vApp Control Script

# Introduction

Many customers wish to take advantage of the UKCloud’s hourly billing by turning VMs off when they are not in use. Currently there is no global functionality in the UKCloud platform to automate this for customers however it can be relatively easily achieved using the vCloud Director API.

To assist customers with this UKCloud have written a PowerShell script which allows a range of vApps to be powered on and off according to a schedule. This document explains how the process works and what is required to install and configure the script.

# How It Works

Customers create a CSV (vapplist.csv) file containing a list of vApps which need controlling along with their Organization ID and the time at which each vApp should be powered on or off.

Customers run the “SaveCredentials.ps1” script to capture the Organization login credentials to an encrypted file in the “creds” directory

Customers configure a Windows scheduled task to run the vAppScheduler.ps1 script at regular intervals (every 5 minutes or so)

Every 5 minutes (or whatever interval was specified) the script cycles through “vapplist.csv” logging in to vCloud Orgs to check whether the vApp is running or not. If the time window specified in “vapplist.csv” dictates that vApp should be running and the script deems that it is not then the script will start the vApp immediately. Likewise if the script deems that the vApp should not be running then it will stop it immediately.

The script operates at a vApp level. This means that all VMs in the vApp will be powered on or off together. This is by design. Operating on an entire vApp means that the script has to make less calls to the vCloud API and is therefore more performant. It also means that customers can retain control over boot order and delays within the vApp via the vCloud portal.

# Requirements

* A Tiny Windows VM which supports running PowerShell scripts
* VMware PowerCLI 5.0 or later
* Login Credentials for each vCloud Organization hosting VMs you wish to automate
* The vAppScheduler.ps1 script
* The SaveCredentials.ps1 script

# Installation

1. Create a directory to host the scripts (e.g. c:\automation)
2. Place both the vAppScheduler.ps1 & SaveCredentials.ps1 scripts into this folder
3. Create a subdirectory called “creds” (e.g. c:\automation\creds)
4. Create a scheduled task to run vAppScheduler.ps1 frequently (every 5 minutes is recommended)

# Configuration

The following items must be configured inside the script. To configure open up the “vAppScheduler.ps1” file in notepad or equivalent and edit the settings at the top of the file.

1. $credentialstore
   1. Thelocation where credential files will be stored
   2. eg "c:\scripts\vm control\creds"
2. $log
   1. name of the logfile
   2. eg "vappcontrol.log"
3. $vappfile
   1. Location of the CSV file containing vApps and times
   2. eg "c:\scripts\vm control\vapplist.csv"
4. $mailfromaddress
   1. Mail identity for alerts
   2. eg "admin@ukcloud.com"
5. $mailserver
   1. SMTP Server to send alert messages via
   2. eg "smtp1.il2management.local"
6. $vcloudaddress
   1. The API url of the platform
   2. eg "api.vcd.portal.ukcloud.com"
7. $notifyerrors
   1. Whether or not to email alerts to the responsible person listed in vapplist.csv
   2. Can either be $true or $false

## vapplist.csv

The vapplist.csv file should be formatted in the following way

vappName, timeOn, timeOff, notifyEmail, orgId  
testvapp1, 07:20, 08:20, [tlawrence@github.com](mailto:tlawrence@github.com), 000-ff-0976

timeon and timeoff must be specified in 24hr format.

Orgid can be viewed in the vCloud Director portal under Administration -> General

## SaveCredentials.ps1

SaveCredentials.ps1 should be run from a Powershell Prompt. The script will prompt you to enter the orgid (eg 000-ff-0976). Once you have entered the orgid the script will display a credentials dialogue box. In username enter the API username as viewable in the top right hand corner of UKCloud Portal under your username and the API button. The password is the same as your UKCloud Portal login password.  
When you click “OK” in the credentials dialog your username and password will be securely stored in the “creds” directory.