**Microsoft Internal Use Only**

Enterprise Modernization



Migration – AppZero Q&A

Prepared for

Microsoft Services

11/13/2014

Version 1.2 Final

Prepared by

**Artur Korczynski**

Consultant

akorczyn@microsoft.com

Revision and Signoff Sheet

Change Record

|  |  |  |  |
| --- | --- | --- | --- |
| Date | Author | Version | Change Reference |
| 13.10.2014 | Artur Korczynski | .1 | Initial draft for review/discussion |
| 13.11.2014 | Artur Korczynski | 1.0 | Incorporating feedback from AppZero |
|  |  |  |  |

Reviewers

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Version Approved | Position | Date |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

Table of Contents

[1 Overview 8](#_Toc406075976)

[2 When to use AppZero? 9](#_Toc406075977)

[3 AppZero overview 11](#_Toc406075978)

[3.1 What is AppZero tool and its architecture? 11](#_Toc406075979)

[3.2 Where can I find videos with AppZero in action? 12](#_Toc406075980)

[3.3 Where can I find documentation of AppZero? 13](#_Toc406075981)

[3.4 Are there trainings of AppZero? 13](#_Toc406075982)

[3.5 What is AppZero release cycle? 13](#_Toc406075983)

[4 AppZero capabilities 14](#_Toc406075984)

[4.1 Which applications are good candidates for AppZero migration? 14](#_Toc406075985)

[4.2 Can AppZero migrates applications built in-house for particular company? 14](#_Toc406075986)

[4.3 Is there published White list of applications fully compatible with AppZero? 14](#_Toc406075987)

[4.4 Can AppZero migrate IIS farms? 16](#_Toc406075988)

[4.5 Can AppZero migrate multi-tier applications? 16](#_Toc406075989)

[4.6 Can we migrate MS SQL with AppZero? 16](#_Toc406075990)

[4.7 Is there any limitation regarding size of application to be migrated by AppZero? 16](#_Toc406075991)

[4.8 What needs to be migrated using AppZero custom configuration files (COTF)? 17](#_Toc406075992)

[4.9 Are there any limitations on migrating the applications across the domain / forests? 17](#_Toc406075993)

[5 AppZero limitations 18](#_Toc406075994)

[5.1 Can AppZero migrate Windows Roles or Features? 18](#_Toc406075995)

[5.2 Which Windows components CAN NOT be migrated by AppZero 18](#_Toc406075996)

[5.3 Which Applications types CAN NOT be migrated by AppZero 19](#_Toc406075997)

[5.4 Is there published Black list of applications, which can’t be migrated by AppZero? 19](#_Toc406075998)

[5.5 Can AppZero migrate clustered services? 20](#_Toc406075999)

[5.6 Can we migrate servers between AD forests with trust? 20](#_Toc406076000)

[6 AppZero requirements 21](#_Toc406076001)

[6.1 Source server requirements 21](#_Toc406076002)

[6.2 Destination Server requirements 22](#_Toc406076003)

[6.3 Do we need license to install AppZero? 24](#_Toc406076004)

[6.4 Do we really need to uninstall Antivirus, can’t we just disable it? 24](#_Toc406076005)

[6.5 Do we need to install anything on source server? 24](#_Toc406076006)

[6.6 Can we avoid installing WebDeploy on source server? 25](#_Toc406076007)

[7 AppZero migration planning 26](#_Toc406076008)

[7.1 What is licensing model for AppZero? 26](#_Toc406076009)

[7.2 How to get AppZero installation binaries? 26](#_Toc406076010)

[7.3 How to get AppZero license? 26](#_Toc406076011)

[7.4 How many times application needs to be tested? 26](#_Toc406076012)

[7.5 When downtime is required on source server? 27](#_Toc406076013)

[7.6 Can AppZero automatically recognize components of multitier application installed on the same server and link dependencies as one application to be migrated? 27](#_Toc406076014)

[7.7 Can we check prerequisites without installing all AppZero software? 27](#_Toc406076015)

[7.8 Can we scan multiple servers at once to check if applications on them are good/bad candidates for migration? 28](#_Toc406076016)

[7.9 Can we migrate between servers keeping the same Hostname? 28](#_Toc406076017)

[7.10 Can we migrate between servers with the same IP? 29](#_Toc406076018)

[7.11 What is the average time taken to migrate a given application? 29](#_Toc406076019)

[7.12 With a large size of data how you arrive at maintenance window? 29](#_Toc406076020)

[7.13 What are some good sample applications that we can migrate using AppZero migration method in lab? 30](#_Toc406076021)

[7.14 What is the maximum Migration throughput speed that can be achieved using AppZero? 30](#_Toc406076022)

[7.15 What manual changes we may need to do after application migration? 31](#_Toc406076023)

[8 AppZero migration process 32](#_Toc406076024)

[8.1 Is the VAA an .exe file? 32](#_Toc406076025)

[8.2 How does AppZero migrate certificates? 32](#_Toc406076026)

[8.3 How does AppZero migrate ODBC? 32](#_Toc406076027)

[8.4 How does AppZero migrate multiple NIC’s or IP’s? 32](#_Toc406076028)

[8.5 How can we check if tethering process has ended if we use AppZero CLI instead of GUI? 33](#_Toc406076029)

[8.6 Can we disable automatic hostname replacement during migration, so called COTS functionality? 33](#_Toc406076030)

[8.7 Can AppZero extract somehow password of local user, which are used for starting services. 33](#_Toc406076031)

[8.8 What’s the impact if an application has no service? 33](#_Toc406076032)

[8.9 How AppZero identify the remote service related to particular application? 34](#_Toc406076033)

[8.10 What are the various actions I can perform on VAA once the VAA is created? 34](#_Toc406076034)

[8.11 What happens when the original application has to be patched? Will be a process of re-creation of VAA necessary? 34](#_Toc406076035)

[9 AppZero migrations troubleshooting 35](#_Toc406076036)

[9.1 What is location of AppZero logs? 35](#_Toc406076037)

[9.2 What data can be useful for support team? 35](#_Toc406076038)

[9.3 Is there AppZero troubleshooting guide? 36](#_Toc406076039)

[9.4 Is there any AppZero knowledge base, similar to TechNet? 36](#_Toc406076040)

[9.5 How to check if objects within VAA are created properly? 36](#_Toc406076041)

[9.6 Are there any well-known issues with AppZero? 36](#_Toc406076042)

[10 AppZero support 37](#_Toc406076043)

[10.1 How to contact AppZero support? 37](#_Toc406076044)

[10.2 Is there any AppZero knowledge base? 37](#_Toc406076045)

[10.3 Are there public FQA? 37](#_Toc406076046)

[10.4 What are AppZero support team standard working hours? 37](#_Toc406076047)

[10.5 Is there 24/7 support option available? 38](#_Toc406076048)

[10.6 Are there special SLA for Microsoft? 38](#_Toc406076049)

[10.7 Is AppZero supported on Windows NT 4.0? 39](#_Toc406076050)

[10.8 Is AppZero supported on Windows 2000? 39](#_Toc406076051)

[10.9 Is AppZero supported for MS SQL migrations? 39](#_Toc406076052)

[11 AppZero and 3rd party applications supportability 40](#_Toc406076053)

[11.1 What is Microsoft position regarding supportability of application migrated by AppZero? 40](#_Toc406076054)

[11.2 Is there AppZero official information regarding support policies? 42](#_Toc406076055)

[11.3 Support Policies for AppZero Products 42](#_Toc406076056)

[11.4 Support Policy for migration of Third-Party Applications 43](#_Toc406076057)

[11.5 AppZero migration and 3rd party vendor support policies 43](#_Toc406076058)

1. Overview

The purpose of this document is to consolidate questions and answers regarding different topics related to migration of applications using AppZero tool.

This document DOES NOT contain technical migration procedures. There is separate AppZero migration guide available, which cover all technical steps to execute successful migration. It is recommended to familiarize with that document before reading AppZero Q&A.

All answers are based on **AppZero v6.0 SP 3** and may be changed in future releases of the tool.

In addition to this document, the following AppZero user guides can be found online under following URL: <http://docs.appzero.com/>:

* AppZero Installation Guide
* AppZero Zapp Migration Quick Start Guide
* AppZero Zapp Migration Guide
* AppZero Administration Guide
* AppZero Reference Guide
* AppZero Troubleshooting Guide

1. When to use AppZero?

AppZero is an application migration technology which extracts previously deployed applications from Windows Servers and packages them for migration and deployment to more modern infrastructure including new servers, new operating system versions, and/or cloud operating environments. As every tool it has its technical capabilities and limitations, as described in details in document.

While considering usage of AppZero we need to **remember about** **supportability of that solution by applications vendors and Microsoft**. It’s well described in chapter 11 10 and in short we can summarize it as follows:

* Most application vendor support policies neither endorse nor preclude the use of IT operations tools like AppZero. However, the support staff of a vendor-supported application will likely not be familiar with the AppZero migration process and may be reluctant to diagnose application issues during the course of a migration, if the issue is expressed in terms of the AppZero migration workflow.
* Microfot Services Policy does not apply to non-Microsoft applications migrated using AppZero as Microsoft does not provide any support for non-Microsoft applications.
* Microsoft Premier will investigate potential issues with Microsoft software that's run in conjunction with non-Microsoft hardware virtualization software. As part of the investigation, Microsoft may require the issue to be reproduced by the customer independently from the non-Microsoft hardware virtualization software. This can be done on Windows Server 2008 (with Hyper-V), the actual hardware platform with the Windows operating system installed directly upon it, or on both.

Considering all above with technical capabilities and limitations makes that product **LAST RESORT** solution in Enterprise Modernization portfolio, used in very specific situations:

* Application is compatible with target OS **and**
  + No installation binaries available **or**
  + No documentation and knowledge in organization about configuration of application **or**
  + Manual installation and configuration was not successful

Good candidates for migration with AppZero are:

* Custom and proprietary apps
* 3rd party packaged applications
* JEE, Java middleware, JSE app
* IIS, .NET, .ASP
* Open source: PHP, Python, WAMP
* Database Server\*: Oracle, MSSQL, DB2, Sybase
* Desktop apps

*\* - Although AppZero supports and encourage customers to migrate database engines, Microsoft doesn’t recommend migrating database platforms in AS IS mode. In particular MS SQL databases should be upgraded to modern and supported MS SQL platform.*

AppZero publish list of bad candidates for migration as:

* Active Directory
* Exchange Server
* SharePoint Server
* System level tools (debuggers)
* LDAP
* 16 bit apps
* Internet Explorer
* Antivirus
* Backup Tools
* Kernel drivers (i.e. printers, etc.)
* Applications that depend on specific hardware
* SAP

1. AppZero overview
   1. What is AppZero tool and its architecture?

AppZero is an intelligent discovery tool that migrates an application and its dependencies from a tethered source machine to a destination machine.

To migrate an application, AppZero is not required on the source machine. AppZero is required on the destination machine to tether to the application on the source machine and run the migrated virtual application appliance on the destination machine.

Once you have migrated the application, you can disable tether and then dissolve the application to the underlying operating system using AppZero Dissolve. For information about AppZero Dissolve, see About Dissolve in the AppZero Zapp Migration Guide.

AppZero creates, controls, and maintains Virtual Application Appliances (VAA). VAAs decouple an application from the operating system and its underlying infrastructure. The result is a single file that encapsulates an application with its dependencies, including executable libraries, files/registry, configuration settings, and services. The VAA can be freely moved and managed without reconfiguring either the application or the operating system.

Isolated from the underlying infrastructure, VAAs can be easily moved among servers (physical or virtual) on-premise or in the cloud. This isolation makes it easy for both legacy and new applications to move as needed from machine to machine, regardless of infrastructure changes, cloud provider, and differing virtual and physical machine configurations, including hypervisor technology.

VAAs contain all elements of the application, its execution dependencies, and configurable appliance properties. The application elements include the following:

* The original files and executables that are shipped and installed with an application.
* Scripts created by development teams to extend the capabilities of the application.
* Configuration files created by IT staff during installation, setup, and ongoing use of the application.
* Registry settings and services used by the application.
* AppZero application and configuration necessary to run a VAA.

In a VAA, all elements of the application exist uncompressed (expanded) as a file set in a directory on the local source computer or shared storage.

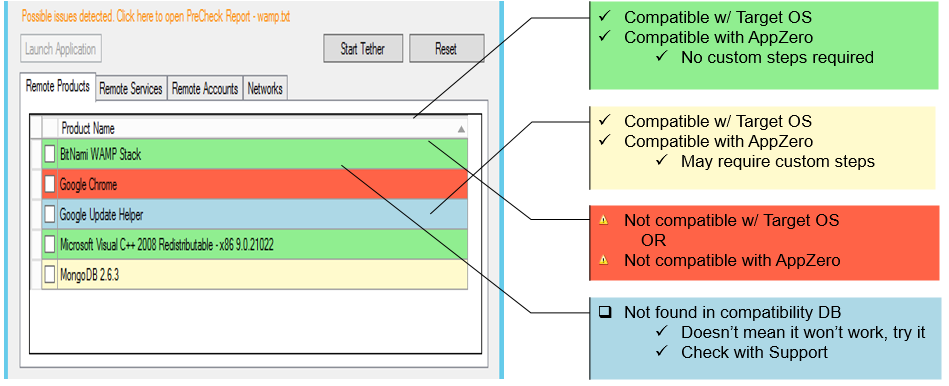
AppZero application migration process involve 4 steps.

* Discover

Catalog your software and workloads.

* Assess

Categorize applications and workloads. Below is a snapshot from application assement result color coding and recommended action items .



* Target

Identify your destination(s). Evaluate options for each application and workload.

* Migrate

AppZero extracts existing enterprise applications and packages them into VAAs (Virtual Application Appliance) that can be provisioned and run natively on any OS, machine or cloud.

* 1. Where can I find videos with AppZero in action?

There is official AppZero channel at <https://www.youtube.com/user/appzeroVAA>

Video materials can be found here:

<http://www.appzero.com/gallery/moving-enterprise-apps-and-clouds>

<http://www.appzero.com/video/demo>

<http://www.appzero.com/video/webinar>

<http://www.appzero.com/video>

Dedicated 2h online detailed session with AppZero for Microsoft conducted on 2014-03-11 on version 5.5. This is **Microsoft internal** file, please DO NOT redistribute it.

<https://microsoft-my.sharepoint.com/personal/akorczyn_microsoft_com/Documents/Forms/All.aspx?RootFolder=%2Fpersonal%2Fakorczyn%5Fmicrosoft%5Fcom%2FDocuments%2FShared%20with%20Everyone%2FDatacenter%20Modernization%20Offering%2FAppZero&FolderCTID=0x012000487073B6F7A357428FC2C597F2DB7A9D&View=%7B1FFCFC32%2DDB99%2D402B%2D8310%2D8FDF30D094E8%7D>

* 1. Where can I find documentation of AppZero?

Apart from Microsoft internal documents included in Enterprise Modernization Framework offering there are also official AppZero resources at <http://docs.appzero.com/> .

There are PDF files available and online sites describing the same topics. Please note that **as of today (2014-11-04) PDF files refers to version 5.5**, while online version refers to version 6.0. Use online version of documents whenever possible.

At <http://docs.appzero.com/ReleaseNotes.htm> are published updates and notes for every new releases of AppZero.

* 1. Are there trainings of AppZero?

So far there is no dedicated training available internally within Microsoft. Please take a look at resources listed in section 3.2.

There are basic and advanced trainings delivered by AppZero. Please refer your AppZero contact for further details.

* 1. What is AppZero release cycle?

There is no official release cycle policy. But so far, typical periods were:

* Service Pack – one per 2 months. Only fixes, no new functionality provided.
* Major releases – one per 6-9 months. Includes new features.

1. AppZero capabilities
   1. Which applications are good candidates for AppZero migration?

* Custom and proprietary apps
* 3rd party packaged applications
* JEE, Java middleware, JSE app
* IIS, .NET, .ASP
* Open source: PHP, Python, WAMP
* Database Server\*: Oracle, MSSQL, DB2, Sybase
* Desktop apps

\* - Although AppZero supports and encourage customers to migrate database engines, Microsoft doesn’t recommend migrating database platforms in AS IS mode. In particular MS SQL databases should be moved to modern and supported MS SQL platform.

* 1. Can AppZero migrates applications built in-house for particular company?

Yes, from ApZero perspective there is no difference between 3rd party (COTS) and in-house build application.

* 1. Is there published White list of applications fully compatible with AppZero?

No. The same approach as for Black List mentioned in 5.4. After discovery of applications on source server, the ones fully tested by AppZero are highlighted in Green in Tether console.

The following is a list of applications that have been tested and successfully migrated by AppZeo. This is not definite list.

|  |  |
| --- | --- |
| Application | Type |
| Oracle Database 10g | Database |
| Oracle Database 11g | Database |
| Microsoft SQL Server 2005 SP4 | Database |
| Microsoft SQL Server 2008 R2 | Database |
| IBM DB2 Enterprise Server 9.0 | Database |
| IBM DB2 Express-C 9.7 | Database |
| MySQL Community Server 5.1 | Database |
| MySQL Community Server 5.2 | Database |
| PostgreSQL 8.3 | Database |
| PostgreSQL 8.4 | Database |
| PostgreSQL 9.0 | Database |
| Apache TomCat Derby 10.5 (JAZZ) | Database |
| IBM WebSphere Application Server V8 | Application Platform |
| Apache HTTP Server 2.2 | Application Platform |
| Apache Tomcat Server 5.5 | Application Platform |
| Apache Tomcat Server 6.0 | Application Platform |
| Java Platform, Standard Edition 1.5 | Application Platform |
| Java Platform, Standard Edition 1.6 | Application Platform |
| Java Platform, Standard Edition 1.7 | Application Platform |
| Microsoft Dynamics GP | Application Platform |
| Microsoft Dynamics CRM 2011 | Application Platform |
| Umbraco (CMS SQLServer/IIS) | Application Platform |
| Alfresco (Document Management) | Application Platform |
| CACI Officebase (Unidata dB/Redback) | Application Platform |
| Drupal 6 | Application Platform |
| MediaWiki | Application Platform |
| WordPress | Application Platform |

While there are some Microsoft technologies in the above list, it is not intended that these would ever be migrated using AppZero. Instead the approach would be to migrate them to running a newer version of the Microsoft technology running on a later version of Windows Server.

* 1. Can AppZero migrate IIS farms?

Yes, with AppZero version 6.0 it is possible. More details [here](http://docs.appzero.com/AppZero%20Application%20Migration/migrating_an_iis_server_on_a_web_farm.htm).

* 1. Can AppZero migrate multi-tier applications?

Although it could be application dependent, yes, the rule of thumb recommendation is to work the tiers from bottom up, regardless if the tiers are running on separate servers or all running in a single server.

For example migrating SugarCRM, you would ideally start the with the Database services first (1st tier), then use Inetmgr.exe to pull the web config (2nd tier=IIS) and lastly we start IIS and hit the URL link for the app, pulling the web app (3rd tier).

However, if tiers are running on separate servers, nothing prevents you to do this from a top down approach (for instance). You would just need to consider how you stitch each layer once you migrate one tier, making sure it points to the other tiers correctly (through config changes) and vice versa.

* 1. Can we migrate MS SQL with AppZero?

Although it is technically possible to migrate MS SQL with AppZero, the intention of Microsoft is to make sure customers are using modern and fully supported OS and DB solutions. There are dedicated offerings for MS SQL Upgrade and they should be used in such cases to modernize database platform.

If, for any reason, MS SQL **must** be moved by AppZero there are few additional tasks to be done as described [here](http://docs.appzero.com/AppZero%20Application%20Migration/to_migrate_ms_sql_server.htm).

* 1. Is there any limitation regarding size of application to be migrated by AppZero?

In AppZero there are no limitation on applications with larger database size as its application agnostic. The maximum database size migration done is 2-3 TB.

* 1. What needs to be migrated using AppZero custom configuration files (COTF)?

By default AppZero replaces source server Hostname with destination server hostname in every migrated object (file name, folder name, registry attribute). To exclude some of objects from default replacement behavior, to add or modify specific settings you need to use COTF (Config On The Fly) file. You should prepare that file before migration. Here are typical scenarios, when usage of COTF file is required:

* Assigning specific IP addresses to particular application, assuming you have many IP’s and many applications on source server.

Excluding specific registry hives or files/folders from default hostname replacement.

* 1. Are there any limitations on migrating the applications across the domain / forests?

You should use the server in the same domain to create the VAA. Once the VAA is created you can migrate it to servers in same or different domain. There are known [issues](http://docs.appzero.com/Troubleshooting/Issues) if you use AppZero to create a VAA on a destination server in a different domain other than the source domain.

1. AppZero limitations
   1. Can AppZero migrate Windows Roles or Features?

No, with except of IIS.

AppZero is designed to migrate applications installed on Windows Server OS, not Server Roles or Features. IIS can be migrated by AppZero using WebDeploy tool.

* 1. Which Windows components CAN NOT be migrated by AppZero

AppZero is designed to migrate application and objects they use. Hence it will not migrate some of OS components, such as:

* **Scheduled tasks**
* **HOST file** – if HOST file on source server contains non-default entries, you must copy them manually, since AppZero won’t migrate it.
* **Encryption of files using EFS -** It will read encrypted files and copy them to destination, but it will not encrypt them on destination server.
* **Applications with unknown private keys** - if your application contains an public/private key pair and the private key is not known, AppZero doesn't have a way to decrypt or guess the password
* **Certificates tied to hardware specific identifiers that are unique to each OS installation**. In these cases, the certificates will have to be regenerated in order to tie them to new destination identifiers. How to regenerate the certificates is application specific. Please refer to your application requirement(s).
* **Non English Windows Servers** – you can’t migrate between different languages like French-English as well as other languages like French-French.
* **Server with non-default OS folder location**. – AppZero can’t migrate applications if OS folder is other than default (C:\Windows). AppZero is working on fixing this issue.
* **Windows Server Roles and Features** – only IIS can be migrated using AppZero. Other roles can’t be migrated.
* **File Shares configuration and content**– in case application is using folders, which are inside file shares, files and ACL’s will be copied but on destination server AppZero won’t create any file share. File shares need to be mapped separately in advance of migration.
* **Printer shares**
* **Firewall rules**
* **Local Security settings**
* **Domain accounts (users, computers, and groups)** – they need to be added manually to local groups after migration.
  + Destination server should be added to domain generally \*before\* migration
  + Domain users and groups, if they are in the membership of local groups at the source, need to be added manually to those same local groups on the destination, \*before\* the migration
  + Any relevant local groups should be moved from source to destination using AppZero, before the migration
* **Private kernel drivers**
* **Local User Profiles –** ifmigrated application is reaching out to any files from one of local profiles, then those files will be copied, but not whole profile.
  1. Which Applications types CAN NOT be migrated by AppZero

AppZero publish list of not ideal candidates for migration as:

* Active Directory
* Exchange Server
* SharePoint Server
* System level tools (debuggers)
* LDAP
* 16 bit apps
* Internet Explorer
* Antivirus
* Backup Tools
* Kernel drivers (i.e. printers, etc.)
* Applications that depend on specific hardware
* SAP
  1. Is there published Black list of applications, which can’t be migrated by AppZero?

AppZero don’t publish a concise list of incompatible applications. There are only published guidelines, as mentioned in 5.3. A more detailed information is embedded inside product and this information is to be used only while using the AppZero for discovery and identification of the application(s) to migrate.

Any application discovered and marked as Red is either incompatible with AppZero or not compatible with target OS version. There are not additional information about kind of incompatibility related to that particular application.

* 1. Can AppZero migrate clustered services?

As long as the cluster logic is implemented at the Operating System level and you are doing an up level migration (i.e. 2k3 to 2K12), then unfortunately we can't migrate it because the Operating System doesn't support clustering between dissimilar Operating System.

* 1. Can we migrate servers between AD forests with trust?

Such scenario is not supported at the moment.

1. AppZero requirements
   1. Source server requirements

The source Server you are migrating from must meet the following requirements:

1. **Machine State:** The source machine to be migrated is in a running state.
2. **Language version of OS must be English**
3. **OS folder is located in C:\Windows** (other locations created migration failures)
4. **Credentials:** You need the credentials for the "built-in" System Administrator (user with SID 500) connect to the source machine from the AppZero tools. Having an account with administrator privileges (for example, a member of an Administrator Group with SID 1001) **is not sufficient**.
5. **Domain Name:** Check the domain name on the source machine. If the application that you want to migrate has users that authenticate through the domain, then add the destination machine to this domain.
6. **Applications on a Remote or Removable Drive:** The application that you want to include in the VAA must reside on the source server. If it’s components are accessed via mapped network drives, UNC locations, or removable drives, the destination machine needs to have the same drives available for successful migration.
7. **Registry:** Remote registry service enabled.
8. **Firewall Ports:** Open port 445 on the firewall, if a firewall is used. For IIS migrations also open Port 80 for WebDeploy.
9. **Network Connectivity:** Network connectivity is required between the source and destination. Use a VPN option if security/connection is a problem.
10. **Microsoft .NET Framework 4 (IIS migrations):**
    1. Check if the source server has “.NET Framework” version 4.0 or greater installed. If so the same version should be preinstalled on the destination server prior to migration.
    2. If the version of .NET framework on the destination machine is higher than the version on the source machine, resolve the issue as detailed [here](http://docs.appzero.com/AppZero%20Zapp%20Migration/are_you_ready_to_migrate_an_iis_application_.htm).
11. **Install Web Deploy 3.5 for Up-Level Tethering of IIS Applications:** In the case of an up-level tethering of an IIS application, install Web Deploy 3.5 on the source computer. This tool simplifies migration, management, and deployment of IIS web servers and web applications. All you need to do is install the application; you do not need to run it during a migration. Information on installing Web Deploy can be found [here](http://docs.appzero.com/AppZero%20Zapp%20Migration/are_you_ready_to_migrate_an_iis_application_.htm).

Note

AppZero software is not required on the source server.

* 1. Destination Server requirements

The destination Server must meet the following requirements:

1. **OS language version** – so far the only fully tested and supported is **English version** only.

Also migration between different language versions of OS, for example from Windows 2003 French to Windows 2012 English, is not supported.

If you have non-English OS version on source or destination servers please consult AppZero support before committing migration with AppZero tool.

1. **AppZero Software:** Install AppZero software on the destination machine. AppZero is not required on the source machine. You must have appropriate credentials to install AppZero.
2. **Credentials:** You must be logged in as the local "built-in" System Administrator (user with SID 500) to install and have full access to the AppZero solution. Having an account with administrator privileges (for example, a member of an Administrator Group with SID 1001) is not sufficient.
3. **Registry:** Remote registry service enabled.
4. **Firewall Ports:**
   1. Check that there is connectivity end-to-end from the destination machine to the source, on port 445 (and port 80 if migrating IIS); by end-to-end meaning that that the port is open at the windows firewalls, at the cloud-instance firewalls, and at any perimeter firewalls between the two machines.
   2. If required establish a VPN connection.
   3. Once the firewall or vpn configuration changes are made you can easily test by going to the destination server, open Windows Explorer, and browse to '\\<sourcehost>\C$'. You will be prompted for source server credentials and if you are able to authenticate and see the source machine C: drive, then the AppZero tether connection will also connect successfully.
   4. Open appropriate ports on the destination machine firewall to ensure that the application can be reached once it is migrated. SQL Server, for example, requires port 1433 by default. Other applications or database servers may require different ports.
5. **Network Connectivity:** Network connectivity is required between the source and destination. Use a VPN option if security/connection is a problem.
6. **Operating System Compatibility**:
   1. The operating system version of the destination machine must be equal to or greater than the source operating system version. A list of supported Operating Systems can be found [here](http://docs.appzero.com/AppZero%20Zapp%20Migration/are_you_ready_to_migrate_an_iis_application_.htm).
   2. The operating systems of the source and destination machines must both be server operating systems.
   3. You must migrate from 64-bit to 64-bit, or from 32-bit to 64-bit Operating System versions. Migration from 64-bit to 32-bit Operating System versions is not supported.
   4. AppZero **does not** support desktop operating systems (Windows XP, Windows Vista, Windows 7, Windows 8).
7. **Security Options**: Check the setting of “LAN Manager authentication level” on the destination machine (this is found in the Local Security Policy, Local Policies -> Security Options). On some Windows configurations this must be set to “Send LM and NTLM Responses” in order to connect successfully. More information can be found [here](http://docs.appzero.com/AppZero%20Zapp%20Migration/are_you_ready_to_migrate_an_iis_application_.htm).
8. **Other Agents:** **Do not install antivirus agents** or "endpoint security" agents on the destination machine. These agents interfere with AppZero software. Remote services will not be retrieved if communication with the source machine is interrupted during the tethering process (for example, if the firewall on the source machine is enabled while tether is in progress). Do not install such agents until after the migration is complete and the VAA is dissolved.
9. **Destination Server Capacity:** Make sure that the destination server or servers have adequate capacity to run the application you are migrating. That is, the destination servers must have equivalent or greater capacity than the source server:
   1. Equal or greater number of CPU cores
   2. Equal or greater available memory size
   3. The same number of disks, each of them with equal or greater size and with the same drive letter as on the source server. Make sure that the drive on the destination server where the VAA will be created (by default, C:\appliances), has enough space to contain the entire application, meaning the sum of the drive capacity actually required by the application.
10. **Microsoft .NET Framework 3.5.1:**
    1. *Windows 2008 R2 or lower: -* If you are installing AppZero on Windows 2008 R2 or lower, and Microsoft .NET Framework is not installed or the installed version is lower than Microsoft .NET Framework 3.5 SP1, then the AppZero Installer will prompt you to download Microsoft .NET Framework 3.5 SP1 from the Internet.
    2. *Windows 8 / Windows Server 2012 or higher* - If you are installing AppZero on Windows 8 or Windows Server 2012 and the Microsoft .NET Framework 3.5 SP1 role is not enabled, then the AppZero Installer will enable the role.

Note

Microsoft .NET Framework 3.5 SP1 is a requirement for installing AppZero software. If you are installing AppZero on Windows 8 or Windows 2012 and Microsoft .NET Framework 3.5 is not already pre-activated and the Windows 8 installation disk is not available, then Windows must download the required files from the Internet. If an Internet connection is not available, then the media can be accessed locally.

Note

From AppZero SP1 WebDeploy 3.5 is automatically installed with AppZero on destination server. There is no need then, to install it manually as prerequisite.

* 1. Do we need license to install AppZero?

Yes, we do. You can’t install AppZero if you don’t provide valid license during installation steps.

* 1. Do we really need to uninstall Antivirus, can’t we just disable it?

Yes you do need to uninstall AV engine on the destination machine.

Even in disabled state AV engines can intercepts hooks to OS level and prevent AppZero from creating proper object within VAA.

* 1. Do we need to install anything on source server?

NO, with the exception for IIS servers.

AppZero is using WebDeploy to migrate IIS web content. To achieve that you must install WebDeploy 3.5 on source server.

* 1. Can we avoid installing WebDeploy on source server?

AppZero is working on creating the solution to migrate IIS servers without the need of WebDeploy. As for now this functionality is in Beta mode and should not be executed in production migrations.

If you would like to use it contact AppZero support team first to get more details.

1. AppZero migration planning
   1. What is licensing model for AppZero?

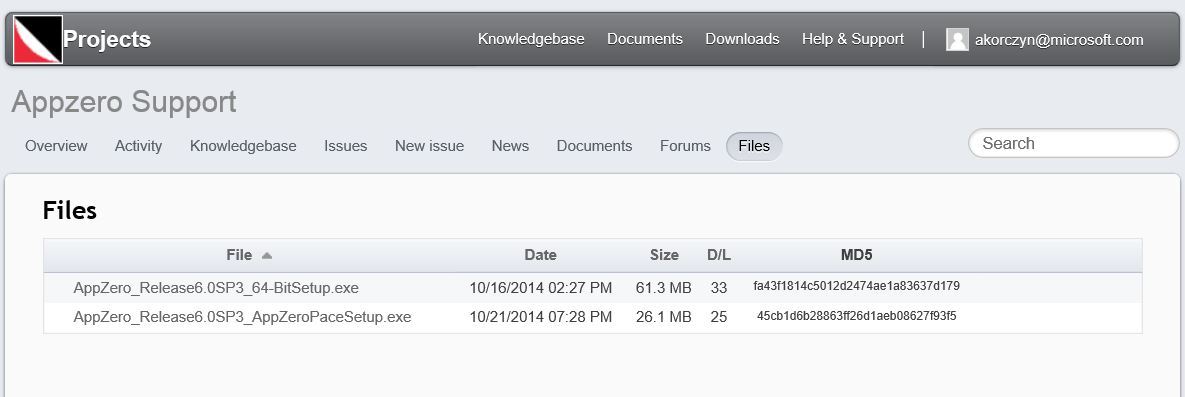
AppZero licensing is based on the source server irrespective of the number of destination machines where we want to deploy the application. If source server has multiple application it still requires a single license.

In this case you have two servers, thus you will require 2 licenses.

* 1. How to get AppZero installation binaries?

Create an account at <http://helpdesk.appzero.com> .

Once you log in go to Download section and start downloading latest build of AppZero.



* 1. How to get AppZero license?

Involving AppZero into migration projects delivered by Microsoft has been centralized to have single process of purchasing licenses. It is explained under following URL <https://microsoft.sharepoint.com/teams/datacenterappzerolicense>.

Please follow instruction on that site to order and receive AppZero licences.

* 1. How many times application needs to be tested?

To execute full cycle we need three interactions:

1. During tethering – application needs to be exercised by application SME to make sure all objects are migrated to destination server
2. Test of application within VAA – when tethering process is finished application should be started within VAA and tested by application SME. The key difference here is, that we test it without connection to source server to make sure, all objects used by application has been migrated into VAA.
3. Test application after dissolving – when application is dissolved, final set of UAT tests should be executed.
   1. When downtime is required on source server?

If application has systems services on source server, then during tethering process we should stop application processes on source server and start it from within VAA. So actual downtime can be from few minutes up to few hours if you need to troubleshoot, why service is not starting on destination server.

You must remember though, that application on destination server should have connections from clients and from/to other systems to work properly.

* 1. Can AppZero automatically recognize components of multitier application installed on the same server and link dependencies as one application to be migrated?

In case of multitier applications AppZero cannot make that initial dependency link since typically components were installed using separate MSIs. In some cases these MSIs are packaged into a single setup .exe file but the fact still remains that they are 2 separate MSI files.

The link between tiered applications are usually made by a configuration file or within an application's code, not the MSI, making it easy for the app to integrate with various third party software. For example, an IIS app can point to any database you specify in the web.config file.

As a result, you will have to select the other dependent applications that you know manually.

* 1. Can we check prerequisites without installing all AppZero software?

Yes you can. The following link gives you access to what is called the PACE standalone installer, which doesn't require a license key, it is a minimal installation and allows you to issue appzprecheck to check the requirements.

<https://helpdesk.appzero.com/projects/appzero-support/files>

Please note the default installation path is c:\program files (x86)\AppZero Pace. Once the packaged is installed, issue <Appzero Cli> created on the desktop and call appzprecheck.

* 1. Can we scan multiple servers at once to check if applications on them are good/bad candidates for migration?

Yes, we can. AppZero contains toll called PACE, which allow connecting to multiple machines defined in TXT file and scanning for installed applications (using WMI and registry search to identify installed apps).

Short video presenting PACE tool can be watched under URL <https://www.appzero.com/video/demo/appzero-pace-tool-overview> .

Having CSV file with list of applications we need to import it into pre-configured XLS file (available in AppZero installation folder under /extras/pacecmd/ ). That file will present list of applications with assigned colors (statuses) for migration: Green, Blue, Red and Yellow. That could be a starting point to eliminate some applications/servers from migration.

* 1. Can we migrate between servers keeping the same Hostname?

AppZero's assumption is that source and destination machines hostnames and IP’s are unique and different. COTF will rehost from the source to the destination hostname. How you achieve this to avoid conflicts on the network is beyond the scope of AppZero application.

There are 2 tested ways of migrating applications having the same Hostname at the end of migration process:

**Scenario A - rename after migration and apply COTF file**

* Perform the migration as normal - using different hostnames (ServerA and ServerB)
* once the application is confirmed to be working on the destination as VAA, then change the source server name into temporary (ServerC) and check AD replication process
* Change destination server name to have the original hostname of the source server (ServerA)
* apply COTF on demand on the VAA in order to rehost the application back to the original source hostname (Server A).

**Scenario B – rename before migration**

* If the Source and Destination machine are on the same domain, rename the source machine to a new name (Server c) so that there is no DNS conflict
* Rename the destination machine to the original hostname of the source
* Perform standard migration steps with AppZero. No additional actions needed afterward.

If you need to apply other scenarios, especially with the same hostname of source and destination during migration, please contact AppZero support before you apply them. Such approaches hasn’t been tested and are not supported.

Regardless of migration scenario you choose please consider following processes when making changes of server name:

* AD topology (subnets, sites) and replication
* DNS entries replication, including internal and external aliases
* Restoring Windows Server from Virtual Machine snapshot – especially consider situation when AD password expired after you created snapshot
* Reverse DNS entries and replication, potentially including DHCP service interactions
* External URL names, changes, replication and firewall/loadbalancer changes
* Certificates names and autoenrollment of certificates
* Workstations and servers DNS cache, DNS servers, WINS(?)
  1. Can we migrate between servers with the same IP?

No, that’s not supported. Also from network perspective it would be impossible, unless you make some NAT’s or other addresses translation.

* 1. What is the average time taken to migrate a given application?

Very dependent on the application and complexity, but we don't recommend anything less than 4-6 hours as a maintenance window.

* 1. With a large size of data how you arrive at maintenance window?

This is a function of network speeds and size of data. In case you get a calculation for the best case time transfer of a single big Database file, give it at least a minimum of 50% extra time for DBs with multiple Database files.

* 1. What are some good sample applications that we can migrate using AppZero migration method in lab?

With regards to applications to use, .NET Stock Trader is a good example. Here are some links with information:

<http://www.microsoft.com/en-ca/download/details.aspx?id=26553>

<http://msdn.microsoft.com/it-it/vstudio/bb499684%28en-us%29.aspx>

<http://blogs.msdn.com/b/roberdan/archive/2007/06/20/net-stocktrader-sample-application.aspx>

You can also install applications using MS Web Platform installer (<http://www.microsoft.com/web/downloads/platform.aspx> ). You will find applications such as DotNetNuke (DNN), SugarCRM, Umbraco CMS, WordPress, MediWiki, Joomla, Drupal, etc. that we use in-house in our testing. Any application with IIS and a Database is good for exercising AppZero and understanding the migration process.

You can also try something like MS Dynamics. For simple apps that are fast to migrate, you can use WordPress (<http://codex.wordpress.org/Installing_WordPress> ) with the apache/MySQL combination, or use things like web browsers (such as opera, Mozilla, chrome).

* 1. What is the maximum Migration throughput speed that can be achieved using AppZero?

The time is dependent on many factors (i.e. NIC, CPU, load of machines, how many files the Database has, etc.), but mainly you are looking at the network speed between the Source & Destination as the main determining factor. When AppZero identifies that a Database file needs to be copied from the source to the destination, a straight SMB copy happens under the hood, so if you have a single 100GB Database, it should take similar time with AppZero as with a straight copy from SMB through \\ipaddress\c$. You should be able to do a quick math based on NIC speed and data size to get an approximate time for transfer. However, if the Database consists on many multiple files, then AppZero needs to do more logic under the covers and the time to transfer will be slower than a straight SMB copy. Unfortunately, there is no good rule of thumb to calculate this time.

* 1. What manual changes we may need to do after application migration?

Firstly you typically want to uninstall AppZero, as it’s no longer needed. That action doesn’t require restart.

There could be many other activities based on the specific application or IT operation requirements. They should be done by customer IT administrators teams. Most typical are:

* Reconfigure clients to connect to destination server, which may require changes in DNS, configuration files on clients, URL, lmhosts/host files updates.
* Open required ports on the destination server based on the application port requirements so that clients can connect to the application. For e.g. for SQL you need to open port 1433.
* Update the certificates with the name of the destination server in case certificates are tied to the machine name. Update the application configuration to use this newly generated certificate on the destination machine
* Configure agents and management servers of common infrastructure systems like backup, monitoring, antivirus, etc. with details related to migrated application
* Reconfigure other systems, which are using migrated application to point to destination server.

1. AppZero migration process
   1. Is the VAA an .exe file?

The VAA is a private directory in the OS containing only the app artifacts while you're extracting the app. Then you can compress to a single .CAP file and move it around if you want to and then uncompress it back to a normal VAA. Dissolve takes the compressed file normal VAA and provisions it permanently on a destination server.

* 1. How does AppZero migrate certificates?

AppZero doesn't do any special handling for certificates. As you exercise the application, the certificates will be copied across from the source to the destination. If those certificates are used to connect to applications on other machines, then those certificates will most likely work "as is", however, if the certificates in question are used to connect inbound to the source machine, then when those get moved to the destination machine, most likely they will not work because of the different machine footprint (e.g hostname). This is usually observed when migrating web sites where the clients get a certificate challenge on the new destination machine.

Some certificates are tied to hardware specific identifiers that are unique to each OS installation. In these cases, the certificates will have to be regenerated in order to tie them to new destination identifiers. How to regenerate the certificates is application specific. Please refer to your application requirement(s).

* 1. How does AppZero migrate ODBC?

ODBC can be migrated from the source to the destination, or it can be installed on the destination by the end user. If you want to migrate ODBC you have to call the ODBC manager from inside the VAA. Tether console offers a shortcut to it -as a convenience- in order to exercise the ODBC manager inside the VAA.

* 1. How does AppZero migrate multiple NIC’s or IP’s?

AppZero neither virtualize NIC’s/IP addresses nor migrate IP addresses. New IP addresses should be configured on destination server before migration to reflect original configuration from source server.

By default, standard COTF does not rehost the application by IP address. You can use a custom COTF file to rehost the application configuration for the new IP addresses.

* 1. How can we check if tethering process has ended if we use AppZero CLI instead of GUI?

The AppZero Tether Monitor icon in tray will still stay active. Therefore, you can perform all the migration work through CLI and monitor the migration using the AppZero tether monitor (which is a GUI utility). If you prefer to monitor the migration all through the CLI you can also do this using "appztetheradmin <VAA\_path> notif\_info".

* 1. Can we disable automatic hostname replacement during migration, so called COTS functionality?

COTS (Config On The Fly) functionality replace source Hostname with Destination hostname within every type of objects touched by application like file and folder names, registry settings etc. While its great functionality, in some cases application may require to have “untouched” names after migration.

Some of our COTF functionality is hardcoded, and cannot be disabled. AppZero is looking to improve the COTF disabling in the next release.

Meanwhile we can use customs COTF xml file to exclude from replacement behavior particular folders or registry keys.

* 1. Can AppZero extract somehow password of local user, which are used for starting services.

No, you should get that information before migration.

You can provide new password, which will be used for local user on destination server. That will be enough to start service properly, unless there are some security restrictions on destination servers, not related to migrated application/service.

* 1. What’s the impact if an application has no service?

AppZero can migrate both applications that have no services, and applications not in the Remote Products list (most homegrown applications fall in that category). In such cases you will have to launch the application through the VAA's command prompt - see Step 14 in the following document for launching apps in the VAA command prompt (<http://docs.appzero.com/AppZero%20Application%20Migration/to_migrate_an_application_using_appzero_tether_console.htm> ).

* 1. How AppZero identify the remote service related to particular application?

When you select an application from the Remote Products tab, AppZero queries the applications MSI for all related services, users and groups that were installed based on the MSI's information. This is true for most vendor applications. For homegrown applications, or applications not installed via MSI, a bit more manual discovery on the source machine is needed - this is because there is no MSIs linking the services to the applications.

That being said, once the migration begins and the application's executables are launched, AppZero will intercept every call made by the executable and bring across any third party applications that your application makes a call to

* 1. What are the various actions I can perform on VAA once the VAA is created?

Options are:

* Continue running your application in the VAA container, or
* Run \*dissolve\* to deploy the contents of the container to the host underlying Operating System, running natively. AppZero can then be removed, or
* Compress and move the VAA to another machine, or
* All of the above
  1. What happens when the original application has to be patched? Will be a process of re-creation of VAA necessary?

Typically, and especially in 2003 EOS scenarios, you will want to dissolve the application rather than continue to run it in the VAA. Once dissolved you would patch it in the usual way.

1. AppZero migrations troubleshooting
   1. What is location of AppZero logs?

Due to the nature of AppZero software, there are multiple methods of troubleshooting migration issues. Here is a list of the more common methods that we may employ:

* AppZero logs Application and System events to the Windows Event Viewer. The 3 main areas we check are **Windows Logs | Application**, **Windows Logs | System**, and **Applications and Services Logs | AppZero**
* AppZero logs tether and IIS migration information to the following location as well: **<VAA Path>\ctrack** . There are 2 subfolders and multiple logs created
  + The Log subfolder contains the PreCheck Report, which is an environmental analysis pertaining to our migration prerequisites. The Log folder also contains **migration.log**, an output for IIS specific migrations.
  + The Activity subfolder contains **tether.log**, which is an output of all activity during live tether
  + There are also logs pertaining to VAA properties and actions as well
* Due to the fact that we run applications in real time during tether, we also check application specific logs in their respective folders. This requires application specific knowledge, so particulars cannot be listed here.

Applications that require host specific configuration changes often generate generic error messages via Windows Events, and have much more in depth error logging in their respective error logs. Note that the logs will be contained in the path of the VAA, e.g: **<vaa path>\cstore\_C\Program Files\Generic Application\logs**

* From time to time we also employ SysInternals tools, most notably Process Explorer and Process Monitor. This is for runtime level investigative work.

More details regarding AppZero logging can be found [here](http://docs.appzero.com/Administration/Logging.htm).

* 1. What data can be useful for support team?

Apart from logs listed in section 9.1 there are also additional information useful for AppZero support teams:

* **MSinfo32** results from source and destination servers

To get that information open normal CMD and execute: o

msinfo32 /report c:\source-info.txt

NOTE: that process may take several minutes.

* **IIS metabase** from source server. It is located at C:\Windows\system32\inetsrv\MetaBase.xml

Send collected information to AppZero support team.

* 1. Is there AppZero troubleshooting guide?

Yes, there is dedicated document describing well known problems during migrations. Please refer to [this](http://docs.appzero.com/Troubleshooting/troubleshooting.htm) page.

* 1. Is there any AppZero knowledge base, similar to TechNet?

No, there is no such public or Microsoft dedicated website.

* 1. How to check if objects within VAA are created properly?

In case there is a suspicion, that any process is blocking creation of objects by AppZero we can make a simple test.

* Run command line from VAA context
* reg query hklm\software - check if you see any hives.
* reg add hklm\software\VAAtest add new hive to registry
* reg query hklm\software - check if new hive VAAtest has been created. If yes, then VAA most probably can create objects properly.
* reg delete hklm\software\VAAtest – delete test hive.
* echo VAAtest > c:\test.txt - Check from the host OS if C:\test.txt file has been created in the CSTORE path of the VAA, and contains VAAtest text inside. If yes, then most probably mothing is preventing AppZero from creating objects.
* Close VAA command line
  1. Are there any well-known issues with AppZero?

Yes, there is dedicated section in Troubleshooting section called Issues under following URL: <http://docs.appzero.com/Troubleshooting/Issues> . Issues are categorized by phase or migration steps.

1. AppZero support
   1. How to contact AppZero support?

Support page is available at <http://www.appzero.com/support> . AppZero Support customers can contact AppZero technical support via:

* Phone: +1 866.980.APP-0, option 3
* Email: [support@appzero.com](mailto:support@appzero.com)
* Support Portal: [Click here to log in](https://helpdesk.appzero.com/login?back_url=https%3A%2F%2Fhelpdesk.appzero.com%2F).

After sending an email or contacting via phone you will receive case number to be used in further communication with support team.

* 1. Is there any AppZero knowledge base?

There is a public support system and knowledgebase at <http://helpdesk.appzero.com> (you need to register at that site to be able to log in).

The knowledge base is <https://helpdesk.appzero.com/projects/appzero-support/knowledgebase/articles> . Currently there are 27 articles.

There is no Microsoft internal AppZero knowledgebase or dedicated section under AppZero standard support website.

* 1. Are there public FQA?

Yes, it is available at <http://www.appzero.com/faq> .

Current Microsoft internal document avoids deduplication of information and cover areas, which are not fully described at AppZero FQA page.

* 1. What are AppZero support team standard working hours?

Standard Enterprise Support is an annual agreement that covers telephone and email support from **8am to 5pm Eastern Time (EST)** excluding US and Canada holidays.

**Please consider if those hours will fit your migration plans, especially in different time zones**.

* 1. Is there 24/7 support option available?

Premium Support may be purchased optionally. It includes all services in Standard Support, plus 24 Hours per Day x 7 Days per Week x 365 Days per Year support.

* 1. Are there special SLA for Microsoft?

Yes, there are dedicated SLA’s for Microsoft consultants as stated in below table:





* 1. Is AppZero supported on Windows NT 4.0?

No.

* 1. Is AppZero supported on Windows 2000?

Officially not (see point 11.3 ), since AppZero didn’t make full test on that platform.

But from technical perspective the tool can migrate applications from Windows 2000. There are even some specific points in AppZero documentation related to migration from IIS 5.0.

* 1. Is AppZero supported for MS SQL migrations?

From AppZero perspective it’s supported. There are dedicated scripts to be executed on migrated SQL instances.

From Microsoft perspective we don’t recommend such scenario. There is MCS offering for SQL platform upgrades and we should convince customer to use that, instead of AS IS rehosting.

1. AppZero and 3rd party applications supportability
   1. What is Microsoft position regarding supportability of application migrated by AppZero?

**Official Support Policy**

As this is a new scenario, we don’t have an official support policy statement for AppZero. However, our policy for this would be similar to the policy for customers running non-Microsoft virtualization and I’ve included that below. The highlighted sections below are particularly relevant to this situation:

Hardware virtualization software lets you run multiple operating system instances at the same time on a single computer. Microsoft has multiple software offerings that provide this functionality. For a list of products that are currently in life cycle, see the following Microsoft website:

Microsoft Support Lifecycle

( <http://support.microsoft.com/lifecycle/> )

Some third-party companies also have software that provides this functionality. This article describes the support that Microsoft provides for its software when you run it with non-Microsoft hardware virtualization software. Except as described in this article, Microsoft does not test or support Microsoft software that's run in conjunction with non-Microsoft hardware virtualization software.

For Microsoft customers who have Premier-level support and who run non-Microsoft hardware virtualization software from vendors with which Microsoft does not have an established support relationship that covers virtualization solutions: Microsoft will investigate potential issues with Microsoft software that's run in conjunction with non-Microsoft hardware virtualization software.

As part of the investigation, Microsoft may require the issue to be reproduced by the customer independently from the non-Microsoft hardware virtualization software. This can be done on Windows Server 2008 (with Hyper-V), the actual hardware platform with the Windows operating system installed directly upon it, or on both. Where issues are confirmed to be unrelated to the non-Microsoft hardware virtualization software, Microsoft will support its software in a manner that is consistent with support provided on a server that has passed Microsoft's "Designed for" or "Certified for" testing criteria. For more information about "Designed for" or "Certified for" hardware, see the following Microsoft website:

<http://www.windowsservercatalog.com/content.aspx?ctf=logo.htm>

(<http://www.windowsservercatalog.com/content.aspx?ctf=logo.htm> )

Additionally, for vendors with whom Microsoft has established a support relationship that covers virtualization solutions, or for vendors who have Server Virtualization Validation Program (SVVP) validated solutions, Microsoft will support server operating systems subject to the Microsoft Support Lifecycle policy for its customers who have support agreements when the operating system runs virtualized on non-Microsoft hardware virtualization software. This support will include coordinating with the vendor to jointly investigate support issues. As part of the investigation, Microsoft may still require the issue to be reproduced independently from the non-Microsoft hardware virtualization software. Where issues are confirmed to be unrelated to the non-Microsoft hardware virtualization software, Microsoft will support its software in a manner that is consistent with support provided when that software is not running together with non-Microsoft hardware virtualization software.

**Microsoft Services Policy**

Note that this does not apply to non-Microsoft applications migrated using AppZero as Microsoft Support does not provide any support for non-Microsoft applications.

We will continue to use AppZero in our consulting frameworks for the scenarios where it makes sense. Below is how our frameworks will reflect the above support policy:

AppZero is only used by MCS for applications that are not supported by the vendor but appear to be compatible as a result of our Assessment and Planning phase. Only then do we recommend using AppZero because it allows us a consistent (and with MCS automated) way of performing application migrations from Windows Server 2003 to a modern platform.

AppZero has the same limitations as Server App-V and a few benefits which is why we use it.

* AppZero cannot solve OS compatibility issues; it only migrates application components that are in use during the “tethering” (migration) process.
* Unlike App-V sequencing, AppZero builds the virtualization package from an in-use application server but must be performed for every application instance.
* This is a big one: AppZero has the ability to dissolve the virtual application so that it is left running on a server as a physically installed application.
* Due to the way AppZero functions, it can migrate an application where the customer has lost the installation binaries or where the installation code fails for newer operating systems but the actual application is compatible.
* AppZero requires two full UAT testing passes: 1) during the migration while tethered to the source server and 2) after the migration once the tethering is disconnected to verify the application still functions properly. UAT can be expensive for a customer and difficult to schedule so we want to minimize the use of AppZero to scenarios where we think the tool will be successful AND where we don’t have a vendor supported modernization path.

However, let me be very clear that we don’t recommend AppZero for most migration scenarios due to supportability concerns, tooling costs, and customer UAT costs.

At this stage we have reflected these policies into most of our strategies and messaging. We don’t feel that this will impact our strategy significantly due to the fact that AppZero is already not able to migrate many of our enterprise applications (AD, Exchange, SharePoint, System Center, OCS) due to their reliance on SQL Server, complexity, and dependencies. Where this will be most impactful is for IIS-based applications. We will apply the above policy to those when we encounter them and it makes sense. Our primary goal is not putting the customer in an unsupported position for any Microsoft Applications.

* 1. Is there AppZero official information regarding support policies?

Yes, it is well described at <http://www.appzero.com/policies> .

Due to the fact, that supportability topics are very often raised during conversations with customers, we copy below full text from AppZero website as for 14th September 2014.

* 1. Support Policies for AppZero Products

AppZero Software product support is provided to customers and partners using AppZero products under the following constraints:

The customer must run the AppZero product on a supported version of the Windows Operating System. For AppZero 6.0 the following versions of Windows are supported:

* Windows Server 2008 (64-bit)
* Windows Server 2008 R2
* Windows Server 2012
* Windows Server 2012 R2

The source application to be migrated must reside on a supported source machine operating system. For AppZero 6.0 the following versions of Windows are supported as source machine environments:

* Windows Server 2003 (32-bit and 64-bit)
* Windows Server 2003 R2 (32-bit and 64-bit)
* Windows Server 2008 (32-bit and 64-bit)
* Windows Server 2008 R2
* Windows Server 2012
* Windows Server 2012 R2

The customer must be running a supported version of the AppZero product. Our product lifecycle policy specifies that a particular version of AppZero, including any service packs to that version, remains supported for 6 months after the next version is released.

Customers requesting support on a version of AppZero that is no longer supported may be asked to upgrade to a supported version to facilitate resolution of the incident.

* 1. Support Policy for migration of Third-Party Applications

AppZero is an application migration technology which extracts previously deployed applications from Windows Servers and packages them for migration and deployment to more modern infrastructure including new servers, new operating system versions, and/or cloud operating environments.

AppZero is a general purpose migration technology that can be used to migrate a broad range of business applications residing on Windows Server, including multi-tier applications, database servers, custom applications and 3rd party packaged applications.

There is no explicit supported applications list for use with AppZero. Rather, AppZero will make reasonable efforts to provide support, including both usage recommendations and defect resolution, to customers attempting to migrate any application that isn’t known to be incompatible, or until a specific incompatibility is found. The following applications are currently known to be incompatible:

* Microsoft Exchange
* Microsoft SharePoint
* Microsoft Active Directory services
* Any application embedding Internet Explorer
* Any application which includes kernel drivers
* Any 16-bit application
  1. AppZero migration and 3rd party vendor support policies

AppZero migrates the application artifacts from an existing installation of an application to a new server, by moving files and registry entries from an old server to a new one, with the end result similar to that of a backup and restore cycle. The process is very reliable and the end result is usually indistinguishable from a natively installed application.

Most application vendor support policies neither endorse nor preclude the use of IT operations tools like AppZero. However, the support staff of a vendor-supported application will likely not be familiar with the AppZero migration process and may be reluctant to diagnose application issues during the course of a migration, if the issue is expressed in terms of the AppZero migration workflow.

AppZero can also be used to move an application from a particular version of Windows where it was installed, to a later version of Windows. As such it may enable the application to be moved to a version of Windows for which it is compatible, but that is not a supported Windows version for the application.

When moving an application to an “up-level” version of Windows, customers should exercise discretion in assessing what version of Windows the application vendor supports for the current version of the application, whether application upgrades are necessary to ensure the application is supported on the target version of Windows, and if so applying those upgrades after the migration.