

Readme File for IBM® Spectrum Symphony RFE 123822

Readme file for: IBM Spectrum Symphony
Product/Component Release: 7.2.0.2
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This enhancement enables you to configure the host factory symA requestor to handle three enhancements:

1. To demand more than one machine if there is no previous workload in the history file (last 60 minutes by default)
2. To limit the time to remove hosts from the cluster to avoid passing the billing interval
3. To return only hosts with zero allocation

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1. Scope

Before you install this enhancement in your cluster, note the following requirements:

Operating system	RHEL 6 64-bit
Product versions	IBM Spectrum Symphony 7.2.0.2

2. Installation

Follow the instructions in this section to download and install this enhancement in your cluster.

Prerequisites

IBM Spectrum Symphony 7.2.0.2 must be installed in your cluster.

Packages

Name	Description
sym-7.2.0.2_x86_64-build502719.tar.gz	Package for Linux management hosts

Installing on Linux hosts

- a. Log on to the master host as the cluster administrator and stop the HostFactory service:

```
$ egosh user logon -u Admin -x Admin
$ egosh service stop HostFactory
```

- b. Back up files for recovery purposes:

```
$ mkdir -p /tmp/hfbackup_502719
$ mv $EGO_TOP/3.6/hostfactory/requestors/symA/scripts/Main.py
/tmp/hfbackup_502719/
$ mv
$EGO_TOP/3.6/hostfactory/requestors/symA/scripts/nls/en_US/LC_MESSAGES/
messages_python.mo /tmp/hfbackup_502719/
$ cp
$EGO_ESRVDIR/hostfactory/conf/requestors/symA/conf/symAreq_policy_conf
g.json /tmp/hfbackup_502719/
```

- c. Clean up the host factory work directory:

```
$ rm -rf $EGO_ESRVDIR/hostfactory/work/*
```

- d. Download the sym-7.2.0.2_x86_64-build502719.tar.gz package and decompress it to the \$EGO_TOP installation directory:

```
$ tar zxof sym-7.2.0.2_x86_64-build502719.tar.gz -C $EGO_TOP
```

- e. Follow the steps under the “**Configuration**” section to update the `$(EGO_ESRVDIR)/hostfactory/conf/requestors/symA/conf/symAreq_policy_config.json` file.

3. Configuration

After applying this enhancement, follow these steps to enable this enhancement:

- a. Set the `startup_cores_if_no_history` parameter in the `$(EGO_ESRVDIR)/hostfactory/conf/requestors/symA/conf/symAreq_policy_config.json` file to control the number of demanded cores where there are no completed tasks recorded in the history file. By default, the history file stores 60 minutes of task information. Valid values are integers between 0 and 10000. The default value is 0.

Note: “no history” means that there is no existing history file, or that the history shows no completed tasks in the last hour.

If this parameter does not exist, or if the value is set to 0, the requestor will request only one core if there are deserved slots and no history.

If the value is set to a value that is greater than 0, then the value is provisioned if there are no completed tasks in the history, while deserved slots can be greater than zero indicating that there is compute capacity available.

- b. Set the `force_return_interval` parameter in the `symAreq_policy_config.json` file to control the time, in minutes, before the end of a billing cycle, at which a requestor must send return requests for idle hosts, even if it is not yet removed from cluster. Valid values are a range between 3 minutes and the value of the `return_interval` parameter. The default value is 3.

If the value is not set, the default value of 3 minutes is used. This value is used for lazy policy. In case of an immediate return policy, hosts are enforced to be returned 3 minutes after finishing workload (their average active tasks is 0).

- c. Set the `return_idle_only` parameter in the `symAreq_policy_config.json` file to specify whether you can return only idle hosts. Valid values are true or false.

If the value is set to false or is not set, the requestor allows returning hosts with some allocation. This parameter is used under a lazy policy and has no effect under an immediate return policy.

- d. Start the HostFactory service:

```
$ egosh service start HostFactory
```

Here is an example configuration for the `symAreq_policy_config.json` file:

```
{
  "scaling_policy": [
    {
      "name": "throughput",
      "description": "Throughput is the number of tasks executed
per minutes per slot",
      "warmup_time": 5,
      "history_expiry_time": 60,
      "active_task_moving_avg": 5,
      "desired_task_complete_duration": 10,
      "max_cores_per_hour": 2,
      "ego_host_startup_time": 5,
      "ego_failover_timeout": 10,
      "startup_cores_if_no_history": 6
    }
  ]
}
```

```
    }
  ],
  "host_return_policy": [
    {
      "name": "lazy",
      "description": "Return cloud hosts closer to the end of
billing interval",
      "billing_interval": 25,
      "return_interval": 10,
      "force_return_interval": 7,
      "return_idle_only": true
    }
  ]
}
```

Note: The `symAreq_policy_config.json` file is an example. You can add the above three parameters to the policy configuration files of other requestors.

4. Usage

With this enhancement applied in your cluster, you can use `egosh` and `symping` to request new hosts.

5. Known issue

During the process of returning hosts, you can safely ignore the following messages:

- In the `$EGO_TOP/eservice/hostfactory/log/hostfactory.log<hostname>` file:
HostReturn::relinquishHost: Error Host:<HostName> not in allocated state
HostReturn::relinquishHost: Host:<HostName> not found
- In the `$EGO_TOP/eservice/hostfactory/log/symA-requestor.log<HostName>` file:
Host <HostName> return is being initiated within 3 minutes of expiry and may not be released in time.

6. Uninstallation

If required, follow these instructions to uninstall this enhancement in your cluster:

- a. Log on to the master host as the cluster administrator and stop the HostFactory service:

```
$ egosh user logon -u Admin -x Admin
$ egosh service stop HostFactory
```
- b. Restore the files that you backed up during installation:

```
$ mv /tmp/hfbackup_502719/Main.py
$EGO_TOP/3.6/hostfactory/requestors/symA/scripts/Main.py
$ mv /tmp/hfbackup_502719/messages_python.mo
$EGO_TOP/3.6/hostfactory/requestors/symA/scripts/nls/en_US/LC_MESSAGES/
messages_python.mo
```
- c. Remove all updates you have added under the “Configuration” section to
`$EGO_ESRVDIR/hostfactory/conf/requestors/symA/conf/symAreq_policy_config.json`.
- d. Clean up the host factory work directory:

```
$ rm -rf $EGO_ESRVDIR/hostfactory/work/*
```

- e. From the master host, start the HostFactory service:

```
$ egosh service start HostFactory
```

7. Copyright and trademark information

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