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Kyndryl Resiliency Orchestration

Release Notes

Version 8.4.12.0



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Introduction

This document captures information on the new product features, new Disaster Recovery (DR), Cyber Resiliency (CR) solutions supported enhancements and known limitations of Resiliency Orchestration software Service Pack version 8.4.12.0.

Acronyms

Acronym	Definition
ADC	Application Defined Continuity
AG	Application Group
API	Application Programming Interface
AWS	Amazon Web Services
CIR	Cyber Incident Recovery
CLI	Command Line Interface
COS	Cloud Object Storage
CR	Cyber Resiliency
DR	Disaster Recovery
DRaaS	Disaster Recovery as a Service
FO	Failover
FOTE	Failover Test Exercise
FQDN	Fully Qualified Domain Name
LPAR	Logical Partition
PIT	Point in Time
PR	Primary
RAL	Recovery Automation Library
RBAC	Roll-Based Access Control



RBR	Resiliency Block Replicator
RG	Recovery Group
RHEL	Red Hat Enterprise Linux
RO	Resiliency Orchestration
RPO	Recovery Point Objective
RTO	Recovery Time Objective
RFR	Resiliency File Replicator
SB	Switchback
SO	Switchover
SP	Service Pack, Spectrum Protect
SR	System Replicator
UI	User Interface
VM	Virtual Machine



What's New

The Resiliency Orchestration (RO) 8.4.12.0 version can be installed fresh or upgraded from previous RO releases. The highlights of this release are mentioned below. This version is available in English language.

Enhancements of RO Platform

The current version of RO is certified with the following Operating Systems, Database Platforms, Web Servers, and JDK:

O/S Platform	D/B Platform	Web Server	JDK
RHEL 9.4 RHEL 9.3(Plow)	MariaDB: 10.5.24	Apache Tomcat:9.0.899.0.889.0.87	 OpenJDK Runtime Environment (Zulu 8.78.0.19-CA-linux64) (build 1.8.0_402-b06) OpenJDK Runtime build: ✓ 1.8.0_412 ✓ 1.8.0_2

The certified combinations are mentioned in the table. This does not mean that the other combinations do not work for RO. For more information, refer to the Kyndryl Resiliency Orchestration Installation Guide.

Enhancement in the Reports

The following reports have been added:

- Data RPO Report: A new report is now available under the Reports section to
 obtain the Data RPO. You can generate the report in .csv format. This report shows
 the computed value and the % deviation of the Data RPO at regular intervals of time,
 for the given time range.
- Snapshot Manager Details Report: A new report is now available under the Reports section to obtain the Snapshot Manager Details Report. You can generate the report in .csv format. This report gives you a detailed report of all activities captured by the Snapshots Manager for a given duration. It can be configured to email a point-in-time report or to send the report at a determined interval.



- Snapshot Manager Summary Report: A new report is now available under the
 Reports section to obtain the Snapshot Manager Summary Report. You can generate
 the report in .csv format. This report gives a summary of all activities captured by the
 Snapshots Manager for a given duration. It can be configured to email a point-in-time
 report or to send the report at a determined interval.
- BCP Readiness Report: A new report is now available under the Reports section to obtain the BCP readiness Report. You can generate the report in .csv format. This report shows the executive summary, DR setup description, Application DR readiness detail, and the configured failover recovery steps.
- Datalag Report: A new report is now available under the Reports section to
 obtain the Datalag Report. You can generate the report in .csv format. This report
 shows the Datalag for a selected group with three fields, serial numbers, date and time,
 and the value of Datalag in KB.

For more information, refer to the Kyndryl Resiliency Orchestration Admin Guide.

Newly introduced Pre and Post upgrade scripts

RO platform has been enhanced with the following Pre and Post upgrade scripts:

- pre-upgradeRO.sh: You can perform all pre-upgrade steps by executing this script.
- post-upgradeRO.sh: You can perform all post-upgrade steps by executing this script.

For more information, refer to the Kyndryl Resiliency Orchestration Upgrade Guide.

Newly introduced script to create SSL certificates for file replicator

File Replicator has been enhanced with the following script so that users can generate the SSL certificates by using a script. This helps users to avoid manual execution of multiple steps:

Generate pfr cert.sh

For more information, refer to the Kyndryl Resiliency File Replicator User Guide.



Resiliency Block Replicator (RBR) based DR Solutions Enhancements

DMC Error codes have been enhanced to make the codes more meaningful.

These are the appropriate versions for the current release:

- DMC 3.4.12: DMC_VS_17_159_00ad9a9_3.4.12.0.iso
- AIX 6.1: RBRIP-AIX61-03.04.0011.0000-DEV20240515105151.rs6000.tar.gz
- AIX 7.2: RBRIP-AIX72-03.04.0011.0000-DEV20240515115233.rs6000.tar.gz
- RHEL8.8-NICRA: Resiliency-Block-Replicator-ADB-3.4.10.0.0-20240418142127.x86_64.rpm
- VIB IO Filter 3.4.9: ibmrbr-c_3.4.9-1.0.0000_233526552-package.zip

Auto-discovery feature to enhance solution discovery efficiency for certain solutions

VM Protection with VMWare SRM (vSphere Replication), Oracle, MSSQL with Log Shipping, and MSSQL with Always ON solutions have been enhanced with the auto-discovery feature to increase the solution discovery efficiency with minimized manual inputs.

For more information, refer to the respective solution documents.

VM Protection with VMWare SRM (vSphere Replication) Enhancements

This solution has been enhanced to provide FQDN as a default tool for SRM, which was previously selected manually.

MSSQL with Logshipping Solution Enhancements

This solution has been certified to support **MSSQL Logshipping 2022** for Windows 2022(standard 21H2).

Enhancements of Automated Discovery Deployment and Configuration (AD2C)

The Automated Discovery Deployment and Configuration (AD2C) has been enhanced with the following features:

 AD2C has introduced the capability to add/ edit custom solution signatures. A new sheet with the name Solution_Signature_List has been added to Group.xlsx and Group Edit.xlsx files. This enables the newly added custom



solutions to appear in the Solution Signature drop-down menu of the Create_AG, Edit_AG, Create_RG, and Edit_RG sheets.

- AD2C provides the flexibility to modify the SSH port from its previous default setting of 22.
- Help tab for Excel Sheets A Help tab has been introduced in all Generic excel sheet templates. This tab guides the users to fill in the Excel sheets with the correct data. -New column names for the generic solutions
- **Version Matrix 9.x** Version Matrix for AD2C RHEL version 9.x has been updated.
- New column names for the generic solutions- Selected columns in Excel are renamed with more relevant and intuitive names. This makes data easier to understand and improves usability.

Refer to the AD2C User Guide or the respective solution documents to see the updated names at the beginning of the table where the above-mentioned Excel sheets are described under the heading 'New names from 8.4.12.0'.

DS8K solution enhancements

The DS8K solution has been enhanced with the following features:

- Usage of Resource Profiles has been introduced and the vcenterdetails.csv is no longer needed.
- Mounting of volumes is now happening at the ESX cluster level. We are no longer supporting the mounting on the ESX host level.

Security

Key security enhancements and updates have been added to this release.



Customer Tickets

The following table displays the customer tickets which are resolved/periodically are getting resolved.

Ticket	Description
TS011678238	When Site Controllers are down, the Agent Listing page does not display all the agents.
INCNA11605975	Elevance Health is unable to start Zerto agent from the RO UI.
INCNA11626716	RPOs for Zerto AGs/RGs cannot be computed.
INCNA11590692	While discovering Component of Type (ZOSSERVER) through AD2C, an error is displayed.
INCNA11174112	The AD2C tool is not able to create Protection Schemas for Oracle DG.
INCNA11038915	Error code 20 NFC execution error is found in RO 8.4.3.0
INCNA11589961	DB2HADR Replication status issue for "REMOTE_CATCHUP".
INCNA11551970	Unable to delete the Oracle DG protection schema "DG_HistoryDB_10.203.32.133_fnshist2".
INCNA11347151	Unable to rename existing component and change IP that is part of Active RG.
INCNA11373361	Dry Run Execution for RP4VM actions takes long time. Dry Run need to abort after 24 hours by stopping the Panaces server.
INCNA11060745	Display name for MSSQL still shows as IBMROMSSQL_Agent in the Task Manager level.
INCNA11450489	Dataset creation fails.



	SiteControllers are down. The Agent listing page does not display all the agents.	
	For group MSSQL_AlwaysON, the polar cancellation is not happening for an event.	
INCNA11427909	Unable to download RPO trend report (azure.com)	
INCNA11482190	Sitecontroller discovered through AD2C but status is Disconnected (azure.com)	
Bug 1636872	RedZone- SiteControllers are down - Agent Listing page not showing all the agents	
INCNA11422781	V center _HSB-DR Services status has an error showing In-Active state.	
INCNA11504649	Issue with RO System Automatic Backup - PAN-USRROLE-1001: Delete Backup feature is not authorized for this user.	
INCNA11372550	During SingleClick workflow execution flow some fork flows are getting aborted.	
INCNA11032217	Errors are detected in baseline policy implementation in RO and Sitecontroller servers.	
INCNA11349571	AD2C SSH credential connectivity is not working.	
INCNA11311704	Unable to delete Protection Schema using AD2C	
TS012917304	Customer site controllers authentication requests has caused production outage.	
INCNA11372562	In the Windows Server installation, VA SSL certificate is not working as expected.	
	Customer Site Issue: DRMAgentsStart / Stop is not working on RO 8.2.3.	
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	Customer Site Issue: DRMAgents Start / Stop is not working on RO 8.3.9.	
INCNA11422781	(VCenterAgent issue) - Vault Cred password is getting pushed to Ager even if the Creds are same based on Config flag configuration.	
	customer vCenter Issue: OutOfMemory Issue (java.lang.OutOfMemoryError: GC overhead limit exceeded)	
INCNA11334394	Not able to fetch switch over workflow Execution Details- TIPRODRACODGDBPR.	
INCNA11592832	RO User account Locked out on customer site frequently, during the execution of the command DRMagents ALL scripts Rboot/Restart.	
INCNA11517770, INCNA11515260	DMC collector services are not able to communicate with the local host.	
INCNA11546085	Execution is failing, and component is changing state from Active to Unknown which is an error.	
INCNA11601099	Token Based Integration is failing after upgrade from RO 8.3.3 to RO 8.4.6.0	

Compatibility Information

Supported Platforms

For more information, refer to the Resiliency Orchestration Installation Guide.

Supported Browsers

To know more about supported browsers, refer to the Resiliency Orchestration Installation Guide.



Installing Resiliency Orchestration

Refer to the Resiliency Orchestration Installation Guide for prerequisites, system requirements, and steps to install Kyndryl Resiliency Orchestration software and its components.

Upgrading Resiliency Orchestration to the latest version

Refer to the Resiliency Orchestration Upgrade Guide for prerequisites, system requirements, and steps to upgrade to the latest version of Resiliency Orchestration.



Known Limitations

This version of Resiliency Orchestration software has the following limitations:

Solution Name/ Component	Known Limitation	Workaround
RO	App RPO reports are not supported but are still available for AG groups.	User must not generate App RPO reports for AG groups.
	Active MQ console for Windows functionality is not working.	Navigate to \$EAMSROOT/installconfig/Sitecontroller.cfg > Add the IP address in PANACES_SITE_CONTROLLER_BIND_ADD RESS="Windows SC IP Address" Example- PANACES_SITE_CONTROLLER_BIND_ADD RESS=192.168.20.161.
	The new installation of RO/SC/agents will have new	Copy truststore from RO > Local Agents so that
	certificates. In case users	the Local Agents get connected to RO/SC. For
	have done a fresh installation in the agent but still have custom/old certs in RO/SC, the local agent will not get connected to the RO/SC.	more information, refer to the Installation Guide.
	The Third-Party Directory Server configuration in the Installer (both UI and Silent/Console mode) is not supported.	Resiliency Orchestration needs to be installed in Basic Authentication mode and then it needs to be switched to AD Authentication mode using DRMChangeUserMgmtMode.sh script for Single Organization mode. For Multiple Organization modes, this switch from Basic Authentication to AD needs to be done using CLI SubscriberManager.sh.
	zOS solution needs to be configured again in case Resiliency Orchestration is upgraded from 8.0 or older versions. It is not necessary to reconfigure if you are upgrading RO from 8.1 or higher versions.	zOS upgrade is not supported before RO 8.0. If the user upgrades RO, then he has to delete the existing group and rediscover the group.
	SRM RALs will not have the correct failure paths if the upgrade is done from version 8.3.3 to the latest version.	Import workflow for standard workflows from \$EAMSROOT/workflows/VMwareSRM/ vSphere, and any customized workflow, export by using the workflow

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configurator tool add the failure path manually to the next RAL and import workflow, and then publish. OR 2. Import workflow for the standard workflows from \$EAMSROOT/workflows/VMwareSRM/ vSphere, and any customized workflow, edit the workflow, add the failure path manually to the next RAL, and then publish. TEMP_DIR path is getting changed in the ymware_vcenter_service.pro perties file after the upgrade. In the vmware_vcenter_service.pro perties file after the upgrade. When both Jackrabbit HTTPS and Firewall are enabled in RO, the user will not be able to perform the Low-touch upgrade for Agent, and the following error message is displayed: **CDATES ATIMES** **CROAGENT_UPGRADE_ERR OR:** **Resiliency Orchestration Agent Upgradation failed with the error message: Runtime Error: **Please Retry later, Remark:** **REPPOSITORY_ERROR:** **Unknown Repository error: java.rmic Connection to: <ip address="">; nested exception is: **Java.net.NoRouteToHostExce ption:** Java.net.NoRouteToHostExce ption:** Java.net.NoRouteToHostExce ption:** Configurator toel add the next RAL and import workflow, and then publish. OR 2. Import workflows from \$EAMSROOT/workflows/VMwareSRM/vorkflows from \$EAMSROOT/Workflows/VMwareSRM/vorkflow, and then publish. OR 2. Import workflow for the standard workflow, add the failure path manually to the next RAL, and then publish. In the vmware_vcenter_service.properties file, edit the property WINI_TEMP_DIR=/tmp to reflect it as: (should appear in two lines) WINI_TEMP_DIR=/tmp to reflect it as: (should appear in two lines) WINI_TEMP_DIR=/tmp to reflect it as: (should appear in two lines) WINI_TEMP_DIR=/tmp to reflect it as: (should appear in two lines) WINI_TEMP_DIR=/tmp to reflect it as: (should appear in two lines) WINI_TEMP_DIR=/tmp to reflect it as: (should appear in two lines) WINI_TEMP_DIR=/tmp to reflect it as: (should appear in two lines) WINI_TEMP_DIR=/tmp to reflect it as: (should appear in two lines) WINI_TEMP_DIR=/tmp to reflect it as: (should appear in two lines) WINI_TEMP_DIR</ip>	 	
(should appear in two lines) WIN_TEMP_DIR = C:\ LINUX_TEMP_DIR=/tmp Tomcat chooses some dynamic port when Jackrabbit starts. The download of the binaries is picked up by that dynamic port. Though Jackrabbit starts. The download of the binaries is picked up by that dynamic port. Though Jackrabbit repository Ul is coming up and check-in of binaries is also happening the downloading of binaries to the local agent is falling. So, the user must enable the dynamic port in the RO. To identify the dynamic port, use the following command and enable it in the RO server. Isof -i -P -n grep LISTEN grep -v 8005 Example of the output of this command: [root @q4rhelrost01 ~]# Isof -i -P -n grep LISTEN grep -v 8005 Example of the output of this command: [root @q4rhelrost01 ~]# Isof -i -P -n grep LISTEN grep tomcatuser grep -v 8080 grep -v 8443 grep -v 10443 grep -v 8005 Example of the output of this command: [root @q4rhelrost01 ~]# Isof -i -P -n grep LISTEN grep tomcatuser grep -v 8080 grep -v 8443 grep -v 10443 grep -v 5099 grep -v 8005 java 1577299 tomcatuser 243u IPv4 17815178 0to TCP *:	changed in the vmware_vcenter_service.pro	manually to the next RAL and import workflow, and then publish. OR 2. Import workflow for the standard workflows from \$EAMSROOT/workflows/VMwareSRM/vSphere, and any customized workflow, edit the workflow, add the failure path manually to the next RAL, and then publish. In the vmware_vcenter_service.properties file, edit the property WIN_TEMP_DIR =
When both Jackrabbit HTTPS and Firewall are enabled in RO, the user will not be able to perform the Low-touch upgrade for Agent, and the following error message is displayed: < Date > < Time>: ROAGENT_UPGRADE_ERR OR: Unknown Repository error: java.rmi.ConnectIOException : java.net.NoRouteToHostExce When both Jackrabbit TTTPS and Firewall are enabled in RO, the user will sis picked up by that dynamic port. Though Jackrabbit repository UI is coming up and check-in of binaries is also happening the downloading of binaries is also happening the downloading of binaries is also happening up and check-in of binaries is also happening the downloading of binaries is also happening up and check-in of binaries is also happening up and check-in of binaries is also happening up and check-in of binaries is also happening the downloading of binaries. Is picked up by that dynamic port. Though Jackrabbit repository UI is coming up and check-in of binaries is also happening the downloading of binaries. Is picked up by that dynamic port. Though Jackrabbit repository UI is coming up and check-in of binaries is also happening the downloading of binaries. Is picked up by that dynamic port. Though Jackrabbit repository UI is coming up and check-in of binaries is also happening the downloading of binaries to the local agent is failing. So, the user must enable the dynamic port in the RO. To identify the dynamic port, use the following command and enable it in the RO server. Isof -i-P-n grep tomcatuser grep -v 8080 grep -v	provide me and and approach	(should appear in two lines) WIN_TEMP_DIR = C:\
No route to host (Host unreachable) Rollback Add the port to the firewall exceptions using	HTTPS and Firewall are enabled in RO, the user will not be able to perform the Low-touch upgrade for Agent, and the following error message is displayed: <date> <time>: ROAGENT_UPGRADE_ERR OR: Resiliency Orchestration Agent Upgradation failed with the error message: Runtime Error: Please Retry later, Remark: REPOSITORY_ERROR: Unknown Repository error: java.rmi.ConnectIOException: Exception creating connection to: <ip address="">; nested exception is: java.net.NoRouteToHostExce ption: No route to host</ip></time></date>	Tomcat chooses some dynamic port when Jackrabbit starts. The download of the binaries is picked up by that dynamic port. Though Jackrabbit repository UI is coming up and check-in of binaries is also happening the downloading of binaries to the local agent is failing. So, the user must enable the dynamic port in the RO. To identify the dynamic port, use the following command and enable it in the RO server. Isof -i -P -n grep tomcatuser grep -v 8080 grep -v 8443 grep -v 10443 grep -v 5099 grep -v 8005 Example of the output of this command: [root @q4rhelrost01 ~]# Isof -i -P -n grep LISTEN grep tomcatuser grep -v 8080 grep -v 8443 grep -v 10443 grep -v 5099 grep -v 8005 java 1577299 tomcatuser 243u IPv4 17815178 0t0 TCP *: <portnumber> (LISTEN)</portnumber>



version	firewall-cmdzone=publicadd-
to <version></version>	port= <portnumber>/tcppermanent</portnumber>
	firewall-cmdreload
	To verify the port after reloading the firewall, execute the following command: firewall-cmdlist-all
RO Base version failure:	Contact the RO Support team.
While upgrading the RO to the latest version, if it fails with pre-check, or with a wrong version format issue, the below error message displays.	
Error message: Base Kyndryl Resiliency Orchestration Version <version> format is not correct as per RO Versioning Standard.</version>	
Some Remote Agents are not visible on the Agents Page.	Every time you restart any or all the services, ensure that the Site Controller must start first and then start the Panaces service to resolve this issue.
	Otherwise, users need to go to SiteController and start all missing agents.
	Example: ./VcenterAgent.sh start 192.168.6.51 LINUXSERVER
In the RO UI, the Notification bell icon reports an event count less than the actual number of the raised events.	Ignore the count.
During the RO upgrade, after importing Database, when you try to import users.sql, the following error is displayed:	Delete all the queries involving panaces_goldencopy in the users.sql file and then import.
ERROR 1146 (42S02): Table 'panaces_goldencopy.report_	



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	db2_continuity_details' doesn't exist	
	While configuring the email notification, the 'Use Mail Authenticator' check-box appears as checked by default. Even after unchecking the checkbox and clearing the 'User Account' details, and saving it, if you again open the same dialog box, the check-box appears as checked again with the filled up details of the 'User Account'.	RO supports email authentication only.
App PFR	Fallback operation failing with 'PFR Fallback callback failed-SFR-OPR-0003: Create fileset error: Got SocketTimeoutException while reading from socket: java.net.SocketTimeoutException: Read timed out. (for Linux App PFR)	Note: Default value of this "PFR_REQUEST_TIMEOUT" is 3 minutes. Step1. Changed the PFR_REQUEST_TIMEOUT to 10 minutes in at \$SFRROOT\installconfig\PFRConfiguration.cf g file in both PR and DR side machines. 2.Restart the SFR Services 3.Perform the Fallback to check it is in success state.
PFR	After RO 8.2.3 to RO 8.4.12.0 SFR service upgrade, post upgraded SFR service is not running properly.	Step 1. Go to the location SFR installation directory \$SFRROOT\installconfig\PFRConfiguration.cf g Step 2. Uncomment the key SSL_KEYSTORE_PASSWORD Step 3. Restart the SFR service.
Site controller mapping	CIDR Range discovery with same IP, different sites and different SCs are supported, but CIDR Range discovery with same IP, same site with different SC is not supported	Not Applicable
Oracle, MSSQL	The feature of converting DB credentials into named credentials by using the PrivateCred2GroupCredMigr ator.sh script is supported only for the Oracle and MSSQL solutions.	This means this feature is not supported for other solutions.



	Users are not able to see the RALs in SO/SB workflows in MySQL SR when these are viewed after importing the workflow.	Import workflow again to display the RALs.
RBR	Local writes are not visible in the NICRA post SO, SB and FallbackResynch	1. Before execution of SO/SB Drill workflows 2. Edit the SO/SB Workflows for RGs level mentioned below and publish the Workflow Go to Reconfiguring the Network for Remote Virtual Machine RAL -> Go to Action Properties -> Execution Mode - Select -Manual Mode 3. Start SO execution once workflow reaches Awaiting Input for the Reconfiguring the Network for Remote Virtual Machine RAL - requires user input Execute below command on DR Nicra and note down the port number and VMDK path of each disk DR-Nicra> dtcresetport -d Execute below esxcli commands in DR ESXi with VM in powered off state for each VMDK path DR-ESXi> /bin/vmkfstoolsiofilters ibmrbr:enable_cbt=1:nicraServerPortNumber= <port-no> <vmdk-path> 4. Then RO side go to RG SO drill for the AwaitingInput RAL mentioned Step2 just click continue button and wait for the execution complete for remaining SO RALs. 5. Verify the local writes using cmd dtcmonitortty in DR NICRA. 6. Before execution of SB Edit the SB WF RGs level as mentioned in Step 2. Start SB execution once workflow reaches Awaiting Input for the Reconfiguring the Network for Remote Virtual Machine RAL - requires user input Execute below command on Primary Nicra and note down the port number and VMDK path of each disk PR-Nicra> dtcresetport -d</vmdk-path></port-no>



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		Execute below esxcli commands in DR ESXi with VM in powered off state for each VMDK path PR-ESXi> /bin/vmkfstoolsiofilters ibmrbr:enable_cbt=1:nicraServerPortNumber= <port-no> <vmdk-path></vmdk-path></port-no>
		7. Then RO side go to RG SB drill f for the AwaitingInput RAL mentioned Step2 just click continue button and wait for the execution complete for remaining SO RALs.
		8. Verify the local writes using cmd dtcmonitortty in PR NICRA.
		Note: If KRO admin user have already executed FO and would like to Execute FB WF then KRO user must follow below steps
		1.Edit the FBR WF for RG level Go to Reconfiguring the Network for Remote Virtual Machine RAL -> Go to Action Properties -> Execution Mode - Select -> Manual Mode 2.Start the FB workflow AG level and user proc with the FBR workflow execution - once workflow reaches Awaiting Input for the Reconfiguring the Network for Remote Virtual Machine RAL - requires user input Execute below command on Primary Nicra and note down the port number and VMDK path of each disk 3. PR-Nicra> dtcresetport -d 4. Execute below esxcli commands with VM in powered off state for each VMDK path PR-ESXi> /bin/vmkfstoolsiofilters ibmrbr:enable_cbt=1:nicraServerPortNumber= <port-no> <vmdk-path> 5. Then RO side go to FBR WF for the AwaitingInput RAL mentioned Step2 just click continue button and wait for the execution complete for remaining FBR RALs. 6. Verify the local writes using cmd dtcmonitortty in PR NICRA.</vmdk-path></port-no>
	In this solution, FOTE VMs are not recommended to be kept for more than 72 hours.	If the customer performs the test for more than 72 hours, it is recommended to monitor the data store space where the VMs reside.



	If the VM hostname has a DOT(.) then IP customization will fail.	Remove DOT(.) from the VM Hostname.
	For the AIX IBMPcloud RBR solution, after FOTE is successful, the Group remains in Tracking mode.	Run the dmc cmd for a smart refresh for the group - cmd: "command group LaunchRefresh" then you can see the group turns Tracking to Normal/connected state.
	Simultaneous addition/removal of multiple disks is not supported for a Single VM as NICRA/VIB does not support multiple disk additions.	If you would want to add/remove multiple disks, then you will need to provide disk path key value for one disk at time and then execute ProtectNewVirtualDisk /UnprotectNewVirtualDisk workflow.
OpenShift Protection with Velero and Cloud Native solutions	These solutions are not supported in the current version of RO. These solutions are supported till RO 8.3.9.	Not Applicable.
Veeam	Veeam agent stays in UNKNOWN status.	Update the genericagent-common.bat file available in <install directory="">\bin of site controller, and uncomment the set COMMON_CLASSPATH variable by removing REM at the beginning of the comment line.</install>
Application Group (AG)	Deletion of an Application group also results in the deletion of standard Recovery groups (RG).	Before deleting AG disassociate underline RG's.
DS8K	The SCB session field is missing from the snapshot list under the Pending Data tab in the RO UI for the DS8K solution.	This is a known limitation of this solution.
AD2C Auto discovery	While using the generic approach for new RG group creation, during ad2c discovery phase if Group_Edit xlsx has the older group details, throwing a exception 'Failed to get Group details' error code 400.	Ignore the error message. proceed to Group creation.
PostgreSQL with SR	The local agent is not supported.	Only remote agent is supported.



MySQL SR	The RPO is not getting calculated for the local	In the \$EAMSROOT/MySQLCSA.lax file, append the value
	agent.	\$EAMSROOT/lib/jackson-core-2.9.10.jar
		for the variable lax.class.path, and restart
		the MySQL local agent.