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# Cloud Computing: Best Practices for Migrating to Microsoft Business Productivity Online Suite

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**POINTBRIDGE**™



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## 1. Cloud Computing

The very name “cloud” implies something vague about computing. It has been called many things: “software as a service”, “software plus services” or “hosted applications”.

Most common definitions of “cloud computing” involve an organization paying a monthly fee for a service - usually a service that the organization would have built using internal resources. In short, cloud computing means trading your own servers, applications, or the infrastructure to run these applications in your own facilities.

The cloud implies a layer of abstraction: the customer accesses their data, but does not have full visibility into how the data becomes available.

Microsoft’s cloud computing offering, the Business Productivity Online Suite, follows this model: for a fee, Microsoft will provide each user in an organization with e-mail, instant messaging, presence, Web conferencing, and access to an intranet portal for collaboration. There is no server software, hardware, storage or maintenance costs.

### 1.1 What Is Driving Organizations to Move to the Cloud?

Continually-evolving technologies, data security threats and policy and regulatory requirements can make managing a messaging and collaboration system costly and complicated. This creates a challenge when IT budgets and headcounts are limited.

To reduce the administrative costs and burdens of on-premises messaging and collaboration management, many companies are considering hosted solutions, also known as “the cloud.” Osterman Research forecasts that the market for hosted e-mail will increase significantly over the next several years. In 2008, 10% of all North American corporate mailboxes within mid-sized and large organizations were hosted; this is expected to grow to 22% by 2011.

*“Cloud computing heralds an evolution of business that is no less influential than e-business,”  
- Gartner Special Report on Cloud Computing, 2008*

#### 1.1.1 Expenses

##### 1.1.1.1 Operating expenses

When they need to limit the operating expenses of internal IT applications, companies can save money by moving services to the cloud. They no longer need to pay for data center space, the power needed to run servers and storage arrays, hardware and software maintenance fees, and the salaries of employees that manage, maintain, and upgrade internal applications.

According to the Gartner Group, most IT departments spend at least 50% of their budget on salaries, and up to 70% of IT staff time is spent on maintenance. In-house IT specialists can cost US\$100 per month per employee. A hosted service, on the other hand, may charge only half that amount for a suite of managed file and print services, e-mail and a document portal. Hosted services also provide 24x7 monitoring, helping to reduce system downtime.

### **1.1.1.2 *Capital expenses***

Cloud computing gives customers a chance to eliminate the capital expenses required to install, configure, and maintain internal applications. Costly one-time purchases of storage, servers, and software can often prevent companies from installing productivity applications such as intranet portals.

### **1.1.2 Productivity Increases**

Cloud computing seeks to increase end-user productivity by giving people access to their data anytime, regardless of their physical location. Because the applications are abstracted from the organization's physical premises, users can be physically separated from the workplace.

A hosted solution also increases productivity through high availability and scalability. Also, a "shared" model allows smaller organizations to take advantage of previously unaffordable collaborative applications. Many organizations lose productivity by using out-dated collaboration methods in order to avoid the expense of servers, data storage, web conferencing and document management as well as IM software and support.

Many C-level executives are considering hosted solutions in order to let their businesses focus on what they do best. They no longer need to worry about buying, installing, configuring and supporting technology.

## 2. Microsoft's Cloud Offering: The Business Productivity Online Suite

All "cloud" vendors strive to provide secure data access from anywhere, at anytime. For this reason, Microsoft offers the Business Productivity Online Suite (BPOS), a set of hosted messaging and collaboration solutions that includes:

- Exchange Online (e-mail)
- SharePoint Online (intranet / web portal)
- LiveMeeting (web conferencing)
- Office Communications Online (instant messaging / presence)

BPOS comes in two varieties: BPOS Standard and BPOS Dedicated. Standard is a *shared* environment; it is one (large) Exchange server farm shared by many customers or tenants. Dedicated environments give each customer its own Exchange server or SharePoint farm.

BPOS Dedicated is similar to having your servers hosted in someone else's data center. BPOS Standard may have multiple organizations using the same servers, also hosted in someone else's data center.

Customers pay a per-user fee to access these applications. Below is a chart outlining the applications offered by BPOS and the corresponding clients and back-end products used by Microsoft:

Application	End-user client	Back End server	Web-based client?
E-Mail	Outlook	Exchange	Yes
Web Conferencing	Live Meeting	Live Meeting	Yes
Instant Messaging/Presence	Office Communicator	Office Communications Server	Yes
Intranet	Internet Explorer	SharePoint Server	Yes

Due to the "shared" nature of BPOS Standard, there are feature differences. For example, in BPOS Standard SharePoint Online, no custom web parts can be deployed and no enterprise search capability across multiple site collections is allowed. This prevents a standard customer from executing a search query and returning results from another customer's SharePoint Online sites.

These applications listed above, which may be purchased separately or together as the suite, reside in Microsoft data centers across the globe.

## **3. E-Mail - Exchange Online**

Customers currently benefit from the existing Exchange Hosted Services (EHS) environment that Microsoft offers for spam and virus filtering. This EHS infrastructure has already been used for dedicated hosting of some very large customers; it has also been the backbone for FrontBridge and ForeFront services. But Exchange Hosting Services never actually offered hosted e-mail; it only offered e-mail filtering services. It was only logical for Microsoft to extend beyond spam/virus filtering to offering a full solution for hosted e-mail.

### **3.1 Market Drivers for Migrating to Exchange Online**

#### **3.1.1 Easy Upgrades**

Message systems frequently need upgrading. There has always been a push to migrate from legacy versions of Microsoft Exchange to the latest editions with the newest features. With Microsoft Exchange Online, organizations will get the newest Microsoft technologies and releases at no additional charge.

#### **3.1.2 Skills Required to Upgrade and Maintain**

Building and designing a brand-new Exchange on-premises environment can be costly beyond the obvious hardware and software costs. One of the greatest expenses is upgrading the skills of current IT employees. As IT budgets and headcounts are reduced, it is often impossible to deploy and maintain a new messaging system because of the need for additional hires or extensive training.

But Exchange Online requires only that companies train their staff to support users of the hosted solution, and not on complicated architecture design.

#### **3.1.3 Data Management**

Disk costs for messaging systems are notoriously costly, both in dollars and gigabytes. It's common for organizations to have little control over data accumulation and retention policies. This accumulating data requires larger and larger disk arrays.

These expanding arrays eat up physical space in data centers, draw huge amounts of power, and require significant cooling and maintenance. Often times, this data is redundant; storing old and incidental data that may also exist in duplicate locations across tape-backup systems, online-archival systems, and replicated disaster recovery systems. And as multimedia and content rich documents grow even larger, mailboxes will continue to grow even larger.

### **3.2 Best Practices for Migrating from Disparate E-Mail Systems to Exchange Online Standard**

The first wave of Exchange Online adopters consisted primarily of small- to medium-sized organizations running disparate e-mail platforms such as IBM Lotus Notes and Novell GroupWise. The primary driver for these Notes and GroupWise organizations was to rid themselves of the licensing and administrative costs of managing e-mail on-premises. The following sections will focus on the best practices for migrating to Exchange Online Standard from IBM Lotus Notes and Novell GroupWise.

### **3.2.1 Coexistence Scenarios**

For companies who will be migrating over an extended period of time, before any content can be migrated up into the cloud there must first be a level of interconnectivity established between the on-premises mail system and Exchange Online. While local installations of Microsoft Exchange can be configured for e-mail coexistence through the Microsoft Online Administration Center (MOAC), foreign mail systems may not be able to utilize the same process. It is critical to understand that coexistence is specifically limited to *mail flow*. By validating a company domain online and setting up forwarding contacts locally, the systems can be configured to route mail from MX-leveraged source servers up to specific pilot mailbox in the cloud. This can be accomplished by setting mail forwarding on the local mailboxes (using either standard forwarding or store-and-forward configurations) which route inbound messages directly to the associated mailbox in the cloud. Each BPOS mailbox will always have a secondary \*.*microsoftonline.com* SMTP address which can be used to deliver messages to it when MX records have not yet been altered and company-owned domains still are configured to route messages to on-premise systems. But outside of handling inbound SMTP mail-flow, there is no way to synchronize calendar data (i.e. free/busy look-up) or to synchronize mailbox data from the Exchange Online mailboxes back into on-premises mailboxes. In addition, to establish directory synchronization, you will need to merge your Notes or GroupWise directory with an on-premises, staging Active Directory. Directory synchronization is discussed later in this paper.

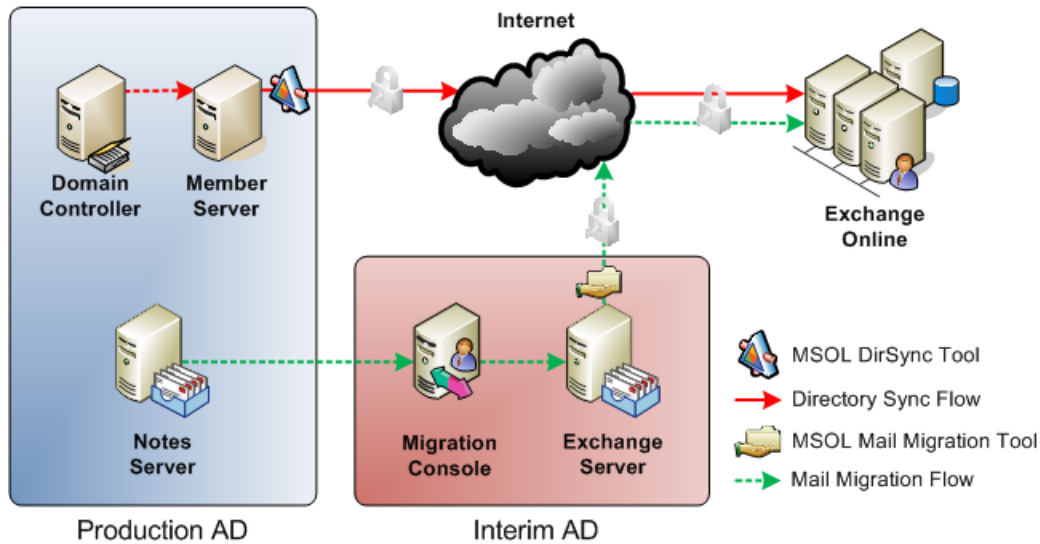
Thus, when planning the initial pilot stages of a Notes or GroupWise to Exchange Online migration, it is important to consider coexistence issues and make a decision to either (a) select pilot users who do not rely heavily on scheduling tasks or (b) move an entire small business unit over all at once so that they can see free/busy information among themselves. If this type of delineation cannot be found in the environment, then you may need to set up tandem mailboxes for the pilot users. This will enable them to use their on-premises legacy mailboxes for all primary work functions, but they can still test Exchange Online as a group by using store and forward mail routing and sample appointment data.

### **3.2.2 Content Migration Paths**

Depending on the tools selected to perform the mail migrations, there are two paths that can be chosen: using the native BPOS toolset to move legacy mail to Exchange on-premises, facilitating a like-to-like migration to the cloud, or using a migration tool to directly connect to Exchange Online from the disparate legacy platform. The latter is the more preferred approach, but both will be reviewed.

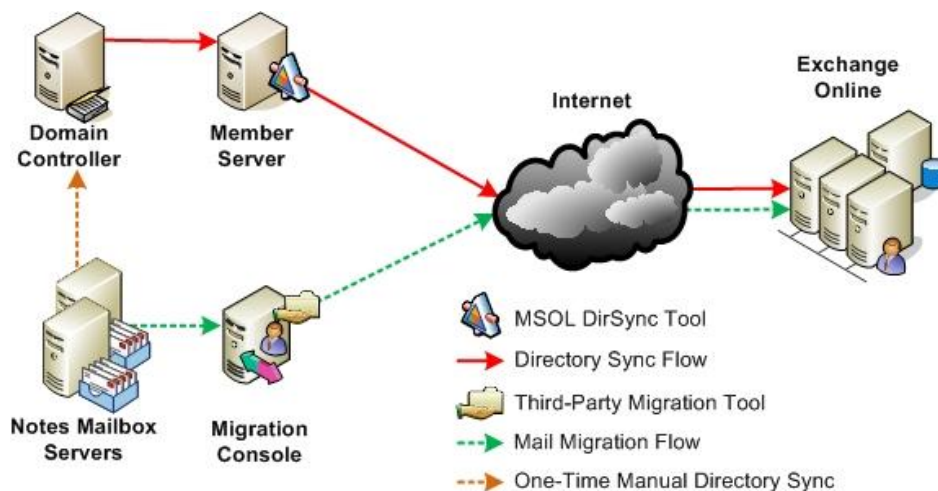
#### **3.2.2.1 On-premises to Exchange Online (Two-Hop)**

Previously, the only option available to migrate data from a disparate e-mail system like Lotus Notes/Domino or Novell GroupWise was to perform an on-site migration into a completely new Exchange deployment. It would need to be built out in an interim Active Directory forest, entirely separate from an existing production forest/domain.



### 3.2.2.2 Direct to Exchange Online (One-Hop)

Third-party migration products can now support MAPI-based RPC/HTTPS connections directly into hosted mailboxes. This makes it possible to move Notes and GroupWise mailbox content directly up to Exchange Online in a single hop, reducing the processing time in half and removing the need for an overly complicated chain of manual and automatic directory synchronization. Using the Lotus Notes migration example below, a third-party migration product can directly log in to all hosted mailboxes by using an administrative account's credentials and move mailbox data from the individual user's Domino server mail files.



### 3.2.3 Configuration

Microsoft's [Migrate to Microsoft Online](#) document covers much of the configuration settings needed to set up BPOS messaging and configure mail flow. Here are some additional best practices that are based on real-world migrations:

- Setup a dedicated administrative account within MOAC (e.g. *migrator@companyname.com*) to be used by the third-party migration tool and engineers, which can then be deleted upon completion of the project. The built-in admin account does not contain a mailbox (by default) and alerts (like Directory Synchronization error logs) will be sent to a technical contact e-mail address. Account activation passwords can also be sent to this same mailbox for archival and simple recover (via Outlook Search). Using a single account to keep track of all things migration-related also can simplify the process.
- Create a new organizational unit (OU) in the production Active Directory domain to store all Exchange Online-related objects (outside of standard user accounts). The migration tools will ask for a specific location in AD to create new objects of different types, so having separate child OUs for *Contacts*, *Distribution Lists*, *Conference Rooms*, and *Shared Mailboxes* is highly recommended.
- Whether moving away from on-premises or a hosted mail scrubbing solution, there is typically a configured list of safe/blocked senders. Duplicating this configuration in MOAC prior to migrating an MX record ensures that there is no interruption in mail delivery from systems that may have been previously white-listed.
- The Outlook Web Access URL for BPOS customers is automatically configured as "https://*companyname1*.mail.microsoftonline.com." This can be quite difficult for users to remember. If you are transitioning from a current URL (e.g. *mail.company.com*) or using a new URL in the company's domain, you cannot set up a CNAME record in DNS because the certificate name on the OWA site's SSL configuration must match the URL in the browser's address bar. The recommended approach is to use a simple meta refresh command on a hosted website for the desired URL, redirecting the user to the correct OWA URL. This meets the certificate name matching requirements and prevents users from having to remember the actual URL.

### 3.2.4 Directory Synchronization

When you are using the Microsoft Online Services Directory Synchronization Tool, users from an on-premises Active Directory (AD) can be synchronized with the hosted Active Directory either before or after the content migration process has started. This leaves some flexibility in the planning stages. One approach that works well is to manually create a handful of pilot mailboxes in MOAC. You can then begin testing the content migration processes while the time-consuming AD cleanup tasks can be completed. The online account's SMTP address must exactly match the associated user account's *mail* attribute in the on-premises AD environment to ensure that the accounts will be permanently linked during the initial DirSync process.

In order to have a successful first-time Directory Synchronization pass, it is important to verify that the mail field in all current AD objects (all user accounts, groups, and contacts) is uniquely configured to ensure that there are no conflicts between objects. A simple approach is to perform a CSVDE or LDIFDE export of the entire Active Directory forest for just the *mail* attribute (and any other descriptive fields) to reconcile the data. Only user accounts that are to be activated within Exchange Online should have any values, and they should all include addresses in only online, validated domains. All other users accounts, like service accounts or non-

employees, should have the *mail* attribute wiped so that those accounts will not be given SMTP addresses in the custom company domain.

Unfortunately the Microsoft Directory Synchronization tool will replicate *all* AD accounts from the source AD to the BPOS directory. This includes service accounts and other accounts that need not be replicated for Exchange Online or SharePoint Online purposes. At this time, the BPOS tool does not allow for a filtering mechanism.

### **3.2.5 Content Migration**

All on-premises migrations require a decision on the scope of data that will be moved between mail systems. The amount directly effects the migration time and flexibility. This is even more critical when migrating to Exchange Online as all data will have to be copied over the Internet. This typically takes longer than moving mail between servers in the same data center or LAN/WAN backbone. Introducing inherent Internet latency can add considerable time to the data migration portion of the project.

#### **3.2.5.1 Mailboxes**

For the above reason, it is suggested that the scope of mail data be reduced to a manageable amount and the opportunity taken to perform archival processes. By migrating only recent data (e.g. the last 30 days of e-mail) instead of entire mailboxes, which could be in excess of several GBs, thousand of mailboxes can be migrated over a weekend instead of over several weeks. There are ways to get all of the data into the mailbox ahead of time, or after the migration by back-filling data. However, the longer this period stretches out, the less likely it is that the target mailbox will match the source mailbox. Deleted items would not be synchronized, nor would some movement of objects into different containers.

Exchange Online offers very large quota settings per mailbox and has affordable storage costs. To take advantage of this, you may want to migrate all current mailbox data up into the cloud. But this is best handled by back-filling mailboxes *after* a migration is completed and all users are working happily in Outlook.

#### **3.2.5.2 Resources**

Besides the standard one-to-one person mailboxes, there may be many additional mailboxes used for booking resources, sharing an e-mail address, and other business-related tasks. If these objects do not currently reside in Active Directory, they should be added prior to initializing directory synchronization. Conference rooms must be created online first using the Administration Center, but other shared resources can simply be created via the first full DirSync pass.

#### **3.2.5.3 Contacts/Address Books**

Because contact items are always important and rarely take up much space, they are almost always entirely migrated. Personal distribution lists are also included in the scope and would be moved.

#### **3.2.5.4 Calendars**

Typically calendar data is also moved in bulk, even though much of the past history may not be required. A simple approach is to move only a year's worth of past appointments along with all future items. This can reduce the overall processing time. But if a recurring meeting's creation or modification date falls outside of the migration scope, the entire series of appointments

would not be migrated. If sustained coexistence is established using a third-party coexistence product, these recurring meetings can be maintained with full fidelity.

#### **3.2.5.5 Archives**

Local archive files can be migrated over to PST files for users to access them directly with Outlook on their own workstations for historical purposes, reducing any need to access the legacy mail system.

### **3.3 Exchange Online Dedicated**

#### **3.3.1 Overview**

While the focus of section 3 is Exchange Online Standard, it is worth taking a moment to briefly examine the Exchange Online Dedicated offering.

Exchange Online Dedicated is available for customers with a minimum of 5,000 users. The dedicated model involves using a set of “dedicated” servers for your organization, not shared by any other BPOS customer.

This allows for a greater degree of control over the platform and impacts the migration process. Exchange Online Dedicated customers are able to make the same customizations and modifications to the hosted Exchange environment as they would to an on-premises Exchange deployment. Because of this, migrations to the Exchange Online Dedicated environment may resemble an on-premises migration more than migrations to Exchange Online Standard.

#### **3.3.2 Impact to Migrations**

As described in the previous sections, Exchange Online Standard does not allow for a traditional “coexistence” period with non-Exchange mail systems. This is because coexistence periods require directory synchronizations with non-AD directories – a Domino directory, for example – as well as calendar free/busy lookups. During traditional migrations from one on-premises system to another, third-party connectors and synchronization tools are often used for mail migrations while users are slowly migrated to the new platform.

In a shared environment, however, these types of connectors and synchronization tools would be extremely difficult to maintain in a secure manner. As a result Exchange Online Standard will not support any of the third-party tools required for longer migrations with coexistence periods.

Exchange Online Dedicated is not a shared environment, and does not have similar restrictions for third-party coexistence and migration tools. Exchange Online Dedicated customers are able to install third-party directory synchronization and coexistence tools and perform migrations to Exchange as though they were migrating to Exchange on-premises.

## 4. Intranet Portal - SharePoint Online

Microsoft's Business Productivity Online Suite solution for intranet collaboration is SharePoint Online. SharePoint Online offers customers the same benefits they would expect from Microsoft Office SharePoint 2007 (MOSS) without the added overhead that comes along with managing an externally-facing SharePoint farm. Organizations' growing concern over internet security and reducing the total cost of solution ownership has created a recent upswing in SharePoint Online implementation.

### 4.1 Market Drivers for Migrating to SharePoint Online

When deciding whether to use a self-hosted solution or SharePoint Online, organizations may ask:

- What is SharePoint's service level agreement? If high availability is required, will IT be able to provide support in the event of a disaster?
- Does our current infrastructure allow for external access to SharePoint sites? Is IT willing to take on the added burden of ensuring that all external sites are safe from malicious attacks?
- How much will it cost to maintain servers? Moreover, is there space in our current data center for servers to support a SharePoint farm?
- Do we have staff onsite that is comfortable maintaining and supporting a complete SharePoint Infrastructure?

Companies that face time constraints or tight deadlines for implementation of SharePoint also can benefit from SharePoint Online. ***SharePoint Online can be up and running in minutes rather than the days or weeks required to setup a SharePoint farm onsite.***

The majority of organizations considering SharePoint Online are those that want to keep maintenance costs down and have little to no need for customizations to the SharePoint sites.

### 4.2 SharePoint Online Standard

SharePoint Online is available in two difference versions, standard and dedicated. SharePoint Online Standard is a multi-tenancy system, meaning that multiple customers will access one architecture. Site content is safe from other organizations since the SharePoint Security Model does not allow for cross-site collection permissions. The standard version is typically for smaller deployments, those under 5,000 users or less. They are also quicker to deploy.

SharePoint Online Standard users have full access to their own SharePoint site collection. Site collection administrators have access to everything in that site as well as in sites below it. SharePoint Online templates can be chosen, features activated, and permissions maintained directly from the site collection settings menu. This interface is exactly the same as that of an on-premises solution.

Aside from site collection administration, access to central administration and the shared service provider are **not** available to SharePoint Online Standard customers. This allows for a much more simplified administration model since the IT department staff can focus on SharePoint Online's usability rather than its maintenance and administration.

SharePoint Online Standard offers the flexibility of using an organization's on-premises AD to provide authentication to sites or it can use a separate directory. Many customers wish to offer extranet access to their SharePoint sites and are unaware of the consequences of potentially allowing outside users in their AD or creating trusts to other directories. SharePoint Online mitigates this risk by offering an outside authentication provider.

### **4.3 SharePoint Online Dedicated**

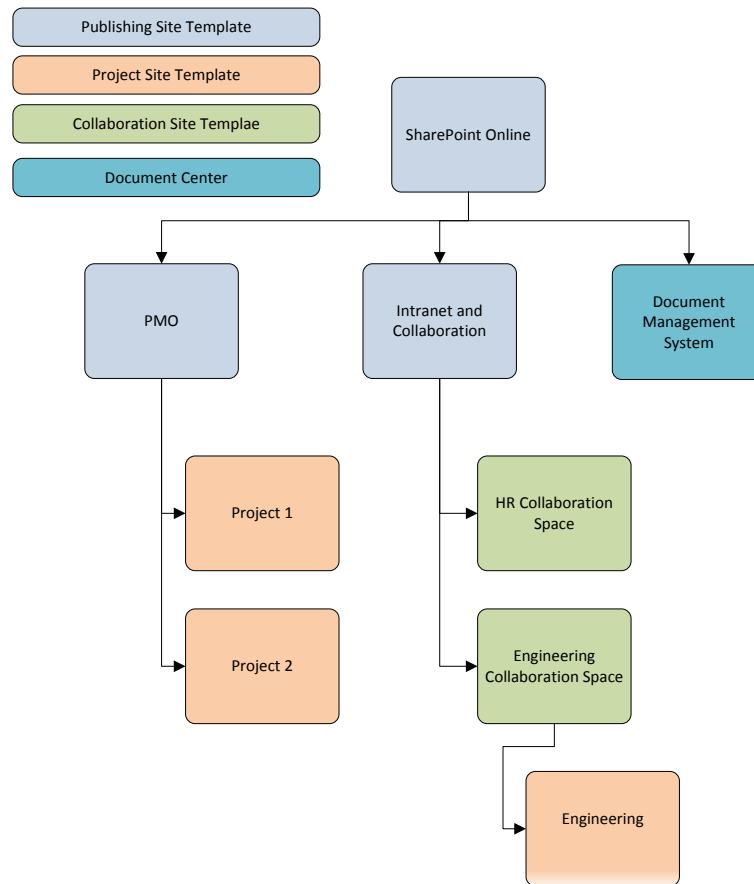
The dedicated version of SharePoint Online offers dedicated architecture for an organization's SharePoint farm. Typically, these organizations are larger or need more features for the site. SharePoint Online dedicated users are able to take advantage of all of the services of the Shared Service Provider: personalization services, advanced search, Excel Web Services, and the Business Data Catalog are all available in a dedicated environment.

### **4.4 Information Architecture Planning**

SharePoint Online will require information architecture and taxonomy planning to ensure the same site usability as SharePoint on-premises implementations.

During information architecture planning, migration paths are often discussed. It is important that poorly structured hierarchies from legacy systems are not carried forward to the new SharePoint implementation. New sites and old content need to be discussed and properly mapped out during the information architecture planning process.

Once the site's information architecture is finalized, decisions about security and taxonomy can be made. Having a solid information architecture is critical because security permissions will build off of the site structure. A sample information architecture is depicted below.



## 4.5 Challenges when Migrating to SharePoint

Migrating to SharePoint Online, regardless of the source from which the migration is made, presents a number of challenges. These challenges can be divided into three main groups: security-related, user-interface-related and functionality-related. Of course, there are many challenges that are specific to the migration source. So, for example, the functionality-related challenges associated with moving from a file system to SharePoint Online are fewer than those for moving from an application such as Lotus Notes.

What are some of the specific challenges that are potentially presented by a SharePoint Online migration? The next few paragraphs review some of the most significant ones.

### *Security challenges*

As already mentioned, security-related challenges are the first ones to be considered by many people. It can be difficult to successfully apply current permissions and rights metadata to the migrated content, especially if the source and the target repositories do not share common sets of permissions and rights. An example of this would be migrating files from a non-Windows system to SharePoint Online. In the non-Windows environment the base permissions and rights will not map one-for-one to the permissions and rights found in the Windows environment. These are the basis for the permissions and rights found in SharePoint Online. The migration will require a default mapping and some custom mapping may be required.

### *User interface (UI) challenges*

UI-related challenges cover many aspects of a migration. Ignoring "look and feel" is a common mistake made in many migrations, not just migrations to SharePoint Online. If the source is an application, such as Lotus Notes, forms created in the target environment, SharePoint Online, will often need to look and behave like the forms that existed in the source. A related challenge that needs to be addressed early in the planning is determining which forms and behaviors are required in the target environment. It is wrong to assume that all source forms and behaviors must be moved to SharePoint Online just as it is wrong to assume that the source look and feel does not need to carry over to the new environment. Both assumptions are very dangerous and can ultimately lead to a failed migration once user acceptance testing occurs.

The organization, navigation, linking between files and general browsing provided by SharePoint Online can all create UI-related challenges. It is important to plan how to use SharePoint Online's features and capabilities to strengthen the source environment's navigation and links. It is also important to be able to modify the structure or organization of source content, even in the process of conducting the migration, so that additional and new capabilities can be leveraged.

Another potential challenge is mapping the views of source data to views in SharePoint Online. Any set of data - for example, a list of files, a set of discussions or a calendar of events - for one person is not necessarily the same for all consumers of that data. These views allow for differences and reduce, if not eliminate, data or information overload.

#### *Functionality challenges*

Perhaps the most difficult set of challenges are those that are functionality-related. As we have seen, these are not the only ones that can seriously derail a migration, but because there could be multiple source applications and SharePoint Online is the sole target application, they present the most significant set of challenges. Mapping the functions of these applications is difficult. (Note: the phrase "sole target application" not "sole target application *platform*", "was used intentionally. As the parity between SharePoint Online, dedicated or standard, and SharePoint on-premises increases, the phrase *application platform* can eventually be substituted. This will ease the difficulty of mapping functionality.)

Functionality-related challenges may include the association of workflows with types of documents or forms, the ability to carry forward data-types (SharePoint Online content types, for example) and their metadata, calculated fields, multi-value fields, and rich text fields.

Carrying metadata forward is one of the chief concerns in this area. Versioning is one type of metadata that can present significant challenges when conducting a migration. This is a critical area considering the amount of carry-forward that will take place during the migration. Often repositories that provide versioning may have hundreds of versions associated with the primary file or document. In very few cases are any of those versions actually serving any business - related purpose or providing any real value. Once version triaging has occurred, there are still potential issues associated with migrating the primary documents and their versions to SharePoint. Information regarding what has changed, who made it, when it was made and the version sequence all present challenges to the migration effort.

Discussion forum items present another area of challenge. Maintaining comment history and nesting with respect to a particular thread are important if migrated discussions are to be easily used and followed in SharePoint. Often, migrations performed using tools or utilities transition

the discussion list topics but fail to carry forward the relationship between an original post and the follow-on comments. This makes the migrated content very difficult to use.

Multi-value and calculated fields present their own challenges. In the case of multi-value fields, this includes migrating all, rather than a specific number, of the values associated with a particular item. Calculated fields present challenges because in some cases identical native functions are not present in both the source and the target environments.

## **4.6 Migrating from Legacy Collaboration Platforms to SharePoint Online**

Legacy content and applications are often addressed by a SharePoint solution. SharePoint Online offers a rich set of base features that can address many needs, including providing a home for customers' current systems while offering additional functionality to the business.

Moving away from legacy systems to SharePoint Online, however, can be cumbersome, difficult and time-consuming without the aid of a third-party migration solution. Whether you are transitioning Lotus Notes, Exchange public folders, file shares, or SharePoint on-premises, there are tools that can simplify and accelerate the process.

Migrating content from on-premises SharePoint servers or from legacy applications such as Lotus Notes differs greatly between SharePoint Online Standard and Dedicated editions.

With SharePoint Online Dedicated, the only supported way to migrated content is via content databases. Organizations would typically deploy an on-premises staging server, connected to the same AD environment as the one being replicated to hosted environment, and first migrate to that. There are a number of tools available for migrating content from SharePoint 2007, SharePoint 2003, Exchange public folders, Lotus Notes applications, E-Rooms, and file shares to your staging environment. In complex cases, this may be a significant project involving schema mapping, security mapping, field mapping and more. Once an organization has populated and validated one or more content databases (each of which may contain multiple site collections), they need to detach them from the staging servers and ship them to Microsoft for reattaching in the hosted environment.

Unfortunately, the current version of SharePoint Online Standard does not provide a way to migrate content with reasonable fidelity. Created/modified dates, the author names, and the permissions of migrated documents cannot be preserved. These limitations may be acceptable in certain cases, such as migrating file shares or content publishing sites where meta-data is not critical. However these limitations effectively prevent the migration of existing document libraries, team rooms, and most other applications. Organizations needing to migrate such applications may elect to go to SharePoint Online Dedicated due to these restrictions.

### **4.6.1 Migrating from Lotus Notes**

Migrating from Lotus Notes to SharePoint Online can be a daunting task. Administrators need to ensure that all content is accurately migrated with minimal downtime. It may also be difficult or undesirable to match the Notes content hierarchy with that of SharePoint Online; source and target security questions may also require serious attention. Third-party tools can address these issues. The best of these tools assess the current Notes deployment cataloging various types of content on the site. This helps administrators set realistic expectations around the migration since it allows them to gain a more complete understanding of the current environment.

## **4.6.2 Migrating from File Shares**

Another common repository that is a SharePoint Online target is network file shares. SharePoint Online offers a number of features around document management, including: metadata tagging, metadata filtering, views based on metadata, search, document check-in/checkout and versioning. File share migrations typically allow for a gradual migration approach. These sources are often perfect targets and their migration may present the best opportunities to triage old, sometimes very old files. As mentioned earlier, files that have links with other files, such as spreadsheet files that are dependent upon other spreadsheets, might not be good candidates for migration.

## **4.6.3 Migrating from Exchange Public Folders**

Migrating Exchange public folders to SharePoint Online often involves moving the documents contained in those folders into SharePoint Online document libraries. Sometimes the entire public folder repository is converted into a SharePoint document library. However, both of the tool(s) used in this migration and the content of the Exchange folders need to be examined closely to guarantee a successful migration. For example, e-mail messages contained in public folders are often converted to files of type *msg*. Additionally, large or complex Exchange public folder hierarchies are not properly migrated. Careful prior planning and a series of trial migrations are essential in effectively migrating Exchange public folders to SharePoint Online.

## **4.6.4 Migrating from Legacy SharePoint Platforms**

Some organizations need to migrate from SharePoint 2001/2003 to SharePoint Online to take advantage of the new features of SharePoint 2007. Out of the box tools will assist in the migration of legacy SharePoint versions to SharePoint Online. However, these tools are usually inefficient and may not provide the expected results. Again, third-party tools will simplify the migration of SharePoint 2001/2003 to SharePoint in a BPOS Dedicated environment.

## **4.6.5 Cleaning House**

In any migration, one of the most important steps during the planning process is to identify the source content that does not have to be migrated. Often this step is overlooked by organizations moving to SharePoint Online. They may believe that all of the content in the current repository or repositories must be moved into the SharePoint Online environment. A good migration plan will include a process that uses a number of criteria to weed out the content that should be left behind. Left behind should not necessarily mean unavailable. This is the perfect time to differentiate between content that should be treated as official company records and content that can be destroyed.

## **4.6.6 Iterative or Step-wise Migrations**

Often it is desirable, or even necessary, to conduct a migration in a series of iterations or steps. First, some documents or files are migrated to SharePoint Online. Then additional metadata might be applied through the use of schema to some of the content that has already been migrated. This type of migration requires careful planning and a sophisticated toolset. It gradually builds the content in SharePoint Online the same way that layers are used to build up a microprocessor. Each successive step provides an additional piece needed to create the desired hosted SharePoint environment.

## 5. PointBridge and Quest

PointBridge and Quest have taken the lead on migrating customers to the Microsoft Business Productivity Online Suite; they have moved several thousand users within the first few months of service availability. Together, Microsoft, Quest and PointBridge offer customers a fast and efficient migration to BPOS.

### **PointBridge**

PointBridge, as a Gold Certified Partner and Microsoft's 2009 Online Services Partner of the Year, has in depth experience in the areas of SharePoint, Exchange and Office Communications Online. Since the launch of BPOS PointBridge has deployed over 3,000 seats across all of the BPOS product areas. PointBridge has worked with clients to apply the Online solutions to solve business challenges, not just for its technical merit. The keys to success for PointBridge have been to provide clients with migrations, risk mitigation and best practices.

For more information about PointBridge and the Microsoft Business Productivity Online Suite, visit <http://www.pointbridge.com/services/Pages/SoftwareasaService.aspx>.

### **Quest Solutions for Migrating to Microsoft's Business Productivity Online Suite**

Quest's BPOS solutions provide efficient, cost-effective migration of legacy e-mail, calendars, tasks, and personal address books to Exchange Online, including content from Lotus Notes and Novell GroupWise. They also simplify the migration and reorganization of file shares and public folders, as well as Notes, QuickPlace/QuickR, Domino.Doc and legacy SharePoint application content to SharePoint Online. Quest solutions also provide storage and archiving capabilities prior to a migration, as well as pre-migration assessments of Notes, Exchange, BlackBerry, Windows Mobile and other messaging components and environments. Quest is a Microsoft Gold Certified Partner and was a finalist for Microsoft's 2009 Notes Transition Partner of the Year award.

For more information about Quest's migration solutions for Microsoft Business Productivity Online Suite, visit [www.quest.com/bpos](http://www.quest.com/bpos).

## 6. About the Authors

### **Jeff Schertz**

Jeff Schertz, a Senior Consultant for PointBridge and Microsoft MVP, focuses on unified communications deployments with a background in designing and developing directory and messaging solutions for converging business environments. He performed the first large-scale mail migration projects from foreign messaging systems directly into the BPOS-Standard cloud. Prior to PointBridge, Jeff has consulted on projects from targeted global messaging migrations to supplying complete IT solutions for small businesses.

### **Keith Ridings**

Keith Ridings, Product Manager for Quest Software, specializes in Lotus Notes and Novell GroupWise migration and coexistence solutions to the Exchange Server/Exchange Online platform. Ridings presented “Migration to Microsoft Online Services from Exchange and Non-Microsoft Platforms” at Microsoft Tech•Ed 2009 with Microsoft Senior Program Manager Erik Ashby. He also co-authored the Quest white paper, “Avoid the Top 10 Exchange Migration Headaches”. Previously, Ridings served as senior architect with Quest, delivering migration solutions and strategies to the enterprise. Before joining Quest, Ridings served as a network engineer for a large legal firm where he was responsible for the messaging environment and messaging applications.