

Road map for a successful Microsoft 365 SharePoint migration

May 2020

Microsoft 365—migration challenges

Organizations are embracing the future with Microsoft 365® (formerly Office 365). They are migrating to this integrated cloud platform to accelerate organizational and individual productivity and drive business growth. While the benefits of moving to Microsoft 365 are game-changing, the risks associated with enterprise migration are real and require a well-defined road map to ensure success.

To best realize the benefits of Microsoft 365, organizations must understand the inevitable migration challenges, including:

- Constantly shifting Microsoft network configurations
- SharePoint functionality transformations
- Application adjustments and changes
- Significant network bandwidth adjustments
- Security performance challenges
- Client readiness and change management
- Cloud readiness

Preparation—the key to success

There are no shortcuts to a successful Microsoft 365 SharePoint migration. Not taking the time to plan, mitigate or adhere to preconditions can lead to significant issues. Problems can include single point of failure directory issues, federation scaling challenges for peak performance, ignored OneDrive traffic additions, proxy scale and bypass issues and firewall, client and SharePoint readiness issues as well as absence of content modification for SharePoint online and network performance issues.

Evergreen solutions constantly improve and evolve to provide new features, experiences and functions for users in rapid-release cadences—even multiple times a day. This is a primary advantage of moving to Microsoft 365 but also means that traditional static approaches and processes can't keep up. Organizations have to take a different risk reduction and authorization approach for cloud-based environments. The potential scope of the change in each cloud software build is also significant because software engineers have the latitude to open and close ports, change internet protocol (IP) addresses, change supporting technologies and add new license packages.

Using best practices, pilots and evaluation frameworks, organizations can confidently, effectively and efficiently make a seamless migration to Microsoft 365. Prepare for success and achieve an overall lower risk with the cloud solution by:

- Envisioning the impact to organizational productivity via a better collaboration environment
- Mitigating network dependencies to provide for an efficient cloud experience
- Understanding and addressing SharePoint feature, application, migration and path impacts
- Evaluating the cloud system as a unit, addressing the whole system versus each individual component element or workload

Envision and address impact to organizational productivity

In addition to the technology, you must adequately set and manage end-user expectations during and post Microsoft 365 migration, especially with change management, changes to access and different SharePoint functionality.

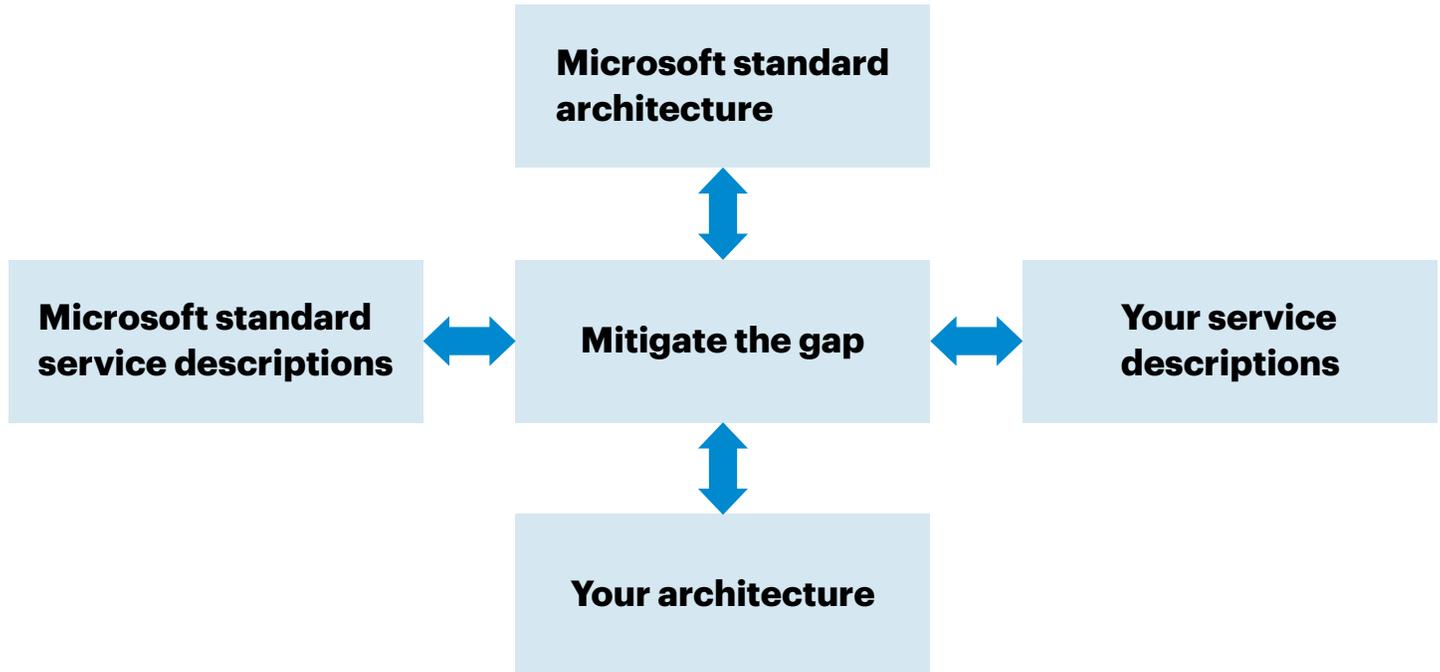
Understand and mitigate network dependencies

Underestimation of network dependencies is a migration issue for many organizations. Your network traffic is going to shift and so are the fully qualified domain names (FQDN), IP addresses, URLs and ports. If you are considering a large transformation, you need to model the data paths to validate appropriate bandwidth and network readiness. Data shifts significantly and uses wide area network, or WAN, resources differently than in your current architecture—additional bandwidth, direct connections or optimized routing may be needed.

If Skype for Business is in play, then you have additional real-time performance criteria to evaluate along with potential regulations. Perspecta's migration approach and tools improve the predictability, quality and speed of migration—20x improvement in some migration tasks.

Microsoft 365 transformations can be a large endeavor so we recommend freezing any unrelated Microsoft 365 updates that may impact the network or bandwidth. Adding any additional unrelated changes during this time adds unnecessary risk and usually causes unforeseen problems.

After you move to Microsoft 365, you are subject to continuous changes to FQDNs, IP addresses, domain name services (DNSs) and URLs by Microsoft according to their update release schedule. If your network is architected for specific ports, IPs, URLs, DNSs and FQDNs, this could wreak havoc on your network if the required changes are not made preemptively. This must be a consideration for any enterprise moving to Microsoft 365, and care must be taken to address the technology, governance and management changes needed to accommodate Microsoft dynamic network updates.



Understand and address SharePoint impacts

SharePoint Online does not have the same feature set as SharePoint server. It is entirely possible that functionality may be lost when migrating to SharePoint Online. Business continuity depends on how well this issue is understood before migration. It is imperative that organizations assess, understand and mitigate potential impacts to their SharePoint instances.

From our experience, 20%-35% of SharePoint migration content is categorized as most difficult. Meaning, significant manual premigration mitigation is required. Some considerations to keep in mind include:

Early versions of SharePoint: SharePoint Online does not recognize SharePoint 2005 and earlier, so this data requires manual migration.

File and folder name size limits: Up until recently, Microsoft had limited the combination of directory name plus file name size to 250 characters for Microsoft 365 SharePoint online. Directory name and filename combinations that exceeded this, if not corrected prior to a migration to Microsoft 365, appear to be lost data that required manual intervention to recover.

Microsoft has now increased the file and folder name size limits to 400 characters. Now the entire path, including the file name can contain up to 400 characters for OneDrive, OneDrive for Business and SharePoint Online. This is available in the commercial Microsoft 365 cloud and in the Government Community Cloud (GCC), GCC High and Department of Defense clouds.

Mitigating to the character limitation prior to migration prevents lost data or costly rework. Not mitigating to the limitation can result in filename truncations, path truncations, broken links and the appearance of lost user data.

PII and sensitive data: Data that cannot be moved to the cloud such as personal identifiable information (PII) or other sensitive data needs to be identified, extracted and kept on premise. This can be a tedious process, but with Perspecta's toolset, we can help you identify PII in data discovery. Additionally, because GCC and GCC High Microsoft 365 clouds can accept PII data due to their security compliance, organizations may decide to reevaluate their data governance and policy.

Perspecta's SharePoint migration approach

At Perspecta, we understand firsthand the challenge of navigating the change to evergreen. Not only have we adopted Microsoft 365 and other evergreen solutions for our own business operations, we've also successfully migrated many government agencies to Microsoft 365 and continue to manage them. Our insights and lessons learned combined with our developed best practices can help your organization achieve a successful migration.

To get you there, we work with you on licencing cost avoidance. We help determine the right license for your features, whether it is G3, G5, basic, standard or premium and help you determine who or where to allocate each type. We only consume user licenses as they are rolled out versus an expensive up-front blanket purchase. We help establish a rollout plan based on geography, office, site, role and program.

Working together, we identify the requirements and desired outcomes for the migration. The desired outcomes are compared with the current environment to detect gaps and provide mitigation recommendations. We utilize our own migration tools coauthored with Microsoft subject matter experts as well as third-party tools to drive high migration velocities and high success outcomes.

Our approach is iterative. First, we use data discovery tools to help identify PII and categorize potential problem files versus ones that can move right away. Then we move the files in order from easiest to most problematic. Our speed is dependent upon the source, customization and networking environment but we're able to maximize the speed and minimize the risk utilizing our processes, people, tools and experience.

Because most SharePoint environments are unique, we establish pilots as necessary to validate the migration processes and the user experience for a successful outcome. We work with you to set end-user expectations for any user experience changes. Once we perform a successful pilot, we work with you to schedule and commence the migration. During the migration, we maintain business continuity, monitoring and keep you informed of the migration progress. When the migration is complete, we continue to monitor the result for any outlying issues.

Applications and customizations

We've also experienced that applications need to be significantly modified or rewritten versus a lift-and-shift to the cloud. Applications have to be cloud-ready. They must have pointers rewritten to be able to point to and pull data from the cloud.

Customizations that make any changes to the underlying SharePoint code, cannot be migrated. Any SharePoint Object Model or compiled code (*.dll, *.exe, *.wsp) cannot be migrated. Other customizations can be migrated, for example, java script (that does not modify the underlying SharePoint code). Since there is no server-side code in SharePoint online, server-side SharePoint applications will need to be rewritten as client applications as SharePoint Apps. Web applications that are sourced on-premise can be rewritten to SharePoint Apps, or hosted on-premise with a hybrid Microsoft 365 or hosted on Azure®.

Migration mechanization

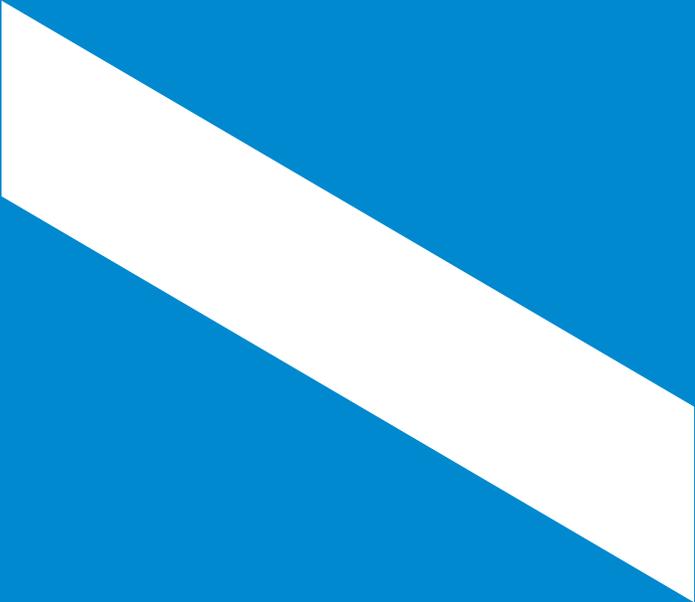
The best way we've learned to manage SharePoint transformation risk is through a pilot. A pilot allows you to validate processes and tool effectiveness for your environment, prior to a full-scale migration. Process validation includes: a transformation tool's ability to work with your current firewall settings, SharePoint permissions, file/directory/path size 400-character limitation impacts and migration velocity.

Some migration tools necessitate the data to be exported from SharePoint and then reimported versus being able to perform a straight migration. These tools shouldn't be used as they greatly impact migration velocity. Migration velocities can be small. Depending on the network, time of day and tools involved, throughput can be as low as 6GB/hour, which can take weeks. It is important that these conditions be evaluated to maximize data migration velocities. Files migrate faster than objects and list items. Large file sizes migrate faster than smaller ones. Small file sizes can result in larger overhead and processing time which directly impacts the performance. All of this is best refined during a pilot.

Our migration best practices

We've gained valuable experience migrating SharePoint data to Microsoft 365 SharePoint online and share these essential best practices to help your organization's migration succeed:

- Establish a single SharePoint team to maintain both online and hybrid SharePoint
- Team members should represent each environment versus only the team of personnel from a specific organization
- Establish one overall SharePoint strategy that brings all of the diverse agency SharePoint implementations under one unified instance
- Continue your change management, information architecture and records management analysis and support throughout the migration
- Archive the SharePoint sites and perform content restructuring/cleanup prior to SharePoint migrations
- Mitigate costs by delaying individual Microsoft 365 license activation until those specific users are scheduled to be cutover, delaying unnecessary costs



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