



Wecker

version 1

User guide

April 2021

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Document revision history

| Revision | Date | Change |
|----------|------------|--|
| A | 2020-04-01 | Initial version |
| B | 2020-04-09 | Added scripts run examples |
| C | 2020-05-03 | Added IMAP mail script example |
| D | 2020-12-20 | Document changed to reflect Wecker / Companion changes |
| E | 2021-04-17 | Document changes related to appliances parameters |

About Wecker

Wecker is a solution which enables automatic startup and shutdown of the entire VMware vSphere virtualization environment.

It also provides continuous monitoring of the VMware vSphere environment and alerting functionalities. Monitoring functionalities of Wecker are accomplished through a separated solution called "Companion". When you purchase Wecker, you get it in a bundle with Companion. It is possible to purchase only Companion, in case you only need to monitor VMware vSphere without needing to automatically start and stop the VMware vSphere environment.

Wecker is distributed as:

- Raspberry Pi SD card image which you can use to run Wecker on Raspberry Pi 3 B+
- VMware vSphere virtual appliance which you can import into your VMware vSphere environment

Running Wecker as a virtual appliance in the same VMware vSphere environment which you start and stop with Wecker is not supported.

If you are only using the monitoring and alerting functionalities (only Companion), then you can run the virtual appliance in the same VMware vSphere environment you are monitoring.

The software is written in Python and uses Microsoft PowerShell and VMware PowerCLI to automate tasks in VMware vSphere.

Wecker relies on VMware vSphere's tagging functionality. To be able to start and stop VMs in a specific order, VM tags need to be created in VMware vSphere and associated with virtual servers.

About Companion

Companion is a product which provides continuous monitoring of the VMware vSphere environment and alerting functionalities. Companion continuously monitors VMware vSphere and checks for overall health.

Companion monitors availability, performance and utilization of the VMware vCenter server, VMware Site Recovery Manager, ESXi hosts, datastores (including VSAN datastore) and network interfaces. It checks alarms, latest log data, VM snapshots status, VMware tools status and many other key elements in the VMware vSphere environment.

If a change in alarms occurs, or if some of the objects in the VMware vSphere environment becomes unavailable, Companion will send you an e-mail alert with the latest logs retrieved from VMware vSphere.

In normal everyday scenario, Companion generates daily, weekly and monthly reports with all relevant data formatted for easy identification of potential problems.

Companion report includes:

- VMware vCenter server - Basic information
- VMware vCenter server alarms
- VMware vCenter server licenses
- VMware vCenter server administrative permission
- VMware vCenter server VMs snapshots
- VMs with no VMware tools
- Cluster - basic data
- Cluster - resource data
- Cluster shared datastores utilization
- VSAN datastore - basic information
- VSAN datastore - disk groups
- VSAN datastore - resyncing objects
- VSAN datastore - VSAN objects health
- ESXi hosts - basic data
- ESXi hosts - current performance
- ESXi hosts - physical network interfaces statistics
- ESXi hosts – local datastores utilization
- VMware Site Recovery Manager – basic data
- VMware Site Recovery Manager – recovery plans
- VMware Site Recovery Manager – protection groups
- VMware Site Recovery Manager – protected virtual machines
- vSphere Replication RPO events
- Cluster – historical performance (day, week, month)
- ESXi hosts – historical performance (day, week, month)

Wecker functionalities

Wecker connects to VMware ESXi hosts (each, individually) and the VMware vCenter server every five minutes. In normal everyday scenario, it will retrieve and store the last VMware vCenter server logs and check for the VMware ESXi host uptime. Each day it will send you a daily report with important information about VMware vSphere environment health.

Automatic startup

If Wecker detects that all VMware ESXi hosts have recently been started, it will begin the start operation.

Wecker detects VMware ESXi host as recently started if VMware ESXi host's uptime is between 10 and 120 minutes. During the first 10 minutes, we will not begin the startup process because we want to be sure that the power supply is stable (it is a common situation that the power goes on and off in a small amount of time after a power outage). So, if the power supply has been stable for 10 minutes, Wecker will start the environment.

The startup process includes the following:

- When all hosts' uptimes are between 10 and 120 minutes, the startup operation begins.
- An e-mail alert is sent.
- VMware ESXi hosts' state is validated. If hosts' state is maintenance, exit from the maintenance state will be executed.
- Datastores availability will be checked on each VMware ESXi host. All datastores (which hold VMs) should be available. If a datastore is not available, storage adapters' rescan will be executed. If all datastores (which hold VMs) are available, Wecker will begin to start up VMs.
- VMs tagged with tags Priority-01, Priority-02, Priority-03 etc., ending with Priority-09 will be started on VMware ESXi hosts (with no connection to VMware vCenter server available). Wecker will read the previously created config file and search for each individual VM going through each VMware ESXi host's inventory.

NOTE

As one of the prerequisites for Wecker to work correctly, you have to create a tag category "Startup Priority" and associated priority tags "Priority-xx". This is described in detail later in the document.

- After VMs are started on VMware ESXi hosts, Wecker will wait and check for VMware vCenter server availability. After a VMware vCenter server becomes available, Wecker will connect to the VMware vCenter server.
- VMs tagged with tags Priority-11, Priority-12 etc., ending with Priority-99 will be started on a VMware vCenter server.
- After all VMs tagged with Priority-xx tags are started, Wecker will set vSphere HA and vSphere DRS to a previously stored state.
- The start operation is finished and an e-mail containing the operation report is sent.

VMware ESXi hosts startup

Wecker's main functionalities are:

- Orderly starting virtual servers after power is restored and after VMware ESXi hosts have been started
- Stopping VMs and VMware ESXi hosts manually or through UPS software before power runs out.

Starting IT equipment after power is restored (storage systems, network switches, FC switches etc.) is out of Wecker's reach.

There are customers who have "smart" UPS devices which can power equipment not all at once but in groups. Those customers can adjust the UPS device to power IT equipment in the correct order (Network switches > FC switches > Storage systems > VMware ESXi hosts).

There are customers who do not have "smart" UPS devices and those UPS devices power all equipment at once. In this situation it is a common problem that VMware ESXi hosts are started before storage system. For those customers, we added a functionality in Wecker to start VMware ESXi hosts after the storage system has been started. This functionality will check for storage system availability on the network (usually storage system management IP address). Wecker will send Wake On LAN packets to ESXi hosts only after a storage system is available, and start VMware ESXi hosts that way.

In this case, you need to:

- set servers not to start automatically after power is restored
- set Wake On LAN in server BIOS / UEFI

This functionality depends on server hardware and it is not fully tested.

Shutdown

Shutdown of the entire VMware vSphere environment can be executed in two ways:

- Manually through Wecker Control Panel GUI.
- Using SSH to connect to the Wecker appliance and run single command (/opt/Quaddons/Wecker/ScriptsR/StopVmsR.ps1). If you have UPS with software which can execute command, you can use this software to initiate automatic shutdown procedure.

The shutdown process includes the following:

- An e-mail alert is sent.
- Wecker will set vSphere HA and vSphere DRS to disabled.
- VMs which are not tagged with Startup Priority category tags will be stopped first, using connection to VMware vCenter server.
- VMs tagged with tags Priority-99, Priority-98 etc., ending with Priority-11 will be stopped second, using reverse order (from Priority-99 to Priority-11) and using connection to the VMware vCenter server.
- VMs tagged with tags Priority-09, Priority-08 etc., ending with Priority-01 will be stopped third, using reverse order (from Priority-09 to Priority-01) and using connection to each individual VMware ESXi host. Wecker will read the previously created config file and search for each individual VM going through each VMware ESXi host's inventory.
- After all VMs are stopped, Wecker will wait and validate that there are no VMs started on any VMware ESXi host.
- If no started VMs have been found on VMware ESXi hosts, Wecker will place hosts into maintenance mode.
- Wecker will validate host maintenance mode and initiate host shutdown.
- An e-mail alert with details about the stop operation will be sent.

Test startup and shutdown

Using Wecker Control Panel GUI, you can test startup and shutdown procedures without impact on production.

Test procedures are identical to production procedures but they don't invoke commands that change VMs and VMware ESXi host states. You can run test procedures to validate functionality before you use production procedures.

Prerequisites

Supported VMware vSphere versions

Wecker is tested with the following VMware vSphere versions:

- VMware vSphere 6.0
- VMware vSphere 6.5
- VMware vSphere 6.7
- VMware vSphere 7.0

Wecker requires VMware vSphere Essentials edition and above (VMware vCenter server is required).

VMware vSphere tags

Wecker relies on VMware vSphere tags to orchestrate actions in VMware vSphere. All VMs you want to start and stop automatically need to be tagged. So, before the initial Wecker configuration, tag category and associated tags need to be created.

Before we create tags, we need to understand how Wecker processes them.

Infrastructure VMs such as domain controllers, database server which holds the VMware vCenter database, VMware vCenter server VM, other VMware infrastructure VMs such as NSX Manager, NSX Controllers etc., are started using a direct connection to VMware ESXi hosts. Wecker uses a direct connection to VMware ESXi hosts to start and stop those VMs.

For infrastructure VMs, which are started and stopped directly on VMware ESXi hosts, tags: Priority-01, Priority-02, Priority-03, etc., ending with Priority-09 are used.

Other VMs are processed using the connection to the VMware vCenter server. Wecker uses the connection to the VMware vCenter server to start or stop those VMs.

For other VMs which are started and stopped using the connection to the VMware vCenter server, tags: Priority-11, Priority-12, Priority-13, etc., ending with Priority-99 are used.

Only VMs tagged with Startup Priority category tags will be automatically started during automatic startup. Startup order is from smaller number to bigger number (01, 02, 03 --- 99).

During shutdown, VMs which are not tagged with Startup Priority category tags will be stopped first, after which tagged VMs will be processed. The shutdown order is from biggest numbers to smallest numbers (99,98,97 --- 01).

The logical startup sequence for a simple environment would be the following:

- Priority-01 – domain controllers VMs
- Priority-02 – database VMs for VMware vCenter server
- Priority-03 – VMware vCenter server VM
- Priority-11 – Other production servers VMs (EG. Database for application X)

- Priority-12 – Other production servers VMs (EG. Database for application Y)
- Priority-21 – Other Production servers VMs (EG. Application X)
- Priority-22 – Other Production servers VMs (EG. Application Y)

Please consult the VMware best practice and the best practices for the software you are using in order to get information about the startup order for specific components.

Creating VMware vSphere tags

Tag category and tags are created using the VMware vSphere client. After the tags have been created, VMs need to be associated with specific tags.

Tag category name and tag names are case sensitive and they are hardcoded in Wecker.

They need to be exact as described here:

- Tag category name: Startup Priority
- Tag names: Priority-xx (EG Priority-01, Priority-02 etc.)

Please use the following procedure to tag VMs:

1. Open the VMware vSphere client and navigate to Menu > Tags & Custom Attributes
2. Click CATEGORIES
3. Click the NEW button and create a category as described in the following picture

The screenshot shows the 'Add Category' dialog box with the following fields and options:

- Category Name:** Startup Priority
- Description:** Tag category used by Wecker
- Tags Per Object:** One tag (selected), Many tags
- Associable Object Types:**
 - All objects
 - Folder
 - Datastore
 - Distributed Switch
 - Library Item
 - vApp
 - Cluster
 - Datastore Cluster
 - Host
 - Network
 - Virtual Machine
 - Datacenter
 - Distributed Port Group
 - Content Library
 - Resource Pool

4. Once the category has been created, we can create tags
5. Click TAGS
6. Click the NEW button and create a tag as described in following picture

7. Create other tags as described in the previous step
8. After you create all needed tags, you can associate the tags with VMs
9. Navigate to Menu > Hosts and Clusters
10. Right click on the specific VM > Tags & Custom Attributes > Assign Tag...
11. Select the tag you want to assign and click the ASSIGN button
12. Use the same procedure to assign tags to other VMs you want to tag

VMware vSphere permissions

Wecker permissions

Wecker needs to have specific permissions on VMware ESXi hosts and the VMware vCenter server.

You can use default administrative accounts such as vsphere.local/administrator for the VMware vCenter server and the root account for ESXi hosts, or you can create a new role and account which Wecker will use.

Permissions needed for Wecker normal operations are:

- Host > Configuration > Maintenance
- Host > Configuration > Storage partition configuration
- Host > Inventory > Modify cluster
- Virtual machine > Interaction > Power off
- Virtual machine > Interaction > Power on
- ESX Agent Manager (EAM) > Modify (this permission is needed if you are using NSX Guest Introspection VMs)

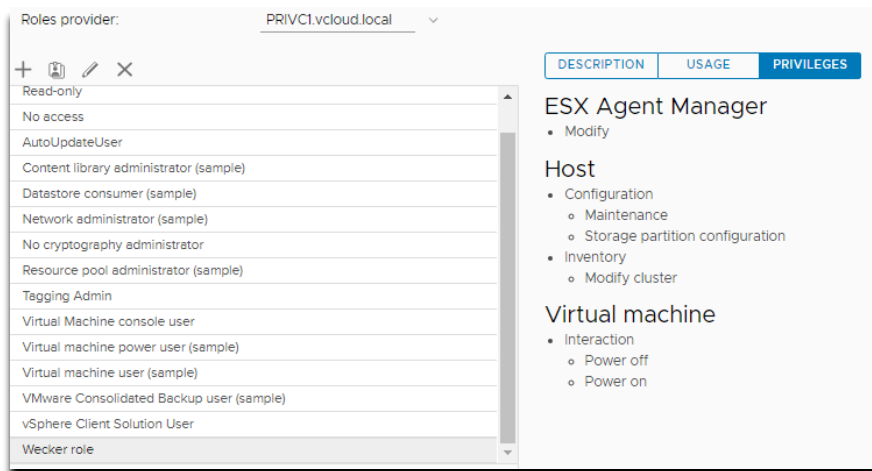
Permissions need to be granted on the VMware vCenter server and on each ESXi host.

VMware vCenter server permissions

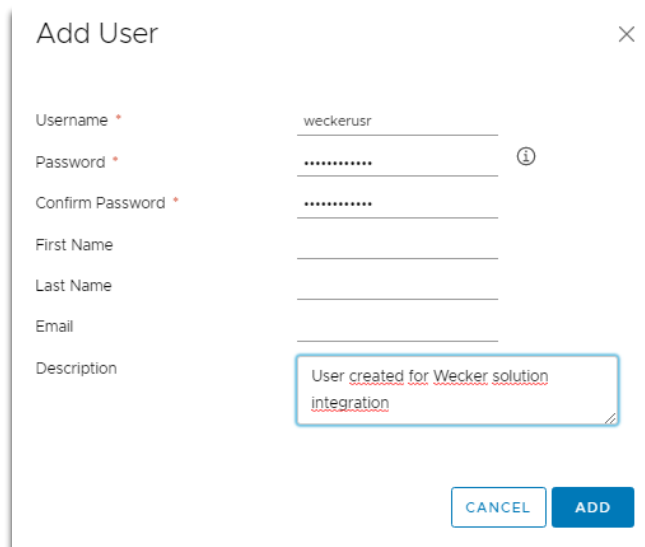
To create a user and assign permissions in the VMware vCenter server, please use this procedure:

1. Open the VMware vSphere client and navigate to Menu > Administration > Access Control > Roles
2. Click + (Create role action)

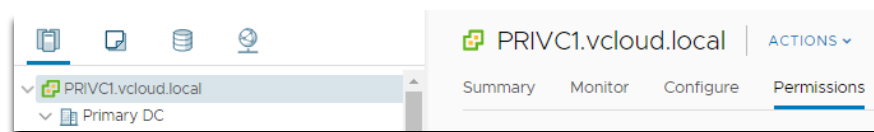
3. Select all above listed roles and click NEXT
4. Enter Role name and Description and click FINISH
5. Check privileges for the newly created role



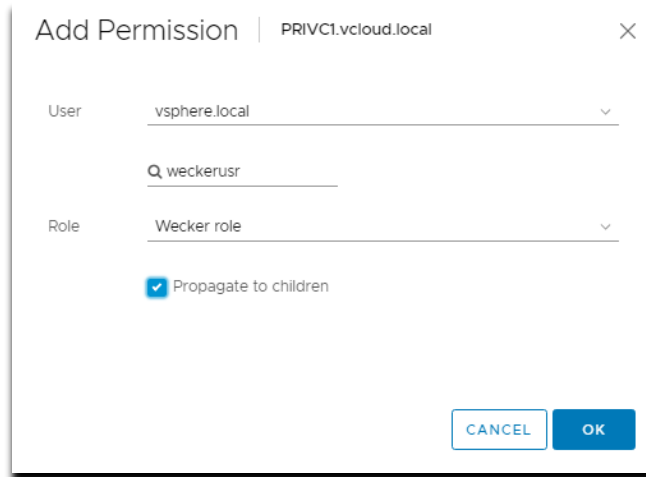
6. Click Single Sign On > Users and Groups
7. Select vsphere.local domain (local vSphere SSO domain can be different in your environment)
8. Click the ADD USER button and create a new user



9. After the role and the user have been created, we need to assign permissions in the vCenter server
10. Click Menu > Hosts and Clusters
11. Select VMware vCenter server on the left pane
12. Select the Permissions tab



13. Click + (Add Permission...)
14. Select the newly created user and role, select propagate to children checkbox and click OK

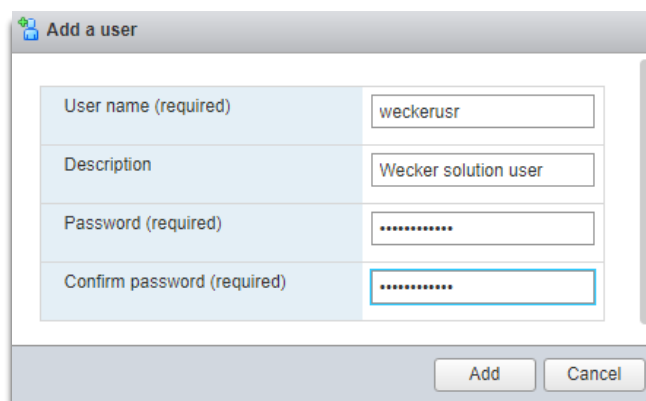


15. Wecker now has adequate permissions on the VMware vCenter server. It is necessary to assign permissions in each VMware ESXi host, too.

VMware ESXi hosts permissions

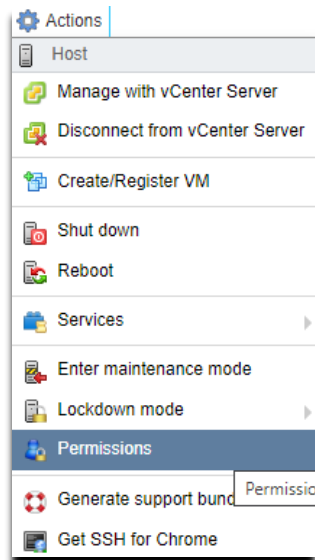
It is necessary to assign permissions for each ESXi host.

1. Open VMware ESXi client and navigate to Host > Manage
2. Click the Security & Users tab
3. Click Roles
4. Click the "+ Add Role" button
5. Enter a role name and assign the following privileges to the role
 - Host > Config > Maintenance
 - Host > Config > Storage
 - Host > Inventory > EditCluster
 - Virtual machine > Interact > Power off
 - Virtual machine > Interact > Power on
 - EAM > Config (this permission is needed if you are using NSX Guest Introspection VMs)
6. After the role has been created, we need to create a user
7. Click Users
8. Click the "+ Add user" button and create a user



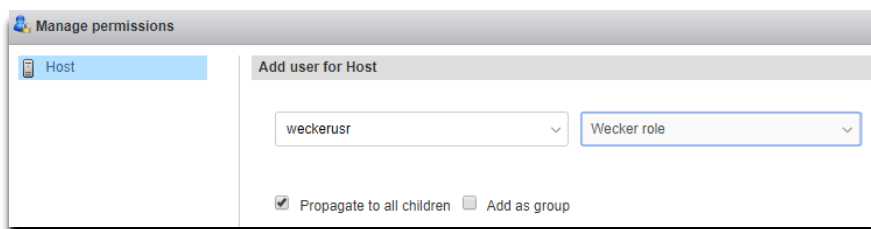
9. Click Host on the left pane

10. Click Actions > Permissions



11. Click the “+ Add user” button

12. Enter a username, select the newly created role, select Propagate to all children and click the Add user button



13. This completes the procedure of assigning permissions on a VMware ESXi host

14. Please use the described procedure to assign permissions on all other VMware ESXi hosts

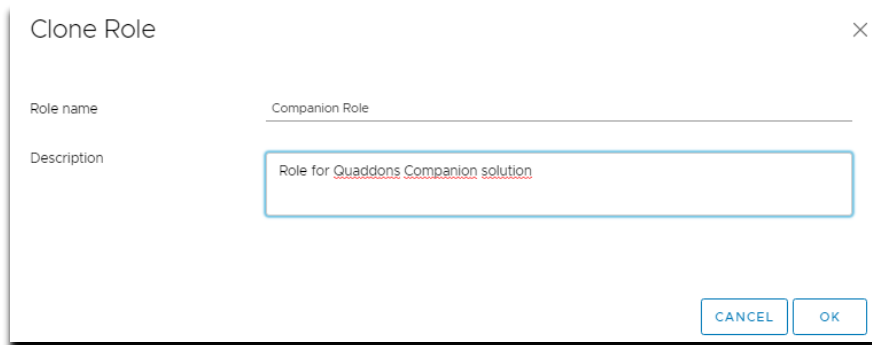
Companion permissions

Companion requires permissions only in the VMware vCenter server, it does not require permissions on VMware ESXi hosts.

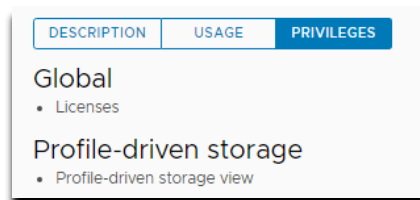
It is recommended to use the least privilege model, which includes (from Wecker) a separate user and role.

To create a user and assign permissions in the VMware vCenter server, please use this procedure:

16. Open the VMware vSphere client and navigate to Menu > Administration > Access Control > Roles
17. Click Read Only role and clone it



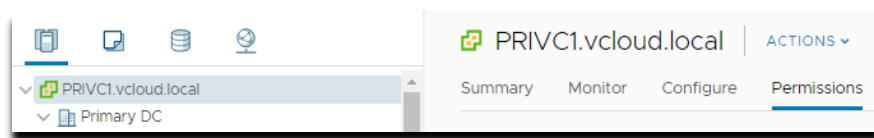
18. Click "Edit role" and assign following additional privileges:
 - a. Global > Licenses
 - b. Profile-driven storage > Profile-driven storage view



Please use the following procedure to create a user for Companion usage.

1. Open the VMware vSphere client and navigate to Menu > Administration > Single Sign On > Users and Groups
2. Select vsphere.local domain (local vSphere SSO domain can be different in your environment)
3. Click the ADD USER button and create a new user

4. Click Menu > Hosts and Clusters
5. Select VMware vCenter server on the left pane
6. Select the Permissions tab



7. Click + (Add Permission...)
8. Select the newly created user and assign it to the newly created role, select propagate to children checkbox and click OK

9. Companion now has adequate permissions on the VMware vCenter server.

If you are using VMware Site Recovery Manager in your environment and want to monitor it, it is necessary to assign permissions for the created user in VMware SRM too.

1. To assign permissions to the companion user in VMware SRM, please navigate to Menu > Administration > Single Sign On > Users and Groups
2. Select tab Groups and click "SRM Remote users" group
3. Click "ADD MEMBERS" button and add the companion user to group

The screenshot shows the 'Edit Group' dialog box. The 'Group Name' field contains 'SRM Remote Users'. Below it is a 'Description' field. The 'Add Members' section shows a dropdown menu with 'vsphere.local' selected. Below the dropdown is a search field with the text 'companionusr' entered and a green pill-shaped button with 'companionusr X' next to it, indicating the user has been added to the group.

4. Navigate to Menu > Site Recovery
5. Open Site Recovery
6. Click on "VIEW DETAILS" of site pair
7. In left pane click Permissions
8. Click the "ADD" button
9. Add the companion user with Read-only role and check "Propagate to children"

The screenshot shows the 'Add Permission' dialog box. It has three dropdown menus: 'Domain' set to 'VSPHERE.LOCAL', 'User/Group' set to 'companionusr', and 'Role' set to 'Read-only'. Below these is a checkbox labeled 'Propagate to children' which is checked. At the bottom right are two buttons: 'CANCEL' and 'ADD'.

This procedure is tested and validated with VMware Site Recovery Manager 8.x . If you are using VMware Site Recovery Manager 6.x this procedure is not adequate since the user / roles logic in VMware Site Recovery Manager 6 is different.

Network requirements

Basic network requirements

The Wecker appliance requires connectivity to the VMware vSphere environment in order to work correctly. Network connectivity to the VMware vCenter server and to each VMware ESXi host is required.

The Wecker appliance does not need to be placed into the same network segment as the VMware vSphere environment, as long as Wecker can communicate with the VMware vSphere environment.

DNS

Wecker does not rely on customers' DNS service for its main functionalities. Wecker needs to be able to resolve the VMware vCenter server name. Because of this, Wecker keeps VMware vCenter server's FQDN in its hosts table.

VMware vCenter server FQDN is discovered and stored in the hosts table during execution of "Collect All data" script. If, for some reason, VMware vCenter server FQDN cannot be discovered, you can manually add VMware vCenter server FQDN and short name in the hosts table.

Please use this procedure to add VMware vCenter server data to the hosts table (only if the script cannot read FQDN from the VMware vCenter server):

1. Run terminal
2. `sudo nano /etc/hosts`
3. navigate to new line and add VMware vCenter server data
 - a. (for example 192.168.218.121 PRIVC1.vcloud.local PRIVC1)
4. Press Ctrl + O
5. Enter
6. Press Ctrl + X to exit

Wecker relies on DNS service for internet access (sending e-mail notifications) and for NTP service to work correctly.

NTP

Raspberry Pi has its own time synchronization mechanism. This mechanism relies on time synchronization with publicly accessible NTP servers. NTP servers are chosen regarding based on Raspberry Pi location.

Internet

Wecker needs to be able to access internet.

E-mail

Wecker is tested to work with Google e-mail service and standard web hosting providers IMAP mail service. Some examples of e-mail configurations are the following:

Gmail example

Script started at 2020-04-09_16-31-15

- NOTE -

Please enter the following e-mail data

Password will be encrypted and stored for future use

Wecker uses the '-UseSsl' option to send mail to the mail server

Server (EG smtp.gmail.com): smtp.gmail.com

Server port (EG 587): 587

'From' address (EG something@gmail.com): google.user@gmail.com

'To' address (EG something@gmail.com): google.user@gmail.com

Username (EG something@gmail.com): google.user@gmail.com

Password: *****

Old configuration file '/opt/Quaddons/Wecker/Conf/Email.xml' found and deleted

New configuration file '/opt/Quaddons/Wecker/Conf/Email.xml' created

Sending test e-mail using stored data

Test e-mail sent, please check mail

Script finished at 2020-04-09_16-32-06

IMAP example

Script started at 2020-05-03_13-49-59

- NOTE -

Please enter the following e-mail data

Password will be encrypted and stored for future use

Wecker uses the '-UseSsl' option to send mail to the mail server

Server (EG smtp.gmail.com): mail.quaddons.com

Server port (EG 587): 587

'From' address (EG something@gmail.com): wecker_test_user@quaddons.com

'To' address (EG something@gmail.com): admin@quaddons.com

Username (EG something@gmail.com): wecker_test_user@quaddons.com

Password: *****

Old configuration file '/opt/Quaddons/Wecker/Conf/Email.xml' found and deleted

New configuration file '/opt/Quaddons/Wecker/Conf/Email.xml' created

Sending test e-mail using stored data

Test e-mail sent, please check mail

Script finished at 2020-05-03_13-51-07

Deployment and initial configuration

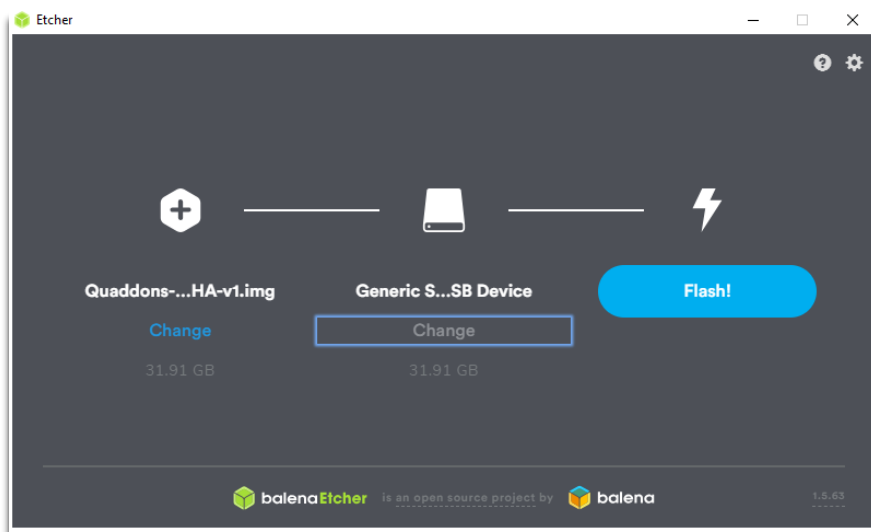
Raspberry Pi

To deploy Wecker on Raspberry Pi 3 B+ you need to download Raspberry Pi 3 B+ SD card image from Quaddons web site, deploy it to SD card and run Raspberry Pi with this card.

Same image is used for all products, licenses are used to activate specific products included in image.

Please use this procedure to set up your Raspberry Pi 3 B+ appliance:

1. Download "Quaddons-Hardware-Appliance-vX.zip" image from <https://www.quaddons.com/downloads>
2. Unzip downloaded image to obtain img file
3. Download balenaEtcher software which will be used to flash DS card (<https://www.balena.io/etcher/>) or any other software which provides same functionality
4. Run balenaEtcher to flash image to the SD card

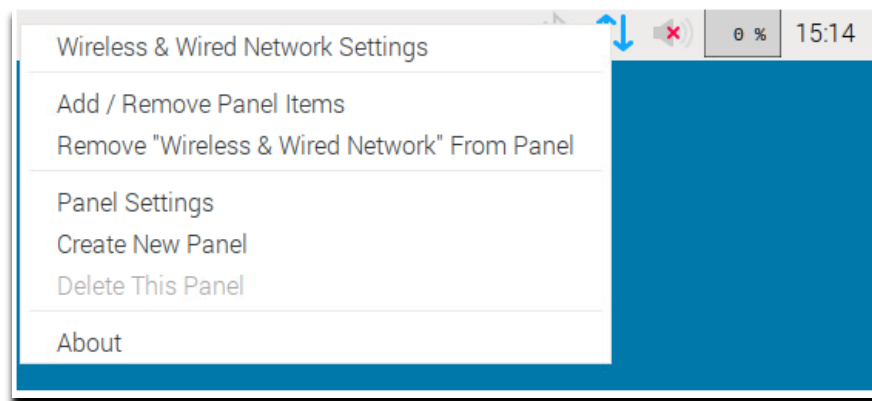


5. After the card is flashed, insert the card into Raspberry Pi and power on Raspberry Pi
6. You can interact with Wecker hardware appliance in the following ways:
 - a. By connecting monitor, keyboard and mouse to Raspberry Pi and working locally on it
 - b. By connecting to Raspberry Pi VNC server using VNC viewer (<https://www.realvnc.com/>)
 - c. You can copy files to and from the appliance using appliance's Samba share available on \\appliance-ip-address\QuaddonsShare
7. Default IP address of Wecker hardware appliance is 192.168.100.101
8. Default credentials to log into appliance are
 - a. Username: pi
 - b. Password: Quaddons.19

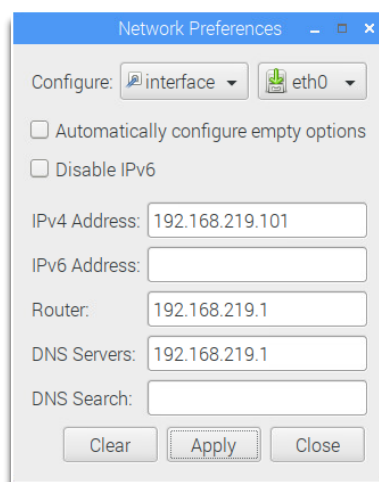
9. After logging in to the appliance's operating system using local periphery or using VNC, please do the initial configuration:
 - a. Set the appliance IP address
 - b. Set the correct timezone for your region
 - c. Set the appliance hostname
 - d. Set passwords. There are three passwords you should change:
 - i. pi user password
 - ii. root user password
 - iii. samba pi user password

Please use the following procedure to do the initial configuration:

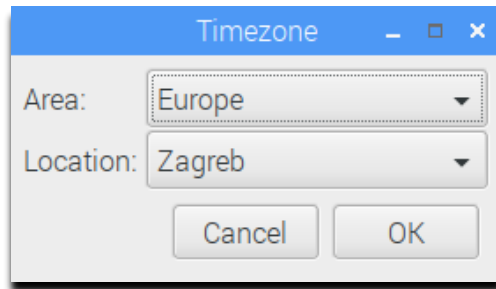
1. Appliance IP address change.
 - a. Right click the network icon on the Task Bar and click "Wireless & Wired Network Settings"



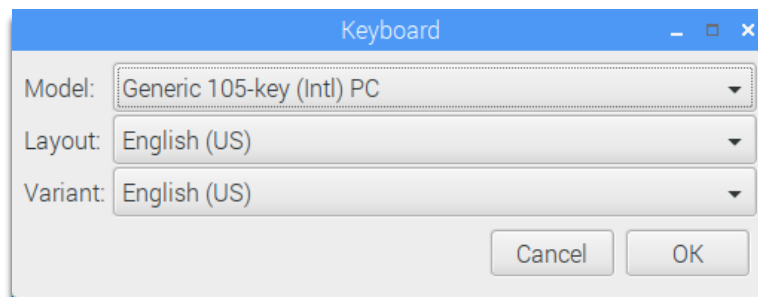
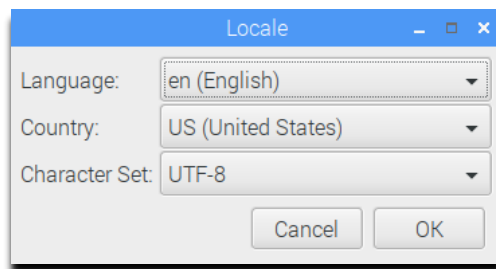
- b. Choose eth0 interface and set IP settings according to your environment



2. Timezone
 - a. Click Start > Preferences > Raspberry Pi Configuration
 - b. Click the Localization tab and set the correct timezone



- c. We recommend leaving other localization settings as they are (Locale, Keyboard). They are set to US English.

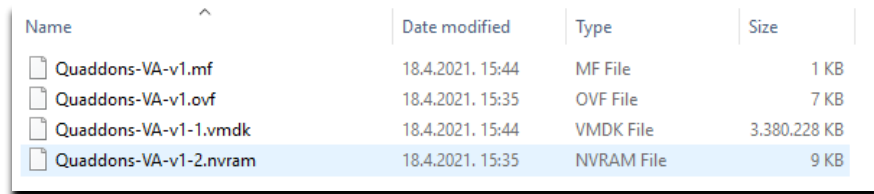


3. Set the appliance hostname
 - a. Click Start > Preferences > Raspberry Pi Configuration
 - b. Enter the hostname
 - c. Reboot the appliance
4. Change pi user password
 - a. Click Start > Preferences > Raspberry Pi Configuration
 - b. Click "Change Password..." button
 - c. Enter new password
5. Change root user password
 - a. Run terminal
 - b. `sudo passwd root`
 - c. Enter new password
6. Change samba pi user password
 - a. `sudo smbpasswd -a pi`
 - b. Enter new password

Virtual appliance deployment

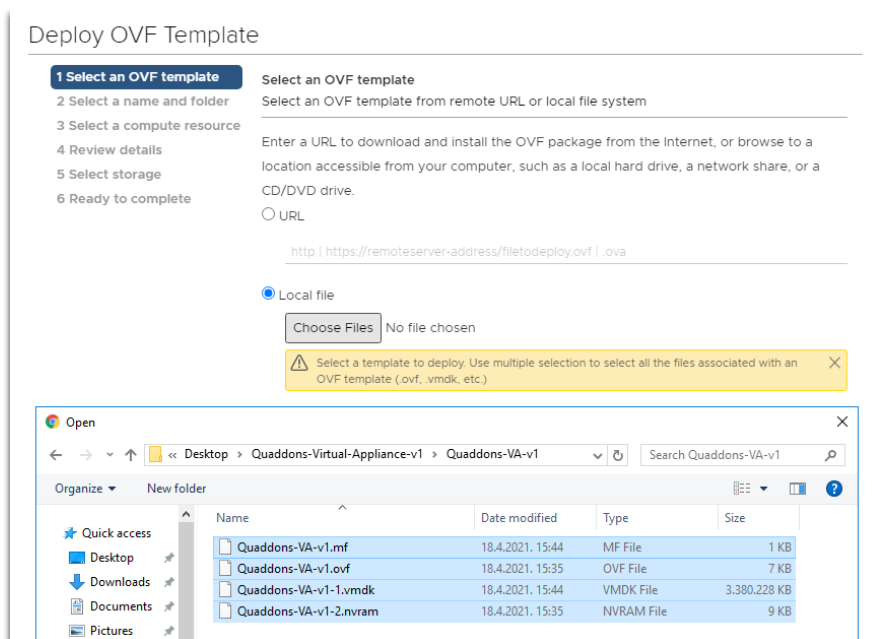
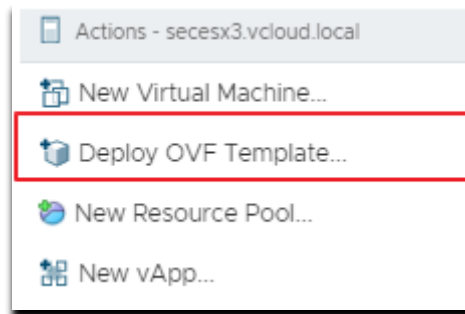
To deploy the Wecker virtual appliance in the VMware vSphere environment please use this procedure (same image is used for all products, licenses are used to activate specific products included in image):

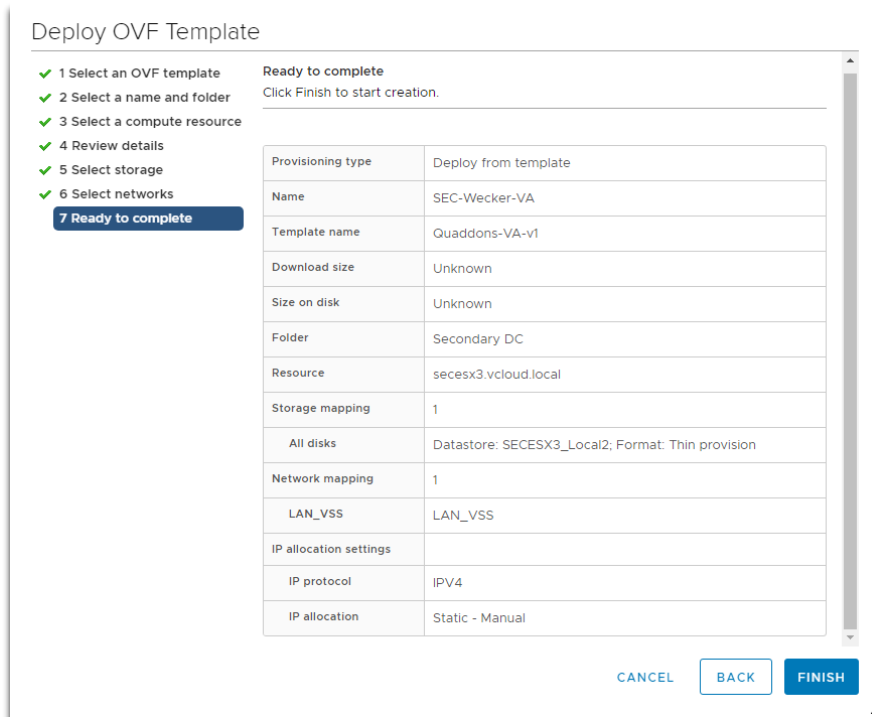
1. Download "Quaddons-Virtual-Appliance-vX.zip" image from <https://www.quaddons.com/downloads>
2. Unzip the downloaded image to obtain files to import



| Name | Date modified | Type | Size |
|------------------------|------------------|------------|--------------|
| Quaddons-VA-v1.mf | 18.4.2021. 15:44 | MF File | 1 KB |
| Quaddons-VA-v1.ovf | 18.4.2021. 15:35 | OVF File | 7 KB |
| Quaddons-VA-v1-1.vmdk | 18.4.2021. 15:44 | VMDK File | 3,380,228 KB |
| Quaddons-VA-v1-2.nvram | 18.4.2021. 15:35 | NVRAM File | 9 KB |

3. Import the appliance into VMware vSphere using the "Deploy OVF Template" option

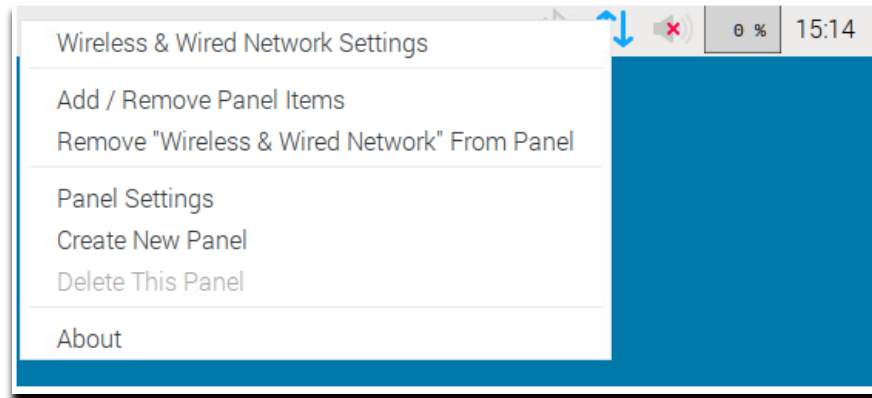




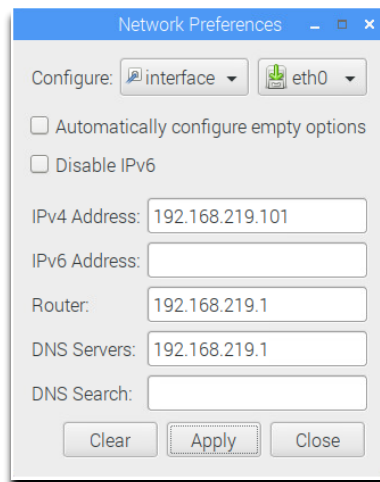
4. You can interact with the Wecker virtual appliance in the following ways:
 - a. By starting the console in VMware vSphere
 - b. You can copy files to and from the appliance using appliance's the Samba share available on \\appliance-ip-address\QuaddonsShare
5. Default IP address of Wecker virtual appliance is 192.168.218.101
6. Default credentials to log in to the appliance are
 - a. Username: pi
 - b. Password: Quaddons.19
7. After logging in to the appliance's operating system using console, please do the initial configuration:
 - a. Set the appliance IP address
 - b. Set the correct timezone for your region
 - c. Set the appliance hostname
 - d. Set passwords. There are three passwords you should change:
 - iv. pi user password
 - v. root user password
 - vi. samba pi user password

Please use the following procedure to do the initial configuration:

1. Appliance IP address change.
 - a. Right click the network icon on the Task Bar and click "Wireless & Wired Network Settings"

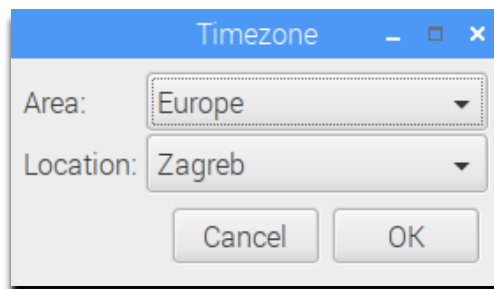


- b. Choose eth0 interface and set IP settings according to your environment

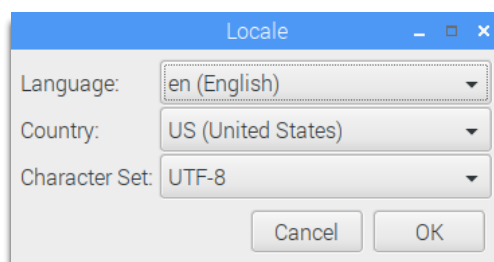


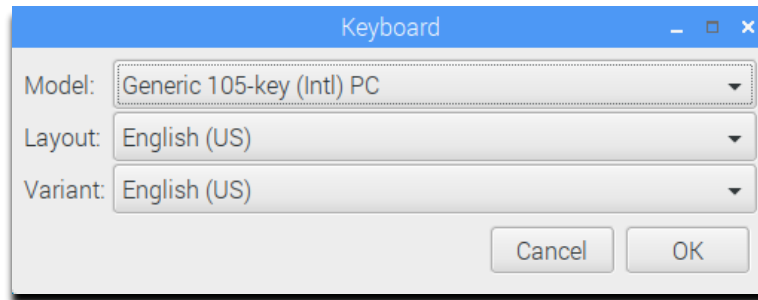
2. Timezone

- a. Click Start > Preferences > Raspberry Pi Configuration
- b. Click the Localization tab and set the correct timezone



- c. We recommend leaving other localization settings as they are (Locale, Keyboard). They are set to US English.





3. Set the appliance hostname
 - a. Click Start > Preferences > Raspberry Pi Configuration
 - b. Enter the hostname
 - c. Reboot the appliance

4. Change pi user password
 - a. Click Start > Preferences > Raspberry Pi Configuration
 - b. Click the "Change Password..." button
 - c. Enter new password
5. Change root user password
 - a. Run terminal
 - b. `sudo passwd root`
 - c. Enter new password
6. Change samba pi user password
 - a. `sudo smbpasswd -a pi`
 - b. Enter new password

Activation

After the initial configuration, copy the activation files to the appliance and start using Wecker.

For using Wecker you need two activation files, one for Wecker (ADW.xml) and one for Companion (ADCVM.xml). Please copy the activation files to /opt/Quaddons/QuaddonsCommon/AD folder.

Easiest way to copy files to and from the appliance is to use share on the appliance.

Please navigate to \\appliance-ip-address\QuaddonsShare .

Copy the activation files from your computer to \\appliance-ip-address\QuaddonsShare .

Connect to Raspberry Pi or the virtual appliance using the console and copy the activation files

- From: /home/pi/quaddons-shared/
- To: /opt/Quaddons/QuaddonsCommon/AD/ folder

You are now ready to start Wecker Control Panel and start using the product.

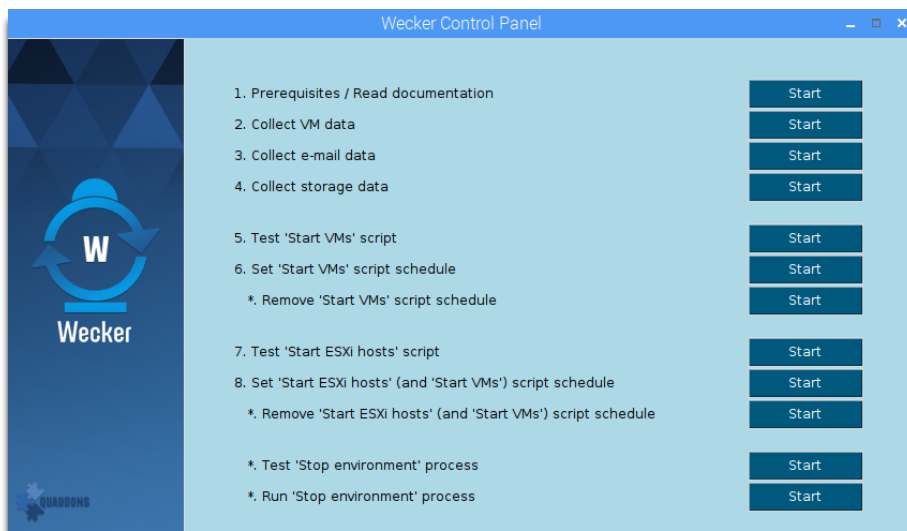
Using Wecker

For Wecker to operate normally, you need to do the initial configurations of Wecker and Companion.

Wecker initial configuration

All Wecker configuration is done using the Wecker Control Panel.

1. Please run shortcut “Wecker” from desktop.
2. The Wecker Control Panel application is shown below.



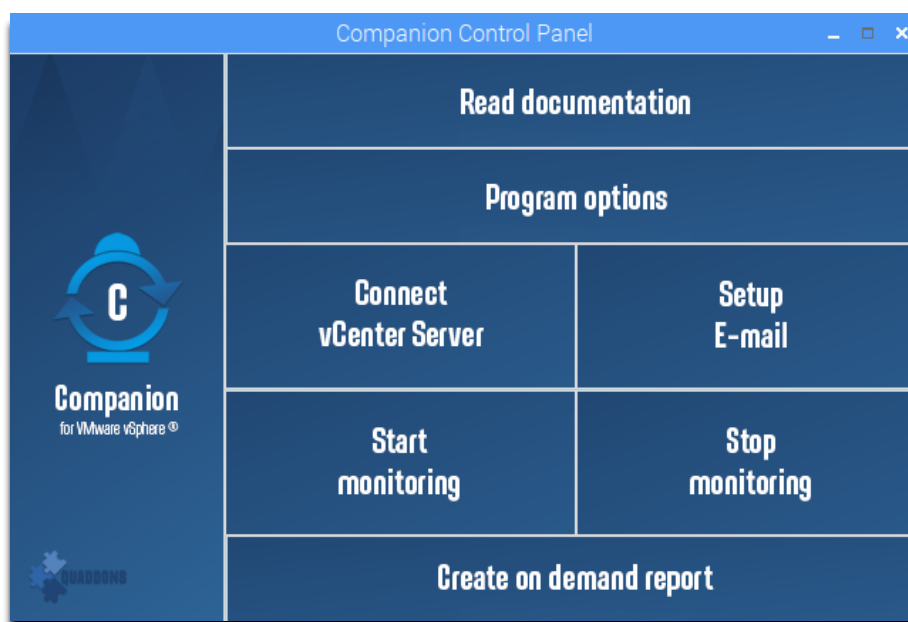
3. Please familiarize yourself with the Wecker solution and its prerequisites using the Start button in “1. Prerequisites / Read documentation” section. Click the Start button to open the Wecker_User_Manual.pdf document.
4. After you have been familiarized with the solution and its prerequisites, you can start with the configuration.
5. Click the Start button in “2. Collect VM data” section.
6. A new terminal window will be opened. Please follow the procedure in the terminal to collect all necessary data from VMware vSphere.
7. Review the script run and enter OK.
8. Click the Start button in “3. Collect e-mail data” section.
9. A new terminal window will be opened. Please follow the procedure in the terminal to set up an e-mail which will be used for e-mail notifications.
10. Review the script run and enter OK.

11. Click the Start button in “4. Collect storage data” section.
 - a. This step is optional. It is only needed if you intend to use the “Start ESXi host” functionality
12. A new terminal window will be opened. Please follow the procedure in the terminal to enter the storage system management address which will be used to check storage availability.
13. Review the script run and enter OK.

14. Previous steps complete the initial Wecker configuration. Now you need to do the initial Companion configuration.

Companion initial configuration

1. Please run the “Companion for VMware” shortcut from desktop.
2. The Companion Control Panel application is shown below.



3. Click the "Program options" button.
4. A new terminal window will be opened. Please follow the procedure in the terminal to set days on which weekly and monthly reports will be generated.
5. Review the script run and enter OK.

6. Click the "Connect vCenter Server" button.

7. A new terminal window will be opened. Please follow the procedure in the terminal to configure VMware vCenter server connection.
8. Review the script run and enter OK.

9. Click the "Setup E-mail" button.
10. A new terminal window will be opened. Please follow the procedure in the terminal to set up an e-mail which will be used for e-mail notifications.
11. Review the script run and enter OK.

Wecker testing and script schedule

After initial configuration of Wecker and Companion, you can continue with tasks needed to set Wecker into production.

1. Please run the Wecker Control panel
2. You can now run Wecker test scripts to validate scripts' functionality.
3. There are three test scripts:
 - a. Test "Start VMs"
 - b. Test "Start ESXi hosts"
 - c. Test "Stop environment"

Test scripts will not in any way influence your production. Test scripts are the same as production scripts but they don't execute actions such as starting and stopping of VMs and ESXi hosts.

4. After you validate script functionality, you can schedule the script execution.
5. Only scripts which are starting VMs and VMware ESXi hosts can be scheduled.
 - a. Click the Start button in the "Set Start VMs script schedule" section to schedule VMs start.
 - b. Click the Start button in the "Set Start ESXi hosts (and Start VMs) script schedule" section to schedule VMware ESXi hosts start beside VMs.
 - c. It is not possible to schedule a VMware ESXi host start without scheduling of VMs

Please take a look at the VMware ESXi hosts startup chapter on page 8 for details about the VMware ESXi host startup.

Configuration

Wecker stores all data relevant to its functionalities to config files.

Access to the Wecker appliance should be restricted to virtualization administrators only.

Different parameters which Wecker uses are stored to config files located in “/opt/Quaddons/Wecker/Conf”. If you have a need to change some of the parameters (for example the time when daily report is sent), please contact Quaddons and we will provide you with information on how to do that.

Logging

Wecker keeps detailed log data.

Log data are located at “/opt/Quaddons/Wecker/Logs”.