Cloud-Ready Assessment Report

Prepared for:

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# Executive Summary

This Cloud Ready report is based on an analysis of your current IT infrastructure – Clients, Servers, VMs, Data Storage, and Applications (custom and packaged software) as scanned by an IT asset discovery tool, listed in this report, and analyzed by CloudRecon® developed by UnifyCloud LLC, a Microsoft Gold Partner, with expertise in Cloud migration services and tools.  
  
It is a snapshot in time and provides a strategic assessment of the opportunities available to you in the three major Cloud environments – Software as a Service (SaaS), Platform as a Service (PaaS), and Infrastructure as a Service (IaaS). Additional guidance on the steps to migrate to these Cloud environments is included in this report.  
  
This report is focused on the opportunities related to Microsoft’s leading Cloud solutions – Office 365 and Azure. Some findings can be related to other Cloud solutions, as well (e.g., Browser readiness for any SaaS solution). The highlights of these opportunities are outlined in this Executive Summary and in more detail in the body of the report.

## SaaS Opportunities – Office 365

SaaS solutions, such as Office 365, provide organizations using On-premises packaged software solutions a way to: lower cost of entry; reduce time to benefit; pay as you go; have the SaaS vendor be responsible for upgrades, improve uptime and security; experience higher adoption rates; and allow your organization to work anywhere. Your SaaS opportunities related to Office 365 include:

* Around 160 PCs are running Windows 7/XP and IE 9 or IE 8 or IE 6. They can and should be upgraded to newer browsers to support Office 365.
* The remaining 46 PCs are ready to run Office 365 and other SaaS solutions.
* Currently you are running 5 Exchange servers. With the standardization to Office 365, those physical servers can be retired or repurposed.
* There are 27 dedicated SharePoint servers and 9 Lync Server, with around users currently accessing the servers. With Office 365, you can free up those physical servers.

## PaaS and IaaS Opportunities – Azure

The Cloud brings the promise of not only doing things better, but also doing entirely new things. This is what is driving the digital business. PaaS and IaaS environments, such as those available in Azure, allow scalability, elasticity, agility, and the ability to integrate new and innovative services in a way that has not been possible before.

Your PaaS and IaaS opportunities related to Azure includes the migration of line of business applications to an Azure Platform as a Service (PaaS) environment that is a high potential opportunity for enterprise IT organizations. Based on the IT data discovered, the following Azure-related opportunities should be investigated in more detail:

* (9) installations of Visual Studio are good candidates to move to the Cloud for consistency.
* Applications running on the (41) Windows Server 2003 Machines could be moved to Azure, but likely will require modernization.
* There are a total of (368) VMs that have the potential to be moved to Azure directly as a “Lift and Shift” approach to reduce operating costs. In addition, there is the opportunity to further consolidate and right-size these VMs prior to Cloud migration for further savings.

## Financial Implications

While Cloud benefits such as: creating new business offerings and services; simplicity and speed; and driving “modern IT” are important, the ability to cut costs is still a top driver. Understanding the Cloud Total Cost of Ownership model and related Return on Investment realties are an important set of factors as you consider the opportunities outlined in this report.

IT managers who have a comprehensive view of the financial impact of Cloud technologies are more likely to have good discussions with finance executives. Otherwise, there can confusion around this financial impact that will slow down the adoption of valuable Cloud solutions.

## Cloud Total Cost of Ownership (TCO) Estimates

Over a typical five-year period, taking into account both Capital Expenditure (CAPEX) and Operating Expenditure (OPEX) categories, the TCO for Cloud services, properly sized as recommended in this report, is usually lower. The increased cost agility ensures the organization only pays for what it uses and can quickly scale up or down, depending on business demand.

Based on your current IT infrastructure and the opportunities uncovered by CloudRecon® that are summarized in this report, your Cloud Total Cost of Ownership (TCO) over a five-year period is projected to be: $2,305,320.00

# Cloud Return on Investment (ROI) Estimates

The Cloud TCO, above, needs to be compared against the equivalent On-premises TCO to understand the Return on Investment (ROI). Using the infrastructure data discovered for this assessment and applying industry standard rates and costs for licensing and support, the projected cost for your On-premises IT environment over a five-year period is: $5,255,149.94

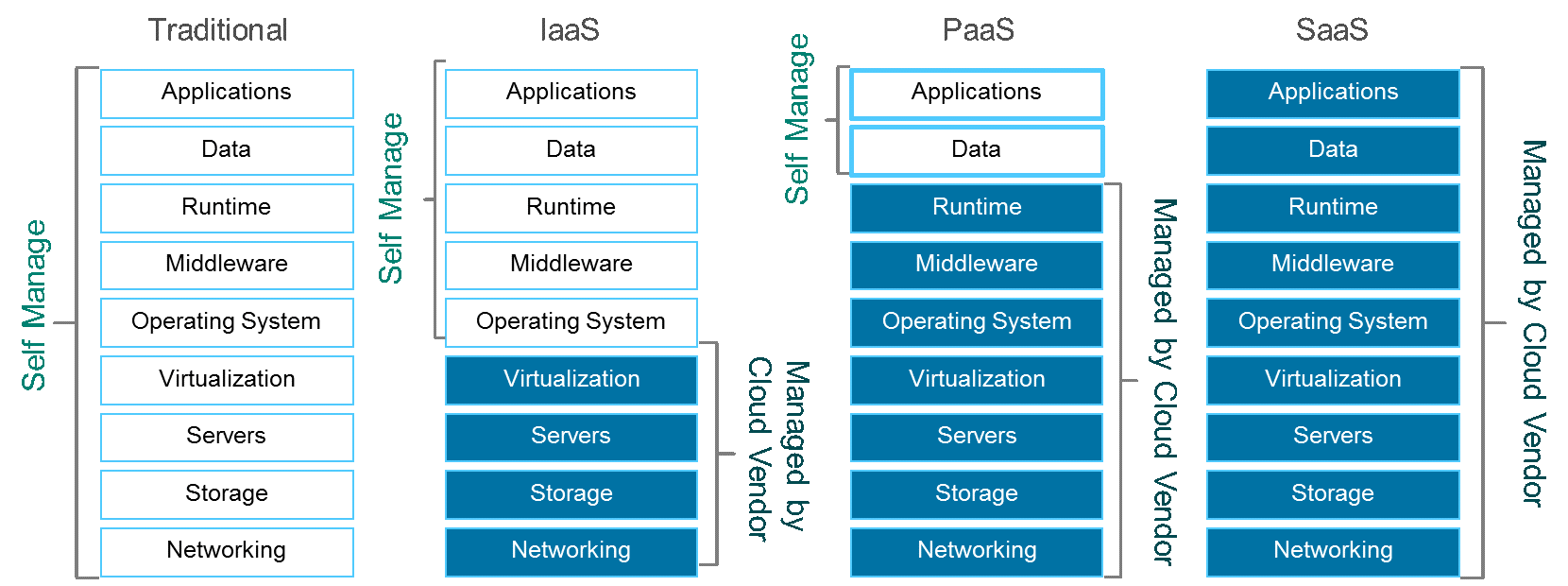
Considering these two costs, running an equivalent set of infrastructure and workloads in the Microsoft Cloud solutions (e.g., Office 365, Azure) provides a 200% cost advantage, exclusive of migration costs. For further analysis and access to CloudRecon® to review this cost data in detail, contact the Microsoft partner named in this report.

# A Cloud-Ready IT Environment

|  |  |
| --- | --- |
| Technology trends are reshaping the IT landscape and driving the industry in new directions. In particular, Cloud computing is becoming pervasive, with more than 70% of CIOs embracing a cloud-first strategy by 2016 according to IDC. A move to Cloud solutions adds complexity to asset management— such as new and more flexible purchasing options, hybrid environments, licensing terms, and asset retirement—making solid software asset management (SAM) practices even more critical for customers. |  |
| Many organizations assume that moving to a Cloud solution means that SAM becomes irrelevant and that compliance issues will be non-existent. In fact, SAM is just as important—and in some cases even more important—in a Cloud environment because you must address the management of services, not just assets. For example, you need to think about policies and procedures that address their relationships with service providers. With the real-time nature of Cloud environments, SAM policies and practices need to become more agile to support ongoing changes. | |
| In addition, given that you may decide to move part or all of your infrastructure to a Cloud solution, you must have accurate knowledge about current hardware and software assets, who is using them, how they’re used, where they’re located, and how they’re licensed in order to make the right decisions before implementing any type of Cloud solution. | |

## **Cloud Scenarios**

Cloud solutions cover three main areas: Software as a Service, (SaaS), Platform as a Service (PaaS), and Infrastructure as a Service (IaaS), each having a different set of responsibilities, as shown graphically below.



## Software as a Service (SaaS)

SaaS is perhaps the most familiar service-delivery model. Enterprises subscribe to pre-packaged applications that run on a Cloud infrastructure and allow access from a variety of devices. Enterprises rarely are responsible for administration, beyond limited configuration and data quality management. In this assessment we will help you view your current IT environment on the desktop in order to assess gaps between where you are and where you need to be in order to move to a Cloud SaaS solution such as Office 365 or Microsoft Dynamics NAV.

## Platform as a Service (PaaS)

Enterprises use PaaS to develop, deploy, monitor, and maintain applications, while the Cloud service provider manages everything else. Developers can manage configuration remotely, but they do not have to configure virtual machine images directly. In this assessment we help you optimize what you have paid for in Azure services by assessing your IT infrastructure to identify new Cloud projects that can be implemented to augment unused capacity.

## Infrastructure as a Service (IaaS)

IT departments typically use IaaS to run client and server applications on virtual machines. The Cloud vendor manages the network, servers, and storage resources so that IT managers no longer need to buy, track, and decommission hardware. However, IT managers must continue to manage operating systems, databases, and applications. Depending on the service provider, IT managers may be able to perform limited configuration of networking components. IT staff can manage configuration remotely—through application programming interfaces (APIs) or a web portal, for example—to increase application instances when demand spikes occur. As with PaaS, this assessment will help you optimize your Microsoft Azure spend as well.

## **Choosing Among On-Premises, Cloud or Hybrid**

Moving to the Cloud is much more than a license transition. There are considerations such as changes to budgeting and procurement, as well as infrastructure, data management, and security. There are also differences with organizations of different sizes. The bigger the organization, the vaster and complex the considerations. This Cloud- Ready Assessment will help guide you through the process by probing to see if you have taken deployment considerations into account.  
  
There is not a one-to-one relationship or correlation between all on-premises products and Cloud offerings. Even where there is a match between an on-premises product and an online service, the license may apply to only one environment. In many instances, you may find that, when you’re adopting the Cloud, you’re actually adopting a hybrid solution—which adds complexity. This underscores the need to understand where Cloud solutions make sense and where on-premises remains the best option, and how to connect those solutions in the simplest way without overwhelming the organization with additional complexity.

## **Assessment Approach Used**

This Cloud-Ready Assessment is based on the interpretation of your IT environment data by CloudRecon®, an analytic solution developed by Microsoft Gold Partner UnifyCloud LLC, with expertise in Cloud, Cybersecurity and regulatory Compliance. Beyond the recommendations for your journey to the Cloud contained in this report, the partner listed on the report’s title page can assist you to gain access to CloudRecon® for in-depth analysis and drill downs. More information on CloudRecon®, and other Cloud planning and migration tools is available at the CloudAtlas® website:

[www.cloudatlasinc.com.](http://www.cloudatlasinc.com) Detail on the logic used by CloudRecon® is outlined, in the Appendix.

# Your Cloud-Ready Assessment

This Cloud-Ready Assessment report provides you with an analysis of your readiness to move elements of your IT Infrastructure to Cloud services (SaaS, IaaS, and/or PaaS) taking into consideration your current technology deployment. It is based on your current IT infrastructure as discovered through the tools listed below and should be considered as a potential “To Be” IT environment. Further analysis may be necessary to develop detailed Cloud migration roadmaps.

## **Organization and IT Overview**

Summary of your business and IT infrastructure

|  |  |
| --- | --- |
| Organization |  |
| Customer Name |  |
| Customer Headquarters Address |  |
| Number of Employees |  |
| Number of Locations | amitk@unifycloud.com |
| Additional Info |  |

|  |  |
| --- | --- |
| IT Environment |  |
| Number of PCs | 81 |
| Number of Physical Servers | 50 |
| Number of Physical Servers as Virtualized Hosts | 37 |
| Total Number of Windows Servers | 418 |
| Number of Virtualized Servers | 368 |
| Additional Info |  |

## **Summary of Inventory Tools**

The following IT infrastructure discovery tools were used. While the tools were used to gather inventory data for all Microsoft products and services, additional tools were used to obtain a broad understanding of the IT landscape that could be migrated to various Cloud environments (SaaS, IaaS, PaaS) or be integrated with a Cloud environment (i.e., Hybrid IT).

* Microsoft Analysis and Planning (MAP) toolkit
* CloudRecon® (UnifyCloud LLC solution)

The sections below, including the current IT data analyzed by CloudRecon®, are presented in the following order – SaaS, PaaS, and IaaS. Following these assessments is a financial analysis and some considerations for next steps to develop a Cloud migration roadmap tailored to your organization. Additional information on the *“Journey to the Cloud”* are available as a video and white paper on the CloudAtlas® website: [www.cloudatlasinc.com.](http://www.cloudatlasinc.com)

# Cloud Readiness Assessment for SaaS (Office 365)

Below is a summary of your overall readiness to migrate to Office 365, with details on what PCs are currently ready for Office 365. The following table highlights which PCs are running a browser that is optimized to run Office 365 and which PCs may need to be upgraded or even retired. Details on what types of Office applications are currently deployed and being used are in the next section. Based on this assessment, you should be able to determine which Office 365 plan and licensing options are the best fit for the company’s needs.

Note: More detailed information and recommendations on licensing are available in the License Optimization document. For further information on Office 365 subscription options, please contact your Microsoft Account Representative or licensing vendor.

## **Browser Assessment**

Office 365 can run on almost any PC, but for optimal functionality it is recommended that you have Internet Explorer 11 or Internet Explorer 10\*.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| PCs | Readiness | Reasons | Recommendations | Web Browsers Installed | Operating Systems |
| 3 | Ready |  |  | Internet Explorer 10 | Microsoft Windows 7 Enterprise |
| 4 | Ready |  |  | Internet Explorer 10 | Microsoft Windows 7 Professional |
| 4 | Ready |  |  | Internet Explorer 10 | Microsoft Windows 7 Ultimate |
| 15 | Ready |  |  | Internet Explorer 10 | Microsoft Windows 8 Enterprise |
| 10 | Ready |  |  | Internet Explorer 10 | Microsoft Windows 8 Pro |
| 4 | Ready |  |  | Internet Explorer 11 | Microsoft Windows 10 Enterprise |
| 6 | Ready |  |  | Internet Explorer 11 | Microsoft Windows 8.1 Enterprise |
| 14 | Not Ready | Browser Not Supported and diminished optimization with O365 | Upgrade Browser to a supported version | Internet Explorer 6 | Microsoft Windows XP Professional |
| 1 | Not Ready | Browser Not Supported and diminished optimization with O365 | Upgrade Browser to a supported version | Internet Explorer 6 | Microsoft Windows XP Professionnel |
| 5 | Not Ready | Browser Not Supported and diminished optimization with O365 | Upgrade Browser to a supported version | Internet Explorer 6 | Microsoft(R) Windows(R) XP Professional x64 Edition |
| 2 | Not Ready | Browser Not Supported and diminished optimization with O365 | Upgrade Browser to a supported version | Internet Explorer 7 | Microsoft Windows XP Professional |
| 13 | Not Ready | Browser Not Supported and diminished optimization with O365 | Upgrade Browser to a supported version | Internet Explorer 7 | Microsoft® Windows Vista™ Business |
| 16 | Not Ready | Browser Not Supported and diminished optimization with O365 | Upgrade Browser to a supported version | Internet Explorer 7 | Microsoft® Windows Vista™ Enterprise |
| 9 | Not Ready | Browser Not Supported and diminished optimization with O365 | Upgrade Browser to a supported version | Internet Explorer 7 | Microsoft® Windows Vista™ Ultimate |
| 9 | Not Ready | Browser Not Supported and diminished optimization with O365 | Upgrade Browser to a supported version | Internet Explorer 8 | Microsoft Windows 7 Enterprise |
| 1 | Not Ready | Browser Not Supported and diminished optimization with O365 | Upgrade Browser to a supported version | Internet Explorer 8 | Microsoft Windows 7 Home Basic |
| 4 | Not Ready | Browser Not Supported and diminished optimization with O365 | Upgrade Browser to a supported version | Internet Explorer 8 | Microsoft Windows 7 Professional |
| 7 | Not Ready | Browser Not Supported and diminished optimization with O365 | Upgrade Browser to a supported version | Internet Explorer 8 | Microsoft Windows 7 Ultimate |
| 1 | Not Ready | Browser Not Supported and diminished optimization with O365 | Upgrade Browser to a supported version | Internet Explorer 8 | Microsoft Windows Embedded Standard |
| 11 | Not Ready | Browser Not Supported and diminished optimization with O365 | Upgrade Browser to a supported version | Internet Explorer 8 | Microsoft Windows XP Professional |
| 10 | Not Ready | Browser Not Supported and diminished optimization with O365 | Upgrade Browser to a supported version | Internet Explorer 8 | Microsoft(R) Windows(R) XP Professional x64 Edition |
| 1 | Not Ready | Browser Not Supported and diminished optimization with O365 | Upgrade Browser to a supported version | Internet Explorer 8 | Microsoft® Windows Vista™ Business |
| 1 | Not Ready | Browser Not Supported and diminished optimization with O365 | Upgrade Browser to a supported version | Internet Explorer 8 | Microsoft® Windows Vista™ Enterprise |
| 4 | Not Ready | Browser Not Supported and diminished optimization with O365 | Upgrade Browser to a supported version | Internet Explorer 8 | Microsoft® Windows Vista™ Ultimate |
| 16 | Not Ready | Browser Not Supported and diminished optimization with O365 | Upgrade Browser to a supported version | Internet Explorer 9 | Microsoft Windows 7 Enterprise |
| 9 | Not Ready | Browser Not Supported and diminished optimization with O365 | Upgrade Browser to a supported version | Internet Explorer 9 | Microsoft Windows 7 Professional |
| 4 | Not Ready | Browser Not Supported and diminished optimization with O365 | Upgrade Browser to a supported version | Internet Explorer 9 | Microsoft Windows 7 Ultimate |
| 1 | Not Ready | Browser Not Supported and diminished optimization with O365 | Upgrade Browser to a supported version | Internet Explorer 9 | Microsoft Windows 7 Entreprise |
| 5 | Not Ready | Browser Not Supported and diminished optimization with O365 | Upgrade Browser to a supported version | Internet Explorer 9 | Microsoft® Windows Vista™ Business |
| 13 | Not Ready | Browser Not Supported and diminished optimization with O365 | Upgrade Browser to a supported version | Internet Explorer 9 | Microsoft® Windows Vista™ Enterprise |
| 3 | Not Ready | Browser Not Supported and diminished optimization with O365 | Upgrade Browser to a supported version | Internet Explorer 9 | Microsoft® Windows Vista™ Ultimate |

\* When accessing Office 365 from older versions of Internet Explorer, users may experience known issues and limitations depending on the versions of Internet Explorer, including:  
  
Internet Explorer 9: Office 365 does not offer code fixes to resolve problems you encounter when using the service with Internet Explorer 9.  
  
Internet Explorer 8: The user experience sending and receiving email with Outlook Web App and Internet Explorer 8 might be substantially diminished, especially when used on Windows XP or with low memory devices.  
  
 Office 365 does not offer code fixes to resolve problems you encounter when using the service with Internet Explorer 8, and new Office 365 experiences might not work at all.For further information on browser compatibility, visit: [https://products.office.com/en-US/office-system-requirements/#Office365forBEG.](https://products.office.com/en-US/office-system-requirements/#Office365forBEG)

## **Microsoft Office Applications Assessment (Office Suite, Visio, Project)**

Often, there are instances of licensing shortfalls as well as some license overages. In addition, multiple versions of various programs are in use. Moving to Office 365 could help standardize the desktop environment while consistently providing the latest version and features for the company.

|  |  |  |
| --- | --- | --- |
| Microsoft Office | Version | Software Deployment |
| Microsoft Office Home and Business 2010 - English | 2010 | 3 |
| Microsoft Office Home and Business 2013 | 2013 | 1 |
| Microsoft Office Professional 2007 | 2007 | 11 |
| Microsoft Office Professional 2013 | 2013 | 1 |
| Microsoft Office Professional Edition 2003 | 2003 | 8 |
| Microsoft Office Professional Plus 2010 | 2010 | 10 |
| Microsoft Office Professional Plus 2013 | 2013 | 3 |
| Microsoft Office Professional Plus 2013 - en-us | 2013 | 2 |
| Microsoft Office Professional Plus Subscription 2010 | 2010 | 1 |
| Microsoft Office Standard 2007 | 2007 | 7 |
| Microsoft Office Standard 2010 | 2010 | 5 |
| Microsoft Office Standard 2013 - en-us | 2013 | 1 |
| Microsoft Office Standard Edition 2003 | 2003 | 4 |
| Microsoft Office Ultimate 2007 | 2007 | 4 |
| Microsoft Access 2013 | 2013 | 1 |
| Microsoft Access 2013 - en-us | 2013 | 1 |
| Microsoft Office Access 2007 | 2007 | 2 |
| Microsoft Office Access 2010 | 2010 | 2 |
| Microsoft Office Project Professional 2003 | 2003 | 2 |
| Microsoft Office Project Professional 2010 | 2010 | 1 |
| Microsoft Office Project Standard 2010 | 2010 | 1 |
| Microsoft Office Visio Professional 2003 | 2003 | 2 |
| Microsoft Office Visio Professional 2007 | 2007 | 2 |
| Microsoft Office Word Viewer 2003 | 2003 | 2 |
| Microsoft Project Professional 2013 | 2013 | 1 |
|  |  | \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* |

## **Office Application Servers Assessment (SharePoint, Exchange, Lync/Skype for Business)**

Office Enterprise Services such as SharePoint, Exchange, and Lync are now available via Office 365, possibly eliminating the need to maintain on premises servers that provide the same functionality.

|  |  |  |
| --- | --- | --- |
| Product Family | Version | Software Deployment |
| Microsoft Lync Server 2010 Enterprise | 2010 | 4 |
| Microsoft Lync Server 2010 Standard | 2010 | 2 |
| Microsoft Lync Server 2013 Unknown | 2013 | 2 |
| Microsoft Lync Server 2013 Enterprise | 2013 | 1 |
| Microsoft Office SharePoint Portal Server 2003 | 2003 | 6 |
| Microsoft Office SharePoint Server 2007 | 2007 | 9 |
| Microsoft SharePoint Server 2010 | 2010 | 7 |
| Microsoft SharePoint Server 2013 | 2013 | 5 |
| Microsoft Exchange Server 2013 Enterprise | 2013 | 2 |
| Microsoft Exchange Server 2013 Standard | 2013 | 3 |
|  |  | \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* |

## **Office 365 Road Map Recommendations**

The following Office 365 recommendations are based on your current IT environment:

**Browser Readiness:**

* Around 160 PCs are running Windows 7/XP and IE 9 or IE 8 or IE 6. They can and should be upgraded to newer browsers to support Office 365.
* The remaining 46 PCs are ready to run Office 365.

**Office Applications:**

* Move Office Professional, Office Project and Visio etc. to Office 365 to standardize the Office environment.
* You can simplify with Office 365 because products such as OneNote, Lync, Project, and Exchange are included with the Office 365 Proplus plan. Other solutions, like Visio and SharePoint offer individual online subscriptions on a per user basis.
* A central deployment policy can help prevent risk of license compliance issues in these areas.
* To further manage the use of mobile and personal devices, you should consider a mobile device management solution such as Microsoft Enterprise Mobility Suite. The Enterprise Mobility Suite includes products like Microsoft Intune to support mobile device management, mobile application management, and PC management capabilities from the cloud.
* Using a profiling process to map end user requirements against applicable cloud services, we were able to determine actual usage and needs of applications by user so that you can optimize applications in use and plan for future Deployment.

**Office Enterprise Services (SharePoint, Exchange, Lync / Skype for Business):**

* Currently you are running 5 Exchange servers. With the standardization to Office 365, those physical servers can be retired or repurposed.
* There are 27 dedicated SharePoint servers and 9 Lync Server, with around users currently accessing the servers. With Office 365, you can free up those physical servers.
* Through consolidation and migration, you can significantly reduce some operational costs through reductions in hardware maintenance, support, and operations costs.

# Cloud-Ready Assessment for PaaS and IaaS (Azure)

Below is a summary of the Azure readiness assessment, with assessment details on what is running on premises and what workloads are candidates for moving to the cloud, aligning with their overall migration goals. Based on this assessment unifycloud can determine what will need to be considered and completed as part of the company’s long term plan.

## **Server Assessment for Azure**

**Windows Server**

|  |  |  |
| --- | --- | --- |
| Windows Server | Version | Software Deployment |
| Windows 2000 | Microsoft Windows 2000 Advanced Server | 3 |
| Windows Server 2003 | Microsoft(R) Windows(R) Server 2003 Datacenter x64 Edition | 1 |
| Windows Server 2003 | Microsoft(R) Windows(R) Server 2003 Enterprise Edition | 2 |
| Windows Server 2003 | Microsoft(R) Windows(R) Server 2003 Enterprise x64 Edition | 8 |
| Windows Server 2003 | Microsoft(R) Windows(R) Server 2003 Standard x64 Edition | 9 |
| Windows Server 2003 | Microsoft(R) Windows(R) Server 2003, Datacenter Edition | 2 |
| Windows Server 2003 | Microsoft(R) Windows(R) Server 2003, Enterprise Edition | 18 |
| Windows Server 2003 | Microsoft(R) Windows(R) Server 2003, Enterprise Edition for 64-Bit Itanium-based Systems | 1 |
| Windows Server 2003 | Microsoft(R) Windows(R) Server 2003, Standard Edition | 16 |
| Windows Server 2003 | Microsoft(R) Windows(R) Server 2003, Web Edition | 3 |
| Windows Server 2008 | Microsoft Windows Server® 2008 Datacenter | 1 |
| Windows Server 2008 | Microsoft Windows Server® 2008 Standard | 1 |
| Windows Server 2008 | Microsoft® Windows Server® 2008 Datacenter | 10 |
| Windows Server 2008 | Microsoft® Windows Server® 2008 Enterprise | 36 |
| Windows Server 2008 | Microsoft® Windows Server® 2008 Enterprise without Hyper-V | 2 |
| Windows Server 2008 | Microsoft® Windows Server® 2008 Entreprise | 1 |
| Windows Server 2008 | Microsoft® Windows Server® 2008 Standard | 18 |
| Windows Server 2008 R2 | Microsoft Windows Server 2008 R2 Datacenter | 33 |
| Windows Server 2008 R2 | Microsoft Windows Server 2008 R2 Enterprise | 44 |
| Windows Server 2008 R2 | Microsoft Windows Server 2008 R2 for Itanium-Based Systems | 1 |
| Windows Server 2008 R2 | Microsoft Windows Server 2008 R2 Standard | 11 |
| Windows Server 2008 R2 | Microsoft Windows Web Server 2008 R2 | 2 |
| Windows Server 2012 | Microsoft Windows Server 2012 Datacenter | 44 |
| Windows Server 2012 | Microsoft Windows Server 2012 Essentials | 1 |
| Windows Server 2012 | Microsoft Windows Server 2012 Standard | 12 |
| Windows Server 2012 R2 | Microsoft Windows Server 2012 R2 Datacenter | 1 |
| Windows Server 2012 R2 | Microsoft Windows Server 2012 R2 Datacenter Preview | 1 |
|  |  | \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* |

**SQL Server**

|  |  |  |
| --- | --- | --- |
| SQL Server | Version | Software Deployment |
| Microsoft SQL Server | Enterprise | 1 |
| Microsoft SQL Server 2000 | Desktop Engine | 12 |
| Microsoft SQL Server 2000 | Developer | 4 |
| Microsoft SQL Server 2005 | Enterprise | 10 |
| Microsoft SQL Server 2005 | Standard | 9 |
| Microsoft SQL Server 2008 | Developer | 5 |
| Microsoft SQL Server 2008 | Enterprise | 39 |
| Microsoft SQL Server 2008 | Standard | 3 |
| Microsoft SQL Server 2008 | Web | 4 |
| Microsoft SQL Server 2008 | Workgroup | 1 |
| Microsoft SQL Server 2008 R2 | Data Center | 1 |
| Microsoft SQL Server 2008 R2 | Developer | 4 |
| Microsoft SQL Server 2008 R2 | Enterprise | 18 |
| Microsoft SQL Server 2008 R2 | Enterprise Evaluation | 1 |
| Microsoft SQL Server 2008 R2 | Standard | 7 |
| Microsoft SQL Server 2012 | Business Intelligence | 3 |
| Microsoft SQL Server 2012 | Developer | 5 |
| Microsoft SQL Server 2012 | Enterprise | 23 |
| Microsoft SQL Server 2012 | Enterprise Core | 2 |
| Microsoft SQL Server 2012 | Enterprise Evaluation | 9 |
| Microsoft SQL Server 2012 | Standard | 7 |
| Microsoft SQL Server 2012 | Web | 4 |
| Microsoft SQL Server 2014 | Enterprise Core | 1 |
|  |  | \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* |

**Virtualization**

|  |  |  |
| --- | --- | --- |
| Virtualization Technology | Total Processors | Total Cores |
| Windows Server 2012 Hyper-V | 85 | 138 |
| Windows Server 2008 R2 Hyper-V | 215 | 216 |
| Other | 54 | 42 |
| Windows 8 Client Hyper-V | 16 | 23 |
| Windows Server 2008 Hyper-V | 20 | 16 |
| VMware ESXi | 24 | 22 |
|  |  | \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* |

## **General Azure Road Map Recommendations**

The following Azure recommendations are based on your current IT environment, assets, user needs, and hybrid cloud goals

**Windows Server**

* You have 418 Deployment of Windows Server. Of those 219 are running Windows Server 2008 or newer, and can technically available to be migrated to the cloud.
* The 63 combined Deployment of Windows Server 2003 Enterprise and Standard and Windows 2000, should be retired and applications/workloads migrated to the cloud or moved to another on-premises server.
* They have around 41 applications on those Windows Server 2003/XP that may or may not be legacy proprietary applications that cannot run on newer versions of the applications. Those will need to be investigated.
* The remaining servers should be retired and applications/workloads migrated to the cloud or moved to another on-premises server.
* Failover servers could be moved to Azure to optimize workloads because they are only used in the event one machine fails and another machine takes over to resume service.
* Through consolidation and migration to Azure, you can significantly reduce some operational costs through reduction in hardware maintenance, support, and operations costs.

**SQL Server**

* 36 Instances of SQL Server 2005 or older, hosting around 63 Databases, which going to lose its extended support in April 2016. That needs to be upgraded and or moved to Azure.
* The 137 instances of SQL Server licenses are good candidates to migrate to Azure due to the variable nature of use. As the number of users access these workloads, Azure can scale up or down to meet your needs.
* Any SQL workloads that are used for development purposes are also potential candidates to move to Azure. And in accordance with your cloud readiness strategy, any new SQL instances for development should be deployed in the cloud.
* Identify any additional SQL workloads that could be moved to the cloud. Moving these workloads to the cloud will help with monitoring SQL use and licensing.

**Platform as a Service**

The key drivers for migration to PaaS include the nature of the applications (e.g., custom web applications vs. packaged software), the age of the underlying infrastructure (e.g., passed end-of-service support), and application platform (e.g. .NET, ASP). Based on your current application platform profile, we found the following opportunities:

* HTML applications – potentially move to Azure Webapps: (69)
* .Net applications – potentially move to Azure PaaS (Best opportunities): (21)
* ASP applications – potentially move to Azure PaaS (Good opportunities): (17)
* There was insufficient data for (160) Web Applications to make a first pass evaluation

Installations of Visual Studio are also good candidate to move to the Cloud for consistency in capability and the following opportunities to utilize Visual Studio Online were found:

* Microsoft Visual Studio Ultimate 2012: (5)
* Microsoft Visual Studio Premium 2012: (4)

# Infrastructure as a Service (IaaS)

The Azure Infrastructure as a Service opportunity is generally through Server machines recommended to be converted to Azure IaaS VMs:

* Machines with custom web applications
* That have Critical installations of third party applications
* Machines with SQL Databases >1TB in size or running SQL Component Services

Based on these criteria we identified the following opportunities to utilize Azure IaaS:

* Applications running on the (41) Windows Server 2003 Machines could be moved to Azure or Windows Server 2012, but likely will require modernization.

There are also opportunities to use the Cloud to address storage and back up requirements. Of particular note is the risk for those databases that are running in versions of SQL server that have past the End of Service date including:

* Microsoft SQL Server: (1)
* Microsoft SQL Server 2000: (16)
* Microsoft SQL Server 2005: (19)

# Cloud Financial Estimates

This section provides information on a critical aspect of planning to migrate elements of your IT infrastructure to the Cloud: Total Cost of Ownership, or TCO. There are many reasons that organizations look at to justify their utilization of Cloud services: agility, time to market, and innovation. But according to the CompTIA Trends in Cloud Computing report (September 2016), most IT departments still view the Cloud as a way to cut costs and save money as the top driver.

# Cloud Total Cost of Ownership

Based on the data collected from your organization of what you actually have deployed, and assessed by the analytics in CloudRecon®, a set of recommended actions have been determined, as outlined above. The TCO model in CloudRecon® uses these recommendations coupled with publicly available Cloud services prices for Office 365 and Azure to provide you with a first cut at your Cloud TCO. Based on your license agreements, your actual costs may vary.

Using a categorization approach similar to that used by Microsoft in its Office 365 and Azure websites, your projected monthly costs for Cloud Services would be:

* Office 365: $2,880.00
* Compute: $1,131.00
* Web & Mobile: $2,920.00
* Data & Storage: $16,038.00
* Analytics: $0.00
* Networking: $0
* Hybrid Integration: $0
* Identity & Access Management: $0
* Media & CDN: $0
* Developer Services: $685.00

These estimated Cloud costs total as follows:

* Monthly: $23,654.00
* Annually: $283,848.00
* Five-Years: $1,419,240.00

**Cloud Cost Advantage Over On-Premises**

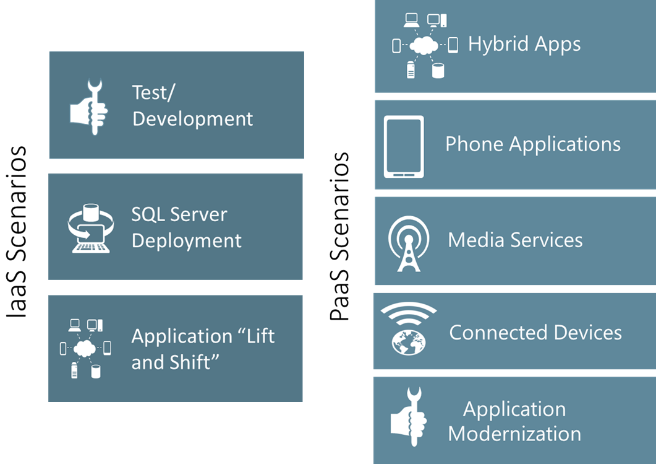
To determine the cost advantage for running key elements of your current On-premises IT environment in a combination of Cloud environments such as Microsoft’s Office 365 (SaaS) and Azure (IaaS / PaaS), CloudRecon® has developed a cost model for the IT infrastructure discovered in this report.   
  
This cost model is based on typical costs for the following:

* IT Infrastructure (e.g., Hardware, Software, Electricity, Data Center Expenses, Networking, Disk Storage, IT Labor, and Virtualization)
* Server Workloads (e.g., SQL, Exchange, SharePoint, BizTalk, Lync / Skype for Business)
* Client Applications (e.g., Office, Visio, Project)

Based on these broad categories using sizing and versions discovered in the data, we estimate that your current On-premises environment has a TCO over a five-year period of: $5,255,149.94  
  
Considering these two TCO models, running an equivalent set of infrastructure and workloads in the Microsoft Cloud solutions (e.g., Office 365, Azure) provides a 200% cost advantage, exclusive of migration costs over a five-year period. For further analysis and access to CloudRecon® contact the Microsoft partner named in this report.

# Next Steps

This Cloud-Ready Assessment is designed to give you a good reference point regarding your current technology deployment and how elements of it can take advantage of the cost efficiency and operating effectiveness of Cloud solutions such as Microsoft’s Office 365 Software as a Service (SaaS) solution and Azure Infrastructure as a Service (IaaS) and Platform as a Service (PaaS) offerings.   
  
 What’s next?   
  
In some cases, as with Office 365, you may have already started to move forward. In other cases, this report may begin an internal dialogue about how to prepare for additional migration to the Cloud and what the ramifications are in areas such as DevOps and Cybersecurity. To the extent possible with IT inventory data and the analytics built into the CloudRecon® tool based on UnifyCloud’s experience with Cloud adoption, recommendations have been included. Moving to the Cloud, can be viewed as a set of business and IT scenarios where IaaS or PaaS Cloud services will make the most sense as shown below:



In moving applications to the Cloud, we have found that some key questions need to be answered:

* What types of online services (e.g., application support like Identity Management; Storage solutions such as SQL, Table or Blob; or Network such as connections to your on-premises stored data) are needed to support these applications going forward?
* What functionality differences between on-premises technologies and online services may impact the coding of applications that should be factored into application remediation?
* What regulations and compliance requirements need to be met (e.g., data protection and data geo location) must be factored into the Cloud services as you decide which storage is appropriate?
* What IT risk management requirements and oversight is necessary to ensure that your controls and Cybersecurity practices are still being met whether on-premises technologies or Cloud services are employed?
* How will you monitor the underlying Cloud service settings and controls as Cloud services are enhanced, as you modernize and add functionality to your application portfolio, and as regulations evolve over time?

Adopting the Cloud as part of an organization’s IT strategy is a journey with three distinct stages:

## Discover & Assess

Create an inventory of applications and workloads that are candidates for Cloud - SaaS (replace), IaaS (lift and shift), PaaS (refactor / rebuild). Understand key Cybersecurity risks. Sort out the “noise” (agents, drivers, hot fixes). Use criteria such as infrastructure, architecture (32- vs. 64-bit), data compliance requirements, hardware dependency, software EOS, and mission criticality.

## Target & Migrate

Determine those apps that have potential SaaS alternatives, that need to be encapsulated to run on IaaS, or can be moved to a more long-term PaaS environment. For PaaS-bound apps, determine the specific PaaS services (Compute, Storage and Network) required, validate at the code level what remediation is required, remediate and test against PaaS standards. Use this same process to validate app readiness for PaaS on new apps developed in the Cloud.

## Monitor & Report

Using a baseline of Enterprise standards for Cybersecurity and Cloud best practices, monitor and report on app compliance as PaaS environments evolve, apps are changed, and Enterprise standards are updated. Rinse and repeat.

Your Microsoft Account Team, SAM Partner or UnifyCloud can help you answer these key questions and others to help you accelerate your adoption of the Cloud as it relates to your overall IT strategy. To read the white paper or view the video, Journey to the Cloud, visit: [www.cloudatlasinc.com.](http://www.cloudatlasinc.com)

# Appendices

## Appendix 1 - Analytic Approach

The analytic approach built into CloudRecon® assumes that, where possible, older packaged software applications, particularly those with many versions deployed within an organization, should be retired in favor of solutions that are offered as a SaaS offering. The advantage here is consistent functionality, quicker deployment, and more agility. Chief among these SaaS opportunities is what Gartner defines as “Cloud office” solutions, particularly Office 365.

In its January 28, 2015 report on SaaS, Gartner noted, “A migration to Office 365 is generally far less taxing on the user community. Most users already know Outlook and Office products like Word, PowerPoint and Excel and, to a lesser extent, SharePoint. Moving from On-premises products to Office 365 introduces relatively little change. Choosing Microsoft constitutes a lower risk in terms of acceptance of change.” As a result, the SaaS section, below, focuses on Office 365.

Following SaaS opportunities, CloudRecon® looks next for Platform as a Service (PaaS) opportunities. While many organizations quickly seize on IaaS for moving containerized applications, VMs and storage opportunities, PaaS provides an important strategic IT direction in the longer-term. In its January, 2016 Worldwide Semi-annual Public Cloud Services Spending Guide, IDC estimates that PaaS will grow at a faster rate than IaaS and SaaS stating, “PaaS is the focus at many companies for rapid application development and mobile app development using the DevOps approach.”

The remaining analysis within CloudRecon® is focused on opportunities that will come from Infrastructure as a Service (IaaS). IaaS strategies are typically focused on achieving one or more of the following goals: reducing costs; freeing up personnel from routine operational tasks so they can do more useful work; and improving provisioning times. Areas such as test and development, VM deployment, data storage, and applications “lift and shift” are ideal for IaaS consideration.

The basis for this report is the CloudRecon® Data Center Modernization Report (DCMR) that looks at your entire IT landscape, not just that licensed from Microsoft. The goal of the DCMR is to help you understand the opportunities and challenges you face as they relate to the Cloud (SaaS, IaaS and PaaS).

In addition to providing the recommendations included in this report, the DCMR can provide specific analysis on the Cloud related to:

* Platform as a Service (PaaS) as it relates to Azure migration / app remediation;
* Software as a Service (SaaS) as it relates to Office 365 readiness;
* Infrastructure as a Service (IaaS) as it relates to Azure “lift and shift;
* SQL Server and Cloud-based storage opportunities;
* VM optimization and Cloud opportunities;
* Cloud Total Cost of Ownership and ROI analysis; and
* Cybersecurity technology and solutions deployment

## Appendix 2 - Cloud Licensing Considerations

While the Cloud solves some licensing issues, it also brings additional considerations that may be new to you if you are coming from a strictly On-premises environment where selecting, licensing, provisioning, and using software follows an established pattern with controls for planning, discovery, reconciliation, and so on. A primary benefit of Cloud solutions is the ease with which they can be provisioned and used.

However, this ease of scalability can sometimes complicate software licensing. This assessment will provide you with an opportunity to talk with your Microsoft Account Team or Licensing Provider about the following:

* Ease of purchase, deployment, and use can complicate license management.
* Because Cloud services are often classified as an operational expense, it is possible to easily pay for them outside the systems that are in place to provide controls for capital expenditures. This decentralized purchasing can result in increased license compliance exposure or in overspending because new virtual machines may be provisioned while existing ones are underutilized.
* Agility of deployment is a hallmark of Cloud solutions. However, the ability to add a new service by simply clicking makes it very easy to expand use in an unmanaged way.
* Cloud services accounts may be used in unauthorized ways, such as by those outside the organization (vendors, customers, contractors, and others) or by sharing user accounts. Organizations can incur unplanned licensing obligations through such use.
* By entering into an agreement with a Cloud Services Provider (CSP), an organization may be at risk if the CSP has infringed on third-party intellectual property rights in their solution. Language to release customers of this risk may be included in CSP contractual agreements.
* An up-front commitment to a specific subscription period versus paying per use can lead to unused licenses and paying more than is required to satisfy user needs.
* Virtualization may not be allowed by all software license agreements, which can affect some Cloud delivery models.
* License mobility is a key consideration when moving a workload to a Cloud-based virtual machine. Consider the type of server license and whether the customer has active Software Assurance.

# Appendix 3 - Asset Management Process and Policy Recommendations

Organizations may have some Software Asset Management (SAM) policies in place but with the addition of Cloud solutions, there are opportunities to improve or update existing policies as well as new policies to consider that can address Cloud complexities.   
  
The list below identifies opportunities for implementing new processes or policies to address license management as it relates to cloud solutions in addition to areas where mislicensing or license optimization could be lacking due to process or policy shortcomings.

|  |  |
| --- | --- |
| Policy | Opportunity/Recommendation |
| Management of Procurement and Approvals | •A single SAM manager should be identified and related responsibilities defined.     •New licenses should be approved and provisioned by the SAM Manager. With a move to Office 365 allowing multiple employees to provision new services can create complications for managing license counts and user accounts. |
| Restrict Downloading Software by Users | • Implement security measures to restrict downloading on company-owned devices.    • Implement stronger security process to minimize the unauthorized downloading of new software. |
| Regular Inventory Cycle | • To further streamline the license reconciliation and True-Up process moving forward, there may be a benefit to quarterly ongoing maintenance of server inventories for the different infrastructure groups, capturing all relevant metrics for license reconciliation (Microsoft installed software requiring license, hardware data, OS, intended license coverage, etc.). |
| Tracking of Licensing Information | • Track and manage all licensing information in a single system.     • Only authorized license managers (i.e. SAM Manager) may access the system, view license data, and approve additional services. |
| Policies for Cloud Service Providers | • If you do begin to implement its cloud strategy roadmap, define new guidelines for working with a cloud service provider (CSP). Some items to consider when defining policies for dealing with CSPs.    • What specifically is the CSP responsible for? • What is the customer responsible for? |
| Mobile Device Management Solutions | • Keep manual records up to date.     • With the increased use of personal devices and access to applications from anywhere with Office 365, you should adopt a device management solution such as Microsoft Intune. Intune coupled with System Center should provide management capabilities and insight into your overall IT environment. |
| Data Privacy Laws | • When planning for moving workloads to the cloud immediately or in the future, familiarize the IT team on how data privacy laws could affect any proposed changes to the IT environment.     • Create a policy/process that involves review of regulatory compliance with any new cloud project. |

## Appendix 4 - Additional Resources

To help organizations move through these stages, UnifyCloud LLC has developed a suite of Cloud assessment, remediation, and monitoring tools, CloudAtlas®, that includes the following:

* CloudRecon®- Used during the Discover & Assess phase to determine the “art of the possible” in migrating to the Cloud (SaaS, IaaS, PaaS). This tool produced the findings contained in this report.
* CloudPilot®- Used during the Target & Migrate phase to quickly plan and efficiently remediate custom apps to run efficiently in the Cloud.
* CloudOrigin®- Used during the Target & Migrate and Monitor & Report phases as a Cloud knowledgebase and repository for Cloud Service settings.
* CloudSupervisor®- Used during the Monitor and Reporting phase to provide IT risk management Cloud subscription IT Controls oversight.

For more information on these solutions and free trials visit: [www.cloudatlasinc.com.](http://www.cloudatlasinc.com)