March 19th, 2018

Eaton IPM Cluster Shutdown Workflow

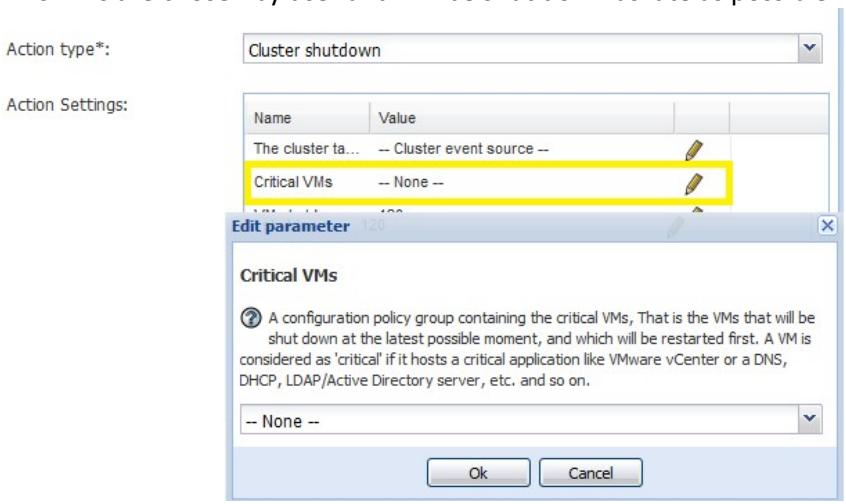
Cluster shutdown scenarios supported by IPM :

- Cluster Shutdown for VMware
- Cluster Shutdown for VMware HA +DRS
- Cluster Shutdown for VMware vSAN

Critical VMs definition:

- **Shutdown Management VMs** (vCenter and IPM) showed with Orange icons :

- VMs from a configuration policy <u>that are defined in a Cluster shutdown as Critical</u>
  This VMs are chosen by user and will be shut down as late as possible.



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Cluster Shutdown workflow

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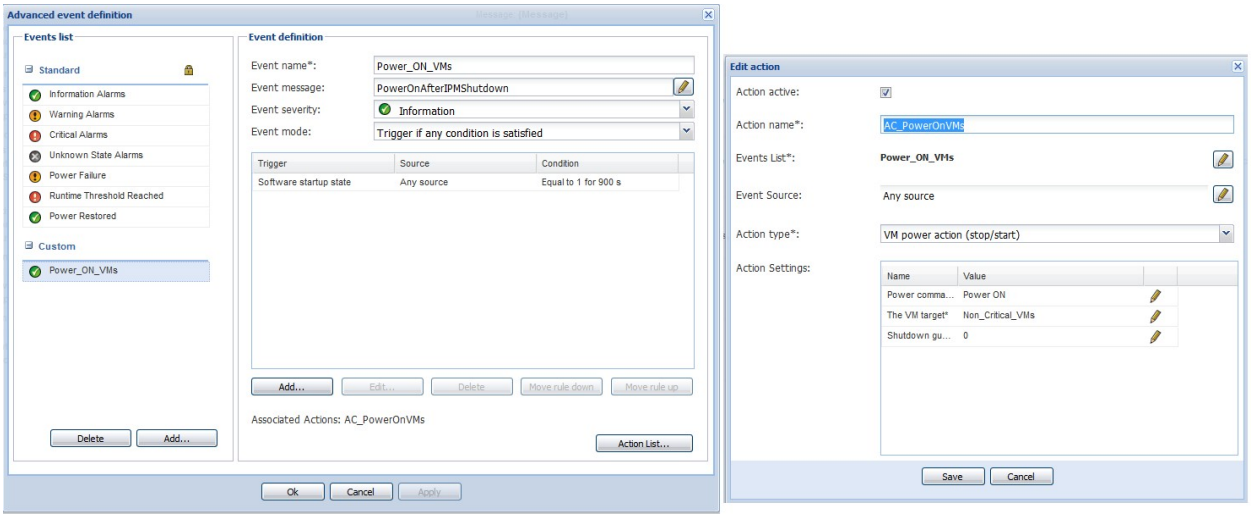
Cluster Shutdown for VMware

Shutdown workflow without critical VMs nor Shutdown Management VMs

- Guest shutdown of all VMs
- Shutdown all ESXi once the “VMs shutdown timeout” has been reached
- End of scenario

Startup

- The VMs will restart following the configuration of each ESXi “Auto start/stop VMs”
- Customer can use System Startup State object from custom events combine with the Grace Period to power on the remaining VMs as soon as vCenter is up and running .



Shutdown workflow with critical VMs or Shutdown Management VMs

Shutdown Management VMs are detected automatically by IPM, no need to add them to the Critical VMs policy.

- Guest shutdown all non-critical VMs
- Once “VM shutdown timeout” has been reached IPM will choose the ESXi that will shut down the latest
  The customer needs to make sure all the ESXi are able to host all critical and shutdown management VMs. Ideally vCenter, IPM and critical VMs should run on the same ESXi

  1. The ESXi hosting vCenter
  2. The ESXi hosting IPM
  3. The ESXi hosting the more critical VMs

- Migrate critical VMs to the chosen ESXi
- Once the "VM migration timeout" has been reached, IPM will reconfigure “Auto start/stop VMs” of the chosen ESXi adding the critical VMs

- Shutdown all ESXi except the chosen one.
- Shutdown latest ESXi (VMs will be gracefully shut down by VMware)
- End of scenario

Startup

- Critical VMs will restart automatically as IPM added to ESXi “Auto start/stop VMs” configuration.
- Customer can use System Startup State object from custom events combine with the Grace Period to power on the remaining VMs as soon as vCenter is up and running .

Cluster Shutdown for VMware HA + DRS

Shutdown workflow without critical VMs nor Shutdown Management VMs

- Guest shutdown of all VMs
- Shutdown all ESXi once the “VMs shutdown timeout” has been reached
- End of scenario

Startup

- The VMs will restart following the configuration of each ESXi “Auto start/stop VMs”
- Customer can use System Startup State object from custom events combine with the Grace Period to power on the remaining VMs as soon as vCenter is up and running .

Shutdown workflow with critical VMs or Shutdown Management VMs

Shutdown Management VMs are detected automatically by IPM, no need to add them to the Critical VMs policy.

- Change DRS mode
- Disable HA
- Guest shutdown of all non-critical VMs
- Once “VM shutdown timeout” has been reached IPM will choose the ESXi that will shut down the latest
  1. The ESXi hosting vCenter
  2. The ESXi hosting IPM
  3. The ESXi hosting the more critical VMs

- Migrate critical VMs to the chosen ESXi
- Once the "VM migration timeout" has been reached, IPM will reconfigure “Auto start/stop VMs” of the chosen ESXi adding the critical VMs
- Shutdown all ESXi except the chosen one.
- Shutdown latest ESXi (VMs will be gracefully shut down by VMware)
- End of scenario

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Startup

- Critical VMs will restart automatically as IPM added to ESXi “Auto start/stop VMs” configuration.
- Once IPM service is restarted, IPM will enable HA + DRS.
- Customer can use System Startup State object from custom events combine with the Grace Period to power on the remaining VMs as soon as vCenter is up and running .

Cluster Shutdown for VMware vSAN (vSAN Stretched Cluster not supported)

Pre-requisite:

- Shutdown Management VMs (IPM and vCenter) out of the cluster
- vSAN Stretched Cluster not supported

Shutdown workflow without critical VMs (HA disabled)

- Guest shutdown of all VMs
- Once “VM shutdown timeout” has been reached IPM will put host in maintenance mode with "No Action" option for all ESXi in sequential order.
- Shut down all ESXi hosts

Startup

- Customer exit ESXi from maintenance mode
- Customer Power On VMs

Shutdown workflow with critical VMs (HA disabled)

This scenario is partially implemented, Critical VMs won’t be gracefully shut down.

- Guest shutdown of all non-critical VMs
- Once “VM shutdown timeout” has been reached, the scenario is finished.

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vSAN cluster shutdown with virtual IPM or vCenter within the cluster is not supported.

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