

## Managing Growth and Driving Down Costs for Microsoft® SharePoint®

An Osterman Research White Paper

*Published October 2013*



**Osterman Research, Inc.**

P.O. Box 1058 • Black Diamond, Washington • 98010-1058 • USA

Tel: +1 253 630 5839 • Fax: +1 253 458 0934 • [info@ostermanresearch.com](mailto:info@ostermanresearch.com)

[www.ostermanresearch.com](http://www.ostermanresearch.com) • [twitter.com/mosterman](https://twitter.com/mosterman)

## EXECUTIVE SUMMARY

Microsoft SharePoint offers a wide range of content management, search, social media, application development and Web site development capabilities upon which many organizations are increasingly reliant to manage critical business processes and workflows. Through a combination of robust product features and inducements from Microsoft, SharePoint adoption is growing at a healthy pace, so much so that SharePoint-enabled organizations anticipate that three-quarters of their employees will use SharePoint by 2014.

However, SharePoint is not without its problems:

- Adoption is lagging in some organizations as users continue to opt for older processes or alternatives to SharePoint to get their work done.
- Some organizations are not adequately educating their users about how to use the platform to its full advantage.
- Many organizations are not archiving content or otherwise managing it adequately to ensure that they can meet all of their compliance and other obligations. The result is that SharePoint is not fully optimized in many organizations.

### ABOUT THIS WHITE PAPER

This white paper presents the results of a market research survey conducted during late July 2013 with 129 organizations that have already deployed SharePoint. The organizations surveyed have a median of 3,000 employees and 1,000 SharePoint users (means are 20,010 and 8,951, respectively).

This white paper was sponsored by MessageSolution. Information about the company and its relevant offerings is provided at the end of the document.

## OVERVIEW OF THE SHAREPOINT MARKET

### SHAREPOINT PENETRATION IS INCREASING

Email continues to be the dominant collaboration platform in use today. A recent Osterman Research survey<sup>1</sup> demonstrated that 25% of all emails received in the workplace contain attachments and that 98% of the bits that flow through email systems are actually files, not email messages themselves. This, despite the fact that email tends to be a relatively poor collaboration tool because of the various problems it presents, including difficulties in managing content, access control for sensitive content and overall corporate governance.

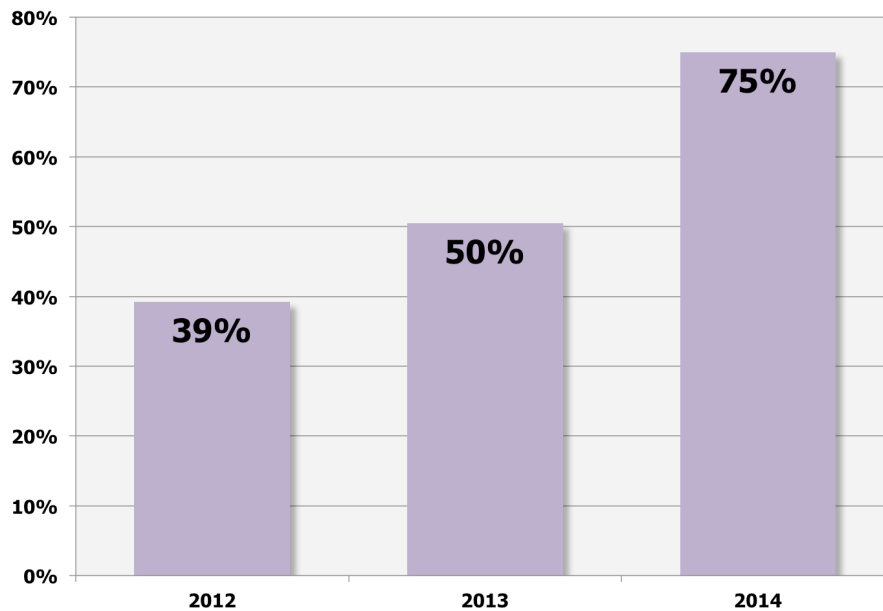
To address these problems, many organizations are deploying SharePoint, although SharePoint addresses a wide range of other issues and offers many benefits beyond just document collaboration and management. The research we conducted for this paper found that the use of SharePoint is growing at a fairly rapid pace, from 39% of employees in 2012 to one-half today. As shown in the figure below, penetration of SharePoint is expected to accelerate, growing by one-half over 2013's penetration to 75% of all users by 2014.

*The research we conducted for this paper found that the use of SharePoint is growing at a fairly rapid pace, from 39% of employees in 2012 to one-half today.*

---

<sup>1</sup> Results of a Survey With Email Users, April 2013; Osterman Research, Inc.

## Proportion of Employees Using SharePoint 2012-2014



### SHAREPOINT IS BECOMING THE COLLABORATION STANDARD IN MICROSOFT-ENABLED ORGANIZATIONS

There are a variety of collaboration and other capabilities offered in SharePoint, including:

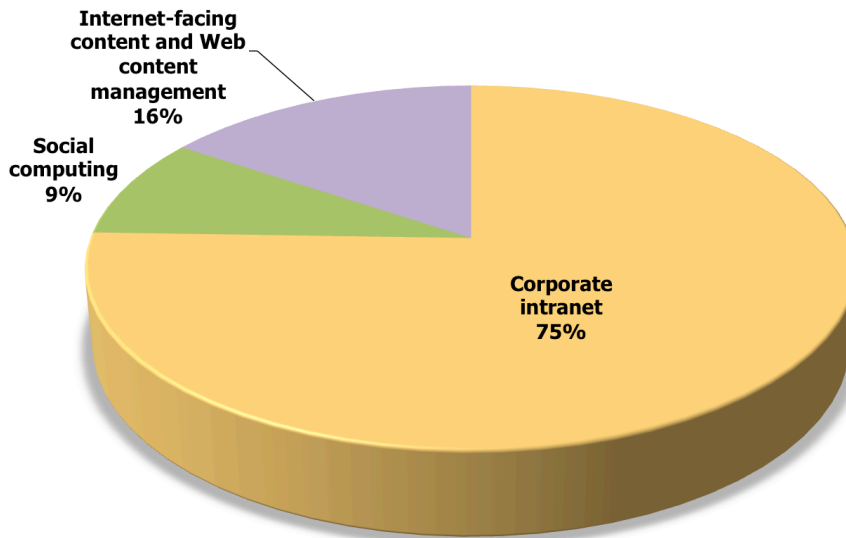
- **Content management**  
Various types of documents can be managed using different rules along with retention policies based on specific business requirements.
- **Search**  
The ability to search across a variety of document types, content sources and document repositories.
- **Social Media**  
Social media capabilities in SharePoint include the development and management of wikis, blogs, discussion boards, MySites, tags and other capabilities. The use of SharePoint as a social media tool leads to content growth, as demonstrated later in this paper, and speaks to the growing use of SharePoint beyond its role as simply a document repository.
- **Web site development and management**  
SharePoint offers a robust Web development platform for both internal and externally focused Web sites that can be used to share content with teams and larger audiences.
- **Application development**  
These capabilities allow users to develop useful business applications without sophisticated coding to address departmental or workgroup information management requirements.

*SharePoint is becoming the collaboration standard in Microsoft-enabled organizations.*

## HOW IS SHAREPOINT USED?

The primary use of SharePoint among the majority of organizations we surveyed is as a corporate intranet. As shown in the following figure, three-quarters of current SharePoint focus is on corporate intranet applications, followed by Internet-facing content and Web content management with 16% of SharePoint focus, and social computing at only 2%. Moreover, our research discovered that in only 6% of organizations is Internet-facing content and Web content management the dominant application for SharePoint, while social computing represents the dominant use of SharePoint in only 2% of organizations.

### Primary Applications for Which SharePoint is Used



Moreover, as shown in the table below, 94% of organizations use SharePoint for document collaboration, 82% use it for simple file-sharing and storage (with significant implications for competitive offerings to SharePoint, as discussed later in this report), and 53% employ it for records management purposes.

### Leading Purposes for Which SharePoint is Used

Purpose	% of Orgs
Document collaboration	94%
Simple file sharing/storage	82%
Records management	53%
Social Media platform - such as blogs and wikis	36%
MySites	38%
Discussion Boards	39%
Shared calendars	46%

## DRIVERS FOR THE ADOPTION OF SHAREPOINT

There are several factors that are helping to increase SharePoint adoption and its application for a variety of mission-critical applications within the organizations that have adopted it. These factors include:

*94% of organizations use SharePoint for document collaboration, 82% use it for simple file-sharing and storage, and 53% employ it for records management purposes.*

- The advantages of SharePoint relative to the variety of employee-deployed collaboration tools like Dropbox, despite the fact that alternatives to SharePoint are used alongside it.
- Microsoft's aggressive licensing schemes that have enabled Microsoft customers to obtain SharePoint licenses inexpensively, even if SharePoint was never deployed or used.
- The growing importance of enterprise social media capabilities. While most organizations today are not using SharePoint as their primary social media capability, the platform offers some useful functionality in this regard.
- Its document management capabilities focused on functions like version control and management of document-centric collaboration capabilities.
- The wide variety of features and functions for which SharePoint is used as shown in the table above.

That said, 29% of the respondents we surveyed reported that SharePoint adoption in their organizations has been difficult, but for a variety of reasons:

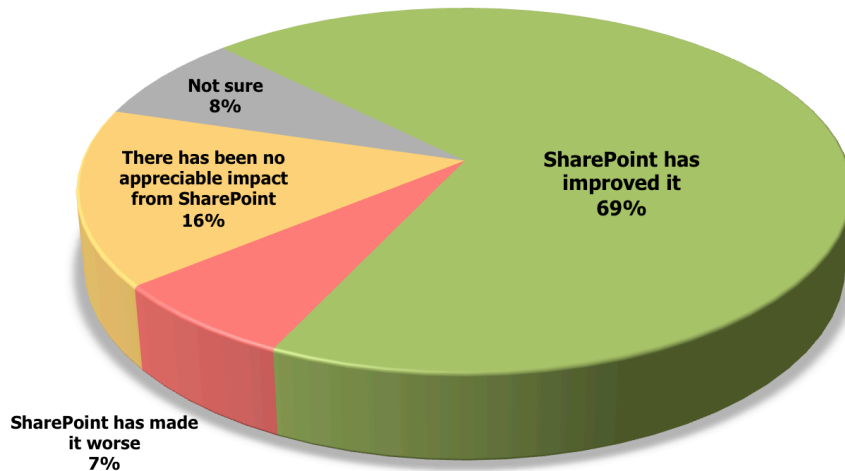
- "There is always resistance to use a new technology. Storage of documents and key items were historically kept on DocWeb and now, with the introduction of SharePoint, it took some time for users to move over."
- "People prefer their own systems - often in the cloud. Most users don't know about our deployment or consider it too cumbersome to use as compared to file shares or cloud storage."
- "It was difficult consolidating silos of information across departments."
- "Adoption has been low. Unsure of specific reasons, but we think users are more comfortable with generally available SaaS solutions as opposed to something that has to be uniquely setup/administered in our environment."
- "We successfully rolled SharePoint out to the user community, but getting them to retrieve information from SharePoint is a challenge."
- "Mostly because staff does not fully realize the potential. They also do not have a clear plan for document handling and archival as they save documents to SharePoint, as well as home drives."
- "Very difficult to explain to non-technical people the value of a framework, as opposed to a finished product."
- "IT does not have confidence that it will be able to support significant use of SharePoint which limits promotion of its use."

### THE IMPACT OF SHAREPOINT

On balance, SharePoint has significantly improved the management of information in the organizations that have deployed it. As shown in the following figure, seven out of 10 SharePoint-enabled organizations report that SharePoint has improved information management, while only 7% report that SharePoint has made it worse. This represents a significant improvement from our 2012 research findings, which found that 12% of organizations reported that SharePoint had actually made information management worse.

*Seven out of 10  
SharePoint-  
enabled  
organizations  
report that  
SharePoint has  
improved  
information  
management,  
while only 7%  
report that  
SharePoint has  
made it worse.  
This represents a  
significant  
improvement  
from our 2012  
research  
findings.*

## Overall Impact of SharePoint on the Management of Information



## CHALLENGES FACING ORGANIZATIONS WHEN DEPLOYING OR MANAGING SHAREPOINT

Despite the growing use of SharePoint in organizations of all sizes, there are a number of challenges, issues and problems that decision makers need to address in order to maximize their investment in the platform. Some of these challenges can be met by establishing policies focused on appropriate use of SharePoint, some require user education in order to increase adoption of SharePoint as a replacement for less efficient processes, and some require the addition of third-party offerings to supplement the missing features and functions in SharePoint.

### ALTERNATIVES TO SHAREPOINT CONTINUE TO BE USED

Although SharePoint provides a sophisticated set of solutions that cut across document management, file sharing, social media, shared calendars and other capabilities, SharePoint-enabled organizations also use a number of other solutions, as shown in the table and figure below. Leading these alternatives are Dropbox and Box, although a wide variety of other social media, file sharing, file synchronization, intranet and other solutions are also in use. In fact, our research revealed that only 6% of SharePoint-enabled organizations are *not* using at least one alternative to SharePoint.

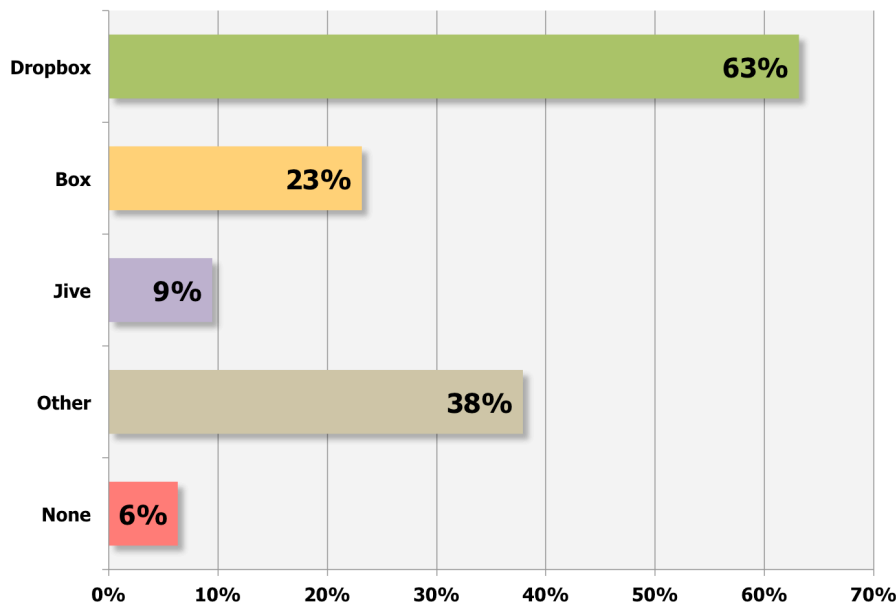
### Dropbox Deployment by Organization Size

Based on % of Organizations

Application	Up to 99 Employees	100-999 Employees	1,000+ Employees
Deployed by IT	17.3%	12.2%	5.7%
Used with IT's blessing	39.5%	26.3%	13.2%
Used w/o IT's blessing	21.0%	31.4%	43.1%
Not used	22.2%	30.1%	37.9%

*Despite the growing use of SharePoint in organizations of all sizes, there are a number of challenges, issues and problems that decision makers need to address.*

## Alternatives to SharePoint Currently in Use



### INHIBITORS TO SHAREPOINT ADOPTION

As shown in the figure below, there are a number of issues that are preventing organizations from efficiently leveraging the use of SharePoint. Chief among these are the difficulties associated with finding qualified IT personnel to manage SharePoint systems, followed closely by end user training and users' comfort or familiarity with SharePoint, as well as the availability of budget for SharePoint projects.

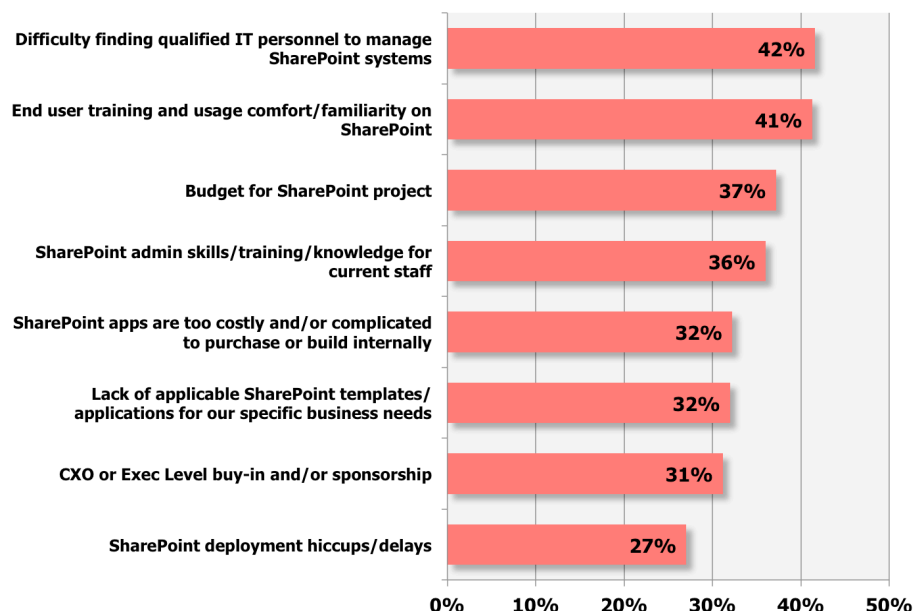
Failing to understand the myriad of current processes in place can lead many organizations to inadequately allocate resources when developing SharePoint applications that are designed to current processes. Users that are presented with SharePoint and an edict that "this is the new way of doing things" may be highly resistant to using the new platform, and so may simply not employ it as part of their normal workflows. For example, as we noted in a white paper on SharePoint published in 2012, an individual at a US-based energy company told us: "We implemented SharePoint 2007 in early 2008. There was a big 'launch party' and even a naming contest. Then...nothing. Nobody cared. Our IT director tried to 'drive people to the portal' which slowed work processes down."

It is important not to underestimate the significance of inadequate end user training and users' comfort or familiarity with SharePoint as an inhibitor in preventing the growth of SharePoint use. Because most users employ and are comfortable with alternatives to SharePoint like email, non-enterprise social media tools, consumer-focused file sharing or synchronization tools, etc., forcing them off of the "tried-and-true" is more difficult than it might seem when initially deploying SharePoint. Organizations must undertake a rigorous program of training and other measures to ensure that users can perform their work easily when using SharePoint, and that the SharePoint experience is at least as desirable as the alternatives that are currently in use.

*There are a number of issues that are preventing organizations from efficiently leveraging the use of SharePoint.*

## IT Inhibitors That Prevent Efficient Leveraging of SharePoint

% Responding an Inhibitor or Significant Inhibitor



## TOTAL COST OF OWNERSHIP

A key issue for many organizations is the cost of managing SharePoint. Our research found that there is a median of 375 users supported by each full-time-equivalent (FTE) SharePoint-focused IT administration staff member, although some organizations can support many more users per FTE than this. If we assume that the fully burdened annual salary for an IT staff member who manages SharePoint application development, content administration and other activities is \$100,000 annually, this translates to an annual SharePoint-focused labor cost of \$267 annually, or about \$22 per user per month. Moreover, our research found that survey respondents estimate the median monthly cost of SharePoint management, including licenses, infrastructure and other costs to be \$25 per user per month.

Complicating the issue, however, is that only 16% of survey respondents are confident in their estimate of the actual cost of SharePoint within their organizations. Another 48% have some confidence in estimating SharePoint costs, while 35% have little confidence in their estimates. This lack of confidence indicates that SharePoint could be higher in many organizations, since we have found that many tend to underestimate the cost of key systems.

## RAPID STORAGE GROWTH

Another difficult challenge in managing SharePoint environments is dealing with the growth of content stored in SharePoint repositories. As shown in the figure below, one-half of organizations anticipate that their SharePoint storage will increase by more than 25% over the next 12 months.

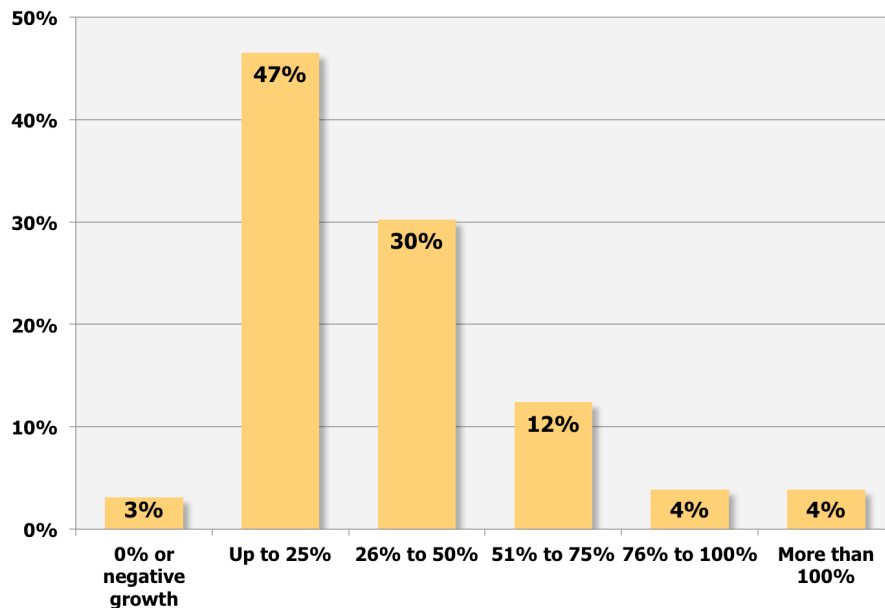
Complicating the issue of storage growth, however, is that SharePoint content is growing from an already substantial base. Our research found that the average SharePoint user has a median of 1.40 gigabytes under management, up from a median of 1.25 gigabytes in 2012. Our research found that 37% of organizations have more than two terabytes of SharePoint storage, while one in 11 organizations has more than ten terabytes. Such a significant amount of SharePoint-managed storage has significant impacts on storage costs, search capabilities, eDiscovery speed and efficiency, server performance and the overall user experience.

*It is important not to underestimate the significance of inadequate end user training and users' comfort or familiarity with SharePoint as an inhibitor in preventing the growth of SharePoint use.*



Many organizations are adopting Remote BLOB Storage (RBS) by turning to third-party RBS providers to help address increasing storage costs, compliance, and performance challenges. Third-party RBS providers allow organizations to offload BLOBs (binary large objects) to secondary, or commodity tiers of storage without impacting the native functionality of SharePoint. By offloading BLOBs (the binary representation of files uploaded into SharePoint) an organization can reduce the overall storage cost, support storing content on compliant archival storage devices, and improve overall performance by removing some of the burden from SQL Server.

#### Anticipated Growth in SharePoint Storage 2013-2014

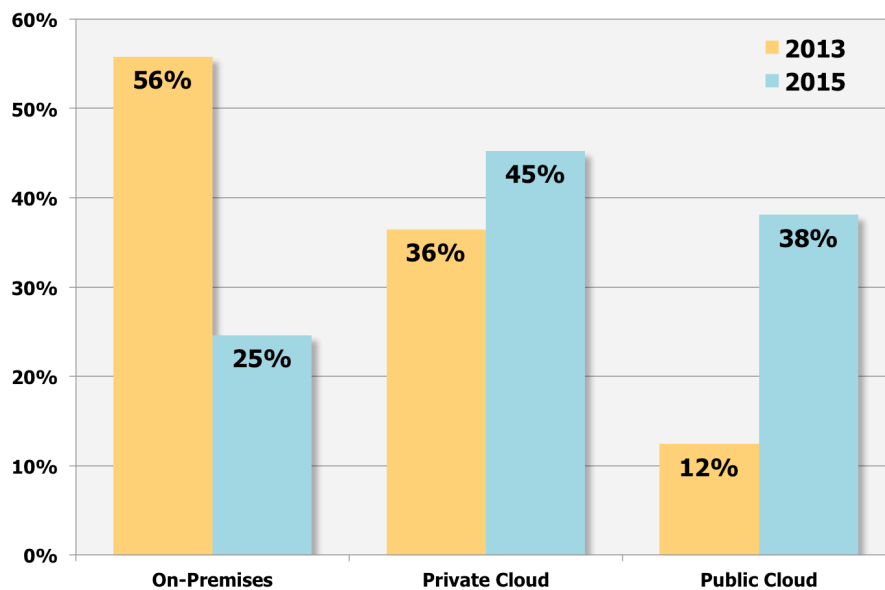


#### RAPID MIGRATION TO THE CLOUD

Today, most SharePoint deployments are managed on-premises in an organization's own datacenter, as shown in the following figure. However, we are finding a significant trend toward the deployment of both private and public cloud deployments, with both cloud variants for SharePoint expected to overshadow on-premise deployments by 2015. This push toward the cloud is driven primarily by the perception (and often the reality) of significant cost savings and more predictable costs delivered by a SharePoint cloud deployment. Moreover, it is important to note that our research finds that the trend away from on-premises deployment of SharePoint seems to be accelerating: an Osterman Research survey conducted in 2012 found that 39% of SharePoint deployments would be on-premises by 2015 compared to the 25% we found in the current survey.

*Many organizations are adopting Remote BLOB Storage (RBS) by turning to third-party RBS providers to help address increasing storage costs, compliance, and performance challenges.*

## SharePoint Deployment Strategies 2013 and 2015



### THE NEED FOR BETTER IT MANAGEMENT

Much of SharePoint's current appeal and momentum is the result of the growing number of applications and capabilities that organizations are adding to their SharePoint infrastructure. We discovered in past surveys of the SharePoint market that the SharePoint IT skill set in many organizations was dominated by developers and application engineers and not storage or network engineers. However, as SharePoint is becoming more mainstream in many organizations, we find that the three largest focus areas for IT staff involvement in managing SharePoint are:

- Content administration (document library maintenance, ACL management, end user support, etc.)
- SharePoint systems management/maintenance (backups, defrags, etc.) and server administration.
- Access control (granting access, auditing, permissions management, etc.)

Application/template development, while still important, accounts for a smaller proportion of total IT activity related to SharePoint management.

However, it is important to note that many IT departments continue to try to cut the cost of SharePoint management, while at the same time many are not sufficiently staffed so as to be able to provide the level of SharePoint service and capabilities that their users need. We believe that this explains much of the desire for migrating SharePoint to the cloud, particularly public cloud providers, who can drive down the cost relative to on-premises SharePoint deployments.

### SEARCH CONTINUES TO BE A PROBLEM

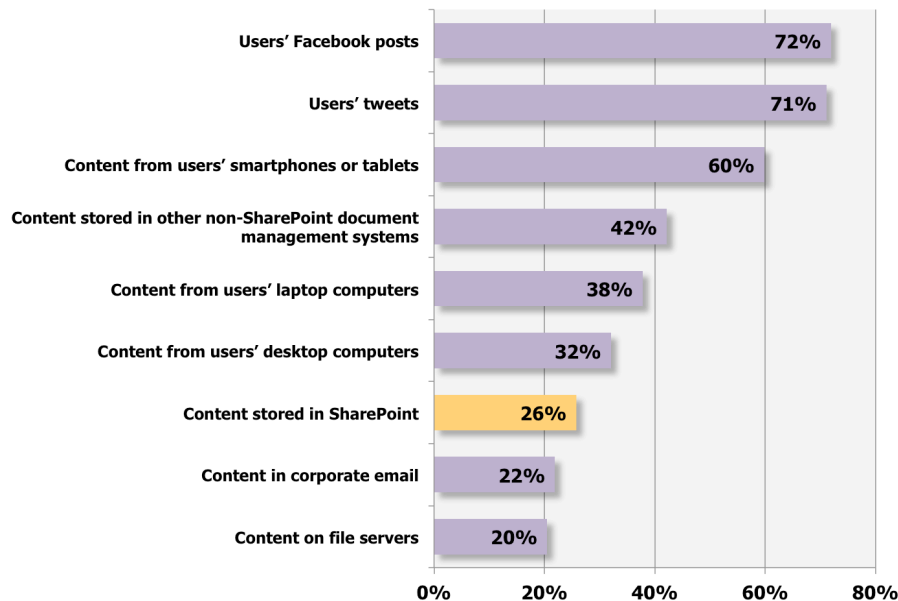
Among the more serious challenges in SharePoint, and one that will become more difficult over time without the appropriate archiving and related solutions in place, is searching for and finding content within SharePoint data stores. While this problem is inherent in organizations that do not adequately archive SharePoint content, it is driven in large part by the rapid growth of SharePoint content.

*It is important to note that many IT departments continue to try to cut the cost of SharePoint management, while at the same time many are not sufficiently staffed.*

That said, there is both good and bad news in the following figure. The good news is that SharePoint is among the easier repositories in which to find content for compliance purposes, such as during an eDiscovery or regulatory audit – in fact, only corporate email systems or file servers are less onerous than SharePoint in the context of finding content for compliance. The bad news is that fully one-quarter of respondents report that finding content in SharePoint for compliance purposes is “difficult” or “very difficult”.

#### Difficulty of Finding Various Types of Content for Compliance Purposes

% Responding Difficult or Very Difficult



The ability to find a specific item in SharePoint can be difficult as content grows to multiple terabytes – and for a large proportion of SharePoint organizations this is indeed the case. Policies focused on properly capturing metadata, optimizing search results and expiring older content – coupled with the systems that will enable these policies to be enforced – are essential to ensuring relevant search results. One of the fundamental problems with finding content in SharePoint is that relatively few organizations have a proper lifecycle management approach for SharePoint content. Our research found that only 52% of organizations currently archive content from SharePoint data stores and that only 37% have an eDiscovery plan in place for SharePoint. While the proportion of organizations that archive SharePoint is growing and is higher than it was in our previous survey, too few SharePoint-enabled organizations have robust archiving or eDiscovery solutions in place.

As we noted in our previous white paper on SharePoint, an appropriate document lifecycle for SharePoint includes robust archiving capabilities and should be similar to the cycle shown in the following figure.

#### SharePoint Content Management Process



*The ability to find a specific item in SharePoint can be difficult as content grows to multiple terabytes – and for a large proportion of SharePoint organizations this is indeed the case.*

The use of a multi-stage approach as shown above ensures that content is quickly available when new and most relevant, and is removed from search results as it becomes less relevant. This helps decision makers to get past a reluctance to delete content from SharePoint by knowing it is safely preserved in the archive.

## **SATISFYING GOVERNANCE AND COMPLIANCE OBLIGATIONS**

The ability to discover content will become more difficult as a growing share of corporate business records and other data assets are stored in SharePoint instead of email systems, file servers and other data stores. This is borne out to a large extent by our survey findings:

- Only 34% of respondents indicated that SharePoint has nearly or fully met all expectations in the context of improving archiving practices and requirements for Electronically Stored Information.
- Only 39% report that SharePoint has nearly or fully met all expectations with regard to managing content retention.
- Only 44% indicated that SharePoint has nearly or fully met all of their expectations with regard to managing corporate content, such as user-generated files.

Clearly, SharePoint-enabled organizations have a substantial way to go in the context of meeting all of their governance and compliance requirements.

## **ARCHIVING AND RETENTION**

Managing content compliance and eDiscovery in SharePoint can be complex. For example, our research found that 29% of organizations find management of SharePoint content retention policies to be “difficult” or “very difficult” – the same proportion find that managing corporate governance policies presents this level of difficulty.

Consequently, SharePoint decision makers need to focus on several key issues:

- Identification of the content types that can and should be stored in SharePoint data stores.
- Development of granular retention and deletion policies for various types of SharePoint content.
- Deployment of an archiving capability to ensure that content can be searched, retrieved and presented quickly and efficiently and at minimum cost.
- Creation of a plan for adequately addressing SharePoint content governance as management of SharePoint migrates from the departmental and workgroup level to centralized management by the corporate IT function.

This represents one of the more important issues for SharePoint governance because of the significant risk that organizations face if they allow business records to be managed in SharePoint without proper archiving capabilities in place. For example, as noted earlier, a large proportion of organizations would find it very difficult to find content in SharePoint during an eDiscovery exercise or a regulatory audit, putting them at risk of spoliation and potential legal sanctions.

Retention policies are essential for all SharePoint content types to ensure that business records and other content are retained for the appropriate lengths of time for purposes of eDiscovery, regulatory compliance or simply best practice based on corporate requirements. Deletion policies should also be established to ensure that unnecessary data is not retained past its useful life, since unnecessary data retention adds both to storage costs and overall corporate risk.

*Managing content compliance and eDiscovery in SharePoint can be complex – our research found that 29% of organizations find management of SharePoint content retention policies to be “difficult” or “very difficult”.*

Archiving is another area where third-party RBS solutions can augment native functionality through content-aging rules, and support for compliant archival storage such as Content Addressable Storage and Write Once Read Many (WORM) devices and media.

## SITE PROLIFERATION

Site proliferation is another important issue that organizations must address in the context of determining which SharePoint sites have outlived their usefulness and can therefore be safely deleted. Because there is a tendency for sites to be created but not to be taken down once they are no longer used, failing to adequately address site proliferation can increase corporate risk. This is because content can exist in unused SharePoint sites for many years after it is created, adding to storage costs, increasing backup and restore times, and possibly leading to data breaches when old, unmanaged content is available to unauthorized parties. Organizations that do not have an expiration plan for older content from SharePoint put themselves at unnecessary and sometimes significant risk.

## SHAREPOINT CONTENT CLASSIFICATION

Many SharePoint-enabled organizations are not adequately capturing metadata for the content stored in SharePoint repositories. Metadata is essential on a number of levels, including search, regulatory compliance, eDiscovery, etc. Decision makers need to define the metadata that is essential and make these fields mandatory for addition by users, or automatically add metadata for certain document libraries based on the location of the library, the project or other parameters. For example, a document library for a specific project could have certain fields automatically added upon upload, such as the project name, client name, etc.

## SECURITY

SharePoint security needs to be properly addressed for permissions management, content encryption and access control. Moreover, even basic scanning of content for things like malware protection need to be addressed by deploying solutions that can scan for malware in SharePoint repositories.

This issue is not being adequately addressed by many SharePoint-enabled organizations. For example, our research found that 17% of organizations consider that scanning content for malware in SharePoint repositories is “difficult” or “very difficult” (although this is down from 29% in our last survey). Moreover, 62% of organizations responded that their current SharePoint deployment has not met all of their expectations in terms of their ability to manage security policies.

## MIGRATION

The ability to archive SharePoint data prior to migration from one SharePoint version to another can lead to more efficient migrations and can shorten the length of time required for a migration. As a result, we recommend the development of retention policies and the deployment of an archiving solution as high priorities for any organization that runs SharePoint. While both are essential as part of overall information management within SharePoint environments, they are particularly useful as part of a SharePoint migration effort.

Another key element of best practices for migration is site expiration. This “cleaning” of an existing SharePoint environment provides benefits not only in the routine backup and archiving of SharePoint content, but also in minimizing the amount of content that must be migrated.

## MOBILITY

Another critical aspect of good SharePoint management is providing the ability to access SharePoint content from mobile devices, including personally owned devices. A survey that Osterman Research conducted in February and March 2013 found that 57% of organizations permit access to the corporate intranet (e.g., SharePoint) from mobile devices. This was second only to mobile-device access to the corporate email

*SharePoint  
security needs to  
be properly  
addressed for  
permissions  
management,  
content  
encryption and  
access control.*

system. Consequently, as SharePoint becomes more mainstream and becomes the primary repository for critical business data, organizations need to specifically address mobile access to SharePoint content – including access from devices owned by employees. Moreover, they must do so in a highly secure manner to ensure that data breaches, loss of intellectual property and other problems are prevented to the greatest extent possible.

## SUMMARY

SharePoint provides a range of useful capabilities that supplement or replace existing processes that are less efficient or that expose an organization to unnecessary risk. However, to adequately employ SharePoint as efficiently and effectively as possible, organizations must do three things:

- Establish policies focused on appropriate use of SharePoint, retention of content within its repositories, and overall management of the data lifecycle.
- Focus on user training and education in order to ensure adoption of SharePoint as a replacement for existing processes.
- Deploy third party offerings that either provide functions and features not available in SharePoint or that will enhance existing features.

## SPONSOR OF THIS WHITE PAPER

MessageSolution is a global leader in enterprise-class information archiving and eDiscovery solutions for on-premise, Cloud and MSP/ISP-hosted multi-tenant environments. With industry-leading scalability, platform flexibility and granular configuration control, the award-winning MessageSolution technology is ideal for large-scale enterprise organizations.

MessageSolution delivers advanced archiving and eDiscovery for SharePoint, email, file system servers and social media. It facilitates the sharing, archiving and management of all electronic content. MessageSolution provides a centralized, highly interactive data store for regulatory compliance, eDiscovery, hierarchical data storage and corporate intelligence management. The MessageSolution technology increases ROI, mitigates legal risk, reduces costs and increases organizational efficiency.

The MessageSolution Platform does not require any additional third-party database or software licensing. The solution is the most scalable solution on the market today and can scale for 25,000+ users on one archiving server or for several hundred thousand in a distributed and clustered server environment. Advanced features include direct SharePoint, Outlook client and desktop integration with “drag and drop” content management, legal hold, retention management, data offloading for storage management, etc.

MessageSolution currently serves customers and service providers in diverse industries in over 50 countries, ranging from SME organizations to one of world's largest banks with hundreds of thousands of employees worldwide.



[www.messagesolution.com](http://www.messagesolution.com)

@GlobalArchiving

+1 408 383 0100

© 2013 Osterman Research, Inc. All rights reserved.

No part of this document may be reproduced in any form by any means, nor may it be distributed without the permission of Osterman Research, Inc., nor may it be resold or distributed by any entity other than Osterman Research, Inc., without prior written authorization of Osterman Research, Inc.

Osterman Research, Inc. does not provide legal advice. Nothing in this document constitutes legal advice, nor shall this document or any software product or other offering referenced herein serve as a substitute for the reader's compliance with any laws (including but not limited to any act, statute, regulation, rule, directive, administrative order, executive order, etc. (collectively, "Laws")) referenced in this document. If necessary, the reader should consult with competent legal counsel regarding any Laws referenced herein. Osterman Research, Inc. makes no representation or warranty regarding the completeness or accuracy of the information contained in this document.

THIS DOCUMENT IS PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND. ALL EXPRESS OR IMPLIED REPRESENTATIONS, CONDITIONS AND WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE DISCLAIMED, EXCEPT TO THE EXTENT THAT SUCH DISCLAIMERS ARE DETERMINED TO BE ILLEGAL.