a tool that people are required to use, not one they want to use.²

When Gartner speaks of “the third-party developer ecosystem” it is referring to vendors such as Simply XML and Dakota systems, described above. SharePoint can provide the storage component of an ECM while third-parties provide the content transformation muscle.

² <http://www.gartner.com/newsroom/id/2605118>

In lieu of outside help, in-house developers could create a comprehensive SharePoint ECM solution; however, those resources are not available in our organization. Our initial SharePoint ECM implementation was an extremely expensive and laborious project, and there are no cycles available in our shrinking SharePoint talent pool to resurrect that effort. Nor is there appetite for it.

<COMPANY>'s SharePoint developers desire to reduce or eliminate their involvement in our ECM ("cut it lose"). Therefore, there really is no SharePoint ECM champion in our organization, and our Content Manager must take a more proactive role in understanding its potential to solve our needs.

Conclusions

Theoretically, <COMPANY> could obtain a custom ECM system that allows us to compose Report sections and then produce every asset that we require for delivery with the push of a button, and the output would be perfect.

The most sophisticated system could cost hundreds of thousands of dollars plus yearly maintenance costs in the tens of thousands of dollars. The cheapest system plus yearly maintenance could accumulate past \$100K within ten years.

An organization cannot justify the expense and complexity of a structured authoring system for an Assessment business that publishes under 20 Reports per year and does not produce revenue.

If “converged systems and solutions” continue to be a primary focus of <COMPANY> Services, it is likely that enterprise-wide Site Assessments will need to expand as a service offering. When that growth materializes, senior management must understand that our current, manual production process will not scale along with demand.

When demand for Site Assessments begins to outpace our capacity, we will need to implement a robust structured authoring environment to satisfy our commitments to customers. The information in this white paper will serve as an excellent starting point to inform stakeholders who must select the appropriate structured authoring application.

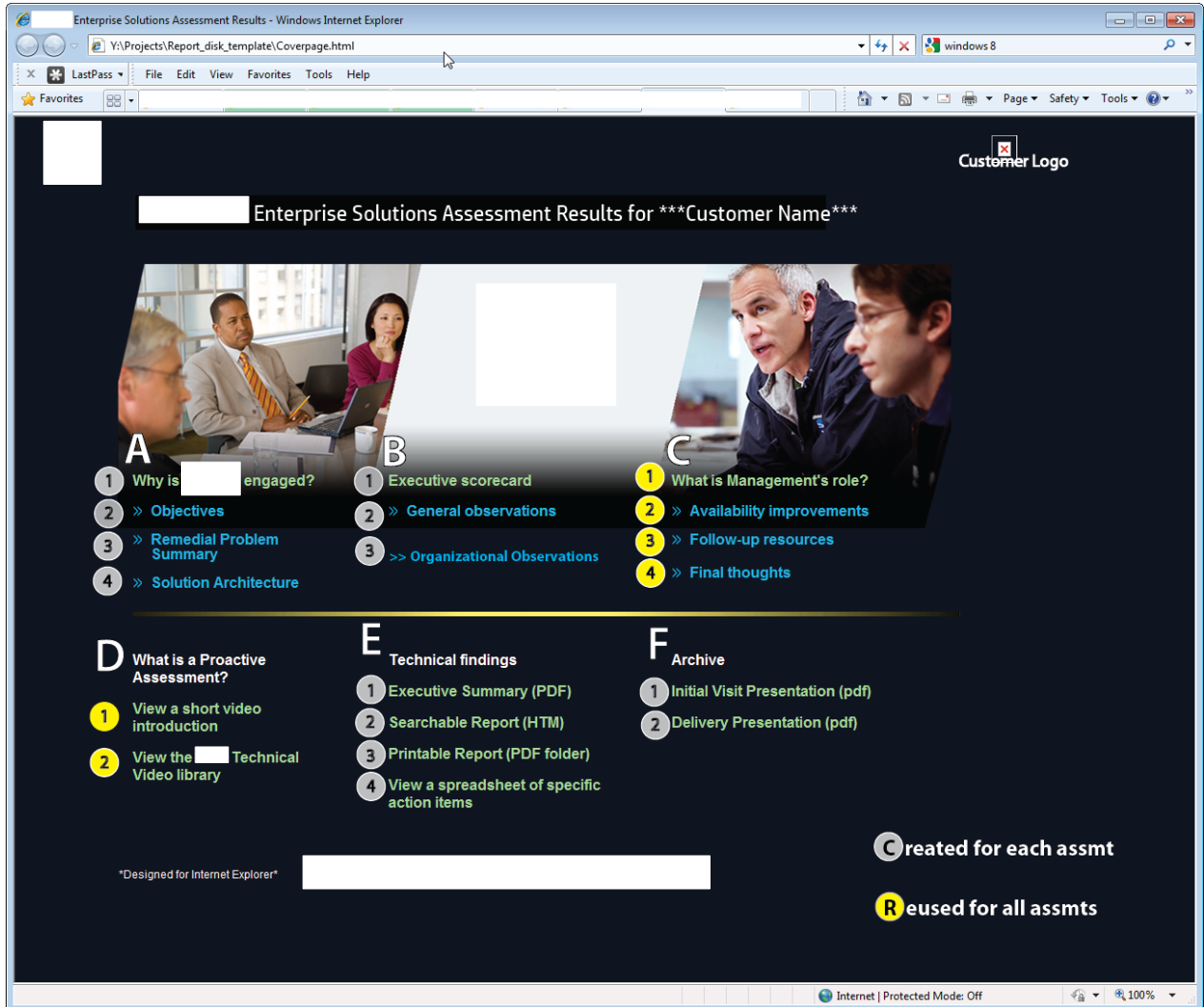
Incremental routes

In the medium term, <COMPANY> should look for opportunities to gain experience with structured authoring components and XML transformations.

- Identify XML and structured components that exist in proximity to us already. Who is using structured authoring or XML now? How?
- Apply smaller XML production applications that we can develop incrementally as our business grows. For example, could our CoverPage be generated via structured authoring? How about our Executive Summary?
- Investigate the possibility of combining with other groups who have similar requirements for structured authoring, especially groups that we could share data with (SAW?).

Appendix A: CoverPage assets in detail

The Site Assessment CoverPage provides links to all of the derivative assets that comprise our Report deliverables. Our production tools includes a home-grown utility that requires much data entry and produces most of the assets in columns A, B, and C. All of this output could be created on the fly in a modern structured authoring system.



A.

Asset	Delivery Format	Provider/source
1. Why is <COMPANY> engaged?	HTML/JPG/script/CSS	Team leader (Ex Sum) /CoverPage tool
2. Objectives	HTML/JPG/script/CSS	Report sections/CoverPage tool
3. Remedial Problem Summary	HTML/JPG/script/CSS	Team leader
4. Solution architecture diagram with hotspots to rollover and popup assets	HTML/hotspot graphic/script/CSS	Team leader (Visio/JPG) SA Report section intros/ CoverPage tool
> Secondary popup assets (each technology)	HTML/script/CSS	Team leader (Report sections) /CoverPage tool
> Process flow diagram	JPG	reusable file
> <COMPANY> team bios	PDF	Editor (from full bios MSWord)

B.

Asset	Delivery Format	Provider/source
1. Executive Scorecard	HTML/JPG hotspot	Team leader/CoverPage tool
> Click for popups of specific data	PDF files (many)	Team leader Action Items /CoverPage tool
2. General Observations	HTML/JPG/CSS	Team leader /CoverPage tool
3. Organizational Observations (optional)	HTML/JPG/CSS	Team leader/CoverPage tool

C.

Asset	Delivery Format	Provider/source
1. What is Management's role?	HTML/JPG/CSS	Team leader /CoverPage tool
2. Availability improvements	HTML/JPG/CSS	Team leader /CoverPage tool
3. Follow-up resources	HTML/JPG/CSS	Team leader /CoverPage tool
4. Final thoughts	HTML/JPG/CSS	Team leader /CoverPage tool

D.

Asset	Delivery Format	Provider/source
1. View a short video introduction	WMV	Editor video
2. View the Technical Video library	HTML/MPG	Editor HTML/video library

E.

Asset	Delivery Format	Provider/source
1. Executive Summary (PDF)	PDF	Editor MSWord
2. Searchable Report (HTML)	HTML/Fancybox/CSS	Editor MS Word, Robohelp, Acrobat
3. Printable Report (PDF folder)	PDF	Editor
4. Action Items Spreadsheet	XLXS	Team leader MSWord files

F.

Asset	Delivery Format	Provider/source
1. Initial Visit Presentation (PDF)	PDF	Team leader (PPT)
2. Delivery Presentation (PDF)	PDF	Team leader (PPT)

Appendix B: What is a Web CMS?

Today, most users wishing to create a web site do not fire up Adobe DreamWeaver and start creating html pages and linking them together. Today web authors select a CMS provider (probably WordPress) and choose a “theme” (web template) on which to build a web site. A GUI allows the user to add pages, content, images and other assets and establish hyperlinks, etc.

A web CMS is a software environment that allows you to build and manage a web site. It provides storage for content assets that comprise the site, a software interface to add functionality to the site, and server support to publish the site.

A web CMS allows a user to construct a complex and interactive web site without learning HTML code or scripting. Some examples of a web CMS are WordPress, Drupal, and Joomla. WordPress is by far the most popular web CMS, and it developed in response to bloggers without technical skills who wished to create web sites that were more sophisticated than a simple blog.

A web CMS maintains the web site’s files and defines its menu structure, while providing a simplified GUI for a user to create pages and set up links. A web CMS also allows a user to add software extensions that perform functions and add interactivity to a site. These software extensions, which typically arise from the user community, are called “widgets” in WordPress and “modules” in Drupal.

A web site that is managed with a web CMS is still a complex system of interconnected html, graphics, and script files, but the CMS keeps track of its complexity behind the scenes, not a web master typing html code keeping track of links.

WordPress and Drupal are the most popular web CMS systems. The following descriptions briefly describe each one.

WordPress

WordPress provides web creators with a complete production environment to produce web sites. WordPress provides *themes*, which are like web site templates and provide a look and feel for a web site. Users select a theme and then use a GUI to add pages, content and other media assets within a menu structure to build a site.

WordPress also provides storage space for content items as well as access to “widgets,” which are programming modules that provide functionality. Users may add a calendar widget, for example. WordPress makes money by selling upgrades to their free services as well as selling reserved user names and advanced widgets to enhance functionality. WordPress is a for profit company, although they provide free web site offerings and maintain open source code so that a user community may develop and sell new widgets. WordPress offers both free and subscription web CMS services. You may use WordPress to host your web site or deploy on another server, such as Godaddy.

You really can produce a nice web site on WordPress without spending a penny and without learning technology. WordPress provides server space, their CMS, and enough free widgets to create a functional, if simple, site. Remember that WordPress’ roots are in the blogging community, and users refer to webs and blogs interchangeably. Also, every page of a WordPress site contains space for reader posts by default.

Drupal, Joomla, etc.

Drupal is an open source CMS with a devoted user community that maintains it and produces *modules*, which are what Drupal users call web page software extensions (Drupal modules = WordPress widgets). Drupal is free to own and use, but is not user friendly and requires deep technical knowledge to implement and develop. Drupal is a powerful web CMS and is used to produce many sophisticated sites such as whiteHoues.gov. That is whitehouse dot GOV. Please do not mistype it.

Joomla is another open source web CMS offering with a devoted user base and an even smaller market share than Drupal.