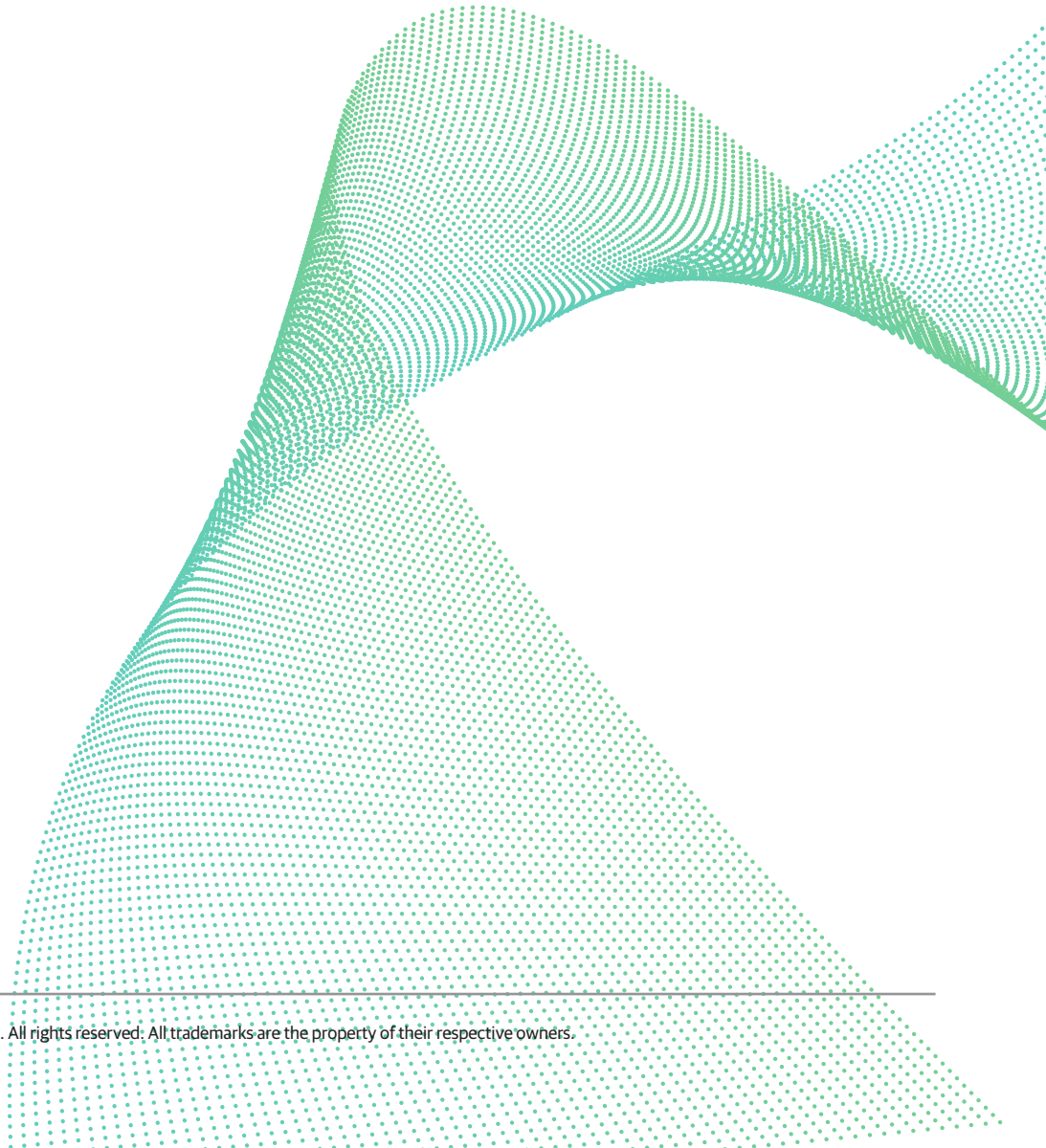
Building a self-service backup & recovery portal with VMware vRealize Automation

Michael White
Field Product Manager, Veeam R&D



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Introduction

VMware vRealize Automation is one of the first tools that provides a portal that end users and system administrators can use to get what they need quickly and efficiently, normally without the intervention of other IT staff. In fact, it's so extensible that there's no need for enterprises to even create the portal itself, not to mention program the required HTML and directory integrations, or maintain and support it as well.

All enterprises need backup, but more importantly they need to restore those files and virtual machines (VMs). Often, system administrators are required to complete the backup and restore tasks, but that is not always the best way of doing things.

Veeam® has been empowering customers to back up virtual, physical and cloud workloads for a long time and is now streamlining these processes further through VMware vRealize Automation (vRA) integration. Through this integration, when an end user requests one or multiple VMs, those VMs are automatically added to a backup job as part of the provisioning. This also means when the end user needs an entire VM or file within that VM restored, they can request it on their own, all without IT support, but still within the constraints and guidelines of IT.

Audience

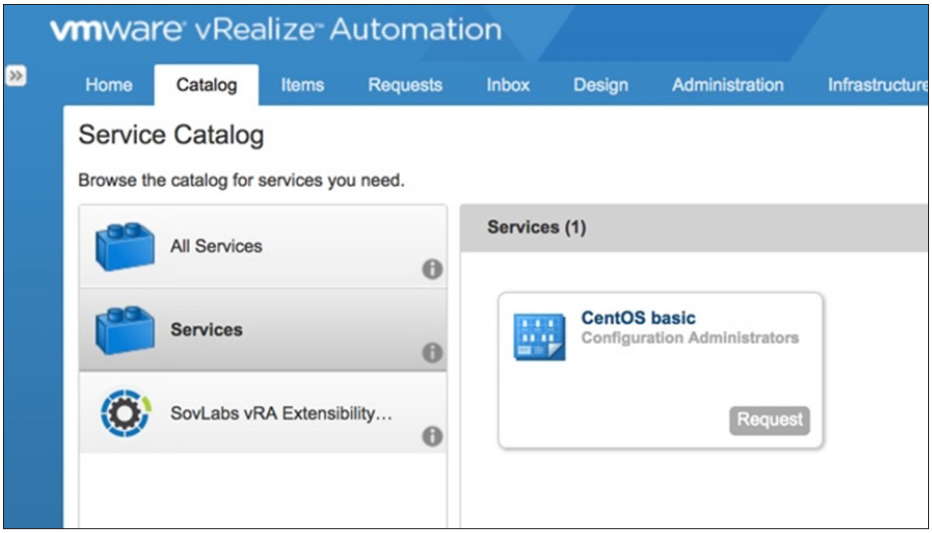
This guide is intended for IT managers and directors to demonstrate how this integration works and see how it will enable their business to be more agile and efficient. It is also for anyone who wants to learn what is possible when you combine VMware, SovLabs and Veeam solutions.

Overview

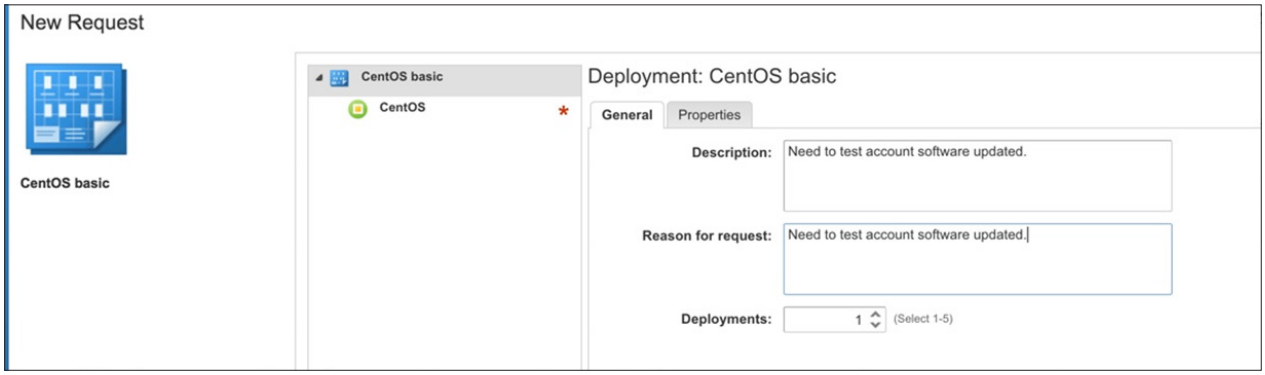
Below we will use screenshots to the show step-by-step process of provisioning and day two actions.

Provision

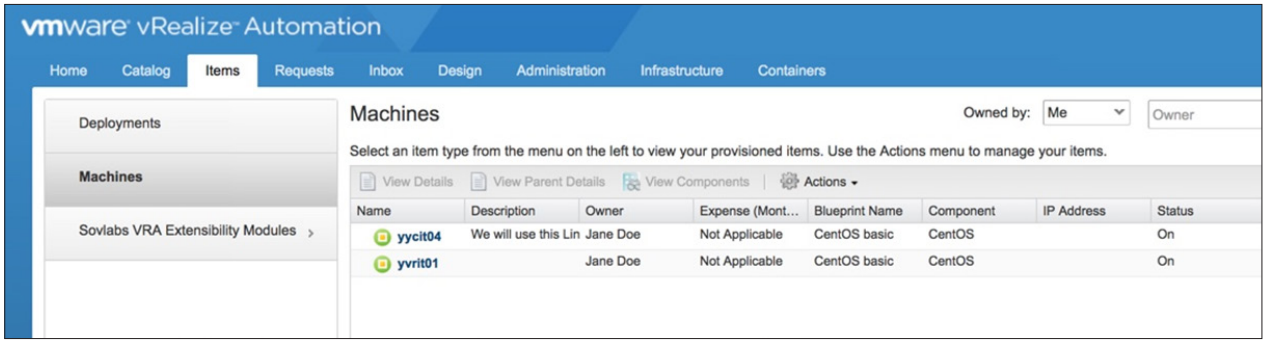
We will see below a user, Jane Doe, requesting a VM. This example is a CentOS Linux VM called "CentOS basic." As you might imagine, this request could be for almost anything, from a single, simple Linux VM to a full LAMP stack. It could even be an Exchange server cluster used to test patches. Imagination is important here.



There are several screens describing the purpose and size of the VM.



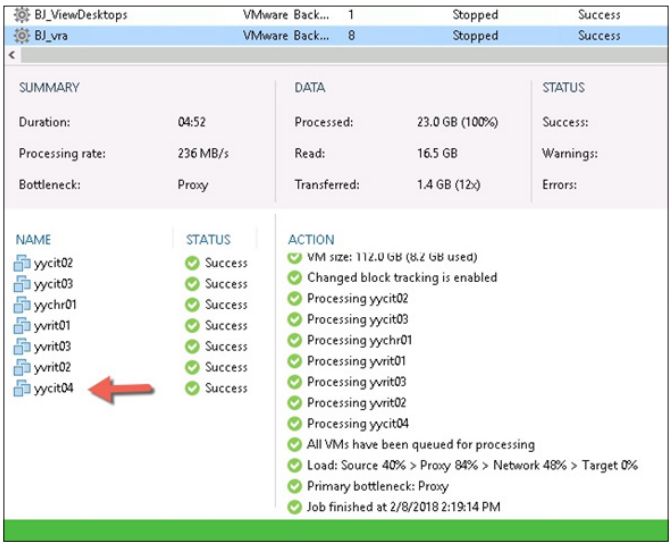
But just a few minutes later, a VM is ready.



It should be noted that the parameters of the VM can be adjusted within the boundaries of IT decisions. This might take on a more rigid approach where no adjustments are permitted, or one that is more flexible where more memory can be selected during the provisioning process for example.

Backup

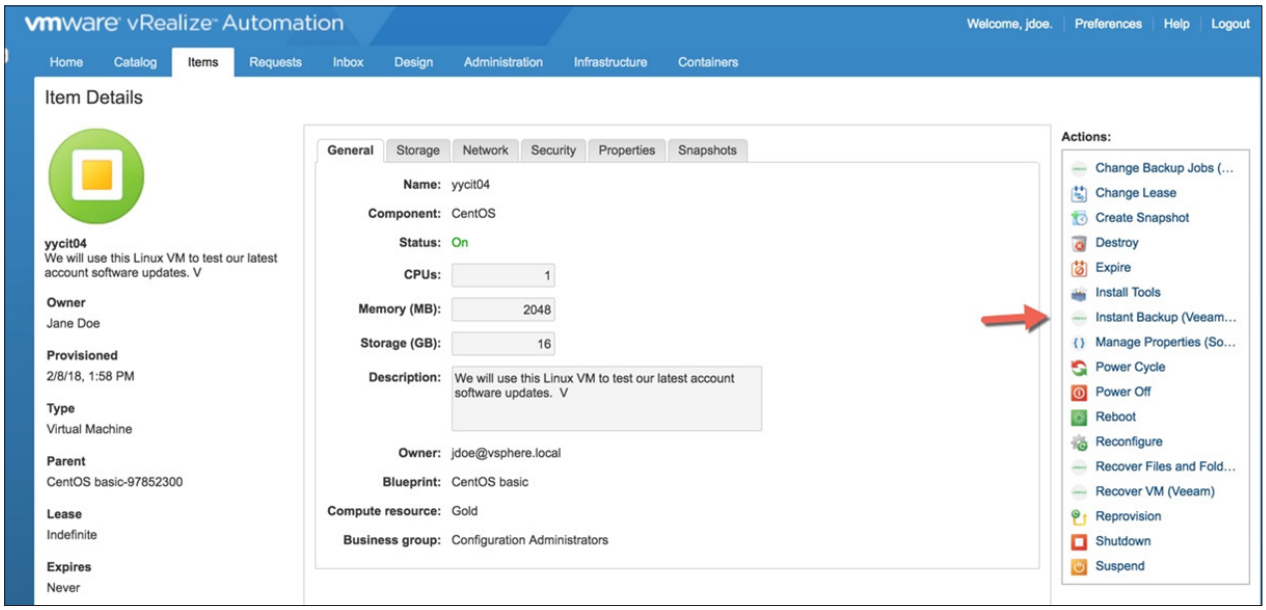
While the end user doesn't see this, below is a screenshot demonstrating that the requested VM is included in a backup job automatically as part of the provisioning process. When the job runs at its scheduled time, it will find the newly provisioned VM and back it up.



This is pretty cool. An end user requested a machine and that night it gets backed up with zero manual IT intervention. And yet, it is all within defined IT boundaries and resource guidelines.

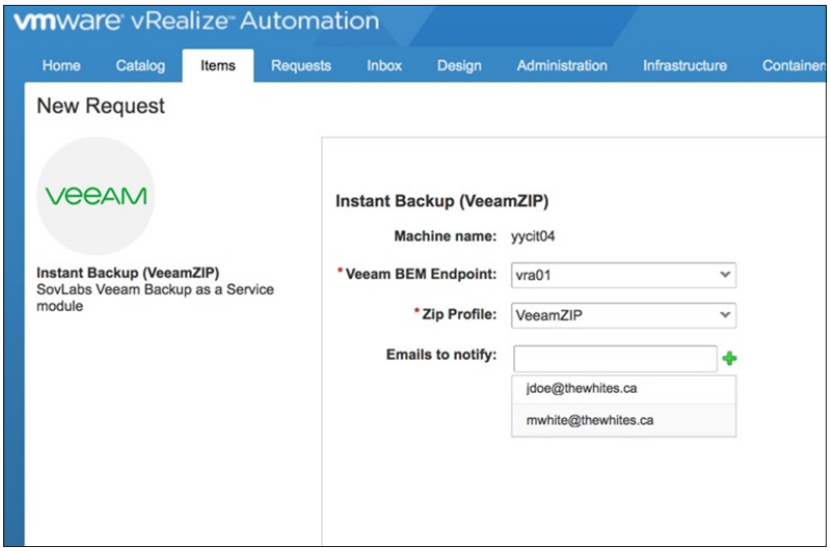
Instant backup

It is also possible as an end user to easily request an instant backup of the requested VM. This is like a snapshot but better, as it is easier to execute and manage. Below we look at the process of an instant backup. The VM is selected from within the **Items** view.

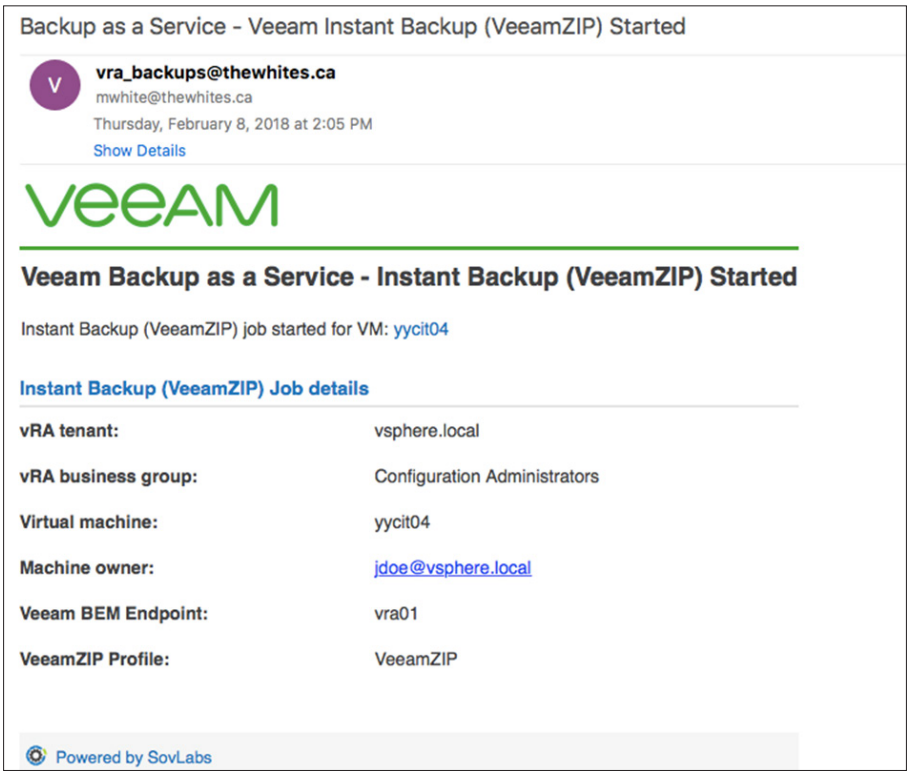


The **Actions** area on the right lists useful options that have been enabled by the vRA administrator within defined IT boundaries. These are dynamic and state aware; you may see some that I don't. Perhaps on Linux you will see Connect via SSH, but on Windows you may see other options such as Connect via RDP.

As the arrow indicates, we have the "Instant Backup" choice. Once selected, there are a few questions.



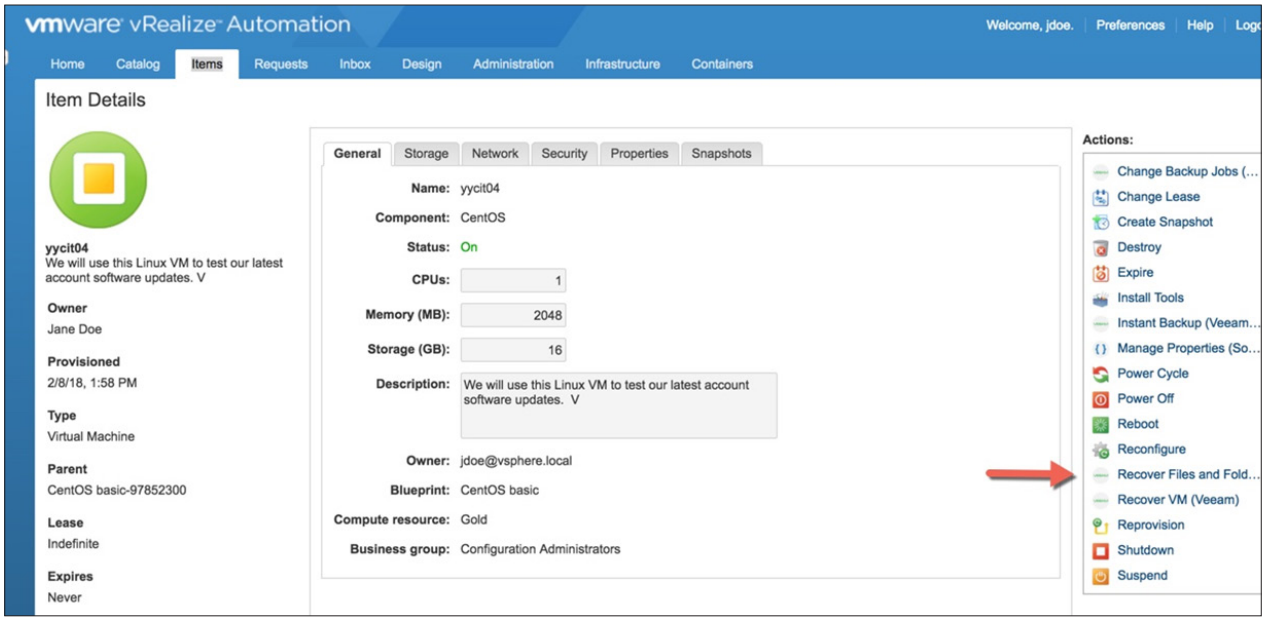
Once the form is filled in and a few minutes go by, an email will be received informing that the backup job has started and another when it is complete. Like so many things in this automated world, I have changed this to only send an email upon the completion of the backup job.



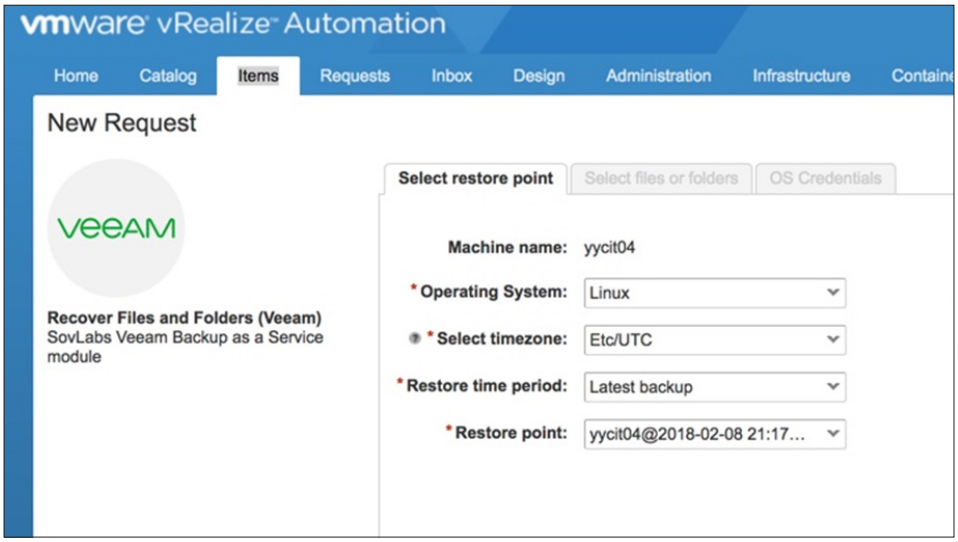
Pictured above is the default email, but it is customizable.

Restore files(s)

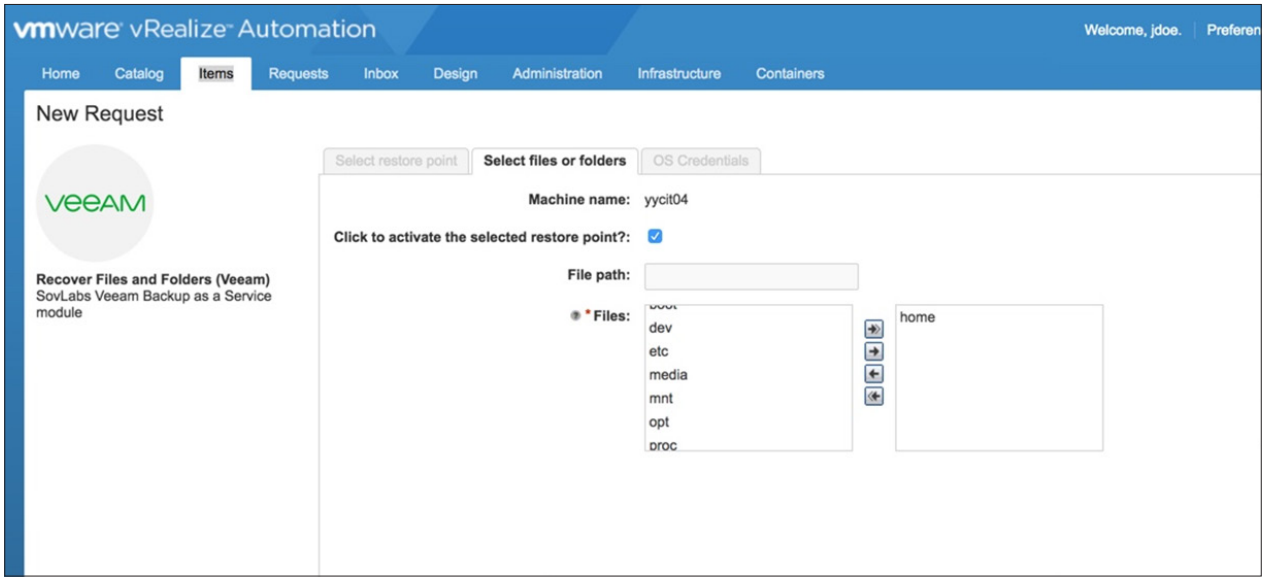
We start at the same place as we did with the Instant Backup, but instead opt for "Recover Files and Folders."



We get to choose the time period to restore from.

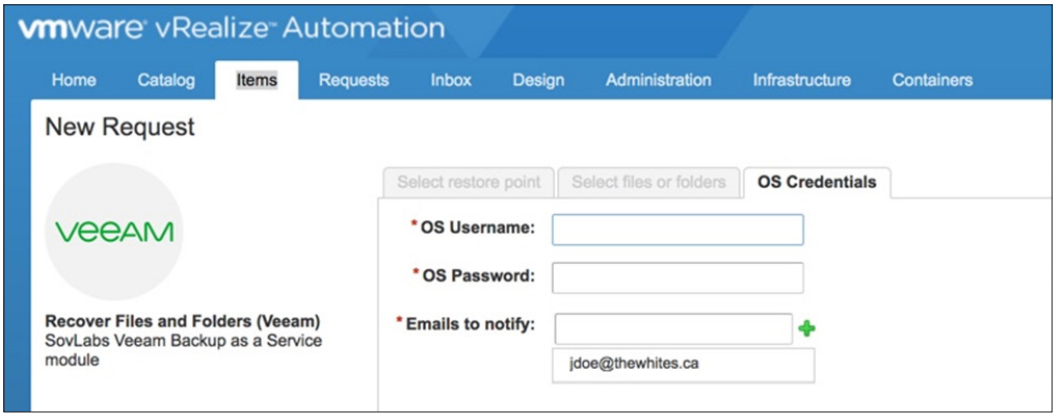


Next, we get to select the files or folders to restore.



In this case we are restoring files of a Linux machine, so they look a little different than Windows files. But the process would not change if you were restoring Windows files.

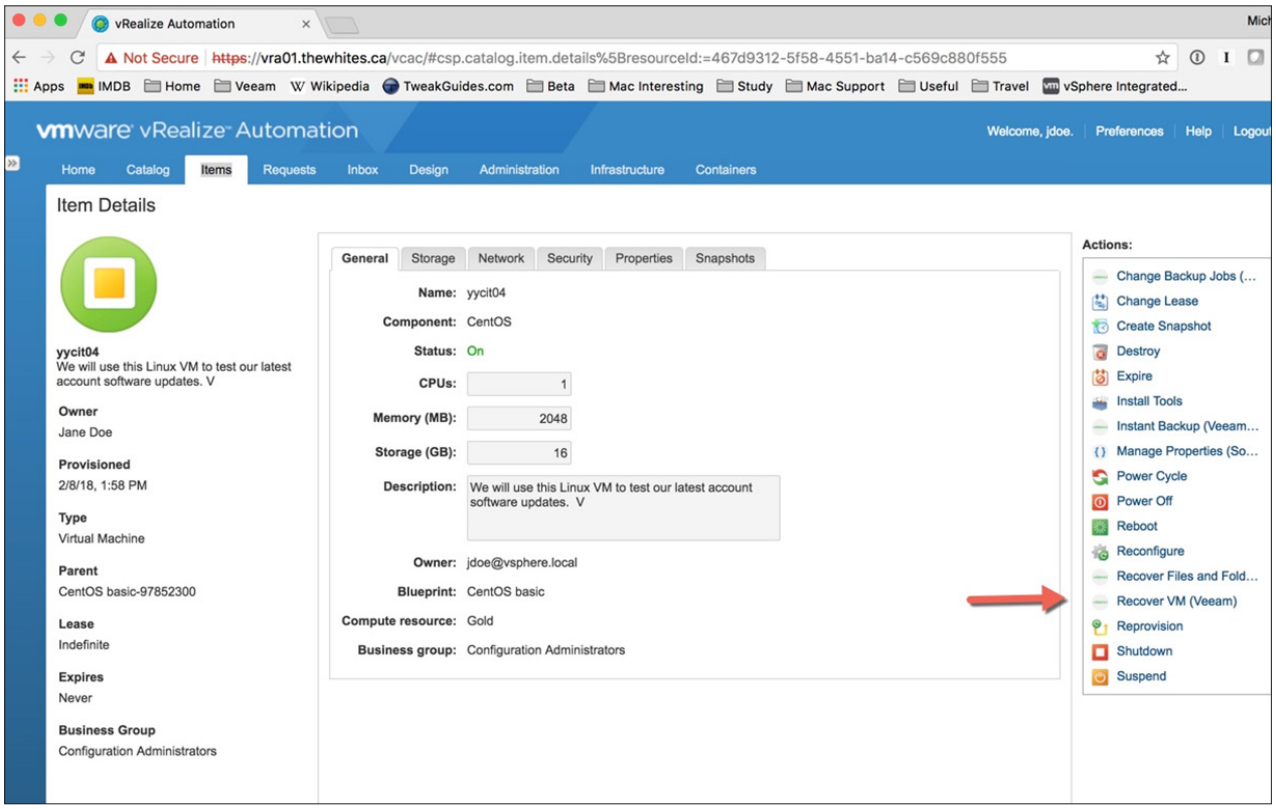
The last thing before the restore occurs is the prompt for credentials to use.



Then you get your lost files!

Restore VM

You can restore your VM as well. The process is quite similar, but it starts with a different option — "Recover VM."



You still get to pick which copy of your VM you restore and it works pretty fast.

Conclusion

Now that you know we were able to get this all working in the lab, and you can see the screenshots, you should have an idea on how it could all work for you. You can be sure that Veeam is very committed to APIs and will continue to improve them.

In this document you have seen automation that empowers end users to be more powerful and free up time for the IT people to work on other things — for example that might help make it easier to make money for the company! It should be said that this is one way of doing automation that I think makes things much easier. You could in fact skip vRA and SovLabs and do the portal and automation connections all using your own tools — like PowerShell, vRealize Orchestrator or Java among many others. Be aware that although there are options, what this document shows is what I think is the best for most customers.

Ok, so are you convinced? Curious how to get this functionality? My suggestion would be to find a partner that you like and trust and see if they have done any vRA before. SovLabs includes both install and support in their purchase price so that is straightforward to make work. Of course, you need to be a Veeam customer too. Don't hesitate to let me know how it goes or what you think about how it works — I do want to know!

Acknowledgements

I want to thank Kim Delgado for the most excellent help with vRealize Automation. She is part of the Customer Success team at VMware and what a great job that is for her! Much thanks Kim.

I would like to thank the whole SovLabs team, starting with David Coulter (CTO) and including Brian Baggett who is one of their rock star cloud automation architects. Brian was a very big help and I most appreciated that. SovLabs has a very good collection of plug-ins for vRA and you can find more about them in the Links section below.

Lab information

In our lab we used vSphere 6.5 update 1 with patches current as of Feb. 8, 2018. We used Veeam Backup & Replication™ 9.5 Update 3. The vRealize Automation version was 7.3 with patches required by SovLabs. We are using SovLabs plugins version 2017.4.3.3.

We essentially did a default vRA install and Veeam install. We made sure both were working before we brought SovLabs in and did a basic install of it. Not all functionally was used.

Normally, it would require development work -- some in JavaScript -- to connect vRealize Automation and Veeam, so it would be complex and each feature you want surfaced would need work. Instead, we partnered with SovLabs who have experience building plug-ins for vRealize Automation, to eliminate the need to do any development work. Remember that both VMware and Veeam issue updates that can impact API and that will often negate what you have done and require more work. I recommend most customers avoid the development work. It will mean you get a working product faster and yet you can still can tweak it as necessary. SovLabs really enables you to do more and do it easier.

Through the use of the Veeam plugin by SovLabs and vRA XaaS extensibility, you can achieve a great deal with no customization or coding needed. It works, and works pretty darn good, but there is much more customization possible if you like.

Links

SovLabs doc's site: https://docs.sovlabs.com/

Veeam docs: https://www.veeam.com/documentation-guides-datasheets.html

VMware docs: https://docs.vmware.com/en/vRealize-Automation/index.html

VMware Validated Design for vRealize Automation: http://pubs.vmware.com/vmware-validated-design-41/index.jsp#com.vmware.vvd.sddc-design.doc/GUID-73A3C12D-5F2E-4CE1-82D0-136218771065.html

Virtual Jad on vRA v7.3: http://www.virtualjad.com/2017/05/scoop-vrealize-automation-7-3.html

IT Hollow Simple Install: https://theithollow.com/2016/01/11/vrealize-automation-7-simple-installation/

SovLabs Plug-ins: https://sovlabs.com/products/

About the Author

I started out after leaving the military, in professional services for a VMware partner. After doing technical implementations around the world, I joined VMware. I started as a Partner SE, followed by Specialist SE, then Staff Technical Marketing Architect and finally into R&D as an Integration Architect. Much of my career has been in BCDR related work. I have spoken on a variety of topics at TSX, PEX, VMworld, Gartner and local VMUGs. I started at Veeam in technical marketing specializing in the Veeam Availability Orchestrator product, but recently moved into Veeam Research & Development as a field PM.

I did the work in this paper, along with Kim and Brian. If you have questions, please do not hesitate to reach out (michael.white@veeam.com).

About SovLabs

SovLabs provides an enterprise framework for extending VMware vRealize Automation (vRA). By seamlessly enabling consumption of data center & cloud technologies including Veeam, SovLabs allows vRA allows customers to design, deploy and manage hybrid cloud environments.

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