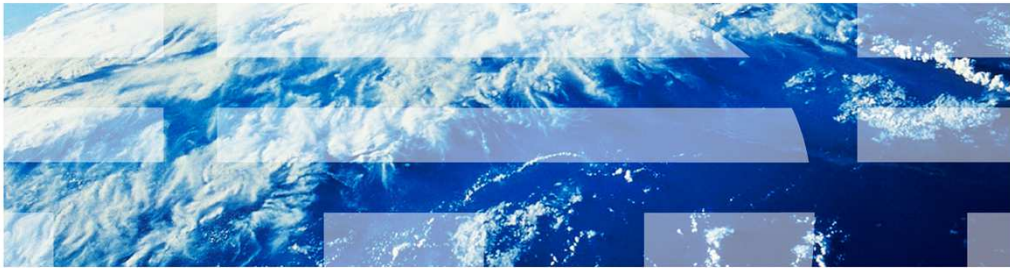


IBM Operational Decision Manager Pattern V8.0.1

Troubleshooting



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This presentation covers troubleshooting of IBM Operational Decision Manager Pattern version 8.0.1 in IBM PureApplication™ System and IBM Workload Deployer.

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In this session, you first learn how to collect MustGather logs in IBM PureApplication System and IBM Workload Deployer. Then some advanced troubleshooting topics are discussed, including problem determination, troubleshooting for common issues, and maintenance information. At the end, you learn a few tips on how to work around some known limitations in this version of Operational Decision Manager Pattern.

Section

MustGather

Both IBM PureApplication System and IBM Workload Deployer provide a logging service for collecting and downloading files and directories for all virtual system patterns through the MustGather process.

Overview

- Instances > Virtual Systems > (your deployment instance)
- Allows easy collection of “first-look” documentation
- Expand the VM of interest
 - Scroll down to Script Packages output

The screenshot displays the 'Virtual machines' section of the IBM Operational Decision Manager console. It shows a table of virtual machines with columns for Name, CPU, Memory, SSH, and Actions. Two VMs are listed: 'ipas-lpar-064-100-ODM_DB2-ODM EET Clustered' and 'ipas-lpar-064-101-ODM_DMGR-ODM EET Clustered'. The second VM is selected, and its details are shown below, including 'General information' and 'WebSphere configuration'. Under 'Script Packages', two packages are listed: 'maestro' and 'Must Gather Logs', both with a status of 'Completed' and a timestamp of 'Feb 20, 2013 3:44:20 PM' and 'Feb 20, 2013 3:49:19 PM' respectively. The 'Must Gather Logs' package is highlighted with a red box.

To determine whether the components of an IBM Operational Decision Manager environment are running properly in the cloud, you check the log files that are associated with a virtual machine in the virtual system instance.

From the “Virtual Systems” menu, find your deployed instance. Inside the “Virtual machines” section, expand the specific virtual machine you want to check. “Must Gather Logs” is under the “Script Packages” sub-section.

Contents

- MustGather file:
 - Expand each VM and look under “Script Packages” section
 - Filename similar to: *cloudburst_collectnnnnnnnnnnnnn.zip*

The screenshot shows a table with two rows. The first row is for 'maestro' and the second is for 'Must Gather Logs'. Both rows have a green checkmark and a timestamp of 'Feb 20, 2013 3:44:20 PM' and 'Feb 20, 2013 3:49:19 PM' respectively. To the right of the 'Must Gather Logs' row, there is a list of files including 'remote_std_ou...', 'remote_std_er...', 'cloudburst_collect...', 'remote_std_out.log', 'remote_std_err.log', and 'cloudburst_collect1361393357944.zip'. A yellow callout box points to the last file name with the text 'Click to download the MustGather logs'. Another yellow callout box points to the 'Execute now' button with the text 'Click to generate new MustGather logs'.

- Typically *wasprofilelogs.tar* contains the significant logs for Operational Decision Manager product

| | DB2 | DMGR | DS | DC | IHS | |
|---------------------------|-----|------|----|----|-----|--------------------|
| ae.tar | x | x | x | x | x | IPAS/image related |
| CoCBase.tar | x | x | x | x | x | IPAS/image related |
| ihslogs.tar | | x | x | x | x | |
| virtualImage.properties | x | x | x | x | x | IPAS/image related |
| waslogs.tar | | x | x | x | x | |
| wasprofilelogs.tar | | x | x | x | x | |
| workloadLogs.tar | x | x | x | x | x | IPAS/image related |

You download the logs directly by clicking the log file name, as shown in the slide.

If you want to check a product log, for example, the Operational Decision Manager product log information, you can click the *cloudburst_collect* archive file and download it for detailed inspection. To gather the latest copy, click the “Execute now” button and wait for a new copy to be created. Then download the new archive file.

After decompressing the archive file, you can check the different logs for different product issues. For example, check whether the Decision Server is started correctly.

For most Operational Decision Manager product issues, you can find the related trace information inside the *wasprofilelogs.tar* file. Those log files are from the WebSphere® Application Server profile directory.




Troubleshooting



This section covers some more advanced troubleshooting topics.

Distinguishing the problems

- Distinguishing a PureApplication System/Workload Deployer problem from a Operational Decision Manager pattern problem
 - Expand the history section of the virtual system instance:

| | | |
|---|--------------------------------------|--|
|  History | The virtual system has been deployed | |
|  Virtual machines | 5 total - 5 started | |
|  Comments | There are no comments yet | |

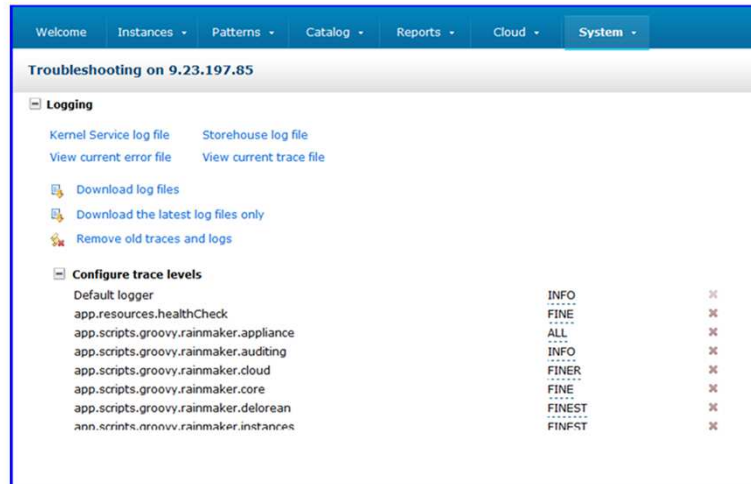
| | | |
|--|-------------------------|---|
| Starting virtual machine fit-sh-196-189-DC_Node-ODM Test | Mar 26, 2013 5:41:27 PM | Operational Decision Manager pattern issue |
| Starting virtual machine fit-sh-196-146-ODM_IHS-ODM Test | Mar 26, 2013 5:41:27 PM | |
| Starting virtual machine fit-sh-196-6-DS_Node-ODM Test-1 | Mar 26, 2013 5:41:27 PM | |
| Starting virtual machine fit-sh-196-7-ODM_DMGR-ODM Test- | Mar 26, 2013 5:35:04 PM | |
| Starting virtual machine fit-sh-196-106-ODM_DB2-ODM Test | Mar 26, 2013 5:31:18 PM | |
| Starting virtual machines in virtual system ODM Test. | Mar 26, 2013 5:31:18 PM | |
| Registering virtual system ODM Test | Mar 26, 2013 5:29:13 PM | Workload Deployer or PureApplication System issue |
| Pattern deployment starting. | Mar 26, 2013 5:28:57 PM | |
| Generating model for topology and network | Mar 26, 2013 5:27:42 PM | |
| Reserving cloud resources | Mar 26, 2013 5:24:01 PM | |
| Deployment has been queued | Mar 26, 2013 5:23:51 PM | |

First of all, you need to determine where the problem lies. It might be an Operational Decision Manager pattern issue; or it might be caused by IBM Workload Deployer or IBM PureApplication System. To distinguish between these problems, go to the deployed virtual system instance page and expand the “History” section. The history lists all the actions started by IBM Workload Deployer or IBM PureApplication System during the deployment process.

If the deployment fails during the virtual machine starting phase, the problem is Operational Decision Manager pattern-related. Otherwise, the problem is most likely related to IBM Workload Deployer or IBM PureApplication System.

IBM Workload Deployer / IBM PureApplication System issues

- Check the trace of IBM Workload Deployer/IBM PureApplication System in System > Troubleshooting page



For an IBM Workload Deployer- or IBM PureApplication System-related issue, you can check the trace file for the system. If you go to the Troubleshooting page from the System menu, you can find a list of useful logs.

Issue – virtual machine hangs in deployment phase

- The system is hung in starting virtual machines stage for a long time

| | |
|--|-------------------------|
| Starting virtual machine fit-sh-196-189-DC_Node-ODM Test | Mar 26, 2013 5:41:27 PM |
| Starting virtual machine fit-sh-196-146-ODM_IHS-ODM Test | Mar 26, 2013 5:41:27 PM |
| Starting virtual machine fit-sh-196-6-DS_Node-ODM Test-1 | Mar 26, 2013 5:41:27 PM |
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| Reserving cloud resources | Mar 26, 2013 5:24:01 PM |
| Deployment has been queued | Mar 26, 2013 5:23:51 PM |

In the next few slides, some common Operational Decision Manager pattern issues are discussed.

This slide shows a problem that caused the system to hang at the virtual machines starting stage for a long time. When you check the history of the instance, it always indicates when the deployment is at the starting virtual machine stage.

Troubleshooting – virtual machine hangs in deployment phase

- There is no "MustGather logs" generated in the dashboard
- Need to login to the virtual machine using SSH
- Check the deployment logs
 - Activation status in */opt/ibm/ae/AR/ova-env.ar*

```
<?xml version="1.0" encoding="UTF-8"?>
<ar:Activation status="Successful" xmlns:ar="http://www.ibm.com/xmlns/ovf/activation/ar/2">
  <VirtualSystem id="LINUX" status="Successful" status-detail="No coordinator">
    <ProductActivation class="License">
      <Execution kind="self" status="Successful"/>
      <Log file="/opt/ibm/ae/AR/License.out"/>
      <Log file="/opt/ibm/ae/AR/License.err"/>
    </ProductActivation/>
  </VirtualSystem/>
</ar:Activation/>
```

- logs at: */opt/ibm/ae/AR/ConfigODM.out*, *ConfigODM.err*, *ConfigWAS.out*,
ConfigWAS.traceout

This issue typically occurs when running the Operational Decision Manager pattern scripts. There is no "MustGather logs" generated in the dashboard. To find the details, you need to log in to the virtual machine using SSH and check the deployment logs. The corresponding file list is given at the bottom of this slide.

Issue – virtual system is not functioning properly

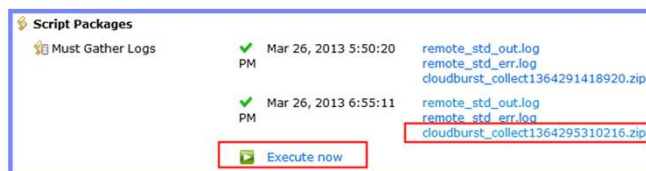
- The system is successfully deployed but Operational Decision Manager is not working properly

The image shows a screenshot of the 'Consoles' menu in the IBM Operational Decision Manager interface. The menu items are: VNC, Decision Center Enterprise Console, Events Administration Console, Decision Center Business Console, Rule Execution Server Console, and Event Widgets Console. A blue arrow points from the 'Decision Center Business Console' item to a 'Server not found' error message. The error message states: 'Firefox can't find the server at fit-sh-196-146.vm.cn.ibm.com.' and provides three troubleshooting steps: 1. Check the address for typing errors such as **ww**.example.com instead of **www**.example.com. 2. If you are unable to load any pages, check your computer's network connection. 3. If your computer or network is protected by a firewall or proxy, make sure that Firefox is permitted to access the Web.

Here is another common issue. The Operational Decision Manager virtual system is successfully deployed, but it doesn't work properly. For example, you cannot launch Rule Execution Server console or Decision Center consoles.

Troubleshooting – virtual system is not functioning properly

- Download MustGather logs in script package section in VM page, covers all deployment logs and product logs



- Check deployment logs
 - `/opt/ibm/ae/AR/ConfigODM.out`, `ConfigODM.err`, `ConfigWAS.out`, `ConfigWAS.traceout`
- Check Product logs:
 - WebSphere Application Server logs: `/opt/IBM/WebSphere/AppServer/logs`
 - Operational Decision Manager WebSphere Application Server profile logs:
`/opt/IBM/WebSphere/Profiles/<profile_name>/logs`
 - DB2® logs: `/home/virtuser/sqlib/db2dump/db2diag.log`
 - IBM HTTP Server logs: `/opt/IBM/HTTPServer/logs`

Operational Decision Manager-related issues are logged in the product log files, which can be found in the MustGather script package.

Go to the virtual system instance page and download the MustGather logs under the “Script Packages” section. After decompressing the archive file, you can examine both deployment logs and specific product logs. At the bottom of this slide, you can find a list of product log directory locations.

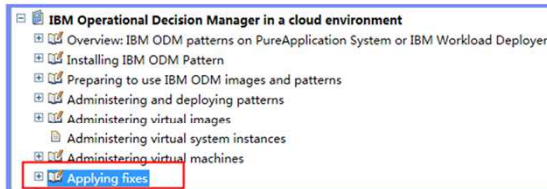
Problem determination – virtual system is not functioning properly

- Network related issues:
 - login VM and check network settings of VM, for example: host name, connectivity among VMs
- VM starting sequence related issues:
 - check the time stamps of log entries
- File ownership related issues:
 - check file system ownerships
 - For example: Operational Decision Manager commands can only be ran by *virtuser*, using *root* will result in files owned by *root*

There are several common causes for the Operational Decision Manager virtual system issues. If it is a network problem, you can log in to the virtual machine and check the host name, connectivity, and other related settings on the virtual machines. Or, the issue might be caused by the virtual machine starting sequence. You can check the timestamps of the log entries. Another cause might be insufficient file system ownership.

Maintenance

- The interim fix and fix pack are applied using Workload Deployer or PureApplication System emergency fix approach
 - Details available at the “Applying fixes” topic on Operational Decision Manager V8.0.1 Information Center



- Trouble shooting instance upgrade

- Check the upgrade log



- Check Installation Manager logs: [/tmp/update/app/IMupdate.log](#)

The Operational Decision Manager pattern interim fixes and fix packs are applied through the generic emergency fix process in IBM Workload Deployer or IBM PureApplication System. You can find the “Applying fixes” topic available in the Operational Decision Manager information center for more details.

If you encounter any problems when applying the interim fix or fix pack, you can go to the virtual system instance page, expand the “Script package” section, and check the upgrade log. You can also log into the virtual machine using SSH and check the Installation Manager logs.

Section



In the Tips section, some known Operational Decision Manager pattern limitations and their workarounds are provided.

Known limitations with workarounds

- Can not support an emergency fix that size is over than two gigabytes
 - It's a limitation of IBM Workload Deployer/IBM PureApplication System
 - Workaround:
 - Use CLI tool to apply the emergency fixes with large size
- DB2 MustGather in pattern deployment does not include db2dump directory
 - Workaround:
 - login to the virtual machine using SSH
 - get the log from `/home/virtuser/sqllib/db2dump`

If the size of an interim fix or fix pack is over two gigabytes, you cannot apply it using the IBM Workload Deployer or IBM PureApplication System emergency fix approach. This is because neither system supports large-sized emergency fixes. To workaround this limitation, you can upload the files using the command line tool provided by both systems.

In the MustGather logs, the db2dump directory is not included. You need to log in to the DB2 Database virtual machine using SSH to get the log from the virtual machine directory.

Additional support information

- Does not support external database
 - An additional script package for external Oracle DB is available
 - Contact IBM Support
- Can not apply Operational Decision Manager fix pack in IBM Operational Decision Manager Pattern V8.0.1
 - An [interim fix](#) is available to download at IBM Support Portal:
<http://www-933.ibm.com/support/fixcentral/swg/selectFixes?parent=ibm-WebSphere&product=ibm/WebSphere/Operational+Decision+Manager+Pattern&release=8.0.1.0&platform=All&function=all>
 - Contact IBM Support

IBM Operation Decision Manager Pattern version 8.0.1 doesn't support an external database. But, for an external Oracle database, an additional script package is available. Contact IBM Support to obtain this script package.

If you cannot apply a regular Operational Decision Manager fix pack to the Operational Decision Manager Pattern version 8.0.1, you need to first apply an interim fix to add this support, then apply the fix pack. You can contact IBM Support for information on this interim fix.

Summary

- MustGather
- Troubleshooting
 - Distinguish the problem
 - Troubleshooting issues
 - Maintenance
- Tips



In this presentation, you first learned how to collect MustGather logs, which are used for problem determination and can be used for IBM support.

Then you learned how to distinguish between Operational Decision Manager product-specific problems and IBM Workload Deployer- and IBM PureApplication System-related issues. Some common issues and their detailed troubleshooting approaches were presented. You learned how to apply Operational Decision Manager interim fixes and fix packs through the IBM Workload Deployer and IBM PureApplication System emergency fix process, and how to troubleshoot any problem encountered while applying the emergency fix.

A few tips were given regarding some known limitations in Operational Decision Manager Pattern version 8.0.1 with workarounds.

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