



SharePoint – A Primer

An overview for records, document and
ECM managers

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Introduction

So, you have decided to build your application solution using Microsoft's SharePoint system. Or, more likely, someone high in IT has told you that you will have to use SharePoint. What does this mean? What exactly is SharePoint and how do you use it to solve your application needs? What are its strengths, its weaknesses and what kind of resources will you require to achieve your ends? What SharePoint products will you need? What expertise is required and how much work and investment will be involved?

This is the first in a series of introductory papers on SharePoint written for our customers so they can better understand how SharePoint can be used within their organizations. The next paper in this series will cover how to integrate a proprietary application (e.g., RecFind or Knowledgeone) with SharePoint.

What is SharePoint?

Let's first make it clear that SharePoint is not an application; it is more a toolset. It is also not a single product; it is a collection of products. It doesn't come ready to run out of the box; it requires a lot of design and configuration and the design process is very, very complex. The design of any SharePoint solution requires a thorough, detailed business and technical analysis and design and the buy-in from all concerned parties.

Think of SharePoint as a set of very sophisticated tools and a development environment.

SharePoint is document centric; it is all about document management and collaboration.

In its simplest sense SharePoint is two things:

1. A portal into all information in the enterprise; and
2. A collection of sites (think websites), document libraries and lists.

A SharePoint site is a complex, nested infrastructure containing the following components:

- Site content (document libraries & lists)
- SharePoint sites
- Site collections
- Web applications
- Content databases
- Database servers
- Web servers

The main content repositories in SharePoint 2007 are libraries and lists. An oversimplification (because there is an overlap) would be to say that libraries are designed to hold documents (think Word and Emails) and Metadata and lists are designed to hold columnar data (think Excel & Access) plus Metadata.

2003 or 2007?

There are two main versions of SharePoint to consider, SharePoint 2003 and SharePoint 2007 (called Microsoft Office SharePoint Server or MOSS 2007). Within these two main product lines are many other products and options. We will ignore SharePoint 2001 (and you should too).

If you haven't installed or used SharePoint 2003 the best advice is don't. SharePoint 2007 is very much a superset; a far superior product set. SharePoint 2007 is also not 100% upwards compatible from SharePoint 2003; there were significant changes in both architecture and terminology between the 2003 and 2007 versions. You do not easily upgrade from 2003 to 2007, you "migrate" (think rowing an open boat across the Atlantic).

Free or pay version?

The free version is Windows SharePoint Services (WSS) 3.0. The version you buy is Microsoft Office SharePoint Server (MOSS) 2007.

There are obviously many more features in MOSS 2007 and it is infinitely more scalable. The two versions are also not compatible; you can't for example install them both on the same server because MOSS will overwrite WSS.

Basically, if you are a small organization and you are not trying to build a multi-application corporate solution then you may get by (with frustrations) using WSS 3.0. But, if you are a medium to large organization with serious intent then save yourself a lot of pain and suffering and invest the money in MOSS 2007.

How many products?

Well, to start with there are five different versions of SharePoint 2007.

1. Windows SharePoint Services (WSS) 3.0
2. Microsoft SharePoint Server 2007 (Standard CALs)
3. Microsoft SharePoint Server 2007 (Enterprise CALs)
4. Microsoft SharePoint Server for Search 2007 (Standard edition)
5. Microsoft SharePoint Server for Search 2007 (Enterprise edition)

You will need to speak to your CIO to decide the most appropriate version for your organization.

Then there are the other components you need to consider and if you are embarking on a serious enterprise solution you will actually end up needing most of the following:

- Office 2003 or Office 2007
- Microsoft Office Communications Server 2007 or Microsoft Live Communications Server 2005
- FrontPage or SharePoint Designer 2007
- Systems Center Operations Manager (OpsMr) 2007
- Microsoft Internet Security & Acceleration (ISA) Server 2006
- SQL Server 2000 or SQL Server 2005
- Search Server 2008 Express
- Windows Server 2003 or Windows Server 2008
- Exchange Server 2003 or Exchange Server 2007
- Windows Server 2003 Rights Management Services (RMS)
- Microsoft BizTalk Server 2006
- ASP.NET
- Active Directory
- Access 2007

- Windows .NET Framework 3.0
- Windows Internet Information Service (IIS)
- Windows Workflow Foundation
- C#.NET
- VB.NET
- Excel Services (Calculation Services ECS, Web Access EWA and Web Services EWS)
- Outlook 2003 or Outlook 2007
- Visio 2007
- Two-Stage Recycle Bin
- InfoPath 2007
- Forms Server 2007

Always choose the later version of a Microsoft product (e.g., MS Office 2007 in lieu of MS Office 2003) with MOSS 2007 if you want a “least pain” and most successful implementation. MOSS 2007 works much better with the later releases; upwards compatibility has never been a Microsoft strongpoint. Similarly, Vista will integrate better with MOSS 2007 than will XP as a desktop operating system, as will SQL Server 2005 rather than SQL Server 2000.

Staffing

You are going to need some additional and skilled staff not just for the implementation but for the ongoing operation and care of your SharePoint system. A “typical” staffing requirement to manage the ongoing running of your SharePoint system might be:

- Director level (1)
- Manager level (2)
- Administrator level (3)
- SQL Server (1)
- Server support (1)
- Help Desk (2)

In addition, you will need consultants trained and certified in SharePoint to design and build your system and, this is most important, you will also need application experts because your SharePoint consultants are unlikely to be “experts” in the core business applications you intend to design and build (e.g., enterprise content management, web content management, electronic document management, imaging, workflow and records management). That is, they may know a lot about SharePoint but they probably know next to nothing about your in-depth application requirements.

Security

Application security or “access control” is provided for in SharePoint but it can be very complex to implement and maintain and it certainly does not happen automatically. You have to design and implement your access controls. The best way is to integrate with an information rights management platform such as Windows Server 2003 Rights Management Services (RMS).

Backup

Once again it is complicated because there are so many options and so many different types of SharePoint implementations possible. However, it is critical that you are able to reliably backup and restore the total SharePoint environment (multiple components and servers). This is not like backing up a shared folder or SQL database; it requires far more planning, design and thought. Some of the options you need to consider are:

- Recycle Bin (yes, it is a serious option with SharePoint, basically the only way to recover deleted items)

- Backup & Restore options in SharePoint Central administration 3.0
- STSADM command-line utility backup
- SharePoint Designer 2007 backup
- IIS backup script
- SQL backup tools
- Third party backup tools (may be required because you have proprietary backup devices)

Do not underestimate the complexity of the SharePoint environment or the complexity of successfully backing it up (and restoring); it is a serious challenge.

Maintenance

Because every SharePoint installation is unique and “tailored” each requires a significant amount of ongoing maintenance. Additionally, as Microsoft has shown with the differences between SharePoint 2003 and SharePoint 2007, every new release of SharePoint will require a lot of work to install and adapt (Microsoft calls it “migration”). The architecture, terminology and components will (I guarantee) change with every new release of SharePoint forcing you to spend significant dollars moving to the next release.

Unfortunately, as Microsoft has demonstrated time and time again (other examples are XP to Vista, .NET Framework 1.1 to 2.0 and then to 3.0 or Office 2003 to Office 2007 and workflow being part of SharePoint 2001 then being dropped in SharePoint 2003, etc) it would rather re-invent than fix problems in the current release and accommodate upwards compatibility concerns. This means you need to have the resources and budget to handle future releases of SharePoint because it won't be a simple upgrade as it is with proprietary application software.

At this point in time I am not aware of Microsoft committing to the next release of SharePoint or of committing to maintain the current (MOSS 2007) architecture and terminology so the future is unknown.

Workload Balancing

Like most modern IT applications SharePoint can be configured to run on a single server, multiple servers or a server farm. However, the SharePoint environment is much, much more complicated than a single proprietary application. It will also be providing a variety of services to a large number of users in your organization and their documents will be stored in multiple locations. Many of the SharePoint components also have defined limits, for example:

- The number of users in a SharePoint site should not exceed 2,000
- Each site collection should hold no more than 50,000 users
- There should not be more than 2,000 subsites to a website
- There should not be more than 2,000 items in any view
- There should not be more than 100 web parts per page
- Individual documents cannot be larger than 50MB

There are also defined capacity limits for libraries, lists, pages and workspaces to be aware of when designing the SharePoint system.

There are articles on Microsoft's TechNet homepage detailing the limitations you need to be aware of when designing SharePoint architecture, for example, “Plan for software boundaries (Office SharePoint Server)”. You can also see many more by searching in Google with “SharePoint 2007 limitations”.

Good load balancing (let's call it building a scalable solution) starts with the design of the SharePoint system. The more effort you put into the initial design, the fewer problems you will experience as you roll out and grow the system.

However, SharePoint 2007 does not include an integrated monitoring application so you will need to design and implement a tight integration with either Microsoft Operations Manager (MOM) 2005 or, preferably, Systems Center Operations manager (OpsMgr) 2007 before you can effectively monitor the performance of your SharePoint system and be aware of possible looming bottlenecks.

Implementing records, document, imaging, workflow or ECM solutions in SharePoint

I am not a SharePoint expert, just a well informed software engineer, but I am an expert in what we now call enterprise content management applications. I have been designing, building, installing and supporting information management applications since 1984. These applications include records management, electronic document management, imaging, workflow and email management. It is this hands-on experience that enables me to look somewhat critically (and with an admitted degree of bias because I produce proprietary applications for this domain) at what passes for records and document management (let's call it an electronic document and records management system or eDRMS) in SharePoint 2007.

The good news is that the basics (check-in, check-out, version control, audit trail, full text search capabilities, workflows, etc) are certainly there and Microsoft has provided some basic templates to get you started. The bad news is that SharePoint 2007 "out-of-the-box" only provides about five percent of what you will need to meet the requirements of ISO 15489-1:2001. And, apart from the ability to directly route emails to SharePoint via an SMTP server, it is wholly client-centric. Being client-centric means the basic assumption in the SharePoint model is that the end user will do all the work. This means each end user needs to be trained and managed and monitored. Each end user needs to be an "expert" in how your particular SharePoint eDRMS works. Each and every end-user needs to become a records management expert (I wish you good luck in this endeavour because you will need it).

This is its second major weakness. The first is the enormous amount of design and implementation work required to build a functioning and fully featured electronic document and records management system (eDRMS). You are realistically looking at an investment of several man years.

The third major weakness is the enormous amount of effort required to maintain the SharePoint eDRMS, not just with future updates from Microsoft but with changing standards and legislation. With a proprietary solution the vendor takes care of everything and you just pay a small annual maintenance fee. With your own "home-grown" system you have to staff up for and budget for an ongoing high-effort maintenance activity. If you don't, your eDRMS will soon be crippled and useless.

This is where the SharePoint versus proprietary solution (usually working, stable and paid for) doesn't make any sense to me. Why would any sensible manager want to spend man years and millions of dollars replicating functionality that is already available and proven and supported and maintained by someone else for a small annual fee?

Do you want to integrate with SharePoint?

The good news is that it is really easy to put information into SharePoint and it is really easy to get information out of SharePoint. The bad news is that there is no such thing as a "standard" SharePoint integration because there is no such thing as a "standard" SharePoint implementation or architecture.

Every SharePoint site will be different and will use different components and will do different things. So every integration project will begin with, "How do you want us to integrate? What information do you want us to put into SharePoint? What information do you want us to get out of SharePoint?"

In my next paper I will describe a variety of ways to integrate proprietary applications with SharePoint 2007.

Are there some things SharePoint does better than anything else?

Absolutely; for example, document collaboration and managing workspaces. It may also be the best tool to use for constructing your corporate information or knowledge portal. It may also be the best way to build and maintain your corporate Intranet or corporate Extranet.

Are there some things best left to proprietary applications?

Absolutely, you would be insane to try to replace the rich (and proven and probably already paid for) functionality of your core proprietary application systems. For example, if you are a SAP user, would you really try to replace all SAP functionality with SharePoint? If you have a working point of sale system (POS) literally "running" your business would you try to replicate the functionality in SharePoint?

Common sense should always apply plus the old adage, "If it ain't broke; don't fix it."

By all means integrate your proprietary application with SharePoint but please do not try to replicate its functionality; that is not what SharePoint is good at.

Summary

SharePoint 2007 is an incredibly rich and powerful set of tools that a sophisticated corporate entity could utilize to solve many business application needs. It appears to be an ideal development system for collaboration and web development but it is a very complex, expensive and high risk way to build and maintain core business applications.

Quotes

"Earlier this week I visited a national membership association in wonderful Copenhagen, Denmark. The association had accepted a seemingly very nice offer from Microsoft: free licenses to MOSS 2007 to support a revamped public website.

Now with the implementation well underway, problems are beginning to surface. The systems integrator is having a hard time meeting some fairly basic requirements (e.g., scheduled publishing, modifying error messages and more). They cite MOSS 2007 limitations and argue that meeting those requirements would require them to make significant changes to the core of MOSS 2007. To their credit, the integrator counsels against such modifications, citing potential upgrade problems in the future.

This may sounds unpleasant and familiar (not just to Microsoft customers), but it is a nice reminder that SharePoint 2007 really needs 3rd-party plug-ins for basic functionality. Still without an official roadmap, I would certainly also advise against changing too much in the core system. Moreover, as readers of the [Enterprise Portals Report](#) know, system integrator knowledge of MOSS 2007 is very unevenly distributed. Even if you get the software for free, you need to plan and test carefully, as your mileage with the product may vary... "

Author: [Janus Boye](#)

"The long waiting game will soon end for enterprises looking to upgrade their Microsoft SharePoint Portal Server 2003 installations, as the much delayed Microsoft Office SharePoint Server (MOSS) 2007 becomes generally available later this month. However, after a major and potentially difficult transition, customers will find that MOSS 2007 brings many of the same limitations as its predecessor, according to the latest semi-annual release of the "Enterprise Portals Report" from independent analyst firm, CMS Watch.

MOSS is a part of the new Office 2007, also due out in November. MOSS now combines traditional SharePoint collaboration and portal services with Microsoft CMS and adds new functionality, such as records management.

Microsoft has published initial guidance and best practices for upgrading from SharePoint 2003 to MOSS 2007. Nevertheless, upgrading will require careful planning and extensive testing given the dearth of real-world upgrade experience. Meanwhile, example upgrade solutions emphasize installations with minimal changes to the default configurations of the old version.

In its Report, CMS Watch identifies seven common enterprise portals, of which MOSS excels at two: Collaboration and Web Development. "For use as an enterprise portal, MOSS will remain an unlikely fit for most e-business scenarios or enterprise-wide deployments in large organizations," according to Lead Report Analyst, Janus Boye. "MOSS adds a long set of new features, but MOSS should still only be considered for departmental collaboration or intranet scenarios in mid-market organizations already using Microsoft intensively," adds Boye.

Other Report findings include: - The previous dependency on Internet Explorer is gone, but the most value from enhanced Office integration will come to those enterprises concurrently upgrading to Office 2007. Customers on older versions of Office may find their usability mileage varies.

- As with the previous version, ease of installation obscures difficulty in customization and ongoing maintenance; administrators can easily get in over their head.

- Microsoft's all-important consulting channel will need substantial time to absorb and learn the tool. Experience with previous versions of SharePoint suggests that this learning process will be measured in years.

- Microsoft has not issued clear plans for subsequent releases. "Microsoft has tried to go 'enterprise' in the impressive breadth of MOSS capabilities, but not necessarily in their depth and scalability," notes CMS Watch founder Tony Byrne. "

CMS Watch (www.cmswatch.com) is an independent analyst firm that evaluates content technologies and strategies for prospective solutions buyers. Based on hundreds of interviews with enterprise portal customers worldwide, the Report's 2nd Edition includes detailed comparisons across 16 key feature categories.

References

Microsoft SharePoint 2007 Unleashed, Michael Noel & Colin Spence, SAMS

This is an excellent publication. The authors have done a great job explaining SharePoint in the clearest and most logical way possible. It is the ideal reference text for anyone wanting to find out more about SharePoint. I highly recommend it as a reference text for both novice and expert users.

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