RED HAT SATELLITE LIGHTNING TALKS

Sureshkumar Thirugnanasambandan
Thomas McKay
Rich Jerrido
SATELLITE 6 & VIRTUALIZATION PLATFORMS

VIRT-WHO

Sureshkumar Thirugnanasambandan
Principal Quality Engineer
5/3/2017
What does virt-who do?

**RED HAT SATELLITE**

virt-who

Query RHEL guests info

Summary of Hypervisor-Guests mapping

Repeat these 2 steps at scheduled intervals

**Virt-who Doesn’t do**

- Subscription Management
- Content Management

Hypervisor 1
Hypervisor 2
Hypervisor N
How to setup?

1. Install virt-who
2. Create virt-who configuration for each Hypervisor
3. Enable and start virt-who daemon
4. Assign subscriptions to the reported Hypervisors

On Satellite6 server (or) a standalone RHEL server

Start Registering / Subscribing your RHEL guests
How it works?

New virt-who report comes in

Allocate a temporary 24 hours subscription

Is the Hypervisor - guest mapping found?

Yes
Allocate 1 subscription from Hypervisor’s unlimited pool

No
Allocate a temporary 24 hours subscription

Subscription request
What happens if virt-who is setup incorrectly?

Your RHEL guest
- may not be subscribed (or)
- may consume incorrect subscriptions
Areas needed improvement

- Identify Red Hat Subscriptions in Satellite UI which need virt-who usage
- Automate virt-who server setup
- Manage configurations in Satellite UI
- Showing virt-who reporting status in UI
- Make *virt-who reporter* role available by default
Satellite 6.2.z improvements
Satellite 6.2.z improvements - Page 1

Subscriptions

Consumed

- Red Hat Enterprise Linux for Virtual Datacenters, Premium
  0 out of 5
- Red Hat Satellite Employee Subscription
  0 out of 5

Subscription Manifest

Upstream: sthirug_04282017
Subscription Management Application

- Delete Manifest
- Refresh Manifest

Upload New Manifest

Browse... manifest_vdc_satellite_employee_04282017.zip

Upload

The uploaded manifest contains subscriptions that require the use of virt-who. Learn how to configure and use this tool in the Virtual Instances Guide.

Manifest History

<table>
<thead>
<tr>
<th>Message</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>✔ Default_Organization file imported successfully</td>
<td>4/28/17 5:09 PM</td>
</tr>
<tr>
<td>✔ Subscriptions deleted by foreman_admin</td>
<td>4/28/17 5:09 PM</td>
</tr>
<tr>
<td>✔ Default_Organization file imported successfully</td>
<td>4/20/17 12:18 PM</td>
</tr>
<tr>
<td>✔ Subscriptions deleted by foreman_admin</td>
<td>4/20/17 12:18 PM</td>
</tr>
</tbody>
</table>

#redhat #rhsummit
## Subscriptions

<table>
<thead>
<tr>
<th>Consumed</th>
<th>Type</th>
<th>Starts</th>
<th>Expires</th>
<th>Support Level</th>
<th>Contract</th>
<th>Account</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>8/4/16</td>
<td>12/31/21</td>
<td>Premium</td>
<td>11045754</td>
<td>477931</td>
</tr>
<tr>
<td>0 out of 5</td>
<td>Physical</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Red Hat Enterprise Linux for Virtual Datacenters, Premium**

- **Requires Virt-Who Usage**

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<tr>
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<th>Type</th>
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<th>Expires</th>
<th>Support Level</th>
<th>Contract</th>
<th>Account</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>9/19/14</td>
<td>12/31/21</td>
<td>Self-Support</td>
<td>10538625</td>
<td>477931</td>
</tr>
<tr>
<td>0 out of 5</td>
<td>Physical</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Red Hat Satellite Employee Subscription**
Upcoming improvements - Satellite 6.3
You asked, we listened!
What’s coming in Satellite 6.3?

- New virt-who configuration helper in Satellite6 UI
  - to store/edit/redeploy virt-who configurations anytime
- Provides a shell script to run on the virt-who host which automates the following:
  - Install virt-who
  - Creating virt-who configurations
  - Start virt-who daemon
- New *virt-who reporter* role available by default
What’s coming in Satellite 6.3 - Demo
How can you contribute?

● Play with the new virt-who configure plugin and provide feedback
  ○ [https://github.com/theforeman/foreman_virt_who_configure](https://github.com/theforeman/foreman_virt_who_configure)

● My irc nick: sthirusn
Frequently Asked Questions - Page 1

virt-who configuration docs

Satellite 6.2 Virtual instances guide

An interactive lab is setup in access.redhat.com to create virt-who config

Satellite blog -

Understanding virt-who

Working with subscriptions that require virt-who
Create virt-who role with minimal permissions?

Why is my hypervisor hosts are prefixed with `virt-who` after upgrading to Satellite 6.2.

How to use virt-who to report to multiple orgs?

Why is my Hypervisor host shows Green status although it does not have a subscription attached yet

Virt-who doesn’t report host-guest info - see 1, 2, 3
Satellite-6: Plugins & Hooks

Plugins explained / Hooks revealed

Thomas McKay
Principal Software Engineer
3/5/2017
Satellite-6 equals plugins!
The Satellite-6 product is a collection of supported plugins

Core Ruby on Rails application
- Foreman

Shipped plugins
- Katello, Access Insights, Ansible, OpenSCAP, Discovery, Hooks and more!

Unsupported upstream plugins*
- Salt, Chef and others
* Warning: May be asked to uninstall when reporting support cases
What are plugins?

Written in Ruby on Rails (RoR)
- Ruby - programming language
- Rails - server-side web application framework
- Plugin - extension or modification to the core framework

Details
- Loaded at server startup
- Full access to database and data relations
- Able to extend all areas of an application
Can I write my own plugin?

Q: Two Virtual Datacenter (VDC) subscriptions, how are they used?
A: Create report of usage over time

Requires specialized knowledge of Ruby on Rails
- How to debug
- Data relations
- Performance implications

Not supported
- Support of Satellite-6 itself may require removal of plugin
- Bring server down to modify, remove
What are my choices then?

Q: Two Virtual Datacenter (VDC) subscriptions, how are they used?
A: Create report of usage over time

Other possible solutions

- `hammer --csv subscriptions` with `cron`
- Custom API script with `cron`
- Use the `foreman-hooks` plugin!
The foreman-hooks plugin runs scripts

A database object change will trigger a call to a custom executable

Benefits

- Write executable or script in any language
- Triggered only when needed with low burden on server
- Hooks for data validation, before and after save, and create-update-delete actions
- Modifications to script do not require server restart
- foreman-hooks plugin is supported (but debug your own scripts, please!)
How it works

A database object change will trigger a call to a custom executable

- VM created
- VDC Guest subscription attached
- VM deleted
- VDC Guest subscription unattached

foreman-hooks triggered
Using foreman-hooks like a plugin

Q: Two Virtual Datacenter (VDC) subscriptions, how are they used?
A: Write a foreman-hooks script to report usage as CSV

```ruby
File.open(filename, "a") do |file|
  json = JSON.parse(STDIN.read)
  quantity = json['quantity']
  consumed = json['consumed']
  updated_at = DateTime.now.strftime('%F %T')
  file.puts "#{json['id']},#{json['subscription_id']}," \
           "#{updated_at},#{quantity},#{consumed}"
end
```
Using foreman-hooks like a plugin

Q: Two Virtual Datacenter (VDC) subscriptions, how are they used?
A: Write a `foreman-hooks` script to report usage as CSV

<table>
<thead>
<tr>
<th>ID, Subscription ID, Update Time, Quantity, Consumed</th>
</tr>
</thead>
<tbody>
<tr>
<td>117,53,2017-04-25 14:41:25, -1, 0</td>
</tr>
<tr>
<td>117,53,2017-04-25 14:41:25, -1, 0</td>
</tr>
<tr>
<td>100,53,2017-04-25 14:41:27, 4, 1</td>
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<tr>
<td>100,53,2017-04-25 14:41:27, 4, 1</td>
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<tr>
<td>93,49,2017-04-25 14:41:29, 200, 3</td>
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<tr>
<td>93,49,2017-04-25 14:41:29, 200, 3</td>
</tr>
<tr>
<td>100,53,2017-04-25 14:41:35, 4, 0</td>
</tr>
<tr>
<td>100,53,2017-04-25 14:41:35, 4, 0</td>
</tr>
</tbody>
</table>
Using foreman-hooks like a plugin
Using foreman-hooks like a plugin
Interested in learning more?
Freenode IRC #satellite6 and #theforeman

References
- Satellite-6 Documentation - Using Foreman Hooks
- Foreman Website - How to Create a Plugin
Important Changes Coming To Red Hat Satellite 5

Roadmap and Futures

Rich Jerrido, RHC{E,{D,S}S,{V,S,}A} Product Manager, Red Hat
Red Hat Satellite 5
In brief...
KEY EVENTS FOR SATELLITE 5

WE ARE HERE

2018

Satellite 5.8 General Availability
JUNE 2017

Satellite 5.6 / 5.7 End-of-Life
JUL 31 2017

Satellite 5.8 Extended Lifecycle Support
JAN 31 2019

Satellite 5.8 End of Extended Support
MAY 31 2020

2019

2020
### KEY EVENTS FOR SATELLITE 5, cont.

**Your options as a Satellite 5 customer**

<table>
<thead>
<tr>
<th>Version</th>
<th>End of Production Phase 3</th>
<th>End of Extended Life Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satellite and Proxy 5.8</td>
<td>Jan 31, 2019</td>
<td>May 31, 2020</td>
</tr>
<tr>
<td>Satellite and Proxy 5.7 &amp; 5.6</td>
<td>Jan 31, 2019</td>
<td>Not supported</td>
</tr>
<tr>
<td>Proxy 5.x Stand-Alone (No Satellite server)*</td>
<td>Oct 31, 2017</td>
<td>Not supported</td>
</tr>
</tbody>
</table>

*Using Proxy server without a corresponding Satellite server.*

The full Satellite 5 & 6 support lifecycle

https://access.redhat.com/support/policy/updates/satellite/
Satellite 5.8 is in beta! General Availability mid-year 2017.

**Increased speed with channel install and content syncing**
First version of Satellite 5 to access the Customer Portal

Register, activate and update Satellite from the Customer Portal, and synchronize content via our modern Content Delivery Network (CDN)

**Improved diagnostics of background tasks and jobs**
Introducing the Taskotop utility, which monitors Taskomatic job scheduler activities and provides insightful information on the status of those jobs.

**Updated support of Oracle DB & PostgreSQL**
Expanding that support for two additional databases for Satellite 5.8: External Oracle Database 12c + Embedded/Managed PostgreSQL 9.5 DB

**Legacy feature removal**
- Monitoring
- Solaris management
- SAM support
LEARN. NETWORK. EXPERIENCE OPEN SOURCE.