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How do I configure a stonith device using agent fence_vmware_rest in a RHEL 7 or 8 High Availability cluster with pacemaker?

⊘ **SOLUTION VERIFIED** - Updated Friday at 1:25 AM - English ▾

Environment

- Red Hat Enterprise Linux (RHEL) 7 Update 5 (with the High Availability Add On)
- Red Hat Enterprise Linux (RHEL) 8 (with the High Availability Add On)

Issue

How do I configure a stonith device using agent `fence_vmware_rest` in a RHEL 7 or 8 High Availability cluster with pacemaker?

Resolution

Assuming following is cluster architecture

- cluster node hostnames are `node1` and `node2`
- cluster node names as seen by the vmware hypervisor (vCenter) are `node1-vm` and `node2-vm`
- is IP address of vmware hypervisor which is managing cluster nodes VMs

List the Virtual Machine Names

- Check if cluster node is able to reach the VMware vCenter and list the VMs that is managed by VMware vCenter. The following command will try to connect to VMware vCenter with the provided credentials and list all the VMs that is managed by VMware

VCenter.

```
# fence_vmware_rest -a <vCenter IP address> -l <vcenter_username> -p
<vcenter_password> --ssl-insecure -z -o list | egrep "(node1-vm|node2-vm)" node1-vm,
node2-vm, # fence_vmware_rest -a <vCenter IP address> -l <vcenter_username> -p
<vcenter_password> --ssl-insecure -z -o status -n node1-vm Status: ON
```

Verify that the status can be successful found for each VM that is a cluster node and test that the `fence_vmware_rest` commands work on each VM that is a cluster node. If above command does not list any VMs or the command errors out then make sure the below is true.

- Verify the host (one of the cluster nodes) that is running the `fence_vmware_rest` command is able to communicate with VMware vCenter on port `443/tcp` (when using SSL) or on port `80/tcp` (without SSL).
- Ensure that the user has permissions on VMware vCenter for fencing.
- Check if the VMware vCenter has trustworthy SSL certificate. If the certificate cannot be trustworthy checked then see the following solution on how to relax some SSL checks.

Add the stonith device to pacemaker

If the `fence_vmware_rest` command succeeded in listing all the VMs managed by VMware vCenter and getting the status of the VMs that are cluster nodes then proceed on adding the the VMs managed by VMware vCenter to `pacemaker` .

The fence-agent `fence_vmware_rest` is a shared fence-agent that uses the `pcmk_host_map` attribute to correctly fence the cluster node. The `pcmk_host_map` attribute is used to map node hostname as see by `pacemaker` to the name of virtual machine as seen by VMware vCenter.

The first attribute in `pcmk_host_map` is the cluster node name as seen in `/etc/corosync/corosync.conf` file and the next attribute, that is post semicolon is the cluster node names as seen by the vmware hypervisor.

```
# cat /etc/corosync/corosync.conf [...] nodelist { node { ring0_addr: node1 <=== Cluster
node name nodeid: 1 } node { ring0_addr: node2 <=== Cluster node name nodeid: 2 } }
```

Add the `fence_vmware_rest` stonith to `pacemaker` :

```
# pcs stonith create vmfence fence_vmware_rest pcmk_host_map="node1:node1-vm;node2:node2-
vm" ipaddr=<vCenter IP address> ssl=1 login=<vcenter_username> passwd=<vcenter_password>
ssl_insecure=1
```

Check the status of stonith device

- To check the status of stonith device and its configuration use the commands below.

```
# pcs stonith show Full list of resources: vmfence (stonith:fence_vmware_rest):
Started node1
```

- To show the configuration attributes of the stonith device.

```
# pcs stonith show vmfence --full Resource: vmfence (class=stonith
type=fence_vmware_rest) Attributes: pcmk_host_map=node1:node1-vm;node2:node2-vm
ipaddr=<vCenter IP address> ssl=1 login=<vcenter_username> passwd=<vcenter_password>
ssl_insecure=1
```

Test that cluster nodes are fenced

After adding the stonith device then the stonith device should be tested that a cluster node can be successfully fenced. For more information on this then see the following article:
How to test fence devices and fencing configuration in a Red Hat High Availability cluster?

Additional notes and recommendations

- Make sure package `fence-agents-4.0.11-86.el7` or later is installed which has the fence-agent: `fence_vmware_rest`.
- Support Policies for RHEL High Availability Clusters - VMware Virtual Machines as Cluster Members
- Support Policies for RHEL High Availability clusters - `fence_vmware_rest`
- Once configured, it is highly recommended to test that the cluster nodes can be successfully fence: How to test fence devices and fencing configuration in a Red Hat High Availability cluster?
- There is a known limitation imposed by the VMware Rest API of 1000 VMs: `fence_vmware_rest` monitor fails with error: "Exception: 400: Too many virtual machines. Add more filter criteria to reduce the number."
- The fencing agent `fence_vmware_rest` currently **does not support** using UUIDs for VMs (only support using VM names). If you need to use UUID then use `fence_vmware_soap`.
- The fencing agent `fence_vmware_rest` works only with VMware vCenter because ESXi host does not provide the REST API. If you need to use ESXi host instead of VMware vCenter then use `fence_vmware_soap`.

Product(s)	Red Hat Enterprise Linux	Component	cluster	Category	Configure

Tags   cluster ha high availability   fence_agent   rhel_7   rhel_8

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fence_vmware_rest fails with "UnicodeDecodeError: 'ascii' codec can't decode byte 0xec in position XXXXX: ordinal not in range(128)"

Solution - 7 thg 11, 2020

fence_vmware_rest fails with "Exception: Operation timed out after 5001 milliseconds with 0 out of -1 bytes received"

Solution - 10 thg 2, 2021

What does "Exception: 500: Provider method implementation threw unexpected exception: com.vmware.vapi.std.errors.InternalServerError" log mean?

Solution - 5 thg 4, 2021

8 Comments

5 January 2021 7:36 AM

ES

ACTIVE
CONTRIBUTOR

143 Points

erxu su

fence_vmware_rest works only when vmware vcenter ip address presents.
It shound be : # fence_vmware_rest -a \ -l \<vcenter_username> -p \
<vcenter_password> --ssl-insecure -z -o list

↩ Reply

AA

RED HAT

NEWBIE

10 Points

11 May 2021 1:54 AM

Arslan Ahmad

Thank you for highlighting this point. The article has been updated with the use of
vCentre IP only.

↩ Reply

BG

NEWBIE

5 Points

27 May 2021 4:58 PM

Beniamino Guarnaschelli

Hello Guys, i'm serching a clear statement about Red Hat Enterprise Linux High
Availability Cluster support on vSphere 7, the above KB mention it but...actually I found
only this old RH kb about vSphere 5/6
support....https://access.redhat.com/articles/3131271

Can anyone point me to the right direction?

↩ Reply
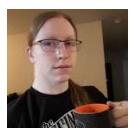
RED HAT

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1331
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28 May 2021 4:54 AM

Reid Wahl

Hi, Beniamino. The article that you linked contains a complete list of supported VMware
products for Red Hat High Availability. We update the support policies articles any time
a support policy changes.

Our QE team is working on testing vSphere 7 to determine supportability (or to
recommend any changes that may be necessary to achieve supportability).

Regards,

Reid Wahl, RHCA Senior Software Maintenance Engineer CEE - Platform Support
Delivery - ClusterHA Red Hat

↩ Reply


TS

COMMUNITY
MEMBER

22 Points

5 June 2021 9:43 PM

Tahseen Shaikh

Hello, CVE 2021-21985, 2021-21986 [VMware vSAN plugin vulnerabilities: port 443] as a part of the patch workaround, it requires that the VSPHERE-UI service be stopped and started. Will there be an impact to HA clusters managed by Pacemaker? Will this impact the stonith devices/resources?

"Node is able to communicate with vCenter on port 443/tcp (when using SSL) or on port 80/tcp (without SSL)."

↩ Reply
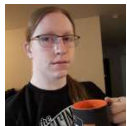
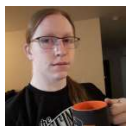
RED HAT

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1331
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5 June 2021 10:04 PM

Reid Wahl

As long as you don't do anything that causes the VMs to restart, migrate, or lose communication *with each other*, there should be no impact to the cluster.

The stonith device may fail and stop. If so, that's not a big deal. Just run `pcs stonith cleanup` when you're finished. A stonith device still works when it's in Stopped state, as long as it's not administratively disabled.

See also: A stonith resource attempts to fence a cluster node while it is in stopped state on a pacemaker cluster

↩ Reply

RED HAT

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5 June 2021 10:05 PM

Reid Wahl

By the way, since I know that you have a Red Hat support subscription, I strongly encourage you to open a case when you have questions. We do our best to respond to comments on KB articles, but we don't always see them come in, and they take a lower priority than support cases.

I want to make sure you get your questions and concerns addressed in a timely fashion.

↩ Reply

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5 June 2021 11:18 PM

Tahseen Shaikh

TS

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22 Points

Thanks Reid.

↰ Reply