

BEST PRACTICES: MIGRATION TO OFFICE 365

SUCCESSFULLY BRINGING YOUR SHAREPOINT
EXPERIENCE TO OFFICE 365

LIMITED TIME OFFER:
FREE 250 GB MIGRATION
TO OFFICE 365

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EXECUTIVE SUMMARY:

It's no longer a matter of if your organization is considering a move to the cloud, but when and how it will do so. The numbers don't lie: according to IDC, the global cloud market is now worth \$95.8 billion today and projected to grow another 23 percent in 2015. This white paper is your prescriptive guide to navigating the challenges and best practices for making your move to the Microsoft Cloud. In the following pages, you'll get a comprehensive understanding of the following tenets fundamental to successfully completing a cloud migration.

Architecture: Which service is right for you? Not all businesses have the same exact requirements. The type of service you select, whether it is SharePoint Server, SharePoint Online, or a hybrid model, will make a tremendous difference. Learn what those differences are, and how to select the right model that fits your requirements.

Strategy & Planning Recommendations: You wouldn't simply purchase a home by pulling up to the first house you come across with a "For Sale" sign you see with a bag of cash, would you? The same applies to your migration. We'll give you the people, process, and technology that are necessary to understand before you take the plunge.

Cloud Readiness Assessment: It's vital you have a clear understanding of the content and information architecture you already possess in your legacy environment before you move to the Cloud. We'll explain your different options for assessing which content is cloud-ready and what you need to watch out for in order to limit business disruption.

Migration Considerations: You're almost ready to take the plunge, but before you do, learn about the changes in SharePoint Server, Office 365 – SharePoint Online, performance limits, and challenges so you go into the migration with your eyes wide open.

Selecting the Right Migration Option: Not all migrations are created equal. This section introduce in-place and parallel migrations, highlighting the key differences between the two so you can easily select the option that is best for your business.

Recommended Methodology: This is your blueprint for kicking off a successful SharePoint Cloud Migration from translating customizations all the way to transitioning your users.

Available Solutions & Services: We conclude the white paper with proven third-party solutions and services that help automate and ease the path for your migration from start to finish.

WHY THE CLOUD?

In the past few years, many organizations and consumers have considered how to leverage the cloud. According to IDC, the global cloud market is now worth \$95.8 billion. Further growth in 2015, projected at 23.2 percent, shows that many organizations are ready to shift to a cloud strategy. We're now presented with a world of opportunity where users are no longer shackled by storage or computational barriers, and content is easily shared across all platforms.

Microsoft has made a massive push to take a piece of that pie, with up to eighty percent of Fortune 500 companies embracing the Microsoft Cloud in some form and more than 9.2 million downloads of Office Pro just to get started. Your organization may already be using the Cloud, considering a hybrid deployment, or just planning your first steps into this uncharted territory. This white paper discusses the evolution and changes on the Microsoft Cloud – specifically regarding Office 365 – and how AvePoint can help your business thrive in the Cloud.

Many organizations begin planning a strategy with “Cloud” or “Office 365” in the first sentence. If that's the case, this plan is already destined to fail. The core focus for IT should be to understand the problems the business is facing in the field today. You can begin to align pains with solutions **after** you understand the problems. Let's take a look at two examples of putting the technology before identifying the root problem:

- Immediately thinking about whether or not to implement Box, Dropbox, or OneDrive for Business is a path to failure. Backtrack to the core issue or experience of file sync and share. This is a business problem, a core issue employees face every single day and commonly ask, “How do I quickly access my content across devices?” and “How do I share this document with a partner?”
- “Social” is another buzzword too casually tossed around the boardroom. Again, starting at the solution – picking between Yammer, Jive, and Salesforce Chatter – is your quickest path to failure. Think about the core issues once more faced by your business users, who commonly ask “How do I share success with other members of my team?”, “How do I evangelize ideas in my global organization?”, and “How do I find answers to the questions I have on my own?”

It's not about deciding what technology platform you want to embrace. Rather, the platform of choice is dictated by what your organization **needs**. You need to understand the pains of your organization in order to understand the drivers to the Cloud. Before planning your migration strategy with our helpful guide below, ensure that you have a very intimate understanding of the problems your organization faces because this will be critical in making the right technology decision. Now, this white paper will delve into understanding Office 365, preparing your deployment strategy, working through the migration and, finally, setting yourself on a course for success once you've settled into your new home.

ARCHITECTURAL CONSIDERATIONS: WHAT SERVICE IS RIGHT FOR YOU?

As with any enterprise technology, cloud solutions require planning, design, and management to ensure it meets the needs of the business and is functionally robust. Many of us have either heard stories or experienced first-hand early SharePoint implementations set up in proof of concept environments, then after some basic hardware and configurations testing, moved into production without further consideration for the goal of SharePoint. These platforms unfortunately become unstructured dumping grounds for business-critical data. Oftentimes this data either becomes redundant through sprawl or lost through poor information architecture and improper classification. The technology is often rejected by the business workers and poorly adopted, resulting in a failed investment. It is a sad reality that many will undoubtedly experience in the coming years when history repeats itself with Office 365.

SharePoint technology has evolved significantly since its beginnings in 2001, and today you have a multitude of deployment options for consuming the platform, each with its own pros and cons which could apply differently to your organization. What's most important is to differentiate the experience from the delivery mechanism. SharePoint is the technology or experience while the infrastructure that presents it to the end-user is the mechanism. In this sense you really only have two 'flavors' of the SharePoint experience, Server or Online. Narrowing it down to these two types makes the decision process much easier for your organization. This is the first 'fork' in your technology process. The second and slightly less important one is then deciding on the ultimate delivery mechanism with which you'll consume that experience.

Delivery Platforms

Public / Private Cloud (SharePoint Server)

- Public Cloud (Infrastructure as a Service platforms like Microsoft Azure, Amazon Web Services, and Rackspace)
- Private Cloud (Internally hosted and virtualized data centers or dedicated data centers managed by hosting providers like HP, T-Systems, and Emantra)

Moving to the public or private cloud provides a much more 'traditional' migration and management route. Virtual machines hosted in places like Azure or the Rackspace cloud are fundamentally quite similar to those in Virtual Machines (VMs) on premise. Databases can be moved as they are into cloud hosted VMs similar to how database administrators would normally move SQL Server databases. Businesses, however, should review their content prior to any migration, as all data is neither cloud ready nor requires migration.

Office 365 (SharePoint Online)

- Office 365
- [Office 365-D*](#)

Moving to Office 365 introduces a more complex story, and is currently one of the biggest conversation topics in the cloud market. For more simplistic services, such as Exchange or Lync ([Skype for Business](#)), the migration path to Office 365 is straightforward. For complex applications including SharePoint, MySites/ODFB, and Project Server, the migration complexity increases significantly. Unlike previous versions of the platforms which featured both DB-Upgrade and in-place upgrade methods, there is no “traditional” migration route for moving SharePoint and OneDrive to Office 365. Your options are limited to manual upload, scripting using the content import/export APIs, or a third-party migration tool.

**Traditionally, there were major architectural differences between the dedicated and “public” Microsoft Online Services offerings. In the last few years, Microsoft has unified the code and architecture for both offerings. The only differences between the two offerings now is related to device and network isolation to meet regional standards, like International Traffic in Arms Regulations (ITAR) in the United States. There are still some minor configurations options available and are detailed in the dedicated service description.*

The Role of Office 365 – SharePoint Online

One thing to keep in mind is that unlike SharePoint server implementations, a move to SharePoint Online immediately introduces the Office 365 platform into the mix. A deployment of SharePoint Server is compartmentalized, while SharePoint Online sits as an experience neighboring Exchange, Project, OneDrive, Azure AD, and other hosted Microsoft technologies such as Dynamics. Installation and management of Project Server is an enterprise level investment, while deployment of Project Online is as simple* as purchasing a few additional licenses. Integrating “presence” into SharePoint can require a lot of configuration and pain with Lync (Skype for Business) and Exchange. In Office 365, presence is naturally entwined into ODFB or SharePoint.

**Office 365 is obviously not without its own need for experts, platform management, and administration, but the benefit of embracing Office 365 is the removal of the “infrastructure” barrier of entry. Any successful implementation of Office 365 still requires knowledgeable staff that can effectively integrate a SaaS solution with an organization’s network, identity management, and other business applications.*

Which option is right for my organization?

Any cloud solutions architect needs to understand the fundamental best practices on premises before planning for an online or hybrid implementation. While the benefits of cloud technology help overcome barriers like cost, scale, and agility, fundamental flaws in information governance and administration can still lead to a failed deployment. The Cloud is a powerful tool, but if it is mismanaged it will ultimately deliver little to no benefit. Gartner Research predicts that [by 2016, at least 20% of CIOs in regulated industries will lose their jobs](#) failing to implement information governance. Platforms in the Cloud certainly are not excluded from these potential areas of risk.

PRE-MIGRATION: STRATEGY AND PLANNING

Unless you're planning on starting fresh with your new SharePoint implementation, you will need to decide how much of your existing content and applications actually need to be migrated. The most important phase of any migration is discovery and planning.

Implementing a new cloud-based deployment of SharePoint without also implementing the **people, tools, processes, and technologies** required to support the technology will make your investment both difficult and expensive to support going forward.

It is also worth noting that regardless of the option chosen, your organization will require an internal migration team to be involved for the entirety of the project. The question is not whether or not the team will be involved, it is how much of the work for which they will be responsible. Let's first take a look at those individual components for a successful migration.

People: Business Alignment & Creation Implementation Team

When introducing a new IT system to an organization, it is essential to understand the business requirements that are driving the IT requirements and ensure they are aligned. This will involve engaging with business stakeholders throughout organization to gain a comprehensive understanding of strategies for the use of Office 365.

By increasing your organization's level of involvement, however, the commitment of internal resources will increase. That said, it will ultimately lower the overall cost of the migration project. Conversely, outsourcing the entire migration would be the most convenient option – but also the most expensive. Most migrations fall somewhere in the middle of these two extremes, and it is vital you balance your organization's cost and effort.

Once the scope is determined, your organization will require an implementation team. Preferably, the overall implementation will need to be led by your organization's core SharePoint team working with a project manager. However, the individual activities and sub-projects can be assigned to task-specific implementation teams if necessary resources aren't available.

For the task-specific teams, your organization must review each activity within the scope of the implementation, determine the resources required, and recruit individuals that match the matrix of required resources.

Despite the strength of your organization's SharePoint team, it is recommended that you consider supplementing that team with outside resources, both to enhance the depth of the implementation team and to alleviate some of the workload.

Communication – from the project team to leadership as well as to the user community – is fundamental. Effective and timely communication is critical to ensuring users understand the changes that are occurring and are engaged in the project. In the roadmap, communication is only included in a few key places, however, it is assumed it will occur throughout the project.

Process: Project Planning & Implementation Mapping

This document provides an overview and a sample framework, however, there isn't enough information available for your specific environment to map your unique implementation in full detail.

This is an activity that while it appears simple, involves complexity. It will consider the scope of the Implementation Phase, the different tasks and sub-projects that need to be completed, the available pool of resources, and the external components required and combine these elements into a detailed plan for the actual implementation.

Why is this activity important? Migration involves a significant development effort, and completing the systematic migration of the teams and departments using the existing collaboration environment is essentially changing the way they work and the technology they are using. This must be done without interrupting the business functions users perform on a daily basis.

Do not underestimate this phase, as it requires appropriate diligence from your organization to successfully complete the migration project.

Technology: The Role of Migration Software

At its core, migration software is used to provide automation, increase the capability of the migration team, create consistency, provide visibility, record progress, and mid-migration restructuring. We'll quickly expand on each of the core benefits as it relates to a SharePoint migration project.

Provide Automation

Migration software will offset the repetitive, manual effort required to complete the migration. The assessment and planning will still need to be done by the migration team, but the 'heavy lifting' of moving content and applying all required changes will be done by the software.

Increase the Capability of the Migration Team

Migration software will allow the migration team to support more business scenarios and use cases than would be possible during a manual migration. For example, performing column, content type, and site template replacement is difficult to perform manually, but easy to implement through migration software.

Create Consistency

Besides the fact that performing migrations manually takes a great deal of time and resources, it also increases the risk of human error and inconsistencies when moving from a source to target environment. Using migration software enables you to perform every migration job the exact same way, which ultimately results in an extremely high degree of consistency in the target environment.

Provide Visibility and Record Progress

Without the use of migration software, it's hard to see "the forest from the trees" as it pertains to the overall status of a migration project. Software can help you granularly track each migration job, identify where any errors may have occurred, and ultimately help roll up these individual job reports into an overall status update of the entire project that can be shared with key stakeholders. In this way, you can rectify any small errors before they threaten the entire migration project, as well as look for opportunities to improve performance and efficiency throughout the migration project.

Restructuring Content during Migrations

Migrations have the potential to be a significant threat to ongoing business productivity as most content is being used as these projects take place. Due to this, oftentimes organizations will wish to wait until a migration project begins to restructure content. Software allows you this flexibility to make changes to SharePoint and test them as part of the migration process. Some examples of what this could look like in a real-life scenario include substituting site templates and content types; remapping columns and metadata attributes; and translating security principles and SharePoint permissions based on mapping tables.

The Final Word on Migration Software

If you plan to perform the entire migration with our own team – without the services of a third party – we strongly recommend you evaluate and ultimately select a migration software to support your migration team. It's incumbent upon your organization to complete a formal evaluation of several third-party migration software solutions to ensure you select the right one for your organization's specific needs.

Microsoft Recommendations: Third-Party Solutions

This section will provide an overview of the two SharePoint content migration methods—the old, database attach method and the new, ISV-based method—along with benefits of the ISV method and links to more information.

According to Microsoft, third-party, independent software vendor (ISV) solutions for migrating content to Office 365 have the following benefits over the current database attach method:

1. Simplify the process
2. Reduce training needs and technical resources required
3. Reduce the time and effort required to migrate content
4. Reduce the instances of failed migrations due to file corruption and other causes.

Other benefits include:

Benefits of ISV Solutions: Source Microsoft TechNet	
Simplicity	• An ISV solution is as simple to use as copy and paste.
Efficiency	• You can migrate SharePoint sites, lists, and libraries between servers quickly and with full fidelity.
Active Sources	• You can migrate content from live sites and unattached content databases.
Direct Migrations	• There is no longer a need to upgrade the on-premises environment to match the version of the hosted service.
Legacy Migrations	• You can upgrade from SharePoint 2003 and SharePoint 2007 to SharePoint 2010.
Re-Architecting	• Migrating provides an opportunity to re-organize or re-template your SharePoint content.
Minimal Business Disruptions	• You can manage your migrations with zero downtime, no change windows, and no prior planning.
Cost Savings	• You can migrate to the cloud or hosted SharePoint environments and thereby reduce infrastructure costs.

CLOUD READINESS ASSESSMENT: ARE YOU READY TO MIGRATE?

Pre-Migration Content Assessment:

It goes without saying that the majority of information that supported the decision making process in migration projects is around the source content. Key questions include:

1. How much information do you have?
2. How much is old or ready for archival?
3. Is all of it “cloud ready”? Is all of your content in appropriate format for the cloud (think file characters and sizes)?
4. How much is SharePoint content, how much is from legacy content systems you want to decommission?
5. How do I assess my existing content to understand its value, risk, and information management requirements prior to migration?

Understanding your source environment, although simple in academic discussion, is not as simple in practical application. In [Gartner Research's Market Guide for File Analysis Software](#), the authors found that organizations now realize they need to understand their data better in order to not just facilitate better use of it, but to also manage growing storage environments. The market guide outlines the three primary reasons file analysis tools are implemented:

1. Increase operational efficiency
2. Lower costs
3. Mitigate corporate risk

The theory here is by identifying and classifying the unstructured data (think Word documents, PDFs, videos, images, and the like), you can make more informed decisions regarding which data to keep and remove. That way, you can optimize the use of existing storage repositories and transition to new collaboration platforms. Not just for storage purposes, file analysis tools have the opportunity to reduce the risk of privacy breaches because you can identify while files reside where and who has access to them.

Key Challenges

Content Assessment:

- [In a study comparing](#) automated relevance assessment to relevance assessments made by human reviewers, the software, on average, identified more than 95% of the relevant documents compared to an average of 51.1% in the human review.
- Developing a comprehensive assessment to identify at-risk content or data breaches, including SharePoint or file share content/user access, which can potentially violate your compliance policy.

Content Classification & Tagging:

- Classifying information is tricky, and managing electronically stored information across network file shares and legacy platforms is time consuming and overwhelming for most workers.
- By not capturing sufficient metadata to describe the information objects for future recovery and production, official records are left unprotected outside of authorized repositories and the investment in content management technologies is severely compromised.
- Implementing governance architecture with technical enforcement in order to efficiently tag, classify, purge, quarantine, or archive content to support information management requirements.

Best Practices: AvePoint's Cloud Readiness Assessment

To address these challenges and to allow organizations to gain value from Office 365 initiatives, AvePoint and Microsoft have teamed up to deliver the Cloud Readiness Assessment.

Through this assessment, organizations are able to identify sensitive or regulated content and notify key stakeholders, including compliance officers, company executives, and administrators of any at-risk content.

Once the initial assessment is complete, a best practices approach is outlined to separate regulated and non-regulated content or workloads, and subsequently migrate appropriate content to the cloud.

Pre-Migration Light-Scanning Assessment

Challenges

- Determining the scope of the project through a better understanding of your source environment in order to see whether or not the migration aligns with your original plan.
- Identifying potential problems that may cause migration failure by scanning and exploring your source environment prior to migration. Generate detailed reports which can be exported to a database or CSV file to allow for deeper analysis.

Best Practices: AvePoint's Discovery Tool

AvePoint's Discovery Tool helps lighten the load of the initial discovery phase of your migration and ensures that you are more knowledgeable about the customizations, workflows, information architecture, and amount of content your source environment contains. In this way, you can ensure whether your current migration project goals are achievable or if they need to be adjusted before you begin the migration process.

Pre-Migration Deep-Scanning Assessment

Challenges

- While a light scan can give you a better high-level understanding of your source environment and the work that would go into a migration, it doesn't take into account the metadata that is inside of the documents, and the content itself.
- Before starting a migration, it's extremely important to look inside of documents through a deep scan. File names alone cannot determine how, what, or when content should be moved to your new platform.

AvePoint File Analysis Solution

By discovering, mapping, and classifying the unstructured data on file shares, organizations can make more informed decisions regarding which data to keep and remove. This way, the use of existing storage repositories, like Microsoft Azure, and the transition to Office 365 are optimized. The AvePoint File Analysis solution reduces risk of privacy or sensitive information breaches because you can identify which files reside where and who has access to them. It also creates the opportunity to take advantage of the full potential of the "big data" stored in vast, existing repositories.

Pre-Migration Application and Feature Assessment

One of the biggest pains encountered during a migration is the lack of understanding when it comes to "legacy applications". This could be anything, ranging from a custom solution written in Microsoft Office SharePoint Server (MOSS) 2007 which helped IT provision sites for business users to a rich video portal created to supplement a company's Learning Management System (LMS) – or the entire LMS itself could be an application built on top of SharePoint. Whatever the application may be, just like content, they are subject to scrutiny and the possibility of being left behind. There are a number of reasons to leave legacy applications behind:

RISK: This is the most important factor to consider. Older systems rely on technologies which are not as up-to-date on security patches and updates. There may be legacy vulnerabilities easily exploited through your legacy application's code.

COST: The engineers who first designed the application may not be with your organization anymore, or it is just poorly documented. The cost of maintaining legacy systems is growing by the day. Whenever a migration occurs, you'll always have to verify if the new platform can support your legacy application. If it cannot do so, there will most certainly be a cost in maintaining the old infrastructure or investment in refactoring your old code.

LACK OF FOCUS: Many applications are built to support a business operation. They are not directly associated with your primary line of business. Workflow, video portals, and CRM are supplementary components of many organizations. While it may have been valuable to build these features in-house in

the past, various organizations specialized in each of these areas are building fully supported and feature rich applications today that integrate with each of these and more.

- Building and maintaining a workflow engine is far less effective than implementing a solution from third-party providers such as Nintex or K2.
- Cisco, Kaltura, and even Microsoft provide feature-rich video portals today.
- Microsoft Dynamics CRM and Salesforce CRM are just two of many robust CRM platforms in a crowded marketplace today.

UNUSED: Survey your teams, and check logs for activity. The simplest way of discovering if an application is being used is to investigate. Oftentimes, solutions were built years ago for a specific business case. Sometimes, through natural churn, the application itself is no longer used by new staff and is completely forgotten. If the legacy application has no ownership or recent activity, there is a very high chance it can be decommissioned without disruption to the business.

All of these aforementioned factors should be considered when evaluating legacy applications in order to either decommission or replace them.

Pre-Migration: User Authentication and Sign-On Challenges

The use of cloud introduces new paradigms into authentication configuration and the end-user authentication experience. A fundamental beauty of SharePoint was its tight integration with Active Directory. Users never needed to sign into SharePoint, and when setup correctly permissions and security settings were fast and easy to manage.

Office 365 lives outside of your internal infrastructure, so direct integration is not an automatic given. Access to Office 365 is controlled by Azure Active Directory and the creation of a “Cloud Identity”, meaning users now need another account to interact with SharePoint and other Office 365 components. To resolve this, Microsoft offers solutions such as DirSync (Directory Synchronization) and Azure AD Sync – both of which allow user accounts to be synchronized from On-Premises to Office 365. ADFS, previously used only in more complex enterprise environments, is now also often implemented to create a connection from On-Premises to Azure AD, removing the need for users to enter their passwords.

Public Cloud and Private Cloud can also provide challenges. Authentication requests to servers hosted in the cloud can require being passed back to on-premises domain controllers, increasing traffic and costs. Placing domain controllers in cloud environments can be used to mitigate this issue.

Accounts and active directory also need to be prepared for the cloud. User details, adding uniformity to email addresses, login accounts, and other items prior to cloud implementation

can reduce headaches at later stages. The same consideration will apply to external users once the placement of the external collaboration environment has been determined.

Migration software will be able to perform permission-based substitution for any security principles that change, however, it won't have the capability to create them – this will need to be done ahead of time and should be included as part of the broader solution for how your organization intends to support Office 365.

Pre-Migration Checklist:

Now you should be able to build a Pre-Migration checklist using our basic methodology and customizing it to meet your organization's specific needs. Every migration should have a plan and checklist in place before commencing the project.

- 1) Ensure a detailed and agreed upon vision has been established for your new platform.
 - a. What is the purpose of SharePoint Online, Server, or Hybrid?
 - i. Intranet
 - ii. External Collaboration
 - iii. Client Portal
 - iv. Records Management
 - v. Social Platform
 - vi. Project Sites
 - vii. Other
- 2) Identify and take inventory of all legacy content, repositories and applications.
 - a. Cloud Readiness Assessment
- 3) Identify which teams / business units are ready to migrate.
 - a. Identify applications complexity (Vanilla)
 - b. Identify existing workflows / in-progress
 - c. Identify customized sites
- 4) Prioritize and classify all content and applications.
 - a. Content must be properly tagged with metadata, including:
 - i. Created by
 - ii. Modified by
 - iii. Business unit
 - iv. Other relevant metadata
 - b. Prioritize applications based on the following criteria:
 - i. Business Critical
 - ii. Important
 - iii. Nice to Have
 1. Are they replaced by native functionality?
 2. Are they still necessary?
 3. What is the cost of maintenance?
- 5) Archive and delete redundant and legacy data.
 - a. Classified as having no-value or outdated

- b. Archived for compliance purposes
 - c. Kept online due to regulatory requirements (not cloud safe)
- 6) (Optional) Build destination information architecture.
 - a. Security
 - b. Structure
 - i. Managed Paths, Quotas, etc.
 - ii. (Office 365 Specific) Pre-Provision ODFB and SharePoint Sites
 - c. Configurations
 - i. Features, Settings, templates, look and feel
- 7) Begin migration project.

MIGRATION CONSIDERATIONS

Prepare for the Basics

Before moving onto the decision making process of **how** you're going to migrate, take some time to understand **where** you are migrating. When it comes to moving to the Cloud, your destination dictates the project more than ever. Whether you're moving to Office 365, there will be unique challenges and limitations with each approach.

What's changed (SharePoint Server)?

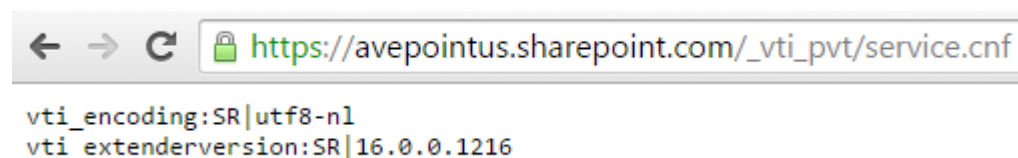
Obviously, sites and site collections which aren't supported in Office 365 will either fail to migrate or will be migrated in such a way that the unsupported functionality will be lost. If missed during the pre-migration evaluation, they will be noticed either during the migration (depending on the errors generated) or during post-migration testing. A great example here is the Meetings Workspace template, which has been deprecated in SharePoint Server 2013. Many organizations may have relied on this feature in the past but now that it has been deprecated, they must face the reality of building their own template, finding a third-party solution or discontinuing the use of the feature and finding a workaround.

There are also architectural changes that must be considered. Not only have basics like system requirements changed in SharePoint Server, but critical architectures like FAST Search and Office Web Apps – which integrate with SharePoint – have changed significantly. Understanding what's happened here is critical to achieving success in any variety of server implementation.

For a full list of changes, please check [Microsoft TechNet](#).

What's changed (SharePoint Online)?

The changes are even more radical if you choose to move to SharePoint Online, where infrastructure considerations are completely different. This can be particularly tricky if you are considering a Hybrid implementation. For example, with a bit of digging you can see that the SharePoint Online version in Office 365 is already "v16":



Whereas the SharePoint Server version as of the December 2014 update is still: 15.0.4675.1000

The differences aren't just the version number, they go very deep. Certain flexibility around what can be uploaded, which systems can be interconnected, and how much you can migrate are

highly dependent on the functional limitations of SharePoint Online and Office 365. Keep in mind file type, file size and other limitations when moving to the online platform. For a list of boundaries and limits, I highly recommend you become familiar with [this support article from Microsoft](#).

Performance Limiters & Challenges

In terms of performance, the migration of content from on-premises SharePoint to Office 365 is reliant on the speed of the network connection between your organization's data center and the Microsoft data center hosting your Office 365 environment. It is very possible this link will be slower than the link between your organization's existing SharePoint environments and the new on-premises SharePoint environment. The migration to Office 365 is also reliant on CSOM (the 'Client Side Object Model'), which provides the programming interfaces into Office 365 the migration software needs. This will be slower than the programming interfaces that are available to an on-premises implementation of SharePoint.

That said, the difference in migrating on-premises and migrating to Office 365 is not simply a function of the network connection and programming interfaces. There are many other steps in each batch or phase of the migration besides the re-creation of content that must be taken into consideration. While most organizations do see a difference in the migration speed, it isn't prohibitive.

Migration speed to Office 365 - SharePoint Online is not related to data size alone. Migration speeds to SharePoint Online are impacted by the following:

- Office 365 - SharePoint Online performance and responsiveness;
- network latency and speed from the SharePoint Server environment to Office 365 - SharePoint Online;
- number of objects (sites, list/libraries, documents, items) that are included in the migration job; and
- complexity of permissions and metadata of the objects.

A simple example would be that a single 1GB file would migrate much faster than 1,000 files that, when combined together, are the same 1GB size. This holds true regardless of the source platform, whether it be EMC Documentum eRoom or SharePoint Server.

Office 365 Platform, APIs & Throttling

Microsoft APIs

The Client Side Object Model has become a common culprit when it comes to discussing why a migration is not performing as planned. "Poor performance? Must be the API." While this is true to a certain extent, it is more important to understand what other elements are involved. Did

Microsoft simply build a bad set of APIs for its Cloud platform? Absolutely not. There is far more at work here than the available APIs.

Understanding what stands between your data source and data destination is key. Microsoft is very transparent and has a series of excellent whitepapers on its [Security methodology](#), which explains in great detail the components in place to safeguard your Office 365 tenant and business-critical content stored across the various services. However, this safety comes at a price.

Throttling

This is another broad term used often during migration scenarios. What is actually happening when you're being "throttled"? [Victor Wilén](#) has written an excellent [deep dive](#) on SharePoint web-front end (WFE) throttling. In short, every time there is an interaction with SharePoint Online (API connection from third-party tool, a user, web part/sandbox solution, or app), the WFE will respond and update its health score (ranging from 0-10, with 10 being the worst). This health score represents the overall status of the WFE and the load it is currently experiencing. At certain thresholds, the connections will begin to deteriorate and eventually stop altogether, resulting in "503 Service Unavailable" errors. For more information on how to avoid these issues in SharePoint Online, please read [this post from the Office Dev Center](#).

Network Latency

This is the most obvious limitation but it can often be the most unpredictable. Oftentimes, elements of the network connection between source and destination are completely out of anyone's hands since the data hops between so many responsible parties.

Best Practices: Network Optimization / WAN Accelerators

There are a number of vendors – including but not limited to Cisco, Riverbed, and Juniper –that provide software and hardware solutions to optimize connections to and from Office 365 data centers. This is extremely important, particularly in regions that are isolated such as Australia and New Zealand whose current closest data center is in Singapore.

Best Practices: Express Route

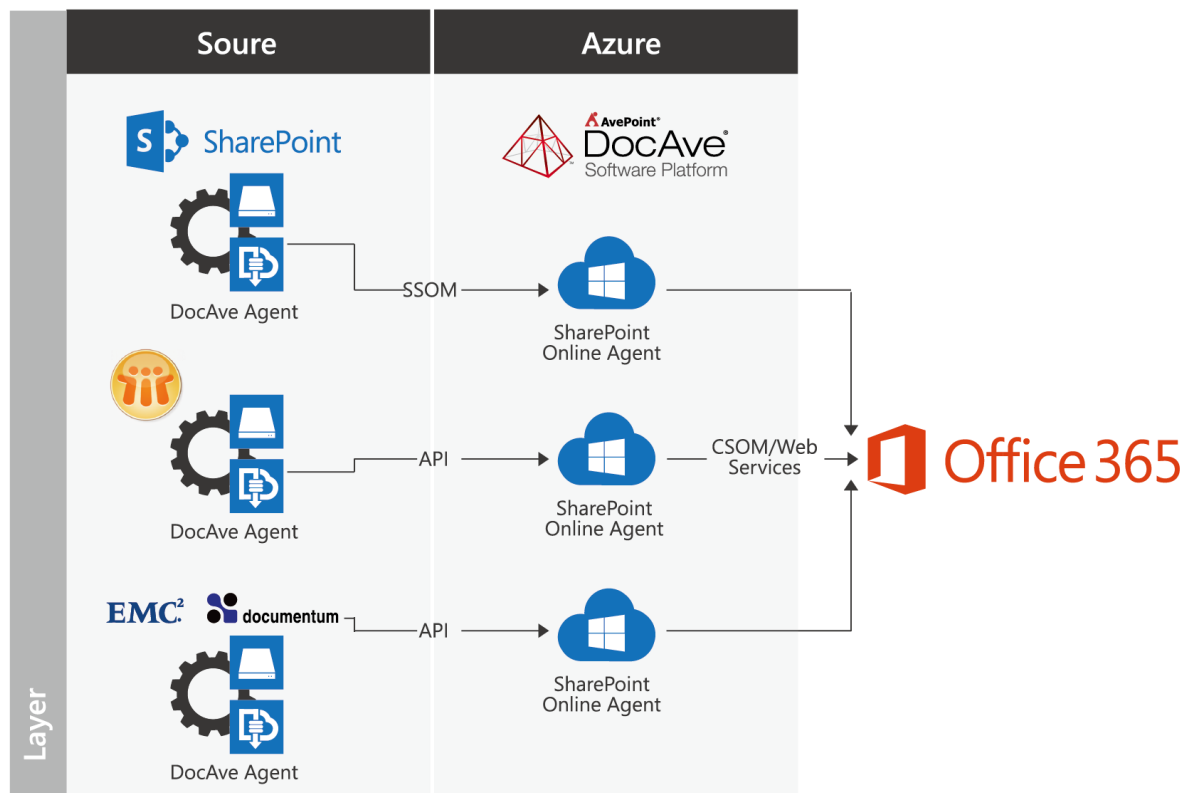
Microsoft's Azure ExpressRoute enables you to create private connections between Azure datacenters and infrastructure on your organization's premises or even a colocation environment. This functionality was just extended to Office 365 in [March 2015](#), ExpressRoute for Office 365. ExpressRoute offers Office 365 customers more predictable network performance, the ability to better manage network availability, and the reliability that comes with dedicated connectivity. For migrating into either ExpressRoute (Azure or Office 365), you will experience a consistent network speed. However, it does not remove issues with CSOM throttling for Office 365.

Best Practices: Move Closer

This may sound ridiculous, but in the absence of a WAN Accelerator, there is another way to “move closer” to your Office 365 Tenant – and no, we don’t mean park your data center outside of Redmond – but rather use Microsoft Azure.

1. Take your databases to the Cloud: Moving SharePoint content databases into an Azure datacenter closer to your tenant can boost performance. You can move them yourself or even take advantage of the Microsoft Azure Import/Export Service. Be sure to check the details of this service, as there are some prerequisites and functional limitations.
2. If you are using a third-party migration solution such as AvePoint’s DocAve Migrator, you can also deploy your SharePoint Online Remote Agents to Azure VMs instead of on-premises. This should also provide a boost to migration performance.

OFFICE 365 MIGRATION ARCHITECTURE WITH DOCAVE



Selecting the Right Migration Option

At the most fundamental level, a Hybrid SharePoint and Office 365 migration project needs to accomplish two things:

1. Bring your organization's collaboration space to the newest version of SharePoint. In other words, upgrade the environment from Microsoft Office SharePoint Server (MOSS) 2007 and/or SharePoint 2010 to SharePoint 2013 or Office 365 – SharePoint Online.
2. Consolidate the two existing SharePoint environments into a single environment. This goes beyond just combining them, it also means making them consistent with one another.

In addition to these two items, your organization should introduce fundamental change in terms of how SharePoint is used, managed, and governed. With that said, there are two basic approaches to performing SharePoint migrations. The first is an 'in-place' migration and the second is 'parallel' migration.

In-Place Migration

The in-place migration option is provided 'out-of-the-box' by Microsoft, so it is free for anyone who owns SharePoint. The in-place migration from MOSS 2007 to SharePoint 2010 takes an existing SharePoint farm and 'upgrades' all components of the farm to the next version of SharePoint. Looking at this option simplistically, it's like putting a SharePoint 2010 DVD into the drive of each SharePoint server and pushing the 'upgrade' button.

The farm topology in SharePoint 2013 has several key differences, so the in-place upgrade of each server supported from MOSS 2007 to SharePoint 2010 no longer works. When upgrading to SharePoint 2013, the 'in-place migration' is for the content databases only.

Parallel Migration

The parallel migration option involves creating a new, empty SharePoint 2013 environment 'next to' the existing environments, and moving both content and functionality from the current SharePoint environments to the new one.

Comparing the two options, the key differences are summarized in the following table:

Point of Comparison	In-Place Migration	Parallel Migration	Additional Information
Supported from SharePoint 2010	Yes	Yes	Both options allow migration from SharePoint 2010 to SharePoint 2013.
Supported from MOSS 2007	Indirectly	Yes	Performing an in-place upgrade from MOSS 2007 to SharePoint 2013 requires two in-place upgrades, one from MOSS 2007 to SharePoint 2010, then a second in-place upgrade from SharePoint 2010 to SharePoint 2013.
Supported to Office 365	No	Yes	There is no way to perform an in-place upgrade to Office 365.
Requires additional hardware and licenses	No	Yes	The parallel migration option requires additional hardware resources and software licenses for the duration of the upgrade. The implications of this will depend on the length of the migration project.
Supports on-line migration	Partial	Yes	An in-place migration will prevent changes to the content databases while they are upgraded, resulting in a disruption of service. The length of this disruption will depend on the size of the databases and how quickly they can be converted. A parallel migration provides the option to pre-migrate content and synchronize changes during the migration, allowing users to continue to use SharePoint throughout the migration.
Supports phased migration	No	Yes	An in-place upgrade is a 'big-bang' upgrade, converting the entire farm at once. There is no option to break down the migration and move a department, team, or geographic location at a time.
Supports selective migration	No	Yes	Because an in-place upgrade converts entire databases, all content and functionality is maintained 'as is' to the upgraded environment.
Supports restructuring during migration	No	Yes	A parallel migration provides an opportunity for an organization to make changes to the structure of SharePoint, either by moving sites and site collections between content databases or by making changes to templates, columns, and values through a mapping process.
Difficulty of testing	High	Medium	Testing an in-place upgrade requires creating a second copy of the production environment,

			running the in-place upgrade, and seeing what happens. If your organization has a large quantity of data in existing SharePoint environments, the resource requirements necessary to test the in-place upgrade will likely outweigh the resource requirements of a parallel environment. There is also an increased risk of changes to production between the time the test is run and the actual migration is performed. If this occurs, this will result in a production upgrade against an untested set of conditions. Because a parallel migration creates an additional environment, it can be used for testing prior to it becoming the production environment. This option also allows small sub-sets of data and functionality to be used for testing, reducing the amount of time and resources required to support testing.
Difficulty of roll-back	High	Low	Rolling back an in-place upgrade requires restoring the farm to its pre-upgrade state from backup. Rolling back a parallel migration involves pointing affected users back to the source environment, which remains intact and online until the completion of the migration.
Amount of manual effort required	Varies	Varies	The amount of manual effort required by each option depends on two factors: the success of the in-place upgrade and the number of changes made during the migration that can't be automated. An in-place upgrade assumes that all configuration and customizations are supported by the new version of SharePoint, and anything that is not will fail to work after the upgrade. The amount of manual effort will depend on what percentage of the upgrade 'doesn't work' and needs to be fixed manually post-migration. This is a key consideration in any in-place upgrade but especially important from MOSS 2007 because the 'functionality gap' between the two versions is much greater than from SharePoint 2010 to SharePoint 2013. Organizations with very few customizations, minimal workflow, who are 'happy' with the configuration and behavior of SharePoint tend to experience a high degree of success with in-place upgrades and require a relatively small amount of manual effort post-upgrade. Organizations that don't match these

			conditions can be in a situation where a large amount of manual effort is required. In a parallel migration, most of the 'work' is automated through the migration software used, and when selecting migration software, this should be a key evaluation criterion. The migration software will be able to handle most structural changes and re-mapping, requiring manual effort only for items outside the capabilities of the migration software. For most organizations, this is a small amount of manual effort.
Requires third-party software	No	Yes	The in-place upgrade option is provided with SharePoint 2010 and 2013. While a parallel migration can technically be completed manually, it's not practical so third-party software is required.

Summarizing the table, the in-place upgrade option has the following limitations that must be considered:

- Direct Migration to Office 365 - SharePoint Online is NOT SUPPORTED.**

In order to move from on-premises SharePoint Server to Office 365 - SharePoint Online, your organization will have to undergo two separate migrations: one to complete an on-premises 'upgrade' and a second one to 'migrate' to Office 365.
- Multi-version upgrades are NOT SUPPORTED.**

Single-version upgrade limitations (for example from MOSS 2007 to SharePoint 2010 or from SharePoint 2010 to SharePoint 2013) – mean that organizations upgrading from MOSS 2007 (or earlier) to SharePoint 2013 are not good candidates for the in-place upgrade options.
- Online migration is NOT SUPPORTED.**

During an in-place migration, your production environment is down for the duration of the project. Due to the likely business disruptions and service failures as a result of this, it's extremely important that you plan for this outage in advance.
- Failed migrations require FULL ROLL-BACK, EXTENDING PRODUCTION OUTAGE.**

Any disruption during the migration process (network outage, insufficient disk space, or other unforeseen errors) will leave your environment unsupported and require a full roll-back. Any post-upgrade disruption of service resulting from items that didn't upgrade

properly will also require full roll-back. Organizations must be willing to accept both the risk and the outage associated with an in-place upgrade.

- **Environment restructuring is NOT AVAILABLE.**

During the duration of the in-place migration, organizations cannot test changes or restructure until after the upgrade is completed. If you wish to make changes to SharePoint, it will have to be either pre- or post-upgrade on the actual production environment.

In other words, the in-place upgrade option is well-suited for organizations with:

- SharePoint 2010 or SharePoint 2013 environments;
- simple implementations;
- light customizations; and
- little or no importance on selective content migrations.

This option is also well-suited for organizations that wish to keep their on-premises SharePoint fundamentally the same as they move to the new, online version of SharePoint.

If this does not match your current implementation of SharePoint, then your environment is not a good candidate for the in-place upgrade option.

Recommended Methodology

The following methodology is recommended for organizations that cannot perform an in-place upgrade:

Activity	Description
Translation of customizations	This activity involves either re-designing, re-coding, or re-building each customization that is required in the target environment.
Content mapping	This activity establishes the alignment between the format and layout of the content in the source environment, and the information architecture in the target environment. Column and content type mappings, templates filters, and permissions are mapped as part of this activity.
Migration planning	This activity breaks the migration down into a series of batches or phases to understand the business implications of the migration. It also coordinates the necessary resources, trains the migration team, and schedules all migration activities. It also considers whether data clean-up is required, and if so, whether it will occur pre-migration, in-flight during the migration, or post-migration.
Pilot migration	This activity establishes a set of migration scenarios which are representative of the production data set. It then tests each scenario in a non-production environment using a representative sample of data. This confirms the technical feasibility of the migration, identifies any gaps that must be addressed, and provides the migration team to walk through an end-to-end content migration. In addition to the actual migration of content, the 'end-to-end' migration tests permissions and access, verifies success, captures and addresses any errors, documents results, and gathers migration statistics. It also provides an opportunity to optimize the migration activities and should include rollback testing.
Pre-migration of content	This activity pre-migrates content to the target environment. It is repeated for each batch of the migration.
Testing and validation	This activity validates the success of the migration from the perspective of whether or not the target environment meets the requirements of the business it supports. The results obtained at this time should be consistent with the results obtained during the pilot migration, and any discrepancies can be addressed at this time. This activity is repeated for each batch of the migration.
Synchronization of changes	This activity captures any changes to the source environment that occurs between the initial migration and completion of the user transition, and ensures they are reflected in the target environment. This activity is repeated for each batch of the migration.
Transition of users	This activity involves 'freezing' the source environment, performing one final synchronization of changes, and transitioning users to the target environment so it becomes their primary environment going forward. This activity is repeated for each batch of the migration.

This methodology will allow content and SharePoint functionality to be migrated directly from both MOSS 2007 and SharePoint 2010 to either Office 365 or on-premises SharePoint 2013 without disrupting production services. This is due to the fact that the migration can be performed in batches or phases according to your specific business needs.

The migration team can still conduct a thorough evaluation of the migration process, and include all customizations and changes to SharePoint structure and content you want as part of the migration. This methodology allows you to conduct user acceptance testing to ensure all content and functionality have transitioned successfully. Use this opportunity to conduct user training and education under 'real-world' conditions prior to the final transition to the target environment – all without losing changes which may have occurred in the source environment during the migration.

Lastly, and perhaps most importantly, the methodology allows migration activity to be wrapped around other IT and business initiatives – and provides a comprehensive roll-back option in the event of anything unexpected.

Pre-Migration: AvePoint Solutions

AvePoint Discovery Tool – FREE!

AvePoint's Discovery Tool helps lighten the load of the initial discovery phase of your migration and ensures that you are more knowledgeable about the customizations, workflows, information architecture, and amount of content your source environment contains. In this way, you can ensure whether your current migration project goals are achievable or if they need to be adjusted before you begin the migration process.

Benefits

- Identify potential problems that may cause migration failure by scanning and exploring your source environment prior to migration. Generate detailed reports which can be exported to a database or CSV file to allow for deeper analysis.
- Determine the scope of the project through a better understanding of your source environment in order to see whether or not the migration aligns with your original plan.
- Create an optimized migration plan that meets your business requirements

Call to Action

For more information about AvePoint Discovery Tool:

- [View Our Webpage](#)
- [View Our Product Brochure](#)

AvePoint File Analysis Solution

The AvePoint File Analysis solution completely integrates data scanning, tagging, record retention, archiving and data loss prevention into your pre-migration processes. By empowering you with information about where sensitive data lives, and data flow across the organization is truly managed, your migration team can make decisions quicker and more efficiently on what data to leave, migrate, or store.

Benefits

- Data Discovery:
 - Find out what and where the data resides, including, file type, file age, file size, file owner, and file location
 - Find out if there is any privacy or information security violations in your files
 - Find out who has permissions and has accessed existing data in your file shares
- Data Tagging & Classification:
 - Build data classification and taxonomy rules based on your business needs
 - Enforce classification rules into your file shares and automatically add and classify content with embedded metadata
 - Identify and resolve inconsistencies between user created and automated metadata, and synchronize to ensure metadata consistency across platforms

- Data Protection & Retention
 - Encrypt or redact sensitive information based on compliance rules and classification results
 - Mark irrelevant or stale content as records
 - Archive records to another location on the file system with a retention schedule
- Data Cleanup & Consolidation
 - Identify and eliminate duplicate copies of repeating files to enable single-instance storage
 - Destroy the old files and sensitive data that no longer meet your business requirements
 - Move content to the its proper location on the file system to prepare for a data migration

AvePoint Cloud Readiness Assessment

To allow organizations to gain value from Office 365 initiatives while addressing compliance concerns, **AvePoint and Microsoft** have teamed up to deliver the Cloud Readiness Assessment.

Through this assessment, organizations are able to identify sensitive or regulated content and notify key stakeholders including compliance officers, company executives, and administrators of any at-risk content. Once the initial assessment is complete, a best practices approach is outlined to separate regulated and non-regulated content or workloads, and subsequently migrate appropriate content to the cloud.

Benefits

- Develop a comprehensive assessment to identify at-risk content or data breaches, including SharePoint or file share content/user access that can potentially violate your compliance policy
- Implement governance architecture with technical enforcement to efficiently tag and classify all legacy content, as well as quarantine or delete sensitive or non-compliant content to support information management requirements
- Establish a desired information architecture for content, applying appropriate permissions, tags, and security settings to address compliance and governance requirements and standards
- Quickly and efficiently migrate appropriate workloads or content to Office 365 to lower TCO and begin taking advantage of Cloud Computing

Call to Action

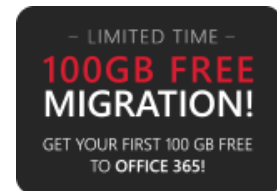
To learn more about AvePoint's Cloud Readiness Assessment:

- [View Our Microsoft Partnered Solution Brief](#)

Migration Operation: AvePoint Solutions

DocAve Migrators

DocAve Migrators provide an efficient, cost-effective solution for migrating business-critical content from over 14 electronic repositories into the latest, feature-rich releases of Office 365 – SharePoint Online. DocAve's innovative and reliable data transfer is unique in its ability to granularly migrate content down to individual items and for retaining all associated metadata.



DocAve enables SharePoint administrators to easily plan, schedule, and implement the consolidation of multiple content sources into the platform – maximizing return on investment and gaining more value from Microsoft's latest release.

Benefits:

- Transfer content from legacy repositories to SharePoint – Online or on-premises – in an organized and efficient manner to improve IT productivity and reduce time-to-value for deploying SharePoint as a standard collaboration platform.
- Keep business-critical information residing in legacy content sources – including folder structures, attachments, document properties, and all associated metadata – intact, allowing end users to confidently access content without interruption.
- Reorganize your information architecture to clean up existing clutter throughout the migration. Empower administrators to plan migration jobs according to business needs – reducing any negative impact on production environments – with granular or bulk content migration as well as flexible job scheduling.
- Supported Migration Sources:
 - Documentum eRoom 6.0 & above
 - EMC Documentum 6.5 & above
 - Lotus Notes 6.5 & above
 - Open Text Livelink 9.5 & above
 - Exchange Public Folders
 - File Systems & Networked File Shares
 - Lotus Quickr 6.5.1 & above
 - Microsoft Office SharePoint Server (MOSS) 2007 & SharePoint Server 2010

Call to Action

For more information about DocAve Migrators:

- [Visit Our Website](#)
- [View Our Product Brochure](#)
- [View Our Technical Brochure](#)
- [View Our Demo Video](#)
- [View Our Use Case Animation](#)

Appendix A: AvePoint's Migration Methodology



Appendix B: Exclusive Promotion

A promotional graphic with a dark blue background featuring a faint, abstract geometric pattern. The text is centered and uses a mix of white and red colors. A red rectangular button is positioned in the middle of the graphic.

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250 GB

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OFFICE 365

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