The Definitive Guide to Migrating to SharePoint Online & On-Prem

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WHITEPAPER

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1. INTRODUCTION

With Microsoft 365 and SharePoint Online, Microsoft provides a modern platform that allows organizations to build their own tailored Digital Workplace. The applications and the rich set of features that Microsoft 365 provides can be leveraged together to build an environment tailored to organizations' needs and requirements, their corporate entities, and their staff.

As many new and exciting features are not available with older versions of SharePoint, many organizations are thinking about migrating from their old environment to Microsoft 365 and SharePoint Online. Those who want or need to host SharePoint within their own hosted environment can migrate to SharePoint 2019.

Regardless of the designated target environment, migrating an existing environment is never an easy endeavor and requires a lot of planning and preparation. Based on our staff's long-time experience with SharePoint migrations for various organizations, we know that thorough and comprehensive planning is a crucial step to success.

This Whitepaper provides guidance and best practices regarding migrations from previous versions of SharePoint to Microsoft 365 and SharePoint Online and SharePoint 2019 as well.

2. BUSINESS DRIVERS FOR MIGRATION

Everyone upgrades eventually (or they move away from the platform), so we think it's always good to talk about why businesses are accelerating their upgrades or where (in terms of workload) they are considering an 'early' upgrade/migration for SharePoint.

So why do people upgrade or migrate? It's worth noting that there are internal and external pressures on IT to upgrade their technology.

Internal pressure:

- Internally we are always in a cycle of doing more with less. Often, upgrades provide many ways to do things in an optimized or more efficient manner, supporting the increasing demand placed on IT.
- Maintaining old versions of technology like SharePoint on-premises can be challenging. Finding people who have experience or have knowledge of, e.g., SharePoint 2007/2010/2013/2016 (and want to work with it) is extremely difficult now. This is difficult because there were fewer SharePoint experts back then but mainly because experienced and skilled professionals want to work with the latest versions.
- Often upgrades (especially SharePoint ones) provide increased support for standards or newer technologies. In SharePoint's case, the improved browser support, mobile device support, and windows/office integration can support related upgrades or the growing needs that result from new technologies in the workplace.
- Employees are using modern web technologies in their private lives, and as these technologies evolve, employees expect that the organization is keeping pace with new technologies.

External pressure:

- In the consumer marketplace, we have many options and increasing expectations for technology, user experience, and ease of use. This puts considerable pressure on IT to be more responsive and accelerate upgrade cycles internally (to ensure competitive offerings and usability). This is especially made evident when leaders within organizations go around IT and buy into SaaS (*Software as a Service*) or alternative technologies that may or may not be initially sanctioned by enterprise IT.
- Mobile, tablet and the pressure for remote device support are all primarily driven by the increased comfort and reliance of these tools in the consumer world. In BYOD (Bring

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Your Own Device) environments, IT has increased pressure to provide support and options for devices that may have not historically been supported or considered.

- The way we all are working today has changed dramatically in recent years. Even organizations that abnegated the demand for mobile workers in the recent past are changing their business to incorporate mobile workers. A few organizations even dumped their offices in favor of mobile offices or home-office opportunities. These changes require that a corporate intranet can support this unconventional new way of working.

2.1. Better User Experiences

Even if the older versions of SharePoint provide just the right amount of functionality to meet requirements, we should keep in mind that their user interface was designed many years ago. The evolution of user interfaces is a rapidly evolving process. Most of us are using multiple internet platforms for various purposes (like Facebook, Twitter, LinkedIn – to name a few). Those platforms' providers are eagerly working on keeping their user interfaces updated or even integrating modern UI elements. As users of those internet platforms, we all are used to modern user interfaces and their way of providing functionality in an efficient and user-centric manner. If an organization continues to utilize an older version of SharePoint, it will run into issues with user adoption, efficiency, and missing functionality. What worked great when the corporate intranet was rolled out is lacking functionality and efficiency today.

Regarding user experience, there are mainly two reasons why organizations should think of migration to Microsoft 365 or SharePoint 2019:

- **User adoption/user satisfaction:** An organization's employees are using a corporate intranet to manage their daily business. For them, a corporate intranet is more like a tool, and this tool should be easy and intuitive to use. It should provide a similar user interface as most of the internet platforms mentioned before are providing. In other words: this tool should adopt today's widely recognized user interface because any significant variance regarding user interface will cause additional costs and may lead to frustration – in extreme cases even to the emigration of skilled employees.
- **Functionality/efficiency:** if an organization provides a corporate intranet as a tool for all their employees, this tool should be up to date to support employees at its best. You might think that it doesn't matter if uploading a document takes three clicks in a modern environment compared to 5 clicks in the existing environment. But precisely

these two clicks make the difference between *old-school* and *efficiency*. In other words: these stinted two clicks will dramatically improve usability and user adoption.

2.2. Better Support for Business Processes

A corporate intranet is no longer a stand-alone tool that is used in conjunction with other systems. Today, corporate intranets are more a digital workplace for all employees, and this digital workplace needs to include or support business processes as well. For example, managing whereabouts or vacation requests of employees should not be rolled out to an external system within the organization's network. A modern digital workplace's fundamental idea is to integrate business processes into employees' daily business as seamlessly as possible to avoid any distracting context switches.

Older versions of SharePoint provided some support for integrating business processes. Compared to the options that Microsoft 365 or SharePoint 2019 offer, the business process support of older versions look small. Let's use Power Automate as an example. With Power Automate, you can easily connect Microsoft 365 and SharePoint to an external system to exchange data. With older versions of SharePoint, this was much harder to achieve. You would need to use BCS (Business Connectivity Services) to configure external connections that only provide limited functionality.

For an organization, the ROI (*Return of Invest*) is a vital factor. Suppose organizations want to roll out their version of a tailored digital workplace to best support their employees. In that case, a platform should be chosen that provides the best support to integrate business processes as seamlessly as possible – and here, modern platforms like SharePoint 2019 or Microsoft 365 play out their advantages.

2.3. Better Support for Collaboration

In former times, employees, more or less, worked on their own to achieve a specific goal or milestone. Today we know, that this working style did not provide the best efficiency and did not foster solidarity (*us-feeling*) within an organization. Teamwork has proven to be more efficient – even if employees work at different locations within different time zones. A modern digital workplace needs to support teams and teamwork, and as teamwork is a very flexible and agile style of working, a modern digital workplace needs to be flexible as well. If organizations continue to utilize older platforms that hardly support flexible teamwork, options to improve efficiency, reduce costs, and enhance user satisfaction are squandered.

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Collaboration areas that are perfectly tailored to the needs of teams are saving costs by improving efficiency. There are some costs involved when planning and creating this kind of tailored collaboration area, but the ROI will be recognizable within a short period. Older versions of SharePoint are far behind the potential that Microsoft 365 offers, which is another reason, which makes organizations think about migration.

2.4. Better Support for Mobile Devices

If there is one area of technology that has evolved most rapidly, that would be mobile devices. Today, there are much more mobile devices in use as desktop PCs installed in offices. Many of us are even using multiple mobile devices. An end of this trend is not in sight. On the contrary, mobile devices will soon be more powerful than most of today's desktop computers. Hardware manufacturers are even thinking about smartphones powerful enough to be used as desktop computers for office work.

The number of mobile workers is increasing steadily from year to year, and being able to access a corporate intranet with mobile devices without any restrictions or limitations has become a must-have. Older versions of SharePoint provide some mobile support, and from a technical perspective, this mobile support could be enhanced. Still, in most cases, there is hardly any justification for the costs involved. Often, it is much more cost-efficient to migrate to Microsoft 365 or SharePoint 2019 to benefit from the tremendous mobile support offered by those two platforms out-of-the-box.

2.5. Reduce Hardware Maintenance Costs

Previous versions of SharePoint needed to be installed on dedicated servers, which were grouped into server farms. Those servers need much maintenance to keep them up and running. They were eating up a lot of energy, requiring perpetual efforts regarding managing backups. This will not change when migrating to SharePoint 2019, but organizations will dramatically reduce their hardware maintenance costs when migrating to Microsoft 365.

2.6. Improving security

Many organizations think their data and documents are safer within their environment as if they were saved to the cloud. In reality, the opposite is true. Microsoft is investing a lot of money and staffing in securing their cloud environment and their customers' data and documents. Hardly any organization can spend a comparable amount of effort and resources on securing their on-premises environment. eCloud-hosting is Microsoft's core business

(Microsoft 365, SharePoint Online, Microsoft Azure), and it is Microsoft's vital interest to keep their environment as safe as possible. Compared to the early years of cloud-hosting, today, data and documents saved to Microsoft 365 are much more secure than in most (if not all) on-premises environments.

3. MIGRATION KEY CONSIDERATIONS

Once the planning is done and plans have been verified multiple times, your organization will proceed with migration activities and migration execution. Migrating content from one environment to another environment isn't as easy as migrating files from one folder to another folder. When planning to migrate data in a professional environment, we need to think about how to best migrate data with the least disruption to the business. The following section of this document provides an overview of the most common migration considerations.

3.1. Key Migration Questions To Ask Early & Often

When planning your migration, you will endeavor to answer key questions. What follows are some of the high-level questions you should consider (and why migration may be more complicated than initially perceived).

- Will your migration require re-organization or optimization of information?
    - *A technical migration is often easier to scope, manage and control for costs. However, business interaction, approval, and engagement needed when optimizing and restructuring work can often lead to a complex scope and difficult-to-manage budgets.*
- Can you separate the work that is re-organization/optimization focused from the technical work?
    - When will your next upgrade/migration be? *Moving forward, further optimization will still be needed, even when in Microsoft 365. Most organizations plan for this ongoing cost as a sort of knowledge tax that the organization pays every few years to get the most out of their intellectual property that has grown throughout the organization. To make it more navigable, more findable, and more applicable.*
- What is the volume of content that needs to be migrated?
    - *This requires understanding the documents and the lists, libraries, structures, solutions, and more. Do you know what content exists in your organization?*
- What types of content are stored in your current system?
- Where and how is content stored?
- How is content currently added to your system?
    - Watch out for scanning and capture integration as it's a typical complexity often missed.
- Does your current approach use a lot of folders instead of metadata?

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- How flat is the structure today (for the ability to responsively re-organize and optimize knowledge collections)?
  - *In Microsoft 365, when organizations transition from Classic to Modern, it requires flattening many site structures from sub site nested ones to site collections of their own. These complement hub sites as a form of organization, more flexibility, suite capabilities like Microsoft teams, and more.*
- How is security managed and handled today?
  - *As you move forward, it's always better to use AD Groups over SharePoint Groups. This is even more pronounced in Microsoft 365, where Azure/Microsoft 365 Groups can be used for consistent membership across the services and be enhanced with configurations such as dynamic permissions that are automatically applied based on AD attributes, etc.*
- How are external users managed, and how do they access resources/content today?
- What retention policies do you have in place, if any? Will any content be able to be left behind or removed? How will you migrate these policies and ensure consistency between the two environments around how records and retention are managed? *Do you know how you have and will be handling content life cycles?*
- Do you know how often referential, compound, or externally linked documents are used today?
  - *For example, when you have a link to another Excel document, this may require further processing or manual fixing post-migration for the workbook to work as desired.*

3.2. Migration Approaches

When thinking about migration approaches, two approaches usually come to mind first. Although the following approaches are the most commonly used, there is no one or the other. The migration approach that is best for a specific organization depends on many factors – like the amount of data, the internal structure, or working style. It is not uncommon that organizations use the best of both worlds and establish a migration approach based on the fundamental ideas of the first two of the following approaches.

All-At-Once Approach

This approach is often referred to as "Big Bang approach," too. This means that the migration is performed in a single step. As an example, on a Friday afternoon, the existing system is turned to read-only mode for all employees. The migration and the verification are performed during

the weekend, and on Monday morning, all employees can continue their work with the new system. This is a suitable approach for smaller organizations with smaller amounts of data to be migrated.

As a rule of thumb, we can assume that about 5 GB/hr can be migrated to SharePoint Online (depending on the actual internet performance). This estimated hourly transfer rate is the limiting factor for this kind of migration approach. While there are techniques to improve migration speed, it can often be exceptionally challenging to overcome Microsoft 365 throttling limitations, especially if the target tenant you are migrating to is already in use.

Phased Approach

In contrast to the previous approach, the phased approach is migrating one corporate entity after the other. As an example: first, the HR department is migrated to the new platform. After the HR department has been migrated successfully, the Marketing department is migrated – and so on. The target here is to split the content into collections or batches that migrate in a pre-planned phased order. This approach comes in handy when the amount is too large for the All-At-Once approach and if the old and new system should be used in parallel for a time. Compared to the all-at-once approach, this approach requires more extensive planning, especially if there are dependencies that need to be considered.

Incremental Or Delta Migration

A Delta or Incremental migration is often used regardless of the migration approach. This is also extremely important when the amount of data to be migrated is too much and verified during regular out-of-business hours. In essence, users continue to work with the old system while the content migrated previously is still verified. After the first collection of content has been migrated and verified, only the delta (means: the content created or modified while the first collection of content got verified) needs to be migrated in a second pass.

Sooner or later, to ensure data accuracy and completeness of the migration, the source environment will need to be set to read-only and no changes allowed during the final 'Delta' or Incremental migration. Usually, the second collection of content is much less compared to the first collection, which means that the second collection can be migrated during regular out-of-business hours or in far less time.

Most professional migration tools provide built-in support for delta migrations. They can migrate the recently updated content without needing to migrate content that appears to have not changed between the last migration and the latest Delta/Incremental migration.

Regardless of the approach you use, it will be important to develop a step-by-step and detailed plan for the migration itself. Based on assessment activities, you will determine per content batch how it should be handled for the migration itself in the planning phase.

Case 1	Case 2	Case 3	Case 4
Leave	**Move**	**Update**	**Create New**
Content is no longer relevant or does not belong on the DMS.	Content is up to date, relevant, and will remain in the same format.	Content is relevant but may need content or format updates	Content does not currently exist or needs to be written from scratch.
It will not be moved	**It can be moved "as is"**	**It will be updated or recreated**	**It will be created**

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4. MIGRATION STRATEGY & PLANNING

When migrating to Microsoft 365 and SharePoint online, the approach taken will often be very similar across organizations in that there are phases full of tactical activities for any migration from assessment to post-migration. This is also true for most SharePoint Server migrations. Often, the upgrade supported process is not used to avoid paying for additional hardware configuration and setup to hop from older versions of SharePoint Server to newer ones (as each supports an upgrade from the last).

As an example, what follows is a simple diagram depicting the typical flow of most SharePoint Online migrations.

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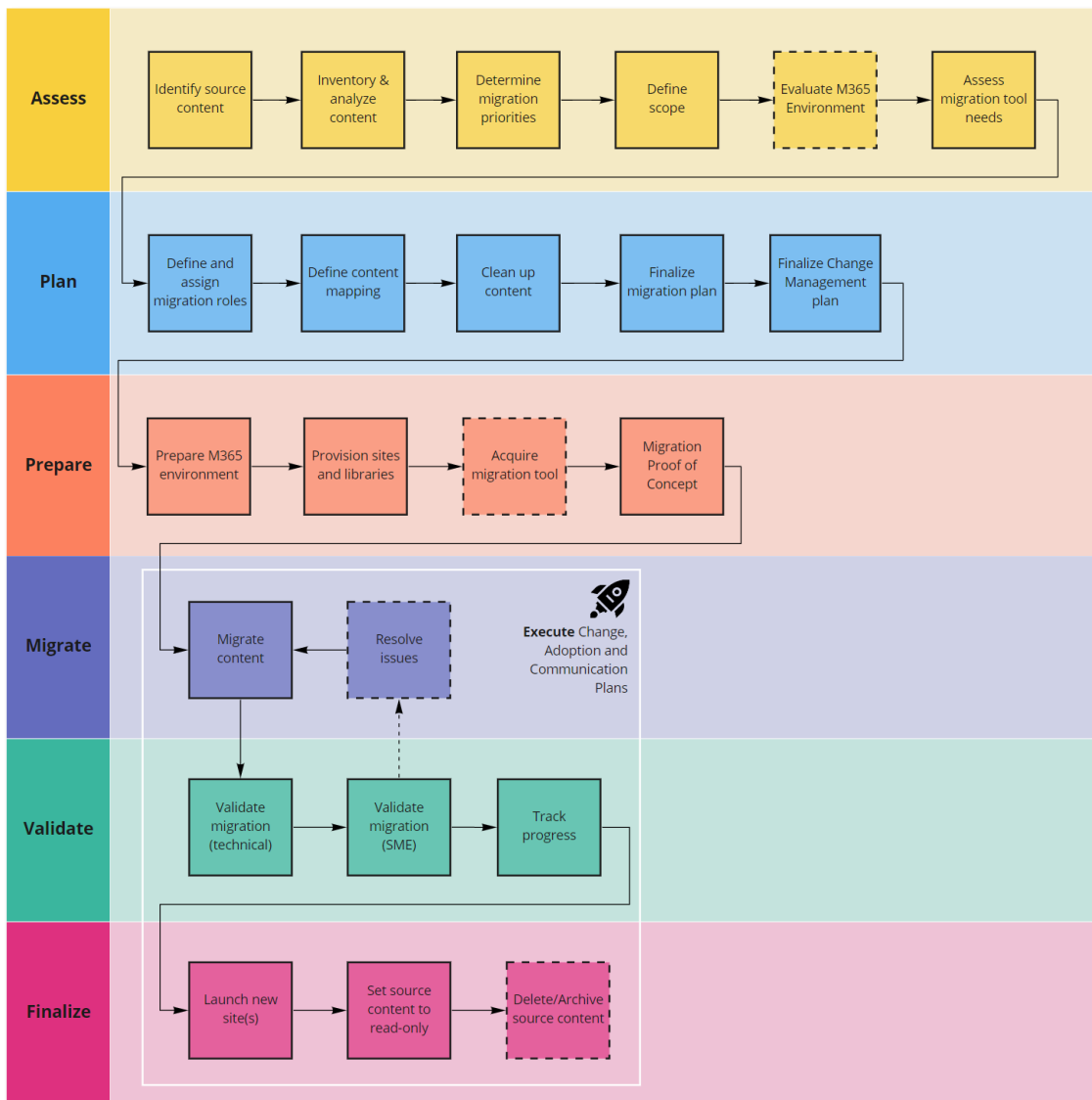
Figure 1 - Sample Migration Process

While focusing on the tactical considerations is key, so too is having the right strategy and alignment. This section will review each 'phase' of a typical migration and outline key considerations, best practices, and more to help your organization be more prepared and successful as you look to migrate to SharePoint Online and Microsoft 365.

Keep in mind you may think about a migration effort more based on roles than phases. As the image below indicates, you can still pre-plan and think through the flow of migration based on who does what during the migration process. For the sake of brevity, we will focus our guidance on the phase activities instead of the many roles/approaches organizations use for migrations today.

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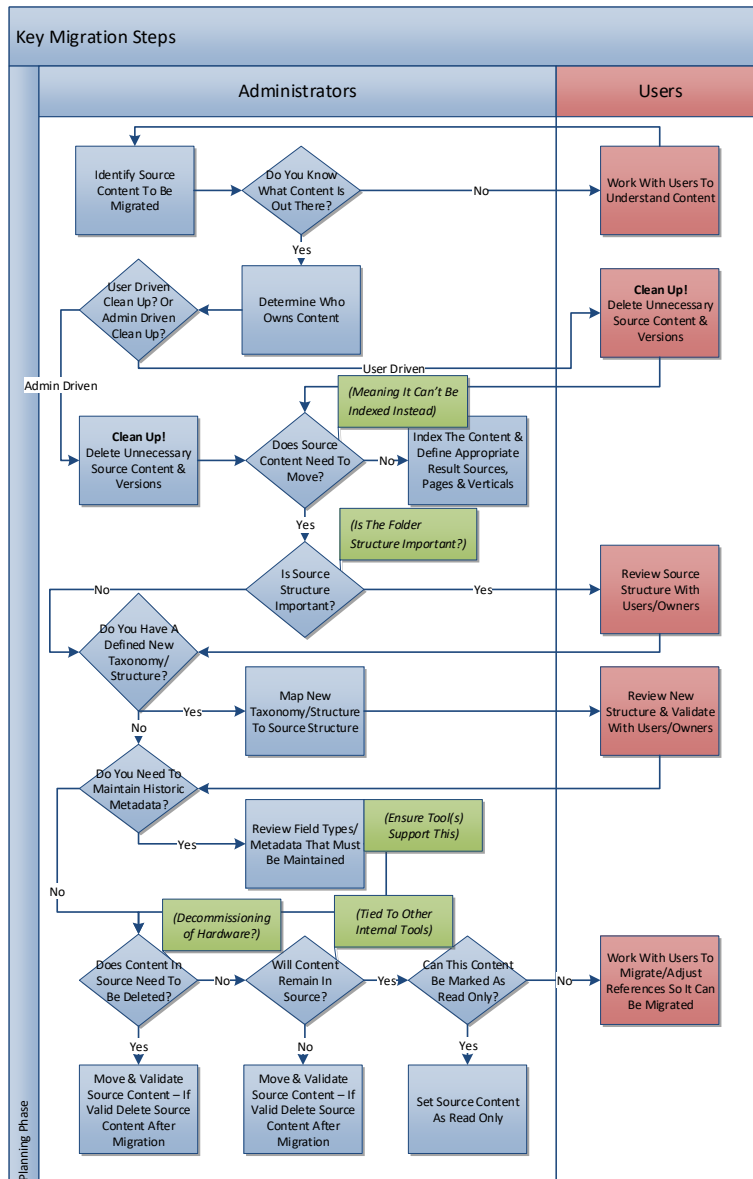
Figure 2 - Sample Of File Share Migration Mapped Migration Steps

4.1. Assessment Phase

Each migration needs to start with an assessment because you need to know precisely what to migrate to plan and prepare the migration.

From a simplistic and high-level perspective, we need to identify and decide on the content that will be migrated, determine priority (both based on business and technical complexity/challenge), who owns the content, and the content itself. Lastly, it's important not to forget that the target Microsoft 365 environment should also be assessed for readiness.

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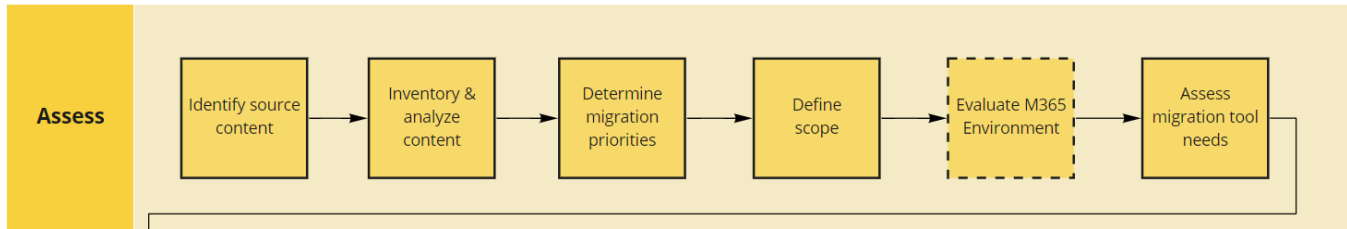
As the following sections will outline, there is much more to be assessed than just the collection's size to be migrated.

4.1.1 Site Structure Assessment

The Site Structure Assessment is all about taking a snapshot of the Site Structure of the existing portal. But this assessment does not end here. After the existing site structure has been assessed, it often needs to be updated or adjusted to reflect corporate changes or other requirements. Many organizations are using this opportunity to update the existing site structure, especially if the existing site structure was created many years ago. When thinking about a different site structure, organizations should follow Microsoft's most recent recommendations regarding Site Collections in SharePoint. In essence, this means that sub-sites should be avoided whenever possible. Instead of creating a nested sub-sites structure, Microsoft recommends using multiple Site Collections. The logical structure is no longer applied by a parent-site / child-site relation but by the logical structure applied to the navigation.

The new SharePoint Hub Sites can also create a logical site/subsite structure, while under the hood, a flat technical site structure is created. The 'Multiple Site Collections' approach has clear advantages regarding flexibility and manageability.

If the site structure is updated before the migration, this renders a mapping table mandatory which maps the existing Site Structure to the new/updated Site Structure.

The outcome of this assessment is a list of all sites, their associated URLs, a description, the template used to create the site, the site owner, and an indicator of a site is used as a hub site.

The best option to create a list of all existing sites is to utilize a PowerShell script which is iterating through all Site Collections and all sites. The benefit of using PowerShell is that a script can retrieve all the relevant information to create a detailed list of all existing sites – and it can be scheduled to run outside of the busy office hours.

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4.1.2. Content Assessment

During the content assessment, documents and structured data (like lists of data) are being assessed. This assessment aims to understand the data and the types of documents currently hosted within the old environment. Another goal is to identify the amount of data currently existing in the old environment. Although the amount of data is usually reduced after the content clean-up, it is helpful to have an idea of how much data is about to be migrated.

During the Content Assessment, versions of documents are being identified as well. When migrating from an older version of SharePoint to Microsoft 365 or SharePoint 2019, the Content Assessment is used to decide which versions (if not all versions) of documents need to be migrated. When migrating from a file-share to Microsoft 365 or SharePoint 2019, document versions need to be identified first. Often, the version number is added to a document's title (like *Business Report 2018 – V1.4.docx*). The hard part is to aggregate the single file-based document versions and create a SharePoint-compatible list of document versions.

The Content Assessment is also an important preliminary for the Content Clean-up phase. The Content Assessment outcome can be used to determine documents that should not be migrated or that are not used anymore.

This assessment's outcome is a list of all documents, their URL/location, their size, their type, the number of versions (if applicable), their creation/modification date, and the users who create and modify the document.

The best option to create a list of all existing documents is to utilize a PowerShell script that is iterating all existing document libraries or the file-share structure.

4.1.3. Workflow Assessment

Workflows are used in SharePoint to implement business processes. Many organizations use different kinds of workflows to implement their internal processes. During the Workflow Assessment, all workflows used within the existing environment are being assessed. This assessment includes the type of workflow (built-in, SharePoint Designer, custom, 3rd party), the location, the use case, and the associated business process. Also, during this assessment, workflows marked as active or in progress for an unusually long time will be identified. It is a good idea to decide what to do with 'frozen' workflows before migrating.

The most crucial information that the Workflow Assessment needs to provide is the type of workflow as not all types of workflows can be migrated as-is to Microsoft 365 or SharePoint 2019.

Many organizations use this opportunity to review all identified workflows (not only those that can't be migrated) to check if the workflows still match the business requirements. Not too rarely, organizations modernize workflows built with older technology (like SharePoint Designer) before migrating them to the target environment.

This assessment's outcome is a list of workflows, the URL of the location where the workflow is used, the type of the workflow (OOTB, SPD, Custom, or 3rd party), and the potential migration path. Workflows that can't be migrated as-is need to be redesigned using a suitable technology (like Power Automate).

4.1.4. Custom Solution Assessment

Custom solutions (or custom applications) are mainly used for two purposes: enhance existing functionality or add functionality that is not existing in SharePoint. Most custom solutions are either build on server-side code or client-side code, and they are either built in-house or purchased from a 3rd party vendor.

The custom solution assessment is used to create an inventory of all custom solutions, which are used as a foundation to decide if and how each identified custom solution is migrated to the new environment. Many organizations use this option to review all identified custom solutions to check if they are still meeting the core requirements. A custom solution assessment also provides the option to think about app modernization. Even if existing custom solutions still meet the core requirements, it can make sense to spend some thoughts on modernizing existing applications – like improving/enhancing functionality or using a different platform to host applications (like Microsoft Azure).

The outcome of this assessment is a list of all custom solutions, the URL of the location where the solution is used, the type, the business use case, a responsible contact, and the potential migration path. It is good advice to add a hyperlink to the original development documentation as well.

The best option to create a list of all existing custom solutions is to utilize a PowerShell script to iterate all existing sites.

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4.1.5. Assessment Tools

The SharePoint Migration Assessment Tool (SMAT) is a simple command-line executable that will scan the contents of your SharePoint farm to help identify any issues with data you plan to migrate to SharePoint Online. The results report points you to articles to help you fix any issues that were discovered. The tool runs in the background without impacting your production environment.

The SharePoint Migration Assessment Tool (SMAT) is a simple command-line executable that will scan your SharePoint farm's contents to help identify the impact of migrating your server to SharePoint Online with Microsoft 365. It also includes the SharePoint Migration Identity Management Tool, which performs identity mapping by scanning SharePoint, Active Directory, and Azure Active Directory. As the tool is designed to run without impacting your environment, you may observe the tool requires one to two days to complete a scan of your environment. During this time, the tool will report progress in the console window.

After the scan is complete, you can find output files in the Logs directory. This is where you will find the summary and more detailed insights into the scenarios that could be impacted by migration. The tool will report anonymous statistical information back to Microsoft to improve the quality of Microsoft products and services. Optionally, you can identify your organization when prompted at the end of the scan. If the tool cannot connect to the internet to report this information, the tool will still function as otherwise expected.

To download the tool: SharePoint Migration Assessment Tool (SMAT)

4.2. Preparation Phase

After assessing the content and environment you will be moving to, it is critical to prepare for what content will be migrated where, how, and when. This is made easier by cleaning up, reducing the total targeted content, or clearly defining what content should change. In some situations, like when moving to SharePoint Online, you may be better served by pre-creating the target structure before the migration as well.
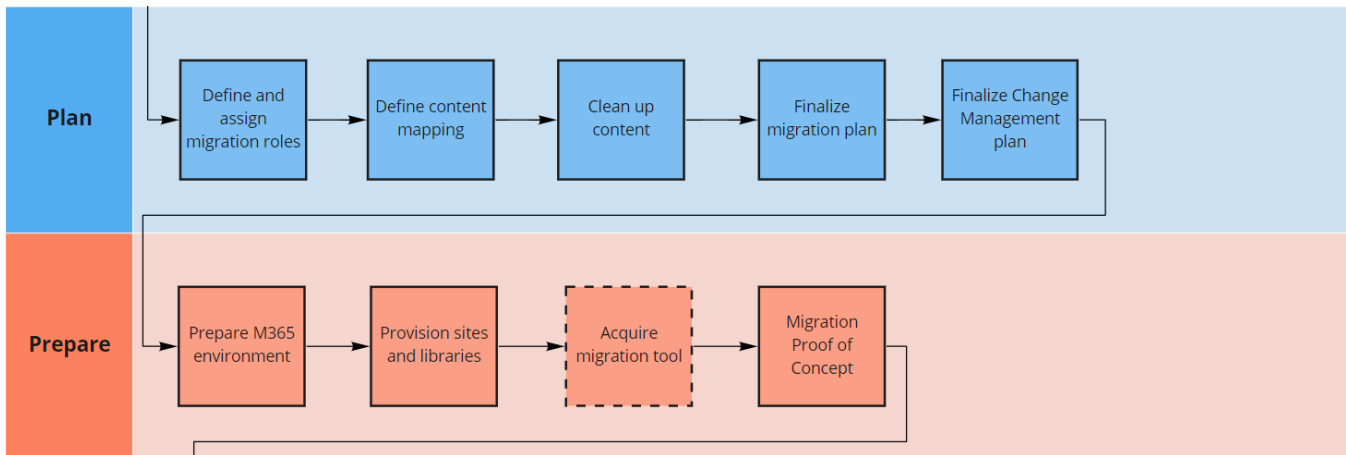
4.2.1. Site Structure Preparation

Based on the site structure assessment outcome, the sites need to be created in the new environment. If the new structure differs from the existing structure, the new structure needs to be built based on the mapping table as explained in the associated section. If a new site structure is used, the new site structure is likely following Microsoft's recommendation regarding Site Collections in SharePoint. To be able to implement a logical structure, specific sites need to be turned into Hub Sites, and related sites need to be associated with their hub sites.

Before a new site structure is implemented, the new structure needs to be reviewed. This review should be performed by members of different (if not all) departments or corporate entities.

4.2.2. Content preparation

Based on the outcome of the content assessment, a clean-up process needs to be initiated. Clean-up means that the list of identified documents is reviewed to find documents that should not be migrated to the new environment – these can be temporary documents,

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outdated documents, or documents that are not relevant anymore. As most documents belong to a specific corporate entity (like a department), the content owners or members of the associated corporate entity should be tasked with cleaning up their documents.

If documents from a file-share should be migrated to SharePoint, it is likely, that multiple versions of a document are existing. As a file-share is not providing any support for document versions, editors usually append the version number to the title of documents. These "title-versioned" documents need to be identified before they are migrated to SharePoint because SharePoint document libraries can handle multiple versions of a document. The identified "title-versioned" documents need to be transferred into the versioning mechanism of SharePoint document libraries.

If the new environment's site structure is different from the old environment's site structure, documents will likely be saved to a different location as well. If there is a site mapping table, the list of documents needs to be updated to reflect the new site for each document. It makes sense to update the list of documents after the clean-up.

Current State				Scope	Future State		
File Name	Folder Structure	Size	Last Modified	Decision	Site	Library	Folder Structure
Sheet1.xlsx	2019/Dynamic/	333 MB	12/2/2019	In Scope	Payroll	Dynamics	2019/Dynamic/
Sheet2.xlsx	2019/Things/	125 MB	10/1/2018	In Scope	Administration	Facilities	2019/Things/
Sheet3.xlsx	2012/ABC/123/	1,256 MB	4/25/2003	Out of Scope			
Sheet4.xlsx	2019/General/	52 MB	4/25/2003	Out of Scope			
Sheet5.xlsx	2021/General/	6 MB	4/25/2003	In Scope	Audit	Compliance	2021/General/

Mapping of content areas to their new destinations

This mapping should also consider the desired future state if you intend to modernize during the migration process. This isn't unique to just SharePoint migrations but is also relevant for file share migrations.

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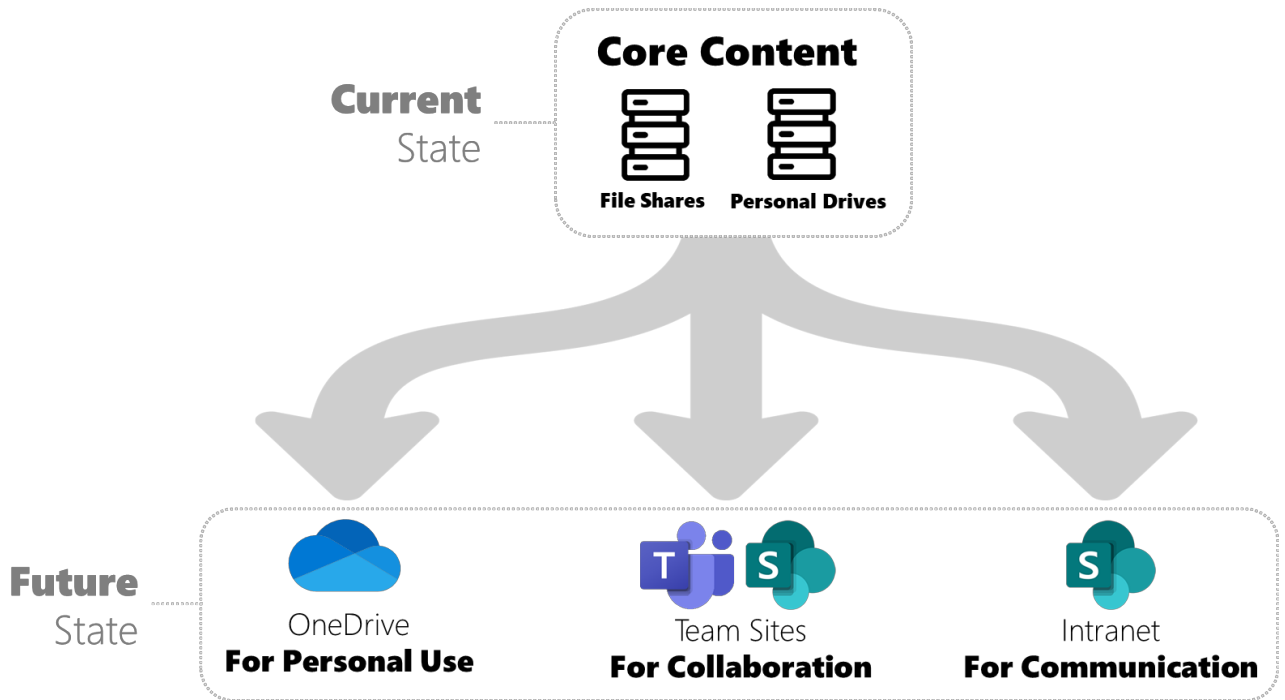
4.2.3. Workflow preparation

Based on the workflow assessment outcome, a migration path needs to be created for each identified workflow. The type of workflow is pivotal for deciding on the migration path. The first decision to be made is whether the workflow should be updated/modernized functionality-wise. If a workflow is being updated or modernized, it is likely, that the workflow needs to be rebuilt using modern technology (like Power Automate).

If you would like to start with creating a migration path, the following bullet-point list might be helpful:

- **OOTB workflows**: usually, these workflows can be migrated without issues.
- **SharePoint Designer workflows**: usually, these workflows can be migrated without issues, but some workflows might need some manual tweaks or adjustments.
- **Custom workflows**: usually, these are coded workflows based on server-side code, which means that they can't be migrated to SharePoint Online. A migration to a newer version of SharePoint on-premises might be possible.
- **3rd party workflows**: in most cases, these are Nintex or K2 workflows, and it is likely, that the manufacturer provides an upgrade path or an upgrade procedure.

Based on the evaluated upgrade path, estimates and timelines need to be created for all workflows, which can't be migrated as-is. For each affected workflow, the efforts needed to prepare it for the migration (including recreating/recoding) need to be evaluated. A corresponding timeline shows how long the overall process of preparing the new environment's workflows will take. There should be a detailed list with all workflows, migration efforts, and timelines with durations for each workflow at the end of the workflow preparation phase.

4.2.4. Custom Solution Preparation

Very similar to the workflow preparation phase, the custom solution preparation phase is all about preparing custom solutions for migration. The type of custom solution is pivotal for deciding on the migration path. As with workflows, the first decision is whether a custom solution should be updated/modernized in terms of functionality and/or user experience. If a custom solution is being updated or modernized, it is likely, that the custom solution needs to be rebuilt using modern technologies or modern platforms (like Microsoft Azure).

As mentioned before, the migration path for custom solutions depends on how the custom solution has been created. The following bullet-point list might be helpful:

- **Server-side code**: there is a chance that this type of solution can be migrated to SharePoint on-premises with reasonable efforts. If the target platform is Microsoft 365, solutions build based on server-side code need to be recreated as custom server-side code can't be used.
- **Client-side code**: there is an excellent chance to migrate this type of custom solution to SharePoint Online or SharePoint on-premises, but some updating might be required.
- **3rd party solutions**: the best option is to contact the vendor to check if there is a dedicated migration path.

4.2.5. planning

After the assessments and preparations, a detailed migration plan needs to be created. The detailed migration plan includes the following:

- The selected migration approach and the reasons why a specific approach has been chosen

- A list of all sites and site collections that need to be migrated and a mapping table if the new structure differs from the old structure
- A list of all documents that need to be migrated, their location in the old environment and in the new environment
- A list of all workflows (existing, recreated, new) needs to exist in the new environment and their locations. If additional steps are required (like reconnecting workflows to data sources), these steps need to be added as well
- A list of all custom solutions (existing, recreated, new) needs to exist in the new environment and their locations. If additional steps are required (like reconnecting solutions to data sources or specific installation instructions), these steps need to be added as well
- Any additional activities that need to be performed during a migration and the dependencies
- A detailed timeline with a responsible person for each step of the migration

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4.3. Migration Phase

Now that planning and preparation are complete; we can migrate the content, structure, and solutions. To do this, we will need to use migration tools, communicate effectively, and follow a process.
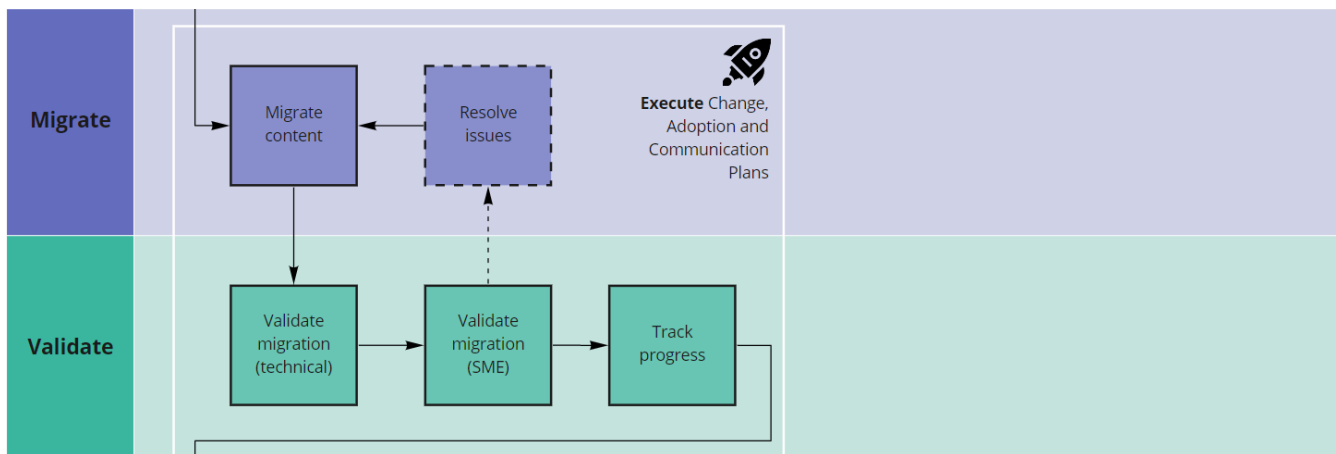
4.3.1. Tools

Migration means moving content from one environment to another environment. Although most content could be moved to Microsoft 365 or SharePoint 2019 manually, using a dedicated migration tool will pay off quickly.

Keep in mind moving from SharePoint 2016 or a previous version to SharePoint 2019 or on-premises may also allow for the native 'upgrade' approach to be used. So be sure to explore that option if it's feasible or available for your organization. Typically, if you don't have the last version, you may need to do a double hop upgrade and tackle other complications better handled in migrations. Unless you are moving from 2013 to 2016 or 2016 to 2019, we recommend using the migration approach.

① Manual

- Content is moved manually via uploading
- Free
- Manual effort may not be feasible for a large volume of files

② Microsoft Tools

- Content is moved via the SharePoint Migration Tool (SPMT)
- Free
- Growing feature set
- Only supports certain scenarios* (File Shares, SP2010, SP2013, SP2016)

See Release Notes

③ Third Party Tools

- Content is moved via a tool (e.g. ShareGate, AvePoint, Metalogix)
- Powerful feature set (e.g. Version history)
- More costly, but the cost can easily be justified in large, more complex migrations

The main disadvantage of moving content to a new environment manually (via browser drag and drop, via sync, etc.) is the loss of basic metadata. For example: if a document is manually moved from an older version of SharePoint to, e.g. SharePoint Online, the information about the creation date and the author may get lost. This is because SharePoint Online may consider the migrated document to be a new document since the content extracted may be 'created' today. If the basic metadata (creation date, author, editor, modified date) needs to be preserved, a dedicated migration tool often becomes mandatory.

There are some workarounds to this for manual migrations. If a user uses the Sync capability of a library and the metadata is available in the file share or accessible location when they drag and drop this into the Sync folders, it will retain the content's metadata. This is a common approach used to help organizations with the rollout of OneDrive for Business as users can use sync and move content from their individual drives and still keep the last modified dates intact.

Besides the mentioned support for preserving basic metadata, migration tools have additional advantages. Most migration tools include a pre-migration check functionality that helps check for potential issues without actually performing a migration. Also, most migration tools include verification functionality. If a migration tool reports a migration task to be successful, it can be assumed that the content has been migrated without any errors. This reduces the efforts needed to spend during the verification phase considerably.

Another important reason for utilizing a dedicated migration tool is the metadata support. Many migration tools can migrate Managed Metadata from an older environment to the new environment automatically. Suppose the Managed Metadata structure in the old environment

differs from the Managed Metadata structure in the new environment. In that case, some migration tools offer the option to create an internal Metadata mapping.

Some migration tools offer additional support for complex migrations by providing a software interface that can utilize PowerShell scripts to control the way content is migrated or to automate migration tasks.

In most cases, using a dedicated migration tool is recommended. An integrated pre-migration check, an integrated verification, and migration results reporting will justify the additional costs for the purchase of a migration tool.

The good news is that Microsoft is working hard to close this gap and provide a better experience. The SharePoint Migration tool has been updated multiple times. It is well worth considering if you have a SharePoint 2013 Server, a SharePoint 2010 Server, or File Shares that you want to move to SharePoint Online. The SharePoint Migration Tool lets you migrate lists or files from your SharePoint on-premises document libraries or your on-premises file shares and easily move them to either SharePoint or OneDrive in Microsoft 365. It is available to Microsoft 365 users for *free*.

If you are in a highly unlucky scenario where there is no product offering that supports migration from your source system – then you will need to build migration tooling yourself. For these scenarios, keep in mind that Microsoft (and 3rd parties) have great solutions for migration from a file share into SharePoint Online or SharePoint 2019. So the challenge is more on extracting/exporting the data from that unsupported source system and then using more familiar tools/techniques to import/migrate the content into Microsoft 365.

Questions To Ask The Vendor

It is important to understand the vendor, their tool, and its capabilities. What follows is a list of questions you might ask a Migration vendor when planning your SharePoint migration to determine what capabilities their product possesses.

Technology Vendor Evaluation Questions

What follows are some simple starting questions that are important for evaluating any technology.

- What version is the product?
- How mature is the product?

- o How mature is the product's supporting ecosystem and vendors?
- How extensible and customizable is the product?
- How user-friendly and usable is the product?
  - o How does the product handle exceptions?
  - o For whom is the UI designed?
- How difficult is it to manage and administer the product?
  - o How do you update the product?
  - o How complex is the installation, and how complex are the dependencies?
  - o Does it support automation? (Can you batch script or automate administrative tasks?)
- Who else is using the tool?
  - o What is their experience of the tool like?
  - o Do they have similar needs?
- How does the vendor perform support?
  - o What is the vendor's support reputation?
- Product Applicability (Based On Product Proof Of Concepts/Demonstrations)
- Detailed Price Proposals (Including Estimates for Integration Costs, Support, and Training)
  - o These should also take into account existing investments within your organization.

Beyond these basic questions, you can dig into specific feature comparisons and feature analysis.

Copying SharePoint Content Questions

- How does the SharePoint migration tool work when copying SharePoint content?
  - o Does it allow users to copy content using the OOTB SharePoint interface?
    - ▪ Example: Via the SharePoint Ribbon?
  - o Does it allow users to copy content through a custom interface?
    - ▪ Can users be trained and/or provided access to this interface?
- What SharePoint content can the tool support copying?
  - o Does the tool understand modern sites/pages, and does it support migrating to those?
  - o Does the tool support copying one or more Lists?
    - ▪ Does the tool support copying content between Lists?
      - Does the tool support copying list views?

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- o Does the tool support copying one or more Libraries?
  - ▪ Does the tool support copying content between Libraries?
    - • Does the tool support copying library views?
- o Does the tool support copying items with attachments?
- o Does the tool support copying or including versions on list and library items?
- o Does the tool support copying document sets?
- o Does the tool support copying pages?
  - ▪ Does the tool support copying web part pages?
  - ▪ Does the tool support copying wiki pages?
  - ▪ Does the tool support copying publishing pages?
- o Does the tool support copying one or more Sites?
  - ▪ Does the tool support copying all site types?
    - • Does it support copying Team Sites?
    - • Does it support copying Publishing Sites?
    - • Does it support copying Blogs?
    - • Does it support copying Wikis?
- o Does the tool support copying one or more Site Collections?
- o Does the tool support copying Site Collection gallery content?
  - ▪ Does the tool support copying page layouts?
  - ▪ Does the tool support copying MasterPages?
  - ▪ Does the tool support copying List Templates?
  - ▪ Does the tool support copying Site Templates?
- o Does the tool support copying the Style Library?
- o Does the tool support copying Site Content Types?
- o Does the tool support copying Site Columns?
- o Does the tool support copying document templates?
- o Does the tool support copying web parts?
- o Does the tool support copying the following fields?
  - ▪ Managed Metadata Fields
  - ▪ Hyperlink Fields
  - ▪ Choice Fields
  - ▪ Multi-Value Fields
  - ▪ Enterprise Keywords Field
  - ▪ Person or Group Fields
  - ▪ Date, Number, Currency, Text, Note, Checkbox Fields
  - ▪ Lookup Fields
- o Does the tool support copying of Permissions?

- Does the tool support copying Permission Levels?
- Does the tool support copying Groups?
- Does the tool support copying inheritance settings?
- Does the tool support copying unique Permissions?
  - At the document/item level?
  - At the folder/document set level?
  - At the list/library level?
  - At the site level?
  - At the site collection level?
    - Does the tool support copying Site Collection administrators?
- Does the tool support copying/merging term store groups and term sets?
- Does the tool support copying theme or look and feel settings?
  - From 2013 to 2013? What about other versions?
- Does the tool support copying site settings/data?
  - Does the tool support copying site navigation?
- Does the tool support copying InfoPath Forms?
- Does the tool support copying InfoPath Form Content? (XML)
- Does the tool support copying workflows?
  - Does the tool support copying OOTB (Out of the box) workflows?
  - Does the tool support copying SharePoint Designer workflows?
    - Does this include support for copying Reusable SharePoint Designer workflows?
  - Does the tool support copying SharePoint Designer objects?
    - Does the tool support copying DataFormWebparts?
    - Does the tool support copying custom actions?
- Does the tool support copying Alerts?

Restructuring & Flexibility Questions

- Does the tool allow for re-mapping or planned improvement on the existing structure?
  - Does the tool allow for re-mapping of content types during a copy?
  - Does the tool allow for re-mapping of fields (columns) during a copy?
  - Does the tool support filtering content before copying or during the copy process?
  - Does the tool support mapping MS Office Properties to SharePoint fields?
  - Does the tool support removal of the existing folder structure during copy?
  - Does the tool support mapping folder names to fields during a copy?

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- o Does the tool support mapping a folder to a document set during a copy?
- o Does the tool allow for the creation of new field values when a field has "Allow Fill-In Choices" enabled?
- o Does the tool allow for automatic tagging of content during the copy?
  - ▪ Example: Based on a field value, document name, etc – assign XYZ value to field A.
- o Does the tool support conversion of field types?
  - ▪ Does the tool support converting a string field to a person or group field?
  - ▪ Does the tool support converting a string field or a choice field to a lookup field?
  - ▪ Does the tool support converting a string, choice, or lookup field to a Managed Metadata field?
- o Does the tool support re-mapping users and group accounts during the copy process?
- Does the tool support the preservation of data?
  - o Does the tool support the preservation of created and modified properties?
  - o Does the tool support preserving managed metadata field values?
  - o Does the tool support the preservation of lookup field values?
  - o Does the tool support the preservation of approval status?
- Does the tool offer important flexible options during the copy process?
  - o Can the tool ignore required fields during the copy process?
  - o Can the user override/specify the account used for created by/modified by values?
  - o Can the tool fix links during the copy process?
  - o Can the tool change publishing page layouts for multiple pages?
  - o Can the tool support changing List Templates during the copy process?
  - o Can the tool support changing Site Templates during the copy process?
  - o Can the tool promote sites to their own Site Collections?
  - o Can the tool bulk approve or reject SharePoint items?
  - o Can the tool allow administrators to scan content based on regular expression criteria inside of files and file properties to scope the migration?
  - o Can the tool combine and nest conditions/expressions in complex structures to support migration scoping or restructuring effort?
  - o Does the tool support incremental or delta copy of content?
    - ▪ What are the limitations of this support?

Automation & Management Questions

- Does the tool support executing operations using a script, command-line interface, or through PowerShell?
- Does the tool support scheduling and executing migrations based on a migration plan?
- Does the tool support creating a template from a previous migration or a planned migration?
    - Does the tool support the creation of a field mapping template?
- Does the tool support copying content by leveraging a CSV?
    - Can you copy lists/libraries using this method?
    - Can you copy sites using this method?
    - Does this copying use a CSV support multiple locations?
    - Can this CSV process support the tagging of items/documents
- Does the tool generate logs for jobs/activities performed in a migration?
- Does the tool keep a history of previous migrations?
    - Does this history record issues, warnings, errors, and successes?
- Does the tool support re-processing or migration of failed content?
- Does the tool allow for prioritization of certain migration activities/migration processing?
- Does the tool have a secure way of storing credentials used for the migration activities?

Pre-Migration Support Questions

- Does the tool support the pre-migration process?
    - Does the tool provide pre-migration reporting?
        - Does this reporting identify potential issues with wide lists?
            - Does it identify where these wide lists are?
        - Does this reporting identify potential issues with large lists?
            - Does it identify where these large lists are?
        - Does this reporting identify potential issues with customizations?
            - Does it identify where these customizations are?
        - Does this reporting identify potential issues with workflows?
            - Does it identify OOTB, SharePoint Designer, Custom, or Third Party Workflows (Example: Nintex)?
        - Does this reporting identify potential issues with large databases or site collections?
        - Does this reporting identify Content Types in use and available that may need to be migrated?

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- Does this reporting identify used site templates and list templates?
  - Does this include custom site templates/list templates created by your organization?
- Does the tool provide permission, user, group, and permission level reporting?
  - Does the tool support scanning for content with broken permission inheritance?
- Does the tool provide reporting on content in file shares?
  - Does the tool provide vocabulary, taxonomy, or concept reporting?
    - Is this done to help improve the development of metadata or develop the managed metadata store?
    - Can this reporting be leveraged to assign metadata upon migration?
  - Does the tool enable the detection of PII (Personally Identifiable Information), PHI (Protected Health Information), and other privacy data inside of files?

Post Migration Support Questions

- Does the tool provide a comparison report or comparison functionality?
  - Does this allow for the comparison of permissions between sites, lists, and items?
    - Does this allow for the comparison of sites in two separate site collections?
  - Does this allow for the comparison of site collection, site, list, and folder contents?
    - Does this allow for the comparison of content types and columns from two site collections, sites, or lists?
      - Does this also allow for the comparison of column values (metadata)?
  - Does the tool allow for the comparison of term stores between two server farms?
  - Can you initiate a migration or copy/synch based on the results of a compare report?

Technology Support Questions

- What versions of SharePoint does the migration tool support?
  - Does the tool support SharePoint Online (Microsoft 365)?
  - Does the tool support SharePoint 2019?
  - Does the tool support SharePoint 2016?
  - Does the tool support SharePoint 2013?
  - Does the tool support SharePoint 2010?
  - Does the tool support SharePoint 2007?

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- o Does the tool support SharePoint 2003?
- Does the tool support interaction with File Systems?
  - o Does the tool support uploading files from the File System?
    - ▪ Can the tool map NTFS properties to SharePoint fields?
    - ▪ Can the tool auto-fix illegal characters during upload?
      - Does the tool allow for customization of illegal character replacement?
    - ▪ Can the tool ignore required fields during upload?
    - ▪ Can the tool automatically tag content during upload based on conditions?
      - What are the conditions or tagging options available?
    - ▪ Can the tool convert folders to document sets during upload?
  - o Does the tool support downloading files to the File System?
- Does the tool support interaction with Email and Exchange data?
  - o Does the tool support copying mailboxes and public folder data to SharePoint?
    - ▪ Does the tool support copying multiple mailboxes and public folders to SharePoint using a CSV?
    - ▪ Does the tool support copying Outlook PST Archives to SharePoint?
    - ▪ Does the tool support mapping Email and Public Folder Properties to SharePoint Fields?
    - ▪ Does the tool support copying Exchange Public Folder permissions to SharePoint?

4.3.2. communication

A migration can't be done without involving the staff. Although only a few staff members are actively working on the migration, everyone in the organization needs to be informed of the migration, the timeline, and any impacts the migration will have on the daily business.

It is advisable to send out notifications to all users of the organization regularly to keep them up-to-date regarding migration planning.

Regardless of whether it is performed in phases or one-shot, the affected users need to be informed before migration activities. Each notification should include the following information:

- A description of the migration activity about to be performed, including a timeline
- The affected data / affected sites or site collections

- The anticipated result of the migration activity
- Changes to permissions (like specific sites will be turned to read-only mode)
- A link to the new environment and the migrated content
- A dedicated contact person

Every migration has an impact on the business and the daily work of the staff. The main goal for every migration should be to reduce the impact on the business to a minimum. This can be achieved by thoroughly planning the migration, involving the staff, and clear and proactive communication.

4.3.3. Migration Process

There are two migration approaches (which have been introduced in section 3.2. Migration): the all-at-once approach (sometimes also called the big-bang approach) and the phased approach. To complicate things, sometimes the all-at-once approach is handled as a phased approach under the hood.

Let's add some clarity to this. When looking at migration approaches, we need to distinguish between how the migration looks to users and how the migration is executed internally.

Let's start with how users look at migrations. To users, the all-at-once approach looks like this: on a Friday, the existing system is turned into Read-Only mode, and during the weekend, the old system is migrated to the new environment. On Monday morning, the users continue their daily business by using the new environment. Although this can only be done with smaller environments, this migration approach is used not too rarely. Many small to medium enterprises are using this approach.
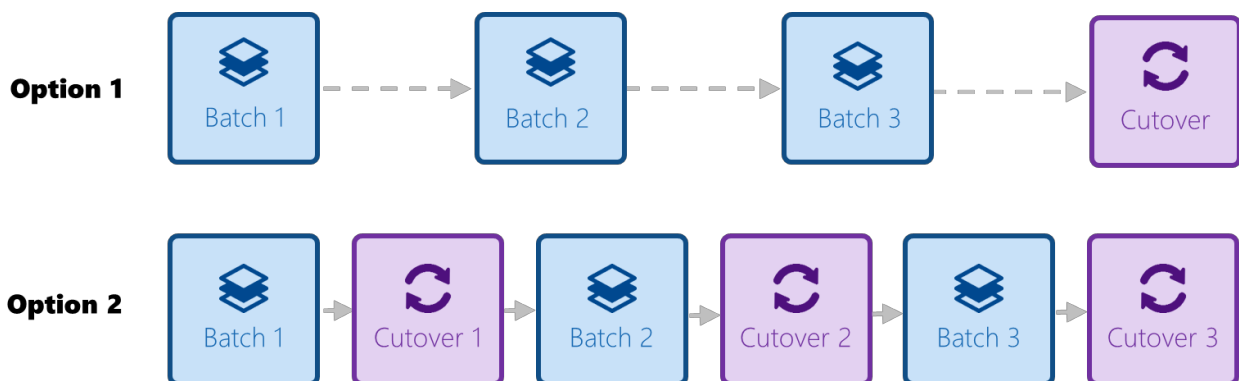
If the phased approach is used, users will recognize that the migration is done business entity by a business entity (like department by department). Usually, this approach has less impact on

the business than the all-at-once approach. Still, it will take considerably longer, which is the reason why larger organizations use this approach.

When looking at the migration process itself (the technical process of migration), we will see both approaches again. The all-at-once method is often used to migrate a single Site Collection to a new environment by using a dedicated migration tool. In essence, this means that the migration tool is used to do a *lift-and-shift* – or in other words: the migration tool is used to create an exact copy of the old environment in the new environment.

A phased approach means that site by site is migrated to a new environment from a technical perspective. This also includes sites being migrated to different Site Collections because the target environment's information architecture is different from the source environment. In this case, sites are migrated and verified in tranches – often prioritized by complexity.

With the previous explanations, let's go back to the statement at the beginning of this section. A migration can look like an all-at-once (or *big-bang*) approach for users, while technically, a phased approach is used by the team who is executing the migration.

Either way, the approach still leverages migrations batches which are each validated upon successful migration.
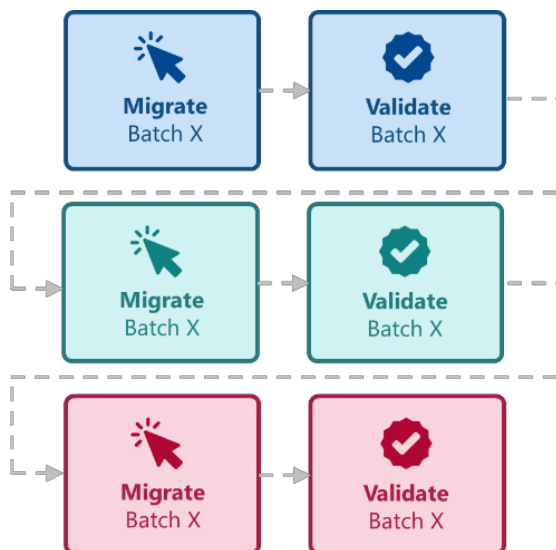
We also (typically) track each batch migration for validation, cutover, and change management support as well.

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Batch	Migration Tracking			Validation Tracking			Cutover Tracking		
Number	Target Date	Owner	Status	Target Date	Owner	Status	Target Date	Owner	Status
1	June 11, 2021	Rob Smith	Complete	June 11, 2021	Susan Geo	Complete	June 11, 2021	Rob Smith	Complete
2	June 12, 2021	Rob Smith	Complete	June 12, 2021	Mat Wilson	Complete	June 12, 2021	Rob Smith	Complete
3	June 13, 2021	Rob Smith	In Progress	June 13, 2021	Susan Geo	In Progress	June 13, 2021	Rob Smith	In Progress
4	June 15, 2021	Rob Smith	Not Started	June 15, 2021	Mat Wilson	Not Started	June 15, 2021	Rob Smith	Not Started
5	June 16, 2021	Rob Smith	Not Started	June 16, 2021	Susan Geo	Not Started	June 16, 2021	Rob Smith	Not Started

Migration of individual content areas is tracked

Validation of individual content areas is tracked

Cutover of individual content areas is tracked

4.3.4. Migration Durations

Regardless of the approach, planning is crucial for any kind of migration. Before starting with migrating content, the migration plan should be checked multiple times, and timelines and milestones should be verified numerous times as well.

When planning the timeline, it is advisable to add some time for unforeseen circumstances or interruptions. Here is an example: Let's say as a rule of thumb we at 2toLead calculate migrations to SharePoint online with an average transfer rate of about 5 GB/hour. Suppose, for whatever reason, the transfer rate is lower than expected on the day you are executing the migration. In that case, the delay caused by the lower transfer rate will have a negative impact on the timeline. This basic example shows the importance of having a well-elaborated and verified timeline with a lot of detailing and milestones. During the migration, the timeline needs to be watched and controlled very closely, and for every milestone, there needs to be a fall-back plan if the milestone can't be reached.

One of the most challenging things with a migration to a SaaS service like SharePoint online is that the migration duration can't be accurately predicted due to throttling based on usage and complex patterns. Many factors affect the time it takes to migrate or the migration duration. Some of these factors can be managed, and others are out of the migration team's control. What follows are some simple best practices when trying to predict what the speed of the migration will be in your scenario:

Test the migration speed at least a few times before locking down your timeline/dates.

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The easiest way to estimate the migration speed is to gather insight and evidence of the expected speed through testing. Keep in mind that even if you tested, there are reasons the migration duration may fluctuate. As an example, migration duration predictions may fluctuate based on the size of the tested file sizes. So, having various file types is best and having a ranged estimate for the duration is critical.

Understand how throttling and rate-limiting works.

SharePoint Online is a SaaS solution and is a multi-tenant environment. To ensure the quality of service for all customers on shared hardware/services, they implement throttling or rate-limiting. The SharePoint Online throttling engine is dynamic. There may be times when more resources can be consumed for migration processing, and there may be times when far fewer resources are available. Significant throttling must occur to keep the environment responsive for all tenants.

This is particularly challenging if you are moving to a target SharePoint Online environment that is actively used. In 'green field' scenarios, the migration is more predictable, but in actively used environments, the timeline and durations can significantly fluctuate and be much harder to predict. Keep in mind that if you have a vast number of batches or collections for migration that may take months or years to migrate, this will further cause challenges as the Online tenant usage will increase over time as more users transition to it.

The source system and migration hardware can affect the duration.

The quality of the source system and migration hardware will affect duration either positively or negatively. It is quite common for an aging file share or legacy document management system to affect overall migration throughput due to poor performance or older hardware.

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4.4. Testing/Validation Phase

While migrating content, consistent and frequent testing should occur. Both automated testing and user-led testing are applicable.
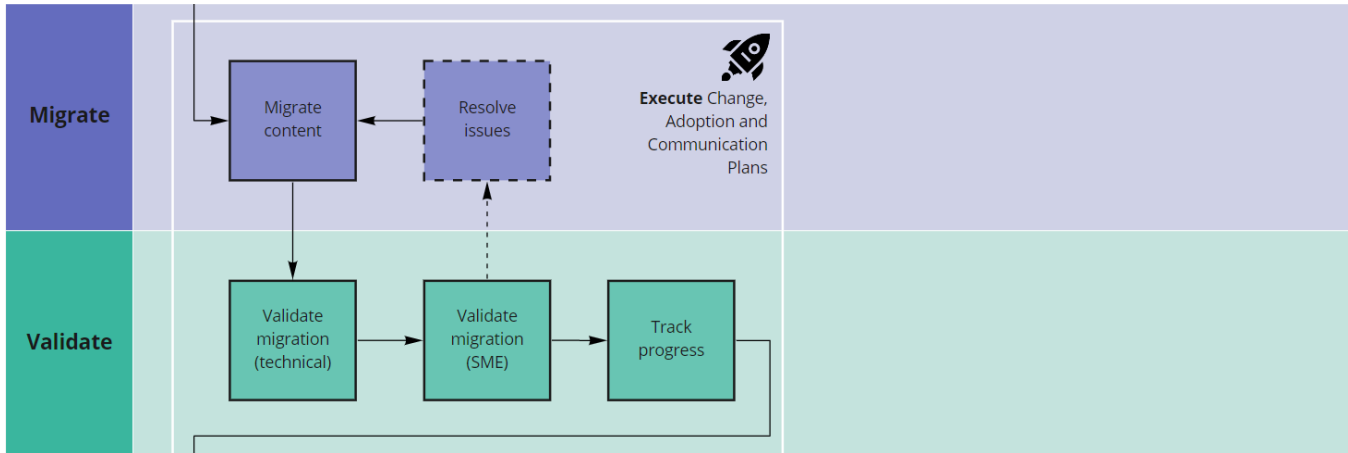
4.4.1. Validation of Content

Mainly, there are three types of SharePoint content: structured data (like list and calendars), documents, and pages.

If a dedicated migration tool is used, it is likely, that the migration tool includes validation functionality. This means that documents (and pages) migrated using a migration tool do not need to be validated individually. If the validation tool reports that a document has been migrated and validated, there is hardly any need to validate the document again manually.

Current State		Scope	Future State			Validation	
File Name	Folder Structure	Decision	Site	Library	Folder Structure	File Path Length	File Path Check
Sheet1.xlsx	2019/Dynamic/	In Scope	Payroll	Dynamics	2019/Dynamic/	123	✓
Sheet2.xlsx	2019/Things/	In Scope	Administration	Facilities	2019/Things/	425	✗
Sheet3.xlsx	2012/ABC/123/	Out of Scope					
Sheet4.xlsx	2019/General/	Out of Scope					
Sheet5.xlsx	2021/General/	In Scope	Audit	Compliance	2021/General/	329	✓

Validation of individual content areas is either calculated or done via a dedicated tool

SharePoint pages are saved as ASPX documents to specific document libraries. Although they can be seen as documents, there is one significant difference to regular documents. A

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SharePoint page can host apps and web parts. Most migration tools can migrate dynamic content (like apps and web parts) to the new environment, but they can't validate them in terms of functionality and configuration. That means that each migrated SharePoint page needs to be validated manually, which includes validation of each embedded app or web part.

4.4.2 Validation of Workflows

Dedicated migration tools can also migrate workflows from the old environment to a new environment. This is also true for OOTB workflows, and SharePoint Designer workflows and - depending on the migration tool- includes a basic validation. However, that does not mean that all migrated workflows will run without errors in the new environment.

Usually, workflows are created based on a detailed description of their functionality, including diagrams and instructions for testing (e.g., user-acceptance test). It is recommended to test any migrated workflow the same way again as it got tested before its deployment to the old environment. This means that the existing test instructions can be reused to test the workflow's functionality after migrating to the new environment.

Workflows that are migrated based on a specific migration path (like 3rd party workflows) will require a similar validation. Still, it can be assumed that the basic functionality of 3rd party workflows has been tested by the manufacturer already.

4.4.3 Validation of Custom Solutions

The validation of custom solutions is similar to the validation of custom workflows, as explained in the previous section. Suppose custom solutions are migrated from SharePoint on-premises to a newer version of SharePoint on-premises (like SharePoint 2019). In that case, it is likely, that the custom solution will work in the new environment with just fewer manual tweaks, but that does not neglect the need for validation.

Suppose custom solutions are migrated to the same kind of environment (like from SharePoint on-premises to SharePoint on-premises). In that case, the validation of the migrated custom solution can be done based on the test instructions that have been used in the old environment. Sometimes, old test instructions require some updates to adjust them to the newer (and modern) environment.

Custom solutions migrated from an on-premises environment to SharePoint Online often have been recoded or recreated before, which means they need to pass the testing completely.

4.5. Post Migration Phase

The post-migration phase is often disregarded in that organizations are not aware of the actions that need to happen during this phase and their importance.
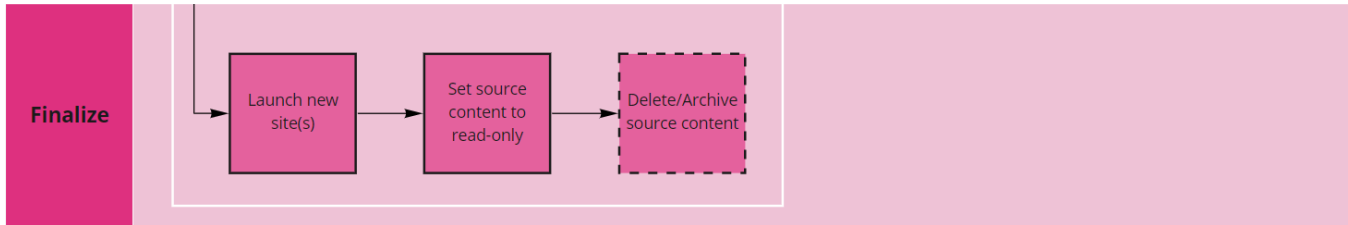
4.5.1. User Training

Even if a migration is just a lift-and-shift to a new environment (which is not altering any structures), the user will need tailored training, at least for the new platform.

Without proper user training, many of the benefits a migration is offering are spoiled. In one of the previous sections, I mentioned that a corporate intranet could be considered a tool used by employees to do their daily business. If a tool is replaced, that requires training to ensure that the new tool is used with the best efficiency possible.

Usually, there are three groups of users requiring tailored training:

- Administrators
- Site Owners
- Regular users

Training sessions for all of the mentioned groups should be planned carefully. For larger organizations, it makes sense to offer user training multiple times per year to ensure that new employees receive proper training as soon as possible. For smaller organizations, the initial user training can be recorded. New employees will get access to the recordings during their onboarding.

User training should not be delivered by the IT department only. Often, it makes sense to involve external experts (like professional moderators) to deliver the training sessions.

4.5.2. User Adoption Planning

There are mainly two reasons why user adoption is essential. Any organization must be able to measure how employees are using a migrated portal. Here is an example: let's assume one

reason for migration was to provide an improved search experience and enable users to retrieve documents quickly. In that case, a way to measure user adoption (and migration success) is to monitor the number of search queries or the number of search queries not returning any results. Measuring these success criteria is not hard to do (as there is the free Microsoft 365 User Adoption content pack), but finding out what the retrieved analytics tell and what to make of that, can be way harder.

An essential action regarding user adoption is to constantly measure at least the identified success criteria after a migration has been performed and to deduce proper actions from the retrieved analytics to ensure that the migration stays a success.

4.5.3. Accompanying Actions

Besides user training and adoption planning, there are additional actions. These actions include (but are not limited) to the following:

- **Helpdesk:** even though employees attended proper and tailored user training, the user will have additional questions regarding functionality or business processes. It is very important to assist users after a migration, and users should know whom to contact if they have questions, want to report an error, or just want to provide feedback. Neglecting the importance of a helpdesk can result in decreasing user acceptance.
- **Collecting feedback:** collecting feedback is not a one-time action taking place right after migrating but an ongoing process, including evaluating the feedback to launch actions designed to counteract any negative developments.
- **Engage users:** a new corporate intranet often provides the opportunity to foster user engagement and to encourage users to increase the corporate network. Some users might need additional encouragement before they are using the new corporate intranet as intended. One way to foster user engagement is to utilize the ideas of gamification. An example is to publish questionnaires or competitions to show users how to use the new corporate intranet playfully.

4.5.4. Fixing Broken & Referential Links

When moving from one content store to another, the URL pattern may change. This can mean documents that reference one another in SharePoint (or the source system) no longer can resolve those links or connections correctly. The good news is that many 3rd party solutions allow you to scan and then identify broken links. These tools also often allow you to replace or fix those broken links using those tools.

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You can even do this yourself with code or PowerShell if your team feels comfortable doing the work. For example, this stack overflow article references how to write PowerShell to find and replace URLs used in Excel Formulas in bulk.

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5. RISKS TO SUCCESS

Several factors can impact the perceived success of the content migration effort by the project team and external stakeholders.

- **Technical Changes vs. Organizational Changes** – In most organizations, you aren't just lifting the same structure from source to target. You often optimize, restructure or improve during or 'after' the content is migrated before you consider the project complete or successful. The difficulty here is that the technical migration project often is well-scoped, typically runs at the budget, and is often done on time. Unfortunately, the organizational change/restructuring and optimization work often are poorly scoped, changes scope more frequently runs over budget, and usually takes much longer (extending the timeline of many migration projects). We highly recommend treating these as two projects. A migration project and information/SharePoint optimization project. In this way, you can better manage the optimization project differently from the more clear-cut technical migration project. Additionally, once you move to the cloud, you will still need to perform these optimization projects from time to time (like every few years our industries, companies, processes, and more change – requiring investment if we want to get the most out of our information).

- **General Expectations** - Content Migration is a very tedious task in any project requiring a detailed eye and commitment to the required effort. Many times expectations are that the content can be moved with little review or intervention after the fact. Given that a site redesign includes moving content to new locations, taking advantage of new functionality and capabilities, and general improvements to look and feel, this is not a fair expectation. The project team is usually quite aware of these and has the appropriate expectations. However, external stakeholders or team members called upon only for migration may not have this same level of understating. Ensuring that expectations are aligned with all groups is extremely important to the perceived success of the migration.

- **When To Content Review** – Determining the best or most efficient content review timing tends to become an issue. Given its time-consuming nature, it's hard to convince external stakeholders to review their content in advance to ensure that it warrants moving to the new site. There is a common temptation to say: 'we'll migrate to the current site into the new system/service, and it will be easier to clean up there.'

Unfortunately, this rarely works in practice. Once the new site is live, the pressure to clean up the content evaporates, pages are orphaned, and content updates focus on the present and future and not the past. If this approach is selected, at the very least, identify what can be kept in limbo to 'clean up later' so expensive migration resources are maximized and create a strategy to address the "leftovers."

While adjusting before moving may be optimal, there is a lot of value in SharePoint's new technology. In many instances, search, usage analytics, and more greatly help improve the old and unused visibility. For example, if an organization is moving from a file share to SharePoint, there has been no way for them to tell what content is still being viewed. Still, once in SharePoint, you can prove whether some content has been viewed since it was migrated to finally remove/delete it or archive it, where appropriate.

- **Picking The Right Approach & Tooling** - Initially analyze the content and define a migration approach. The migration approach and the migration tool should match the quantity and scale of the content and the target environment requirements (Microsoft 365 example). Selecting the wrong tool or not selecting the tool before beginning to migrate can lead to significant re-work.

- **Ensure You Have Broken Content Down Enough** - Assuming you use a migration tool; you must break your content into different sections and assign owners to the content. Organize all of the content. We have used spreadsheets, SharePoint lists, and even an Access DB that might work so you can have everything managed in one location. If this is not done, then the level of detail isn't specific or deep enough, and often key areas that should be assessed or tested are missed until after migration and sometimes site launch. Balancing the level of detail on the breakdown and what is reasonable to review can be challenging. Optimally, always try and break down as much as possible based on timeline, budget, and resource constraints.

- **Validate The Target Readiness** - Verify the quota and storage is large enough, that you have sufficient licensing, and be sure to confirm that the features/capabilities are not restricted, turned off, or disabled before the migration. This should be done EARLY in the assessment phase as it may take quite some time to adjust these settings/configurations in larger global organizations.

Don't underestimate the importance of validating bandwidth, identity, security, and other configurations that are available and ready for the migration as well.

- **Test Migrations & Get A Ranged Duration Estimate -** Run mock migrations and test the results to ensure content is coming across. This is also the best way to predict how long a migration will take. The test migration should be in your systems. This helps identify any security, user account, or network issues that might impede migrations (but be out of a user's control).

  Always count on the migration taking longer and budget your timeline conservatively so that you aren't surprised when a migration takes longer as more users access the target system (especially for larger/longer migrations).

- **Migration Sign Off –** If at all possible, you don't want to start migrating until your IA is locked down, implemented, and signed off by the (internal) client. If you start too soon, you get a moving target and run into additional failures due to coordination and not having planned/prepared for new impact. On tight deadlines, sometimes internal clients may push to start sooner (before you are ready), but it's not advisable. Taking an incremental approach with incremental sign-off can often mitigate this risk.

  If you have to accelerate the migration timeline, be sure to include a mandatory follow-up phase for optimization/additional support following the migration (assuming you can be creative with budgets).

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6. KEY TAKEAWAYS

Successful migrations leverage the best practices listed in this white paper - before, during, and after - the migration process. As with any migration, you need to do proper planning and analysis of the legacy system and how it will map to SharePoint. You need to prepare the target environment for the new content and usage. You need to ensure the migration results in as little user disruption as possible. Finally, you need to ensure that the new SharePoint architecture ensures a better experience today and in the future.

- Invest in **better understanding** your content and how it's used today.
- Invest in **more migration planning** for a more successful migration.
- Invest in **greater amounts on post-migration activities** like support, adoption, and change management.
- Invest in **greater expertise** by not doing this work alone or without an expert. Find a friend or partner who has done it before and knows what to expect.

It isn't always easy, and that's why we tried our best to share some guidance that might help you. Until then, best of luck on your migration from all of our team and the broader SharePoint community.

NOTE: We tried throughout this Whitepaper not to highlight our services, but this is a subject we are passionate about and help many organizations with. Please do not hesitate to give us a shout at Hello@2toLead.com if you are interested in getting some additional advice or assistance from our team of experts; it never hurts to ask.

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7. RESOURCES

We leverage our many years of expertise to put together these whitepapers. We have learned from our awarded-efforts and alongside our friends in the Microsoft 365 community. We like to highlight both in the section below.

7.1. Our Whitepapers & Related Resources

A few of our popular (and comprehensive) whitepapers:

Most Common SharePoint and Teams Sprawl Issues and How to Find Them

This eBook covers 8 of the most common sprawl issues organizations face today. These issues plague organizations everywhere, and solving them is crucial to increasing employee time and cost. Not only will you gain insight into the ways you can solve these issues, you will also learn why these issues matter to both IT and end-users.

Core eBook Topics

- o Understanding Digital Workplace Sprawl
- o The Most Common Sprawl Issues and How to Solve Them

Microsoft 365 Intranets: What You Need To Know

This 160+ page whitepaper has everything you need to know to successfully leverage Microsoft 365 Intranets and Digital Workplaces and amplify internal communication and collaboration to new heights.

Core Whitepaper Topics

- o Understanding Microsoft 365 Communication and Collaboration Tools
- o Benefits of a Microsoft 365 Intranet and Digital Workplace
- o Best Practices Across Technology, Design, and Leadership

External Sharing With Office 365: What You Need To Know

This 30+ page whitepaper outlines all of the key decisions and how to make them when it comes to enabling external sharing in Office 365 and when/where you may want to configure or extend those capabilities.

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What to expect

- o   External Sharing Decisions & Guidance
- o   External Sharing & External User Roadmap

"When to Use What" In Office 365

This [70+ page whitepaper](#) is a guide to providing the right kind of enterprise user guidance for Office 365.

What to expect

- o   Which Tool When: Options, Scenario Recommendations & Examples

Measuring the Business Impact & ROI of Office 365

This [60+ page whitepaper](#) outlines many key considerations around how to measure the impact Office 365 has on a business while also outlining how Office 365 provides effective reporting capabilities today.

What to expect

- o   Understanding & Aligning Business Objectives
- o   Business Impact & ROI By Office 365 Capability Mapping
- o   Business Impact & ROI Calculation & Measurement Examples

Driving Office 365 Adoption & Usage: What You Need to Know

This [70+ page whitepaper](#) outlines all of the key considerations when planning and improving Office 365 technology and end-user adoption.

What to expect

- o   Driving Adoption Best Practices
- o   Comprehensive Guidance On Building An Effective Adoption Campaign
- o   Adoption Activities Checklist

Many other great resources and samples can be found and are regularly posted on our resource site at http://Office365Resources.com.

7.2. Recommended Industry Perspectives

There are great reports and articles on what's new in Intranets, what is innovative, and what makes for an award-winning Intranet. Are you looking for more interesting perspectives on what makes a good Intranet? Be sure to check out the latest trends in popular annual reports like Nielsen Norman report on Intranet design, Step Two's report on Intranet Innovations, which is well worth reading. We are humbled to have brought together a team of Neilson Norman, Step Two, and various other award winners, along with other incredible industry professionals.

Tipping our hat to other industry experts

As we mentioned, we have also learned alongside some talented experts that we have crossed paths with on more than one occasion in the community in general or at the many Microsoft 365 events globally. We would like to shine a light on them here.

Susan Hanley

"Sue is a recognized expert in the design, development, and implementation of successful portal solutions, with a specialization in Microsoft SharePoint. Since 2015, Sue has been recognized as a Microsoft MVP for Office Apps and Services. She is a frequent writer and speaker on the topic of building effective collaborative portals, portal governance, user adoption, and information architecture, as well as building communities of practice and measuring the value of knowledge management investments."

Michal Pisarek

"Michal Pisarek, CEO of Orchestry Software, is a Microsoft SharePoint MVP, an award that is given to experts in the Microsoft SharePoint community for sharing their passion, technical expertise, and real-world knowledge. Acknowledged as a thought leader in the SharePoint space, he is a frequent speaker at many international events and has been referenced in publications and presentations by organizations such as Gartner and StepTwo."

Joanne C Klein

A key area Joanne focuses on "... is the Microsoft 365 tools built to help organizations protect, retain, and secure their unstructured content now being produced at an exponential rate. This

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is an important shift for organizations and their information workers to make in today's modern, digital workplace."

Vlad Catrinescu

"Vlad is also a Microsoft Most Valuable Professional (MVP) since 2013 and has his own blog at https://VladTalksTech.com. He also shares his knowledge by speaking at conferences around the globe and at local community events. Vlad is often featured as an expert on other industry-related websites and blogs."

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8. About 2toLead

2toLead has been labeled as a generous Microsoft consulting company by its clients and employees. 2toLead employs trusted, passionate and experienced consultants who work hard to solve the most challenging business and technology problems that face our clients.

Awarded Experience, Here to Help

Whether you are reinvigorating your Microsoft 365 digital workplace or thinking about starting your journey, Microsoft 365 is a sure-fire way to improve digital communication and collaboration.

Microsoft 365 out of the box is already a massive step in the right direction, but the advantages can be astronomical with the proper guidance. We would love to be the consultants who help guide you to your optimal digital workplace. Our team is ready to show you that "*You will love the way we work.* ***Together.***"

Top 3 Ways 2toLead Helps Customers

INCREASE ADOPTION by going far beyond just deploying things right and ensure your organization is being pro-active in getting the maximum value out of your technology investments.

IMPROVE EXPERIENCES & ENGAGEMENT by understanding where, how, and why users interact with your business while building world-class portals, social networks, and websites that your customers, partners and users love.

LEVERAGE THE CLOUD to reduce costs, improve business agility and capabilities inside and outside of your organization by leveraging cloud technology like Office 365 and Azure.

For more information:

- Visit our website at www.2toLead.com
- Follow us on LinkedIn
- Like us on Facebook
- Follow us on Twitter @2toLead

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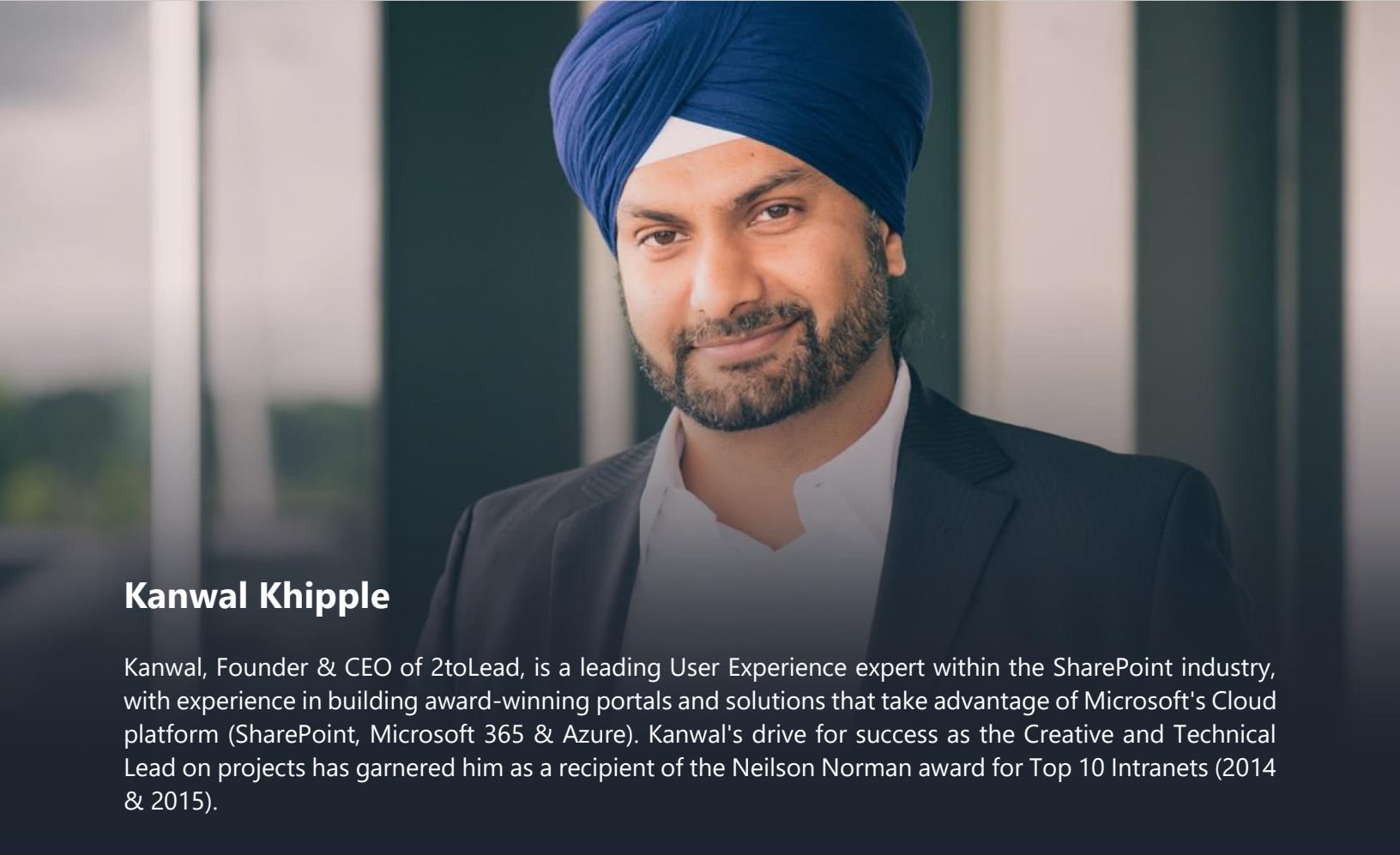
Kanwal Khipple

Kanwal, Founder & CEO of 2toLead, is a leading User Experience expert within the SharePoint industry, with experience in building award-winning portals and solutions that take advantage of Microsoft's Cloud platform (SharePoint, Microsoft 365 & Azure). Kanwal's drive for success as the Creative and Technical Lead on projects has garnered him as a recipient of the Neilson Norman award for Top 10 Intranets (2014 & 2015).

Kanwal's passion lies in continuing to push for user experience innovation when redesigning intranets for the majority of the largest brands in the world. He continues to preach on the importance of designing with usability as the primary focus. Kanwal's thirst to share knowledge has made him a prominent figure within the SharePoint community. Because of his passion and involvement in many community-driven events, including launching successful user groups in Canada and the USA, Kanwal has been recognized as a SharePoint MVP by Microsoft (2009 to 2020) and as a Microsoft 365 MVP (2014-2021). He's also co-authored a book on Pro SharePoint 2013 and Responsive Web Development http://amzn.to/sp2013rwd

Feel free to reach out to him if you'd like to discuss your project, want to run an idea by him, or just want to reach out to a friendly technologist.

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RICHARD HARBRIDGE

Richard is the Chief Technology Officer and an owner at 2toLead. Richard works as a trusted advisor with hundreds of organizations, helping them understand their current needs, future needs, and actions they should take to grow and achieve their bold ambitions.

Richard remains hands-on in his work and has led, architected, and implemented hundreds of business and technology solutions that have helped organizations transform - digitally and organizationally. Richard has a passion for assisting organizations in achieving more, whether it is helping an organization build beautiful websites to support great content and social strategy or help an organization leverage emerging cloud and mobile technology to better service their members or the communities they serve.

Richard is an author and an internationally recognized expert in Microsoft technology, marketing, and professional services. As a sought-after speaker, Richard has often had the opportunity to share his insights, experiences, and advice on branding, partner management, social networking, collaboration, ROI, technology/process adoption, and business development at numerous industry events worldwide. When not speaking at industry events, Richard works with Microsoft, partners, and customers as an advisor to business and technology, and serves on multiple committees, leads user groups, and is a Board Member of the Microsoft Community Leadership Board.

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JUST THE BEGINNING

We have **helped over 100 organizations** build stronger Intranets and Internal Communications.

With the guidance of our **Multiple Microsoft MVPs & Neilson Norman Award Winners**, we would love to show you how we can elevate your Intranet and Digital Workplace.

Your journey to a better digital workplace starts with a **Free 2-Hour Assessment**, with no obligations or commitments, of your digital workplace.

[THE FIRST STEP TOWARDS A SMOOTH MIGRATION](#)

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