

# **Migrating Email and Archives to Microsoft Platforms**

**An Osterman Research White Paper**  
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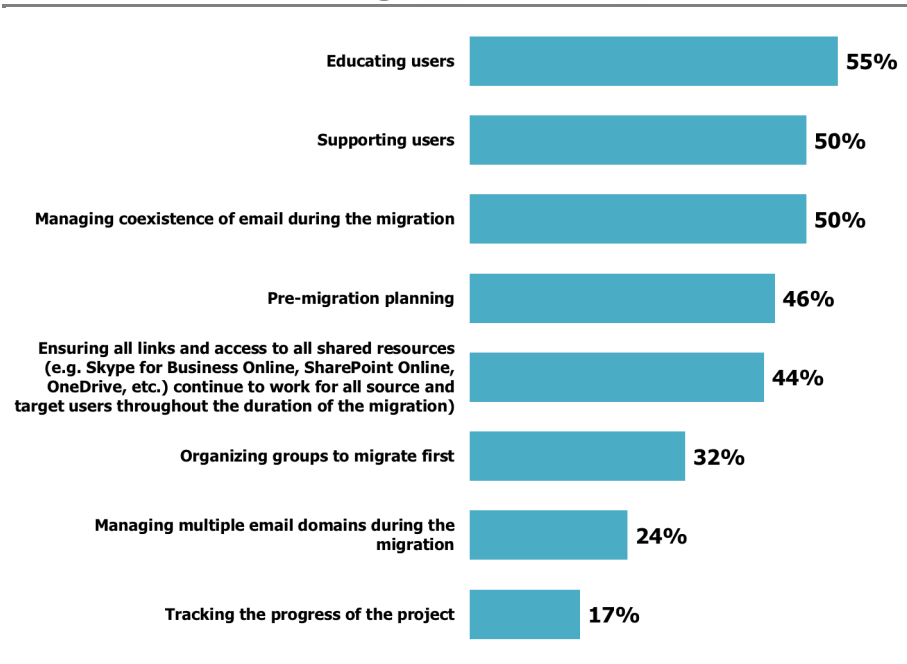
# Quest



# Executive Summary

- **Determine How Your Organization Will Use New Capabilities**  
An array of capabilities for enabling communication, collaboration, and compliance are offered as part of Office 365. A key early task to complete in evaluating the migration to Office 365 is how an organization will make use of the capabilities available in the platform.
- **Understanding All IT Initiatives Across the Organization**  
When deciding how to use Office 365, it is essential to know if there are other competing or complementary IT initiatives that are being undertaken that might impact the scope or timeline for a migration to Office 365 or SharePoint Online.
- **Migration Can Lead to Lower Cost of Ownership**  
One of the important benefits of migrating to Office 365, SharePoint Online or any other cloud-based platform is the potentially lower cost of ownership for cloud services.
- **Managing the User Experience is the Most Difficult Part of Migration**  
Our research found that decision makers and influencers consider the user experience and ensuring coexistence of users to be among the most difficult aspects of a migration process, as shown in Figure 1.

Figure 1  
The Most Difficult Parts of a Migration



Source: Osterman Research, Inc.

- **Third Party Capabilities Are Almost Always Essential**  
Organizations can (and typically should) employ a lower level Office 365 plan and supplement it with third party solutions, particularly for things like records management, archiving, security and encryption.
- **On-Premises Systems Can Complicate the Migration Process**  
Organizations that have on-premises infrastructure, established business

*Our research found that decision makers and influencers consider the user experience and ensuring co-existence of users to be among the most difficult aspects of a migration process.*

processes, and historical data under management face a significant planning exercise in evaluating the migration to Office 365 and SharePoint Online.

- **External Resources are Typically Needed for a Migration Exercise**  
A proper approach, mindset and set of technical skills, tools, and experiences that are not always readily available among an organization's current IT professionals are essential to the migration process.
- **Migration Needs to Account for Microsoft and Non-Microsoft Solutions**  
Osterman Research recommends, that backup, archiving content management and records management solutions should be selected that will manage both Microsoft and non-Microsoft content in a single repository so as to minimize the number of content repositories and interfaces for corporate data.
- **Migration Can be Fraught With Risk**  
When migrating critical systems and repositories like email, collaboration systems, archives, Public Folders and other business-critical systems, there are many things that can go wrong, most of which can have significant and negative impacts on business operations, employee productivity, compliance with legal and regulatory obligations and the like.

## ABOUT THIS WHITE PAPER

This white paper program included an in-depth survey of decision makers and influencers whose organizations have completed a migration to Office 365 or SharePoint, or that plan to do so by May 2019. The survey was completed in May 2018, the results of which will be published as a separate survey report following publication of this white paper.

This program was sponsored by Quest; information about the company is provided at the end of this paper.

## Comparing Costs

A wide range of plans are offered for Office 365, with increasing levels of capability and service coverage. Organizations that want to use a hybrid configuration between on-premises servers and Office 365 must select a plan that supports Azure Active Directory so that administration tasks can be enabled and seamless identity management can occur between the two environments.

Among the other considerations in selecting an Office 365 plan include:

- Organizations that have a fluctuating number of staff numbers over the period of a year could choose to forego the slightly cheaper plans that require an annual commitment and instead sign up for a plan that requires only a monthly commitment. This allows an organization to optimize its cost commitment to Microsoft, but does require active management to achieve.
- Organizations that have a global footprint or data sovereignty requirements in some geographies need to decide between a single Office 365 tenant or the use of multiple tenants. Although an organization can establish multiple cooperative tenants to comply with data sovereignty and address other practical issues, a multi-tenant approach includes a range of complexities.
- Although most Office 365 plans include the right to install the latest version of Microsoft Office applications on various types of endpoints, some Office applications are excluded from this right. For example, Visio Pro, Project Pro, and Power BI Pro for Office 365 are available at an additional cost over and above the base plan price.

## ON-PREMISES VS. OFFICE 365 SERVICES

An array of capabilities for enabling communication, collaboration, and compliance are offered as part of Office 365. A key early task to complete in evaluating the migration to Office 365 is how an organization will make use of the capabilities available in the platform. These include:

- The decision about selecting specific capabilities from Office 365, such as Exchange Online or Exchange Online Archiving, or alternatively using most or all of the cloud services available in the platform.
- The decision about whether to embrace a hybrid approach for specific capabilities, where some services are provided from Office 365 and complementary services are delivered through on-premises servers (e.g., some Exchange mailboxes in Office 365 and others retained on-premises). A hybrid approach can be a short-term route for migrating to Office 365, or it could be a long-term strategy for optimizing IT service delivery. Osterman Research has found that a significant proportion of organizations plan to maintain hybrid deployments indefinitely.
- Once staff members have new capabilities available from Office 365, how will organizations lead staff to the effective use of these new tools in their work? Getting business value from Office 365 requires adopting new approaches to business processes enabled by new tools that streamline current processes by removing inefficiencies, creating innovation, or introducing greater effectiveness.

Moreover, when deciding how to use Office 365, it is essential to know if there are other competing or complementary IT initiatives that are being undertaken that might impact the scope or timeline for a migration to Office 365 or SharePoint Online, such as a refresh of end-user devices. Current litigation or in-progress evaluations of possible acquisition targets will also directly impact the ability to move particular mailboxes to Exchange Online and an organization's ability to migrate email archives.

## COMPARING HIGH END PLANS VS. LOWER END PLANS SUPPLEMENTED BY THIRD PARTY SOLUTIONS

One of the important benefits of migrating to Office 365, SharePoint Online or any other cloud-based platform is the potentially lower cost of ownership for cloud services. For example, Osterman Research has built a cost model that demonstrates that Office 365 can be less expensive than on-premises email solutions, particularly for smaller organizations<sup>1</sup>.

One of the critical issues that decision makers must address is how best to drive down the cost of these solutions. For Office 365, a key issue then becomes the means by which to minimize the costs of ownership:

- Treat Office 365 as a "one-stop-shop", employing more expensive plans with all of the security, archiving and other features and functions that users require, or
- Use less expensive Office 365 plans and supplement the missing security, archiving and other capabilities with third-party offerings.

While Osterman Research recommends the latter approach, much of the market for Office 365 is still not sure which approach to take. For example:

- The research conducted for this white paper found that among Office 365-enabled organizations, only 13 percent believe Office 365 is a complete solution in the context of archiving, governance, discoverability and related issues.

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<sup>1</sup> Source: *Making the Business Case for Office 365*, Osterman Research, Inc.

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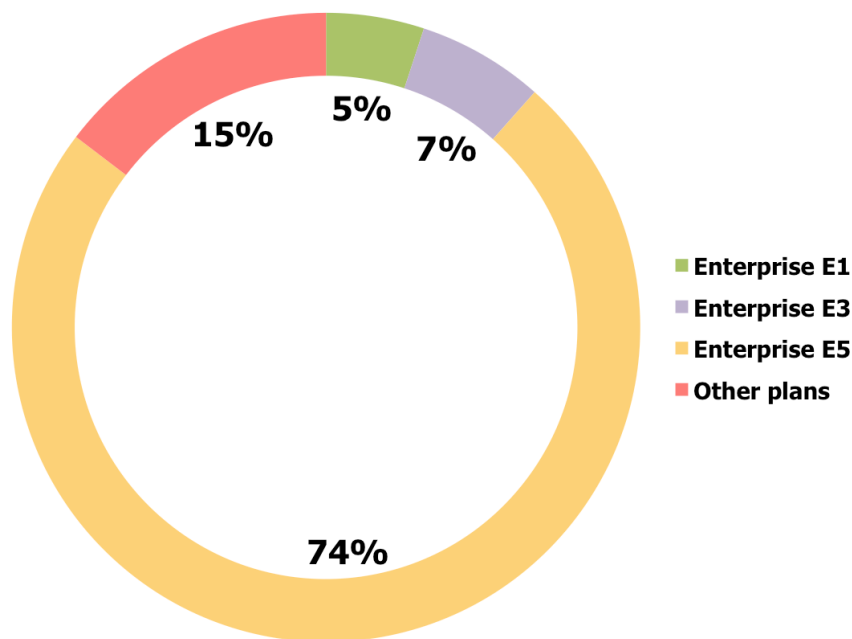
- Seventy-eight percent believe that Office 365 requires a minimal number of third party products or solutions, while nine percent believe that it requires a significant number of these add-on solutions.
- Similarly, our research found that for SharePoint-enabled organizations, only 18 percent consider it to be a complete, while 69 percent believe it requires a minimal number of add-on solutions and 13 percent consider that it requires a significant number of them.

In the opinion of Osterman Research, the “one-stop-shop” approach to Office 365 or SharePoint Online simply won’t work for organizations of medium or greater complexity, since virtually no complex cloud-based or on-premises platform is optimal without the addition of third party capabilities.

### LEAVING ROOM FOR THIRD PARTY SOLUTIONS

Our research found that the most popular Office 365 plan is Plan E3 in terms of the *organizations* that have deployed Office 365 – Plan E3 is currently employed by about one-half of organizations. The next most popular is Plan E5, followed by Plan E1 and ProPlus. However, the vast majority of *users* are on Plan E5, as shown in Figure 2.

**Figure 2**  
Deployment of Users by Office 365 Plan



Source: Osterman Research, Inc.

As shown in Figure 3, when comparing the enterprise-level Plan E3 with Plan E5, substantially more funds will be available for third party security, archiving and other solutions if a combination of E3 and third-party solutions are used: \$15.00 – or 43 percent of the Plan E5 price – to invest in additional solutions before reaching price parity.

What this reveals is that organizations can (and typically should) employ a lower level Office 365 plan and supplement it with third party solutions, particularly for things like records management, archiving, security and encryption. While this can complicate the migration process because of the need to integrate a larger number of vendors’ solutions, it will typically yield significant benefits in the mid- to long term.

**Figure 3**  
**Comparison of Various Office 365 Pricing Plans**



Source: Osterman Research, Inc.

## Addressing the Reality of Office 365

Organizations that have on-premises infrastructure, established business processes, and historical data under management face a significant planning exercise in evaluating the migration to Office 365 and SharePoint Online. This includes a set of discrete tasks in actually doing so. There are numerous critical decisions to make while planning the shift to Office 365, such as how to achieve value from doing so, the approach to take, whether to involve an external consultancy, and the selection of third-party migration tools.

A proper approach, mindset and set of technical skills, tools, and experiences that are not always readily available among an organization's current IT professionals are essential to the migration process. This is also true for some external IT consultants. However, getting it right is essential: if the migration process does not work very well, staff won't have the ability to read and respond to email, schedule meetings and book resources, and assistants won't be able to manage their bosses' calendar. Just thinking of Exchange at the moment, messaging is a mission-critical system for almost all organizations, and so getting a migration right is critical. Here are some key issues to consider:

- **Getting clarity around costs**

Because the cost of Office 365 is charged monthly or annually, customers have a clear understanding of the direct costs of using the service. There are also a set of indirect costs that become apparent over time, things like the activities an internal IT administrator needs to perform to make Office 365 work properly. These include setting up and provisioning new users, removing terminated employees, monitoring the health of the Office 365 tenant, and consolidating and merging tenants when the organization changes, such as after a merger, acquisition or divestiture.

While the costs of Office 365 are well known, in order to save money on the move to the platform existing internal IT infrastructure must be turned off and

*A proper approach, mindset and set of technical skills, tools, and experiences that are not always readily available among an organization's current IT professionals are essential to the migration process.*

retired. If an organization has moved from Exchange on-premises to Exchange Online, for example, maintaining a parallel Exchange on-premises infrastructure could result in some level of duplicated licensing and maintenance fees, as well as time and cost for internal IT administration. To maximize the savings from the migration to Exchange Online, all active and archived data must be moved from internal systems that are no longer required, and any IT staffing positions that were previously dedicated to on-premises Exchange must be deactivated or the individuals retrained for new roles. Moreover, it is essential to include the costs of hardware, facilities, disaster recovery and other key systems in the comparative analysis. It is also important to note that as an organization's cloud presence increases, they will have more cloud-only objects to maintain. Using existing on-premises disaster recovery/business continuity and management tools could mean those cloud-only resources are not adequately covered.

- **Customers can be locked into continual licensing**

Using SaaS applications provides a pathway for access to services without incurring the capital expenditures to build an on-premises environment, nor accepting the responsibility and associated costs of managing a potentially complex internal infrastructure. Office 365 lives up to this marketing promise, as long as organizations keep paying for the resulting services every month. Since Office 365 is basically a rented offering and nothing is owned, organizations are locked into continuing licensing agreements.

A key benefit of running an on-premises infrastructure is the ability to bypass one or two upgrade cycles and thus save significant expenditures, particularly since a migration from one version of on-premises to Exchange to a newer one is can be expensive and disruptive. For example, many organizations shifting to Exchange Online are migrating from Exchange 2003 or 2007. These organizations have been able to use products purchased a decade ago for a decade's worth of service. Once an organization has shifted to Office 365, that option is no longer available.

It is important to note that we are not arguing against a migration to Office 365 or other Microsoft cloud platforms, but merely pointing out that doing so does not incur some level of disadvantage. In fact, given that Microsoft anticipates all of its Exchange users to migrate to Office 365 by around 2020, staying with Microsoft means that a migration will be a necessity.

- **Customers may have to pay after migrating away**

The high-tier Office 365 Enterprise plans offer integrated archiving and compliance capabilities, as well as a slew of other features and functions. The key takeaway is that if an organization shifts its day-to-day transactional communication system to Office 365, as well as its archiving and compliance system, it will become more difficult to migrate away from Office 365.

Even though some third parties offer archiving and compliance capabilities for Office 365 that are improvements over the capabilities that are built into the offering, relatively few organizations will shift to Office 365 with archiving and compliance as the primary drivers for doing so.

However, if an organization decides to shift its messaging and collaboration capabilities to another provider, the archiving and compliance actions taken during the use of Office 365 must remain in place to appropriately meet compliance requirements. For example, if there are active legal holds in place, removing those legal holds in order to migrate historical data is likely to result in the inappropriate deletion of older messages, or at least will require significant effort. The implication of this is that an organization may have to keep paying Microsoft to use the archiving and compliance functionality in Office 365 for historical data until all compliance regulations have been met and compliance timeframes have expired. This is all the more reason to focus on archiving prior to any migration, and a reason to use a third-party archiving capability in order

to provide an easier path to migration should a decision be made to migrate away from Office 365.

- **The service is continually updated**

One of the key benefits of Office 365 is that the platform is updated with new features and functions on a regular basis. This keeps the platform current with the latest capabilities available from Microsoft, but has the downside of potentially breaking some processes and dependencies that have been established with current features and functions, as discussed elsewhere in this paper. Often, the reason to skip a migration in an on-premises deployment may be tied to other on-premises dependencies that may not be relevant in the cloud.

It is worth noting that this is also true of on-premises solutions, where users often do not have a choice about upgrades. The difference is that use of an on-premises solution permits skipping an upgrade depending on the license type, but that is only until support ends. A key consideration is that to keep up with constant updates, it's wise to ensure that organizations are ready for change in the underlying service so they can adapt quickly when needed.

- **Active management is required for users and licenses**

When an employee leaves an organization, his or her licensing for Office 365 must be actively managed. If organizations fail to properly manage their licensing, they will continue to pay licensing fees for departed employees, and may also run the risk of mail and other content being deleted from the departed users. In an organization with 15 percent turnover (a very conservative figure compared to the average US company) potentially 15 percent of the annual Office 365 bill will be for non-current employees if the licenses are not appropriately managed, and this could increase over time. In addition to the direct financial cost, there is the larger concern around ongoing access to company information by departed employees, as is the case with any cloud service.

In short, all organizations should have appropriate mechanisms in place for de-provisioning user access to systems and resources.

- **The importance of migrating Public Folders**

Public Folders are often the last piece of an on-premises Exchange environment to migrate. When an organization cannot migrate its Public Folders, it ends up needing to support the legacy Exchange environment, as well as the new Office 365 environment. The result is that an organization with a large volume of Public Folder data can remain in this state for years. Reasons for this include the fact that Public Folder usage varies by customer, business processes that work well in Public Folders do not translate as easily to one or more of these destinations, and Shared Mailboxes, Office 365 Groups, or SharePoint have plenty of upside, but can also have more limitations than Public Folders. It's not an apples-to-apples comparison.

Moving away from Public Folders to Shared Mailboxes, Office 365 Groups or SharePoint Online is not quite as easy as Microsoft might make it seem. Some of this is due to the fact that Microsoft's processes for migrating Public Folders are still the same as they were prior to Office 365, namely:

- There is no GUI or managed process to match mailbox migration processes. In short, many customers make the assumption that a Public Folder migration is the same as a mailbox migration.
- Migrating Public Folders requires a high degree of skill, such as the ability to use PowerShell.
- The results of the Public Folder migration are unpredictable and can require significant downtime.

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*Public Folders are often the last piece of an on-premises Exchange environment to migrate.*

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- The progress of the migration is difficult to monitor.
- There is no reporting and no migration-tracking capabilities, the result of which is no possibility of maintaining chain-of-custody for the migrated content.
- There is a limited ability to migrate different item classes and permissions.
- Microsoft's processes are unable to handle more complex migration scenarios, such as merging multiple organization public folders or moving them from one tenant to another.

It's also important to note that there are terminology differences between what Microsoft calls Legacy Public Folders (Exchange 2010 and earlier) and Modern Public Folders (Exchange 2013, 2016 and Exchange Online). It's important to consider:

- Public Folder Mailboxes now replace the Public Folder Database.
- Public Folder Mailboxes get confused for Mail-Enabled Public Folders. Public Folder Mailboxes are just the new database container for Public Folders and are limited to 1,000 per tenant. This confuses organizations into thinking that they can't migrate their Public Folders to Office 365 because they have more than 1,000 mail-enabled folders (mail-enabled Public Folders are exactly what they imply: they get an email address assigned to them and can receive mail from internal and external sources directly to the folder).
- As of today, an organization can have up to 500,000 total folders in your environment, so more than enough to cover most organizations' public folder hierarchies.

In short, Osterman Research believes that third party solutions can help an organization to migrate their Public Folders, but can also help to migrate some or all of their Public Folders to Shared Mailboxes, Office 365 Groups, or SharePoint Online.

## The Potential Risks of Office 365 and SharePoint Online

### **MICROSOFT CAN INCREASE PRICING AND PLANS AT WILL**

As is the case with any cloud provider, Microsoft will periodically adjust the pricing of its services, for both on-premises and cloud-based licensing. Consequently, any business case developed today based on current pricing must include sensitivity analysis around Microsoft's possible pricing changes. Microsoft has previously, is currently, and will likely in the future raise the price points of its cloud-based services. Organizations have only three choices: downgrade to a cheaper plan, pay the new higher price, or migrate away from Office 365, SharePoint Online or other services whose prices have changed.

Obviously, Microsoft reserves the right to change plans at will and customers have little certainty that the plans they have purchased will continue to be offered long into the future. For example:

- In July 2014, Microsoft cancelled the Office 365 Small Business and Office 365 Midsize Business plans, replacing them with three new Business Plans. Some users received little warning of the change, and the change required reconfiguration activities by administrators and users.

- In July 2015, Microsoft announced the cancellation of the Enterprise E4 plan and replaced it with the Enterprise E5 plan and increased the price. Customers who were on E4 either had to downgrade to E3 and purchase add-ons to recover original E4 functionality, or step up to the higher-priced E5 plan.

Office 365 customers may find that their long-term expectations of having certain capabilities available at a given price point will need to change.

## LITTLE CONTROL OVER THE PACE OF NEW SERVICES BEING RELEASED

All cloud providers introduce new features and functions, and Microsoft is no exception. The company regularly introduces new capabilities into Office 365 as part of its wider business strategy of improving end-user productivity, and it does so on a fairly frequent basis. This strategy is implemented through new products and services that give employees new ways of being productive.

However, Microsoft customers face a couple of issues with regular updates:

- Administrators have little control over the release of new features to employees, other than delaying their introduction for a few weeks or months. They cannot prevent new capabilities from reaching users, even when those new capabilities make no business sense for a particular customer or might require a change in workflows, other applications, etc.
- Services initially added to current plans at no charge may eventually be billed through increased prices. Microsoft has used a variety of approaches to introduce higher prices, such as cancelling current plans and introducing new ones at a higher price point, as noted above.

For Microsoft customers that put new capabilities to productive use, the incremental licensing fees will be more palatable than to those who fail to see the productive potential of the new capabilities. For example, our research found that a large number of Office 365 capabilities are not considered “important” or “extremely important” by decision makers in many current or future Office 365-enabled organizations, as shown in Figure 4; the top five workloads are shown in Figure 5. As a result, many of these services are not used by the majority of employees, even though the customer is paying for them.

*All cloud providers introduce new features and functions, and Microsoft is no exception.*

**Figure 4**  
**Importance of Various Office 365 Features and Functions**

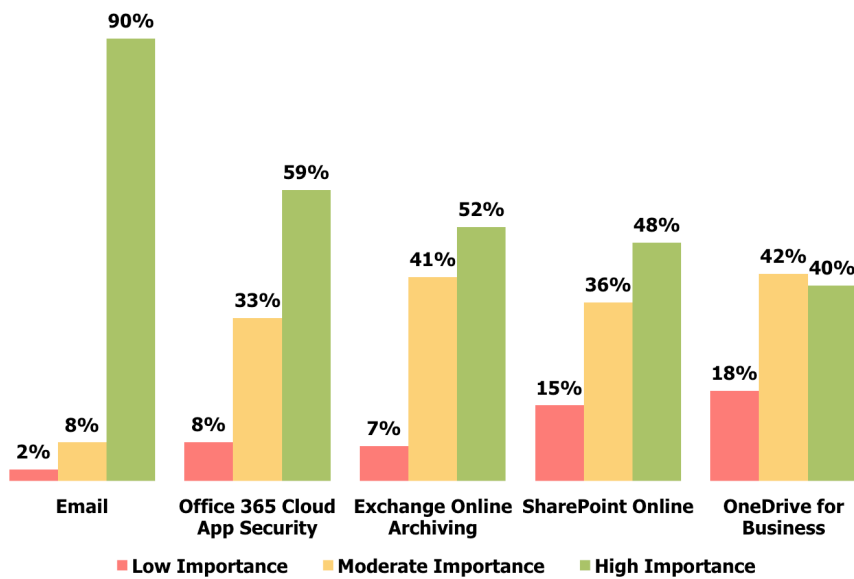
Feature/Function	Low Importance	Moderate Importance	High Importance
Email	2%	8%	90%
Multi-factor authentication	2%	28%	70%
Exchange Online Advanced Threat Protection	6%	29%	65%
Advanced Security Management	3%	36%	61%
Reporting	6%	35%	60%
Data loss prevention policies	5%	37%	59%
Office 365 Cloud App Security	8%	33%	59%
Monitoring	6%	36%	58%
Exchange Online Archiving	7%	41%	52%
Advanced eDiscovery	13%	36%	52%
SharePoint Online	15%	36%	48%
OneDrive for Business	18%	42%	40%

**Figure 4 (concluded)**  
**Importance of Various Office 365 Features and Functions**

Feature/Function	Low Importance	Moderate Importance	High Importance
Skype for Business	17%	43%	40%
Manual retention and deletion policies	8%	59%	34%
Auto classification using Advanced Data Governance	10%	57%	33%
Manual classification of content	13%	59%	28%
Microsoft Teams	20%	55%	25%
Skype Meeting Broadcast	24%	52%	24%
PSTN calling	42%	37%	21%
Customer Lockbox	28%	54%	18%
Power BI Pro	26%	56%	18%
Cloud PBX	39%	46%	15%
MyAnalytics	30%	56%	14%
Microsoft Planner	38%	50%	12%
Yammer	58%	32%	10%
Microsoft StaffHub	58%	34%	8%

Source: Osterman Research, Inc.

**Figure 5**  
**The Five Most important Workloads in Office 365**



Source: Osterman Research, Inc.

Services offered via the cloud offer easy access to a range of capabilities that are designed for consumption by the majority of possible consumers. Consequently, specific preferences that diverge from the norm are more difficult to address in general-purpose cloud services, and if an insufficient percentage of customers demand a certain capability, it is unlikely to be added in a future release. This becomes an issue for any organization that needs additional functionality to meet business requirements because they have no or limited influence on the product

roadmap.

With regard to Microsoft's various services, administrators can respond only to the new services that are offered by the company, because an administrator has very little influence over the nature of the new offerings. As with any cloud provider, this is Microsoft's service offering, and Microsoft will provide only the services that it believes are necessary. Organizations that have requirements that diverge from Microsoft's vision of the future must use third-party products to address additional functionality and feature requirements.

### GETTING ACCESS TO A BROAD-BASED PLATFORM

Office 365 is a broad-based platform designed to appeal to a very large audience. As such, Microsoft has done a good job at creating a "generalist" offering that can satisfy most organizations' basic needs for communication, collaboration, desktop productivity, etc. However, in the context of capabilities like records management, security, archiving, litigation holds and other areas there are definite gaps in Office 365's capabilities that third parties can satisfy more completely<sup>2</sup>. This provides benefits in three important ways:

1. Vendors of these third-party solutions have the opportunity to innovate and respond to market demands more completely, since, as specialist providers, they are focused on a narrower set of offerings and generally can do a better job than a generalist provider.
2. These offerings permit customers to assemble a combination of a lower cost Office 365 plan, as discussed earlier, with "best-of-breed" solutions that will more completely satisfy their requirements. In effect, customers experience the best of both worlds, since they gain the benefits of a Microsoft foundation with specialized add-on capabilities that satisfy their specific requirements – and usually at a lower price point.
3. Third party solutions can be selected that will support not only Microsoft offerings like Office 365 and SharePoint Online, but also other platforms. This is a particularly important point, since most organizations have a combination of both Microsoft and non-Microsoft platforms, and are better served by third party solutions that will address their cross-platform requirements.

### IT'S NOT THE LAST GREAT MIGRATION TO OFFICE "NEXT"

For many years, Microsoft has regularly put its customers through migration projects in order to obtain its latest software offerings. Many of these "forklift upgrades" have been costly and time-consuming. Many of Microsoft's largest partners have established significant migration practices to ease the migration burden, with offers of both consultancy support and migration tools. While some hope that with Office 365, SharePoint Online and other cloud offerings this practice will end, the risk is that it might not.

For example, situations where another migration could be necessary include:

- The introduction of a new service to replace SharePoint, which requires migrating and converting current data into the new service. We have already seen some of this in the merging of Yammer and SharePoint.
- A new paradigm for archiving and compliance in Office 365 to address current limitations in the service. As we have noted in the past, for organizations that must retain records for seven years, Microsoft went through three variants of its compliance offering for SharePoint Server (2007, 2010, and 2013) in a seven-

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<sup>2</sup> The details of how third-party solutions can provide better capabilities than the native capabilities in Office is beyond the scope of this paper. However, Osterman Research has published a white paper entitled *Supplementing the Limitations in Office 365*, available at <https://dm-mailinglist.com/subscribe?f=8ce922e9>.

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*Microsoft has done a good job at creating a "generalist" offering that can satisfy most organizations' basic needs.*

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year period. There is historical precedent for such changes, and future changes could require a significant amount of reworking by organizations as well.

- Migration from Office 365 Dedicated to the next major version of the service from Microsoft, based on the Office 365 multi-tenant architecture, but with many of the Office 365 Dedicated value propositions. This scenario is a reality for customers using Office 365 Dedicated.
- If an organization uses Office 365 or SharePoint Online for a few years, a decision to exit the service and return to an on-premises approach would require migrating all current and historical data off of these services and into a new environment. Also, when one organization acquires another, they will want to consolidate tenants. Microsoft does not offer any native tools to do this today.

The best-case scenario sees Office 365, SharePoint Online et al as the last great migration, with future changes handled seamlessly within the service without significant disruption. If that does not happen, organizations may face future migration challenges.

## Moving Beyond a Single Repository Approach

### REASONS YOU CAN'T MANAGE ALL CONTENT IN OFFICE 365 AND SHAREPOINT ALONE

Understandably, Microsoft focuses on its own file types for purposes of indexing, archiving and related activities. However, most organizations – particularly larger ones with more complex IT infrastructures – employ a large number of non-Microsoft platforms, such as Salesforce, Workday, Box, ServiceNow and many, many others. If Microsoft capabilities, such as Exchange Online Archiving or SharePoint Online are used to manage content, this will require the deployment of other content management solutions for purposes of backup, archiving and records management to manage the content in these non-Microsoft platforms. There are several problems with this approach, including:

- Content will be stored in multiple repositories, each with its own user interface and learning curve.
- Higher storage and other costs, since searching for content in multiple repositories increases the costs of activities like eDiscovery, early case assessment and regulatory audits; not to mention that there is a greater potential for storage of duplicate content in multiple repositories.
- The greater potential for missing critical content when conducting a search, since the same search must be conducted multiple times in each silo of information.

Best practice dictates, and Osterman Research recommends, that backup, archiving, content management and records management solutions should be selected that will manage both Microsoft and non-Microsoft content in a single repository so as to minimize the number of content repositories and interfaces for corporate data.

### USER PERFORMANCE CHALLENGES

Another important consideration in the migration process is considering the user performance challenges that will arise as a result of the migration to new platforms. Consideration of the user interface and user experience are key in ensuring a smooth migration, since problems in either can be magnified thousands of times and can inundate the help desk and IT functions if not managed properly. For example, existing processes will need to be integrated properly with Office 365 and SharePoint Online so that users can continue to be productive in their work. Moreover, an

overreliance on specific user behaviors to compensate for inadequacies in migration planning simply will not work and will most likely create significant problems during and after the migration process.

## THE CHALLENGES IN MIGRATING AWAY FROM OFFICE 365

Migrating to Office 365 or SharePoint Online can be a significant undertaking and many organizations would prefer not to waste all of that work by leaving the service. However, there are some situations in which a migration away from Office 365 makes more business sense than staying, whether that migration is to another cloud provider or back to an on-premises deployment. We look at these reasons, note the challenges of doing so, and outline some risk mitigation strategies to ease the pain:

- **IT Strategy Changes**

Organizations that change their IT strategy from the use of cloud-based services and toward the on-premises model may want to move away from the cloud services that have in place today. Some organizations may decide they are better served by handling IT themselves, for reasons including data security, regulatory obligations, data sovereignty, or lower cost.

- **On-Premises is Perceived as Less Expensive**

Office 365 and SharePoint Online enable organizations to get started quickly with many IT services without incurring major capital expenditures. This is balanced against higher operational costs for the lifetime of using Office 365, such as Internet access, bandwidth upgrades and annual licensing fees. At some point, a financial decision may be made to prefer capital costs as opposed to operational ones.

- **A Desire to Reduce Complexity**

Office 365, for example, is a continuation of Microsoft's strategy to maintain its Office dominance and drive updates to the newer versions of its tools. This is something that Microsoft has invested significant resources to achieve because of its inability to drive updates on feature improvements alone. In comparison to Google Apps for Work, Office offers many more capabilities, but with additional capability comes added complexity. Some organizations may consider leaving Office 365 because users dislike the complexity of the user experience and how the Office desktop applications integrate with Office 365.

For example, a member of the Osterman Research survey panel whose organization is migrating away from Office 365 told us, "... the product has not proven to be as useful as we had hoped. We are moving those users back to a locally installed version of Office until a better solution is found. Our biggest issues have been overuse of shared documents causing multiple copies to be spread out more than in a tradition installation. The other big issue has been formatting issues between Office 365 and installed versions of Office. This is something we did not expect, but has caused addition work in making corrections." To be sure, however, migrations away from Office 365 and other Microsoft cloud platforms are more the exception than the rule.

- **Addressing Gaps in Functionality**

Office 365 and SharePoint Online are improving in functionality, but there are still some gaps in how capabilities like encryption, archiving, search, compliance, and collaboration are managed. Organizations may decide to take back control and address these areas of functionality head-on through an on-premises deployment. The limitations in Office 365 are not the focus of this white paper, but Osterman Research has examined them extensively in several white papers, all of which are available at the Osterman Research web site<sup>3</sup>.

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*Migrating to Office 365 or SharePoint Online can be a significant undertaking.*

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<sup>3</sup> Source: *Supplementing the Limitations in Office 365*, Osterman Research, Inc.

- **Lack of Reliability**

Microsoft's various cloud services are increasingly reliable, but periodically will suffer a significant outage that causes loss of service for a period of time. Typically, the outage is caused by an equipment failure, network failure, or an upgrade that wasn't fully tested that is amplified and magnified across thousands of user organizations.

## **NET NEW FUNCTIONALITY IN CROSS-PLATFORM INTEGRATION**

Over the 15+ years, Microsoft has developed some of its various cloud services using software that was originally designed for on-premises situations. Microsoft BPOS was built on the 2007 wave of on-premises tools (Exchange, SharePoint, Office Communications Server), and the first version of Office 365 was built on the 2010 wave. These on-premises servers had been re-architected to scale for cloud-based requirements. Sometime after Office 365 was upgraded to the 2013 versions of Microsoft tools and Microsoft's cloud-first strategy took hold, the positions swapped.

## **THE CHALLENGES OF SWITCHING**

Office 365 now offers more advanced capabilities than what is available for on-premises customers. This means that organizations that want to build an on-premises environment get a roll-up of recent changes to the Office 365 variants at a particular point in time. Office 365 leads the functionality race in many areas.

As a result, organizations that migrate away from Office 365 will lose access to various cloud-only services, such as OneDrive for Business, Office Delve and Microsoft Yammer. They will also lose access to products that require a cloud license, such as Microsoft Office for iPad. There will be a loss of functionality that will need to be addressed in this scenario (and in the case of Office for iPad, an alternative product sourced and licensed for use), but there is also the difficulty of re-creating business processes that have been designed based on these capabilities. Moreover, any archived or compliance data in these systems will have no functional equivalent in an on-premises Microsoft environment, greatly increasing the complexity of migrating away from Office 365.

Another key challenge in migrating away from Office 365 or SharePoint Online is the difficulty of finding IT staff members with the appropriate skill sets. While organizations could make a good financial case for re-building on-premises infrastructure for messaging and collaboration, over the next few years it will become more and more difficult to locate, attract, and retain skilled IT architects, security analysts, technicians, administrators and other to manage on-premises infrastructure. The current swing to the cloud will see fewer IT professionals pursuing the necessary qualifications and experience to handle these job roles, which carries the implication that any future swing away from the cloud will be a problem.

Yet another challenge is that some data in Office 365 or SharePoint Online is not migrated between these services and the on-premises variants of the same. One example is scheduled meetings in Skype for Business, which are not migrated to Skype for Business on-premises, meaning that users must manually re-create these meetings.

In short, given that Microsoft's strategy is "cloud first, mobile first", migrating away from Microsoft will not be easy. Unless an organization is planning remaining with old school business processes, it may find that over the long term there are changing in licensing will increasingly favor cloud services, making the move away from Microsoft platforms less advantageous.

## **MITIGATING THE RISK OF MIGRATION**

Microsoft customers can mitigate some of the risks of migrating away from Office 365 or SharePoint Online by following these recommendations:

- **Leverage Professional Services or Migration Tools**  
There are several benefits to using specialized tools or professional services for a migration. For example, leveraging a tool could dramatically reduce the time, risk and cost to migrate the Exchange content. Moreover, using migration tools ensures that an organization is leveraging knowledge and processes that are baked in from many other previous migration experience rather than “reinventing the wheel, minimizing the potential for user errors, losing chain-of-custody and other problems.
- **Maintain Active Directory On-Premises**  
Organizations can use Active Directory Federation Services (ADFS) and DirSync to maintain a fully working, on-premises Active Directory. This provides short-term benefits around user management in Office 365, and also streamlines any future decision to migrate away from Office 365. However, there is a risk that when cloud-only users, attributes, groups and group memberships get created, it will not be possible to manage/backup these objects with native Microsoft tools.
- **Use a Hybrid Approach to Office 365 and SharePoint Online**  
Organizations can avoid taking an all-in approach to Office 365 or SharePoint Online by retaining some capabilities on-premises through a hybrid architecture. This is a model supported by Microsoft, and it offers a number of near-time and risk-mitigation benefits.
- **Use a Third-Party for Archiving and Compliance**  
It may behoove customers to use Office 365 as the place for day-to-day communications, but not for managing corporate archiving and compliance obligations. Use of a cloud-based or on-premises solutions for archiving and compliance will permit the creation of a separate archiving and compliance repository with fully capable tools that will be independent of Microsoft’s cloud infrastructure.
- **Keep Skilled IT Administrators**  
Continuing to invest in skilled IT professionals within an organization and giving them the opportunity to stay current with industry certifications can yield long-term benefits by maintaining flexibility in how IT solutions are managed.

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*A migration project is not for the faint of heart.*

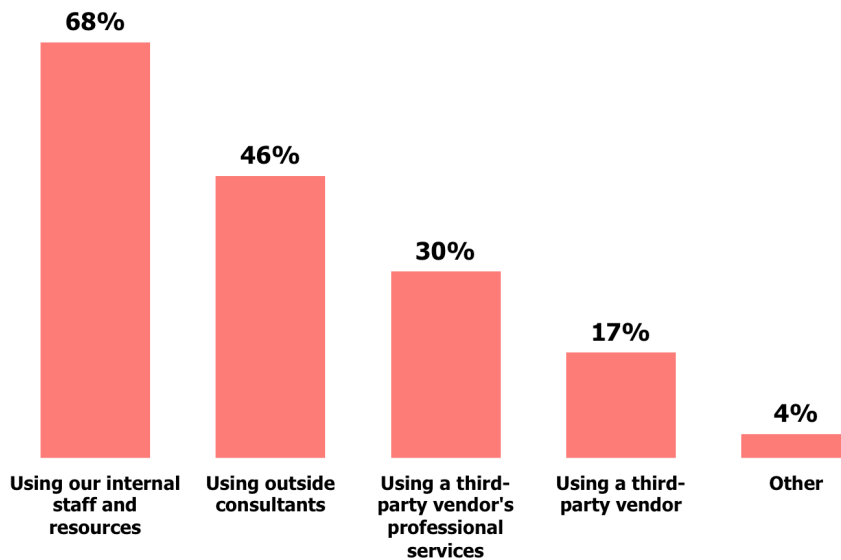
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## A Guide for Migrating

A migration project is not for the faint of heart. When migrating critical systems and repositories like email, collaboration systems, archives and other business-critical systems, there are many things that can go wrong, most of which can have significant and negative impacts on business operations, employee productivity, compliance with legal and regulatory obligations and the like. Osterman Research recommends using specialist migration resources, such as consulting organizations and migration tool vendors that can offer guidance and assistance along the way. This is particularly important given that migration is only an occasional activity for most organizations and does not occur with sufficient frequency as to allow in-house staff members to develop the requisite skills for migration to make the process go smoothly. As shown in Figure 6, most organizations use their in-house staff and resources to conduct a migration, but many use consultants and other external resources to do so.



**Figure 6**  
**How Organizations are Preparing for (or Prepared for) Their Migration or Implementation**



Source: Osterman Research, Inc.

## PRE-MIGRATION ACTIVITIES

A seamless migration to Office 365 or SharePoint Online can be fairly straightforward if it is managed properly, and most organizations will need to spend much more time planning their migration than actually implementing it. Here are some of the key tasks to consider for migrating to Office 365 or SharePoint Online:

- **Develop a Deep Understanding of the Platforms**

Every system has design limits, and Office 365 and SharePoint Online are no exceptions. Some limitations may cause issues when migrating, while others create ongoing issues afterwards. These include migration throttling, the length of file names for uploading to SharePoint Online or OneDrive for Business, maximum attachment sizes in Exchange Online, the default and maximum retention period for deleted items in Exchange, blocked file types, and unsupported characters in file names. Most of these issues can be addressed one way or another, but they must be identified first. It is also important to ensure that all data is backed up prior to the migration, and that backup capabilities are in place as the initial set of content enters Office 365.

Post-migration issues can include Microsoft's approach to compliance and e-discovery, anti-malware and anti-phishing attacks, and the inclusion of archived email in the same system as day-to-day transactional email. Many of the issues falling in this category can be properly addressed, usually by embracing third-party tools that give organizations greater design control.

- **Check Bandwidth Availability**

Migrating to any cloud-based platform is a bandwidth-intensive task, as hundreds of gigabytes or terabytes of data are moved from on-premises servers to cloud-based repositories. Organizations must determine if they have sufficient bandwidth available for the migration, and explore alternatives for moving current and historical data to the platform without using an Internet connection. For example, Microsoft offers the option of delivering data on hard disks directly for upload into the customer's account at an Office 365 data center, and some third-party migration tools support faster upload to Office 365 by moving data into Azure first.

It is important to note that Microsoft has implemented multiple data throttling approaches that limit the amount of data an organization can upload each day, so a bigger “pipe” is unlikely to unilaterally solve the problem.

- **Review Bandwidth Design**

Remote offices with low bandwidth connections can create problems in migrating to Office 365 or SharePoint Online because of the length of time required to move data across network links. Understand what is in place currently across the organization, and determine whether a higher bandwidth connection is required during and after the migration for such remote offices.

Bandwidth design for an entire organization is worth revisiting as well in light of a pending migration to Office 365 or SharePoint Online. If an organization does not currently have redundant network links, it may be worth introducing these since it will be relying on a cloud service for essential day-to-day systems.

- **Assess the Health of Active Directory**

Hybrid approaches to Office 365 or SharePoint Online require flawless interaction between an organization’s Active Directory and Azure Active Directory. Assess the current health of the Active Directory setup and resolve any issues. Things to consider include:

- The presence of multiple forests in Active Directory. While multiple forests can be synced with Azure AD, it can be a complex process. The recommended approach is to have a clean Organization Unit (OU) structure so that administrators can sync only specific OUs.
- The exclusion of admin and service accounts for on-premises servers from the OU structure that is synced to Azure AD. We recommend not syncing AD objects to Azure AD that are not necessary for Office 365 or SharePoint Online to function properly.
- An established process for provisioning and de-provisioning users in Active Directory, to add new employees, update employees when changing jobs, and removing employees who are departing the organization. Sloppiness in these processes will result in added costs, security vulnerabilities, and potential data breaches.

- **Assess Exchange Server Health**

Prior to migrating from Exchange to Exchange Online, it is important to check the health of the current Exchange Server infrastructure. Any corruption, configuration problems, or other sub-performing aspects will either degrade the migration experience or be amplified after migrating to Exchange Online. Some specific issues to note:

- For organizations that are migrating from Exchange Server 2003, there are some specific implications during the migration process, such as mailboxes will not be available during the migration, and failed migrations must be re-initiated from the beginning; they cannot be restarted from where they failed.
- Ensure that current hardware is up to the migration challenge. While Microsoft recommends the use of enterprise-class physical hardware for most organizations, smaller organizations may be able to use virtual machines.

The Microsoft Exchange Server Deployment Assistant is a good place to start. It analyzes an organization’s current Exchange deployment using the latest guidance and pre-migration requirements from Microsoft, creating a customized plan for the organization.

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*Prior to migrating from Exchange to Exchange Online, it is important to check the health of the current Exchange Server infrastructure.*

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For organizations migrating from a non-Exchange environment, such as IBM Notes/Domino, Micro Focus GroupWise, or Zimbra, it is similarly important to ensure that the current system has sufficient integrity to handle the demands of the migration.

- **Assess the Health of SharePoint Server**

Microsoft SharePoint is a comprehensive and complex product, and organizations that have taken advantage of its custom development capabilities are likely to need to re-think their approach to SharePoint when embracing SharePoint Online. In assessing the current SharePoint environment, it is important to consider:

- Use of customizations, third-party Web parts, and other design approaches that work on-premises, but are unsupported within SharePoint Online.
- The effectiveness of the content structures in SharePoint. Will admins simply copy across the current structure and approach, or use the opportunity of shifting to Office 365 to restructure what SharePoint has become?
- The present and future value of content in SharePoint. Content that lacks future value should be deleted or archived (depending on an organization's compliance mandates) instead of being migrated to SharePoint Online. Making decisions of this nature will need to be done in conjunction with content owners and other relevant stakeholders.

- **Catalogue the Dependencies with Other Applications**

It is important to determine which applications and systems rely on or work alongside the current Exchange environment. If an organization is going to change its approach to Exchange by embracing Exchange Online, it will need to undertake remedial work to re-connect other systems. For example:

- Email archiving systems that are deployed on-premises and that work with an Exchange deployment may need to be updated or replaced for Exchange Online.
- Multi-function machines and scanners send scanned documents, and so a plan will need to be developed for pointing these devices at Exchange Online after the migration.
- CRM systems that integrate with Outlook to support customer tracking and interaction will need to have their toolsets integrated after the migration.
- Organizations that are migrating from IBM Notes/Domino for email are likely to have mail-enabled and workflow-enabled Notes applications upon which users rely. Admins must determine how they will support this mail flow after migrating to Exchange and Outlook.

- **Evaluate the Skill Levels of In-House IT Personnel**

Organizations must evaluate the skill levels of current IT staff members to execute the migration from on-premises infrastructure to cloud services, including their ability to backup and archive all needed content. Some organizations have IT staff that have been doing email migrations for a couple of decades, and so their expertise can often carry across to an Office 365 or SharePoint online migration. Other organizations no longer have these resources readily available, and so will need to engage the technical assistance of an external IT consultant for the migration. It is important to note that in selecting an external IT consultancy, it is important that they have specific expertise in migrations featuring the same setup and constraints in place at the organization's firm: it is important not to blindly choose the current IT consultant because they may lack the specific expertise required. It is important to ensure

that backup and archiving routines not be interrupted during the migration given the essential nature of both activities.

The migration to cloud services does not render IT staff irrelevant and unnecessary – instead, it simply changes the type of tasks that they perform. Consider the retraining required to ensure current staff members can manage new cloud services that are entirely delivered from Office 365 or SharePoint Online, or in conjunction with on-premises infrastructure in a hybrid deployment. New administration and management tools frequently streamline the execution of these tasks over time, as well, and these are worthy of evaluation.

Taking a hybrid approach creates its own set of challenges that must be actively managed in order to avoid downstream troubles. For example, there are specific versioning requirements for Exchange Server on-premises in order to work in a hybrid configuration with Exchange Online. It is essential to make sure that the processes are established to test, deploy, and manage the ongoing update stream.

Osterman Research has discovered that the hybrid approach in Microsoft environments will not be an uncommon one. For example, a 2018 Osterman Research survey of Office 365-enabled organizations revealed that 25 percent of organizations migrating to Office 365 will not do so completely: 13 percent will use a combination of Office 365 and on-premises platforms, eight percent will use Office 365 and other cloud platforms, and four percent will use Office 365 and a combination of on-premises and cloud platforms<sup>4</sup>.

- **Assess Staff Knowledge Levels on Office 365 and SharePoint Online**  
Office 365 and SharePoint Online providing many new capabilities available to staff through the home page and app launcher. If these people will be expected to use any of the new capabilities in their work, select the training resources and adoption strategies that will be necessary to leverage them to effective use. Any decisions in this task should reference the plans made in the steps above.
- **Review Compliance Obligations**  
It is essential to review current compliance obligations and evaluate how the organization will achieve these in Office 365 and SharePoint Online. Factors to review, in conjunction with compliance officers and the legal team, include:
  - Current email archives and whether to shift them into Office 365, move them to a new archiving service, or leave them in their current state. If moving them somewhere else is determined to be the best approach, decision makers need to plan how to migrate them without breaking chain-of-custody (which is not a trivial issue).
  - The presence of encrypted customer or sensitive data, and whether this needs to be moved to Office 365 or SharePoint Online. If encrypted data is moved, how will admins do this without breaking the encryption safeguards?
  - Obligations for data to be stored physically within specific geographical areas, in line with data sovereignty requirements. This may dictate where to establish a single tenant, or push the organization in the direction of multiple cooperating tenants.

Organizations that do not have compliance requirements can move faster and more simply to Office 365 or SharePoint Online. Those with compliance mandates need a rock-solid approach to ensure that their organization is not opened to legal risks and financial fallout.

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*The migration to cloud services does not render IT staff irrelevant and unnecessary – instead, it simply changes the type of tasks that they perform.*

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<sup>4</sup> Source: *Supplementing the Limitations in Office 365*, Osterman Research, Inc.

- **Review Requirements for Data Privacy**

It is important to check the data privacy requirements for data that would be stored in Office 365 or SharePoint Online, particularly in light of the European Union's General Data Protection Regulation that went into effect on May 25, 2018. It is essential to determine how Office 365 and SharePoint Online handle data that would be subject to privacy requirements (such as Social Security numbers, credit card numbers or personal data for European residents), and if the automatic encryption capabilities in Office 365 and SharePoint Online will be sufficient for the organization's requirements. If not, a third-party add-on encryption service may be required.

Some organizations deliberately select the location of their Office 365 tenant to be outside of the United States to prevent US government access to cloud-based data to which they may have access under anti-terrorism legislation.

- **Assess the Firewall Architecture**

It is important to review the current firewall architecture, as Office 365 requires certain firewall rules to be established. Organizations that have multiple, independent firewalls across their global network will require a method of coordinating rule additions, changes and deletions over time.

- **Develop a Plan for the Migration**

It is essential to develop a migration plans based on a solid understanding of the current state of the IT infrastructure, the business goals being pursued, and the way in which Office 365 and SharePoint Online will be leveraged to enable this pursuit. Such a plan should include:

- The migration's phasing, particularly the order in which departments and various functions will migrate to Office 365 and SharePoint Online. Phasing will need to be coordinated for some users in order to ensure uninterrupted delegate access for mailboxes and calendars. This planning for coexistence, such as planning for uninterrupted access to the free/busy lookups and directory/Global Address List (GAL), will be particularly important for customers coming from Notes/Domino.
- Internal IT staff and any external IT consultants who will be carrying out the migration duties.
- The timeframes for consulting with business and content owners over archiving, content deletion and migration.
- The capabilities in Office 365 that will be made available to staff members over set timeframes, such as Exchange Online, Skype for Business, SharePoint Online and others. Many organizations start with Exchange Online, and once that is rock solid, introduce additional capabilities.
- If necessary, how the organization will respond to a legal discovery request during the migration, particularly if archived data is being migrated to a new location.

- **Create a Backup and Recovery Plan**

Office 365 offers only basic backup and recovery capabilities for customer use, such as the ability to retrieve a deleted mailbox item for up to 14 days through the Recoverable Items folder (this default can be increased to 30 days), and a way to retrieve a deleted user mailbox within 30 days of deletion. What it does not offer, however, is the more traditional concept of backing up servers and data at a point in time, to enable recovery or rollback under disaster scenarios, the ability to recover individual files, or data beyond the recoverable windows. A number of third-party vendors offer backup and recovery services that significantly extend what is available from Microsoft, adding an essential level for the management of corporate data.

- **Develop a Disaster Recovery/Business Continuity plan**  
Office 365 and SharePoint Online generally are highly reliable services, but they have experienced several multi-hour or day-length outages in the past. While these types of events tend to make the headlines, the more immediate issue is that employees lose access to essential services for carrying out their work. A number of third-party vendors offer services for mitigating the impact of an Office 365 or SharePoint Online outage, which act as a type of insurance policy. Organizations should evaluate the potential risks of losing access to Office 365 and SharePoint Online for the organization and assess how to mitigate these to ensure business continuity.

## MIGRATING TO EXCHANGE ONLINE

The migration to Exchange Online is an involved process and it requires a set of coordinated activities over several months or longer, depending on the size of the organization and the volume of mailboxes and data to migrate. Decision makers will need to follow the steps below:

- **Verify Connectivity to Exchange**  
It is important to verify the connectivity from Exchange Online to the on-premises Exchange infrastructure. Microsoft offers a tool to ensure connectivity is enabled and configured properly.
- **Discover and Assess the Source and Target Environments**  
It is essential to conduct a complete discovery exercise for both the source environment and the target environment to which data will be migrated. The current environment must be thoroughly understood, corrupted data must be dealt with, chain-of-custody for data must be understood and protect, and the appropriate steps planned for the migration of “clean” data to the new environment.
- **Pilot Test the Migration**  
Piloting the efficacy of the preferred migration option, first using test accounts and mailboxes, and then migrating a small proportion of actual user mailboxes. Once some actual mailboxes have been migrated to Exchange Online, it is appropriate to take a standing brief for a couple of weeks to see if any issues arise. If so, admins can mitigate any issues on a small number of mailboxes for future migrations, instead of trying to rein in the issues across a much larger number. Third-party backup tools can assist with a pilot migration, such as implementing a third-party backup tool in-between Sync Active Directory and Assign Licenses and Migrate Active User Mailboxes.
- **Select the Migration Option**  
The migration option that makes the most sense for the organization needs to be selected. Options provided by Microsoft include Cutover Migration (for small organizations that want to migrate all at once to Exchange Online), IMAP migration (for moving only messaging data from IMAP servers to Exchange Online), and two migration options that support hybrid approaches. The hybrid approaches enable coexistence between on-premises Exchange and Exchange Online, either for the short-term over the duration of the migration, or as a long-term strategy to optimize between the two approaches of providing Exchange services. Both of the hybrid approaches have very specific pre-requisites involving the integration of Active Directory on-premises with Azure AD. Various third-party vendors offer migration toolsets to streamline the migration to Exchange Online, if Microsoft’s tools are insufficient or too complicated.
- **Sync Active Directory and Assign Licenses**  
Organizations that are taking a hybrid approach must synchronize Active Directory with Azure Active Directory because it creates the users in Office 365. Once they have been created, admins can assign Office 365 licenses, such as the right to Exchange Online, SharePoint Online, and install Office on computers and

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*The migration option that makes the most sense for the organization needs to be selected.*

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devices. It is useful to implement third-party backup capabilities prior to moving data.

- **Migrate Active User Mailboxes**

Admins can start migrating active user mailboxes to Office 365 in light of available bandwidth and the data throttling Microsoft applies to migration activities. In order to stay within the limits imposed by Microsoft, many organizations will schedule a batch of a couple of hundred mailboxes to migrate each night. Once an active user mailbox has been migrated, update the Exchange settings so that Outlook will automatically discover the new cloud-based mailbox. Migrating mailboxes at this rate will take from several days to a couple of months, depending on the number of mailboxes to migrate.

- **Address Unused Mailboxes**

It is common to have unused mailboxes on Exchange Server that still contain messaging data, but for whom the user has long since departed. Exchange Online has the concept of an inactive mailbox to support this situation. If the mailbox needs to be migrated for compliance or legal reasons, admins can create a user account for the mailbox and attach the two, leave the account to sync to Azure AD, assign an Exchange Online license, migrate the unused mailbox to Exchange Online, put the mailbox on litigation or in-place legal hold, and then delete the user account. The user account will be deleted, the license freed up for further use (subject to some time constraints), and the mailbox data held until the litigation hold is removed.

- **Migrate Public Folders**

The migration of public folders from Exchange 2007 and 2010 is supported by Microsoft, with specific requirements on the level of service packs and cumulative updates applied to the on-premises servers. The Microsoft approach to public folder migration requires the use of PowerShell. It has limitations on the maximum size of a migrated public folder, the maximum number of public folder mailboxes on Office 365, and other limitations. Organizations that fall outside of these prerequisites should evaluate the use of third-party tools to streamline and simplify their migration.

- **Migrate .PST Files**

Organizations that have .PST files must determine what information should be migrated into Exchange Online. This necessitates an analysis of content inside of the .PST files to identify data that may be subject to compliance requirements, a task with which legal and compliance teams will need to be involved. Microsoft offers an unsupported tool for migrating .PST files to Office 365, but it requires significant manual effort. Third-party vendors offer tools that greatly streamline and simplify the processing, analysis, and migration of appropriate data into Exchange Online or an archive.

- **Migrate Email Archives**

The migration process for the email archives is the most challenging, difficult, and risky part of moving to Exchange Online. If organizations decide to move their email archives from their current location, admins need to ensure they are moved without breaking chain of custody – i.e., in other words, without compromising data integrity that could result in the organization subject to negative legal repercussions. Email archives can represent a much larger quantity of data than email in current day-to-day Exchange mailboxes, and managing the migration of this data volume must be incorporated into the overall plan so as not to avoid migration delays. During migration, be aware of mailbox size limits in Exchange Online, and ensure the archived data is migrated to the users' archives and not their mailboxes:

- If journal data exists, admins must consider how to manage journal data within the context of new Microsoft rules and remain in compliance with regulations for record keeping.
- Admins must be careful to manage the stubs with “rehydration” to avoid unhappy end users who would otherwise experience broken links.
- If legal hold data exists, it is important to consider how to manage this data properly and avoid the consequences of spoliation.

## MIGRATING TO SHAREPOINT ONLINE

Microsoft provides some tools for migrating to Exchange Online, but it does not offer a similar set of tools for migrating from SharePoint Server to SharePoint Online. There are a couple of manual ways that can be used for some aspects, such as moving documents into document libraries (usually without their associated metadata), but, in our estimation, nothing truly robust is available. The following steps are typically involved:

- **Understand the Limitations in the Migration**

It is important to understand the limitations involved in the migration. SharePoint Online is not the same as SharePoint Server, and many of the design and customization options that are available for SharePoint Server are not available for SharePoint Online. Among other checks, organizations will need to:

- Examine the customizations and any custom code that have been applied to SharePoint Server internally and see if they can be rolled across to SharePoint Online. If not, can they be implemented in a different way?
- Review the Web parts that are used with SharePoint Server, and check if they will work with SharePoint Online.
- Check the length of file names and if the overall URL length for referencing a document fits within Microsoft’s recommendation of 256 characters. It is essential to include any folder names in the calculations. If they are too long, can they be shortened?
- Do file names or folders include any disallowed or blocked characters, or have a large number of spaces that consume multiple characters once encoded in the resultant URL string? If so, can these spaces be eliminated?
- Count the number of files that will be moved to SharePoint Online and how these are structured into document libraries. SharePoint has limitations on the total number of files that can be displayed in a document library view. If the current document structure exceeds these limits, admins will need to restructure the document libraries and views to stay within what’s possible.
- Determine if the organization has extra-large files and whether the organization will continue to store these in SharePoint Online.
- Check if the total data size the organization needs to move to SharePoint will fit within the standard allocation, or if admins need to purchase additional storage.

- **Delete or Archive Unnecessary Data**

Organizations that have been using SharePoint for a number of years are likely to have accumulated a large number of documents and other content. Instead of migrating all content to SharePoint Online, it is important to undertake a content audit to review the currency of content and its future value. If the organization

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*It is important to understand the limitations involved in the migration.*

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does not need it going forward, delete whatever is possible can without falling afoul of compliance regulations, and archive everything else.

- **Ensure that Single Sign-On is Working**  
Organizations that have retained Active Directory on-premises and are using Office 365 in a hybrid configuration should already have single sign-on working. If not, it is essential to ensure that it is working now.
- **Decide on SharePoint Online Alone or a Hybrid SharePoint Setup**  
Just like Exchange, hybrid configurations are supported between SharePoint Server and SharePoint Online. For example, this allows organizations to keep confidential sites and documents under their direct control in SharePoint Server on-premises, while leveraging SharePoint Online for general team collaboration sites, the corporate intranet and external collaboration experiences. Microsoft offers two hybrid search designs in SharePoint to provide integrated search results across content stored in both SharePoint Server and SharePoint Online.
- **Migrate Site Collections, Libraries, Sites, and More**  
It is important to migrate the underlying building blocks of SharePoint to SharePoint Online, such as site collections, sites, libraries, and lists. Third-party migration tools enable organizations to lift and shift from SharePoint Server to SharePoint Online, all while maintaining correct metadata and user privileges, and either keeping the current hierarchical structures or re-arranging things during the migration. Without migration tools, moving to SharePoint Online is a manual process of recreating new site collections, sites, libraries and lists. Documents can be moved to SharePoint Online using drag-and-drop in Windows Explorer, but this does not maintain document metadata (e.g., who created it, when it was created, who edited it last, etc.). Metadata about documents contains important signals about importance, so drag-and-drop should be used only for low value documents. Any document that is important to an organization should be migrated in such a way as to ensure the integrity of metadata.

## **MIGRATING TO ONEDRIVE FOR BUSINESS**

The new home for personal work files and documents in Office 365 is OneDrive for Business, which provides employees with a cloud storage solution that can synchronize to their devices of choice. OneDrive for Business also gives the organization administrative oversight of these personal work files in a way that personally managed tools like Dropbox does not. Documents stored on file shares, corporate desktops and laptops, and other devices need to be migrated from their current location into OneDrive for Business or another new location in Office 365. The migration steps involved are:

- Delete or archive what does not need to be migrated. Documents that have no future value or are not subject to compliance regulations should be deleted or archived, rather than migrated to Office 365.
- Drag and drop into OneDrive for Business. After installing the synchronization client for OneDrive for Business, users should drag-and-drop the documents they own that are related to their work, but not associated with a wider business function into OneDrive for Business. Users can use the OneDrive for Business sync client to upload the folders and documents they create to Office 365, making these available for personal use across devices and for sharing with other internal and external users in a lightweight collaborative situation.
- Migrate content into SharePoint Online. Many of the documents on a file share or computer hard drive should be put into a document library in a SharePoint Online site, not into an individual's OneDrive for Business folder. Documents related to a team project, initiative, department, or any other ongoing collaborative activity should be moved to the correct place in SharePoint Online. This restructuring of content from years or decades of working with a file share or local storage will be a significant undertaking for most organizations.

## Summary and Conclusions

Migration to a new communication, collaboration or productivity platform involves a potentially complex set of activities that must be managed properly, in the right order, while taking into account a large number of variables. Even seemingly minor mistakes in the migration process – particularly for platforms that are as business critical as Office 365 and SharePoint Online, can have major impacts in both the short and long term. For example, losing chain-of-custody for content can render archived data useless for purposes of eDiscovery or regulatory compliance; problems in integrating existing workflows and business processes with Office 365 can create problems in the user experience and lead to a flood of help desk calls; an inability to integrate non-Microsoft and Microsoft content into a unified archive or records management solution can lead to higher costs and greater risks.

In short, migration is a critical business activity that must be conducted properly and with the appropriate external assistance to ensure a smooth and orderly transition to a new business platform. It requires planning and execution that is as nearly flawless as possible.

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Quest Microsoft Platform Management solutions enable you to simplify and automate migration tasks, such as scheduling and real-time status monitoring, so you can finish your project up to 10 times faster. Minimize the impact to users while using fewer IT resources than you thought possible. By leveraging nearly 20 years of experience successfully migrating 86 million Active Directory (AD) users and 68 million Exchange and Office 365 mailboxes, you can:

- Minimize risk and business disruption to your end users, your help desk and IT
- Migrate to Microsoft Office 365 or consolidate cloud tenants
- Keep users working and productive throughout any migration with seamless coexistence
- Avoid pitfalls and ensure success with help from a vast network of experienced services consultants and partners who have delivered countless migration projects
- Know that 24x7 Quest technical support has your back and can troubleshoot potential issues as they occur
- Improve your security posture, ensure continuous compliance and take full control of Office 365, Azure AD and hybrid AD
- Manage your cloud or hybrid environment with ease using automated solutions for user lifecycle management, provisioning and de-provisioning, recovery and license optimization reporting

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