Microsoft

Microsoft® Exchange

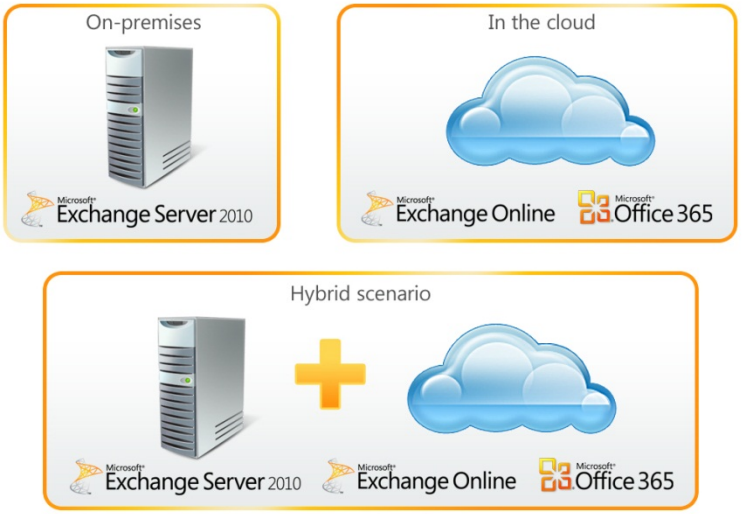
WHITEPAPER

How Should Your Organization Deploy Microsoft® Exchange?

Choosing between Exchange Server on-premises, Exchange Online in the cloud, and hybrid deployment options

Introduction

The purpose of this paper is to help you choose how to deploy Microsoft Exchange: as Exchange Server 2010 on-premises, Exchange Online with Microsoft Office 365 in the cloud, or using both in a temporary or permanent hybrid scenario. Knowing the benefits and limitations of each deployment option can help you make the right decision for your organization. Whatever you decide, the deployment flexibility that Microsoft provides with Exchange makes it easier for you to get the right solution for your business.



Growing numbers of organizations are choosing to move email infrastructure to the cloud—that is, consuming email as a hosted service over the Internet rather than deploying, provisioning, managing, securing, and updating email servers in-house. The benefits of this approach include the following:

- Reduced IT costs
- Increased agility in meeting organizational needs
- Increased availability and reliability
- Having the latest technology without having to migrate or upgrade

Exchange Online can help your organization realize these benefits, and although moving to Exchange Online is a growing trend, cloud-based email may not be the right choice for every business. With Exchange Server 2010 and Exchange Online, you can benefit from cloud-based email on your terms because of the Microsoft commitment to providing choice and flexibility. Rich hybrid capabilities enable you to have some users on Exchange Online and others on Exchange Server 2010, with both groups able to communicate, see each other's presence status, and so on.

> *"Organizations will increasingly use a hybrid model for e-mail services, thereby taking advantage of the cloud model while mitigating some of the risk."—Matthew W. Cain, Gartner Research (Combining On-Premises and Cloud E-Mail: Perfect Together?, April 2011)*

This document is not intended to be the following:

- A deployment guide. It is meant to help you decide whether to deploy Exchange on-premises, through the cloud, or both, not perform the actual deployment. You can find Exchange deployment and upgrade guidance at http://technet.microsoft.com/exdeploy2010.
- A guide to solutions hosted by Microsoft Partners. This paper is about Exchange Online hosted by Microsoft as part of Office 365, although many of the same principles apply.

Comparing Benefits of Exchange Server 2010 and Exchange Online

Exchange Server 2010 and Exchange Online are built on a common code base, so their features are similar to a large extent. Both can help you achieve new levels of reliability and performance with features that simplify administration, help you manage risk by protecting your communications and improving compliance, and delight your users by meeting their demands for greater mobility and easier collaboration. Whether on-premises or online, Exchange is a reliable and flexible messaging platform that can help you lower your messaging costs and increase productivity. Both Exchange Server 2010 and Exchange Online provide the best productivity experience across PC, phone, and browser with Microsoft Outlook® on the desktop, Outlook Web App in the web browser, and Exchange ActiveSync®, the de facto industry standard for mobile devices.

Exchange Online is designed for organizations that want the cost, agility, and manageability benefits of cloud-based email without sacrificing the business-class capabilities that Exchange Server has provided for decades. With Exchange Online, Microsoft handles the ongoing maintenance, patches, and upgrades of the Exchange infrastructure while providing you the control and flexibility you require.

Exchange Server 2010 provides ultimate flexibility in configuring and customizing your deployment, as well as ultimate control over security, features, and performance. High availability and reliability are easier than ever to implement, while optimized data handling enables low-cost storage options. If you want the freedom to configure your server any way you want (including installing third-party applications on the server, customizing the transport pipeline, and so on), Exchange Server 2010 is probably the right choice for you.

Return on investment (ROI) analysis from Forrester Consulting, on hard benefits of Exchange Server 2010 shows a 48 percent ROI with a breakeven point (payback period) of less than six months after deployment. Total Economic Impact of Microsoft Exchange Server 2010 (Forrester Consulting, November, 2009)

Considerations for Choosing the Right Solution for Your Organization

Cost Savings

With Exchange Server 2010, product improvements help reduce costs associated with storage, administration, deployment, compliance, high availability, and more, all while getting the most up-to-date features and capabilities. For example, Exchange Server 2010 storage improvements enable you to use low-cost storage devices to provide larger mailboxes while maintaining performance and reliability. Such scenarios support rapid ROI for a broad range of businesses.

Because it is a cloud service, Exchange Online provides the potential for substantial reductions in total cost of ownership by eliminating the need to purchase, deploy, upgrade, and manage hardware and software. Additionally, 24/7 IT-level phone support is included in the cost of most Office 365 plans. Because it is licensed as a per-user, per-month subscription, Exchange Online turns large, unpredictable capital expenditures into more predictable monthly expenses, which is appealing to many organizations.

By providing an expanded range of features, including enhanced archiving, e-discovery, high availability, and storage, both Exchange Server 2010 and Exchange Online can reduce reliance on third-party services and applications that can be expensive to purchase, maintain, and manage.

> *"We are saving approximately $200,000 over the next four years by not deploying an on-premises messaging solution. And we can avoid future unknown costs of archiving, data protection, and managing the growth of mailbox sizes. With Exchange Online, we have flexible, pooled storage options where we assign anywhere from 256 megabytes to 25 gigabytes of storage to individual users' mailboxes. This means we don't have to pay $100,000 for an archiving solution, and we can defer planned storage expansion costs of approximately $150,000."—Craig Hergenroether, Chief Information Officer, Barry-Wehmiller Companies, Inc.*

Storage and hardware cost

On-premises storage system improvements in Exchange Server 2010 enable you to choose from a broader range of storage hardware compared to previous Exchange Server versions. These include low-cost, desktop-class Direct Attached Storage (DAS) as well as traditional Storage Area Networks (SANs). In Exchange Online, storage systems are managed by Microsoft, thereby relieving administrators of the burden. Failover takes place automatically with no disruption to users. Exchange Online includes mailboxes of up to 25 gigabytes (GB) with the option to add an archive with unlimited storage.

Mailbox size

Storage advancements in Exchange Server 2010 enable you to provide large mailboxes for your users easily and at low cost; Exchange Online offers mailboxes of up to 25 GB. In both cases, large mailboxes ensure that employees can access the information they need to do their jobs quickly and efficiently without spending excessive time managing their inboxes.

> *"We can save 50 percent on our long-term storage costs by using DAS rather than an SAN. We no longer have to pay a third party to maintain our SAN or pay for SAN software."—Hansram Ramrup, U.S. Wintel Manager, BGC*

Management and Control

You need to maintain appropriate levels of control over your IT infrastructure. Because you deploy and manage it yourself, Exchange Server 2010 provides the greatest degree of control.

With Exchange Online, you do not have the complete range of customization options, but you are freed from other tasks associated with managing your own email service in your datacenter. Exchange Online still provides control over important features such as policies, security, provisioning users, managing distribution groups, maintaining compliance, and so on.

Both Exchange Server 2010 and Exchange Online enable you to manage your deployment via a web-based console or using Windows Remote PowerShell™ to automate routine tasks such as resetting passwords or adding users.

Administration

Both Exchange Server 2010 and Exchange Online provide Role Based Access Control (RBAC), which allows you to delegate common or specialized tasks to your users without providing them with full administrative rights or increasing help-desk call volume. Both also offer the new Exchange Control Panel, a streamlined web-based administration console that is designed to be easy to learn and use. On-premises Exchange provides administrators full management control over their environment, whereas Exchange Online provides focused features relevant to each tenant such as recipient management, policy creation, and group management.

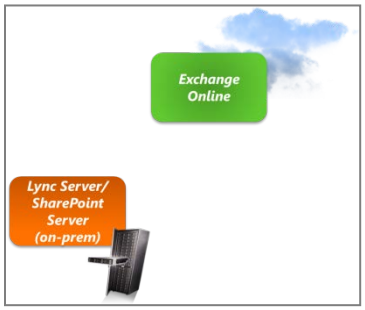
Exchange Online provides a separate Microsoft Online Services Portal for managing your Office 365 subscription.

Integration with Microsoft productivity tools

Exchange Server 2010 is designed to work with other Microsoft productivity software including Microsoft SharePoint® and Microsoft Lync™ Server. On-premises, organizations maintain more control over the integration of software applications. Unless you are using Exchange Server 2010 on-premises and Lync Online and SharePoint Online in the cloud, you must deploy and manage the additional servers.

If Exchange Online is purchased as part of an Office 365 plan, it automatically works with Microsoft Lync Online and Microsoft SharePoint Online to provide enhanced functionality to users such as real-time presence information, instant messaging, and SharePoint lists in Outlook. One of the key benefits of Office 365 is that it allows Exchange, SharePoint, Lync, and Office Professional Plus to work together as they were designed to. Office Professional Plus is included in many Office 365 plans, licensed as a per-user, per-month subscription.

Additional hybrid environment scenarios are also supported. Organizations choosing to move their mailboxes to Exchange Online, while maintaining Lync and SharePoint servers on-premises, give them the flexibility to deploy cloud services on their terms.



Lync and SharePoint on-premises; Exchange Online in the cloud

Upgrades

With Exchange Server 2010, you can decide when to apply upgrades or whether to deploy them at all. This provides you with the greatest degree of control over your environment, which can be important if, for example, you deploy custom applications with a high degree of dependency on specific Exchange features or APIs.

For many organizations, having their email service automatically upgraded to the latest feature set is one of the key benefits of Exchange Online. After a major upgrade is made available (such as one that removes an API), Exchange Online gives you 12 months to make the transition. For customers who want to wait more than 12 months to upgrade, Exchange Server 2010 is the right choice.

Reporting

Exchange Server 2010 allows administrators complete visibility into the inner workings of the deployment down to the level of detailed server logs.

With Exchange Online, you can use Remote PowerShell to obtain custom reports and data from Office 365. Exchange Online does not provide full access to server logs, because servers are managed by Microsoft.

Anywhere Access

Exchange offers secure mobile connection via browsers, laptops, and mobile devices, protecting your data while supporting easy access for today's mobile workforce. With Exchange Server 2010, enabling these capabilities requires you to turn on and configure mobile access and manage certificates, policies, firewall exceptions, and so on.

With Exchange Online, data security is built into the service, which is accessed over the Internet regardless of where users are located. You maintain control over policies and settings related to mobile access. Office 365 and Exchange Online offer a plan specifically for kiosk workers who do not have their own dedicated PCs.

Productivity tools

For users, the day-to-day experience with Exchange Server 2010 and Exchange Online is largely the same. Both deployment options provide time-saving inbox management tools such as enhanced conversation view, which automatically arranges messages into threads regardless of

"Our mobile employees might check voicemail anywhere from 5 to 10 times a day, at 5 to 10 minutes a session. By using Office Communications Server 2007 R2 and taking advantage of the voicemail preview feature in Exchange Server 2010, they can increase their responsiveness while saving more than 15 minutes a day. From a business perspective, that's an incredibly valuable productivity increase."—George Hamin, Director of E-Business and Information Systems, Subaru Canada

their location in the inbox, and MailTips, which inform users of details that could result in unnecessary or undeliverable email messages before they click "send." One advantage of Exchange Online is that new productivity features are added to the service without having to deploy upgrades in-house.

"Exchange Server 2010 offers some really nice retention management tools, including a native archive solution … We can provide guidelines about what constitutes important messages [employees] need to keep, but the technology really helps us by providing these retention policies."—Paul Sanderson, Technical Lead, British Sky Broadcasting Group

Voicemail

Exchange Server 2010 provides a transformed voicemail experience with speech-to-text previews of voice messages and user-powered voicemail menus and call-handling rules.

These capabilities are also included with some Exchange Online plans. Using Exchange Online for voicemail with an on-premises PBX requires an on-premises Session Border Controller at the network edge.

Protection and Compliance

In Exchange Server 2010 and Exchange Online, new integrated archiving gives you tools to preserve email data without changing the experience for your users or IT staff. Improved retention policies can be set by administrators and users to ensure that information is retained as long as necessary—and no longer. The new Personal Archive, a specialized mailbox associated with a user's primary mailbox, appears alongside the primary mailbox folders in Outlook or Outlook Web App, giving users direct access to archived email. Features such as Information Rights Management (IRM) protection and Transport Protection Rules further guard sensitive data from unauthorized access. Combined with the flexibility provided by the Exchange storage architecture, you can take control of your corporate email data and reduce or eliminate the risks associated with the proliferation of personal folders (.pst files).

"With Exchange Server 2010, we can give the auditors permission to pull mail out of mailboxes themselves rather than having me pull the data and ship it to them in a PST file. Now the nine hours a month I spend on compliance will be cut down to zero."—Andrew McNair, Wintel Infrastructure Manager, Cell C

Regulatory compliance

If your organization is a public corporation or is in a highly regulated industry such as healthcare, finance, and government, there may be strict rules about how email is used, managed, archived, and made discoverable. Both Exchange Server 2010 and Exchange Online provide compliance features including role-based access, multi-mailbox search, archiving, journaling, legal holds, and so on. These features make compliance easier for both on-premises and online Exchange deployments.

Microsoft global data centers comply with a host of regulations and security requirements. For more information, visit http://www.globalfoundationservices.com.

Even the most highly certified data center may not meet specific internal and external compliance criteria for your organization. For example, you may have specific policies about which countries can host your data, or you may need to know exactly where data is located at all times. Exchange Online may not meet those needs.

If this is the case, you can deploy Exchange Server 2010 on-premises to get the security, reliability, and productivity benefits of the latest version. You can easily migrate to or deploy alongside Exchange Online in the future. Rich hybrid scenarios enable you to move workers who do not deal with sensitive data to the cloud while keeping others on-premises.

Although Microsoft goes to great lengths to help ensure the security and privacy of customer data, some organizations prefer to keep their data within their own walls. Exchange Server 2010 gives them this flexibility.

Archiving and eDiscovery

Exchange Server 2010 and Exchange Online both offer the same great features for preserving and discovering email to meet legal and regulatory requirements. A new retention policy framework allows your IT staff to define, deploy, and automate the expiry and archiving of email data. In addition to default policies set by your IT staff, your users can select and apply retention policies to individual messages or folders. Exchange Server 2010 adds a new legal hold policy that retains and places on hold any edits or deletions of email data that users make. A simplified e-Discovery process with a new web-based, multi-mailbox search feature can be delegated to specialist users, like a compliance officer, without providing users full administrative privileges. The only substantial difference between Exchange Server 2010 and Exchange Online in this area is that on-premises, administrators manage the storage infrastructure.

Data protection

New Transport Protection Rules help you safeguard sensitive business information. You can automatically apply IRM policies to both email and voicemail messages after they have been sent, based on a range of message content criteria. This feature requires Windows Rights Management Server (RMS), which is not available as a cloud service. Therefore, organizations deploying Exchange Online must maintain an on-premises RMS server to take advantage of IRM functionality.

Anti-spam and antivirus protection

With Exchange Server 2010, you can add Microsoft Forefront® Online Protection for Exchange for hosted anti-spam/antivirus protection, or Microsoft Forefront Security for Exchange for an on-premises protection solution. Exchange Online has Forefront Online Protection for Exchange built in. Forefront Online Protection for Exchange, a premium anti-spam and antivirus solution, is regularly updated to help protect your organization from emerging threats, and it uses multiple virus-scanning engines for enhanced threat detection and mitigation.

Reliability and High Availability

In Exchange Server 2010, a new, unified approach to high availability and disaster recovery helps you achieve new levels of reliability and reduces the complexity and cost of delivering business continuity. With new features such as Database Availability Groups (DAGs), you can use the familiar Exchange

management interface to implement mailbox resiliency with database-level replication and failover. The deployment and management of these capabilities is greatly simplified in Exchange Server 2010.

These capabilities are also available with Exchange Online, with the added benefit that you do not need to manage the appropriate hardware and network resources yourself. In fact, you may find that cloud deployments can deliver more available, reliable, and high-quality services than you could provide using internal IT resources. Microsoft invests heavily in security, redundancy, disaster recovery, and operational excellence and has developed highly specialized expertise in running the services. Data is stored in state-of-the art Microsoft data centers with geo-redundant backups that are protected even from site-level disasters.

SLAs and availability reporting

Many organizations that manage Exchange Server on premises do not have a service level agreement (SLA) in place. Microsoft provides a 99.9 percent, financially backed uptime guarantee for Exchange Online. Another crucial aspect of reliability with cloud-based email is transparent communication and effective action when services inevitably have outages. Microsoft Online Services has a formal process for responding to and communicating about incidents that affect service availability.

Support

Organizations with on-premises Exchange deployments typically provide user support as well as more in-depth tier 2 and tier 3 support internally.

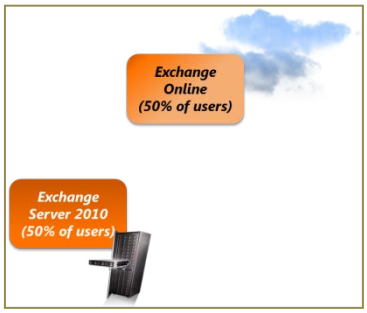
Organizations using Exchange Online still support users directly but rely on Microsoft for IT-level support. IT-level phone support is included 24/7 with many Exchange Online plans and is optionally available for Exchange Server 2010 customers, depending on their licensing agreement.

Technology Differences

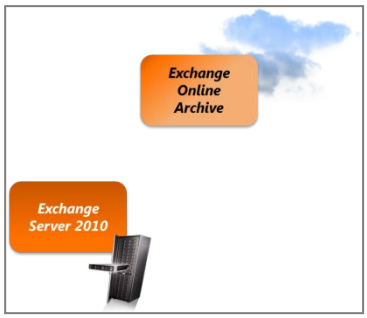
Although there is a high degree of parity between Exchange Server 2010 and Exchange Online, some feature differences remain. For example, public folders and older APIs are not supported in Exchange Online. For the most up-to-date information, see the appendix of the Exchange Online Service Description at http://go.microsoft.com/fwlink/?LinkId=207232.

Hybrid Scenarios

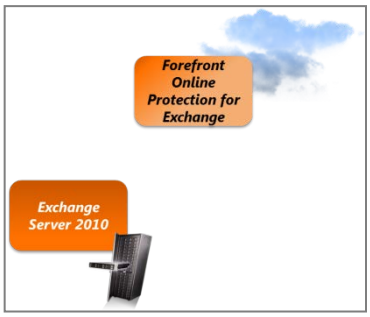
In choosing how to deploy Exchange in your organization, consider that Exchange supports various



Some mailboxes on-premises and some in the cloud



Mailboxes on-premises and archive in the cloud



Mailboxes on-premises and AV/AS protection in the cloud

hybrid scenarios. Your organization can choose to deploy a hybrid user scenario where some mailboxes are on-premises and some are in the cloud. There is also flexibility for your organization to deploy hybrid workloads, keeping mailboxes on-premises and putting anti-spam/antivirus or archive workloads in the cloud.

In a hybrid user deployment, users provisioned in Exchange Online and users provisioned in the same domain in Exchange Server 2010 on-premises can see free/busy information and coexist with one another almost as if they were using the same deployment.

In this scenario, at least one Exchange Server 2010 SP1 server is deployed on-premises and acts as a gateway between the premises and Exchange Online. As a result, users on-premises or in the cloud continue to have the same great Exchange experience from the desktop, web, or mobile phone. Moreover, administrators can manage their user base as one and synchronize their on-premises Active Directory® with Office 365 cloud services.

The most common use of a hybrid deployment is during large migrations. For a company with thousands of users, migrating everyone in a weekend is not feasible. Hybrid deployments enable you to migrate users to the cloud at a pace that makes sense for your organization. In some cases, organizations choose to maintain a hybrid Exchange environment indefinitely. For example:

- Academic institutions may choose to deploy Exchange Online for their students while maintaining Exchange Server 2010 for faculty and staff on-premises.
- Manufacturing companies may choose to keep corporate office employees on-premises, using Exchange Server 2010, while supporting floor workers with the Kiosk Worker plans in Office 365.
- A group inside a larger organization can run a pilot of Exchange Online while remaining connected to users of on-premises Exchange Server 2010.
- An organization has legacy, email-enabled line-of-business applications that do not interact with online services. If some users rely on such applications, they can remain in an on-premises Exchange Server 2010 deployment while other users' data is moved to the cloud.
- Multinational corporations may have employees in subsidiaries that require data to reside in-country. Those subsidiaries may maintain their data on-premises while the rest of the organization moves its data to the cloud.

Conclusion

Microsoft offers flexible deployment options, enabling you to choose the deployment style that best fits your needs. If you need the highest degree of ownership and control over your infrastructure and data, Exchange Server 2010 is for you. If you want the availability, management, cost, and other benefits of the cloud, you can deploy Exchange Online with Office 365. If you need to migrate gradually or maintain some user data on-premises and some online indefinitely, a hybrid deployment between Exchange Server 2010 and Exchange Online is available. Whatever you choose to deploy, Exchange delivers a flexible, reliable platform, anywhere access, and improved protection and compliance.

Resources

Exchange Server 2010: http://www.microsoft.com/exchange

Exchange Online: http://www.microsoft.com/online/exchange-online.aspx

Exchange Deployment Assistant: http://technet.microsoft.com/exdeploy2010

Microsoft Online Services: http://www.microsoft.com/online

Office 365: http://office365.com

Combining On-Premises and Cloud E-Mail: Perfect Together? (Matthew W. Cain, Gartner Research, April 2011)