

OpenNebula - Feature #2347

[anti-]affinity functionality for VMs to be placed in the same physical host

09/30/2013 04:51 PM - OpenNebula Systems Support Team

Status:	Closed	Start date:	09/30/2013
Priority:	Sponsored	Due date:	
Assignee:		% Done:	0%
Category:	Core & System	Estimated time:	0.00 hour
Target version:	Release 5.4	Pull request:	
Resolution:	fixed		
Description			
<p>The idea is to be able to tell OpenNebula whether a group of VMs should be placed in the same physical host (affinity) or each in a different host (antiaffinity).</p> <p>The best fit for this request is to handle it at the OneFlow level. A template for a VM that participates on a Service would be able to include:</p> <pre>AFFINITY_TEMPLATE_IDS=<templateid-A>,<templateid-B> ANTI_AFFINITY_TEMPLATE_IDS=<templateid-X>,<templateid-Y></pre> <p>-- This VM would then be placed by OpenNebula in a physical host where VMs belonging to the same service AND coming from templates ID=(A or B) are already running or will be placed by OpenNebula afterwards.</p> <p>-- VMs from the same service coming from templates with ID=(X or Y) won't be placed in this physical host.</p>			

Associated revisions

Revision 7381aa40 - 01/02/2017 03:43 PM - Ruben S. Montero

F #2347: VMGroup base classes, initial version

Revision 17749cb5 - 01/03/2017 12:22 AM - Ruben S. Montero

F #2347: Allocate, delete and info API calls for the VMGroup

Revision ef25d182 - 01/03/2017 03:06 AM - Ruben S. Montero

F #2347: VMGroup Roles managed in a separate clas

Revision 973aac07 - 01/03/2017 02:24 PM - Ruben S. Montero

F #2347: Better parsing of VMGroup attributes

Revision 202b47e9 - 01/03/2017 07:03 PM - Ruben S. Montero

F #2347: Fix bugs. Show role names in vm group output

Revision 8b3abfab - 01/03/2017 08:12 PM - Ruben S. Montero

F #2347: Mora API calls for VMGroup

Revision 1b4c5437 - 01/03/2017 10:08 PM - Ruben S. Montero

F #2347: Add/del methods for VMGroup

Revision a6fc7b23 - 01/04/2017 02:23 PM - Ruben S. Montero

F #2347: VMs are added/removed from VMGROUP roles. VMGROUP with VMs cannot be updated

Revision 20d10c7b - 01/04/2017 11:32 PM - Ruben S. Montero

F #2347: Fixes some bugs to VMGroups

Revision 0cd63c2d - 01/05/2017 01:07 AM - Ruben S. Montero

F #2347: ACL support for VMGroups

Revision a85f4a63 - 01/05/2017 12:45 PM - Ruben S. Montero

F #2347: Show the total number of VMs in Group in list

Revision a1c1dee1 - 01/05/2017 03:51 PM - Ruben S. Montero

F #2347: Moved VMGroup logic from VirtualMachine to VMGroupPool. Added authorization tests to VMGroup usage in VMs

Revision 97c5fcd2 - 01/13/2017 12:56 AM - Ruben S. Montero

F #2347: VMGroupRule class. Methods to check rule consistency

Revision b2f15970 - 01/13/2017 05:32 PM - Ruben S. Montero

F #2347: Add placement rules consistency checks

Revision 9fd82d98 - 01/13/2017 08:08 PM - Ruben S. Montero

F #2347: Base classes for Scheduler to gather VMGroup information

Revision 184bd79e - 01/14/2017 05:33 PM - Ruben S. Montero

F #2347: Split rule and role logic in different objects and libraries to reuse it in scheduler

Revision 70ce3469 - 01/16/2017 06:19 PM - Ruben S. Montero

F #2347: Load roles and rules in the scheduler. Helper methods to generate requirement expressions

Revision d73a57da - 01/17/2017 11:31 PM - Ruben S. Montero

F #2347: Dump VMGroups in scheduler output for DEBUG

Revision 685b0bd9 - 01/20/2017 07:46 PM - Ruben S. Montero

F #2347: Set antiaffinity placement constraints for VMs

Revision 7c948b3a - 01/22/2017 01:18 AM - Ruben S. Montero

F #2347: Host affinity rules

Revision 09fafc3b - 01/22/2017 09:30 PM - Ruben S. Montero

F #2347: Get information about VMs in VMGroups

Revision 5bd214ab - 01/25/2017 07:08 PM - Ruben S. Montero

F #2347: Schedule affined groups

Revision 90ed2f5c - 01/25/2017 10:37 PM - Ruben S. Montero

F #2347: Re-evaluate host requirements in dispatch loop to fulfil anti-affinity rules

Revision a845425a - 01/26/2017 04:06 PM - Ruben S. Montero

F #2347: Fix minor bugs in CLI. Better dispatching for affined groups, fix issue for anti-affined sets

Revision f3a3f9cd - 01/27/2017 11:11 AM - Ruben S. Montero

F #2347: Update default ACLS to grant VMGroup create permission

Revision 4c1d4de4 - 01/27/2017 11:23 AM - Ruben S. Montero

F #2347: Add more information in onevmgroup show command for each role

Revision 882f1bc7 - 02/20/2017 02:42 PM - Juan Jose Montiel Cano

Feature 2347 (#192)

- F #2347 changed install.sh file for add the new JSON
- F #2347 Added a new JSON file for the new tab VMGroup
- F #2347 added a new file and folder for the new tab VMGroup
- F #2347 changed name to vm_group
- F #2347
- F #2347
- F #2347 removed roles tab in fill function, for update
- F #2347 Finalized vm_group tab
- F #2347 removed test file and changed role tab hbs

Revision 9e0db5fd - 02/21/2017 08:44 AM - Juan Jose Montiel Cano

Feature 2347 (#192)

- F #2347 changed install.sh file for add the new JSON
- F #2347 Added a new JSON file for the new tab VMGroup
- F #2347 added a new file and folder for the new tab VMGroup
- F #2347 changed name to vm_group
- F #2347
- F #2347
- F #2347 removed roles tab in fill function, for update
- F #2347 Finalized vm_group tab
- F #2347 removed test file and changed role tab hbs

(cherry picked from commit 882f1bc778e23b69b815e2f866c739d3941fc571)

Revision a787b938 - 02/23/2017 09:16 AM - Abel Coronado

F #2347 .yaml includes the new VMGroup tab (PR #195)

Revision cd4e926a - 02/28/2017 10:55 AM - Juan Jose Montiel Cano

Changes (#198)

- Zoom graphs
- activated zoom and pan in graphs
- F #4359 Added auth panel to user settings
- F #2347 Added new section to VMTemplate for select a vmgroup
- F #2347 Added new checkbox for select vmgroup
- Removed conflict HEAD
- F #2347 Added possibility of select a vmgroup when:
 - Instantiate a VM
 - Create or Update a TEMPLATE
- Added new actions
- Added UID, GID and REQUEST_ID to placement into vm tab
- remove binding.pry()
- Updated vmgroup
- F #2347 changed checkbox per select when fill the vmgroup
- F #2347 Checking same group values

Revision 7000edf7 - 03/01/2017 10:13 AM - Ruben S. Montero

F #2347: better output for onevm

Revision 2090e4e5 - 03/01/2017 04:12 PM - Juan Jose Montiel Cano

Master bis (#203)

- removed bug of creation of template and vm
- F #2347 added section for vmgroup into cloud.yaml
- F #2347 added section for select vmgroup when you intanciate a machine
- F #2347 Filling mvgroup when instantiating a vm from a template

Revision 18ac7407 - 03/01/2017 04:42 PM - Ruben S. Montero

F #2347, #5004: Update xsd's

Revision add0ca1b - 03/06/2017 11:51 AM - Juan Jose Montiel Cano

Feature 2347 (#205)

- F #2347 Added label VM Group
- F #2347 Added new column to show the number of vms
- F #2347 changed notifier string error
- F #2347 Added the new column to the .ymls
- F #2347 Added panel vms for show the vms of a role

Revision d9765610 - 03/07/2017 02:32 PM - Abel Coronado

F #2347 (#208)

Revision 59c23fe5 - 03/08/2017 05:18 PM - Ruben S. Montero

F #2347: Include build options for JAVA tests

Revision d119f8cb - 03/10/2017 10:13 AM - Javi Fontan

F #2347: add onevmgroup man page

Revision 649f09bc - 03/14/2017 05:31 PM - Juan Jose Montiel Cano

Feature 2347 (#217)

- F #2347 Allowed to enter point in field name of the role
- F #2347 deselect hosts
- F #2347 resolved bugs

Revision a7403bc1 - 03/16/2017 06:23 PM - Abel Coronado

F #2347 Added invalid chars into role name (&[:\|/ #} \$<>) (#224)

History

#1 - 10/01/2013 05:08 PM - OpenNebula Systems Support Team

It would be more useful to incorporate this into the core of OpenNebula and scheduler so that it supports the resched functionality, and taking into

account the count of VMs as well.

AFFINITY="SELF<2,X=1,Y>1,Z=0"

1. less than 2 of my template id
2. exactly 1 X template id
3. greater than 1 Y template id
4. none of Z template id

Additionally, using an AFFINITY_TAG may be more useful than the TEMPLATE_ID.

For example:

AFFINITY_TAG = database

AFFINITY_RULE = "database < 2"

This would allow for affinity rules to work across different templates that specify the same tag.

#2 - 01/20/2014 04:39 PM - Ruben S. Montero

- *Tracker changed from Request to Backlog*
- *Priority changed from Normal to High*

#3 - 11/17/2016 03:39 PM - Ruben S. Montero

- *Tracker changed from Backlog to Feature*
- *Category changed from OneFlow to Core & System*
- *Priority changed from High to Sponsored*
- *Target version set to Release 5.4*

#4 - 05/25/2017 02:50 PM - Ruben S. Montero

- *Status changed from Pending to Closed*
- *Resolution set to fixed*