

Library Changes from vMRF 1.0 to vMRF 1.3

Virtual Multimedia Resource Function

LIBRARY REVISION INFORMATION

Copyright

© Ericsson AB 2017. All rights reserved. No part of this material may be reproduced in any form without the written permission of the copyright owner.

Disclaimer

The contents of these documents are subject to revision without notice due to continued progress in methodology, design and manufacturing. Ericsson shall have no liability for any error or damage of any kind resulting from the use of these documents.



Contents

| | | |
|----------|-------------------------------|----------|
| 1 | Introduction | 1 |
| 2 | Description of Changes | 1 |
| 2.1 | New and Changed Documents | 1 |
| 2.1.1 | Library Overview | 1 |
| 2.1.2 | Product Overview | 2 |
| 2.1.3 | Planning | 3 |
| 2.1.4 | Installation | 3 |
| 2.1.5 | Initial Configuration | 4 |
| 2.1.6 | Operation and Maintenance | 5 |
| 2.1.7 | Emergency | 6 |
| 2.1.8 | Interface | 7 |
| 2.2 | Removed Documents | 7 |





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 1.3 EN/LZN 745 0023 R4A

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 J | |

**Table 1** Library Overview

| Title | Identity | Change |
|---|----------------------------|---|
| How to Get Started with Active Library Explorer | 1/1553-CRAH 301 1061 Uen H | Migrated to DITA CMS. Added trademarklist. |
| Free and Open Source Software | 0962-AXM 101 04/1 Uen L | 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++. lttng-ust, lttng-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. Editorial changes. libSRTP uplift to 2.0.0. |

2.1.2 Product Overview

Table 2 Product Overview

| Title | Identity | Change |
|----------------------------------|-----------------------------|---|
| vMRF Overview | 1/155 13-AXM 101 04/1 Uen D | 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). Added EVS in the list of supported audio codecs in Function Overview and Audio Conferencing. Added new subsection Enhanced Voice Services (EVS) in Media Stream Processing Services. Added note in section Function Overview on EVS capacity license and NeLS. Added new section Audio Codec Selection Principles. |
| vMRF Infrastructure Requirements | 1/1056-AXM 101 04/1 Uen U | 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. Editorial changes only. Editorial changes only. Updated Compute host in section Compute Requirements. |



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 D | New document |

2.1.3 Planning

Table 4 *Planning*

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

2.1.4 Installation

Table 5 *Installation*

| Title | Identity | Change |
|--|----------------------------|--|
| VNF Life Cycle Management | 17/1553-AXM 101 04/1 Uen C | New document |
| Deployment Guide for Cloud Execution Environment (CEE) | 4/1531-AXM 101 04/1 Uen V | <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 vBGF 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> <p>Editorial changes only.</p> <p>Removed subsection Disable ARP Spoofing Protection on all Compute Hosts in the vMRF Availability Zone. Added Prerequisite in Instantiate and Check vMRF with One VM. Added Reference List.</p> |

**Table 5** *Installation*

| Title | Identity | Change |
|--------------------------------|---------------------------|--|
| Deployment Guide for OpenStack | 1/1531-AXM 101 04/1 Uen V | <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 <code>hw:cpu_thread_policy</code> 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 <code>mrsv_</code> prefixes to <code>mrf_</code> in Prepare Deployment Parameters. Updated in Prepare Deployment Parameters that the <code>mrf_config</code> parameter does not contain the path but the file content.</p> <p>Editorial changes only.</p> <p>Added Prerequisite in Instantiate and Check vMRF with One VM. Added Reference List.</p> |
| Upgrade Guide | 7/1553-AXM 101 04/1 Uen K | <p>Added Rollback Procedure.</p> <p>Restructured document. Added new section Network-Redundant Upgrade. Renamed Manual Upgrade Process to In-Service Upgrade.</p> <p>Added graceful lock option through MTAS configuration in the following sections: Lock and Scale-in VMs, Commit to Using the New Version, and Remove Rollback Procedure. Added prerequisite in Deploy the New Version.</p> |

2.1.5 Initial Configuration

Table 6 *Initial Configuration*

| Title | Identity | Change |
|-----------------------------|---------------------------|--|
| Initial Configuration Guide | 9/1553-AXM 101 04/1 Uen L | <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> <p>Editorial changes only.</p> <p>Added <code>MrfH248Control</code> MO attribute in Initial Configuration Data for the vMRF Application. Added announcement-related attributes in Initial Configuration Data for the vMRF Application. Added the following subsections: Create a Variable Announcement and Modify the Default Language Code under new section Announcement Configuration. Moved section Create and Import Configuration Data into section Importing Configuration Data from NETCONF Template. Added new step 1 and 2 in Configure vMRF Signaling. Added the following new parameters in Table SCTP Profile Attributes: <code>enablePathMtuDiscovery</code>, <code>maxSctpPduSize</code>.</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 | Editorial changes. 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 E | |

Table 9 Operation and Maintenance/Fault Management

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

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 | Editorial changes. Updates in Remote Endpoint Configuration Fault. Editorial changes only. |
| 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 L | Editorial changes only. Added graceful lock option thorough MTAS configuration for vMRF in Manual Recovery Flow. Added Reference List. |

Table 13 *Operation and Maintenance/Configuration Management*

| Title | Identity | Change |
|--------------------------|---------------------------|--|
| Configuration Management | 5/1553-AXM 101 04/1 Uen S | Added note in Scale-in Procedure in section Manual Scaling in OpenStack. Added note in Scale-in Procedure in section Manual Scaling in VMware. Added note in section Manual Scaling. Added scale-out commands for both Kilo-based and Mitaka-based cloud services in Scale-out Procedure. Editorial changes only. Updated Modify the Default Language Code and moved it to section 4.2. Added new section EVS Configuration and subsections. Added new section Reference List. Added new prerequisite 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 L | 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. Added LDAP and NeLS to table 4 on Services, Ports, and Protocols. Added note in step 4 on LDAP server ports in Configure LDAP Authentication and Authorization in vMRF. Updated the following GIDs in O&M Administrator Access Control: mrf-op, mrf-ts, mrf-msr. |

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.