IBM Platform Symphony 6.1.1 RFE 58978 Readme File

About “Limiting the number of times a task is retried”
This fix allows Symphony to limit the number of times a task can be retried when there is a broken SIM connection, or when a host is unavailable. When the counter reaches the specified limit, Symphony should fail the task.

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1. Scope

Applicability	
Operating system	RHEL 4,5, and 6 for 64-bit
Symphony version	6.1.1
Cluster types	This feature applies to a single Platform Symphony cluster
Dependencies	
File system	None
Limitations	
Known Issues	None

2. Configuration to this fix

1) Prerequisites

To apply this fix, you must have a Platform Symphony 6.1.1 cluster installed.

2) Installation files

The `symSetup6.1.1_lnx26-lib23-x64-335016.tar.gz` package includes the following files:

File name	Description
`symSetup6.1.1_lnx26-lib23-x64-335016.tar.gz`	The binary package that contains the new feature for Linux x86_64.
`checksum.md5`	The file that contains the MD5 checksum for `symSetup6.1.1_lnx26-lib23-x64-335016.tar.gz`

3) Installation procedure

a. Before installation

Shut down the cluster using the following commands:

```
[egoadmin@mghost ~]# soamcontrol app disable all -f
[egoadmin@mghost ~]# egosh service stop all
[egoadmin@mghost ~]# egosh ego shutdown
```

b. Installation steps

1. Download the `symSetup6.1.1_lnx26-lib23-x64-335016.tar.gz` file.
2. Back up the following files on each host in the cluster. Use this step if you want the option to roll back the changes:

   $EGO_TOP/soam/6.1.1/linux2.6-glibc2.3-x86_64/etc/ssm
   $EGO_TOP/soam/6.1.1/linux2.6-glibc2.3-x86_64/etc/sd

3. Copy the `symSetup6.1.1_lnx26-lib23-x64-335016.tar.gz` file to the `$EGO_TOP` directory and decompress the package on each host in the cluster.

c. After installation

Start the cluster using the following command:

```
[egoadmin@mghost ~]# egosh ego start
[egoadmin@mghost ~]# soamcontrol app enable app_name
```

4) Configuration procedure

Set the following parameters in the $EGO_ESRVDIR/esc/conf/services/sd.xml and restart the cluster.

```
<sc:ActivityDescription>
    <ego:Attribute name="hostType" type="xsd:string">X86_64</ego:Attribute>
    <ego:ActivitySpecification>
      ……
      <ego:EnvironmentVariable
name="SOAM_TASK_RETRY_LIMIT_FOR_HOST_UNAVAILABLE">5</ego:EnvironmentVariable>
      ……
    </ego:ActivitySpecification>
  </sc:ActivityDescription>
```

- By default, this environment variable is disabled (that is, has no value). Valid values are 0 to 1024. If you specify a value that is not valid, SSM will log a warning message, and reset the value to 0.

```
2015-03-19 02:38:13.706 GMT INFO [14793:1105209696] ssm.ssmcore.ARM -
ARM::getTaskRetryLimit4HostUnavailableEnv Environment variable
<SOAM_TASK_RETRY_LIMIT_FOR_HOST_UNAVAILABLE> is set as <5>. The task retry
limit for unavailable hosts is enabled.
```

5) Verification procedure

Run SSM as follows:

```
[egoadmin@mghost ~]# ssm -V
```

The following is an example output of running this command:

```
IBM Platform Symphony 6.1.1.0 build 335016, Mar 30 2015
Copyright International Business Machines Corp, 1992-2013.
US Government Users Restricted Rights - Use, duplication or disclosure
restricted by GSA ADP Schedule Contract with IBM Corp.

[egoadmin@mghost ~]# sd -V
```

The following is an example output of running this command:

```
IBM Platform Symphony 6.1.1.0 build 335016, Mar 30 2015
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```

3. Usage

1) How this feature works

There can be some tasks that cause a host to crash. Currently, if a task fails, Symphony retries the task on all hosts. The task will is restarted on every available node without reaching a retry limit. Potentially, the task will make all the hosts become unavailable. After enabling this feature, the tasks running on the compute host, will increase a re-run counter for unavailable hosts and broken SIM connections. If this re-run counter reaches its limit, Symphony fails the task to avoid retrying the task on all compute hosts.

When task retry, SSM will log WARN level message for the task retry counter:

```
2015-03-24 02:41:28.175 GMT WARN [28717:1178638688] ssm.ssmcore.Task -
Task::incrementTaskRetryCount4HostUnavailable Application: <symping6.1.1>
Session ID: <7401> Task ID: <1> execute on host: <bjr610-
01.eng.platformlab.ibm.com> with SOAM_TASK_RETRY_LIMIT_FOR_HOST_UNAVAILABLE
counter: <1>.
```

2) Examples

Case 1: Configure “limiting the number of hosts on which Symphony retries a task” feature.

Summary

- Before this feature, if a session contains one task which causes a compute host to crash, the task will be tried on other compute hosts. Ultimately, the task can crash all the compute hosts. With this feature, and configuring SOAM_TASK_RETRY_LIMIT_FOR_HOST_UNAVAILABLE as N, the task can crash N+1 hosts at most, then Symphony will fail the task.

Scenario:

1. 100 compute hosts in cluster.
2. Configure SOAM_TASK_RETRY_LIMIT_FOR_HOST_UNAVAILABLE = 1 in the application profile.
3. Submit one session, which contains one task which can leads host crash.
4. The task fails after one retry. Therefore, the task should crash only two compute hosts at most.

Post-Conditions:

- Check SSM log for task retry counter.

- After one retry, the task will fail instead of continuing to crash other hosts.

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