

Migration Extension Capabilities - Scenario: Windows 2003 Server to Cloud Migration and Upgrade

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THE PROBLEM: WINDOWS 2003 END OF LIFE

With Microsoft declaring End of Life support for Windows 2003, you need a solution to get those systems both migrated to the Cloud, and into a supportable state. This whitepaper outlines one approach to solving two issues:

- Virtualization and/or consolidation of workloads onto a destination cloud
- Post migration in-place upgrade of Windows 2003 (R2) to Windows 2008 or beyond

THE SOLUTION: RIVERMEADOW AND MIGRATION EXTENSIONS

What is RiverMeadow?

RiverMeadow is a SaaS-based Migration Platform for moving Physical Virtual or Cloud based workloads, as-is, to the Cloud. By automating otherwise tedious, expensive and time-consuming tasks, RiverMeadow lowers the cost and complexity of Migration dramatically.

What are Migration Extensions?

Every migration has the potential need for automation, not only of the migration itself, but follow-up tasks like installing or uninstalling software. Migration extensions allow RiverMeadow users to continue automation beyond the migration event. This is where migration extensions come in. Migration extensions are scripts and/or executables that are run on the migrated workload right after the migration. Migration extensions are run as the user you supplied for the migration, and in the default shell

(cmd.exe for Windows). If you can log in and run it, RiverMeadow can too.. In this paper, we will use a Migration Extension to automate a post migration upgrade of a Windows 2003 R2 server - in place - to Windows 2008 R2.

DISCLAIMER:

No Microsoft support agreements have been harmed in the making of this document. This document follows the supported migration paths set forth by Microsoft.

As such this solution inherits the requirements and constraints of those supported paths. This includes ensuring that any applications running on the workloads are compatible with the upgraded version of Windows.

RIVERMEADOW SAAS SECURE DIRECT MIGRATION

RiverMeadow Secure Direct Migration (SOM) SaaS was designed to eliminate workload migration complexity and mitigate security concerns. Purpose-built for the cloud, SOM is an automated workload migration platform that employs innovative APIs to securely connect the source to any type of destination cloud - public, private or hybrid. Server data stays behind your organization's firewall and within your environment.

Benefits

- Simple to use, easy to deploy
- No agents to install: no RiverMeadow software needs to be installed before migration
- No lock-in or commitment to a platform: no RiverMeadow software is left behind after migration is completed
- No outage, no reboot: workloads can be moved live, as is, without the need to stop the server
- Bulk move many workloads at once
- User friendly: all functionality is available either through an intuitive UI or a RESTful API
- No Need for a Back-out Plan (reverse migration): because your workload is copied into the target cloud, there's no need for a back-out plan

RiverMeadow provides on-demand scale-out to facilitate parallel migrations. The automation and scalability features dramatically reduce time and costs associated with migrations, especially large, complex projects. Migrations can be completed successfully in hours versus months.

THE REQUIREMENTS

To apply this solution, there are a few things you'll need:

Target cloud account

We will be using vCloud Air for this. vCloud has a console, which makes managing the process much easier. There's plenty of change, managing that change in the cold hard world of the console-less cloud may be one change too many. So for now we will use vCloud Air.

Cloud Air Service Requirements (VMware)

- Cloud Air account and a virtual datacenter (vDC) with enough space to hold a file server (VM) and the target (s) workloads you wish to migrate.
- You will need at least one public IP addresses and Source NAT configured.
- Your user account will need Virtual Infrastructure Administrator and Network Administrator privileges for this virtual datacenter.

RiverMeadow SaaS with vCloud Air

Please ensure your source and target VMware® vCloud® environment meet the minimum requirements for a RiverMeadow® SaaS Secure Direct Migration (SOM).

Target Requirements

- Worker CPU, RAM and storage requirements equal Target Workload requirements
- RiverMeadow CloudAppliance™ resource requirements: 2VCPU's, 4GB RAM, 6GB storage
- A provisioned (virtual) network providing connectivity to the source environment, to which both the CloudAppliance and the target workload must be connected

IMPORTANT:

The CloudAppliance requires DHCP running on the network specified above.

- The CloudAppliance requires the ability to make outbound Internet connections over port 443 in order to receive instructions and supply data and logs
- RPI access: the vCloud RPI endpoint must be accessible from the RiverMeadow SaaS platform (contact RiverMeadow support if IP addresses are necessary for whitelisting in your firewalls)

SOURCE

There is no point moving to a supported OS in an unsupported way, so we will adhere to Microsoft's upgrade path and requirements:

Windows Migration Requirements (Microsoft)

<https://technet.microsoft.com/en-us/library/ff968983%28v=ws.10%29.aspx>

<https://technet.microsoft.com/en-us/windows/aa905066.aspx>

Source Requirements

See Support Matrix: <http://docs.rivermeadow.com/support-matrix>

Source workload must have at least one Network Interface Card (NIC) with a routable path to the RiverMeadow CloudAppliance (VM) and TargetWorker (VM)

Network

You will need some inter-network connectivity between your source and target. For WAN scenarios, typically this is site-to-site VPN.

File Share

This will be where we store the upgrade media.

Media

(ISO) of the OS you wish to upgrade to (ie Windows 2008 Server CD).

You will need a valid product key.

VMware Tools

Mount the ISO to the source and copy the contents into another folder on the Share

RiverMeadow Account

Don't have one? We're in the AWS Marketplace (yes for VMWare migrations too!)

User Interface (UI) Browser Support

- Chrome v40.0+
- Firefox v35.0+
- Safari v8.0+

WINDOWS 2003 UPGRADE MIGRATION EXTENSION

The Windows 2003 Migration Extension coordinates the upgrade. Let's walk through it and discuss what it does and why.

First question has to be why not Powershell? Well, as it turns out, for some versions of Windows 2003, you have to actually uninstall Powershell v1 to be able to upgrade. The upgrade installs Powershell v2. Since we have to remove Powershell, and don't get it back until the upgrade is complete, we have to exclude Powershell as a scripting option.

The Process

RiverMeadow will move the server as-is, and install the software and tools needed to operate in the target cloud, but there are some additional aspects that we want to affect - namely upgrading this new target to Windows 2008 - and for this we will use a Migration Extension.

Remember, Migration Extensions are an executable file or script that can be applied to a full or differential migration and executed post-migration. So you can run the initial migration, then run the Differential Migration with the Migration Extension.

Running The Solution

- Start by copying the contents of the upgrade media into your file share (Available upon request)
- Be sure to allow anonymous read access.
- Download the AutoUnattended-Template.xml to the file share
- Edit the template and ensure you have a valid product key
- Download the Migration Extension to your computer. You will upload it to your RiverMeadow account in a bit.
- Edit the migration Extension and update
- InstallShare (ie \\SOMESERVER\Install\Windows2008)
- PasswordFilePath (ie C:\Windows\Temp\nothingtoseehere.txt)
- VMWareToolsPath (ie \\SOMESERVER\Install\VMWareTools)
- Log into RiverMeadow
- Add a source to migrate (Manage->Sources)
- Add Migration Extension (Manage->Migration Extensions)
- Create a migration profile and pick your migration extension

RiverMeadow will clone a copy of the source, into the target environment then run the batch file.

The Migration Extension Will:

- Connect to the share and clone the template
- Replace the password
- Uninstall Powershell 1.0 if it exists
- Run the upgrade
- Install VMware tools

What you should be left with is a shiny Windows 2008 Server, as supportable as a bug in a rug.

If you are interested, please contact sales@rivermeadow.com