Quick Start Guide for
IBM Resiliency Orchestration Integration
with EXPRESSCLUSTER X

NEC Technologies India Pvt. Ltd.
## Document Revision History

<table>
<thead>
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Table of Contents

Table of Contents .................................................................................................................. 3
1 Overview ................................................................................................................................. 5
2 System Requirement and Planning ....................................................................................... 6
   2.1 System Requirements ....................................................................................................... 6
3 Base System Setup .................................................................................................................. 7
   3.1 Management Console/Test Client (Machine 3) ............................................................... 7
   3.2 Setup the Primary/RO Server (Machine 1) ..................................................................... 7
   3.3 Setup the Secondary Server (Machine 2) ....................................................................... 8
4 EXPRESSCLUSTER Server Installation & Setup ................................................................. 9
   4.1 Install EXPRESSCLUSTER on the Primary & Secondary Server (Machine 1 & 2) ........ 9
5 Install & Configure Resiliency Orchestration ..................................................................... 10
   5.1 Edit sudoers .................................................................................................................... 11
   5.2 RO Configuration ......................................................................................................... 11
6 Create & Copy Custom scripts on Each Servers ............................................................... 12
7 Create DR Site on RO Dashboard ......................................................................................... 13
8 Create Component Subsystem ........................................................................................... 16
9 Create Recovery Group ....................................................................................................... 19
10 Create Application Group .................................................................................................. 24
11 Edit BCO Workflow of Recovery Group .......................................................................... 27
12 Edit BP Workflow of Recovery Group ............................................................................. 32
13 Execute BCO Workflows of Recovery Group .................................................................. 34
14 Execute BP Workflows of Recovery Group ..................................................................... 36
15 Edit BCO Workflows of Application Group .................................................................... 37
16 Execute BCO Workflows of Application Group ............................................................... 40
17 Edit Drill Workflows of Application Group..................................................................... 41
   In this section, we will create Drill workflows of application group. ................................. 41
   After executing Drill workflow, Drill report is generated automatically. ............................ 41
   The below steps is how to show a list of Drill Workflows. .................................................. 41
18 Execute Drill Workflows of Application Group ............................................................... 44
19 Confirm Drill Report .......................................................................................................... 46
About this Guide
This guide provides a hands-on “Quick Start” set of instructions for configuration and setting the EXPRESSCLUSTER X integration with IBM Resiliency Orchestration on RHEL 7.4 / CentOS 7 (1708) operating system with two nodes. The guide assumes its readers to have Linux system administration & EXPRESSCLUSTER X knowledge and skills, installation and configuration of IBM Resiliency Orchestration, EXPRESSCLUSTER X, and Linux Server. The guide includes systematic instructions to integrate and configure of IBM Resiliency Orchestration with EXPRESSCLUSTER X.

Where to go for more information
Refer to additional documentation under the “documentation” directory on the EXPRESSCLUSTER X distribution CD or archive file.
For any further information, please visit the EXPRESSCLUSTER X web site at https://www.nec.com/EXPRESSCLUSTER

The following guides are available for instant support:
- GettingStartedGuide.pdf – This guide explains general cluster concepts and overview of EXPRESSCLUSTER functionality.
- InstallationGuide.pdf – This guide explains EXPRESSCLUSTER X installation and configuration procedures in detail.
- ReferenceGuide.pdf – This is a reference of commands that can be put in EXPRESSCLUSTER X scripts and maintenance commands that can be executed from the server command prompt.
- MaintenanceGuide.pdf – This guide is intended for administrators and system administrators who want to build, operate, and maintain. The guide describes maintenance-related information for EXPRESSCLUSTER.
- HardwareFeatureGuide.pdf – The guide describes features to work with specific hardware, serving as a supplement to the Installation and Configuration Guide.
- LegacyFeatureGuide.pdf – The guide covers topics of EXPRESSCLUSTER X 4.0 WebManager.

The above stated guides can also be found at:

The EXPRESSCLUSTER X team can also be contacted via the following E-mail address:
info@EXPRESSCLUSTER.jp.nec.com

Information about IBM Resiliency Orchestration is available on the below URL.
https://www.ibm.com/support/knowledgecenter/ja/SSBK5V_7.3.1/iro731_welcome.html
1 Overview

1. This guide describes how to integrate & configure IBM Resiliency Orchestration (hereinafter referred to as “IBM RO”) with NEC EXPRESSCLUSTER X (hereinafter referred to as “ECX”).
2. Perform system planning to determine requirements and specify configuration settings prior to start of actual system installation and configuration.
3. Prepare the Primary and Secondary servers including OS installation and configuration if necessary.
4. Install, configure, and verify IBM RO on the Primary server.
5. Install and configure ECX Server on the Primary and Secondary servers.
6. Create and configure ECX failover group to enable continuous protection and automatic recovery for mirror disk resource & floating IP address resource.
7. Upload the configuration file on the server and start the cluster to complete the deployment.
8. Create and configure IBM RO recovery group and application group.
9. Edit and execute workflows of groups in RO.
10. View generated reports.
## 2 System Requirement and Planning

### 2.1 System Requirements

Machine 1: Primary/RO Server  
- EXPRESSCLUSTER X (ECX) 3.3/4.0/4.1  
- IBM Resiliency Orchestration (RO) 7.3  

Machine 2: Secondary Server  
- EXPRESSCLUSTER X (ECX) 3.3/4.0/4.1  

<table>
<thead>
<tr>
<th>Machine 1 Primary/RO Server</th>
<th>Machine 2 Secondary Server</th>
<th>Machine 3 Client system/Desktop</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU</td>
<td>1 GHz Pentium 4 or better</td>
<td>1 GHz Pentium 4 or better</td>
</tr>
<tr>
<td>Memory</td>
<td>4 GB or more</td>
<td>1 GB or more</td>
</tr>
</tbody>
</table>
| Disk                        | 1 physical disks (having at least 3 partitions, one for OS, one for cluster partition and one for data partition)  
OS disk: 40 GB or more space available  
Mirrored & Data disk: As per requirement  
(20MB partition available for EXPRESSCLUSTER management)  
The same size for each server system | 1 physical disk with 40 GB or more space available |
| OS                          | Red Hat Enterprise 7.4  
CentOS-7 (1708) | Windows 7 or Later    |
| Software                    | Java 1.8.0_212 enabled web browser | Java 1.8.0_212 enabled web browser |
| Network                     | 2 100Mbit or faster Ethernet network interface cards | 1 100Mbit or faster Ethernet network interface card |

*Table 1 System Requirements*
3 Base System Setup

3.1 Management Console/Test Client (Machine 3)

Setup a Windows desktop or laptop with specified OS and network configuration from previous section. A Java enabled web browser should also be installed to enable access to ECX WebUI or WebManager.

3.2 Setup the Primary/RO Server (Machine 1)

1. If necessary, install required hardware components and a supported OS as specified in Chapter 2.

2. Verify basic system boot and root login functionality and availability of required hardware components as specified in Chapter 2.

3. Configure network interface names
   a. Rename the network interface to be used for internal ECX management and data mirroring network communication between servers to Interconnect.

4. Configure network interface Settings:
   a. In the “System” tab go to “Administration” further go to “Network”.
   b. In the Network Connections window, double-click Public.
   c. In the dialog box, click the statically set IP address: option button.
   d. Type the IP address, Subnet mask, and Default gateway values (see Table 1 System).
   e. Go back to the Network Connections window. Double-click Interconnect.
   f. In the dialog box, click the statically set IP address: option button.
   g. Type the IP address and Subnet mask values (see Table 1 System). Click OK.
   h. On the terminal, run the command “service network restart”.

5. Configure the Data Disk:
   a. Make sure the disk device or LUN is initialized as a Linux Basic disk device.
   b. Create swap partition of 2*size of RAM.
   c. Create a mirrored disk cluster partition on the disk with specified size in Table 1 and make sure it is 20MB or greater. Assign partition name as specified in Table 1 to the partition but do NOT format it.
   d. Create a mirrored disk data partition on the disk with specified size in Table 1. Assign partition name as specified in Table 1 to the partition and format it.
   e. Verify the mirrored disk cluster and data partitions are visible in command prompt using “fdisk” command under their respective assigned partition names.

6. Enable ssh:
   a. Change “PermitRootLogin” to Yes in /etc/ssh/sshd_config.
   b. Restart sshd with “systemctl restart sshd”
3.3 Setup the Secondary Server (Machine 2)
Perform steps 1-6 in Section 3.2 on the Secondary Server.
4 EXPRESSCLUSTER Server Installation & Setup

4.1 Install EXPRESSCLUSTER on the Primary & Secondary Server (Machine 1 & 2)

1. Install the ECX on Machine 1 & 2.
2. Register ECX licenses
   - EXPRESSCLUSTER X for Linux
   - EXPRESSCLUSTER X Replicator for Linux
3. First restart the Primary server and then restart the secondary server.
4. Configure a cluster
   - Failover Group: failover
     - fip1: floating IP resource
     - md1: mirror disk resource
     - md2: mirror disk resource
   - Monitoring Resource
     - usrw: user mode monitor resource
     - mdw1: mirror disk monitor resource
     - mdw2: mirror disk monitor resource
     - mdnw1: mirror connect monitor resource
     - mdnw2: mirror connect monitor resource
     - fipw1: floating IP monitor resource
5. Start the Cluster & group on cluster manager.
5 Install & Configure Resiliency Orchestration

Please refer to IBM Resiliency Orchestration 7.3 Installation Guide.pdf and install the IBM RO on Primary server.

After Installing & configuring the RO software, we can access the RO application from client machine with following URL. http://<RO-server IP address>:8080/PanacesGUI/

- RO homepage & login with support user which you created during the RO installation.

![Figure 1 IBM RO Login page](image1.png)

- After Login, you will get following page.

![Figure 2 IBM RO WebUI](image2.png)
5.1 **Edit sudoers**
- Execute `visudo` command to edit sudoers.
- Add the below 2 lines.

```
panacesuser ALL=(ALL) ALL
panacesuser ALL=(ALL) NOPASSWD: ALL
```

5.2 **RO Configuration**
- 1 Application Group that includes 1 recovery group.
  - ECX: Application Group
  - TestingECX: Recovery Group
- RO folder path: /opt/panaces/
- Scripts folder path for ECX: /opt/panaces/scripts/ECX/TestingECX
- RO service path: /opt/panaces/bin/
6 Create & Copy Custom scripts on Each Servers.

1. Create a folder `/opt/panaces/scripts/ECX` on RO server (Primary server).
2. Create a folder `/opt/panaces/scripts/ECX/TestingECX` on RO server (Primary server).
3. Change permission of the folders.

   ```
   sudo chown panacesuser:panacesusergroup /opt/panaces/scripts/ECX
   sudo chown panacesuser:panacesusergroup /opt/panaces/scripts/ECX/TestingECX
   sudo chmod 775 /opt/panaces/scripts/ECX
   sudo chmod 775 /opt/panaces/scripts/ECX/TestingECX
   ```

4. Copy `ECX_ReplInfo.tcl` and `getrpo.tcl` to `/opt/panaces/scripts/ECX/TestingECX` on RO server and following script will be available on ECX official web page:

5. Change owner and owner group and permission of `ECX_ReplInfo.tcl` and `getrpo.tcl`.

   ```
   sudo chown panacesuser:panacesusergroup ECX_ReplInfo.tcl
   sudo chown panacesuser:panacesusergroup getrpo.tcl
   sudo chmod 776 ECX_ReplInfo.tcl
   sudo chmod 776 getrpo.tcl
   ```

6. Edit parameters in `ECX_ReplInfo.tcl` and `getrpo.tcl` script.
   - `fip` is the floating IP address in ECX cluster.
   - `port` is the port to communicate with WebUI or WebManager.
   - `mdName` is mirror disk resource name.
   - `recoveryGroup` is RO recovery group name you will create.

7. Copy `checkstatus.sh` and `movegrp.sh` on both ECX servers (RO server (Primary server) & Secondary server) and following scripts will be available on ECX official web page:
   - Copy scripts to anywhere in both servers & give the executable permission.
7 Create DR Site on RO Dashboard

Follow the below steps to create DR site.
Production site has already been created. (SCC_Site).

- After Login to RO dashboard, click Discover icon and you will get below screen.

![Figure 3 Discover Tab](image)

- Mouse over Discover tab on left corner.

![Figure 4 Discover tab options](image)

- Inside the Discover tab, select Sites.
• Click on Sites tab and you will get following screen, wherein default site is SCC_Site (In this document, SCC_Site is Production site.)

• Click on Create New Site

• Input Site Name and Site Address of DR Site & click Save
After creating DR site, you will see the screen below.

Figure 8 Creating DR Site

Figure 9 Sites List
8 Create Component Subsystem

The below steps show how to create a Component Subsystem. Component for Primary server has already been created. (AgentNode)
You need to create component for Secondary server.

1. Click Discover and Mouse over Discover

![Figure 10 Subsystem option]

2. Select Subsystems

![Figure 11 Selecting the Subsystem]

3. Select Create new drop down & select required components Linux

![Figure 12 Select required component]
4. Click Go

![Image of Subsystems]  
**Figure 13 Select Subsystem**

5. After clicking on Go tab, will get following screen:

![Image of Component Discovery]  
**Figure 14 Component Discovery**

6. **New Component Discovery**
   - Input IP Address of secondary server
   - Input Name
   - Select Secondary Site as Component Site
   - Select Add new credential
     - Input root to User Name
     - Input the password of root to Password
7. After Save the Component Discovery, you can see the subsystem for Primary & Secondary node.

Figure 16 Subsystem ready
9 Create Recovery Group

1. Click Discover and Click Discover Recovery Group

![Figure 17 Discover Recover Group](image)

After clicking you will get following page:

![Figure 18 Parameters for recovery group](image)

2. Group Details
   - Input Group Name
   - Select VM Replication with OtherReplicator as Solution Signature
   - Input EXPRESSCLUSTER X as Other_Replicator
   - Check This server is part of a Cluster.
   - Click Next
3. **Define Group Relationship**

   - **Server Component**
     - Select Primary server as **PRIMARY COMPONENT**
     - Select Secondary server as **Secondary COMPONENT**

   - **Network Component**
     - Select **PRIMARY COMPONENT**
     - Select **Secondary COMPONENT**
Figure 21 Selecting Primary and Secondary Component

- Configuration Details: Name
  - License
    - Select Recovery [Management, Monitoring]
    - Click Save

Figure 22 Configuring Recovery Group
4. **Click Finish**

![Figure 23 Completing configurations](image)

5. **Click tool icon (Change Continuity) in Action**

![Figure 24 Setting Actions](image)

6. **Click Manage Group**

![Figure 25 Managing Group](image)
7. Click OK

![Image of configuration interface]

Figure 26 Finishing the configuration
10 Create Application Group

1. Click Discover & then Click on Discover Application Group

![Figure 27 Configuring Application Group](image)

2. Organization Selection Click Next

![Figure 28 Creating new Application group](image)

3. Application Group Details
   - Input Application Group Name
   - Select Recovery Groups and click Next

![Figure 29 Application Group Details](image)
4. **Create Recovery Order - Name**
   - Drag and drop Recovery Group Name to Recovery Order

![Create Recovery Order](image)

**Figure 30 Setting recovery order**

5. **Application Group Details**
   - Input Configured RTO and Configured RPO and Click Finish

![Application Group Details](image)

**Figure 31 Configuring RPO and RTO for the application**

6. **Click tool icon (Change Continuity) in Action**

![Setting Actions](image)

**Figure 32 Setting Actions**
7. Click **Manage Group** and Click **OK**

![Figure 33 Finishing the recovery settings](image)

*Figure 33 Finishing the recovery settings*
11 Edit BCO Workflow of Recovery Group

The below steps is how to show a list of BCO Workflows.

1. Click Manage

![Figure 34 Creating Workflow of Recovery Group](image)

2. Click a group name that you want to edit

![Figure 35 Editing Group name](image)

3. After click on Group name, you will get below screen

![Figure 36 Settings actions for workflows](image)
4. **Click View all workflows**  
   Need to edit BCO Workflows by clicking a pen icon and publish the workflow.  
   A workflow consists of some actions.  
   You can edit an action by double-clicking the action icon

![Figure 37 Defining Workflows](image)

> **NormarlFullCopy**  

It is needless to edit a workflow because ECX copies data on a mirror disk constantly.  

Only publishing is needed.  

  - Click **Next**

![Figure 38 Normal Full Copy Workflow](image)
Click **Publish Workflow**

![Published Workflow](image)

**Figure 39 Publish Normal Full Copy workflow**

- **Failover**

  Here need to define a complete workflow of Failover between Primary & Secondary site, as you will calculate the RTO for this functionality through to ECX.

  - Input **Name** and **Description**

  ![Name and Description](image)

  **Figure 40 Name and Description**

  - Select a Primary server as **Server/Machine Name**
  - Select **Script** as **Type of Custom Action**
  - Check **Enable Sudo**
  - Input **root** as **Sudo Username**
  - Input the path of movegrp.sh as **Command/Script to be executed with absolute path**
**Figure 41 Defining scripts**

- Delete 2nd and 3rd action by clicking trash can icon
- After following the above steps, you will get below screen

**Figure 42 Failover workflow of recovery group**

- Click Next
- Click Publish Workflow

**Fallback**

- Input Name and Description
- Select a Secondary server as Server/Machine Name
- Select Script as Type of Custom Action
- No need to check Enable Sudo
- Input the path of movegrp.sh as Command/Script to be executed with absolute path
- Delete 2nd and 3rd action by clicking trash can icon
- After following the above steps, you will get below screen
Figure 43 Fallback workflow of recovery group

- Click Next
- Click Publish Workflow

- **FallbackResync**

  It is needless to edit a workflow because ECX copies data on a mirror disk constantly.

  Only publishing is needed.

  - Click Next
  - Click Publish Workflow
**12 Edit BP Workflow of Recovery Group**

The below steps is how to show a BP Workflows. Mandatory workflow is only ReplicationInfoWorkflow.

ReplicationInfoWorkflow is executed to get mirror disk information from ECX. In this workflow, ECX_RepInfo.tcl is executed. ECX_RepInfo.tcl calculates RPO and Pending Data of mirror disk, and sends these information to RO.

- ReplicationInfoWorkflow
  - Input Name and Description

    ![Figure 44 Name and Description](image_url)

    - Select AgentNode as Server/Machine Name
    - Select IBM Resiliency Orchestration Integration Tcl Script as Type of Custom Action
    - Input the path of ECX_RepInfo.tcl as Command/Script to be executed with absolute path
Figure 45 Defining scripts

- Click Next
- Click Publish Workflow
13 Execute BCO Workflows of Recovery Group

After executing 4 BCO workflows that you created in the previous steps, the RTO is displayed on RO dashboard.

Please note that ECX failover group moves if you execute Failover/Fallback workflow.

The below step shows how to execute BCO workflows.

1. Click **Manage**

![Figure 46 Group Health](image)

2. Click a group name

3. Click **Execute** in **Continuity Workflows**

![Figure 47 Workflow execution](image)
4. Click on **Workflow name** (Failover) & see the RTO (Time taken)

![Figure 48 RTO on group page](image1)

5. You can see the failover on ECX end which is executed by IBM RO.

![Figure 49 EXPRESSCLUSTER X Cluster Manager](image2)
14 Execute BP Workflow of Recovery Group

ReplicationInfoWorkflow is executed every 10 minutes automatically to calculate RPO.

After executing the workflow, the RPO and Pending Data is displayed on RO dashboard. Group page is updated every 10 minutes.

Figure 50 RPO on group page

Figure 51 Pending Data on group page
15 Edit BCO Workflows of Application Group

Failover and Fallback workflow must be edited.

1. Click Application Groups in Manage page
2. Click a group name that you want to edit
3. Click View all workflows

➢ Failover
  o Click Add

![Figure 52 Defining scripts](image)

➢ Select VM Replication with OtherReplicator in Select Solution Signature

![Figure 53 Defining scripts](image)
- Click recovery group name

![Figure 54 Defining scripts](image1)

- Click Failover

![Figure 55 Defining scripts](image2)

- Click Next
- Click Publish Workflow
➤ Fallback

- Click Add
- Select VM Replication with OtherReplicator in Select Solution Signature
- Click recovery group name
- Click Fallback
- Click Next
- Click Publish Workflow
16 Execute BCO Workflows of Application Group

After executing **Failover** and **Fallback** workflow, you can see RTO on group page.

Please note that ECX failover group moves if you execute Failover/Fallback workflow.

Figure 56 RTO on group page
17 Edit Drill Workflows of Application Group

In this section, we will create Drill workflows of application group. After executing Drill workflow, Drill report is generated automatically.

The below steps is how to show a list of Drill Workflows.

1. Click Drill

   ![Figure 57 Executing drills](image)

   **Figure 57 Executing drills**

2. Click Summary
3. Click a group name that you want to edit

   ![Figure 58 Defining drill for Application group](image)

   **Figure 58 Defining drill for Application group**
For example, we will edit **Switchover** to output the below reports.

- Status of primary server
- Status of secondary server
- Time taken to move ECX failover group (RTO)
- RPO
- Pending Data of mirror disk

1. **1st action: Output status of primary server**
   - Input **Name** and **Description**
   - Select a Primary server as **Server/Machine Name**
   - Select **Script** as **Type of Custom Action**
   - Check **Enable Sudo**
   - Input **root** as **Sudo Username**
   - Input the path of checkstatus.sh as **Command/Script to be executed with absolute path**

2. **2nd action: Output status of secondary server**
   - Input **Name** and **Description**
   - Select a Secondary server as **Server/Machine Name**
   - Select **Script** as **Type of Custom Action**
   - Input the path of checkstatus.sh as **Command/Script to be executed with absolute path**

3. **3rd action: Move ECX failover group from primary server to secondary server**
   - Input **Name** and **Description**
   - Select a Primary server as **Server/Machine Name**
   - Select **Script** as **Type of Custom Action**
   - Check **Enable Sudo**
   - Input **root** as **Sudo Username**
   - Input the path of movegrp.sh as **Command/Script to be executed with absolute path**

4. **4th action: Output RPO and Pending Data**
   - Input **Name** and **Description**
   - Select **AgentNode** as **Server/Machine Name**
   - Select **IBM Resiliency Orchestration Integration Tcl Script** as **Type of Custom Action**
   - Check **Enable Sudo**
   - Input **root** as **Sudo Username**
   - Input the path of getrpo.tcl as **Command/Script to be executed with absolute path**
After editing action, you will get the below screen.

![Switchover workflow](image)

**Figure 59 Switchover workflow**

Click **Next** and **Publish Workflow**.
18 Execute Drill Workflows of Application Group

1. Click Drill
2. Click Summary
3. Click a group name
4. Click Execute

Figure 60 Execute drill workflow for application group

Drill workflow will be stopped if you execute the workflow while any servers or ECX cluster are not running.
You need to restart workflow manually if workflow is stopping.

1. Click AWAITING INPUT

Figure 61 Execute awaiting drill workflow
2. Click **Awaiting Input**

![Figure 62 Execute awaiting action](image1)

3. Click **Continue as Success**

![Figure 63 Continue as Success](image2)
19 Confirm Drill Report

We can see Drill reports in Drill page.

![Figure 64 Sample report](image)

The Drill report in next page is generated after executing the workflow in section 18. **Time Elapsed** of Failover action represents RTO.
<table>
<thead>
<tr>
<th>Group Name</th>
<th>ECX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workflow Name</td>
<td>Switchover</td>
</tr>
<tr>
<td>Status</td>
<td>SUCCESS</td>
</tr>
<tr>
<td>Start Time</td>
<td>Aug 7, 2019, 11:43 AM</td>
</tr>
<tr>
<td>End Time</td>
<td>Aug 7, 2019, 11:44 AM</td>
</tr>
<tr>
<td>Time Elapsed</td>
<td>00:00:24</td>
</tr>
</tbody>
</table>

| Approval Details |  |
| Rejected Details |  |

<table>
<thead>
<tr>
<th>Success</th>
<th>Failed</th>
<th>Not Executed</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name</th>
<th>Status</th>
<th>Time Initiated</th>
<th>Time Elapsed</th>
<th>Status Details</th>
</tr>
</thead>
</table>
| Primary check   | EXECUTED   | 2019-08-07 11:43:53.0| 00:00:01     | Executed the script/command using sudo: /roo\r\n\roo_test/checkstatus.sh  
Additional Details: Exit Code = 0  
Output = --------------------------  
CLUSTER STATUS  
==================================  
Cluster : cluster  
cluster ........: Start  
<server>  
*roserver ........: Online  
lankhb1 : Normal          Kernel Mode  
LAN Heartbeat  
lvmhost ........: Online  
lankhb1 : -          Kernel Mode LAN  
Heartbeat  
<group>  
failover ........: Online  
current : roserver  
fp1 : Online  
md1 : Online  
md2 : Online  
<monitor>  
fpw1 : Online  
mdw1 : Online  
mdnw2 : Online  
mdw1 : Online  
mdw2 : Online  
userw : Online  
==================================  
On component AgentNode (192.168.137.40) |
<table>
<thead>
<tr>
<th>Name</th>
<th>Status</th>
<th>Time Initiated</th>
<th>Time Elapsed</th>
<th>Status Details</th>
</tr>
</thead>
</table>
| Secondary check             | EXECUTED  | 2019-08-07 11:43:54.0 | 00:00:01     | Executed the script/command using sudo: /root/ro_test/checkstatus.sh  
Additional Details: Exit Code = 0  
Output = Command succeeded.  
On component AgentNode (192.168.137.40) Provided Reason: test |
|                             |           |                 |              | Cluster: cluster  
cluster ........ Start  
<server>  
roserver .......... Online  
lankhb1 ........ Kernel Mode LAN  
Heartbeat  
vlmhost .......... Online  
lankhb1 .......... Normal Kernel Mode  
LAN Heartbeat  
<group>  
failover ..........  
current .......... roserver  
fp1 ........  
md1 ........  
md2 ........  
<monitor>  
fpw1 .......... Offline  
mdnw1 ........ Online  
mdnw2 ........ Online  
mdw1 .......... Online  
mdw2 .......... Online  
userw .......... Online  
====================================================================  
On component Linux_192.168.137.75 (192.168.137.75) Provided Reason: test |
| Failover                    | EXECUTED  | 2019-08-07 11:43:55.0 | 00:00:19     | Executed the script/command using sudo: /root/ro_test/movgrp.sh  
Additional Details: Exit Code = 0  
Output = Command succeeded.  
On component AgentNode (192.168.137.40) Provided Reason: test |
| Get RPO and Pending Data    | EXECUTED  | 2019-08-07 11:44:14.0 | 00:00:03     | Status: Mirror disks on both servers are working fine.  
RPO : 0 h 0 m 0 s  
DataLag: 0 MB |

Figure 65 Sample report