

Library Changes from vMRF 1.7.0 to vMRF 1.8.0

Virtual Multimedia Resource Function

LIBRARY REVISION INFORMATION

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1 Introduction

This document shows the changes in the vMRF library between the following releases:

From vMRF 1.7.0 EN/LZN 745 0023 R8A
To vMRF 1.8.0 EN/LZN 745 0023 R9A

The following changes are shown:

- Documents added
- Documents changed
- Documents removed

The reason for a change is described, for example, new, updated, or removed features, as well as corrected faults and responses to change requests.

Minor changes, however, such as language corrections, link errors, and editorial improvements are not shown in the tables below unless these are the only corrections in the update.

2 Description of Changes

The structure in this section reflects the structure of the current library.

2.1 New and Changed Documents

2.1.1 Library Overview

Table 1 Library Overview

Title	Identity	Change
Glossary of Terms and Acronyms	0033-AXM 101 04/1 Uen Z	<p>Added vAPP and VAPP definition in Terms.</p> <p>Added the following acronym in Glossary: Centralized Authentication and Authorization Server (CAAS). Corrected vAPP definition.</p> <p>Added Coordination of Video Orientation (CVO), Virtual Network Function Life Cycle Manager (VNF-LCM), Ericsson Network Manager (ENM), Element Management System (EMS), Life Cycle Manager (LCM), Virtualized to Virtual in VNF, VNFC, VNFCI, VNFD, VNFI, VNFM, and vNIC.</p>



2.1.2 Product Overview

Table 2 Product Overview

Title	Identity	Change
vMRF Overview	1/155 13-AXM 101 04/1 Uen L	<p>Introduced section "VLAN Transparency". Alarm "MRF Instance 80% Capacity Limit Exceeded" is retired, reference to it is removed in section "Overload Protection". Added that VNF capacity must be increased to avoid traffic loss in Overload Protection. Shared Storage: For template configuration, the reader is directed to the relevant deployment guide instead of listing the parameters. In VLAN Transparency, added VLAN transparency description and information on "mediaVlanId" and "signalingVlanId" attributes, and VLAN ID configuration. Added new topic Media Stream Recording. Added VNF Size Limitations topic containing information on the maximum size of the VNF. Added in VMware Tools that quiescing the file system of the VM before taking a VM snapshot is not supported. Update regarding IP allocation methods available in Address Resolution and Next Hop Supervision.</p> <p>Editorial changes.</p> <p>Added information on VLAN transparency in media and signaling interfaces in VLAN Transparency.</p>
vMRF Infrastructure Requirements	1/1056-AXM 101 04/1 Uen AG	<p>Specified that VLAN tagging can be configured only for media and signaling interfaces in section "Network Requirements", row "VLAN tagging".</p> <p>Added OVF 1.1-based installation for VMware in Other Requirements. Updated maximum number of vCPUs in VM in Compute Requirements.</p> <p>Updated row IP address allocation in Network Requirements.</p>
vMRF Networks and Connectivity	9/1551-AXM 101 04/1 Uen B	New document

Table 3 Product Overview/Statement of Compliance

Title	Identity	Change
vMRF High Level Statement of Compliance	1/174 02-AXM 101 04/1 Uen J	Editorial changes only.

2.1.3 Planning

Table 4 Planning

Title	Identity	Change
vMRF Network Impact Report	10948-FGC 101 3314 Uen M	<p>Updated for 1.8.0.</p> <p>Updated for 1.8.0.</p>



2.1.4 Installation

Table 5 Installation

Title	Identity	Change
VNF Life Cycle Management	17/1553-AXM 101 04/1 Uen V	<p>Prerequisite workflow version increased from 1.12.0 to 1.15.0. Prerequisite VNF-LCM version increased from 18.12 or higher to 18.18 or higher and minimum SW media version from 4.7.13 to 4.10.14. The previous VNF is no longer recreated with an "_r" suffix but with its original name with the rollback workflow or after a failed instantiation. New section "Cancel LCM Workflow". Workflow cancellation is introduced. A reference to this section is included in each workflow. Added that the cancel operation takes less than a minute to complete in section "Cancel LCM Workflow". Updated images and in section "Cancel LCM Workflow". Added "repeating messages" as a possible sign for stalled workflows.</p> <p>Simplified steps in both Small Stack and Full Stack onboarding scenarios for creating the folder containing release and deployment specific files. Removed unnecessary steps in Full Stack Onboarding procedure. Added in Heal VNF that the workflow is only supported in OpenStack and CEE. Updates Results in Heal VNF.</p> <p>Removed options of using vIMS workflows 1.12.0 or lower or 1.13.0 or higher. Removed step on adding the SSH key to the /home/jboss_user/.ssh/ folder, and the public SSH key in the admin_authorized_key parameter of the env.yaml file in Onboard the Virtual Deployment Package on VNF-LCM. Added new topic Configure Auto-Healing. Updated EM-triggered workflow execution prerequisites in Instantiate VNF and Upgrade VNF. Replaced detailed table on permission granting for jboss_user with a new step on transferring ownership of the onboarded directory to the jboss_user in Onboard the Virtual Deployment Package on VNF-LCM for small stack scenario. Added new step on transferring ownership of the onboarded directory to the jboss_user in Onboard the Virtual Deployment Package on VNF-LCM for full stack scenario. Updated vIMS workflow minimum version to 1.16.0 in Prerequisites.</p>
VNF Life Cycle Management for VMware	18/1553-AXM 101 04/1 Uen K	<p>Prerequisite workflow version increased from 1.12.0 to 1.15.0. Prerequisite VNF-LCM version increased from 18.12 or higher to 18.18 or higher and minimum SW media version from 4.7.13 to 4.10.14. The "VNF Upgrade" workflow is introduced. Section "Upgrade VNF": Clarified that during upgrade the uploaded vApp name has to be referenced instead of the the .ovf template file. Updated the example env-vcd.yaml file. Clarified how VNF-LCM uses the env-vcd.yaml file to prepare the new VNF. The previous VNF is no longer recreated with an "_r" suffix but with its original name with the rollback workflow or after a failed instantiation. Uploading the vApp template of the upgrade base to the vCloud Catalog is a prerequisite for upgrading the VNF by VNF-LCM. New section: "Cancel LCM Workflow". Workflow cancellation is introduced. A reference to this section is included in each workflow. Corrected the prerequisites for the "Upgrade VNF" workflow. Added that the cancel operation takes less than a minute to complete in section "Cancel LCM Workflow". Updated images and in section "Cancel LCM Workflow". Added "repeating messages" as a possible sign for stalled workflows.</p> <p>Example 1 env-vcd.yaml File Example: "path "Shared_storage_server_path": "/home/vmrfvmware1/shared_storage/" expanded with VM-specific folder.</p> <p>Removed references to using vIMS workflows 1.12.0 or higher in Onboarding. Updated vIMS workflow minimum version to 1.16.0 in Prerequisites. Removed giving permission for the /vnflcm-ext/backups/workflows/vnfd/VNFTType__VNFVersion/configurations directory in step 2 and added new last step on transferring the ownership of the onboarded directory to the jboss_user in Onboarding. Removed options of using vIMS workflows 1.12.0 or lower or 1.13.0 or higher. Removed step on adding the SSH key to the /home/jboss_user/.ssh/ folder, and the public SSH key in the admin_authorized_key parameter of the env-vcd.yaml file in Onboarding.</p>



Table 5 Installation

Title	Identity	Change
Deployment Guide for Cloud Execution Environment (CEE)	4/1531-AXM 101 04/1 Uen AJ	<p>Added new parameter in section "Prepare Deployment Parameters": vnf_name.</p> <p>Updated the following parameter examples in Prepare Deployment Parameters: shared_storage_ssh_private_key, shared_storage_server_fingerprint and announcement_storage_server_fingerprint. Updated command in Prepare Deployment Parameters for generating input for shared_storage_server_fingerprint, shared_storage_ssh_private_key and, and announcement_storage_ssh_private_key parameters in table. Added new topic Configure Shared Storage.</p>
Deployment Guide for OpenStack	1/1531-AXM 101 04/1 Uen AJ	<p>Added new parameters in section "Prepare Deployment Parameters": vnf_name, OM_ip_address.</p> <p>Updated the following parameter examples in Prepare Deployment Parameters: shared_storage_ssh_private_key, shared_storage_server_fingerprint and announcement_storage_server_fingerprint. Updated command in Prepare Deployment Parameters for generating input for shared_storage_server_fingerprint, shared_storage_ssh_private_key and, and announcement_storage_ssh_private_key parameters in table. Added new topic Configure Shared Storage.</p>
Deployment Guide for VMware vSphere	2/1531-AXM 101 04/1 Uen AG	<p>Deploy the OVF Template: Added information on the external shared storage POSIX path. vMRF creates VM specific folder under this path.</p> <p>Updated OVF file description in Download and Extract vMRF Software Delivery Package. Added that default password must be changed by supplying a new password hash in Deploy the OVF Template. Added new step on modifying the Shutdown Action to Guest Shutdown in Power On vMRF vApp. Added new topic Configure Shared Storage. Updated command for generating input for shared storage server fingerprint and shared storage ssh private key and announcement shared storage ssh private key and fingerprint in Deploy the OVF Template.</p> <p>Removed cloud-based ip allocation from vmrf.ovf description in Download and Extract vMRF Software Delivery Package and Deploy the OVF Template.</p> <p>Added management network to the table in section Create Network Topology.</p>
Deployment Guide for VMware vCloud Director	5/1531-AXM 101 04/1 Uen M	<p>Deploy vApp from the Catalog: Added information on the external shared storage POSIX path. vMRF creates VM specific folder under this path.</p> <p>Updated ovf file description in Download and Extract Software Delivery Package. Added new topic Configure vCloud Director Organization. Added that default password must be changed by supplying a new password hash in Deploy vApp from the Catalog. Added new topic Configure Shared Storage. Updated command for generating input for shared storage server fingerprint and shared storage ssh private key and announcement shared storage ssh private key and fingerprint in Deploy vApp from the Catalog. Added new topic Configure Shared Storage. Updated command for generating input for shared storage server fingerprint and shared storage ssh private key in Deploy vApp from the Catalog.</p> <p>Removed cloud-based ip allocation from vmrf.ovf description in Download and Extract vMRF Software Delivery Package and Deploy vApp from the Catalog.</p> <p>Added note in "Create Network Topology" on fake IP subnets. Removed note on vNIC.</p>
Upgrade Guide	7/1553-AXM 101 04/1 Uen Y	<p>Added prerequisite for MO-based IP allocation case in Deploy the New Version in vMRF In-Service Upgrade.</p> <p>Added note on configuration changes during upgrade in Network-Redundant Upgrade and In-Service Upgrade.</p>



2.1.5 Initial Configuration

Table 6 Initial Configuration

Title	Identity	Change
Initial Configuration Guide	9/1553-AXM 101 04/1 Uen AE	<p>Editorial changes only.</p> <p>Editorial changes only.</p> <p>Added steps in Configure User Plane to set up MO-based IP allocation for media and signaling interfaces. Added tables in Initial Configuration Data for the vMRF Application for MrfNetworkIpPool MO and SignalingIpPool MO attributes. Updated the steps 3, 4, 6, and 7 with the correct configuration file name: updated_example_config.tar.gz in Create and Import Configuration Data.</p> <p>Corrections based on internal review comments in Configure vMRF User Plane and Configure vMRF Signaling.</p>

2.1.6 Operation and Maintenance

Table 7 Operation and Maintenance

Title	Identity	Change
CLI Commands	10/1553-AXM 101 04/1-V2 Uen AF	<p>Output examples are updated in section "ipp pm-counters". Added list of counters not applicable for vMRF in section "ipp pm-counters".</p> <p>Editorial changes only.</p> <p>Editorial changes only.</p> <p>Updated overload-control command printout.</p> <p>Updated overload-control command printout.</p>

Table 8 Operation and Maintenance/vMRF Managed Object Model (MOM)

Title	Identity	Change
Managed Object Model for vMRF	190 89-4/AXM 101 04/1 Uen N	

Table 9 Operation and Maintenance/Fault Management/Alarms

Title	Identity	Change
MRF H.248 Link Unavailable	2/1543-AXM 101 04/1 Uen X	Added new row "IP address collision" in Table 1 in MRF H.248 Link Unavailable Alarm Description. Added new step 1 in Local Endpoint Configuration Fault. Added new topics Clear an Alarm when IP Address Collision has Occurred and Resolve IP Address Collision by Reconfiguring Peer IP Interface.
MRF Instance Overloaded	15/1543-AXM 101 04/1 Uen T	<p>Editorial changes only.</p> <p>Added MRF traffic rejection scenarios in the alarm description.</p>
MRF IP Address Collision	3/1543-AXM 101 04/1 Uen S	<p>Editorial changes.</p> <p>Added new topic: Resolve IP Address Collision in Deployments with MO-based Automatic IP Allocation. Removed sections concerning cloud-based IP address allocation deployments, as it is no longer supported in vMRF.</p> <p>Editorial changes only.</p>



Table 9 Operation and Maintenance/Fault Management/Alarms

Title	Identity	Change
MRF Media IP Interface Configuration Failure	19/1543-AXM 101 04/1 Uen B	New document
MRF Signaling IP Interface Configuration Failure	20/1543-AXM 101 04/1 Uen A	New document New document.

Table 10 Operation and Maintenance/Fault Management/Events

Title	Identity	Change
Event List	5/1551-AXM 101 04/1 Uen K	Editorial changes only. Removed COM SA, CLM Cluster Node Unavailable.

Table 11 Operation and Maintenance/Fault Management/Troubleshooting Information

Title	Identity	Change
vMRF Troubleshooting Guideline	6/1553-AXM 101 04/1 Uen AB	Editorial changes only. Editorial changes only. Editorial changes only.
VNF Life Cycle Management Troubleshooting Guideline	1/154 51-AXM10103/1 Uen B	New document

Table 12 Operation and Maintenance/Fault Management/Data Collection

Title	Identity	Change
Data Collection Guideline	6/1543-AXM 101 04/1 Uen L	Editorial changes only.

Table 13 Operation and Maintenance/Configuration Management

Title	Identity	Change
Configuration Management	5/1553-AXM 101 04/1 Uen AM	Editorial changes. Editorial changes only. Added new step on cleaning up VM-related configuration before removing a VM from the cluster in Scale-in Procedure in Manual Scaling in OpenStack, Scale-in Procedure in vCenter Environment, and Scale-in Procedure in vCloud Environment. Added new topic Auto-Healing. Added new topics General Configuration, Create a SignalingIpPool, and Create an MrfNetworkIpPool. Added note on scaling in VNFs with three or more VMs in Scale-in Procedure in vCloud Environment. Added steps on configuring the following attributes: ipPoolState, nextHopAddress, and subnetMaskLength in Create an MrfNetworkPool. Editorial changes only.

Table 14 Operation and Maintenance/Configuration Management/File Management

Title	Identity	Change
File Management	6/1551-AXM 101 04/1 Uen F	The maximum number of PM report files is corrected to 500 in section Functions and Concepts.



Table 15 Operation and Maintenance/Performance Management

Title	Identity	Change
Performance Indicators	2/1551-AXM 101 04/1 Uen T	Updated description for the maximum number of PM files in Performance Management Overview.

Table 16 Operation and Maintenance/Security Management

Title	Identity	Change
vMRF Security Management	14/1553-AXM 101 04/1 Uen AD	<p>Marked IP Ports configurable for LDAP and SNMP. "OM Administrator Access Control": Clarified that MrfApplicationMomAccess can be used as a base for custom roles. On its own it, adds access only to CLISS and NETCONF. LDAP ports are now configurable.</p> <p>Added new appendix List of Certificates in vMRF.</p> <p>Editorial changes only.</p>

Table 17 Operation and Maintenance/Software Management

Title	Identity	Change
vMRF Backup and Restore Guideline	13/1553-AXM 101 04/1 Uen Z	<p>Updated procedure in Restore without Re-Deployment with information on empty configuration file and importing new configuration.</p> <p>Editorial changes only.</p> <p>Added new topic VM snapshot and its subsections.</p>

Table 18 Operation and Maintenance/Software Management/License Management

Title	Identity	Change
License Management	1/1553-AXM 101 04/1 Uen E	In Integration Unlock, added text to indicate Integration Unlock window being zero by default. Deleted "Integration Unlock" from Emergency Unlock topic. Added new row (Granularity) to both tables in vMRF Licenses.
Update NeLS Connection	1/1543-AXM 101 04/1 Uen E	Added new step 5 on retrieving and publishing NeLS information in Configure the NeLS Connection.

2.2 Removed Documents

Table 19 Documents Removed from Library

Title	Identity	Comment
vMRF Networks and Connectivity	2/15517-AXM 101 04/1 Uen B	
MRF Instance 80% Capacity Limit Exceeded	4/1543-AXM 101 04/1 Uen N	
MRF Media Stream Recording Active	7/1543-AXM 101 04/1 Uen M	
Media Stream Recording	11/1553-AXM 101 04/1 Uen G	