

# Library Changes from vMRF 1.0 to vMRF 1.2

## Virtual Multimedia Resource Function

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### LIBRARY REVISION INFORMATION

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# 1 Introduction

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

**From** vMRF 1.0 EN/LZN 745 0023 R1A  
**To** vMRF 1.2 EN/LZN 745 0023 R3A

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 H	Added SMMS and VNF-LCM in Glossary.

**Table 1** Library Overview

Title	Identity	Change
Free and Open Source Software	0962-AXM 101 04/1 Uen J	Added POCO C++ Libraries, Basic Edition version 1.7.3, and Boost C++ Library version 1.60. Uplifted the following FOSS: OpenSAF 5.0 to 5.1, json-cpp 0.6.0 to 0.6.0-rc2. Removed JSON for Modern C++.  Ittng-ust, Ittng-tools, and GlusterFS uplift added. Added new FOSS libSRTP and POCO C++ library version 1.7.6. Updated FOSS versions in section License Information and License Texts.
Library Changes from vMRF 1.0 to vMRF 1.1	109 45-EN/LZN 745 0023-1 Uen A	New document

## 2.1.2 Product Overview

**Table 2** Product Overview

Title	Identity	Change
vMRF Overview	1/155 13-AXM 101 04/1 Uen C	Updated document with support for G.722. Added topic G.722 Service (G.722). Updated Jitter Handling Service with adaptive jitter.  Added new section Address Resolution and Fetching the Next Hop Address. Added Packet Loss Concealment in subsection Pulse Code Modulation Service (PCM).
vMRF Infrastructure Requirements	1/1056-AXM 101 04/1 Uen N	Added maximum number of vCPUs in row Number of vCPUs in section Compute Requirements. Updated physical CPU architecture, vCPU, and compute host requirements. Added requirement for SSHFS server version. Updated minimum storage requirements for vMRF to 4 GB. Removed Shared storage from Storage Requirements.  Updated L3 redundancy requirement text in Network Requirements and Number of vCPUs in Compute Requirements.  Updated in Network Requirements that IPv4 media, O&M, and signaling network next hop addresses are fetched from a DHCP server. Added in Path supervision that ICMP is required for router advertisement for IPv6. Added DHCP server support requirement and recommendation on redundancy in Network Requirements. Updated in Storage Requirements that a VM uses storage for booting and for data, and the boot disk must be local.

**Table 3** Product Overview/Statement of Compliance

Title	Identity	Change
Virtual MRF High Level Statement of Compliance	1/174 02-AXM 101 04/1 Uen B	New document

## 2.1.3 Planning

**Table 4** Planning

Title	Identity	Change
vMRF Network Impact Report	10948-FGC 101 3314 Uen C	New document



## 2.1.4 Installation

Table 5 Installation

Title	Identity	Change
VNF Life Cycle Management	17/1553-AXM 101 04/1 Uen A	New document
Deployment Guide for Cloud Execution Environment (CEE)	4/1531-AXM 101 04/1 Uen T	<p>Added note in step 1 in Configure CPU Settings for the Compute Hosts. Added note on vCPUs in Create Flavor, Step 1. Added step in Prepare the Initial Configuration Tar File on configuring security if the initial configuration file is not a backup. Updated step 2 in Configure CPU Settings for the vMRF Compute Hosts. Removed software Prerequisites in Configure CPU Settings for the Compute Hosts. Updated root disk space for vMRF in Create Flavor, step 1 to 4 GB. Added note on hyperthreading requirement in Create Flavor.</p> <p>Updated network reserved for future use to network for regulatory services in Create Network Topology. Added note on example yaml files in the following sections: Download and Extract Software Delivery Package, Create Network Topology, and Create Subnets.</p> <p>Updated mrvs_ prefixes to mrf_ in Prepare Deployment Parameters. Updated in Prepare Deployment Parameters that the mrf_config parameter does not contain the path but the file content.</p>
Deployment Guide for OpenStack	1/1531-AXM 101 04/1 Uen T	<p>Added note in step 1 in Configure CPU Settings for the vMRF Compute Hosts. Added note on vCPUs in Create Flavor, Step 1. Added step in Prepare the Initial Configuration Tar File on configuring security if the initial configuration file is not a backup. Updated step 2 in Configure CPU Settings for the vMRF Compute Hosts. Added step 5 on CPU thread policy in Create Flavor. Updated root disk space for vMRF in Create Flavor, step 1 to 4 GB. Added note on OpenStack version requirement for deployment without hyperthreading using the hw:cpu_thread_policy parameter.</p> <p>Added note on example yaml files in the following sections: Download and Extract Software Delivery Package, Create Network Topology, and Create Subnets.</p> <p>Updated mrvs_ prefixes to mrf_ in Prepare Deployment Parameters. Updated in Prepare Deployment Parameters that the mrf_config parameter does not contain the path but the file content.</p>
Upgrade Guide	7/1553-AXM 101 04/1 Uen J	<p>Added Rollback Procedure.</p> <p>Restructured document. Added new section Network-Redundant Upgrade. Renamed Manual Upgrade Process to 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 J	<p>Clarified that emergency user credentials are needed for configuration of security in Manual Configuration. Moved section Configure Security to 3.3.1. Updated emergency user requirement information in sections Create and Import Configuration Data and Manual Configuration.</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 M	Added new subsection for license_info. Added new subsection smms-counters.

*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 D	

*Table 9 Operation and Maintenance/Fault Management*

Title	Identity	Change
Change Heartbeat Interval	32/1543-CAA 901 2587/7 Uen A	New document

*Table 10 Operation and Maintenance/Fault Management/Alarms*

Title	Identity	Change
Compute Resource Threshold Value Exceeded	10/1543-AXM 101 04/1 Uen G	Editorial changes.
COM SA, AMF Component Instantiation Failed	43/1543-APA 901 44/1 Uen E	Editorial update.
MRF Announcement File Missing	8/1543-AXM 101 04/1 Uen B	Editorial changes.
MRF Announcement Storage Unavailable	9/1543-AXM 101 04/1 Uen B	Editorial changes.
MRF H.248 Link Unavailable	2/1543-AXM 101 04/1 Uen K	Updates in Remote Endpoint Configuration Fault.
MRF Instance 80% Capacity Limit Exceeded	4/1543-AXM 101 04/1 Uen H	Editorial changes.
MRF Instance Overloaded	15/1543-AXM 101 04/1 Uen H	Editorial changes.
MRF IP Auto-Configuration Failure	12/1543-AXM 101 04/1 Uen D	New document
MRF Media Stream Recording Active	7/1543-AXM 101 04/1 Uen H	Editorial changes.
MRF Next Hop Router Unreachable	18/1543-AXM 101 04/1 Uen B	New document
Service Level Agreement Violation	11/1543-AXM 101 04/1 Uen F	Editorial changes.

*Table 11 Operation and Maintenance/Fault Management/Events*

Title	Identity	Change
Event List	5/1551-AXM 101 04/1 Uen B	Editorial changes.





**Table 12** Operation and Maintenance/Fault Management/Troubleshooting Information

Title	Identity	Change
vMRF Troubleshooting Guideline	6/1553-AXM 101 04/1 Uen K	Editorial changes only.

**Table 13** Operation and Maintenance/Configuration Management

Title	Identity	Change
VNF Life Cycle Management	17/1553-AXM 101 04/1 Uen A	New document
Configuration Management	5/1553-AXM 101 04/1 Uen M	Added note in Scale-in Procedure in section Manual Scaling in OpenStack.  Added note in section Manual Scaling. Added scale-out commands for both Kilo-based and Mitaka-based cloud services in Scale-out Procedure.

**Table 14** Operation and Maintenance/Performance Management

Title	Identity	Change
Performance Management	7/1551-APA 901 44/1 Uen F	Section 2.1. Limit on collection job modification deleted.
Performance Indicators	2/1551-AXM 101 04/1 Uen H	Editorial changes.

**Table 15** Operation and Maintenance/Security Management

Title	Identity	Change
vMRF Security Management	14/1553-AXM 101 04/1 Uen K	Added LDAP and NeLS to table 3 in Services, Ports, and Protocols. Added note in step 4 on LDAP server ports in Configure LDAP Authentication and Authorization in vMRF.

## 2.1.7 Emergency

**Table 16** Emergency

Title	Identity	Change
Emergency Recovery Procedure for vMRF	16/1553-AXM 101 04/1 Uen D	Editorial change.

## 2.1.8 Interface

**Table 17** Interface/Events

Title	Identity	Change
HeartBeat	1/1551-CAA 901 2587/7 Uen B	New document

**Table 18** Interface/NETCONF XML Schemas

Title	Identity	Change
ComNotification.xsd	190 89-LZN7080601/3 Uen G	New document



## 2.2 Removed Documents

No documents removed.